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March 16, 2016

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T. LAWRENCE
Certifying Officer

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA
First Named Inventor/Applicant Name:	RON GOODMAN
Filer:	David A. Jakopin
Attorney Docket Number:	016788-000-0004

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inter partes reexam Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
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Request for inter reexamination	1813	1	8800	8800
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**8800**

Electronic Acknowledgement Receipt

EFS ID:	6552680
Application Number:	95001274
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Title of Invention:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA
First Named Inventor/Applicant Name:	RON GOODMAN
Customer Number:	27498
Filer:	David A. Jakopin
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1		016788-0000004-1.pdf	181704 a60a2cdfca547973e5ea428d50041c617bbe955b	yes	3
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Receipt of Original Inter Partes Reexam Request		1	2	
	Reexam - Info Disclosure Statement Filed by 3rd Party		3	3	
Warnings:					
Information:					
2	Reexam Certificate of Service	016788-0000004-1-1.pdf	22614 4894df7c92fbcb84c89c4ab6b47c46b27d2fbbc7	no	1
Warnings:					
Information:					
3	Receipt of Original Inter Partes Reexam Request	016788-0000004.pdf	6630102 5b72315be3f9decfc2903c4ca15979a1d54b1a2f	no	128
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Warnings:					
Information:					
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9	Fee Worksheet (PTO-875)	fee-info.pdf	29869 a6e7bf326c9dc6540a464a0631752c653f80913c	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	12732068	

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Ron Goodman et al.

Assignee: Creative Technology Ltd., Singapore.

Utility Appl. No.: 09/755,723

Patent No: 6,928,433 Utility Appl. Filed: Jan. 5, 2001

Issue Date: Aug. 9, 2005

For: AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA

Mail Stop *Inter Partes* Reexam
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR *INTER PARTES* REEXAMINATION

Pursuant to 35 U.S.C. §§311-318 and 37 C.F.R.§1.913 and §1.915, Archos, S.A., respectfully request *Inter Partes* Reexamination of claims 1-16 of United States Patent No. 6,928,433 ("the '433 patent"), titled "AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA," issued to Ron Goodman et al. (Appendix A). This Request for *Inter Partes* Reexamination ("Request") presents substantial new questions of patentability based on prior art patents not previously considered by the Patent and Trademark Office. These prior art references either fully anticipate or, singly or in combination, render obvious all claims (1-16) of the '433 patent. Accordingly, Requesters respectfully request that the Office order an *Inter Partes* reexamination of the '433 patent under 35 U.S.C. § 313 and further issue a certificate under 35 U.S.C. § 316 canceling claims 1-16.

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APPENDICES

APPENDIX A

U. S. Patent No. 6,928,433.

APPENDIX B

U.S. Patent No. 5,739,451.

APPENDIX C

U.S. Patent No. 6,976,229.

APPENDIX D

U.S. Patent No. 6,760,721.

APPENDIX E

U.S. Patent Application Publication No. 2002/0045960.

INTRODUCTION

The '433 patent issued on Aug. 9, 2005, from an application filed on January 5, 2001, and is assigned to Creative Technology Ltd., Singapore (hereinafter "Creative"). The '433 patent is directed to a method of selecting tracks for playback, or other operations, on a portable media player.

I. SUBSTANTIAL NEW QUESTIONS OF PATENTABILITY

As discussed in more detail in Section V below, the prior art references identified herein, all of which were not considered during the original examination of the '433 patent, present substantial new questions of patentability of claims 1-16 of the '433 patent. More particularly, it is respectfully submitted that reexamination should be ordered to consider whether:

- Independent claim 1 and dependent claims 2, 4, and 6-16 are anticipated by U.S. Patent No. 5,739,451 (Appendix B).
- Independent claim 1 and dependent claims 2-16 are obvious in view of U.S. Patent No. 5,739,451.
- Independent claim 1 and dependent claims 2-16 are unpatentable under §103(a) over U.S. Patent No. 5,739,451 in view of U.S. Patent No. 6,976,229 (Appendix C).
- Independent claim 1 and dependent claims 2-16 are anticipated by U.S. Patent No. 6,760,721 (Appendix D).
- Independent claim 1 and dependent claims 2-16 are obvious in view of U.S. Patent No. 6,760,721.
- Independent claim 1 and dependent claims 2-16 are anticipated by U.S. Patent Application Publication No. 2002/0045960 (Appendix E).
- Independent claim 1 and dependent claims 2-16 are obvious in view of U.S. Patent Application Publication No. 2002/0045960.

- Independent claim 1 and dependent claims 2-16 are unpatentable under §103(a) over U.S. Patent No. 5,739,451 in view of U.S. Patent No. 6,760,721.
- Independent claim 1 and dependent claims 2-16 are unpatentable under §103(a) over U.S. Patent No. 6,760,721 in view of U.S. Patent Application Publication No. 2002/0045960.
- Independent claim 1 and dependent claims 2-16 are unpatentable under §103(a) over U.S. Patent No. 5,739,451 in view of U.S. Patent Application Publication No. 2002/0045960.

II. THE '433 PATENT AND ITS PROSECUTION HISTORY

A. Background of the '433 patent

The background section of the '433 patent provides an overview from the prior art of the trend in portable music players to larger storage for tracks and smaller sized players. It is pointed out that along with the smaller size of the players, the user interface is also smaller – smaller displays and few pushbuttons. This limited user interface is perceived by Applicants as inefficient and frustrating for a user attempting to navigate through the user interface and select among hundreds of songs.

A need was identified by Applicants for improved techniques for organizing tracks in wa-ys that are optimized for these portable music players. Furthermore, a need was identified for a user interface suitable for these small portable music players.

In essence, the '433 patent is concerned with a method of selecting one or more tracks from many tracks stored in the memory of a portable media player. The portable media player is described as having sequential first, second and third display screens on a display of the player, and a track access hierarchy including many categories, subcategories and items. Figure 4 from the '433 patent is reproduced below, showing an example of the hierarchical category structure.

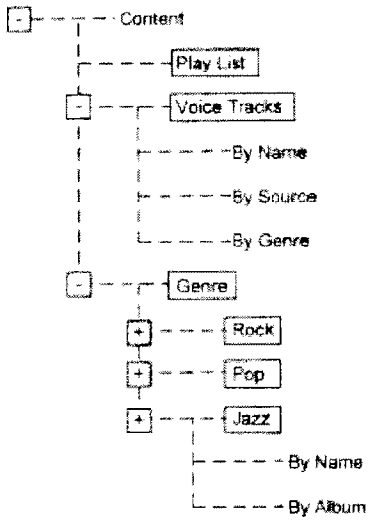
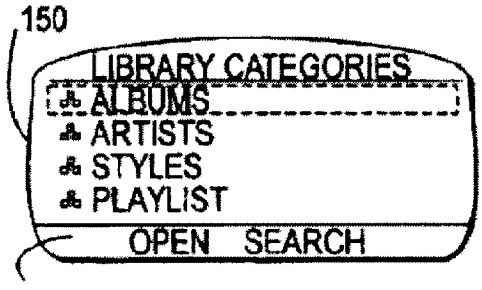


FIG. 4.

Part of Figure 10 is reproduced below to show an example of a display screen, showing top level categories of a music library.



What the Applicants argued as the feature that resulted in allowance of the '433 patent was displaying the categories or subcategories in a display screen. For example, referring to claim 1 of the '433 patent, the method of selecting a track includes:

a) selecting a category in the first display screen of the portable media player;

b) displaying the subcategories belonging to the selected category in a listing

presented in the second display screen;

c) selecting a subcategory in the second display screen;

d) displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and

e) accessing at least one track based on a selection made in one of the display screens.

B. Prosecution History

The '433 patent application was filed on January 5, 2001 and given Application Serial No. 09/755,723. The '433 patent application, as originally filed, contained ten claims of which claims 1, 5, 6, 9 and 10 were independent claims. However, these original claims were directed to filing audio tracks stored in a portable digital music player, and not to a method of selecting one or more tracks from many tracks stored in the memory of a portable media player, as the allowed claims are directed.

In a first Office Action, mailed January 15, 2003, all of the claims were rejected as being anticipated by United States patent no. 5,670,730 to Grewe et al. Applicants responded on May 15, 2003 with an amendment to the claims. A final Office Action was mailed on July 29, 2003, maintaining the rejection of all claims.

Applicants responded to the final Office Action with a further amendment and a request for continued examination on February 3, 2004. In this amendment, Applicants included a new independent claim to a method of displaying media information on a display screen. The examiner viewed this new independent claim as a separate invention and issued a restriction requirement. The Applicants responded on April 30, 2004 by selecting the invention of the new independent claim. Furthermore, in their response Applicants replaced the elected claims with a new set of claims directed to a method of selecting at least one track from a plurality of tracks stored in a computer readable medium of a portable media player. Applicants asserted that the new set of claims corresponds to the elected invention. Furthermore, Applicants asserted that the new set of claims are "patentable over the art of record for at least the reason that

Grewe doesn't teach or suggest displaying categories or subcategories in a display screen." *See* Amendment filed on April 30, 2004, page 8.

The Examiner allowed the application on June 9, 2004 without providing any reason for allowance. Applicants filed an amendment after allowance under Rule 312 on July 27, 2004. The amendment added some dependent claims and made changes to the existing claims, including changes to the independent claim - in order to clarify the invention, according to the Applicants. Furthermore, Applicants again asserted that the claims are "patentable over the art of record for at least the reason that Grewe doesn't teach or suggest displaying categories or subcategories in a display screen." *See* Amendment filed on July 27, 2004, page 6. The examiner entered the amendment and allowed the application without further comment; the patent issued on August 9, 2005.

Note that a continuation application, U.S. Application No. 11/033,465, is pending as of the filing date of this Request for Reexamination. The continuation application received a final rejection on April 15, 2009 and Applicants filed a Request for Continued Examination on October 15, 2009. A non-final Office Action was mailed on November 24, 2009 rejecting all pending claims. The file history of the continuation application is relevant to this Request for Reexamination, since the '721 patent is used in a 102(e) rejection of claims that are similar in important respects to those of the '433 patent.

C. Summary of the Claims

The '433 patent has 16 claims, of which claim 1 is independent. The Applicants' argument for patentability was that the art of record during examination failed to "teach or suggest displaying categories or subcategories in a display screen." *See* Amendment after Notice of Allowance filed on July 27, 2004, page 6.

Independent claim 1 of the '433 patent requires (emphasis added on the concept argued by Applicants to gain allowance of the claim):

> 1. A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a

hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:

selecting a category in the first display screen of the portable media player;

displaying the subcategories belonging to the selected category in a listing presented in the second display screen;

selecting a subcategory in the second display screen;

displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and

accessing at least one track based on a selection made in one of the display screens.

Claims 2-16 depend from independent claim 1 and are directed to implementation features. Applicants provided no further arguments for the patentability of the dependent claims beyond the argument that the art of record during examination failed to "teach or suggest displaying categories or subcategories in a display screen." *See Id.*

As set forth more fully below, the subject matter of all claims 1-16 was well known before the filing date of the '433 patent.

III. LEGAL PRINCIPLES

A. Evidentiary Standard in Reexamination

The standard for establishing unpatentability of a claim in a reexamination is by the preponderance of the evidence, which is the standard for the normal examination of patent applications. The higher standard of "clear and convincing evidence" used in litigation to establish invalidity does not apply in reexaminations before the Patent & Trademark Office (PTO). Likewise, the statutory presumption of validity under 35 U.S.C. §282 does not apply in reexaminations. *See In re Etter*, 756 F.2d 852, 225 USPQ 1 (Fed. Cir. 1985); *see also* MPEP §2258.I.G.

B. Substantial New Question of Patentability

35 U.S.C. §312 requires the PTO to determine whether a "substantial new question of patentability" is raised by a request for *inter partes* reexamination. And §313 requires the PTO to order the *inter partes* reexamination if it is determined that a "substantial new question of patentability" is raised by the request.

This criterion for determining whether a "substantial new question of patentability" is raised by a request is discussed in MPEP §2642:

> If the prior art patents and printed publications raise a substantial question of patentability of at least one claim of the patent, then a substantial new question of patentability is present, unless the same question of patentability has already been decided by (A) a final holding of invalidity, after all appeals, or (B) by the Office in a previous examination or pending reexamination of the patent. A "previous examination" of the patent is: (A) the original examination of the application which matured into the patent; (B) the examination of the patent in a reissue application that has resulted in a reissue of the patent; or (C) the examination of the patent in an earlier pending or concluded reexamination.

A prior art patent or printed publication raises a substantial question of patentability where there is a substantial likelihood that a reasonable examiner would consider the prior art patent or printed publication important in deciding whether or not the claim is patentable. If the prior art patents and/or publications would be considered important, then the examiner should find "a substantial new question of patentability" unless the same question of patentability has already been decided by the Office in a previous examination. *See In re Swanson*, 540 F.3d 1368, 1381, 88 U.S.P.Q.2d 1196 (Fed. Cir. 2008) (holding that consideration of a reference for anticipation raised a substantial new question of patentability even though that reference had been considered as a secondary reference during the original prosecution).

Accordingly, for "a substantial new question of patentability" to be present, it is only necessary that:

(A) The prior art patents and/or printed publications raise a substantial question

of patentability regarding at least one claim, i.e., the teaching of the prior art patents and printed publications is such that a reasonable examiner would consider the teaching to be important in deciding whether or not the claim is patentable; and

(B) The same question of patentability as to the claim has not been decided by the Office in a previous examination or pending reexamination of the patent.

It is not necessary that a "*prima facie*" case of unpatentability exist as to the claim in order for "a substantial new question of patentability" to be present as to the claim. Thus, "a substantial new question of patentability" as to a patent claim could be present even if the examiner would not necessarily reject the claim as either anticipated by, or obvious in view of, the prior art patents or printed publications. The difference between "a substantial new question of patentability" and a "*prima facie*" case of unpatentability is important. *See, generally, In re Etter*, 756 F.2d 852, 857 n.5, 225 USPQ 1, 4 n.5 (Fed. Cir. 1985) (emphasis in original).

Thus, in order to raise a "substantial new question of patentability," it is not necessary for the requester to establish a complete case of unpatentability for all the claims. Instead, the request only need meet the much lower threshold of raising a question that "a reasonable examiner would consider the prior art patent or printed publication important in deciding whether or not the claim is patentable." *Id.* (emphasis in original).

C. Use of Previously Cited/Considered Art as a Basis for a Substantial New Question of Patentability

The Federal Circuit has made it clear that even where the Examiner considered all of the relevant prior art, the claims can still be invalid in light of that art. *In re Swanson*, 540 F.3d at 1380-81 (analyzing 2002 amendment to 35 U.S.C. §303). Substantial new questions of patentability can be based upon art that has been cited and considered in the patent at issue. As discussed in *Swanson*, on November 2, 2002, Public Law 107-273 was enacted. Title III, Subtitle A, Section 13105, part (a) of the Act revised the reexamination statute by adding the following new last sentence to 35

U.S.C. 303(a) and 312(a): "The existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office."

Accordingly, as discussed in MPEP §2642:

> In a decision to order reexamination made on or after November 2, 2002, reliance on old art does not necessarily preclude the existence of a substantial new question of patentability that is based exclusively on that old art. ... Determinations on whether a substantial new question of patentability exists in such an instance shall be based upon a fact-specific inquiry done on a case-by-case basis.

D. Claims Are to be Given Their Broadest Reasonable Interpretation During Reexamination Proceedings

The PTO is required by statute to conduct reexamination proceedings under the same substantive standards as for original patent applications, per 35 U.S.C. § 314. *See also In re Am. Academy of Science Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Thus, in reexamination, the PTO is obligated to use the broadest reasonable interpretation possible for the patent claims, and any proposed amended claims, during examination. Importantly, in *In re Yamamoto*, 740 F.2d 1569, 222 USPQ 934 (Fed. Cir. 1984), the Federal Circuit held that the "broadest reasonable interpretation" standard governing original examination practice also governs reexamination proceedings.

Thus, the claims of the '433 patent subject to this Request must be construed with the foregoing principles of claim construction properly applied.

By filing this Request, Requestors are attempting to follow the applicable standards and are not admitting and/or acquiescing as to the correctness of the interpretation of any claim term. Requestors specifically reserve the right to challenge any claim construction proffered by Creative in reexamination or litigation.

E. Anticipation

Invalidity based on a lack of novelty ("anticipation") requires that the same invention, including each element and limitation of the claims, was disclosed in a prior art reference, or was known or used by others before it was invented by the patentee, or was in public use or sale in this country, more than one year before the patent application's filing date. *See Hoover Group, Inc. v. Custom Metalcraft, Inc.*, 66 F.3d 299, 302, 36 USPQ2d 1101 (Fed. Cir. 1995). Novelty of a claim is judged by a simple comparison of the literal language of the claim with a single piece of prior art. *See Lindemann Maschinenfabrik v. Am. Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481 (Fed. Cir. 1984). Anticipation requires just a single, complete disclosure of the invention in the reference. If one complete example anticipates, the disclosure in the reference need not draw attention to or agree with the anticipating example. *See Titanium Metals Corp. v. Banner*, 778 F.2d 775, 781-782, 227 USPQ2d 773 (Fed. Cir. 1985) (one graph data point out of fifteen from the prior art meets the terms of the claims at issue, thereby anticipating them).

A reference anticipates a claim if it discloses the claimed invention "such that a skilled artisan could take its teachings in *combination with his own knowledge of the particular art and be in possession of the invention*." *In re Graves*, 69 F.3d 1147, 1152, 36 USPQ2d 1697 (Fed. Cir. 1995) (citing *In re LeGrice*, 301 F.2d 929, 936, 133 USPQ 365, 372 (CCPA 1962)) (emphasis in original). *See also In re Donohue*, 766 F.2d 531, 533, 226 USPQ 619, 621 (Fed. Cir. 1985).

A claim lacks novelty, and is thus not valid under 35 U.S.C. § 102, if every feature of that claim is found, either expressly or under principles of inherency, in a single prior art reference or document. *See Elmer v. ICC Fabricating, Inc.*, 67 F.3d 1571, 1571, 36 USPQ2d 1417 (Fed. Cir. 1995); *Tyler Refrigeration v. Kysor Indus. Corp.*, 777 F.2d 687, 689, 227 USPQ 845 (Fed. Cir. 1985).

It is well established that the discovery of a new property or use of an old product does not render the old product patentable. *See Continental Can Co. U.S.A. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991) ("To

serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence."); *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990); *Titanium Metals*, 778 F.2d at 780-82. This principle of filling the "gap " by showing inherent properties of an anticipating reference through extrinsic evidence also does not offend the requirement that reexamination be based on patents or printed publications. "Affidavits or declarations or other written evidence which explain the contents or pertinent dates of prior patents or printed publications in more detail may be considered in reexamination...." MPEP § 2258, referenced by MPEP § 2658.

F. Obviousness

A claimed invention is unpatentable if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a); *Graham v. John Deere Co.*, 383 U.S. 1, 13-14 (1966). The ultimate determination of whether an invention is or is not obvious is a legal conclusion based on underlying factual inquiries including: "(1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness." *Miles Labs., Inc. v. Shandon, Inc.*, 997 F.2d 870, 877 (Fed. Cir. 1993). *See also Graham*, 383 U.S. at 17-18.

The recent U.S. Supreme Court decision in *KSR International Co. v. Teleflex Inc., et al.*, 127 S.Ct. 1727 at 1739 (2007) ("*KSR*"), reaffirmed *Graham*, but at the same time held that a claimed invention can be obvious even if there is no teaching, suggestion, or motivation for combining the prior art to produce that invention.

In short, *KSR* holds that patents which are based on new combinations of elements or components already known in a technical field may be found to be obvious. *See, generally, KSR*, 127 S.Ct. 1727. Specifically, the Court in *KSR* has outright rejected a rigid application of the "teaching, suggestion, or motivation [to combine]" test. *Id.*, at 1741. "In determining whether the subject matter of a patent claim is obvious, neither the particular motivation or the avowed purpose of the patentee controls. What

matters is the objective reach of the claim." *Id.*, at 1741-1742. "Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id.* at 1742 (emphasis added).

In particular, in *KSR*, the Supreme Court emphasized the principle that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 1739. A key inquiry is whether the "improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at 1740.

The rationale to combine or modify prior art references is significantly stronger when the references seek to solve the same problem, come from the same field, and correspond well. *In re Inland Steel Co.*, 265 F.3d 1354, 1362 (Fed. Cir. 2001). The Federal Circuit allowed two references to be combined as invalidating art under similar circumstances, namely "[the prior art] focus[es] on the same problem that the ... patent addresses: enhancing [the flexibility of stents]. Moreover, both [prior art references] come from the same field.... Finally, the solutions to the identified problems found in the two references correspond well." *Id.* at 1364 (concerning patents and prior art relating to improving the magnetic and electrical properties of steel).

In view of the Supreme Court's *KSR* decision, the PTO issued a set of new Examination Guidelines in 2007. *See* Examination Guidelines for Determining Obviousness Under 35 U.S.C. §103 in view of the Supreme Court Decision in *KSR International Co. v. Teleflex, Inc.*, 72 Fed. Reg. 57526 (October 10, 2007) ("the October 10th Examination Guidelines"). Those Guidelines summarized the *KSR* decision, and identified various rationales the Examiner may use to find a claim obvious, including those based on other precedential decisions as well. Those rationales include:

(A) Combining prior art elements according to known methods to yield predictable results;

(B) Simple substitution of one known element for another to obtain predictable

results;

(C) Use of known technique to improve similar devices (methods, or products) in the same way;

(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(E) "Obvious to try" – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

(F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Id. at 57529; *see also* MPEP §2141 III.

Thus, the Examiner should consider each of these rationales in considering the obviousness of the claims of the '433 patent.

IV. PERTINENCE OF REFERENCES CITED IN THIS REQUEST

A concise statement explaining the pertinence of each of the references cited in this Request for Reexamination of the '433 patent is provided below.

As noted above in connection with the prosecution history, the Office Actions never specifically addressed a reference that disclosed displaying categories or subcategories in a display screen. As will become apparent, the references cited herein, individually or in combination, do make such disclosures and thus raise a substantial new question of patentability as to the '433 patent claims.

A. U.S. Patent No. 5,739,451 ("the '451 patent")

The '451 patent, provided at Appendix B, describes a hand held electronic music reference machine with search and playback functionality. (Abstract.) More specifically, as shown in Figure 3 (reproduced below) and then further described, a database of the hand held electronic music reference machine has a memory for storing textual or alphanumeric information which can be shown on a display. Col. 3, lines 43-48.

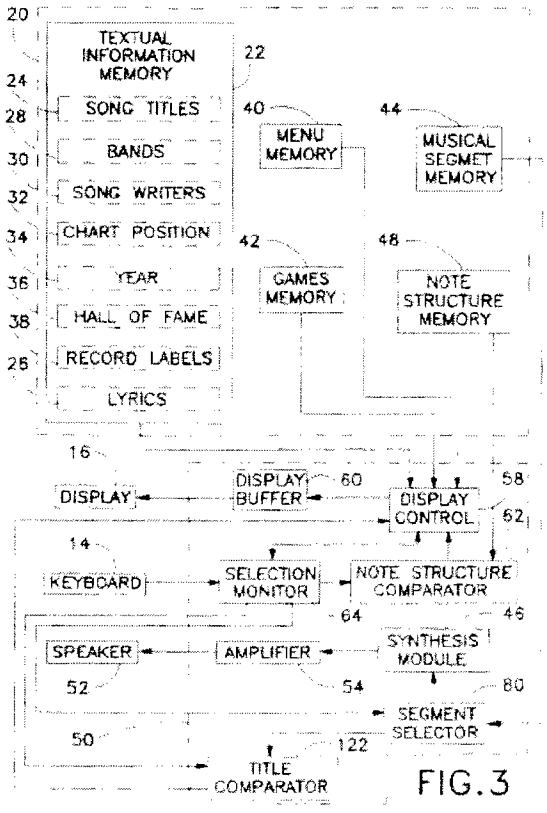
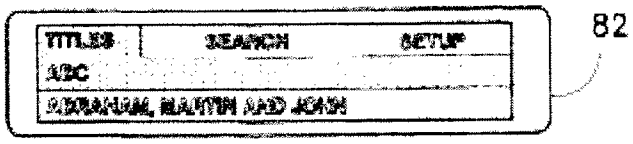


FIG.3

The '451 patent describes a very versatile device, which can access song titles according to a hierarchy which has many different categories, including: band or artist names; songwriter names; highest chart positions attained by the various songs; the years in which the highest chart positions were attained; Hall of Fame listings; and recording labels. Col. 3, lines 48-53. The '451 patent describes its hierarchy as having a main menu that includes a 'Title' selection, a 'Search' selection and a 'Setup' selection.' Col. 5, lines 42-44. An example of a main menu display screen and the

beginning of a master list of song titles is shown in Figure 4 (reproduced below).



Subcategories are obtained as described in the '451 patent, when 'Search' is selected from the main menu, and the display shows a list of nine search parameters, or filters, including: song titles; bands; song writer; song position; chart position; year; Hall of Fame status; record labels; lyrics; and melody line. Any search filter may be selected by actuating the "Enter" function key upon highlighting the desired search filter. Col. 5, lines 51-56. Items are selected by actuation of the "Enter" function after highlighting the desired subcategory. Col. 6, lines 19-21. Furthermore, when a selected item is a track, it may be selected for playback. Col. 6, lines 21-27.

Both the '433 patent and the '451 patent disclose an identical hierarchy comprising categories, subcategories and items for use in selecting tracks stored on a portable media player. Furthermore, both the '433 and the '451 patents disclose displaying said categories, subcategories and items on a display of said portable media player – compare Figure 4 of the '451 patent with Figure 10 of the '433 patent. Therefore, the displaying categories or subcategories in a display screen disclosed in the '433 patent is not novel.

A substantial new question of patentability as to claims 1-16 is raised by the '451 patent, which teaches or suggests each limitation of the foregoing claims. The '451 patent issued in 1998, and so qualifies as prior art under 35 U.S.C. 102(b). The teachings of the '451 patent were not considered during the prior examination of the '433 patent and thus are new. Requesters respectfully submit that a reasonable examiner would consider these teachings important in determining whether or not the claims of the '433 patent are patentable.

B. U.S. Patent No. 6,976,229 ("the '229 patent")

The '229 patent, provided at Appendix C, describes a system for multimedia digital story creation and playback; exemplary embodiments of said system are hand held. Col. 6, lines 30-37. The '229 patent describes downloading audio clips, including music albums, audio CDs and songs, which are displayed and can be used to create playlists. Col. 3, lines 18-41 and col. 12, lines 26-38. Both the '451 and '229 patents teach

Both the '433 patent and the '229 patent describe storing, displaying, choosing and playing audio clips of songs, and also the creation of playlists, on a hand held device.

A substantial new question of patentability as to claims 1-16 is raised by the '229 patent in combination with the '451 patent, which combinations teach or suggest each limitation of the foregoing claims. The '229 patent was filed on December 16, 1999 and issued on December 13, 2005, and so qualifies as prior art under 35 U.S.C. 103(a). The teachings of the '229 patent were not considered during the prior examination of the '433 patent and thus are new. Requesters respectfully submit that a reasonable examiner would consider these teachings important in determining whether or not the claims of the '433 patent are patentable.

C. U.S. Patent No. 6,760,721 ("the '721 patent")

The '721 patent, provided at Appendix D, describes a system and method of managing metadata. Systems and methods are described at col. 4, lines 37-51, in which:

> "[M]etadata information may be displayed in the graphical user interface using organizational techniques. Rather than having to traverse vast amounts of metadata to find a particular record, the user is instead presented with an organized view of the metadata. This embodiment allows the metadata to be presented in a variety of categories using a variety of subtrees. The user may create custom categories as well as custom subtrees affording much flexibility and user control. For example, one user may create groupings for the Genres Rock and Jazz, while

another user may create groupings for the Artists Styx and Abba. In addition, one user may group data into categories that are often used such as Artist/Genre/Album, while another user may create customized playlists."

As shown in Figure 1 (reproduced below), audio metadata is organized into categories, subcategories and items and displayed such that information about a selected node is provided to the user. The user may use the displayed information to begin playing an audio file or set of audio files. Col. 3, lines 56-58. The metadata management system may be integrated into a variety of devices with graphical user interfaces, including: portable computing devices, portable audio players, portable video players, handheld computers and the like. Col. 6, lines 49-62; col. 8, lines 14-30.

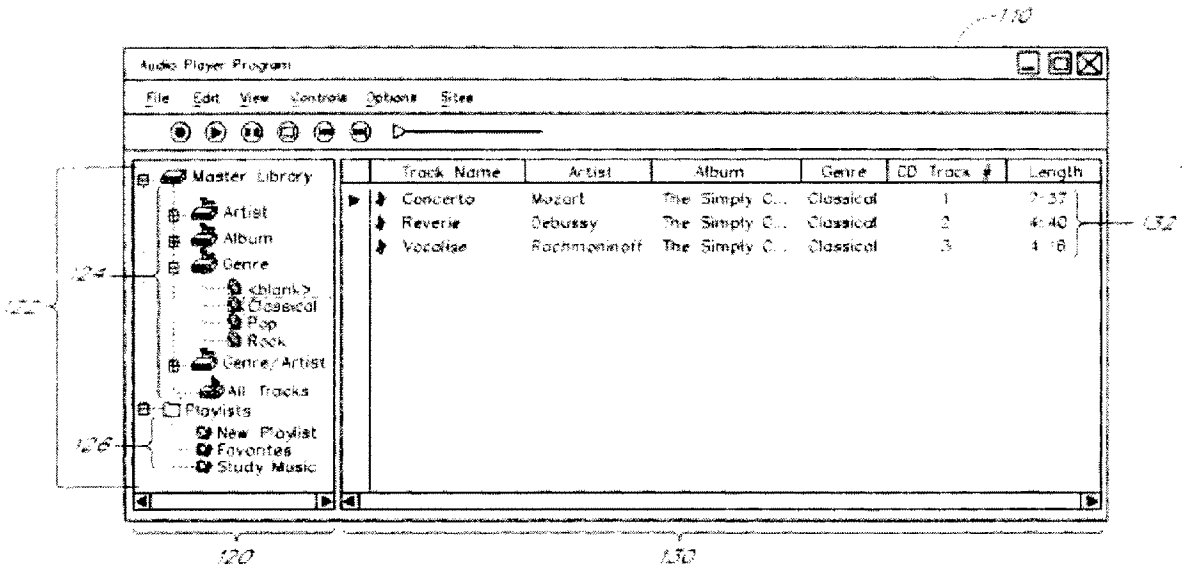


FIG. 1

Both the '433 patent and the '721 patent disclose an identical hierarchy comprising categories, subcategories and items for use in selecting tracks stored on a portable media player – compare Figure 1 of the '721 patent with Figure 4 of the '433 patent. Furthermore, both the '433 and the '721 patents disclose displaying said categories, subcategories and items on a display of said portable media player. Therefore, the displaying categories or subcategories in a display screen disclosed in

the '433 patent is not novel.

A substantial new question of patentability as to claims 1-16 is raised by the '721 patent, which teaches or suggests each limitation of the foregoing claims. The '721 patent was filed on April 14, 2000 and issued on July 6, 2004, and so qualifies as prior art under 35 U.S.C. 102(e). The teachings of the '721 patent were not considered during the prior examination of the '433 patent and thus are new. Requesters respectfully submit that a reasonable examiner would consider these teachings important in determining whether or not the claims of the '433 patent are patentable.

D. U.S. Patent Appl. Publ. No. 2002/0045960 ("the Phillips publication")

The Phillips publication, provided at Appendix E, describes a system and method for musical playlist selection in a portable audio device. The background section describes how "[p]ortable audio devices have evolved from large cumbersome analog tape players to highly miniaturized digital storage devices." Paragraph 3. Furthermore, "[w]ith the introduction of large storage capacity MP3 players, the user may record and store a large number of musical data files. However, track selection and organization of such data files cannot be readily accomplished with conventional techniques." Paragraph 5. The need for a "system and method that will allow easy organization of data files in a portable digital audio device" is recognized. *Id.*

The Phillips publication describes the system and method of the invention as being "directed to techniques that permit the user to implement a form of 'jukebox' on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." Paragraph 10. The musical tracks are stored in the portable audio device on a storage device, such as a micro-drive, or in memory. Paragraphs 19-20. A data structure is used to store metatags corresponding to musical tracks stored in memory. The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording,

etc. These categories of metatags may be further divided to form sub-categories – for example sub-categories of genre are "Rock", "Blues", "Rap", etc. Finally within all of these categories and sub-categories are items – the musical tracks. Paragraphs 35-39. The user may select more than one metatag to further refine the selection of musical tracks. Thus, the method may be a multi-step process in which one or more screen displays are provided to the user to guide the user through the metatag selection process. Paragraph 48. An example of a higher level display screen showing metatag categories is shown in Figure 7, reproduced below. Furthermore, an example of a display screen showing metatag subcategories is shown in Figure 8, reproduced below; the subcategories shown are particular genres. The display screen of Figure 8 is automatically generated on selection of 'genre' in the display screen shown in Figure 7. Paragraphs 36 & 37.

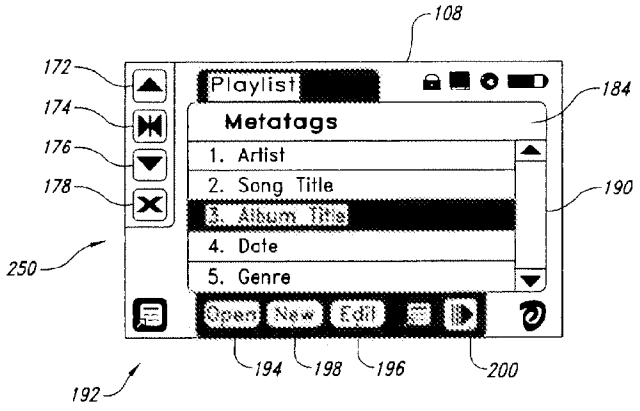


Fig. 7

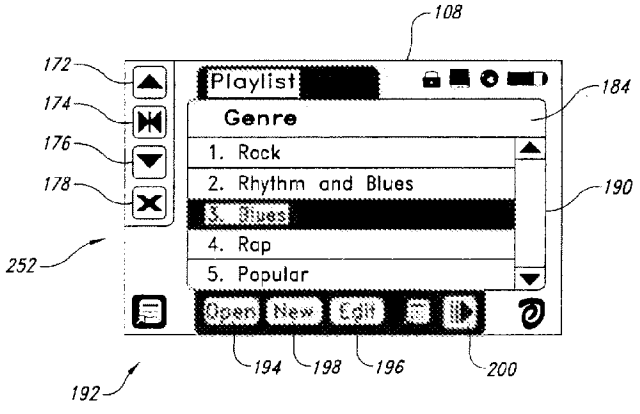


Fig. 8

Both the '433 patent and the Phillips publication disclose a hierarchy comprising categories, subcategories and items for use in selecting tracks stored on a portable media player. Furthermore, both the '433 patent and the Phillips publication disclose displaying said categories, subcategories and items on a display of said portable media player – compare Figure 10 of the '433 patent with Figures 7 & 8 of the Phillips publication. Therefore, the displaying categories or subcategories in a display screen disclosed in the '433 patent is not novel.

A substantial new question of patentability as to claims 1-16 is raised by the Phillips publication, which teaches or suggests each limitation of the foregoing claims. The Phillips publication was filed on Oct. 10, 2001, claiming the benefit of U.S. Provisional Appl. No. 60/240,766 filed on Oct. 13, 2000, and issued on July 6, 2004, and so qualifies as prior art under 35 U.S.C. 102(e). The teachings of the Phillips publication were not considered during the prior examination of the '433 patent and thus are new. Requesters respectfully submit that a reasonable examiner would consider these teachings important in determining whether or not the claims of the '433 patent are patentable.

V. STATEMENT POINTING OUT EACH SUBSTANTIAL NEW QUESTION OF PATENTABILITY BASED ON PRIOR PATENTS AND PUBLICATIONS

The following statement points out each substantial new question of patentability based on prior patents and printed publications, along with an identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited prior art to every claim for which reexamination is requested.

A. Claims 1, 2, 4 and 6-16 are unpatentable under 35 U.S.C. §102(b) over the '451 patent

The claim chart below details how each and every element recited in claims 1, 2, 4 and 6-16 is anticipated by the '451 patent, thereby raising a substantial new question of patentability.

Claim 1 of '433 Patent	Disclosure of '451 Patent
A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:	The '451 patent describes a "hand held electronic music reference machine" (col. 2, line 64-65), that has the ability to allow a user to obtain information relative to a variety of songs. As shown in Figure 3 and then further described, a database 20 of the hand held electronic reference machine "has a first memory portion 22 storing textual or alphanumeric information which can be shown on display 16. Memory portion 22 includes an area 24 storing song titles and another memory area 26 storing at least some lyrics for each song whose title exists in memory area 24." (col. 3, line 43-48) Each of these song titles correspond to one of the plurality of tracks. The '451 patent describes a very versatile device, which can access song titles according to a hierarchy identical to the '433 patent. The '451 patent also allows access to textual information concerning a song based upon note structure data (though this aspect is unrelated to the '433 patent). The hierarchy of the '451 patent has many different categories, including, within memory portion 22, "areas 28, 30, 32, 34, 36 and 38 [see Figure 3] respectively storing band or artist names, songwriter names, highest chart positions attained by the various songs, the years in which the highest chart positions were attained, Hall of Fame listings and recording labels." (col. 3, line 48-53) The '451 patent describes its hierarchy as having a "main menu [that] includes a 'Title' selection, a 'Search' selection and a 'Setup' selection.' (col. 5, line 42-44) Subcategories are obtained as described in the '451 patent: "When 'Search' is selected from the main menu, display 16 shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line. Any search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 51-56) The '451 patent further

	describes "[G]enerally, the greater the number of filters used, the smaller the resulting list of titles." (col. 8, line 59-61) The '451 patent describes in the summary of the invention that "at least a portion of the song" (col. 1, lines 51-54) (emphasis added) be provided as the audio reproduction. The verbiage "at least a portion" contemplates more than a portion, i.e. the entire song be provided. In the detailed description, the "portion of the song" stored in memory is referred to as a "stored reproducible musical segment" (col. 3, lines 62-66). It follows that storing an entire song in memory, available for retrieval and playback, is also contemplated.
selecting a category in the first display screen of the portable media player;	The main menu shown on the display 16 of the hand held electronic music reference machine 10 contains three categories: titles, search, and setup. The claimed method is anticipated by selection of the search category. (col. 5, line 40-44)
displaying the subcategories belonging to the selected category in a listing presented in the second display screen;	Upon selection of the search category, "display 16 shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line." (col. 5, line 51-54)
selecting a subcategory in the second display screen;	As taught by the '451 patent, "[a]ny search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 54-56) In a specific example given within the '451 patent, "[d]uring a search of the band list, highlighting of the entries may be shifted from artist to artist by using up and down directional keys 68 and 70." (col. 6, line 17-19)
displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and	As further expressly taught by the '451 patent with respect to the specific example, "[i]f selection monitor 64 detects the actuation of Enter function key 76, a list of song titles appears for the highlighted recording artist." (col. 6, line 19-21) Thus, the list of song titles corresponds to the displayed items.

accessing at least one track based on a selection made in one of the display screens.	The '451 patent expressly provides for this limitation, teaching "As in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27)

Claim 2 of '433 Patent	**Disclosure of '451 Patent**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises	
selecting a subcategory in the second display screen and	As taught by the '451 patent, "[a]ny search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 54-56)
playing a plurality of tracks associated with the selected subcategory.	A plurality of tracks can be played from the selected subcategory by highlighting different songs within the subcategory, and then actuating the special function key 78, which is detected by selection monitor 64, to cause selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27) This can be repeated for a plurality of different songs to play a plurality of tracks associated with the selected category. NOTE: An appropriate broad construction does not require that the playing of the plurality of songs happen automatically and with the touch of a single button.

Claim 4 of '433 Patent	**Disclosure of '451 Patent**
The method of selecting a track as recited in claim 1 wherein the	

accessing at least one track comprises	
selecting an item in the third display screen and	The '451 patent teaches highlighting of a song that is on the list of the display 16 in order to obtain further information relating to that song. (col. 6, line 24)
playing at least one track associated with the selected item.	The '451 patent expressly provides for this limitation, teaching "As in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27)

Claim 6 of '433 Patent	**Disclosure of '451 Patent**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises one of playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item.	The '451 patent expressly provides for the "playing" one of the limitations, teaching "[a]s in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27) The track that is played is associated with a category, subcategory, and song.

Claim 7 of '433 Patent	**Disclosure of '451 Patent**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track is made after the presentation of the third display screen by reverting back to one of the second and first display screens, the second display screen presented sequentially after the third display screen.	The '451 patent teaches usage of left or right directional keys 72 and 74 that can be used to access different submenus, thereby allowing a user to revert from the third display back to one of the second and first display screens. (col. 5, line 24-26)

Claim 8 of '433 Patent	Disclosure of '451 Patent
The method of selecting a track as recited in claim 1 further comprising	
selecting one of the items displayed in the third display screen and	The '451 patent teaches highlighting of a song that is on the list of the display 16 in order to obtain further information relating to that song. (col. 6, line 24)
presenting a listing of items associated with the selected item in a fourth sequentially presented display screen.	Upon actuation of the "Enter function key 76, display control 58 accesses memory portion 22 to obtain identification information and lyrics for the highlighted song." (col. 6, line 29-32) A fourth display screen is presented with some of this information, as shown in Figure 6A—with further information presented in subsequent display screens shown as Figures 6B-6H.

Claim 9 of '433 Patent	Disclosure of '451 Patent
The method of selecting a track as recited in claim 1 wherein the category genre is selected in the first display screen from available categories that include at least artist, album, and genre; and	In an embodiment in which the "first display screen" is one level below the top level of the hierarchy (see claim 15), there are nine different categories, and certain of them correspond to artist, album and genre. "Bands" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to artist. "Song titles" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to album, since many albums have only one song (aka "singles"). And "recording labels" search parameter (col. 5, line 54) corresponds to genre since recording labels conventionally record artists that have a same style of music. For example, it is well known that "Windham Hill" is a "New Age" label, whereas "Blue Note Records" is a "Jazz" label.
the subcategories listed in the second display screen comprise a listing of at least one genre	Upon selection of the "recording labels" search, the various recording label names, which correspond to different genre types, are listed.

type and	
one of the at least one genre type is selected.	The user can select a particular recording label name.

Claim 10 of '433 Patent	**Disclosure of '451 Patent**
The method of selecting a track as recited in claim 9 further comprising	
displaying in the third display screen at least one album associated with the selected genre type and	Upon selection of a particular recording label name that appears on the second display screen, list of "Titles" appears on a third display screen. (An equivalent search is shown in Figs. 7A and 7B, though for different categories).
selecting one of the at least one albums displayed in the third display screen and	One of the "Titles" that appears on the third display screen can be selected.
presenting a listing of tracks associated with the selected album in a fourth sequentially presented display screen.	As shown in Figures 6A at screen 98, there is a plurality of tracks that are presented on the fourth display screen: one track corresponding to the song title and another track corresponding to the recording artist. As described, the information for the listing of tracks is obtained from separate memory areas 24 and 28. (col. 6, line 35-37)

Claim 11 of '433 Patent	**Disclosure of '451 Patent**
The method of selecting a track as recited in claim 1 wherein the category artist is selected in the first display screen from available categories that include at least artist, album, and genre;	In an embodiment in which the "first display screen" is one level below the top level of the hierarchy (See claim 15), there are nine different categories, and certain of them correspond to artist, album and genre. "Bands" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to artist. "Song titles" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to album, since many albums have only one song (aka "singles"). And "recording labels" search parameter (col. 5, line 54) corresponds to genre since recording labels conventionally record artists that have a same style of music. For example, it is well known that

	"Windham Hill" is a "New Age" label, whereas "Blue Note Records" is a "Jazz" label.
the subcategories listed in the second display screen comprise a listing of names of artists and	Upon selection of the "Artist" search, the various Artists are listed, as explicitly shown in Figure 5A and screen 88.
a first artist name is selected; and	As described at col. 6, line 19-21, one of the artists can be selected.
the items displayed in the third display screen comprises at least one album associated with the first artist name.	As described in the same passage referred to immediately above, "a list of song titles appears for the highlighted recording artist." As explained previously, a "Song title" corresponds to an album, since many albums have only one song (aka "singles").

Claim 12 of '433 Patent	**Disclosure of '451 Patent**
The method of selecting a track as recited in claim 1 wherein the track is a music track, accessing at least one track comprises accessing a track title in the third display screen, and the track is played in response to the access.	Each "Title" in the '451 patent has a "reproducible music segment" associated with it. (col. 5, line 32) Accessing this music track is achieved by highlighting the Title in the third display screen and then pressing the specialized function key 78 labeled "NOTE" in Figure 1 causes the music track to play. (col. 5, line 29-39)

Claim 13 of '433 Patent	**Disclosure of '451 Patent**
The method of selecting a track as recited in claim 1 wherein receipt of the selection in the first display screen results in an automatic transition of the first display screen into the second display screen and	The '451 patent teaches "[w]hen 'Search' is selected from the main menu [i.e. the recited first display screen], display 16 shows a list of nine search parameters ... ." (col. 5, line 51-52) Thus, there is an automatic transition from the first display screen to the second display screen.
receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third display screen.	From the second display that shows the list of nine search parameters, if the search parameter "Artist" is selected, a list of artists then appears. This is shown at Figs. 5A with screen 88, and explained at col. 6, line 1-2. As further explained at col. 6, line 17-19, the list of artist names (the recited "third display screen") can be shifted from artist to artist using up and down directional keys 68 and 70. Thus, there is an automatic transition from the second display screen to the third display screen.

Claim 14 of '433 Patent	Disclosure of '451 Patent
The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is from a top level of the hierarchy.	The "Main menu" as described above with respect to claim 1 is a first display screen that appears at the top level of the hierarchy.

Claim 15 of '433 Patent	Disclosure of '451 Patent
The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is a category from a level at least one level below the top level of the hierarchy.	The "Search menu" as described above with respect to claims 9 and 11 is a first display screen that appears at least one level below the top level of the hierarchy.

Claim 16 of '433 Patent	Disclosure of '451 Patent
The method of selecting a track as recited in claim 1 wherein the plurality of categories comprise a list of artist names,	In an embodiment in which the "first display screen" is one level below the top level of the hierarchy (see claim 15), there are nine different categories, and certain of them correspond to artist, album and genre. Upon selection of the "Bands" search parameter (col. 5, line 53) a list of artist names appears, and this list of artists corresponds to the "plurality of categories."
the plurality of subcategories comprise a list of album names and	As described at col. 6, line 19-21, one of the artists can be selected, and "a list of song titles appears for the highlighted recording artist." As explained previously, a "Song title" corresponds to an album, since many albums have only one song (aka "singles"). This list of songs corresponds to the list of album names.
the plurality of items comprise a list of track names.	For each song is a plurality of items, which comprise a list of track names. As shown in Figures 6A at screen 98, there is a plurality of tracks that are presented on the fourth display screen: one track corresponding to the song title and another track corresponding to the recording artist. As described, the information for the listing of tracks is obtained from separate memory areas 24 and 28. (col. 6, line 35-37).

As seen from the above charts, each and every limitation of claims 1, 2, 4 and 6-16 is disclosed by the '451 patent, thus rendering the subject matter of those claims unpatentable under 35 U.S.C. §102(b). Accordingly, a substantial new issue of patentability as to each of claims 1, 2, 4 and 6-16 is raised by the '451 patent, which is prior art not of record and closer to the patented invention than any of the prior art of record.

B. Claims 1-16 are unpatentable under 35 U.S.C. §103(a) over the '451 patent

To the extent that the '451 patent does not anticipate claims 1-16, the Requester submits that it raises a substantial new question of patentability by rendering those claims obvious.

Regarding claim 3, it would have been obvious at the time Applicants' invention was made to a person having ordinary skill in the art on reading the disclosure of the '451 patent that a selected subcategory be added to a playlist.[1] The relevant disclosure of the '451 patent to claim 3 is shown in the chart below. This chart is dependent on claim 1, for which a chart based on the '451 patent is found in section V. A. above.

Claim 3 of '433 Patent	**Disclosure of '451 Patent**
The method of selecting a track as recited in claim 1	See claim chart in Section V. A. above.
wherein the accessing at least one track comprises selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist.	An appropriate broad construction of this claim limitation includes the tracks associated with a selected subcategory of tracks being the only tracks in the playlist. In which case, the subcategory is being used as a list of tracks from which tracks can be chosen for playing – a "playlist."

[1] The Board of Patent Appeals and Interferences in Appeal 2009-003214 has recently confirmed that the '451 patent supports an obviousness rejection of claims to a method of selecting music for a playlist in pending U.S. Patent Appl. No. 09/975,748. (This patent application is included as Appendix E, and is used as a reference in the present Request for *Inter Partes* Reexamination.) The subject matter of U.S. Patent Appl. No. 09/975,748 is very close to that of the '433 patent, making this decision from the Board of Patent Appeals and Interferences very relevant to the present Request. *See* pages 10-11 of the BPAI Decision of August 28, 2009.

	The claim language is broad enough to read on the disclosure in the '451 patent of the selection of a list of songs belonging to a subcategory – a particular recording artist, for example – where one of the songs is chosen for playback. Such a list may be characterized as a "playlist" since it is a list of songs from which a user can select a song for playing. (col. 6, lines 17-27)

As seen from the above chart, each and every limitation of claim 3 is unpatentable over the '451 patent, thus rendering the subject matter of that claim unpatentable under 35 U.S.C. § 103(a). Accordingly, a substantial new issue of patentability as to claim 3 is raised by the '451 patent, which is prior art not of record and closer to the patented invention than any of the prior art of record.

Regarding claim 5, it would have been obvious at the time Applicants' invention was made to a person having ordinary skill in the art on reading the disclosure of the '451 patent that a selected track be added to a playlist.[2] The relevant disclosure of the '451 patent to claim 5 is shown in the chart below. This chart is dependent on claim 1, for which a chart based on the '451 patent is found in section V. A. above.

Claim 5 of '433 Patent	**Disclosure of '451 Patent**
The method of selecting a track as recited in claim 1	See claim chart in Section V. A. above.
wherein the accessing at least one track comprises selecting an item in the third display screen and adding at least one track associated with the selected item to a playlist.	An appropriate broad construction of this claim limitation does not require that a playlist represent more than one track. The formation of a playlist, when adding <u>one or more</u> tracks, as described in this claim limitation, must include the possibility that a single track is added to a new playlist, which at that point in time will have only one track – it is a list of one song selected to be played. The claim language is broad enough to read on the disclosure in the '451 patent of selection of a single song for playback – in effect, a list including a single song has been formed for playback. (col. 6, lines

[2] *Id.*

	17-27)

As seen from the above chart, each and every limitation of claim 5 is unpatentable over the '451 patent, thus rendering the subject matter of that claim unpatentable under 35 U.S.C. § 103(a). Accordingly, a substantial new issue of patentability as to claim 5 is raised by the '451 patent, which is prior art not of record and closer to the patented invention than any of the prior art of record.

Furthermore, the '451 patent describes in the summary of the invention that "at least a portion of the song" (col. 1, lines 51-54) (emphasis added) be provided as the audio reproduction. To the extent that it is not inherent that the verbiage "at least a portion" contemplates more than a portion, i.e. the entire song be provided, it would have been obvious at the time Applicants' invention was made to a person having ordinary skill in the art on reading the disclosure of the '451 patent that an entire song be provided. In the detailed description, the "portion of the song" stored in memory is referred to as a "stored reproducible musical segment" (col. 3, lines 62-66). It follows that it would be obvious that an entire song be stored in memory.

As seen from the charts in section V. A. and that for claims 3 and 5 in the present section, and in light of the above discussion, each and every limitation of claims 1-16 is unpatentable over the '451 patent, thus rendering the subject matter of those claims unpatentable under 35 U.S.C. § 103(a). Accordingly, a substantial new issue of patentability as to each of claims 1-16 is raised by the '451 patent, which is prior art not of record and closer to the patented invention than any of the prior art of record.

C. Claims 1-16 are unpatentable under §103(a) over the '451 patent in view of the '229 patent

The combination under §103(a) of the '451 patent and the '229 patent is proper, for at least the following reasons. As described in the Abstract, the '451 patent describes a hand held electronic music reference machine with search and playback functionality for songs. The '229 patent describes a system for multimedia digital story

creation and playback; exemplary embodiments of said system are hand held. *See* col. 6, lines 30-37. The '229 patent describes downloading audio clips, including music albums, audio CDs and songs, which are displayed and can be used to create playlists. Col. 3, lines 18-41 and col. 12, lines 26-38. Both the '451 and '229 patents teach storing, displaying, choosing and playing audio clips of songs on a hand held device. Further, both the '451 patent and the '229 patent are built using the same type of portable device. *Compare* col. 2, lines 66-67 of the '451 patent with col. 1, lines 33-34, col. 11, lines 25-26 and col. 13, lines 6-7 of the '229 patent. Furthermore, both the '451 and '229 patents describe essentially similar constructions using generic processors and memory. *Compare* col. 8, lines 31-48 in the '451 patent with col. 2, line 61 through col. 3, line 3, and col. 12, lines 39-50 in the '229 patent.

Furthermore, the combination is proper for at least the following additional reasons. The '451 patent explicitly contemplates additional programming, stating "[e]xchanging a card 18 on platform 12 for another card carry different programming relating, for example, to different songs essentially generates a new machine." Col. 8, lines 46-48. (emphasis added) While the specific example in this quote is programming relating to a different machine, different application programming is also contemplated, as the '451 patent teaches, in the very next paragraph, that "[a]s illustrated in FIG. 2, a card 18 is provided with printed key representations 124. Representations 124 are color coded to match respective colored keys on keyboard 14, thereby enabling a reassignment of function in accordance with a particular card 18." As such, additional functionality is also contemplated by the '451 patent – such as the playlist functionality of the '229 patent.

Both patents are in the same field of endeavor and one skilled in the art at the time the invention of the '433 patent was made would have been motivated to combine aspects of the system and method of the '229 patent with the system and method of the '451 patent. For example, one skilled in the art would have been motivated to combine with the method of the '451 patent at least the provision of storing, displaying, choosing and playing audio clips, where audio clips include albums, audio CDs and songs, as described in the '229 patent at col. 3, lines 18-41 and col. 12, lines 26-38. Furthermore,

one skilled in the art would have been motivated to combine with the method of the '451 patent at least the provision of a playlist as described in the '229 patent at col. 3, lines 18-41 and col. 12, lines 33-35.

A detailed comparison of the relevant disclosures of the '451 and '229 patents to claims 1-6 is shown in the charts below; charts for dependent claims 7-16 are found in section V. A. above.

Claim 1 of '433 Patent	**Disclosures of '451 and '229 Patents**
A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:	The '451 patent describes a "hand held electronic music reference machine" (col. 2, line 64-65), that has the ability to allow a user to obtain information relative to a variety of songs. As shown in Figure 3 and then further described, a database 20 of the hand held electronic reference machine "has a first memory portion 22 storing textual or alphanumeric information which can be shown on display 16. Memory portion 22 includes an area 24 storing song titles and another memory area 26 storing at least some lyrics for each song whose title exists in memory area 24." (col. 3, line 43-48) Each of these song titles correspond to one of the plurality of tracks. The '451 patent describes a very versatile device, which can access song titles according to a hierarchy identical to the '433 patent. The '451 patent also allows access to textual information concerning a song based upon note structure data (though this aspect is unrelated to the '433 patent). The hierarchy of the '451 patent has many different categories, including, within memory portion 22, "areas 28, 30, 32, 34, 36 and 38 [see Figure 3] respectively storing band or artist names, songwriter names, highest chart positions attained by the various songs, the years in which the highest chart positions were attained, Hall of Fame listings and recording labels." (col. 3, line 48-53) The '451 patent describes its hierarchy as having a "main menu [that] includes a 'Title' selection, a 'Search' selection and a 'Setup' selection.' (col. 5,

	line 42-44) Subcategories are obtained as described in the '451 patent: "When 'Search' is selected from the main menu, display 16 shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line. Any search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 51-56) The '451 patent further describes "[G]enerally, the greater the number of filters used, the smaller the resulting list of titles." (col. 8, line 59-61) Furthermore, the '229 patent describes storing, displaying, choosing and playing audio clips, where audio clips include albums, audio CDs and songs. (col. 3, lines 18-41 and col. 12, lines 26-38)
selecting a category in the first display screen of the portable media player;	The main menu shown on the display 16 of the hand held electronic music reference machine 10 contains three categories: titles, search, and setup. The claimed method is anticipated by selection of the search category. (col. 5, line 40-44)
displaying the subcategories belonging to the selected category in a listing presented in the second display screen;	Upon selection of the search category, "display 16 shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line." (col. 5, line 51-54)
selecting a subcategory in the second display screen;	As taught by the '451 patent, "[a]ny search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 54-56) In a specific example given within the '451 patent, "[d]uring a search of the band list, highlighting of the entries may be shifted from artist to artist by using up and down directional keys 68 and 70." (col. 6, line 17-19)
displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and	As further expressly taught by the '451 patent with respect to the specific example, "[i]f selection monitor 64 detects the actuation of Enter function key 76, a list of song titles appears for the highlighted recording artist." (col. 6, line 19-21)

	Thus, the list of song titles corresponds to the displayed items.
accessing at least one track based on a selection made in one of the display screens.	The '451 patent expressly provides for this limitation, teaching "As in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27) Furthermore, the '229 patent describes storing, displaying, choosing and playing audio clips, where audio clips include albums, audio CDs and songs. (col. 3, lines 18-41 and col. 12, lines 26-38)

Claim 2 of '433 Patent	**Disclosures of '451 and '229 Patents**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises	
selecting a subcategory in the second display screen and	As taught by the '451 patent, "[a]ny search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 54-56)
playing a plurality of tracks associated with the selected subcategory.	A plurality of tracks can be played from the selected subcategory by highlighting different songs within the subcategory, and then actuating the special function key 78, which is detected by selection monitor 64, to cause selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27) This can be repeated for a plurality of different songs to play a plurality of tracks associated with the selected category.

	The '229 patent describes storing, displaying, choosing and playing audio clips, where audio clips include albums, audio CDs and songs. Furthermore, the user may create playlists which are stored and are available for playback. (col. 3, lines 18-41 and col. 12, lines 26-38)

Claim 3 of '433 Patent	**Disclosures of '451 and '229 Patents**
The method of selecting a track as recited in claim 1	
wherein the accessing at least one track comprises selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist.	The '229 patent, which in the embodiment that is described with respect to "other media objects" – and specifically audio clips -- describes creating "user's 'playlists' (e.g. the user's own sequences of songs to be played)." Col. 12, lines 33-35. As such it would have been obvious to add tracks associated with the selected subcategory to a playlist, since both the '451 and '229 patents teach storing, choosing and playing audio clips – songs -- on a hand held device. The '451 patent describes a hand held electronic music reference machine with search and playback functionality. (Abstract) The '229 patent describes a system for multimedia digital story creation and playback; exemplary embodiments of said system are hand held. *See* col. 6, lines 30-37. It is further noted that the '451 patent describes in the summary of the invention that "at least a portion of the song" (col. 1, lines 51-54) (emphasis added) be provided as the audio reproduction, and the verbiage "at least a portion" contemplates more than a portion, i.e. the entire song be stored. The '229 patent describes downloading audio clips, including music albums, audio CDs and songs, which can then be used to create playlists. *See* col. 12, lines 26-38. Further, both the '451 and '229 patents describe machines built using the same type of portable device. *Compare* col. 2, lines 66-67 of the '451 patent with col. 1, lines 33-34, col. 11, lines 25-26 and col. 13, lines 6-7 of the '229 patent regarding

	portability. Furthermore, both the '451 and '229 patents describe essentially similar constructions using generic processors and memory. *Compare* col. 8, lines 31-48 in the '451 patent with col. 2, line 61 through col. 3, line 3, and col. 12, lines 39-50 in the '229 patent. Further, the '451 patent explicitly contemplates additional programming, stating "[e]xchanging a card 18 on platform 12 for another card carrying different programming relating, for example, to different songs essentially generates a new machine." Col. 8, lines 46-48. (emphasis added) While the specific example in this quote is programming relating to a different machine, different application programming is also contemplated, as the '451 patent teaches, in the very next paragraph, that "[a]s illustrated in FIG. 2, a card 18 is provided with printed key representations 124. Representations 124 are color coded to match respective colored keys on keyboard 14, thereby enabling a reassignment of function in accordance with a particular card 18." As such, additional functionality is also contemplated by the '451 patent – such as the playlist functionality of the '229 patent.

Claim 4 of '433 Patent	**Disclosures of '451 and '229 Patents**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises	
selecting an item in the third display screen and	The '451 patent teaches highlighting of a song that is on the list of the display 16 in order to obtain further information relating to that song. (col. 6, line 24)
playing at least one track associated with the selected item.	The '451 patent expressly provides for this limitation, teaching "As in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module

	46 for playback via speaker 52." (col. 6, line 21-27) The '229 patent describes storing, displaying, choosing and playing audio clips, where audio clips include albums, audio CDs and songs. Furthermore, the user may create playlists which are stored and are available for playback. (col. 3, lines 18-41 and col. 12, lines 26-38)

Claim 5 of '433 Patent	**Disclosures of '451 and '229 Patents**
The method of selecting a track as recited in claim 1	
wherein the accessing at least one track comprises selecting an item in the third display screen and adding at least one track associated with the selected item to a playlist.	The '229 patent, which in the embodiment that is described with respect to "other media objects" – and specifically audio clips -- describes creating "user's 'playlists' (e.g. the user's own sequences of songs to be played)." Col. 12, lines 33-35. As such it would have been obvious to add track(s) associated with the selected item to a playlist, since both the '451 and '229 patents teach storing, choosing and playing audio clips – songs -- on a hand held device. The '451 patent describes a hand held electronic music reference machine with search and playback functionality. (Abstract) The '229 patent describes a system for multimedia digital story creation and playback; exemplary embodiments of said system are hand held. *See* col. 6, lines 30-37. It is further noted that the '451 patent describes in the summary of the invention that "at least a portion of the song" (col. 1, lines 51-54) (emphasis added) be provided as the audio reproduction, and the verbiage "at least a portion" contemplates more than a portion, i.e. the entire song be stored. The '229 patent describes downloading audio clips, including music albums, audio CDs and songs, which can then be used to create playlists. *See* col. 12, lines 26-38. Further, both the '451 and '229 patents describe machines built using the same type of portable device. *Compare* col. 2, lines 66-67 of the '451

	patent with col. 1, lines 33-34, col. 11, lines 25-26 and col. 13, lines 6-7 of the '229 patent regarding portability. Furthermore, both the '451 and '229 patents describe essentially similar constructions using generic processors and memory. *Compare* col. 8, lines 31-48 in the '451 patent with col. 2, line 61 through col. 3, line 3, and col. 12, lines 39-50 in the '229 patent. Further, the '451 patent explicitly contemplates additional programming, stating "[e]xchanging a card 18 on platform 12 for another card carrying different programming relating, for example, to different songs essentially generates a new machine." Col. 8, lines 46-48. (emphasis added) While the specific example in this quote is programming relating to a different machine, different application programming is also contemplated, as the '451 patent teaches, in the very next paragraph, that "[a]s illustrated in FIG. 2, a card 18 is provided with printed key representations 124. Representations 124 are color coded to match respective colored keys on keyboard 14, thereby enabling a reassignment of function in accordance with a particular card 18." As such, additional functionality is also contemplated by the '451 patent – such as the playlist functionality of the '229 patent.

Claim 6 of '433 Patent	**Disclosures of '451 and '229 Patents**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises one of playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item.	The '451 patent expressly provides for the "playing" one of the limitations, teaching "[a]s in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27) The track that is played is associated with a category, subcategory, and song. The '229 patent describes storing, displaying,

	choosing and playing audio clips, where audio clips include albums, audio CDs and songs. Furthermore, the user may create playlists which are stored and are available for playback. (col. 3, lines 18-41 and col. 12, lines 26-38)

As seen from the above charts, each and every limitation of claims 1-16 is unpatentable over the '451 patent in view of the '229 patent, thus rendering the subject matter of those claims unpatentable under §103(a). Accordingly, a substantial new issue of patentability as to each of claims 1-16 is raised by the '451 patent in combination with the '229 patent, which is prior art not of record and closer to the patented invention than any of the prior art of record.

D. Claims 1-16 are unpatentable under 35 U.S.C. §102(e) over the '721 patent

The claim chart below details how each and every element recited in claims 1-16 is anticipated by the '721 patent, thereby raising a substantial new question of patentability.

Claim 1 of '433 Patent	**Disclosure of '721 Patent**
A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:	The '721 patent describes a master tree and/or node hierarchy for organizing, selecting and accessing audio metadata and audio data within an audio playing device. The hierarchical representation of metadata is presented to the user in a graphical display. (col. 1, lines 39-49; col. 2, lines 8-14; col. 3, lines 11-22) The sample display of Figure 1 includes a tree window showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other

	nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) *See also* examples of trees in columns 11-14. The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) Referring to Figure 1, whenever a new node in the metadata tree 122 is selected a new screen is displayed in table window 130 with information on the selected node. For example, when selecting first Master Library, second Genre, and third Classical, three different screens are automatically sequentially displayed in the table window 130 corresponding to the three different nodes. Furthermore, each time a user clicks on a node in the tree 122 to expand/contract it, the tree window 120 changes to show a screen with the expanded/contracted tree 122. (col. 8, line 28 through col. 9, line 23) The metadata management system may be integrated into a variety of devices with graphical user interfaces, including: portable computing devices, portable audio players, portable video players, handheld computers and the like. A user may use input devices such as touch screen, pen, keyboard, etc. and software interfaces with stylized screen elements such as menus, windows, and controls (e.g. radio buttons). (col. 6, lines 49-62; col. 8, lines 14-30) The '721 patent discloses the use of such systems and methods for managing metadata for a variety of media including: video, audio, audio-visual, etc. (col. 3, lines 22-28)
selecting a category in the first display screen of the portable media player;	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. Selecting Master Library will display its subtrees, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) *See also* Figure 1.
displaying the subcategories belonging to the selected category in a listing presented in the second display screen;	*Id.*

selecting a subcategory in the second display screen;	"If the selected node is Artist under the grouping Master Library → Artist, the node table may display the sub-groupings of the Artist node such as, for example, Debussy, Mozart, and Rachmaninoff … ." (col. 9, lines 1-6)
displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and	*Id.*
accessing at least one track based on a selection made in one of the display screens.	"The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." (col. 3, lines 56-58; col. 5, lines 59-64; col. 18, lines 27-29)

Claim 2 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises	
selecting a subcategory in the second display screen and	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. Selecting Playlist will display its subtrees – various playlists. (col. 5, lines 28-46) *See also* Figure 1.
playing a plurality of tracks associated with the selected subcategory.	"The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." Thereby allowing a user to play a set of audio files by selecting a particular playlist. (col. 3, lines 56-58; col. 5, lines 28-46; col. 5, lines 59-64)

Claim 3 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1	
wherein the accessing at least one track comprises selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist.	The '721 patent expressly provides for this limitation, teaching that "[t]he user may also create a new playlist by selecting one or more audio tracks and copying them into a playlist node. The user may make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping

	one of the nodes into a different grouping, adding a new grouping using the menu system, and so forth." (col. 15, lines 14-21)

Claim 4 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises	
selecting an item in the third display screen and	"If the selected node is Artist under the grouping Master Library → Artist, the node table may display the sub-groupings of the Artist node such as, for example, Debussy, Mozart, and Rachmaninoff ... ." (col. 9, lines 1-6)
playing at least one track associated with the selected item.	"The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." (col. 3, lines 56-58; col. 5, lines 59-64)

Claim 5 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1	
wherein the accessing at least one track comprises selecting an item in the third display screen and adding at least one track associated with the selected item to a playlist.	The '721 patent expressly provides for this limitation, teaching that "[t]he user may also create a new playlist by selecting one or more audio tracks and copying them into a playlist node. The user may make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping using the menu system, and so forth." (col. 15, lines 14-21)

Claim 6 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises one of playing or adding to a playlist at least one track associated with a selected	The '721 patent expressly provides for this limitation, teaching that "[t]he user may also create a new playlist by selecting one or more audio tracks and copying them into a playlist node. The user may make the changes using various actions such as, for example, typing and changing any of

one of the category, subcategory, and item.	the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping using the menu system, and so forth." (col. 15, lines 14-21)

Claim 7 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track is made after the presentation of the third display screen by reverting back to one of the second and first display screens, the second display screen presented sequentially after the third display screen.	The sample display of Figure 1 includes a tree window showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) The teaching of the '721 patent allows a user to select nodes in the tree window in an order that reverts back to a previous node. For example, the user may navigate through the metadata tree 122 in Figure 1 in forward and/or backward directions. By clicking on the plus/minus signs the user may expand/contract categories/subcategories in the master tree 122. Furthermore, the user may click on any visible node in the tree to display information about that node, and the order in which the user views information about visible nodes is unrestricted.

Claim 8 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 further comprising	
selecting one of the items displayed in the third display screen and	"In FIG. 1, the Master Library → Genre → Classical grouping was selected, and thus, the metadata for audio tracks that have the value "Classical" in the Genre field in the database are displayed as audio track records in the node table within the table window. In the exemplary table

	window, three audio track records are shown: Concerto by Mozart, Reverie by Debussy, and Vocalise by Rachmaninoff." (col. 5, lines 52-58)
presenting a listing of items associated with the selected item in a fourth sequentially presented display screen.	*Id.*

Claim 9 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the category genre is selected in the first display screen from available categories that include at least artist, album, and genre; and	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. The Master Library subtree includes Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) The teaching of the '721 patent allows a user to select any node in the tree window, thereby allowing a user to first select a node at a level below a top node - for example a user may first select Genre. *See* Figure 1, tree 122.
the subcategories listed in the second display screen comprise a listing of at least one genre type and	The genre grouping includes four sub-groupings: <blank>, Classical, Pop and Rock. (col. 5, lines 34-35) *See* Figure 1, tree 122.
one of the at least one genre type is selected.	"In FIG. 1, the Master Library → Genre → Classical grouping was selected ... ." (col. 5, lines 52-53) *See* Figure 1, tree 122.

Claim 10 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 9 further comprising	
displaying in the third display screen at least one album associated with the selected genre type and	At col. 10, line 58 through col. 13, line 16 building grouping trees is taught, including categories such as Genre and Album, and with audio track recordings at the leaf nodes. Following the teaching of the '721 patent, a user can build a group tree with a category of Genre, a next level category of Album name, and a final level category of track names.
selecting one of the at least one albums displayed in the third display screen and	The user may select one Album name in the grouping tree.

presenting a listing of tracks associated with the selected album in a fourth sequentially presented display screen.	Selecting the node for the Album name will provide a listing of tracks associated with said Album in a table window. See col. 5, lines 44-46 and Figure 1.

Claim 11 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the category artist is selected in the first display screen from available categories that include at least artist, album, and genre;	In the Sample Display of Figure 1, Master Library has subtrees, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) At col. 10, line 58 through col. 13, line 16 building grouping trees is taught, including categories such as Artist and Album. Following the teaching of the '721 patent, a user can build a group tree with a category of Artist and a next level category of Album name. Consequently, a user may select the category Artist in a first display screen, yielding a list of Artist names, and select an Artist name in the second display screen, yielding a list of Album names associated with said Artist.
the subcategories listed in the second display screen comprise a listing of names of artists and	*Id.*
a first artist name is selected; and	*Id.*
the items displayed in the third display screen comprises at least one album associated with the first artist name.	*Id.*

Claim 12 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the track is a music track, accessing at least one track comprises accessing a track title in the third display screen, and the track is played in response to the access.	"The lowest-level nodes of the master tree represent audio metadata of individual audio tracks ... ." (col. 3, lines 59-64) "The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." (col. 3, lines 56-58; col. 5, lines 59-64)

Claim 13 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track	"The master tree and the node table are

as recited in claim 1 wherein receipt of the selection in the first display screen results in an automatic transition of the first display screen into the second display screen and	dynamically populated and displayed to the user. In addition, when a user makes any changes to the master tree and/or the metadata in the node table, both the master tree and the node table may be dynamically updated. In one embodiment, the master tree and the node table are dynamically updated without having to rebuild the entire master tree and the entire node table. Instead, the changes may be propagated throughout the master tree and node table through the use of a node location table that tracks the locations of the node within the master tree." (col. 4, lines 9-19) Referring to Figure 1, whenever a new node in the metadata tree 122 is selected a new screen is displayed in table window 130 with information on the selected node. For example, when selecting first Master Library, second Genre, and third Classical, three different screens are automatically sequentially displayed in the table window 130 corresponding to the three different nodes. Furthermore, each time a user clicks on a node in the tree 122 to expand/contract it, the tree window 120 automatically changes to show a screen with the expanded/contracted tree 122. (col. 8, line 28 through col. 9, line 23)
receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third display screen.	*Id.*

Claim 14 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is from a top level of the hierarchy.	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. Selecting Master Library will display its subtrees, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) *See also* Figure 1.

Claim 15 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track	The sample display of Figure 1 includes a tree

as recited in claim 1 wherein the category selected in the first display screen is a category from a level at least one level below the top level of the hierarchy.	window showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) The teaching of the '721 patent allows a user to select any node in the tree window, thereby allowing a user to first select a node at a level below a top node and to have information about that node displayed in the table window.

Claim 16 of '433 Patent	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the plurality of categories comprise a list of artist names,	At col. 11, line 63 through col. 12, line 26 an example is given of a tree with a category of Artist, a next level category of Album name, and a final level category of track names.
the plurality of subcategories comprise a list of album names and	*Id.*
the plurality of items comprise a list of track names.	*Id.*

As seen from the above charts, each and every limitation of claims 1-16 is disclosed by the '721 patent, thus rendering the subject matter of those claims unpatentable under 35 U.S.C. §102(e). Accordingly, a substantial new issue of patentability as to each of claims 1-16 is raised by the '721 patent, which is prior art not of record and closer to the patented invention than any of the prior art of record.

E. Claims 1-16 are unpatentable under 35 U.S.C. §103(a) over the '721 patent

To the extent that the '721 patent does not anticipate claims 1-16, the Requester

submits that it raises a substantial new question of patentability by rendering those claims obvious. The charts in section V. D. also support the argument that each and every limitation of claims 1-16 is unpatentable over the '721 patent, thus rendering the subject matter of those claims unpatentable under 35 U.S.C. § 103(a). Accordingly, a substantial new issue of patentability as to each of claims 1-16 is raised by the '721 patent, which is prior art not of record and closer to the patented invention than any of the prior art of record.

F. Claims 1-16 are unpatentable under 35 U.S.C. §102(e) over the Phillips publication

The claim chart below details how each and every element recited in claims 1-16 is anticipated by the Phillips publication, thereby raising a substantial new question of patentability.

Claim 1 of '433 Patent	**Disclosure of Phillips Publication**
A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:	"The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) The musical tracks are stored in the portable audio device on a storage device, such as a micro-drive, or in memory. (paragraphs 19-20) A data structure is used to store metatags corresponding to musical tracks stored in memory. The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. These categories of metatags may be further divided to form sub-categories – for example sub-categories

	of genre are "Rock", "Blues", "Rap", etc. Finally within all of these categories and sub-categories are items – the musical tracks. (paragraphs 35-39) "**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48)
selecting a category in the first display screen of the portable media player;	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display

	screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)
displaying the subcategories belonging to the selected category in a listing presented in the second display screen;	*Id.*
selecting a subcategory in the second display screen;	*Id.*
displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and	*Id.*
accessing at least one track based on a selection made in one of the display screens.	*Id.* A selected playlist or individual musical track may be played. (paragraph 31)

Claim 2 of '433 Patent	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises	
selecting a subcategory in the second display screen and	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)
playing a plurality of tracks associated with the selected	*Id.*

subcategory.	A selected playlist or individual musical track may be played. (paragraph 31)

Claim 3 of '433 Patent	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1	
wherein the accessing at least one track comprises selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist.	"The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)

Claim 4 of '433 Patent	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises	
selecting an item in the third display screen and	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock",

	"Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)
playing at least one track associated with the selected item.	*Id.* A selected playlist or individual musical track may be played. (paragraph 31)

Claim 5 of '433 Patent	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1	
wherein the accessing at least one track comprises selecting an item in the third display screen and adding at least one track associated with the selected item to a playlist.	"The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37) "Alternatively, the system **100** may simply display the

	resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50)

Claim 6 of '433 Patent	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises one of playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item.	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37) "Alternatively, the system **100** may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50) A selected playlist or individual musical track may be played. (paragraph 31)

Claim 7 of '433 Patent	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track is made after the presentation of the third display screen by reverting back to one of the second and first display screens, the second display screen presented sequentially after the third display screen.	**"FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or

	more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The process described in paragraph 48 is a general process of using display screens to guide the user through a selection process. This process does not require a particular order of movement through categories, sub-categories and items, consequently the user is not restricted from reverting back to an already visited display screen.

Claim 8 of '433 Patent	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 further comprising	
selecting one of the items displayed in the third display screen and	**"FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The process described in paragraph 48 may involve providing to the user "one or more screen displays." "One or more screen displays" includes four screen displays.
presenting a listing of items associated with the selected item in a fourth sequentially presented display screen.	*Id.*

Claim 9 of '433 Patent	Disclosure of Phillips Publication
The method of selecting a track as recited in claim 1 wherein the category genre is selected in the first display screen from available categories that include at least artist, album, and genre; and	A data structure is used to store metatags corresponding to musical tracks stored in memory. The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
the subcategories listed in the second display screen comprise a listing of at least one genre type and	The various "genre", may include: "Rock", "Blues", "Rap", etc. See Figure 8.
one of the at least one genre type is selected.	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)

Claim 10 of '433 Patent	Disclosure of Phillips Publication
The method of selecting a track as recited in claim 9 further comprising	
displaying in the third display screen at least one album associated with the selected genre type and	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further

	refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The process described in paragraph 48 may involve providing to the user "one or more screen displays." "One or more screen displays" includes four screen displays. The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
selecting one of the at least one albums displayed in the third display screen and	*Id.*
presenting a listing of tracks associated with the selected album in a fourth sequentially presented display screen.	*Id.* A listing of musical tracks matching the search criteria may be displayed in a screen. (paragraph 37) "[T]he system **100** may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50)

Claim 11 of '433 Patent	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the category artist is selected in the first display screen from available categories that include at least artist, album, and genre;	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to

	guide the user through the metatag selection process." (paragraph 48) The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
the subcategories listed in the second display screen comprise a listing of names of artists and	*Id.*
a first artist name is selected; and	*Id.*
the items displayed in the third display screen comprises at least one album associated with the first artist name.	*Id.*

Claim 12 of '433 Patent	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the track is a music track, accessing at least one track comprises accessing a track title in the third display screen, and the track is played in response to the access.	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39) A selected playlist or individual musical track may be played. (paragraph 31)

Claim 13 of '433 Patent	Disclosure of Phillips Publication
The method of selecting a track as recited in claim 1 wherein receipt of the selection in the first display screen results in an automatic transition of the first display screen into the second display screen and	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)
receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third display screen.	*Id.*

Claim 14 of '433 Patent	Disclosure of Phillips Publication
The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is from a top level of the hierarchy.	A first display screen viewed by the user during the process of selecting tracks for a playlist may show the categories of metatags used for searching the database of musical tracks, including genre, artist, song title, album title, date of recording, etc.. See Figure 7. (paragraphs 35-39)

Claim 15 of '433 Patent	Disclosure of Phillips Publication
The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is a category from a level at least one level below the top level of the hierarchy.	Metatags such as "Rock", "Blues", "Rap", etc. (particular types of genre) may be used as search criteria. See Figure 8. In paragraph 48, with reference to Figure 11, it is stated that "the user selects a desired metatag from the list shown." An "example" is given by reference to Figure 7. However, should Figure 8 be used as the first screen, then the user would be choosing a particular type of "genre" in the first display screen.

Claim 16 of '433 Patent	Disclosure of Phillips Publication
The method of selecting a track as recited in claim 1 wherein the plurality of categories comprise a list of artist names,	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39) The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
the plurality of subcategories comprise a list of album names and	*Id.*
the plurality of items comprise a list of track names.	*Id.*

As seen from the above charts, each and every limitation of claims 1-16 is disclosed by the Phillips publication, thus rendering the subject matter of those claims unpatentable under 35 U.S.C. §102(e). Accordingly, a substantial new issue of patentability as to each of claims 1-16 is raised by the Phillips publication, which is prior art not of record and closer to the patented invention than any of the prior art of record.

G. Claims 1-16 are unpatentable under 35 U.S.C. §103(a) over the Phillips publication

To the extent that the Phillips publication does not anticipate claims 1-16, the Requester submits that it raises a substantial new question of patentability by rendering those claims obvious. The charts in section V. F. also support the argument that each and every limitation of claims 1-16 is unpatentable over the Phillips publication, thus rendering the subject matter of those claims unpatentable under 35 U.S.C. § 103(a). Accordingly, a substantial new issue of patentability as to each of claims 1-16 is raised by the Phillips publication, which is prior art not of record and closer to the patented invention than any of the prior art of record.

H. Claims 1-16 are unpatentable under §103(a) over the '451 patent in view of the '721 patent

The combination under §103(a) of the '451 patent and the '721 patent is proper, for at least the following reasons. As described in the Abstract, the '451 patent describes a hand held electronic music reference machine with search and playback functionality for songs. The '721 patent describes a hierarchy comprising categories, subcategories and items for use in selecting tracks stored on a portable media player. *See* '721 patent, Figure 1, col. 5, line 20 through col. 6, line 4, and col. 6, lines 54-62. Both the '451 and '721 patents teach storing, displaying, choosing and playing audio files on a hand held device.

Both patents are in the same field of endeavor and one skilled in the art at the time the invention of the '433 patent was made would have been motivated to combine aspects of the system and method of the '721 patent with the system and method of the '451 patent. For example, one skilled in the art would have been motivated to combine with the method of the '451 patent at least the provision of storing, displaying, choosing and playing audio files, where audio files include musical tracks, as described in the '721 patent at col. 5, line 20 through col. 6, line 4 and shown in Figure 1. Furthermore, one skilled in the art would have been motivated to combine with the method of the '451

patent at least the provision of a playlist as described in the '721 patent at col. 5, lines 35-42.

A detailed comparison of the relevant disclosures of the '451 and '721 patents to claims 1-16 is shown in the charts below.

Claim 1 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:	The '451 patent describes a "hand held electronic music reference machine" (col. 2, line 64-65), that has the ability to allow a user to obtain information relative to a variety of songs. As shown in Figure 3 and then further described, a database 20 of the hand held electronic reference machine "has a first memory portion 22 storing textual or alphanumeric information which can be shown on display 16. Memory portion 22 includes an area 24 storing song titles and another memory area 26 storing at least some lyrics for each song whose title exists in memory area 24." (col. 3, line 43-48) Each of these song titles correspond to one of the plurality of tracks. The '451 patent describes a very versatile device, which can access song titles according to a hierarchy identical to the '433 patent. The '451 patent also allows access to textual information concerning a song based upon note structure data (though this aspect is unrelated to the '433 patent).	The '721 patent describes a master tree and/or node hierarchy for organizing, selecting and accessing audio metadata and audio data within an audio playing device. The hierarchical representation of metadata is presented to the user in a graphical display. (col. 1, lines 39-49; col. 2, lines 8-14; col. 3, lines 11-22) The sample display of Figure 1 includes a tree window showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) *See also* examples of trees in columns 11-14. The sample display of Figure 1 also includes a table window which displays information about the node that is

	The hierarchy of the '451 patent has many different categories, including, within memory portion 22, "areas 28, 30, 32, 34, 36 and 38 [see Figure 3] respectively storing band or artist names, songwriter names, highest chart positions attained by the various songs, the years in which the highest chart positions were attained, Hall of Fame listings and recording labels." (col. 3, line 48-53) The '451 patent describes its hierarchy as having a "main menu [that] includes a 'Title' selection, a 'Search' selection and a 'Setup' selection.' (col. 5, line 42-44) Subcategories are obtained as described in the '451 patent: "When 'Search' is selected from the main menu, display 16 shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line. Any search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 51-56) The '451 patent further describes "[G]enerally, the greater the number of filters used, the smaller the resulting list of titles." (col. 8, line 59-61) The '451 patent describes in the summary of the invention that "at least a portion of the	selected in the tree window. (col. 5, lines 44-46) Referring to Figure 1, whenever a new node in the metadata tree 122 is selected a new screen is displayed in table window 130 with information on the selected node. For example, when selecting first Master Library, second Genre, and third Classical, three different screens are automatically sequentially displayed in the table window 130 corresponding to the three different nodes. Furthermore, each time a user clicks on a node in the tree 122 to expand/contract it, the tree window 120 changes to show a screen with the expanded/contracted tree 122. (col. 8, line 28 through col. 9, line 23) The metadata management system may be integrated into a variety of devices with graphical user interfaces, including: portable computing devices, portable audio players, portable video players, handheld computers and the like. A user may use input devices such as touch screen, pen, keyboard, etc. and software interfaces with stylized screen elements such as menus, windows, and controls (e.g. radio buttons). (col. 6, lines 49-62; col. 8, lines 14-30) The '721 patent discloses

	song" (col. 1, lines 51-54) (emphasis added) be provided as the audio reproduction. The verbiage "at least a portion" contemplates more than a portion, i.e. the entire song be provided. In the detailed description, the "portion of the song" stored in memory is referred to as a "stored reproducible musical segment" (col. 3, lines 62-66). It follows that storing an entire song in memory, available for retrieval and playback, is also contemplated. Furthermore, the '721 patent discloses storing, displaying, choosing and playing audio files, where audio files include musical tracks, as described in the '721 patent at col. 5, line 20 through col. 6, line 4 and shown in Figure 1.	the use of such systems and methods for managing metadata for a variety of media including: video, audio, audio-visual, etc. (col. 3, lines 22-28)
selecting a category in the first display screen of the portable media player;	The main menu shown on the display 16 of the hand held electronic music reference machine 10 contains three categories: titles, search, and setup. The claimed method is anticipated by selection of the search category. (col. 5, line 40-44)	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. Selecting Master Library will display its subtrees, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) *See also* Figure 1.
displaying the subcategories belonging to the selected category in a listing presented in the second display screen;	Upon selection of the search category, "display 16 shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line." (col. 5, line 51-54)	*Id.*

selecting a subcategory in the second display screen;	As taught by the '451 patent, "[a]ny search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 54-56) In a specific example given within the '451 patent, "[d]uring a search of the band list, highlighting of the entries may be shifted from artist to artist by using up and down directional keys 68 and 70." (col. 6, line 17-19)	"If the selected node is Artist under the grouping Master Library → Artist, the node table may display the sub-groupings of the Artist node such as, for example, Debussy, Mozart, and Rachmaninoff ... ." (col. 9, lines 1-6)
displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and	As further expressly taught by the '451 patent with respect to the specific example, "[i]f selection monitor 64 detects the actuation of Enter function key 76, a list of song titles appears for the highlighted recording artist." (col. 6, line 19-21) Thus, the list of song titles corresponds to the displayed items.	*Id.*
accessing at least one track based on a selection made in one of the display screens.	The '451 patent expressly provides for this limitation, teaching "As in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27)	"The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." (col. 3, lines 56-58; col. 5, lines 59-64; col. 18, lines 27-29)

Claim 2 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**

The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises		
selecting a subcategory in the second display screen and	As taught by the '451 patent, "[a]ny search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 54-56)	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. Selecting Playlist will display its subtrees – various playlists. (col. 5, lines 28-46) *See also* Figure 1.
playing a plurality of tracks associated with the selected subcategory.	A plurality of tracks can be played from the selected subcategory by highlighting different songs within the subcategory, and then actuating the special function key 78, which is detected by selection monitor 64, to cause selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27) This can be repeated for a plurality of different songs to play a plurality of tracks associated with the selected category.	"The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." Thereby allowing a user to play a set of audio files by selecting a particular playlist. (col. 3, lines 56-58; col. 5, lines 28-46; col. 5, lines 59-64)

Claim 3 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1		

wherein the accessing at least one track comprises selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist.	An appropriate broad construction of this claim limitation includes the tracks associated with a selected subcategory of tracks being the only tracks in the playlist. In which case, the subcategory is being used as a list of tracks from which tracks can be chosen for playing – a "playlist." The claim language is broad enough to read on the disclosure in the '451 patent of the selection of a list of songs belonging to a subcategory – a particular recording artist, for example – where one of the songs is chosen for playback. Such a list may be characterized as a "playlist" since it is a list of songs from which a user can select a song for playing. (col. 6, lines 17-27) Furthermore, as discussed at the beginning of this section, it would have been obvious to combine the teachings of the '451 and '721 patents – the '721 patent expressly discloses creating playlists.	The '721 patent expressly provides for this limitation, teaching that "[t]he user may also create a new playlist by selecting one or more audio tracks and copying them into a playlist node. The user may make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping using the menu system, and so forth." (col. 15, lines 14-21)

Claim 4 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises		
selecting an item in the third display screen and	The '451 patent teaches highlighting of a song that is on the list of the display 16 in	"If the selected node is Artist under the grouping Master Library → Artist, the node

	order to obtain further information relating to that song. (col. 6, line 24)	table may display the sub-groupings of the Artist node such as, for example, Debussy, Mozart, and Rachmaninoff ... ." (col. 9, lines 1-6)
playing at least one track associated with the selected item.	The '451 patent expressly provides for this limitation, teaching "As in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27)	"The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." (col. 3, lines 56-58; col. 5, lines 59-64)

Claim 5 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1		
wherein the accessing at least one track comprises selecting an item in the third display screen and adding at least one track associated with the selected item to a playlist.	An appropriate broad construction of this claim limitation does not require that a playlist represent more than one track. The formation of a playlist, when adding one or more tracks, as described in this claim limitation, must include the possibility that a single track is added to a new playlist, which at that point in time will have only one track – it is a list of one song selected to be played. The claim language is broad enough to read on the disclosure in the	The '721 patent expressly provides for this limitation, teaching that "[t]he user may also create a new playlist by selecting one or more audio tracks and copying them into a playlist node. The user may make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping using the menu system, and so

	'451 patent of selection of a single song for playback – in effect, a list including a single song has been formed for playback. (col. 6, lines 17-27) Furthermore, as discussed at the beginning of this section, it would have been obvious to combine the teachings of the '451 and '721 patents – the '721 patent expressly discloses creating playlists.	forth." (col. 15, lines 14-21)

Claim 6 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises one of playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item.	The '451 patent expressly provides for the "playing" one of the limitations, teaching "[a]s in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27) The track that is played is associated with a category, subcategory, and song.	The '721 patent expressly provides for this limitation, teaching that "[t]he user may also create a new playlist by selecting one or more audio tracks and copying them into a playlist node. The user may make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping using the menu system, and so forth." (col. 15, lines 14-21)

Claim 7 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1	The '451 patent teaches usage of left or right directional keys 72 and 74 that can be	The sample display of Figure 1 includes a tree window showing a master tree. (col.

wherein the accessing at least one track is made after the presentation of the third display screen by reverting back to one of the second and first display screens, the second display screen presented sequentially after the third display screen.	used to access different submenus, thereby allowing a user to revert from the third display back to one of the second and first display screens. (col. 5, line 24-26)	5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) The teaching of the '721 patent allows a user to select nodes in the tree window in an order that reverts back to a previous node. For example, the user may navigate through the metadata tree 122 in Figure 1 in forward and/or backward directions. By clicking on the plus/minus signs the user may expand/contract categories/subcategories in the master tree 122. Furthermore, the user may click on any visible node in the tree to display information about that node, and the order in which the user views information about visible nodes is unrestricted.

Claim 8 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**

The method of selecting a track as recited in claim 1 further comprising		
selecting one of the items displayed in the third display screen and	The '451 patent teaches highlighting of a song that is on the list of the display 16 in order to obtain further information relating to that song. (col. 6, line 24)	"In FIG. 1, the Master Library → Genre → Classical grouping was selected, and thus, the metadata for audio tracks that have the value "Classical" in the Genre field in the database are displayed as audio track records in the node table within the table window. In the exemplary table window, three audio track records are shown: Concerto by Mozart, Reverie by Debussy, and Vocalise by Rachmaninoff." (col. 5, lines 52-58)
presenting a listing of items associated with the selected item in a fourth sequentially presented display screen.	Upon actuation of the "Enter function key 76, display control 58 accesses memory portion 22 to obtain identification information and lyrics for the highlighted song." (col. 6, line 29-32) A fourth display screen is presented with some of this information, as shown in Figure 6A—with further information presented in subsequent display screens shown as Figures 6B-6H.	*Id.*

Claim 9 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the category genre is selected in the first display screen	In an embodiment in which the "first display screen" is one level below the top level of the hierarchy (see claim 15), there are nine different categories, and certain of them	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. The Master Library subtree includes

from available categories that include at least artist, album, and genre; and	correspond to artist, album and genre. "Bands" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to artist. "Song titles" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to album, since many albums have only one song (aka "singles"). And "recording labels" search parameter (col. 5, line 54) corresponds to genre since recording labels conventionally record artists that have a same style of music. For example, it is well known that "Windham Hill" is a "New Age" label, whereas "Blue Note Records" is a "Jazz" label.	Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) The teaching of the '721 patent allows a user to select any node in the tree window, thereby allowing a user to first select a node at a level below a top node - for example a user may first select Genre. *See* Figure 1, tree 122.
the subcategories listed in the second display screen comprise a listing of at least one genre type and	Upon selection of the "recording labels" search, the various recording label names, which correspond to different genre types, are listed.	The genre grouping includes four sub-groupings: <blank>, Classical, Pop and Rock. (col. 5, lines 34-35) *See* Figure 1, tree 122.
one of the at least one genre type is selected.	The user can select a particular recording label name.	"In FIG. 1, the Master Library → Genre → Classical grouping was selected ... ." (col. 5, lines 52-53) *See* Figure 1, tree 122.

Claim 10 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 9 further comprising		
displaying in the third	Upon selection of a particular	At col. 10, line 58 through

display screen at least one album associated with the selected genre type and	recording label name that appears on the second display screen, list of "Titles" appears on a third display screen. (An equivalent search is shown in Figs. 7A and 7B, though for different categories).	col. 13, line 16 building grouping trees is taught, including categories such as Genre and Album, and with audio track recordings at the leaf nodes. Following the teaching of the '721 patent, a user can build a group tree with a category of Genre, a next level category of Album name, and a final level category of track names.
selecting one of the at least one albums displayed in the third display screen and	One of the "Titles" that appears on the third display screen can be selected.	The user may select one Album name in the grouping tree.
presenting a listing of tracks associated with the selected album in a fourth sequentially presented display screen.	As shown in Figures 6A at screen 98, there is a plurality of tracks that are presented on the fourth display screen: one track corresponding to the song title and another track corresponding to the recording artist. As described, the information for the listing of tracks is obtained from separate memory areas 24 and 28. (col. 6, line 35-37)	Selecting the node for the Album name will provide a listing of tracks associated with said Album in a table window. See col. 5, lines 44-46 and Figure 1.

Claim 11 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the category artist is selected in the first display screen from available categories that include at least artist, album, and genre;	In an embodiment in which the "first display screen" is one level below the top level of the hierarchy (See claim 15), there are nine different categories, and certain of them correspond to artist, album and genre. "Bands" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to artist.	In the Sample Display of Figure 1, Master Library has subtrees, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) At col. 10, line 58 through col. 13, line 16 building grouping trees is taught, including categories such as Artist and Album. Following the teaching of the '721 patent, a user can build a group tree with a category

	"Song titles" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to album, since many albums have only one song (aka "singles"). And "recording labels" search parameter (col. 5, line 54) corresponds to genre since recording labels conventionally record artists that have a same style of music. For example, it is well known that "Windham Hill" is a "New Age" label, whereas "Blue Note Records" is a "Jazz" label.	of Artist and a next level category of Album name. Consequently, a user may select the category Artist in a first display screen, yielding a list of Artist names, and select an Artist name in the second display screen, yielding a list of Album names associated with said Artist.
the subcategories listed in the second display screen comprise a listing of names of artists and	Upon selection of the "Artist" search, the various Artists are listed, as explicitly shown in Figure 5A and screen 88.	*Id.*
a first artist name is selected; and	As described at col. 6, line 19-21, one of the artists can be selected.	*Id.*
the items displayed in the third display screen comprises at least one album associated with the first artist name.	As described in the same passage referred to immediately above, "a list of song titles appears for the highlighted recording artist." As explained previously, a "Song title" corresponds to an album, since many albums have only one song (aka "singles").	*Id.*

Claim 12 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the track is a music track,	Each "Title" in the '451 patent has a "reproducible music segment" associated with it. (col. 5, line 32)	"The lowest-level nodes of the master tree represent audio metadata of individual audio tracks ... ." (col. 3, lines 59-64) "The user may

accessing at least one track comprises accessing a track title in the third display screen, and the track is played in response to the access.	Accessing this music track is achieved by highlighting the Title in the third display screen and then pressing the specialized function key 78 labeled "NOTE" in Figure 1 causes the music track to play. (col. 5, line 29-39)	use the master tree and the node table to begin playing an audio file and/or a set of audio files." (col. 3, lines 56-58; col. 5, lines 59-64)

Claim 13 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein receipt of the selection in the first display screen results in an automatic transition of the first display screen into the second display screen and	The '451 patent teaches "[w]hen 'Search' is selected from the main menu [i.e. the recited first display screen], display 16 shows a list of nine search parameters ... ." (col. 5, line 51-52) Thus, there is an automatic transition from the first display screen to the second display screen.	"The master tree and the node table are dynamically populated and displayed to the user. In addition, when a user makes any changes to the master tree and/or the metadata in the node table, both the master tree and the node table may be dynamically updated. In one embodiment, the master tree and the node table are dynamically updated without having to rebuild the entire master tree and the entire node table. Instead, the changes may be propagated throughout the master tree and node table through the use of a node location table that tracks the locations of the node within the master tree." (col. 4, lines 9-19) Referring to Figure 1, whenever a new node in the metadata tree 122 is selected a new screen is displayed in table window 130 with information on the selected node. For example, when selecting first Master Library, second Genre, and third Classical, three different

		screens are automatically sequentially displayed in the table window 130 corresponding to the three different nodes. Furthermore, each time a user clicks on a node in the tree 122 to expand/contract it, the tree window 120 automatically changes to show a screen with the expanded/contracted tree 122. (col. 8, line 28 through col. 9, line 23)
receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third display screen.	From the second display that shows the list of nine search parameters, if the search parameter "Artist" is selected, a list of artists then appears. This is shown at Figs. 5A with screen 88, and explained at col. 6, line 1-2. As further explained at col. 6, line 17-19, the list of artist names (the recited "third display screen") can be shifted from artist to artist using up and down directional keys 68 and 70. Thus, there is an automatic transition from the second display screen to the third display screen.	*Id.*

Claim 14 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is from a top level of the hierarchy.	The "Main menu" as described above with respect to claim 1 is a first display screen that appears at the top level of the hierarchy.	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. Selecting Master Library will display its subtrees, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines

		28-35 and 44-46) *See also* Figure 1.

Claim 15 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is a category from a level at least one level below the top level of the hierarchy.	The "Search menu" as described above with respect to claims 9 and 11 is a first display screen that appears at least one level below the top level of the hierarchy.	The sample display of Figure 1 includes a tree window showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) The teaching of the '721 patent allows a user to select any node in the tree window, thereby allowing a user to first select a node at a level below a top node and to have information about that node displayed in the table window.

Claim 16 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of '721 Patent**
The method of selecting a track as recited in claim 1	In an embodiment in which the "first display screen" is one level below the top level of the	At col. 11, line 63 through col. 12, line 26 an example is given of a tree with a

wherein the plurality of categories comprise a list of artist names,	hierarchy (see claim 15), there are nine different categories, and certain of them correspond to artist, album and genre. Upon selection of the "Bands" search parameter (col. 5, line 53) a list of artist names appears, and this list of artists corresponds to the "plurality of categories."	category of Artist, a next level category of Album name, and a final level category of track names.
the plurality of subcategories comprise a list of album names and	As described at col. 6, line 19-21, one of the artists can be selected, and "a list of song titles appears for the highlighted recording artist." As explained previously, a "Song title" corresponds to an album, since many albums have only one song (aka "singles"). This list of songs corresponds to the list of album names.	*Id.*
the plurality of items comprise a list of track names.	For each song is a plurality of items, which comprise a list of track names. As shown in Figures 6A at screen 98, there is a plurality of tracks that are presented on the fourth display screen: one track corresponding to the song title and another track corresponding to the recording artist. As described, the information for the listing of tracks is obtained from separate memory areas 24 and 28. (col. 6, line 35-37).	*Id.*

As seen from the above charts, each and every limitation of claims 1-16 is unpatentable over the '451 patent in view of the '721 patent, thus rendering the subject matter of those claims unpatentable under §103(a). Accordingly, a substantial new issue of patentability as to each of claims 1-16 is raised by the '451 patent in

combination with the '721 patent, which is prior art not of record and closer to the patented invention than any of the prior art of record.

I. Claims 1-16 are unpatentable under §103(a) over the '721 patent in view of the Phillips publication

The combination under §103(a) of the '721 patent and the Phillips publication is proper, for at least the following reasons. The '721 patent describes a hierarchy comprising categories, subcategories and items for use in selecting tracks stored on a portable media player. *See* '721 patent, Figure 1, col. 5, line 20 through col. 6, line 4, and col. 6, lines 54-62. As described in the Abstract, the Phillips publication describes a system and method for musical playlist selection in a portable device. Both the '721 patent and the Phillips publication teach storing, displaying, choosing and playing audio tracks on a hand held device.

Both the '721 patent and the Phillips publication are in the same field of endeavor and one skilled in the art at the time the invention of the '433 patent was made would have been motivated to combine aspects of the system and method of the Phillips publication with the system and method of the '721 patent. For example, one skilled in the art would have been motivated to combine with the method of the '721 patent at least the provision of a display screen as described in the Phillips publication in paragraphs 36 and 37 and shown in Figures 7 and 8.

A detailed comparison of the relevant disclosures of the '721 patent and the Phillips publication to claims 1-16 is shown in the charts below.

Claim 1 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player	The '721 patent describes a master tree and/or node hierarchy for organizing, selecting and accessing audio metadata and audio data within an audio playing device.	"The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the

configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:	The hierarchical representation of metadata is presented to the user in a graphical display. (col. 1, lines 39-49; col. 2, lines 8-14; col. 3, lines 11-22) The sample display of Figure 1 includes a tree window showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) *See also* examples of trees in columns 11-14. The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) Referring to Figure 1, whenever a new node in the metadata tree 122 is selected a new screen is displayed in table window 130 with information on the selected node. For example, when selecting first Master Library, second Genre, and third Classical, three different screens are automatically sequentially displayed in the table window 130 corresponding to the three different nodes. Furthermore,	user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) The musical tracks are stored in the portable audio device on a storage device, such as a micro-drive, or in memory. (paragraphs 19-20) A data structure is used to store metatags corresponding to musical tracks stored in memory. The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. These categories of metatags may be further divided to form sub-categories – for example sub-categories of genre are "Rock", "Blues", "Rap", etc. Finally within all of these categories and sub-categories are items – the musical tracks. (paragraphs 35-39) "**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the

	each time a user clicks on a node in the tree 122 to expand/contract it, the tree window 120 changes to show a screen with the expanded/contracted tree 122. (col. 8, line 28 through col. 9, line 23) The metadata management system may be integrated into a variety of devices with graphical user interfaces, including: portable computing devices, portable audio players, portable video players, handheld computers and the like. A user may use input devices such as touch screen, pen, keyboard, etc. and software interfaces with stylized screen elements such as menus, windows, and controls (e.g. radio buttons). (col. 6, lines 49-62; col. 8, lines 14-30) The '721 patent discloses the use of such systems and methods for managing metadata for a variety of media including: video, audio, audio-visual, etc. (col. 3, lines 22-28)	screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48)
selecting a category in the first display screen of the portable media player;	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. Selecting Master Library will display its subtrees, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) *See also* Figure 1.	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the

		display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)

displaying the subcategories belonging to the selected category in a listing presented in the second display screen;	*Id.*	*Id.*
selecting a subcategory in the second display screen;	"If the selected node is Artist under the grouping Master Library → Artist, the node table may display the sub-groupings of the Artist node such as, for example, Debussy, Mozart, and Rachmaninoff ... ." (col. 9, lines 1-6)	*Id.*
displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and	*Id.*	*Id.*
accessing at least one track based on a selection made in one of the display screens.	"The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." (col. 3, lines 56-58; col. 5, lines 59-64; col. 18, lines 27-29)	*Id.* A selected playlist or individual musical track may be played. (paragraph 31)

Claim 2 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises		
selecting a subcategory in the second display screen and	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. Selecting Playlist will display its subtrees –	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure

	various playlists. (col. 5, lines 28-46) *See also* Figure 1.	7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)
playing a plurality of tracks associated with the selected subcategory.	"The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." Thereby allowing a user to play a set of audio files by selecting a particular playlist. (col. 3, lines 56-58; col. 5, lines 28-46; col. 5, lines 59-64)	*Id.* A selected playlist or individual musical track may be played. (paragraph 31)

Claim 3 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1		
wherein the accessing at least one track comprises selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist.	The '721 patent expressly provides for this limitation, teaching that "[t]he user may also create a new playlist by selecting one or more audio tracks and copying them into a playlist node. The user may make the changes using various actions such as, for	"The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a

	example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping using the menu system, and so forth." (col. 15, lines 14-21)	typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)

Claim 4 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises		
selecting an item in	"If the selected node is Artist	For example, the user may

the third display screen and	under the grouping Master Library → Artist, the node table may display the sub-groupings of the Artist node such as, for example, Debussy, Mozart, and Rachmaninoff ... ." (col. 9, lines 1-6)	select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)
playing at least one track associated with the selected item.	"The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." (col. 3, lines 56-58; col. 5, lines 59-64)	*Id.* A selected playlist or individual musical track may be played. (paragraph 31)

Claim 5 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1		
wherein the accessing at least one track comprises selecting an item in the third display screen and adding at least one track associated with	The '721 patent expressly provides for this limitation, teaching that "[t]he user may also create a new playlist by selecting one or more audio tracks and copying them into a playlist node. The user may	"The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and

the selected item to a playlist.	make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping using the menu system, and so forth." (col. 15, lines 14-21)	utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. <u>The listing is shown in a display screen to allow the user to select a particular musical track or tracks.</u> Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37) "Alternatively, the system **100** may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50)

Claim 6 of '433 Patent	Disclosure of '721 Patent	Disclosure of Phillips Publication
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises one of playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item.	The '721 patent expressly provides for this limitation, teaching that "[t]he user may also create a new playlist by selecting one or more audio tracks and copying them into a playlist node. The user may make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping using the menu system, and so forth." (col. 15, lines 14-21)	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37) "Alternatively, the system **100** may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50) A selected playlist or individual musical track may be played. (paragraph 31)

Claim 7 of '433 Patent	Disclosure of '721 Patent	Disclosure of Phillips Publication
The method of	The sample display of Figure 1	"**FIG. 11** illustrates the

selecting a track as recited in claim 1 wherein the accessing at least one track is made after the presentation of the third display screen by reverting back to one of the second and first display screens, the second display screen presented sequentially after the third display screen.	includes a tree window showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) The teaching of the '721 patent allows a user to select nodes in the tree window in an order that reverts back to a previous node. For example, the user may navigate through the metadata tree 122 in Figure 1 in forward and/or backward directions. By clicking on the plus/minus signs the user may expand/contract categories/subcategories in the master tree 122. Furthermore, the user may click on any visible node in the tree to display information about that node, and the order in which the user views information about visible nodes is unrestricted.	operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The process described in paragraph 48 is a general process of using display screens to guide the user through a selection process. This process does not require a particular order of movement through categories, sub-categories and items, consequently the user is not restricted from reverting back to an already visited display screen.

Claim 8 of '433 Patent	Disclosure of '721 Patent	Disclosure of Phillips Publication
The method of selecting a track as recited in claim 1 further comprising		
selecting one of the items displayed in the third display screen and	"In FIG. 1, the Master Library → Genre → Classical grouping was selected, and thus, the metadata for audio tracks that have the value "Classical" in the Genre field in the database are displayed as audio track records in the node table within the table window. In the exemplary table window, three audio track records are shown: Concerto by Mozart, Reverie by Debussy, and Vocalise by Rachmaninoff." (col. 5, lines 52-58)	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The process described in paragraph 48 may involve providing to the user "one or more screen displays." "One or more screen displays" includes four screen displays.

presenting a listing of items associated with the selected item in a fourth sequentially presented display screen.	*Id.*	*Id.*

Claim 9 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the category genre is selected in the first display screen from available categories that include at least artist, album, and genre; and	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. The Master Library subtree includes Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) The teaching of the '721 patent allows a user to select any node in the tree window, thereby allowing a user to first select a node at a level below a top node - for example a user may first select Genre. *See* Figure 1, tree 122.	A data structure is used to store metatags corresponding to musical tracks stored in memory. The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
the subcategories listed in the second display screen comprise a listing of at least one genre type and	The genre grouping includes four sub-groupings: <blank>, Classical, Pop and Rock. (col. 5, lines 34-35) *See* Figure 1, tree 122.	The various "genre", may include: "Rock", "Blues", "Rap", etc. See Figure 8.
one of the at least one genre type is selected.	"In FIG. 1, the Master Library → Genre → Classical grouping was selected ... ." (col. 5, lines 52-53) *See* Figure 1, tree 122.	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a

		listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)

Claim 10 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 9 further comprising		
displaying in the third display screen at least one album associated with the selected genre type and	At col. 10, line 58 through col. 13, line 16 building grouping trees is taught, including categories such as Genre and Album, and with audio track recordings at the leaf nodes. Following the teaching of the '721 patent, a user can build a group tree with a category of Genre, a next level category of Album name, and a final level category of track names.	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step

		processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The process described in paragraph 48 may involve providing to the user "one or more screen displays." "One or more screen displays" includes four screen displays. The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
selecting one of the at least one albums displayed in the third display screen and	The user may select one Album name in the grouping tree.	*Id.*
presenting a listing of tracks associated with the selected album in a fourth sequentially presented display screen.	Selecting the node for the Album name will provide a listing of tracks associated with said Album in a table window. See col. 5, lines 44-46 and Figure 1.	*Id.* A listing of musical tracks matching the search criteria may be displayed in a screen. (paragraph 37) "[T]he system **100** may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50)

Claim 11 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of	In the Sample Display of	"**FIG. 11** illustrates the

selecting a track as recited in claim 1 wherein the category artist is selected in the first display screen from available categories that include at least artist, album, and genre;	Figure 1, Master Library has subtrees, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) At col. 10, line 58 through col. 13, line 16 building grouping trees is taught, including categories such as Artist and Album. Following the teaching of the '721 patent, a user can build a group tree with a category of Artist and a next level category of Album name. Consequently, a user may select the category Artist in a first display screen, yielding a list of Artist names, and select an Artist name in the second display screen, yielding a list of Album names associated with said Artist.	operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
the subcategories listed in the second display screen comprise a listing of names of artists and	*Id.*	*Id.*
a first artist name is selected; and	*Id.*	*Id.*
the items displayed in the third display	*Id.*	*Id.*

screen comprises at least one album associated with the first artist name.		

Claim 12 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the track is a music track, accessing at least one track comprises accessing a track title in the third display screen, and the track is played in response to the access.	"The lowest-level nodes of the master tree represent audio metadata of individual audio tracks ... ." (col. 3, lines 59-64) "The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." (col. 3, lines 56-58; col. 5, lines 59-64)	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)

		A selected playlist or individual musical track may be played. (paragraph 31)

Claim 13 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein receipt of the selection in the first display screen results in an automatic transition of the first display screen into the second display screen and	"The master tree and the node table are dynamically populated and displayed to the user. In addition, when a user makes any changes to the master tree and/or the metadata in the node table, both the master tree and the node table may be dynamically updated. In one embodiment, the master tree and the node table are dynamically updated without having to rebuild the entire master tree and the entire node table. Instead, the changes may be propagated throughout the master tree and node table through the use of a node location table that tracks the locations of the node within the master tree." (col. 4, lines 9-19) Referring to Figure 1, whenever a new node in the metadata tree 122 is selected a new screen is displayed in table window 130 with information on the selected node. For example, when selecting first Master Library, second Genre, and third Classical, three different screens are automatically sequentially displayed in the table window 130 corresponding to the three	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)

	different nodes. Furthermore, each time a user clicks on a node in the tree 122 to expand/contract it, the tree window 120 automatically changes to show a screen with the expanded/contracted tree 122. (col. 8, line 28 through col. 9, line 23) Furthermore, the Phillips publication discloses sequential display screens that substantially replace each other and automatically change on selection of a category/subcategory.	
receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third display screen.	*Id.*	*Id.*

Claim 14 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is from a top level of the hierarchy.	The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. Selecting Master Library will display its subtrees, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) *See also* Figure 1.	A first display screen viewed by the user during the process of selecting tracks for a playlist may show the categories of metatags used for searching the database of musical tracks, including genre, artist, song title, album title, date of recording, etc.. See Figure 7. (paragraphs 35-39)

Claim 15 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as	The sample display of Figure 1 includes a tree window	Metatags such as "Rock", "Blues", "Rap", etc.

recited in claim 1 wherein the category selected in the first display screen is a category from a level at least one level below the top level of the hierarchy.	showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) The teaching of the '721 patent allows a user to select any node in the tree window, thereby allowing a user to first select a node at a level below a top node and to have information about that node displayed in the table window.	(particular types of genre) may be used as search criteria. See Figure 8. In paragraph 48, with reference to Figure 11, it is stated that "the user selects a desired metatag from the list shown." An "example" is given by reference to Figure 7. However, should Figure 8 be used as the first screen, then the user would be choosing a particular type of "genre" in the first display screen.

Claim 16 of '433 Patent	**Disclosure of '721 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the plurality of categories comprise a list of artist names,	At col. 11, line 63 through col. 12, line 26 an example is given of a tree with a category of Artist, a next level category of Album name, and a final level category of track names.	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags

		corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39) The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
the plurality of subcategories comprise a list of album names and	*Id.*	*Id.*
the plurality of items comprise a list of track names.	*Id.*	*Id.*

As seen from the above charts, each and every limitation of claims 1-16 is unpatentable over the '721 patent in view of the Phillips publication, thus rendering the subject matter of those claims unpatentable under §103(a). Accordingly, a substantial new issue of patentability as to each of claims 1-16 is raised by the '721 patent in

combination with the Phillips publication, which is prior art not of record and closer to the patented invention than any of the prior art of record.

J. Claims 1-16 are unpatentable under §103(a) over the '451 patent in view of the Phillips publication

The combination under §103(a) of the '451 patent and the Phillips publication is proper, for at least the following reasons. As described in the Abstract, the '451 patent describes a hand held electronic music reference machine with search and playback functionality for songs. As described in the Abstract, the Phillips publication describes a system and method for musical playlist selection in a portable device. Both the '451 patent and the Phillips publication teach storing, displaying, choosing and playing audio files on a hand held device.

Both patents are in the same field of endeavor and one skilled in the art at the time the invention of the '433 patent was made would have been motivated to combine aspects of the system and method of the Phillips publication with the system and method of the '451 patent. For example, one skilled in the art would have been motivated to combine with the method of the '451 patent at least the provision of storing, displaying, choosing and playing audio files, where audio files include musical tracks, as described in the Phillips publication at paragraph 10. Furthermore, one skilled in the art would have been motivated to combine with the method of the '451 patent at least the provision of a playlist as described in the Phillips publication at paragraphs 10, 36, 37 & 50.

A detailed comparison of the relevant disclosures of the '451 patent and the Phillips publication to claims 1-16 is shown in the charts below.

Claim 1 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
A method of selecting at least one track from a plurality of tracks	The '451 patent describes a "hand held electronic music reference machine" (col. 2,	"The present invention is directed to techniques that permit the user to implement

stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:	line 64-65), that has the ability to allow a user to obtain information relative to a variety of songs. As shown in Figure 3 and then further described, a database 20 of the hand held electronic reference machine "has a first memory portion 22 storing textual or alphanumeric information which can be shown on display 16. Memory portion 22 includes an area 24 storing song titles and another memory area 26 storing at least some lyrics for each song whose title exists in memory area 24." (col. 3, line 43-48) Each of these song titles correspond to one of the plurality of tracks. The '451 patent describes a very versatile device, which can access song titles according to a hierarchy identical to the '433 patent. The '451 patent also allows access to textual information concerning a song based upon note structure data (though this aspect is unrelated to the '433 patent). The hierarchy of the '451 patent has many different categories, including, within memory portion 22, "areas 28, 30, 32, 34, 36 and 38 [see Figure 3] respectively storing band or artist names, songwriter names, highest chart positions attained by the various songs, the years in which the highest chart positions were attained, Hall of Fame listings and recording	a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) The musical tracks are stored in the portable audio device on a storage device, such as a micro-drive, or in memory. (paragraphs 19-20) A data structure is used to store metatags corresponding to musical tracks stored in memory. The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. These categories of metatags may be further divided to form sub-categories – for example sub-categories of genre are "Rock", "Blues", "Rap", etc. Finally within all of these categories and sub-categories are items – the musical tracks. (paragraphs 35-39) "**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the

	labels." (col. 3, line 48-53) The '451 patent describes its hierarchy as having a "main menu [that] includes a 'Title' selection, a 'Search' selection and a 'Setup' selection.' (col. 5, line 42-44) Subcategories are obtained as described in the '451 patent: "When 'Search' is selected from the main menu, display 16 shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line. Any search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 51-56) The '451 patent further describes "[G]enerally, the greater the number of filters used, the smaller the resulting list of titles." (col. 8, line 59-61) The '451 patent describes in the summary of the invention that "at least a portion of the song" (col. 1, lines 51-54) (emphasis added) be provided as the audio reproduction. The verbiage "at least a portion" contemplates more than a portion, i.e. the entire song be provided. In the detailed description, the "portion of the song" stored in memory is referred to as a "stored reproducible musical segment" (col. 3, lines 62-66). It follows that storing an entire	user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48)

	song in memory, available for retrieval and playback, is also contemplated. Furthermore, the Phillips publication discloses storing, displaying, choosing and playing audio files, where audio files include musical tracks, as described in the Phillips publication in paragraph 10, 19-20, 35-39 and 48.	
selecting a category in the first display screen of the portable media player;	The main menu shown on the display 16 of the hand held electronic music reference machine 10 contains three categories: titles, search, and setup. The claimed method is anticipated by selection of the search category. (col. 5, line 40-44)	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for

		searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)
displaying the subcategories belonging to the selected category in a listing presented in the second display screen;	Upon selection of the search category, "display 16 shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line." (col. 5, line 51-54)	*Id.*
selecting a subcategory in the second display screen;	As taught by the '451 patent, "[a]ny search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 54-56) In a specific example given within the '451 patent, "[d]uring a search of the band list, highlighting of the entries may be shifted from artist to artist by using up and down directional keys 68 and 70." (col. 6, line 17-19)	*Id.*

displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and	As further expressly taught by the '451 patent with respect to the specific example, "[i]f selection monitor 64 detects the actuation of Enter function key 76, a list of song titles appears for the highlighted recording artist." (col. 6, line 19-21) Thus, the list of song titles corresponds to the displayed items.	*Id.*
accessing at least one track based on a selection made in one of the display screens.	The '451 patent expressly provides for this limitation, teaching "As in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27)	*Id.* A selected playlist or individual musical track may be played. (paragraph 31)

Claim 2 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises		
selecting a subcategory in the second display screen and	As taught by the '451 patent, "[a]ny search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 54-56)	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various

		"genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)
playing a plurality of tracks associated with the selected subcategory.	A plurality of tracks can be played from the selected subcategory by highlighting different songs within the subcategory, and then actuating the special function key 78, which is detected by selection monitor 64, to cause selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27) This can be repeated for a plurality of different songs to play a plurality of tracks associated with the selected category.	*Id.* A selected playlist or individual musical track may be played. (paragraph 31)

Claim 3 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**

The method of selecting a track as recited in claim 1		
wherein the accessing at least one track comprises selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist.	An appropriate broad construction of this claim limitation includes the tracks associated with a selected subcategory of tracks being the only tracks in the playlist. In which case, the subcategory is being used as a list of tracks from which tracks can be chosen for playing – a "playlist." The claim language is broad enough to read on the disclosure in the '451 patent of the selection of a list of songs belonging to a subcategory – a particular recording artist, for example – where one of the songs is chosen for playback. Such a list may be characterized as a "playlist" since it is a list of songs from which a user can select a song for playing. (col. 6, lines 17-27) Furthermore, as discussed at the beginning of this section, it would have been obvious to combine the teachings of the '451 patent and the Phillips publication – the Phillips publication expressly discloses creating playlists.	"The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search

		criteria. (paragraphs 36-37)

Claim 4 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises		
selecting an item in the third display screen and	The '451 patent teaches highlighting of a song that is on the list of the display 16 in order to obtain further information relating to that song. (col. 6, line 24)	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)
playing at least one track associated with the selected item.	The '451 patent expressly provides for this limitation, teaching "As in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector	*Id.* A selected playlist or individual musical track may be played. (paragraph 31)

	module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27)	

Claim 5 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1		
wherein the accessing at least one track comprises selecting an item in the third display screen and adding at least one track associated with the selected item to a playlist.	An appropriate broad construction of this claim limitation does not require that a playlist represent more than one track. The formation of a playlist, when adding one or more tracks, as described in this claim limitation, must include the possibility that a single track is added to a new playlist, which at that point in time will have only one track – it is a list of one song selected to be played. The claim language is broad enough to read on the disclosure in the '451 patent of selection of a single song for playback – in effect, a list including a single song has been formed for playback. (col. 6, lines 17-27) Furthermore, as discussed at the beginning of this section, it would have been obvious to combine the teachings of the '451 patent and the Phillips publication – the Phillips publication expressly discloses creating playlists.	"The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with

		metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37) "Alternatively, the system **100** may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50)

Claim 6 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises one of playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item.	The '451 patent expressly provides for the "playing" one of the limitations, teaching "[a]s in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27) The track that is played is	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or

	associated with a category, subcategory, and song.	tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37) "Alternatively, the system **100** may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50) A selected playlist or individual musical track may be played. (paragraph 31)

Claim 7 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the accessing at least one track is made after the presentation of the third display screen by reverting back to one of the second and first display screens, the second display screen presented sequentially after the third display screen.	The '451 patent teaches usage of left or right directional keys 72 and 74 that can be used to access different submenus, thereby allowing a user to revert from the third display back to one of the second and first display screens. (col. 5, line 24-26)	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may

		represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The process described in paragraph 48 is a general process of using display screens to guide the user through a selection process. This process does not require a particular order of movement through categories, sub-categories and items, consequently the user is not restricted from reverting back to an already visited display screen.

Claim 8 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 further comprising		
selecting one of the items displayed in the third display screen and	The '451 patent teaches highlighting of a song that is on the list of the display 16 in order to obtain further information relating to that song. (col. 6, line 24)	**"FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various

		musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The process described in paragraph 48 may involve providing to the user "one or more screen displays." "One or more screen displays" includes four screen displays.
presenting a listing of items associated with the selected item in a fourth sequentially presented display screen.	Upon actuation of the "Enter function key 76, display control 58 accesses memory portion 22 to obtain identification information and lyrics for the highlighted song." (col. 6, line 29-32) A fourth display screen is presented with some of this information, as shown in Figure 6A—with further information presented in subsequent display screens shown as Figures 6B-6H.	*Id.*

Claim 9 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as	In an embodiment in which the "first display screen" is one	A data structure is used to store metatags

recited in claim 1 wherein the category genre is selected in the first display screen from available categories that include at least artist, album, and genre; and	level below the top level of the hierarchy (see claim 15), there are nine different categories, and certain of them correspond to artist, album and genre. "Bands" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to artist. "Song titles" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to album, since many albums have only one song (aka "singles"). And "recording labels" search parameter (col. 5, line 54) corresponds to genre since recording labels conventionally record artists that have a same style of music. For example, it is well known that "Windham Hill" is a "New Age" label, whereas "Blue Note Records" is a "Jazz" label.	corresponding to musical tracks stored in memory. The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
the subcategories listed in the second display screen comprise a listing of at least one genre type and	Upon selection of the "recording labels" search, the various recording label names, which correspond to different genre types, are listed.	The various "genre", may include: "Rock", "Blues", "Rap", etc. See Figure 8.
one of the at least one genre type is selected.	The user can select a particular recording label name.	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then

		selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)

Claim 10 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 9 further comprising		
displaying in the third display screen at least one album associated with the selected genre type and	Upon selection of a particular recording label name that appears on the second display screen, list of "Titles" appears on a third display screen. (An equivalent search is shown in Figs. 7A and 7B, though for different categories).	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may

		represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The process described in paragraph 48 may involve providing to the user "one or more screen displays." "One or more screen displays" includes four screen displays. The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
selecting one of the at least one albums displayed in the third display screen and	One of the "Titles" that appears on the third display screen can be selected.	*Id.*
presenting a listing of tracks associated with the selected album in a fourth sequentially presented display screen.	As shown in Figures 6A at screen 98, there is a plurality of tracks that are presented on the fourth display screen: one track corresponding to the song title and another track corresponding to the recording artist. As described, the information for the listing of tracks is obtained from separate memory areas 24 and 28. (col. 6, line 35-37)	*Id.* A listing of musical tracks matching the search criteria may be displayed in a screen. (paragraph 37) "[T]he system **100** may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50)

Claim 11 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**

The method of selecting a track as recited in claim 1 wherein the category artist is selected in the first display screen from available categories that include at least artist, album, and genre;	In an embodiment in which the "first display screen" is one level below the top level of the hierarchy (See claim 15), there are nine different categories, and certain of them correspond to artist, album and genre. "Bands" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to artist. "Song titles" search parameter (col. 5, line 53) is specifically mentioned, which corresponds to album, since many albums have only one song (aka "singles"). And "recording labels" search parameter (col. 5, line 54) corresponds to genre since recording labels conventionally record artists that have a same style of music. For example, it is well known that "Windham Hill" is a "New Age" label, whereas "Blue Note Records" is a "Jazz" label.	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
the subcategories listed in the second display screen comprise a listing of names of artists and	Upon selection of the "Artist" search, the various Artists are listed, as explicitly shown in Figure 5A and screen 88.	*Id.*
a first artist name is selected; and	As described at col. 6, line 19-21, one of the artists can be selected.	*Id.*

the items displayed in the third display screen comprises at least one album associated with the first artist name.	As described in the same passage referred to immediately above, "a list of song titles appears for the highlighted recording artist." As explained previously, a "Song title" corresponds to an album, since many albums have only one song (aka "singles").	*Id.*

Claim 12 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the track is a music track, accessing at least one track comprises accessing a track title in the third display screen, and the track is played in response to the access.	Each "Title" in the '451 patent has a "reproducible music segment" associated with it. (col. 5, line 32) Accessing this music track is achieved by highlighting the Title in the third display screen and then pressing the specialized function key 78 labeled "NOTE" in Figure 1 causes the music track to play. (col. 5, line 29-39)	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The datastructure may be

		searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39) A selected playlist or individual musical track may be played. (paragraph 31)

Claim 13 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein receipt of the selection in the first display screen results in an automatic transition of the first display screen into the second display screen and	The '451 patent teaches "[w]hen 'Search' is selected from the main menu [i.e. the recited first display screen], display 16 shows a list of nine search parameters ... ." (col. 5, line 51-52) Thus, there is an automatic transition from the first display screen to the second display screen.	For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected – e.g. "Blues" – the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)
receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third	From the second display that shows the list of nine search parameters, if the search parameter "Artist" is selected, a list of artists then appears. This is shown at Figs. 5A with	*Id.*

display screen.	screen 88, and explained at col. 6, line 1-2. As further explained at col. 6, line 17-19, the list of artist names (the recited "third display screen") can be shifted from artist to artist using up and down directional keys 68 and 70. Thus, there is an automatic transition from the second display screen to the third display screen.	

Claim 14 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is from a top level of the hierarchy.	The "Main menu" as described above with respect to claim 1 is a first display screen that appears at the top level of the hierarchy.	A first display screen viewed by the user during the process of selecting tracks for a playlist may show the categories of metatags used for searching the database of musical tracks, including genre, artist, song title, album title, date of recording, etc.. See Figure 7. (paragraphs 35-39)

Claim 15 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is a category from a level at least one level below the top level of the hierarchy.	The "Search menu" as described above with respect to claims 9 and 11 is a first display screen that appears at least one level below the top level of the hierarchy.	Metatags such as "Rock", "Blues", "Rap", etc. (particular types of genre) may be used as search criteria. See Figure 8. In paragraph 48, with reference to Figure 11, it is stated that "the user selects a desired metatag from the list shown." An "example" is given by reference to Figure 7. However, should Figure 8 be used as the first screen,

		then the user would be choosing a particular type of "genre" in the first display screen.

Claim 16 of '433 Patent	**Disclosure of '451 Patent**	**Disclosure of Phillips Publication**
The method of selecting a track as recited in claim 1 wherein the plurality of categories comprise a list of artist names,	In an embodiment in which the "first display screen" is one level below the top level of the hierarchy (see claim 15), there are nine different categories, and certain of them correspond to artist, album and genre. Upon selection of the "Bands" search parameter (col. 5, line 53) a list of artist names appears, and this list of artists corresponds to the "plurality of categories."	"**FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380,** the user selects a desired metatag from the list shown, by way of example, in the screen display **250,** illustrated in **FIG. 7.** The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126).** In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)

		The datastructure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)
the plurality of subcategories comprise a list of album names and	As described at col. 6, line 19-21, one of the artists can be selected, and "a list of song titles appears for the highlighted recording artist." As explained previously, a "Song title" corresponds to an album, since many albums have only one song (aka "singles"). This list of songs corresponds to the list of album names.	*Id.*
the plurality of items comprise a list of track names.	For each song is a plurality of items, which comprise a list of track names. As shown in Figures 6A at screen 98, there is a plurality of tracks that are presented on the fourth display screen: one track corresponding to the song title and another track corresponding to the recording artist. As described, the information for the listing of tracks is obtained from separate memory areas 24 and 28. (col. 6, line 35-37).	*Id.*

As seen from the above charts, each and every limitation of claims 1-16 is unpatentable over the '451 patent in view of the Phillips publication, thus rendering the subject matter of those claims unpatentable under §103(a). Accordingly, a substantial new issue of patentability as to each of claims 1-16 is raised by the '451 patent in combination with the Phillips publication, which is prior art not of record and closer to the patented invention than any of the prior art of record.

VI. MISCELLANEOUS REQUIREMENTS OF 37 C.F.R. § 1.915

A certificate of service is provided pursuant to 37 C.F.R. §§1.33(c), 1.248 and 1.915(b)(6). The Request is being served on attorneys of record for the '433 patent Gean Desmond, Kennedy Koblin and Russell Swerdon at Creative Labs, Inc., Legal Department, 1901 McCarthy Blvd., Milpitas, CA 95035.

Per 37 C.F.R. § 1.915(b)(7), the undersigned certifies that the estoppel provisions of 37 C.F.R. § 1.907 do not prohibit this *inter partes* reexamination.

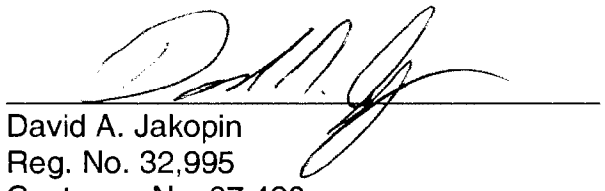
Per 37 C.F.R. § 1.915(c), the undersigned is acting in representative capacity on behalf of Archos S.A. Per 37 C.F.R. § 1.34, documentation of that authority can be provided upon request.

VII. CONCLUSION

For any and all of the reasons set forth above, reexamination of claims 1-16 of the '433 patent is respectfully requested.

Date: December 1, 2009

Respectfully submitted,



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Appendix A

US006928433B2

(12) **United States Patent**
Goodman et al.

(10) **Patent No.: US 6,928,433 B2**
(45) **Date of Patent: Aug. 9, 2005**

(54) **AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA**

(75) Inventors: **Ron Goodman**, Santa Cruz, CA (US); **Howard N. Egan**, Capitola, CA (US)

(73) Assignee: **Creative Technology LTD**, Singapore (SG)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 323 days.

(21) Appl. No.: **09/755,723**

(22) Filed: **Jan. 5, 2001**

(65) **Prior Publication Data**

US 2002/0147728 A1 Oct. 10, 2002

(51) **Int. Cl.**[7] **G06F 17/30**

(52) **U.S. Cl.** **707/4**; 707/3; 707/102; 386/46

(58) **Field of Search** 84/609, 601, 602, 84/611–614; 707/104.1, 3, 4, 102; 386/46

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* cited by examiner

Primary Examiner—Charles Rones
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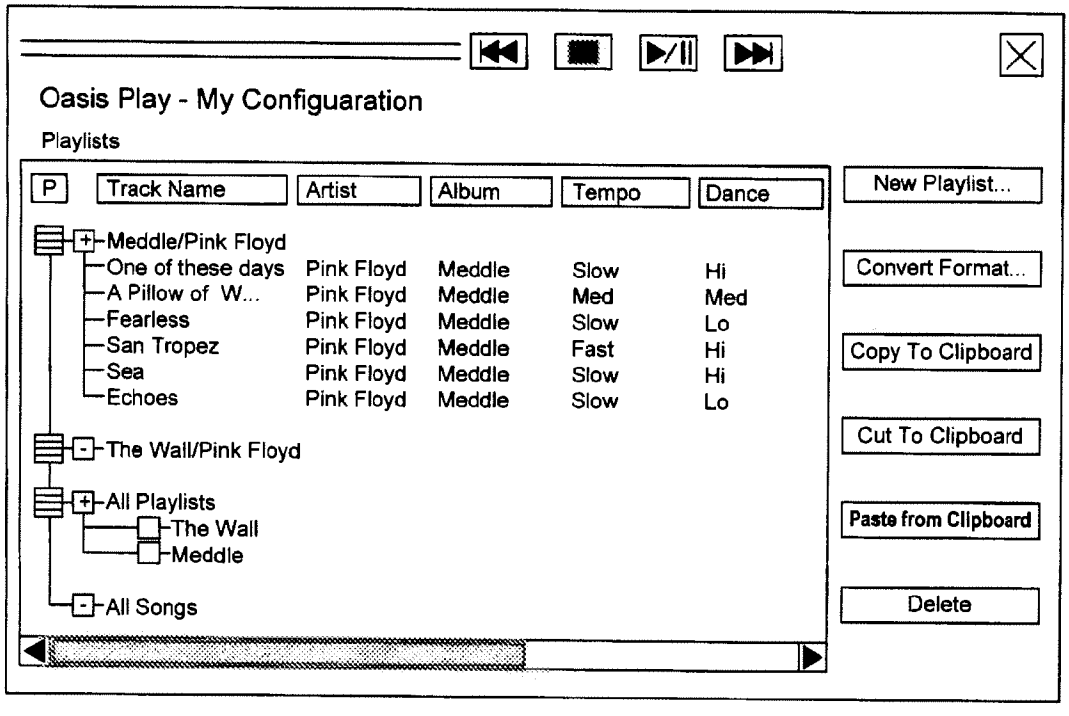
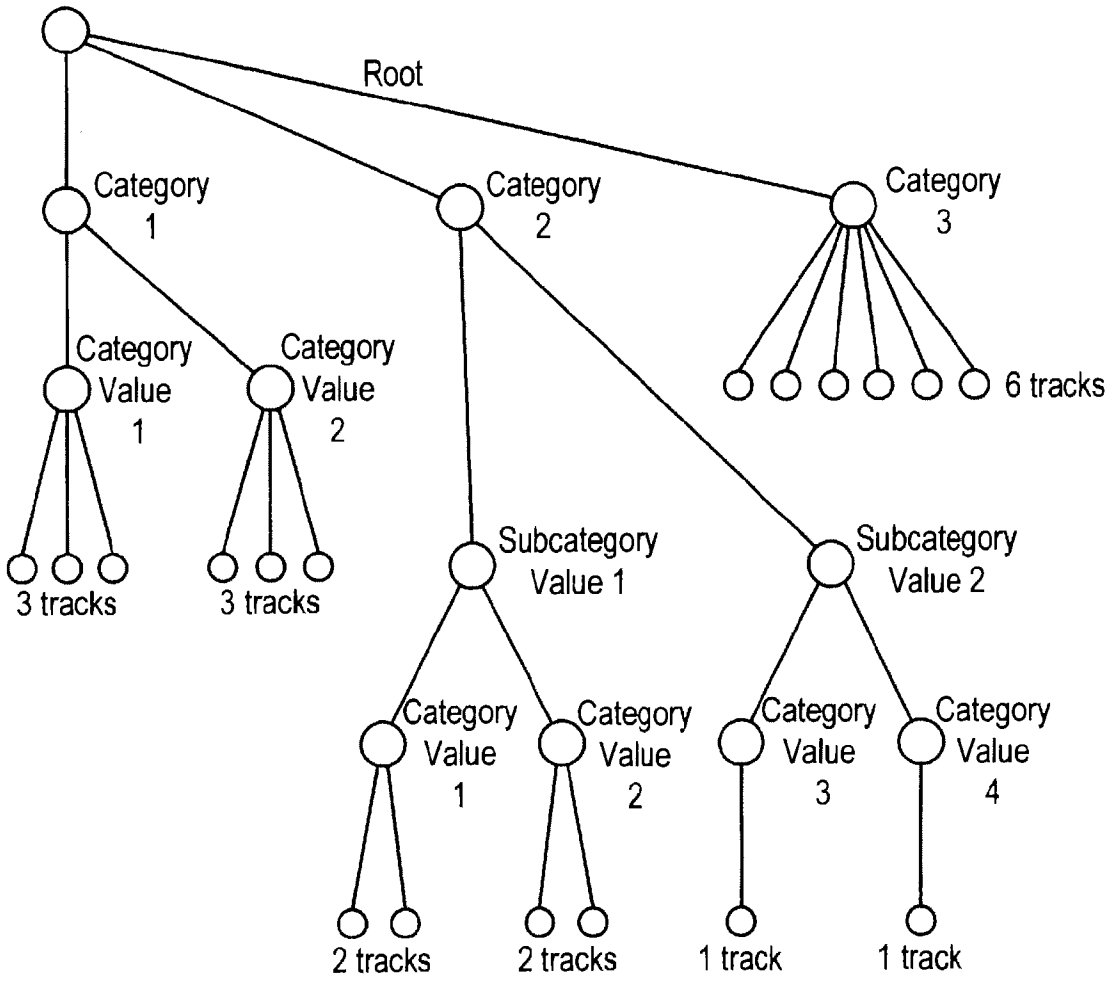
(57) **ABSTRACT**

A method, performed by software executing on the processor of a portable music playback device, that automatically files tracks according to hierarchical structure of categories to organize tracks in a logical order. A user interface is utilized to change the hierarchy, view track names, and select tracks for playback or other operations.

16 Claims, 12 Drawing Sheets





For example:

Category 1 = Album Name

Category Value 1 = Abbey Road

Category Value 2 = Hits from the 60's

Category 2 = Artist Name

Subcategory Value 1 = British Artists

Subcategory Value 2 = American Artists

Category Value 1 = The Beatles

Category Value 2 = Petula Clark

Category Value 3 = Mamas and the Papas

Category Value 4 = Nick Drake

Category 3 = All tracks

FIG. 1.

```
V1.0
Albums|0x01|BLBN
Artists|0x01|BCBMBN
All Tracks|0x01|BN
```

FIG. 2.

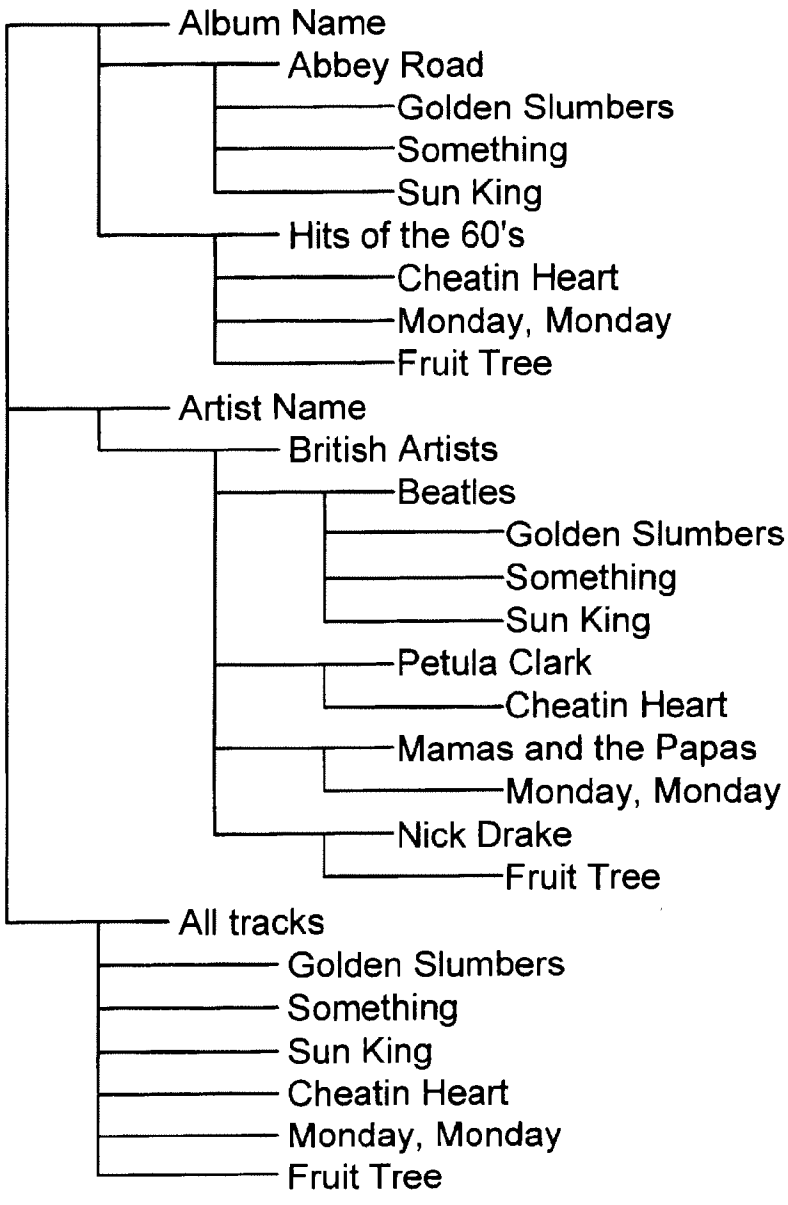


FIG. 3.

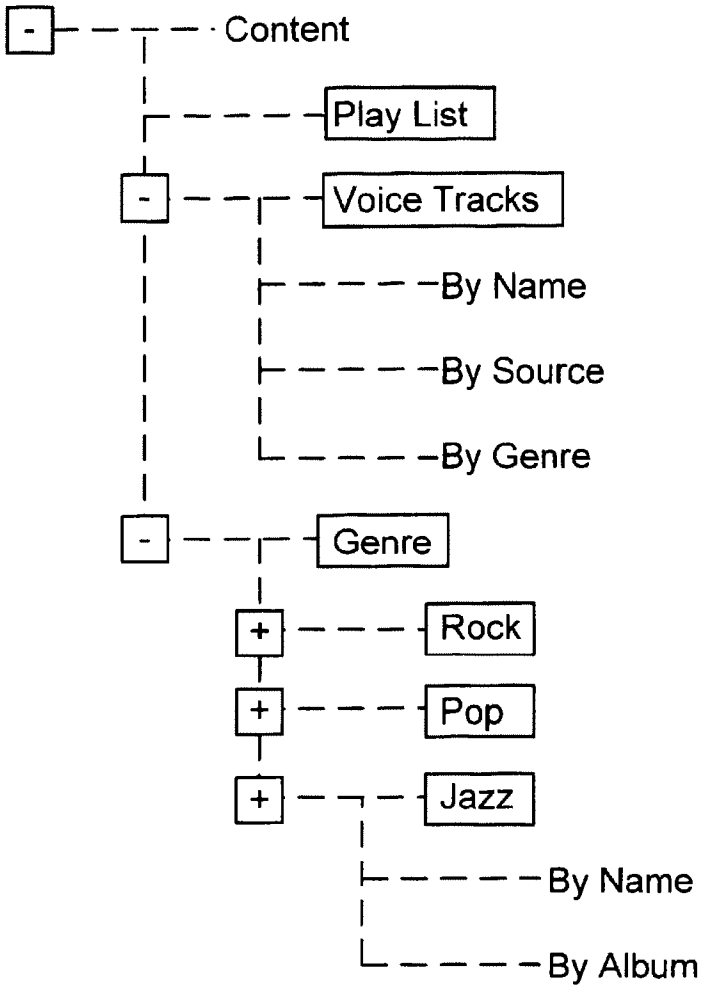

Content
Play List
Voice Tracks
By Name
By Source
By Genre
Genre
Rock
Pop
Jazz
By Name
By Album

FIG. 4.

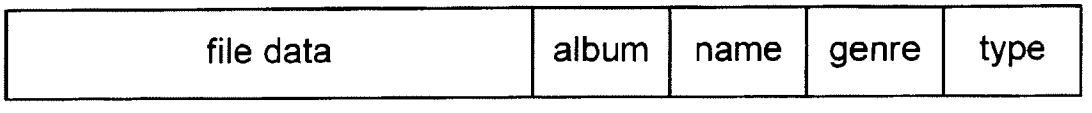

file data
album
name
genre
type

FIG. 5.

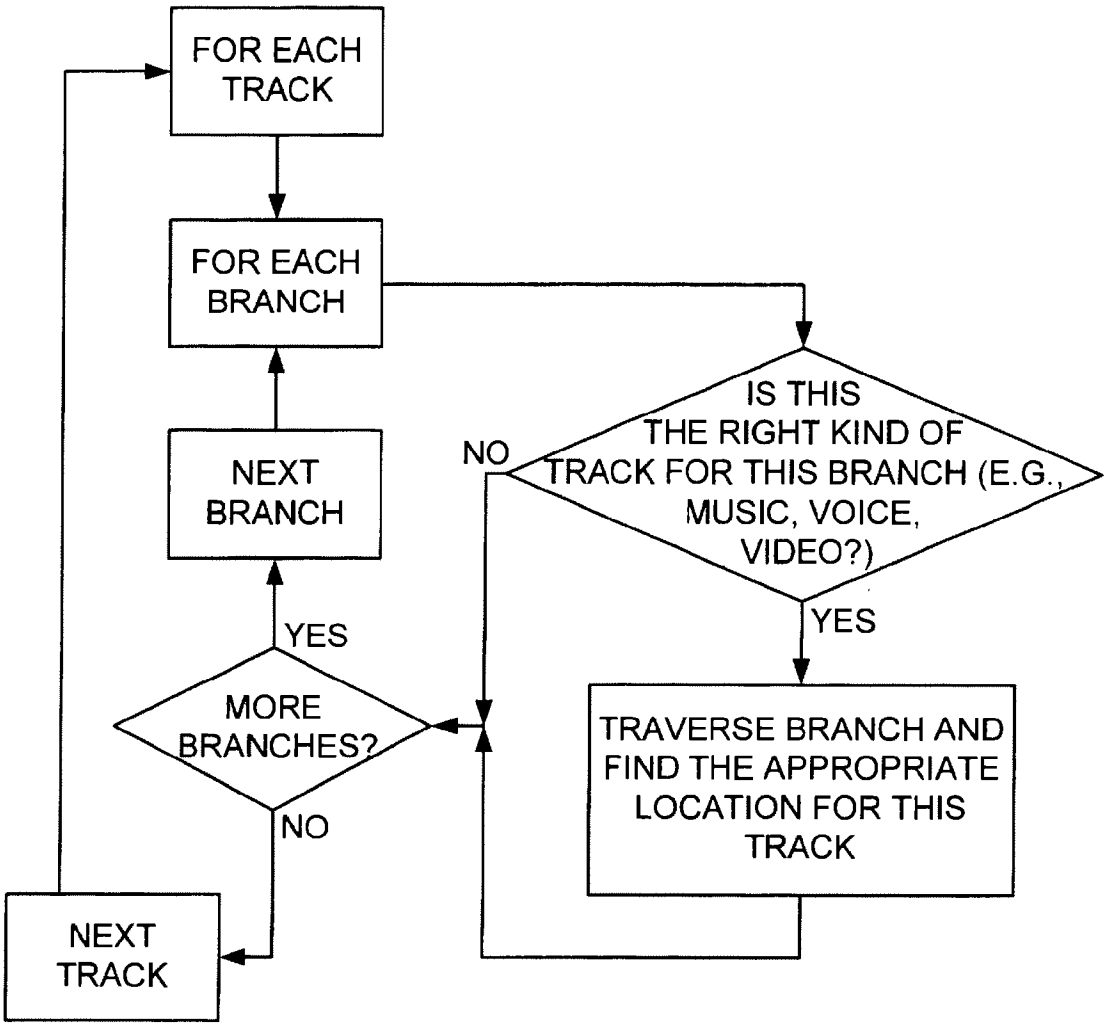

FOR EACH TRACK
FOR EACH BRANCH
IS THIS THE RIGHT KIND OF TRACK FOR THIS BRANCH (E.G., MUSIC, VOICE, VIDEO?)
NO
YES
NEXT BRANCH
MORE BRANCHES?
YES
NO
TRAVERSE BRANCH AND FIND THE APPROPRIATE LOCATION FOR THIS TRACK
NEXT TRACK

FIG. 6.

Albums	Full Moon Fever	Free Falling	
		I Won't Back Down	
	Graceland	Love Is A Long Road	
		The Boy In The Bubble	
		Graceland	
	Hotel California	Hotel California	
		New Kid In Town	
	Unknown (Created for items without Album attribute)	Track 1	
		Stardust	
Artist	Tom Petty	Full Moon Fever	Free Falling
			I Won't Back Down
			Love Is A Long Road
	Eagles	Hotel California	Hotel California
			New Kid In Town
	Paul Simon	Graceland	The Boy In The Bubble
			Graceland
Genre	Rock	Full Moon Fever	Free Falling
			I Won't Back Down
			Love Is A Long Road
		Hotel California	Hotel California
			New Kid In Town
		Graceland	The Boy In The Bubble
			Graceland

FIG. 7.

Oasis Play - My Configuration
Playlists
P
Track Name
Artist
Album
Tempo
Dance
Meddle/Pink Floyd
One of these days Pink Floyd Meddle Slow Hi
A Pillow of W... Pink Floyd Meddle Med Med
Fearless Pink Floyd Meddle Slow Lo
San Tropez Pink Floyd Meddle Fast Hi
Sea Pink Floyd Meddle Slow Hi
Echoes Pink Floyd Meddle Slow Lo
The Wall/Pink Floyd
All Playlists
The Wall
Meddle
All Songs
New Playlist...
Convert Format...
Copy To Clipboard
Cut To Clipboard
Paste from Clipboard
Delete

FIG. 8.

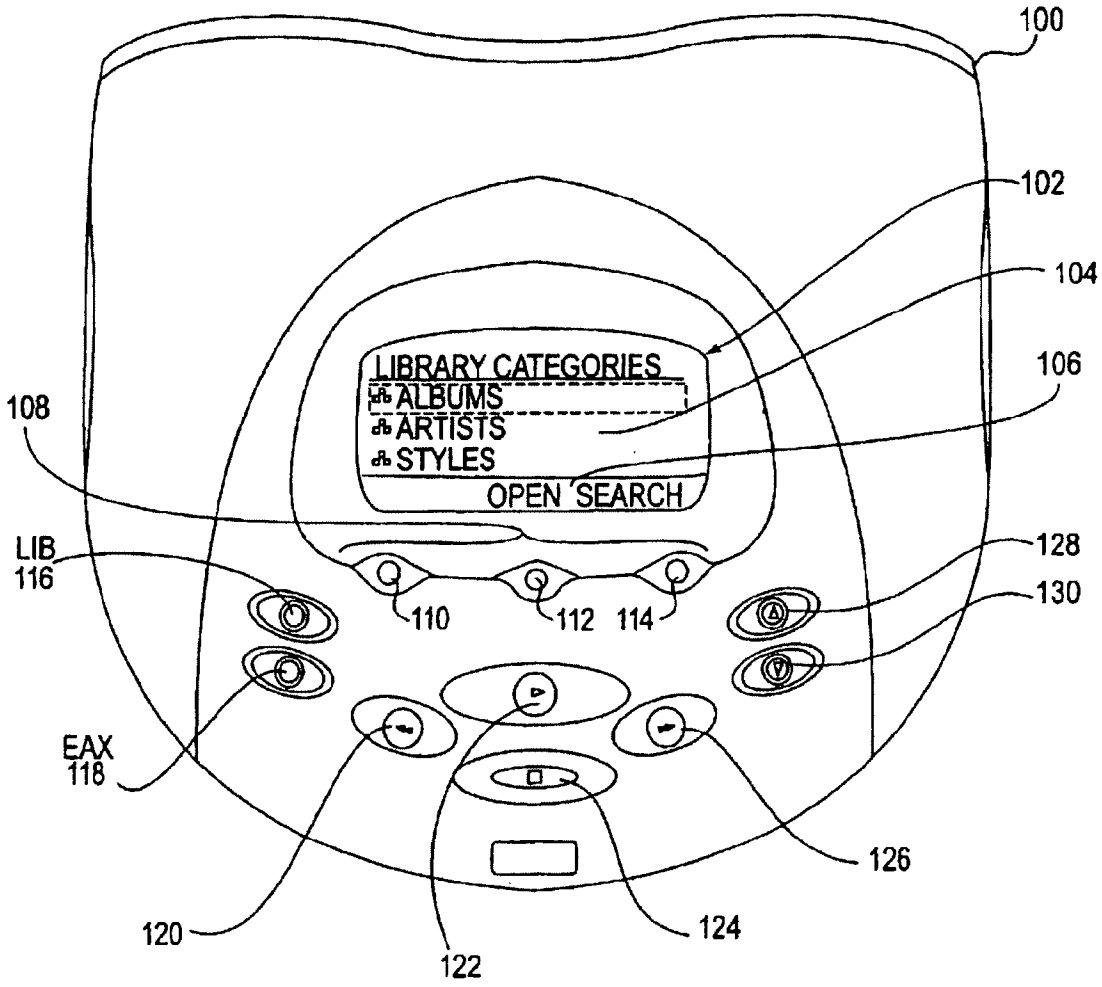

100
102
104
106
108
LIBRARY CATEGORIES
ALBUMS
ARTISTS
STYLES
OPEN SEARCH
LIB
116
110
112
114
128
130
EAX
118
120
122
124
126

FIG. 9

150
LIBRARY CATEGORIES
ALBUMS
ARTISTS
STYLES
PLAYLIST
OPEN SEARCH
152
Categories screen
The top level of the Music Library. Press OPEN (soft button) to navigate to the Lists screen.
154
LIB: ALBUMS
JUKEBOX DEMO
ROCK ART & THE X-RAY STY
1 TIME
A NIGHT TO REMEMBER
POSITIVE SWEAT
CLOSE OPEN QUEUE
Lists screen
Press OPEN to navigate to the Tracks screen.
156
LIB: JUKEBOX DEMO
JUKEBOX DEMO
CLOSE DETAILS QUEUE
Tracks screen
Press DETAILS to navigate to the Details screen.
158
LIB: JUKEBOX DEMO
TRACK? QN
JUKEBOX DEMO
XYZ, INC.
0:00:45
PREVIEW CLOSE QUEUE
Details screen
The bottom level of the Music Library; cannot be expanded further.

FIG. 10

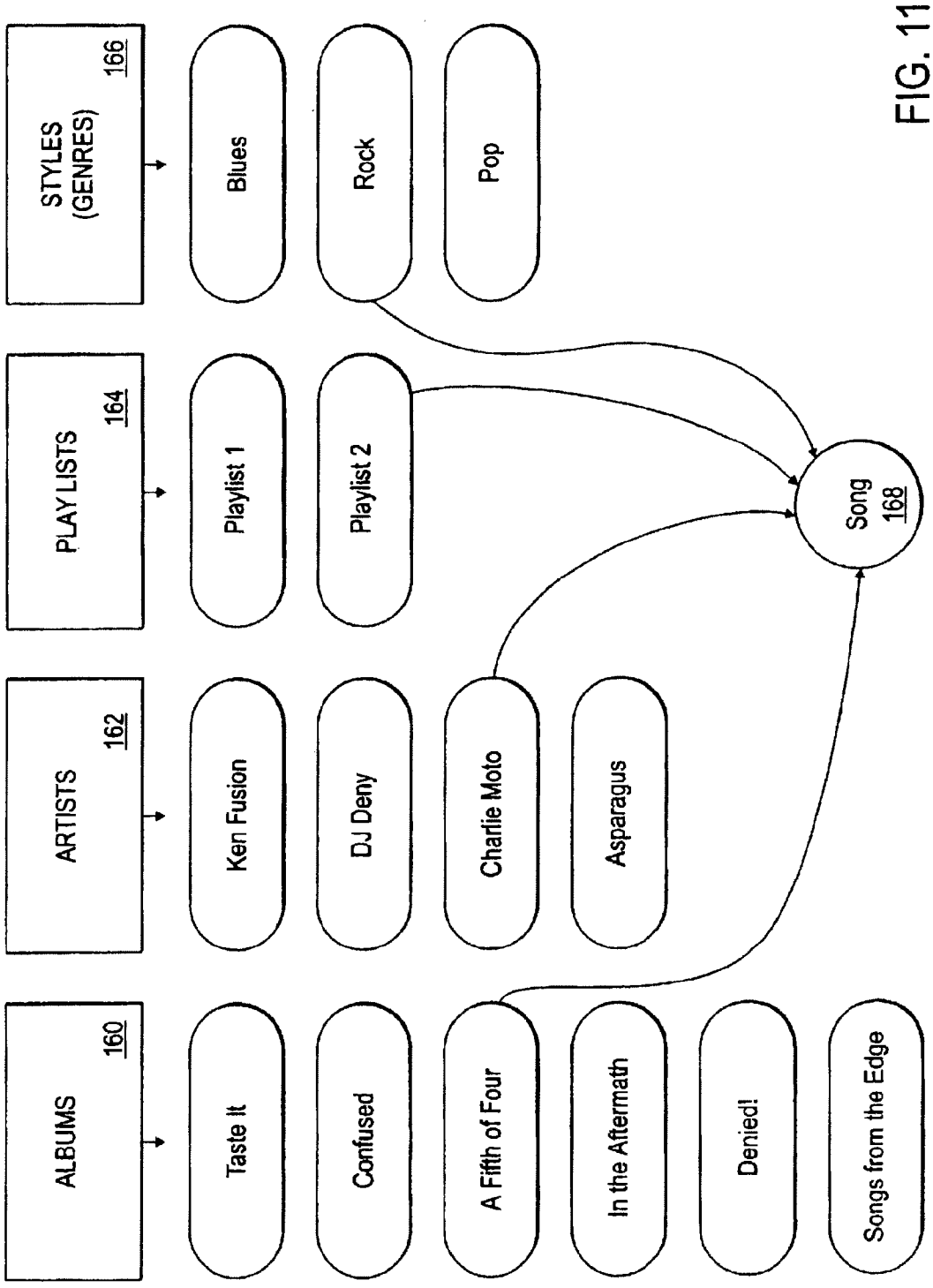


FIG. 11

LIBRARY CATEGORIES
ALBUMS
ARTISTS
STYLES
PLAYLIST
OPEN SEARCH
180
1. Press SCROLL UP/DOWN buttons to select ALBUMS.
2.Press SEARCH to access the SEARCH FOR ALBUMS screen.
Search for Albums
A
A NIGHT TO REMEMBER
GO! PLUS MINUS
182
3. Press PLUS/MINUS to change the letter and then press the SCROLL UP/DOWN buttons to move the letter entry position (indicated by a ^).
Search for Albums
BB
BEST OF BACH
GO! PLUS MINUS
184
NOTE: As each letter is entered, the letters are compared with the ALBUMS list. The ALBUM with the nearest match is displayed.
LIB: ALBUMS
BANNED IN DA SINGAPURA
BASSETT HOUND
BEST OF BACH
BEST OF BEETHOVEN
BEST OF BIZET
CLOSE OPEN QUEUE
186
4. Press GO! to jump to the nearest match. The album appears on the screen.

FIG. 12

View DETAILS accessed from the TRACKS screen:
LIB: JUKEBOX DEMO
JUKEBOX DEMO
CLOSE DETAILS QUEUE
1. Press DETAILS. The DETAILS screen displays the Track Order, Album, Artist, and duration of the track.
LIB: JUKEBOX DEMO
• TRACK? ON JUKEBOX DEMO
• XYZ, INC.
• 0:00 :45
PREVIEW CLOSE QUEUE
2. Press CLOSE to return to the TRACKS screen.
200
Viewing DETAILS accessed from the ACTIVE QUEUE LIST screen:
ACTIVE QUEUELIST
STOP: 5 TRACKS READY
JUKEBOX DEMO
TONY ADAMS
N•DRA--TRAFFIC JAM
RICK NELSON - GARDEN PARTY
DETAILS COLLAPSE CLEAR-LIST
1. Press DETAILS. The DETAILS screen displays the Track Title, Artist, Album together with Audio Playback settings (see note below) and Play Mode (see "Setting Play Mode" on page 16).
204
PLAY: TRACK 1OF 1 0.05
JUKEBOX DEMO
XYZ, INC.
JUKEBOX DEMO
EA EQ HS TS
BACK SAVELIST MODE
ONCE
2. Press BACK to return to the ACTIVE QUEUE LIST screen.
202

FIG. 13

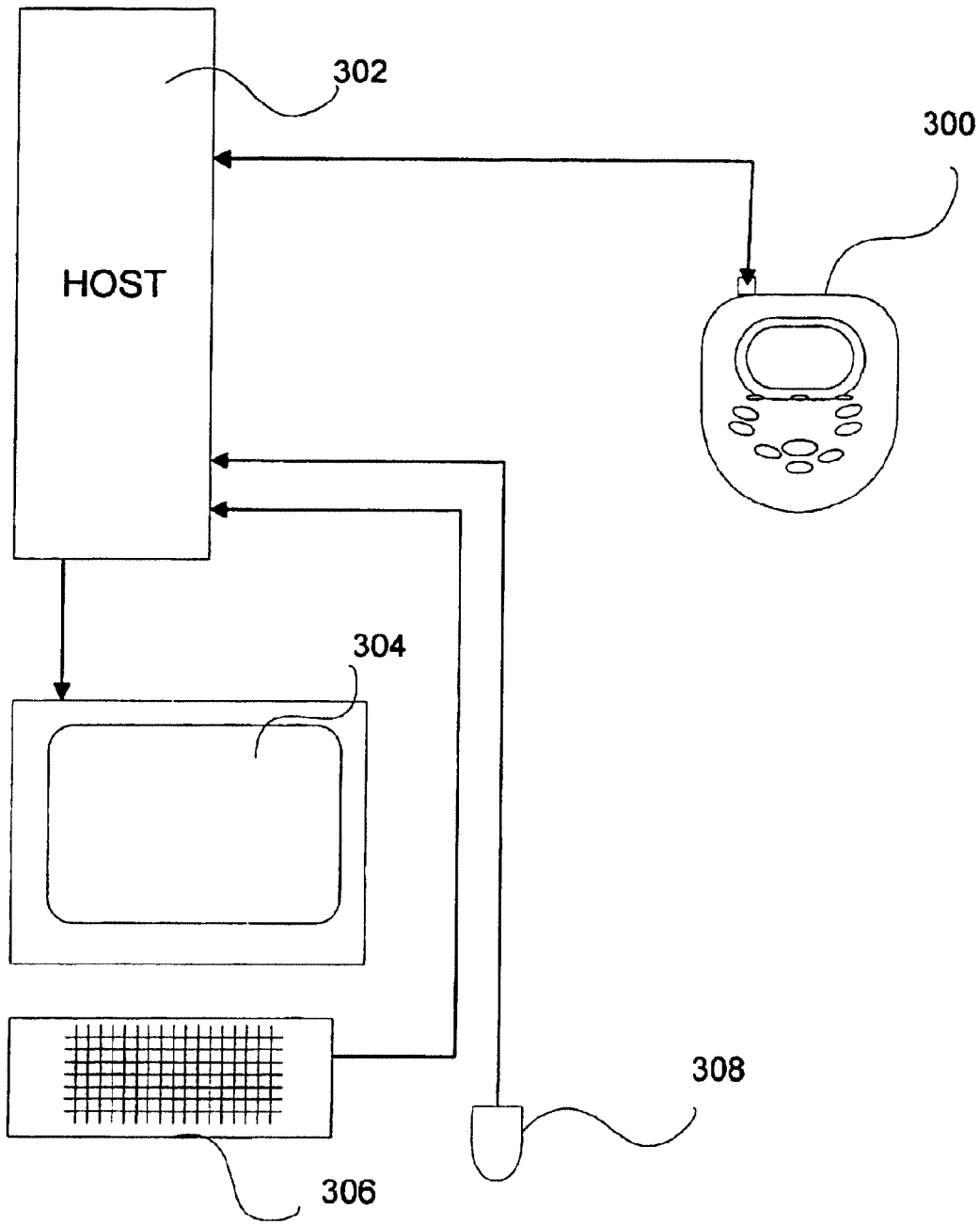


FIG. 14

AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA

CROSS-REFERENCES TO RELATED APPLICATIONS

This application is related to Application Ser. No. 09/755,629, entitled "System for Selecting and Playing Songs in a Playback Device with a Limited User Interface," now abandoned and Application Ser. No. 09/755,367, entitled "Audioplayback Device with Power Savings Storage Access Mode," issued as U.S. Pat. No. 6,590,730, all filed Jan. 5, 2001, the disclosures of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

Today, portable consumer electronic devices are more powerful than ever. For example, small, portable music playback devices can store hundreds, even thousands, of compressed songs and can play back the songs at high quality. With the capacity for so many songs, a playback device can store many songs from different albums, artists, styles of music, etc.

Music jukeboxes implemented in software executed by a digital computer and portable MP3 and CD players both provide facilities for forming playlists. For example, the OOZIC player, distributed by the assignee of the present application, runs on a host PC and has a playlist feature that allows selection of tracks from the PC's hard disk to be included in the playlist.

As storage capacity increases and songs are compressed to shorter file lengths the number of songs that can be stored increases rapidly. Major problems facing the consumer are organizing and accessing the tracks.

Typically, portable devices have a user interface including a small screen and buttons. Such a display screen might be, e.g., 1"×2". This small display size is necessary because of the physical size of the device which is typically carried in the hand. The small size also limits the number, size, shape, and types of user input controls that can be mounted on the device. For example, a few pushbuttons are usually provided to perform all of the device's control functions. Using such a compact user interface to navigate and select among hundreds of songs is inefficient and often frustrating. The display screen can only show a few song titles at one time, and the limited controls make it difficult for a user to arbitrarily select, or move among, the songs.

The creation of playlists is one technique to organize the playing of songs. A set of songs can be included in a playlist which is given a name and stored. When the playlist is accessed, the set of songs can be played utilizing various formats such as sequential play or shuffle.

However, the creation of playlists itself becomes problematic as the number of songs increases, since the user often arbitrarily selects songs from a large number of tracks to form a playlist. This selection mechanism: can be fairly tedious; does not necessarily produce playlists that are of interest to the user over the course of time; may not remain up-to-date if new songs are added that logically fit into a previously created playlist (e.g. "Favorites by Band X" might become out of date if a new favorite by Band X is added after the playlist was created); and leads to "lost" songs that are not members of any playlist.

Accordingly, improved techniques for organizing and grouping tracks useful in a portable music player are needed.

Further, it is desirable to provide a user interface suitable for a small device. The user interface should allow a user to efficiently navigate among, and select from, many items stored in the device.

SUMMARY OF THE INVENTION

The present invention provides an efficient user interface for a small portable music player. The invention is suitable for use with a limited display area and small number of controls to allow a user to efficiently and intuitively navigate among, and select, songs to be played. By using the invention, very large numbers of songs can be easily accessed and played.

One aspect of the invention includes an overlapping hierarchy of categories. Categories include items that can also be included in other categories so that the categories "overlap" with each other. Thus, a song title can be accessed in multiple different ways by starting with different categories. For example, a preferred embodiment of the invention uses the top-level categories "Albums", "Artists", "Genres" (or styles), and "Play Lists". Within the Albums category are names of different albums of songs stored in the device. Within each album are the album tracks, or songs, associated with that album. Similarly, the Artists category includes names of artists which are, in turn, associated with their albums and songs. The Genre category includes types of categories of music such as "Rock", "Hip Hop", "Rap", "Easy Listening", etc. Within these sub-categories are found associated songs. Finally, the "Play Lists" category includes collections of albums and/or songs which are typically defined by the user.

Advantageous use is made of the overlapping hierarchy to allow the user to quickly designate a song for playback. The device uses three "soft" pushbuttons that have assignable functions. The interface maintains consistent button functionality whenever possible and uses uniform command names and operations in different types of items so that the interface is more intuitive. For example, the user can open and queue both albums and songs with predictable results.

The interface also provides for multiple functions for a single control. For example, a "Play" button can act, in a first function, to play a currently-selected song. The Play button can act, in a second function, to cycle through different playback modes. The modes can be, e.g., (1) playback of songs from a hard disk; (2) playback of music from a radio receiver built into the device; and (3) playback of voice messages. The first function for the Play button can be activated by momentarily depressing the Play button for a short period of time. The second function is invoked by depressing the Play button for a longer period of time whereupon the device cycles through the different modes. Other ways of invoking the functions are possible such as where the second function is automatically entered from a powered-down state.

In one embodiment, the invention provides a method for selecting songs to be played in an electronic audio device, wherein the device includes a display and one or more user input controls, wherein songs are organized into categories, albums, wherein songs and albums are associated with artist names. The method includes steps of displaying categories on the display; accepting signals from a user input control to select a category; displaying one or more songs in the selected category on the display; accepting signals from a user input control to select a displayed song; and entering selected songs into a playlist queue, wherein the device plays back songs in the playlist queue.

According to one aspect of the present invention, a technique is provided for organizing tracks on a portable music player by automatically filing tracks in a hierarchical order based on attributes of the tracks.

According to another aspect of the invention, metadata is associated with each track that is used to automatically define the track's appropriate place in the hierarchy.

According to another aspect of the invention, the hierarchy is displayed on the portable music player so that a user can traverse the organizational hierarchy to find individual tracks or find playlists composed of logical groups of tracks.

According to another aspect of the invention, the hierarchy is derived by using metadata associated with the audio content that was obtained through any source of metadata (e.g. CDDB metadata, id3v2 metadata, other obtainable metadata) and subsequently stored with or alongside the file that stores the track.

According to another aspect of the invention, a file is formatted so that an unaltered track is stored as file data and information about the track is stored in file attribute files.

Other features and advantages of the invention will be apparent in view of the following detailed description and appended drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a schematic diagram of a tree structure for hierarchical filing of tracks;

FIG. **2** is a definition file that specifies the hierarchy depicted in FIG. **1**;

FIG. **3** is a user's view of the hierarchy;

FIG. **4** is a schematic diagram of a user interface displaying the hierarchical category structure;

FIG. **5** is a diagram of a file format for storing filed data and file attributes;

FIG. **6** is a flow chart depicting steps for filing tracks according to the hierarchical tree structure;

FIG. **7** depicts a tree resulting from searching the tracks; and

FIG. **8** depicts a format for a user interface;

FIG. **9** illustrates the NOMAD Jukebox and its user interface controls;

FIG. **10** illustrates a sequence of display screens describing how to navigate to lower levels;

FIG. **11** illustrates associations among items;

FIG. **12** shows display screens used to search for a song or other item;

FIG. **13** illustrates details of different items; and

FIG. **14** illustrates a playback device coupled to a host computer system.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A preferred embodiment of the invention will now be described in the context of a portable personal player that plays audio files stored in memory. The files may be in MP3, wav. or other digital formats.

In the presently described embodiment, users are able to see the tracks on their player in some organized fashion other than as a single list of tracks. As will be described in more detail below, in one embodiment tracks are sorted utilizing a tree structure having branches labeled according to types of metadata associated with the tracks

For example, a track recorded as "Golden Slumbers" by the Beatles that appears on their album "Hey Jude" might appear as a track under the album "Abbey Road" as well as a track under the list of tracks by the Beatles. It might appear as a track under the genre "Pop Rock" as well as "Songs from the 60's." Furthermore, the organization can have more complex hierarchies. For example, the category of "Pop Rock" might contain subcategories "British Musicians," "American Musicians" and "Other Musicians". In all cases, the track is automatically filed into all appropriate locations without requiring user interaction.

In the currently defined embodiment, a tree structure is defined by a file having the following structure.

The first line of a TreeDef.inf file contains a version number:

V1.0

Each subsequent line (at least in v1.0) contains lines of the following format:

CATEGORY_NAME|TRACK_TYPE MASK|CATEGORY_STRUCTURE

CATEGORY_NAMEs are the top-level names of the branch under which tracks are sorted. They include things like "Album," "Artist," "Voice Tracks," "All Tracks," etc.

TRACK_TYPE_MASKs tell which types of tracks are to be filed under this particular branch. The actual value is a hexadecimal numerical value (in '0X' format, e.g. 0X01) generated by ORing the following flags together as appropriate:

```
enum tTrackType
{
    kTTNothing=0x00,
    kTTSong=0x01,
    kTTVoice=0x02,
    kTTBook=0x04,
    kTTMacro=0x08,
    kTTPlaylist=0x10
};
```

So, for example, the "Album" branch has a TRACK_TYPE_MASK of kTTSong, because only songs are filed under that branch, but the "All Tracks" branch has a TRACK_TYPE_MASK of (kTTSong|kTTVoice|kTTBook).

Other elements might be added to tTrackType (e.g. kTTVideo) as appropriate.

CATEGORY_STRUCTUREs tell how to file the songs based on their metadata information. The CATEGORY_STRUCTURE is a string of characters that tell, from left to right, the order of hierarchy. The characters come from the following enum constants:

```
enum tFileTag
{
    kFTNone='@',
    kFTTrackType='T',
    kFTTitle='N',
    kFTAudioFile='F',
    kFTArtist='M',
    kFTAlbum='L',
    kFTGenre='G',
    kFTSource='S',
    kFTYear='Y',
    kFTArtistCountry='C'
};
```

Thus, a CATEGORY_STRUCTURE of LN tells to create a subcategory that is a list of Albums, each of which contains a list of Tracks.

In total, a line like:

Album|0x01|LN

Says to create a branch called "Album" which contains tracks of type kTTSong organized first by album name, and then by track name.

The following is an example of a tree definition file similar (though not identical) to the hierarchy presented in the Nomad Jukebox product (the 'B' before each FileTag was used to identify that these are basic tags so that we wouldn't run out of letters in the alphabet as we included more complex metadata—thus each group of two letters represents a level in the hierarchy):

```
V1.0
Album|0x01|BLBN
Artist|0x01|BMBN
Genre|0x01|BGBN
Voice Tracks|0x02|BSBGBN
Playlists|0x10|BN
Macros|0x08|BN
All Tracks|0x07|BN
```

FIG. **1** depicts a hypothetical organization hierarchy. The tree shows how tracks might be listed (as leaves in the tree) after having been organized. Example values for nodes in the tree are shown as well. The same track may appear more than once as a leaf in the tree, as described above, if it fits into multiple categories (e.g. a song that appears on the Abbey Road branch would also appear in the Beatles branch). In the example shown, the first branch contains tracks organized by album. As shown in the example, this music collection contains three tracks from "Abbey Road" and three tracks from "Hits from the 60's". The second branch contains tracks organized by artist, and sub organized by where the artist is from. Thus, a user browsing would first select the "Artists" branch and then choose between "British Artists" and "American Artists". Finally, they would select the particular artist. In the third branch, all tracks are shown.

The tree definition file that would specify the hierarchy shown in FIG. **1** is shown in FIG. **2**.

The first line identifies the version of the tree definition file.

The second line defines the "Albums" branch. The first part of the line, "Albums" defines the name of the branch. The second part, "0x01," defines that all musical tracks should be categorized on this branch. The third part, "BLBN," defines that the branch lists first the names of all albums (BL) and then tracks on those albums (BN).

The third line defines the "Artists" branch. The first part of the line "Artists" defines the name of the branch. The second part, "0x01, " defines that all musical tracks should be categorized on this branch. The third part, "BCBMBN," defines that the branch lists first the names of all countries where artists in this collection come from (BC) and under those items, the artists' names (BM), and then tracks by those artists (BN).

FIG. **3** shows what a user's view of this hierarchy might be if he/she were shown a fully expanded view of the 6-song tree. Notice that each song appears three times, once in each branch.

In consumer products the tree define file is not edited directly but through a user interface, one example of which is depicted in FIG. **4**. An example of a user interface for viewing songs by category and editing the tree structure is depicted in FIG. **4**.

An embodiment of the invention is utilized in the Nomad® Jukebox, manufactured by the assignee of the present invention, and described more fully in the copending application, filed on the same date as the present application, entitled "System for Selecting and Playing Songs in a Playback Device with a Limited User Interface," (Attny. Docket No. 17002-020800).

In a preferred embodiment, metadata is associated with each track and includes such information as title, genre, artist name, type, etc. In the preferred embodiment, software stored in a portable player and executed by the onboard processor automatically files each track in the correct category utilizing the associated metadata and the tree define file. The program code can be stored in any computer readable medium including magnetic storage, CD ROM, optical media, or digital data encoded on an electromagnetic signal.

Thus, the user is automatically provided with a powerful and flexible tool for organizing and categorizing the tracks stored on the portable player.

If the tracks are formatted in MP3 format the metadata can be stored in ID3 tags included in the MP3 file. In one embodiment of the invention, the tracks are stored in alternate file format including file data and file attributes. The file data is the music track itself and the file attributes part of the file includes fields of arbitrary size which are used to store metadata characterizing the track stored as the file data. Again this metadata includes information about the track such as title, genre, artist name, type, etc.

There are several advantages to using the alternate file format. Metadata of types not easily included in an ID3 tag can be utilized. Further, the original track format is not changed, so that error correction data such as checksums are valid. Finally, any file format can be used (e.g. WAV, WMA, etc.) because the metadata is stored separately, and thus audio formats that have limited support for metadata can still be stored on the portable player in native format without transcoding. The formatted files are formed by software stored in the portable music player and executed by an on-board processor.

The metadata for each track is utilized to file each track, using the categories defined in the hierarchical structure as described above, without any input from the user.

FIG. **5** is a schematic diagram of the alternative file format including file data in the form of an MP3 track, and metadata fields for holding data indicating the name of the album the track is from, the name of the song, the genre of the song, and the type of track.

A particular embodiment of a file format will now be described. All tracks are created with some set of attributes as shown below:

Definition of TrackInfo Data Field

Field	Offset	Size	Description
Attribute Count	0	2	The number of attribute follow for the track
Attr 1 type	2	2	Binary = 0, ASCII = 1
Attr 1 name len	4	2	Length of attribute name string
Attr1 data len	6	4	Length of attribute data
Attr1 Name	10	N	Attribute name string
Attr 1 Data	10 + N	M	Attribute data
. . .			
. . .			
Attr N type			
Attr 1 name len			
Attr1 data len			
Attr1 Name			
Attr 1 Data			

-continued

Required Attributes		
Attribute Name	Value(s)	Remarks
TITLE	ASCII string	RequiredByJukebox
CODEC	"MP3", "WMA", "WAV"	RequiredByJukebox
TRACK ID	DWORD	Set By Jukebox
ALBUM	ASCII string	Optional
ARTIST	ASCII string	Optional
GENRE	ASCII string	Optional
LENGTH	In seconds	Optional
TRACK SIZE	In bytes	Optional
TRACK NUM	1–n (track within album)	Optional

These attributes can be subsequently changeable via a host application, running on a personal computer connected to the portable music player.

FIG. **6** shows a flow chart of an embodiment the process used to build the hierarchical database of tracks. It starts by iterating through each track, and, for each track, iterating through each branch to find if the track belongs on the branch, and, if so, where. In this case, the term track could refer to any content, e.g. a music track, a spoken word track, or even a video track.

Also, the hierarchical catalog of tracks can be used to form playlists in a structured manner. For example, if a user wants to hear Jazz and Blues the entire sub-categories can be selected to form one playlist.

An alternative hierarchical catalog generation technique will now be described. In this alternative embodiment, at system startup and as tracks are added or changed, the hierarchy is generated as an in-memory tree structure. Each track is added to the tree using the categories ALBUM, ARTIST and GENRE.

The following example shows the algorithm for adding a track. For clarity, only the attributes used by the tree are shown.

TITLE	"Free Falling"
ALBUM	"Full Moon Fever"
ARTIST	"Tom Petty"
GENRE	"Rock"
TRACK NUM	1

The following function is executed to build the in-memory memory tree.

```
Build Tree( )
For each track,
    Add Track To Category(Album, Track)
    Add Track To Category(Artist, Track)
    Add Track To Category(Genre,Track)
End of Build Tree
```

FIG. **7** depicts a tree which could result from implementing Build Tree( ) function. Note that "Stardust" does not have any entries for Album or Artist. The host software running on a computer connected to the portable music player could be utilized to add missing attributes to the "Stardust" track and, optionally, edit the title attribute. The Build Tree( ) function would then reinsert this track in the correct location in the tree.

FIG. **8** is an embodiment of a user interface according to another embodiment of the invention. In this example the root node is labeled "My Configuration" and the Playlist category has been selected and the Playlist subcategory "Meddle" has been selected. Note that the types of Metadata, in this example, Track Name, Artist, Album, Tempo and Dance, are listed across the top of the screen, and the attribute values for each track are listed in a row across the screen. Various control buttons are displayed to the right of configuration window that facilitate quickly invoking selected processing on a selected track.

As noted above, a preferred embodiment of the present invention is incorporated into a product manufactured and distributed by Creative Technology, Ltd. The product is called the "NOMAD Jukebox." The following description describes further details of the display screens and interface controls.

FIG. **9** illustrates the NOMAD Jukebox and its user interface controls.

In FIG. **9**, electronic audio device **100** measures about 5.5" wide by 5.5" tall by 1" thick. Display screen **102** is about 2" wide by 1" tall. Display screen **102** includes different regions such as main region **104** and soft button function description region **106**.

Three soft buttons are located at **108**; including buttons **110**, **112** and **114**. The specific command, or function, that any of the soft buttons perform when depressed is indicated by the label in soft button function description region **106**. Thus, the function of soft button **112** (as shown in FIG. **9**) is "open," the function of soft button **114** is "search" while soft button **110** is currently not assigned a function.

The other eight buttons on device **100** perform essentially the same functions at all times. In other words, they are not subject to function changes according to soft button function description area **106**. These button include Library button **116**, EAX and System button **118**, Skip Backward button **120**, Play button **122**. Stop button **124**, Skip Forward Button **126**, Scroll Up button **128** and Scroll Down button **130**. However, as discussed below, these buttons (or any type of controls used with the device) can include alternate functionality that is invoked in different ways.

The device uses visual cues, or indicators, in the display. When an item is highlighted it indicates that the item is the "current" item, or currenty-selected item, which is susceptible to be operated on by a subsequent user action—such as playback, or expansion of the item. In FIG. **1**, screen **102** shows that the item, "ALBUMS," is highlighted. The highlighted item can be acted upon by using the soft buttons, or another button, as decribed below. The current item can be changed by using Scroll Up button **128** and Scroll Down button **130** to move the highlight up or down, respectively, throughout a list of displayed items.

Icons are used to provide additional visual cues for an item. In FIG. **1**, each of the categories has a category icon to the left of it. The category icon, which may not be distinctly visible in the Figure, illustrates a first box connected by lines to additional boxes below the first box. The icon depicts a hierarchy and illustrates the property of categories, i.e., that categories can contain additional categories, songs or other items.

FIG. **10** illustrates a sequence of display screens describing how to navigate to lower levels.

In FIG. **10**, library category screen **150** shows the display as it appears when the user depresses library button **116** of FIG. **9**. A preferred embodiment of the device uses 4 first-level categories. These are "Albums", "Artists," "Styles" and "Play Lists". Each of these categories can "contain," or be associated with, other categories, songs, or items.

Note that in library category screen **150** ALBUMS is currently highlighted. By depressing soft button **112** of FIG.

9, the "open" command is performed on the highlighted category, as indicated by the labeling of soft button **112** and soft button function description area **152** of FIG. **10**.

Lists screen **154** is displayed as a result of a user opening Album category of library category screen **150**. Lists screen **154** shows items within the Albums category such as commercial albums of multiple songs from a record label, pre-made lists or collections created by a user, or other predefined lists or collections of songs or recordings.

In FIG. **10**, lists screen **154** shows each item as a list of songs. This is shown visually by the icon to the left of each item which depicts a miniature list. Possible soft button commands are "Close", "Open" and "Queue". These commands correspond to soft button **110**, **112** and **114**, respectively. If the user selects the Close command, the display reverts to library category screen **150**. If the user selects the Open command, the display shows tracks screen **156**. Alternatively, the user can select the Queue command to instruct the device to place all the songs from the selected (i.e., highlighted) list into the play list for eventual playback. Yet another option allows the user to press play button **122** of FIG. **9** to cause any currently-selected songs or a list of songs (e.g., an album) to immediately be played.

Returning to FIG. **10**, tracks screen **156** shows that a single song called "JukeBox Demo" is in the list. The list is also called JukeBox Demo as shown in lists screen **154**. Tracks screen **156** shows possible soft commands assigned to buttons, namely "Close", "Details" and "Queue." The Close button performs the same function as before—it returns the user to the previous screen which, in this case, is lists screen **154**. The user can also select the Details command to cause details of the song JukeBox Demo to be displayed in details screen **158** as shown in FIG. **10**. The user can select the Queue command by soft butto **114** to enter the selected song into the play list queue. As before, the user can also depress play button **122** of FIG. **9** to cause immediate playback of the selected song.

Details screen **158** shows information about the selected song including the name of the song, album (or list) name containing the song; the track number, if applicable, and track duration. Note that other information can be included. The user can preview the song, close the Details screen to return to the Tracks screen or queue the song on the play list queue.

The device provides the ability to "preview" audio files even while a current song, or playlist, is being played. When a user chooses to preview an audio file, the audio file is played for about 10 seconds while any currently-played file or playlist is suspended. After previewing is complete, the suspended file or playlist resumes playback. In other embodiment, the preview duration can vary, or be stopped by user selection.

FIG. **11** illustrates associations among items.

In FIG. **11**, song **168** is one of many songs stored in the device. Categories such as albums **160**, artists **162**, play lists **164** and genres **166** each include sub-categories. For example, albums **160** includes the names of various albums. Songs are associated with albums, genres and playlists. Such association can be by using pointers, a data structure including items to be associated, etc. "Association" as used herein, includes a first item associated with a second item; and the second item associated with the first item. In other words, albums can be associated with one or more songs in the database of the device so that an utomated search to find all songs associated with an album is easier. The direction of arrow pointers in FIG. **11** is not intended to limit the manner of associations among items in the present invention.

Similar to albums, the category of artists **162** includes names of artists, or performers, of songs. Each artist name is associated with one or more songs in the database. Playlists **164** includes names of playlists. These are collections of songs that can be defined by the user, the device manufacturer, or others. Each playlist can be associated with one or more songs. Genres **166** includes various styles of music which are associated with one or more songs. Genres **166** includes various styles of music which are associated with one or more songs in the database. Note that items can exist without being associated with a song. Also, items can be associated with other items as where an artist name is associated with the albums containing the songs that the artist has created.

Although not shown in FIG. **11**, items can have additional information, such as properties, details, etc., associated with the item. For example, a song can have information such a play time, artist name, artist album, copyright owner, etc., associated with the song.

FIG. **12** illustrates display screens used to search for a song or other item.

In FIG. **12**, screen **180** is the initial library screen, as discussed above. If the user invokes the Search command (via the appropriate soft button) with Albums selected then screen **182** is displayed. Note that the search function can be applied to any of the categories. The user can depress the Plus or Minus soft buttons to cycle through the alphabet and change the character in the current location as indicated by the cursor. The cursor position is changed by using the scroll up/scroll down buttons **128** and **130**, respectively, of FIG. **9**. As each letter is entered the letters are compared and the nearest match of the stored albums' names is displayed as shown in screen **184**. When the desired match is displayed the user selects the Go! command. Screen **186** shows the result of selecting the Go! command. A list of albums is displayed with the matched album centered and selected. The user can close, open or queue the album as discussed above.

FIG. **13** illustrates details of different items.

In FIG. **13**, screen **200** illustrates details displayed as a result of selecting the "Details" command from soft button **1A** track is selected. Screen **200** shows that details of the track "JukeBox Demo" shows the name of the album that the track resides on, the creator, or copyright owner, of the track, and the playing time of the track.

Screen **202** illustrates details of an item on the active queue list. Items are placed onto the active queue list be selecting the "Queue" command when an album, song, track, or other item is selected, as discussed above. For example, screen **204** shows the active queuelist where the track "JukeBox Demo" is selected. By invoking the "Details" command screen **202** is brought up to show details of the Jukebox Demo track.

As shown in screen **202**, the Detail screen shows what track number the selected track is, which album the track is from; the creator, or copyright owner, of the track, and the title of the track. Additionally, the details for an item on the queue list also show playback settings. These are shown by two-letter abbreviations at the bottom of the screen. The settings are as shown in Table I, below.

TABLE I

EA	Environmental Preset
EQ	Parametric EQ
HS	Headphone Spatialization
TS	Time Scaling

TABLE I-continued

4S	Four Channel Speaker Sound (only if speakers are connected)

These settings have their common meanings, as is known in the art. Note that the setting **4S** is not shown in screen **202** as it is not currently active.

FIG. **14** illustrates the Nomad Jukebox coupled to a host computer system.

In FIG. **14**, device **300** (e.g., the Nomad Jukebox) is coupled to host system **302**. In a preferred embodiment host system **302** is a personal computer, such as an IBM-PC compatible computer. Host sytem **302** includes a user interface having display **304** and user input devices such as keyboard **306** and mouse **308**. In other embodiments the host system need not be a full computer system. Any type of processing system having a user interface is possible. For example, it is possible to couple the device to a laptop computer, game console, web-enabled television, or any consumer electronic device or digital platform, in general. The host user interface need not provide a display and can be much more minimal than the keyboard and mouse shown in FIG. **14**. A preferred embodiment of the invention uses a Universal Synchronous Bus (USB) connection but any type of connection such as IEEE 1394 (FireWire), Ethernet, Serial Port, etc. can be used. A wireless (i.e., optical or radio frequency) connection can be used.

Once device **300** is coupled to host system **302**, a user of host system **302** can launch a bridge interface to allow for the transfer of files between device **300** and host system **302**. In a preferred embodiment, once the bridge interface is launched, the controls of device **300** are inoperable. The user interface of host sytem **302** is used to operate the bridge interface to transfer files.

The invention has now been described with reference to the preferred embodiments. Alternatives and substitutions will now be apparent to persons of skill in the art.

What is claimed is:

1. A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:

selecting a category in the first display screen of the portable media player;

displaying the subcategories belonging to the selected category in a listing presented in the second display screen;

selecting a subcategory in the second display screen;

displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and

accessing at least one track based on a selection made in one of the display screens.

2. The method of selecting a track as recited in claim **1** wherein the accessing at least one track comprises selecting a subcategory in the second display screen and playing a plurality of tracks associated with the selected subcategory.

3. The method of selecting a track as recited in claim **1** wherein the accessing at least one track comprises selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist.

4. The method of selecting a track as recited in claim **1** wherein the accessing at least one track comprises selecting an item in the third display screen and playing at least one track associated with the selected item.

5. The method of selecting a track as recited in claim **1** wherein the accessing at least one track comprises selecting an item in the third display screen and adding at least one track associated with the selected item to a playlist.

6. The method of selecting a track as recited in claim **1** wherein the accessing at least one track comprises one of playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item.

7. The method of selecting a track as recited in claim **1** wherein the accessing at least one track is made after the presentation of the third display screen by reverting back to one of the second and first display screens, the second display screen presented sequentially after the third display screen.

8. The method of selecting a track as recited in claim **1** further comprising selecting one of the items displayed in the third display screen and presenting a listing of items associated with the selected item in a fourth sequentially presented display screen.

9. The method of selecting a track as recited in claim **1** wherein the category genre is selected in the first display screen from available categories that include at least artist, album, and genre; and the subcategories listed in the second display screen comprise a listing of at least one genre type and one of the at least one genre type is selected.

10. The method of selecting a track as recited in claim **9** further comprising displaying in the third display screen at least one album associated with the selected genre type and selecting one of the at least one albums displayed in the third display screen and presenting a listing of tracks associated with the selected album in a fourth sequentially presented display screen.

11. The method of selecting a track as recited in claim **1** wherein the category artist is selected in the first display screen from available categories that include at least artist, album, and genre; the subcategories listed in the second display screen comprise a listing of names of artists and a first artist name is selected; and the items displayed in the third display screen comprises at least one album associated with the first artist name.

12. The method of selecting a track as recited in claim 1 wherein the track is a music track, accessing at least one track comprises accessing a track title in the third display screen, and the track is played in response to the access.

13. The method of selecting a track as recited in claim 1 wherein receipt of the selection in the first display screen results in an automatic transition of the first display screen into the second display screen and receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third display screen.

14. The method of selecting a track as recited in claim **1** wherein the category selected in the first display screen is from a top level of the hierarchy.

15. The method of selecting a track as recited in claim **1** wherein the category selected in the first display screen is a category from a level at least one level below the top level of the hierarchy.

16. The method of selecting a track as recited in claim **1** wherein the plurality of categories comprise a list of artist names, the plurality of subcategories comprise a list of album names and the plurality of items comprise a list of track names.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE
Certificate

Patent No. 6,928,433 B2 Patented: August 9, 2005

On petition requesting issuance of a certificate for correction of inventorship pursuant to 35 U.S.C. 256, it has been found that the above identified patent, through error and without any deceptive intent, improperly sets forth the inventorship.

Accordingly, it is hereby certified that the correct inventorship of this patent is: Ron Goodman, Santa Cruz, CA (US); Howard N. Egan, Capitola, CA (US); and David Bristow, Bainbridge Island, WA (US).

Signed and Sealed this Sixteenth Day of May 2006.

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Supervisory Patent Examiner
Art Unit 2164

Appendix B

US006976229B1

(12) **United States Patent**
Balabanovic et al.

(10) **Patent No.: US 6,976,229 B1**
(45) **Date of Patent: Dec. 13, 2005**

(54) **METHOD AND APPARATUS FOR STORYTELLING WITH DIGITAL PHOTOGRAPHS**

(75) Inventors: **Marko Balabanovic**, London (GB); **Lonny L. Chu**, Palo Alto, CA (US); **Gregory J. Wolff**, Redwood City, CA (US)

(73) Assignee: **Ricoh Co., Ltd.**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/465,982**

(22) Filed: **Dec. 16, 1999**

(51) **Int. Cl.**[7] **G06F 3/00**
(52) **U.S. Cl.** **715/838**; 715/719; 715/737; 715/738; 715/780; 715/723
(58) **Field of Search** 345/835, 730, 345/838, 731, 732, 719, 724, 723, 716, 717; 707/500.1; 716/500.1, 512; 715/719, 737, 715/738, 780, 723, 835, 730, 838, 731, 732, 715/724, 716; 382/305; 358/442

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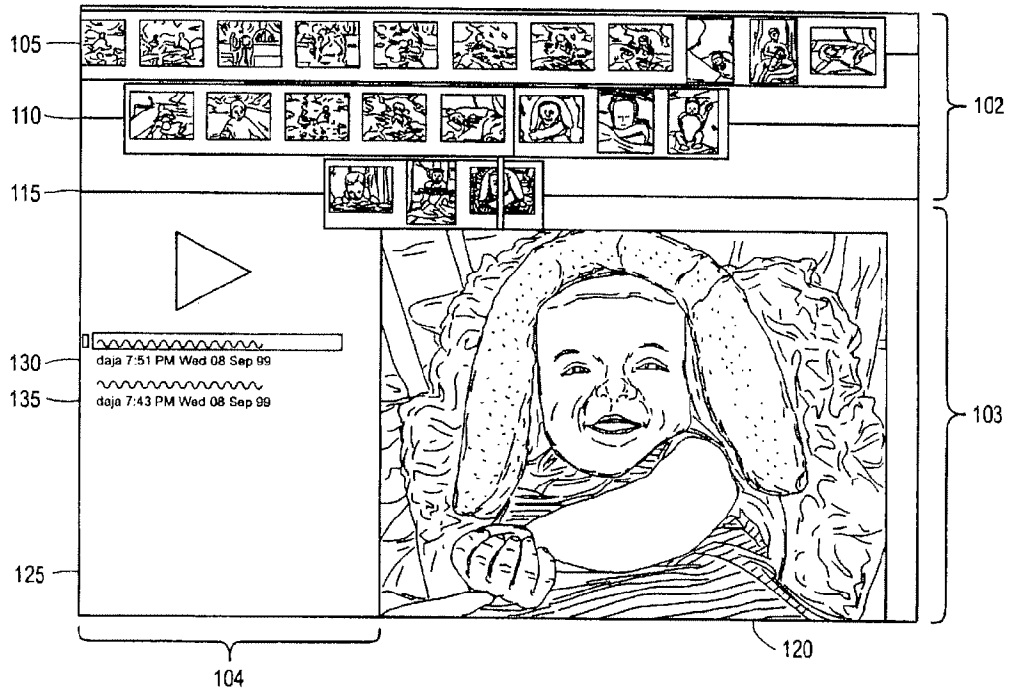
(57) **ABSTRACT**

A display showing an imported story track, an authored story track, and a story-in-progress track. Each story contains one or more objects. The display also shows a large photo corresponding to a selected object in a story. Furthermore, the display also provides visual forms showing audio clips associated with the large photo displayed. The photo may have more than one associated audio clips. Control buttons are available to navigate among the three tracks and among the objects on each track. Other control buttons allow a user to record audio clips and to author new stories.

49 Claims, 7 Drawing Sheets



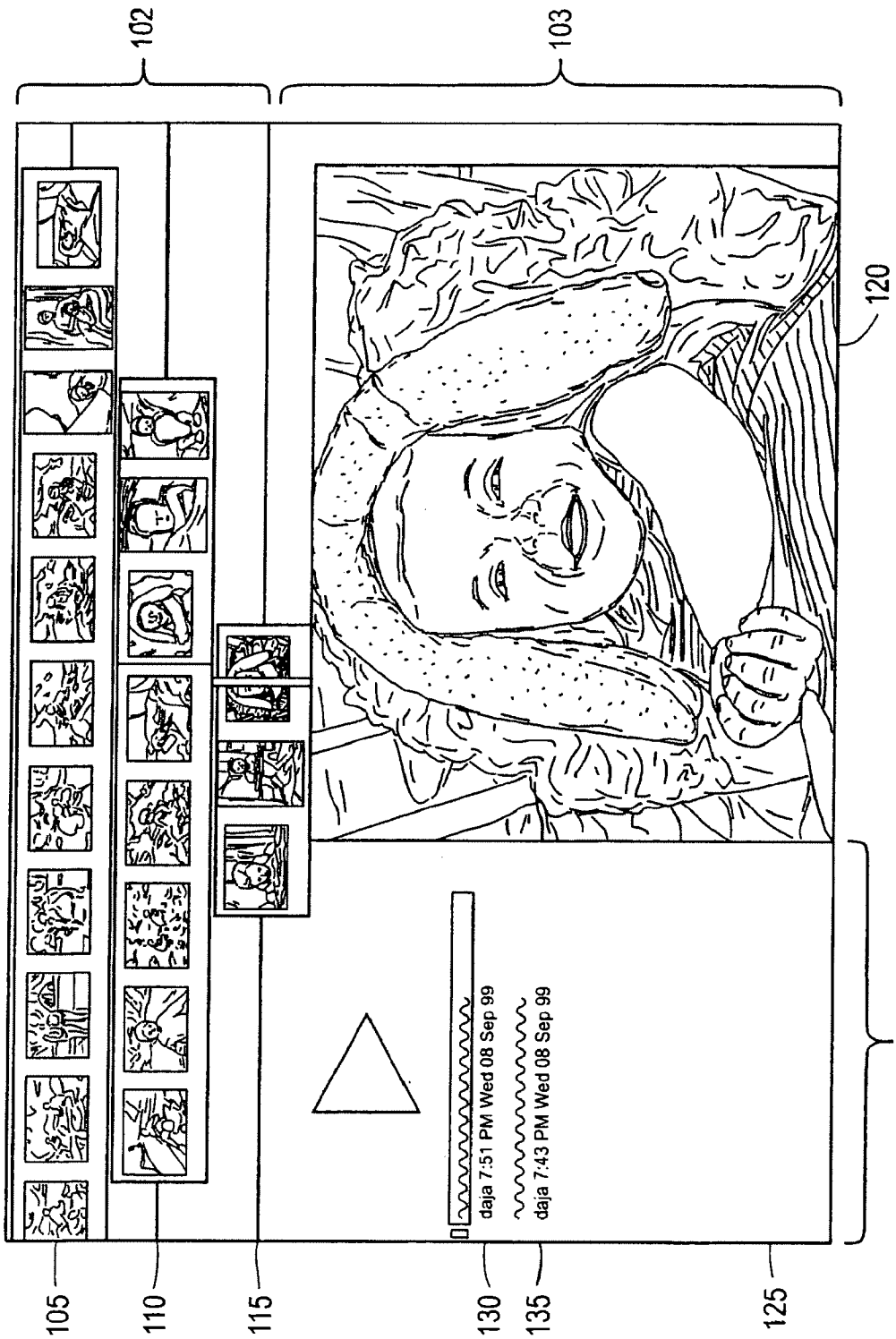

102
103
120
104
daja 7:51 PM Wed 08 Sep 99
daja 7:43 PM Wed 08 Sep 99
105
110
115
130
135
125

FIG. 1

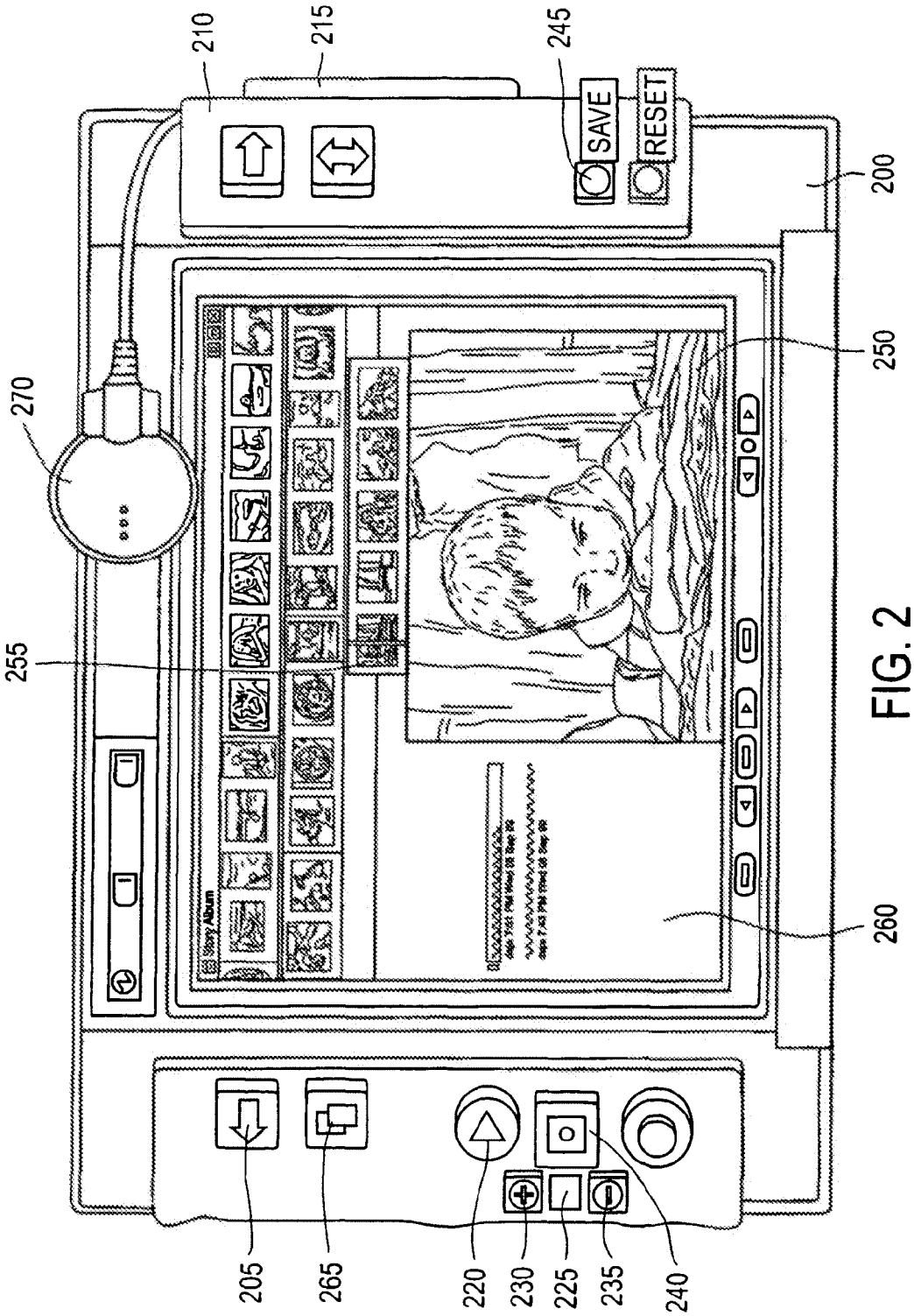

210
215
245
SAVE
RESET
200
250
270
255
260
205
265
220
230
225
235
240

FIG. 2

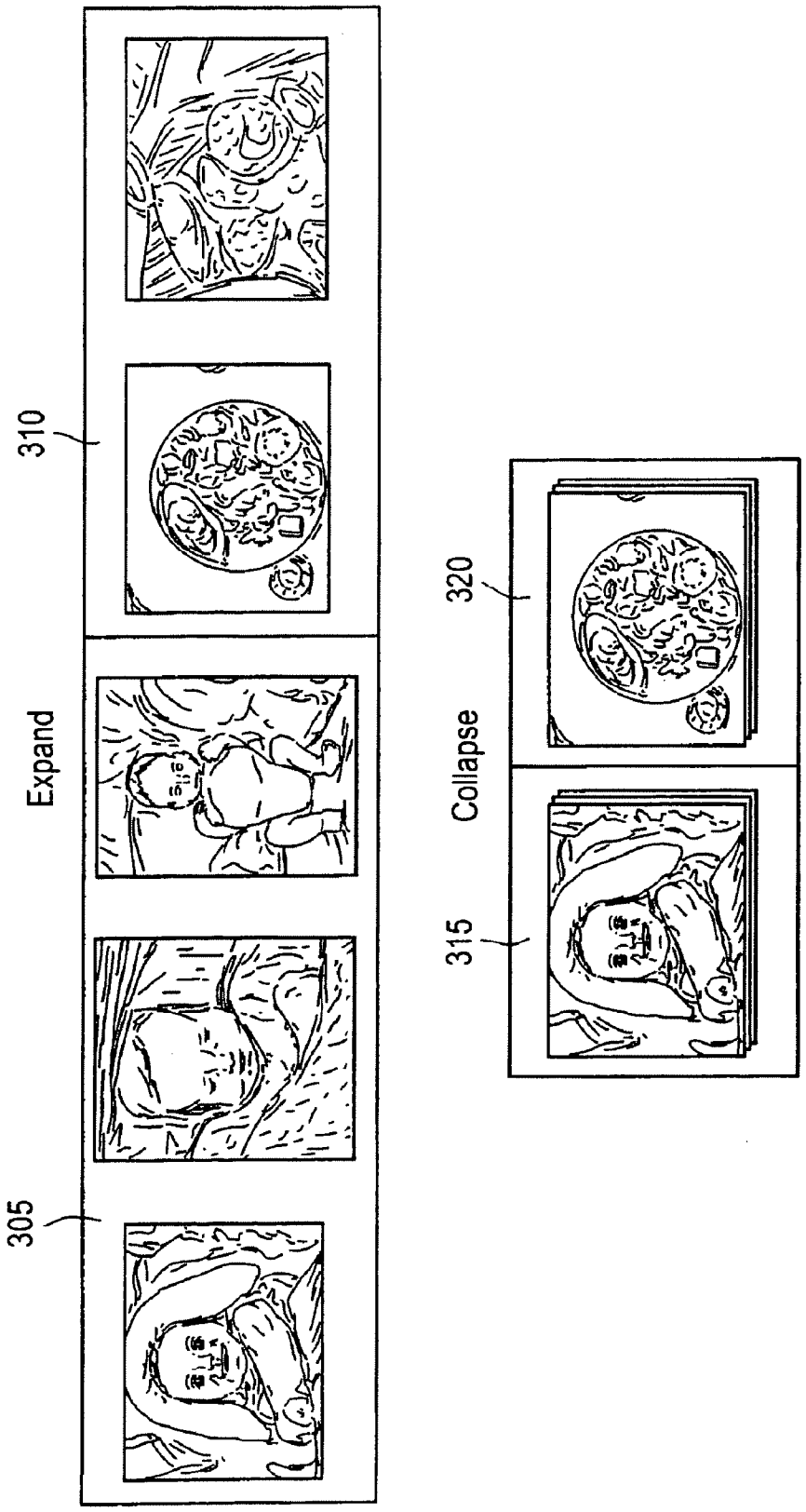


FIG. 3

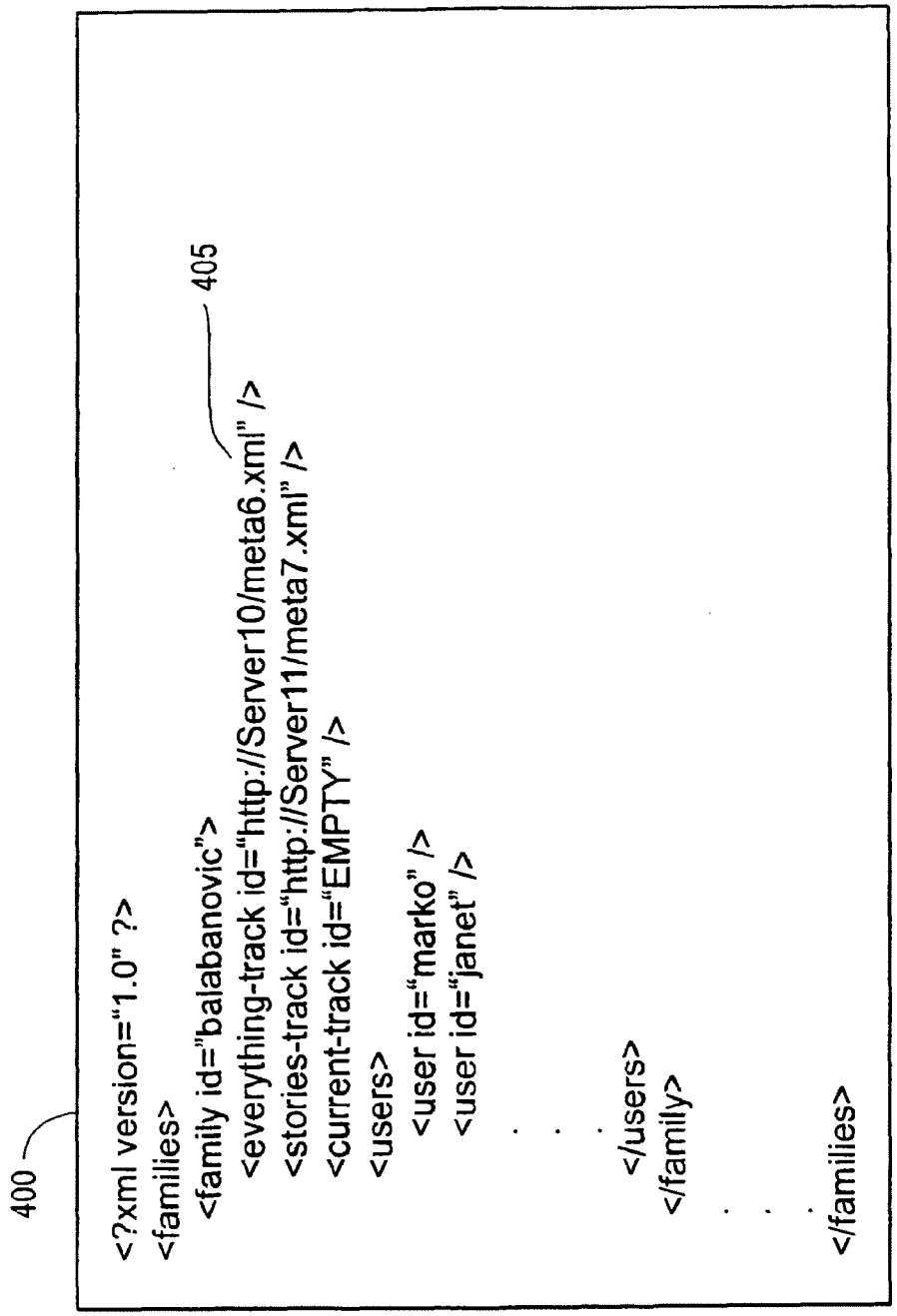

400
405
<?xml version="1.0" ?>
<families>
<family id="balabanovic">
<everything-track id="http://Server10/meta6.xml" />
<stories-track id="http://Server11/meta7.xml" />
<current-track id="EMPTY" />
<users>
<user id="marko" />
<user id="janet" />
. . .
</users>
</family>
. . .
</families>

FIG. 4

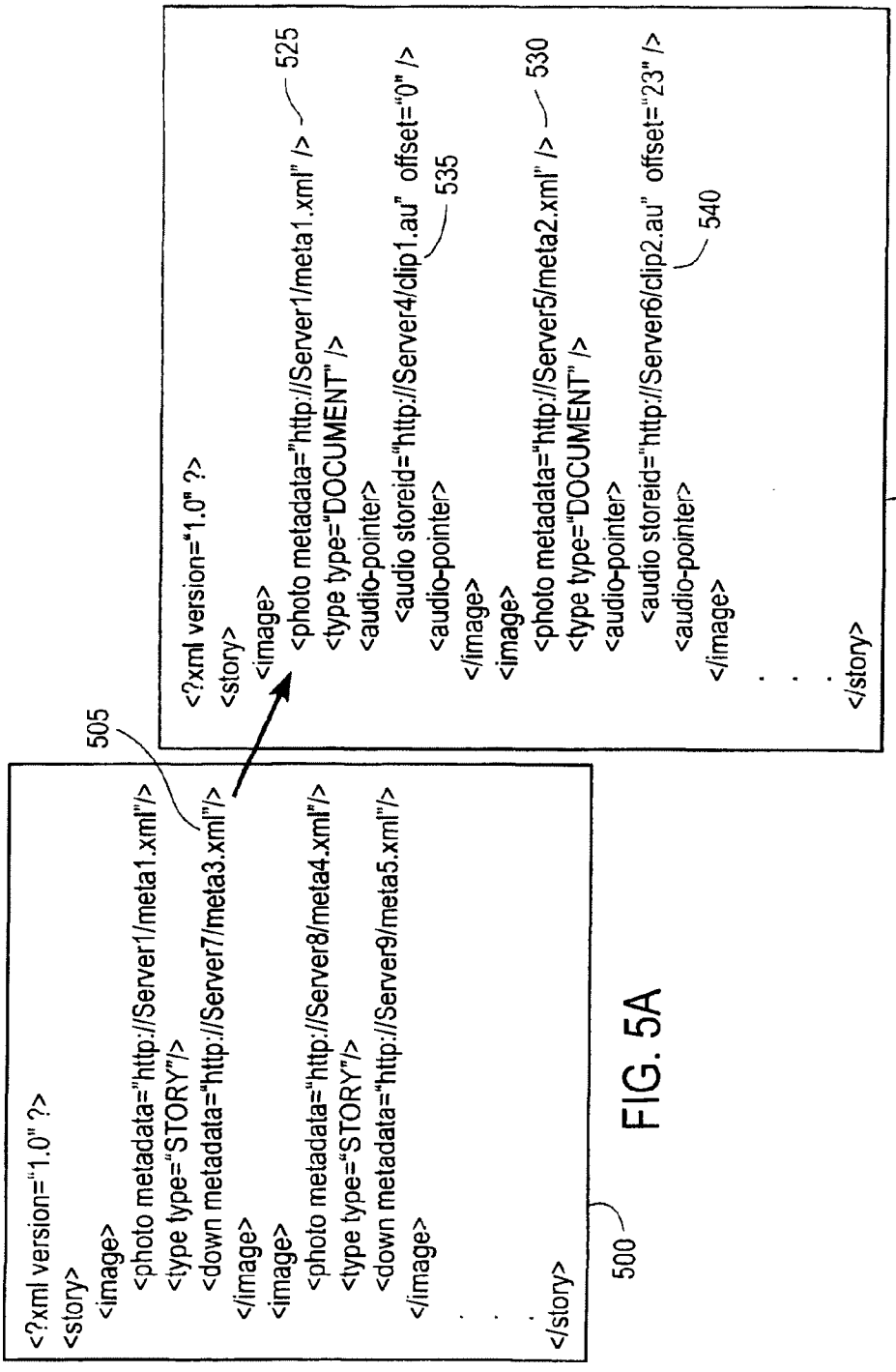

<?xml version="1.0" ?>
<story>
<image>
<photo metadata="http://Server1/meta1.xml"/>
<type type="STORY"/>
<down metadata="http://Server7/meta3.xml"/>
</image>
<image>
<photo metadata="http://Server8/meta4.xml"/>
<type type="STORY"/>
<down metadata="http://Server9/meta5.xml"/>
</image>
. . .
</story>
500
505
<?xml version="1.0" ?>
<story>
<image>
<photo metadata="http://Server1/meta1.xml" />
525
<type type="DOCUMENT" />
<audio-pointer>
<audio storeid="http://Server4/clip1.au" offset="0" />
535
<audio-pointer>
</image>
<image>
<photo metadata="http://Server5/meta2.xml" />
530
<type type="DOCUMENT" />
<audio-pointer>
<audio storeid="http://Server6/clip2.au" offset="23" />
540
<audio-pointer>
</image>
. . .
</story>
520

FIG. 5A

FIG. 5B

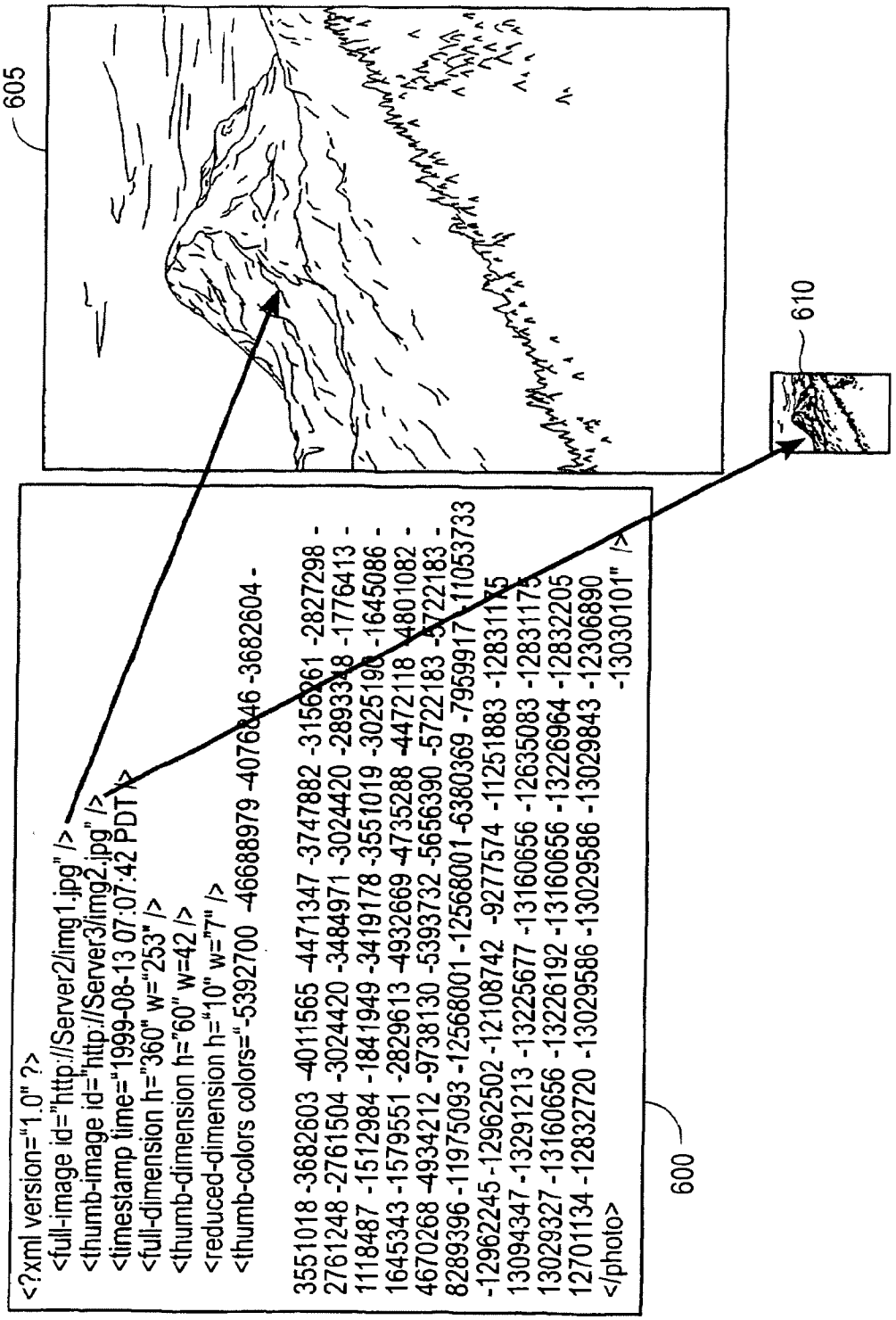

605
610
600
<?xml version="1.0" ?>
<full-image id="http://Server2/img1.jpg" />
<thumb-image id="http://Server3/img2.jpg" />
<timestamp time="1999-08-13 07:07:42 PDT" />
<full-dimension h="360" w="253" />
<thumb-dimension h="60" w=42 />
<reduced-dimension h="10" w="7" />
<thumb-colors colors="-5392700 -46688979 -4076846 -3682604 -
3551018 -3682603 -4011565 -4471347 -3747882 -3156861 -2827298 -
2761248 -2761504 -3024420 -3484971 -3024420 -2893348 -1776413 -
1118487 -1512984 -1841949 -3419178 -3551019 -3025190 -1645086 -
1645343 -1579551 -2829613 -4932669 -4735288 -4472118 -4801082 -
4670268 -4934212 -9738130 -5393732 -5656390 -5722183 -5722183 -
8289396 -11975093 -12568001 -12568001 -6380369 -7959917 -11053733
-12962245 -12962502 -12108742 -9277574 -11251883 -12831175
13094347 -13291213 -13225677 -13160656 -12635083 -12831175
13029327 -13160656 -13226192 -13160656 -13226964 -12832205
12701134 -12832720 -13029586 -13029586 -13029843 -12306890
-13030101" />
</photo>

FIG. 6

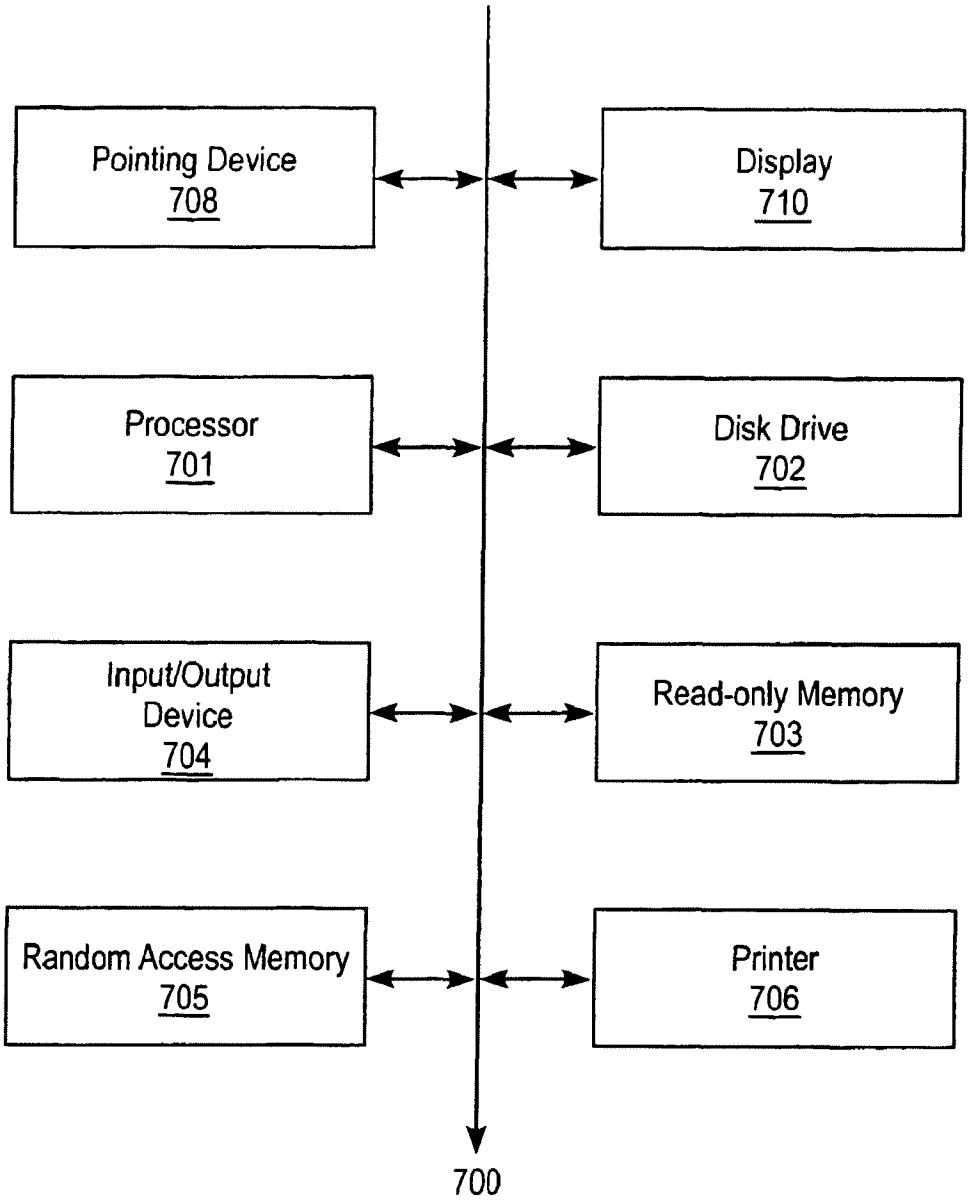

Pointing Device
708
Display
710
Processor
701
Disk Drive
702
Input/Output
Device
704
Read-only Memory
703
Random Access Memory
705
Printer
706
700

FIG. 7

METHOD AND APPARATUS FOR STORYTELLING WITH DIGITAL PHOTOGRAPHS

FIELD OF THE INVENTION

The present invention relates generally to field of image retrieval and organization. More specifically, the present invention is directed to multimedia creation using digital objects (e.g., images).

BACKGROUND

Photographs play a central role in many types of informal storytelling. One of the most common and enjoyable uses for photographs is to share stories about experiences, travels, friends and family. Almost everyone has experience with this form of storytelling, which ranges from the exchange of personal reminiscences to family and cultural histories. The World Wide Web can facilitate the sharing of such stories in digital form and has inspired a movement towards "digital storytelling." Stories in digital form are referred to herein as digital stories. Digital photographs have an advantage over print photographs in that users can search for and retrieve them both by their content (e.g., features such as color and texture) and by their metadata (e.g., user-supplied text annotations). Today, most digital stories are created by people with computer skills using special-purpose software for editing images and authoring Web pages. Furthermore, these digital stories are created on systems relying on graphical interfaces dependent on windows, or tables, and some type of pointing or cursor control device. Such systems are typically not portable and are complex to use. These features make these systems difficult to share. These systems also require significant training and are inadequate for mass consumer use.

SUMMARY OF THE INVENTION

A method and system that combines capabilities for storing, authoring, and viewing various forms of digital media are described. In one embodiment, a visual interface having three areas is provided. The first area displays three tracks of images. One track displays images that are stored on the device. A second track displays images of authored stories. The third track displays one or more images associated with a story currently being authored on the device. Control buttons are available to navigate among the three tracks and among the images on each track.

The second area of the visual interface displays a larger version of an image corresponding to a thumbnail image selected in any of the three tracks in the first area.

The third area of the visual interface displays a representation of one or more audio clips and other information associated with the image being displayed in the second area of the visual interface.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example in the following drawings in which like references indicate similar elements. The following drawings disclose various embodiments of the present invention for purposes of illustration only and are not intended to limit the scope of the invention.

FIG. **1** illustrates an exemplary embodiment of the display screen of one embodiment of a digital story-telling system.

FIG. **2** illustrates an exemplary embodiment of control buttons of the digital story-telling system.

FIG. **3** illustrates an exemplary expand/collapse view of a story.

FIG. **4** illustrates an exemplary XML metadata file that the system reads upon initialization of the system.

FIG. **5A** illustrates an exemplary XML metadata for a story.

FIG. **5B** illustrates another exemplary XML metadata file for a story.

FIG. **6** illustrates an exemplary XML metadata file for a single photograph.

DETAILED DESCRIPTION

A multimedia story creation and playback system is disclosed. The following detailed description sets forth numerous specific details to provide a thorough understanding of the invention. However, those of ordinary skill in the art will appreciate that the invention may be practiced without these specific details. In other instances, well-known methods, procedures, protocols, components, algorithms, and circuits have not been described in detail so as not to obscure the invention.

Some portions of the detailed descriptions that follow are presented in terms of algorithms and symbolic representations of operations on data bits within a computer memory. These algorithmic descriptions and representations are the means used by those skilled in the data processing arts to most effectively convey the substance of their work to others skilled in the art. An algorithm is here, and generally, conceived to be a self-consistent sequence of steps leading to a desired result. The steps are those requiring physical manipulations of physical quantities. Usually, though not necessarily, these quantities take the form of electrical or magnetic signals capable of being stored, transferred, combined, compared, and otherwise manipulated. It has proven convenient at times, principally for reasons of common usage, to refer to these signals as bits, values, elements, symbols, characters, terms, numbers, or the like.

It should be borne in mind, however, that all of these and similar terms are to be associated with the appropriate physical quantities and are merely convenient labels applied to these quantities. Unless specifically stated otherwise as apparent from the following discussion, it is appreciated that throughout the description, discussions utilizing terms such as "processing" or "computing" or "calculating" or "determining" or "displaying" or the like, refer to the action and processes of a computer system, or similar electronic computing device, that manipulates and transforms data represented as physical (electronic) quantities within the computer system's registers and memories into other data similarly represented as physical quantities within the computer system memories or registers or other such information storage, transmission or display devices.

The present invention also relates to apparatus for performing the operations herein. This apparatus may be specially constructed for the required purposes, or it may comprise a general purpose computer selectively activated or reconfigured by a computer program stored in the computer. Such a computer program may be stored in a computer readable storage medium, such as, but is not limited to, any type of disk including floppy disks, optical disks, CD-ROMs, and magnetic-optical disks, read-only memories (ROMs), random access memories (RAMs), EPROMs,

EEPROMs, magnetic or optical cards, or any type of media suitable for storing electronic instructions, and each coupled to a computer system bus.

The algorithms and displays presented herein are not inherently related to any particular computer or other apparatus. Various general-purpose systems may be used with programs in accordance with the teachings herein, or it may prove convenient to construct more specialized apparatus to perform the required method steps. The required structure for a variety of these systems will appear from the description below. In addition, the present invention is not described with reference to any particular programming language. It will be appreciated that a variety of programming languages may be used to implement the teachings of the invention as described herein.

Overview

A multimedia storytelling system that provides a user capabilities to share digital photographs and stories. In one embodiment, the system allows the user to seamlessly switch between browsing, viewing, authoring, and playing back the photographs and/or stories. In one embodiment, a multimedia storytelling system includes three components: a storage component, a display component, and an interaction component. The storage component stores digital media objects which are displayed by the display component. The system provides the interaction component (e.g., control buttons) that allow a user to navigate the digital media objects and create stories, or playlists. For purposes herein, a story, or a "playlist", is an ordered collection of digital media objects, such as, for example, images or video clips, with one or more narration tracks. Imported stories on the top track may be merely a single photograph with or without a narration track. Photographs may be imported in batches, similar to that of a roll of film. Similarly, a collection may comprise the images of multiple pages in a single document. Thus, although these may not be a narration track, the imported collection of photographs or single photograph may represent a story for purposes herein.

In one embodiment, the digital media stored in the system includes photographs, images, audio and video clips. The digital media may include raw objects, such as, for example individual photographs, as well as authored objects that combine multiple forms of media into integrated stories. An example of an authored object is a sequence of photographs with an audio, or narration, clip associated with or accompanying the photographs. In one embodiment, the time of capture for an object is known and is stored along with the object in the system.

New objects may be input into the system automatically without requiring any action from the user. New objects are input into the system using one or more sources, such as, for example, on flash memory cards containing digital photographs, video capture camera, reading digital photographs or video clips from floppy or CD-ROM drives, network (e.g., Web) downloads, etc. In one embodiment, the user inserts a flash memory card into a slot in the system and the photographs from the flash memory card are automatically copied and stored in the system. In another embodiment, the system is able to receive email messages with attached photographs and stories. The photographs and/or stories are then automatically accessible. It would be apparent to one skilled in the art the various ways multimedia objects may be input into the system.

A narration may take a variety of forms, such as, for example, recorded audio, digital ink, or typed notes. In one embodiment, a narration track may apply to a single object or to a number of objects (e.g., a narration track for a sequence of images). There may be multiple narration tracks for a single object. That is, the same digital object (photograph) may have several associated narrations.

The display component of the system provides multiple tracks displaying digital media objects to the user. One track displays digital media objects that are stored in the system. A second track displays digital media objects that have been integrated into authored stories. The third track displays one or more digital media objects associated with a story currently being authored using the system.

The display component of the system also allows the user to navigate through the objects in storage. This may include being able to browse through raw objects (e.g., objects without narrations associated or attached thereto), browse through stories, and play back previously created stories. In one embodiment, playing back a story involves showing the user a slideshow of images along with any accompanying narrations.

The interaction component of the system allows the user to create new stories. In one embodiment, the user may create new stories using one or more of several approaches. For example, a user may author a story by starting with an empty or blank story, selecting objects to add to the story, and adding narrations to individual objects or a range of objects. The selection of objects and the addition of narrations may be performed in any order. A user may author a new story by performing edit or delete operations on an existing story.

In one embodiment, the system has a modeless interface, giving the users an interface of a small number of buttons and no pointing device or touchscreen. In another embodiment, the system may be implemented on a typical desktop computer or on a standalone appliance. The user controls for such a system may utilize standard input devices, such as, for example, a mouse, a keyboard, a touchscreen, a touch pad, or a physical control environment of buttons and/or sliders designed specifically for the interaction described herein.

FIG. **1** illustrates one embodiment of a display screen and interface of a system. Media objects may be loaded onto the system from various sources, such as, for example, digital cameras, digital video capture, microphones, scanners, or may be created on the system itself. These objects are then stored in the system on a storage medium (e.g., random access memory, a hard drive, flash memory).

As illustrated in FIG. **1**, the system provides a visual interface **100** which splits the screen into three general areas. In one embodiment, the first area **102** at the top of the screen, the second, or central, area **103** at the bottom right side of the screen, and the third area **104** at the bottom left side of the screen.

The first area **102** provides a graphical representation for browsing and navigating through media objects (e.g., photographs, etc.). In one embodiment, there are three horizontal tracks of thumbnail images, tracks **105**, **110** and **115**, each of which can be navigated by scrolling.

In one embodiment, the top track **105** shows images of existing photographs ordered by time of creation (or other such features). The time of creation may be indicated by time stamps. These may be grouped into "rolls of film" or other natural clusters. In the case of scanned prints, imported stories may correspond to literal rolls of film. In the case of digital photographs, the photographs may correspond to a set of photographs downloaded from the camera in one session. The top track **105** may also display all or many existing photographs currently stored in the system. That is,

any image stored on the system may be displayed. The photographs displayed in the top track **105** may be stories. For example, one or more of the photographs in the top track **105** may be an imported story.

In one embodiment, the imported stories may be generated automatically as a result of a database query. For example, a database query for "all images stored on a device containing blue" returns images having the "blue" identifier. The resulting images are then imported into the system. Note that there is no requirement that the first track **105** include any stories at all. That is, the first track **105** may contain zero or more stories, each of which having one or more images.

Within an imported story, the photographs are ordered chronologically. Photographs from digital cameras may be ordered according to when they were taken, while images scanned from print photographs are ordered by scanning time. In one embodiment, in order to distinguish separate stories, the system uses alternating background colors with each color corresponding to different story.

The middle, or second, track **110** contains authored stories, each including a sequence of one or more photographs selected by an individual. Each story appears as a sequence of thumbnail images. In one embodiment, the imported and authored stories are ordered according to their time of creation with separate stories being visually distinguished using different colored backgrounds. In another embodiment, stories in a track may be separated by spaces in the display. The size of the spaces may depend on the length of time between the story creation times. For example, in one embodiment, photographs taken on the same day are closer together on the second track **110** than those separated by a day or a weekend. The space may be a function of a time duration, but not necessarily linear. For example, there might be set increments for "day", "weekend", "week" and "more than a week".

The bottom, or third, track **115** represents a story being authored. That is, the bottom track **115** includes a working set of thumbnail images that have been selected and manipulated by the user. The set of images may only appear in the bottom track **115** for the current session with the system. If the user wishes to further author a story after a session has ended, the user selects the authored story for inclusion into the bottom track **115**.

In one embodiment, a thumbnail image appears in the bottom track **115** if it has been added to the working set by pressing one or more control buttons (e.g., either of the + (add) or record buttons, as detailed below). At any time, the story being authored has a pending status. When the story is completed and saved by the user, it joins the set of authored stories in the middle track **110**. In one embodiment, the middle track **110** and the bottom track **115** need not be visually distinguished, nor for that matter, any of the tracks.

The display of the three tracks **105**, **110**, and **115** enables an essentially modeless interface where a user can simultaneously view authored stories, view/navigate through photographs and view/create new stories. The display also provides helpful context for viewing the current image. For example, when the user selects a thumbnail and views an image from one story, adds it to the current story, then adds annotation, the context of that image with the surrounding thumbnails in both the original and current story remains visible and helpful for annotation.

In one embodiment, each thumbnail image appears exactly once in the top track **105**. It may appear in any number of stories in the middle track **110** and appears in the bottom track **115** only if it has been explicitly added to or annotated as part of the story currently being authored.

In a typical interaction, the user comes across a thumbnail image and adds it to the working set (bottom track **115**). The users may also record a related voice narration to accompany the selected thumbnail image. At the end of the session, all the thumbnail images in the bottom track **115** are grouped into a single story, and the story is then appended or added to the middle track **110**.

The central area **103** of the screen display shows a large image **120**. The large image **120** corresponds to a thumbnail image of a story or photograph currently being selected in the tracks in the first area **102**. This allows the user to view photographs at a size that is comfortable and enjoyable (as opposed to the smaller thumbnail versions in tracks **105**, **110** and **115**). In another embodiment, other objects may require other display characteristics.

The third area **104** of the screen display shows the available audio narrations of the photograph currently displayed in the central area **103**. In another embodiment, other information, such as, for example, creation date may also be displayed in the third area **104**. As shown in FIG. **1**, there are two narrations **130** and **135** available for the photograph **120** in the central area **103** indicated by the depiction of the wave signal. In one embodiment, each narration has a visual display corresponding to the length of time of the narration (e.g., the longer the signal wave the longer the narration), together with related recording information, such as, for example, time and date recorded, and the name of recording user.

FIG. **2** illustrates an exemplary embodiment of the control buttons and the display of a system for creating and/or viewing multimedia stories. In one embodiment, the control buttons are integrated into and positioned at the sides of the body of the system to enable the user manipulate the controls while holding the system in two hands. This further removes the need for a keyboard, mouse, or other device that forces the user to let go of the system.

As illustrated in FIG. **2**, the control buttons in this embodiment include navigation buttons such as a scroll left button **205** to scroll the images in a selected track to the left, a scroll right button **210** to scroll the images in a selected track to the right, and a track selection button **215** to select the track to scroll. In one embodiment, a jog shuttle is used to control scrolling.

In one embodiment, a colored (e.g., yellow) vertical line **255** indicates the selected track and the selected thumbnail image of this track. The vertical line **255** is shown in the first thumbnail image of the bottom track. The selected thumbnail image corresponds to the large image displayed in the central area **250**. The track selection button **215** moves the vertical line **255** between the three different tracks.

When either of the scroll buttons **205** or **210** is pressed, the new selected thumbnail image on the current track either to the left or to the right side of the previously selected thumbnail image is selected and displayed in the central area **250**. As a different thumbnail image moves under the vertical line **255**, the corresponding image is displayed in the central area **250**. Note that any type of indicator or indication may be used on the screen to select an image. It should also be noted that while in one embodiment, the scroll button **205** or **210** causes the images in the track with the vertical line **255** to move to the left or right while leaving the vertical line **255** in place, the system could keep the images in place while moving the vertical line **255** to select an image. In one embodiment, the navigation between the images may be controlled by an external joystick communicating with the system through a joy stick interface.

In one embodiment, the user may quickly traverse the thumbnail images on a track by using variable-speed scrolling. At standard speed, the display appears as shown in FIG. **2**. In one embodiment, standard speed refers to pressing one time on the left scroll button **205** or the right scroll button **210**. This moves the track by exactly one thumbnail image. Faster scrolling speeds may be enabled by rendering low resolution versions of the thumbnail images that are quickly accessible from a separate index in the system and by not rendering the image in the central area **250** or the narrations in the audio area **260**. In one embodiment, such images may be cached in memory to increase access speed. To increase scrolling speed, the user may need to hold down a scroll buttons **205** or **210** for a longer period of time. When this occurs, the images appear to be scrolling faster by the vertical line indicator **255**.

In one embodiment, an expand/collapse button **265** controls the view or the number of photographs displayed for each story on one of the three tracks. In the expanded view, every thumbnail image in a story is shown. In one embodiment, the expanded view is the default view. In the collapsed view, each story is represented by a predetermined number of thumbnail images (e.g., one thumbnail image). In one embodiment, a first thumbnail image of the story is used to represent the story. The collapsed view allows for faster navigation. FIG. **3** illustrates an exemplary expand/collapse view of a story. Referring to FIG. **3**, the two stories **305** and **310**, with thumbnail images belonging to one story having the same colored background, are shown in expanded form. The same two stories are illustrated in collapsed form in thumbnails **315** and **320**, with the first thumbnail image of each story **305** and **310** being used as the thumbnail image in the corresponding collapsed form.

Referring back to FIG. **2**, the cluster of buttons at the bottom left of the system **200** provides the user with additional controls for authoring, browsing and playing back of stories. A play button **220** is used to enter a play mode to allow an individual to view existing stories. During the play mode, the system starts playback from the currently selected thumbnail image. In one embodiment, although not necessary, each thumbnail image has an audio clip associated with it as part of a story in which it resides. Furthermore, each thumbnail image may be part of more than one story, and thus may have more than one audio clip associated with it, one audio clip for each story. However, an audio clip may or may not contain any recorded narration. If a narration exists, it is played through a built-in loudspeaker in the system (not shown). If there is no recorded narration, there will be a pause of a certain length of time, for example one second. After the narration is played or after the pause (due to not having the narration), the selected track automatically scrolls forward to a next thumbnail image in the story. In one embodiment, the next thumbnail image is determined based on a default viewing and storytelling direction of left-to-right. If the user navigates to a new thumbnail image while the system is playing, for example scrolling left or right, changing to a different track, playback of the currently playing audio clip is stopped. If the user takes no further action for a brief length of time (e.g., one second), the system plays the audio clip associated with the newly selected thumbnail image and continues with that story from that point on.

As discussed above, the selected thumbnail image may have more than one associated audio clip and corresponding narrations. Whenever a thumbnail image is selected, all of the audio narrations associated with that thumbnail image are displayed in the audio area **260**. In one embodiment, if the selected thumbnail image has more than one associated audio clip, and when the system is playing an audio clip, pressing the play button **220** causes the system to advance to a next audio clip.

Referring to FIG. **1**, there are two available narrations for the selected thumbnail image, narration **120** and narration **125**. Each narration is marked with the time of recording and the name of the recording user. The length of the wavy lines is proportional to the duration of the audio. The narration associated with the selected story is listed first, as in narration **120**. Referring to FIG. **2**, the narration associated with the selected story is played by default when the play button **220** is pressed. Pressing the play button **220** multiple times in quick succession selects one of the alternate audio clips and playback "jumps" to the corresponding story, providing a method of automatic hyperlinking between stories.

The system remains in the play mode until the stop button **225** is pressed or until the end of story is reached. When this occurs, the system enters into stop mode. While in the stop mode, no audio clip is played by the system.

In one embodiment, while the system is in the play mode, the remove (–) button **235** has no effect on the play mode of the system. However, pressing the add (+) button **230** adds the currently displayed image to the working set. Thus, the system appends the currently displayed image to the working set, but it does not stop the play mode. Furthermore, if the user presses the save button **245** while the system is in the play mode, the system stops playing the audio clip and performs a save operation. Furthermore, if the user presses the record button **240** while the system is in the play mode, the audio clip is stopped.

In one embodiment, while in the authoring mode (not the play mode) a story may be created by pressing the + (add) button **230** when the vertical line **255** is positioned over a particular thumbnail image to append a copy of that currently selected thumbnail image onto the working set or the bottom track **115**. The – (remove) button **235**, conversely, removes the selected thumbnail image (i.e., the image over which the vertical line **255** is positioned) from the working set on the bottom track **115**.

While in authoring mode, pressing the record button **240** starts the recording function. While the recording function is active, the audio recorded by the microphone is stored and associated with the currently displayed thumbnail image in the working track. In one embodiment, this is done by making a link in the underlying XML file. If the thumbnail image is not already in the working set, it is appended before the recording begins, as though the + button **230** was pushed first. If the selected thumbnail image is already on the working track, the new recording overwrites any previous recording associated with the thumbnail image in the story being authored. While recording, if the user selects a new thumbnail image, such as, for example by scrolling left or right, by changing to a different track, or by pressing the expand/collapse button, the recording continues for the audio clip associated with the new thumbnail image. In addition, the new thumbnail image is appended to the working track, if it is viewed for more than a short time, (e.g. 1 second). However, if the user scrolls left or backward, but still remains on the working track, recording is automatically stopped. This prevents accidental erasures. In other embodiments, the new thumbnail image is inserted at a point before or after the thumbnail image last selected on the working track (e.g., the center image of track **3**). In this situation, recording continues starting with the audio clip associated with the new inserted thumbnail image. Furthermore, pressing the play button **220** also stops the recording

mode and put the system in the play mode. This makes recording a story as similar to viewing a story as possible.

In another embodiment, the system may include a touch-screen or a pointing device (e.g., cursor control device). In this case, while in the recording mode, the user's pointing gestures would be captured. During playback, areas that had been pointed to are highlighted at appropriate times. One way to perform highlighting is to darken the rest of the image. Alternatively, a semi-transparent overlay can be used (e.g., a yellow circle).

When the system is in the stop mode, the user may drag thumbnail images from one track to another, or the user may drag thumbnail images to different points within a story. Alternatively, a dragging operation can be used in place of scroll left/right to move all or multiple images in a track at the same time.

Pointing to a particular thumbnail selects the thumbnail image, selects the track the thumbnail image is on, and displays the corresponding large image in the central area **250**. In another embodiment, touching the screen may highlight an image in a track but not select it.

In one embodiment, the recording operation supports both "select then narrate" and "select while narrating" strategies. In "select then narrate" strategy, the users may compose a story by first selecting a working set of thumbnail images using the + button **230** or the − button **235** and then annotating each thumbnail images in order. Alternatively, in the "select while narrating" strategy, the users may continuously record narrations while navigating and selecting photos. When recording is active, each new photograph that a user views for longer than a short time interval is automatically added to the working set along with any recorded input. This supports the "select while narrating" strategy. For sound recording, in one embodiment, a microphone **270** is attached to or integrated into the external body of the system. In another embodiment, the device is equipped with a speech recognition software to translate audio narration into text.

The group of buttons at the bottom right of FIG. **2** controls story operations. The save button **245** "saves" the current working story that is displayed on the bottom track by moving it to the end of the middle track. Note that the current state of the system is also saved to the system storage device at that time. The XML files (or equivalent representations) along with audio clips may be stored in memory (e.g., RAM) and written out to a hard disk when saved. (They may also be written out at other times.) In another embodiment, the user would also have the option of electronically sending a completed story to another user for viewing on a similar system or on a regular PC via a media player application or standard Web browser. In another embodiment, a "print" button allows the user to print a selected image on a locally connected, via wire or wireless technology, printer or a remote device.

In one embodiment, the system has an attached image creation/capturing device (e.g., a video camera). The video camera can point inward at the holder of the system or it can point outward. A take-picture button on the system allows the user to take a still image from the camera, time-stamp, and add the image to the top track. In another embodiment, an image of the narrator is automatically grabbed by the camera at the beginning of every recording session, or at pre-set intervals, or every time the video input changes by more than some predetermined threshold. Using the video camera, the images captured by the video camera may be added to the first track **105** and available for inclusion in authored stories like all other objects in the system.

In one embodiment, stories and metadata about photographs are stored on the storage device in Extensible Markup Language (XML). FIG. **4** illustrates an exemplary XML metadata file that the system reads during initialization. The initializing metadata file **400** is stored in a predetermined known location on the storage device. In one embodiment, the initializing metadata file is named "families.xml" and the location of the file is determined using a local Uniform Resource Locator (URL) corresponding to the file on the storage device of the system. For each possible group (e.g., family) using the system, the initializing metadata file contains pointers to the stories corresponding to the three tracks. For example, the metadata file of FIG. **4** points to a story file **405** "meta6.xml". In one embodiment, the initializing metadata file also maintains further administrative functions, such as, for example, user ids and passwords to prevent unauthorized viewing of personal stories. In one embodiment, the initialization file contains user specific information. In another embodiment, the system assumes a single user.

FIG. **5A** illustrates an exemplary XML metadata for a story. The XML metadata file for story **500** points to two other stories, "meta3.xml" **505** and "meta5.xml" **510**. Note that each metadata file has an associated "type" attribute having a value of either "story" or "document" indicates single object. FIG. **5B** illustrates another exemplary XML metadata file for a story. Metadata file **520** represents the story "meta3.xml" **505** pointed to by the metadata file **500**. Metadata file **520** has a list of photographs shown as "meta1.xml" **525** and "meta2.xml" **530**. Note that the photograph references are in the form of the URL of the corresponding metadata XML file. Each photograph may also have an associated audio clip shown as "clip1.au" **535** and "clip2.au" **540**. In one embodiment, the offset attribute of the audio tags associated with audio clip **535** or audio clip **540** specifies a starting location of the referenced audio narration (such as when, for example, one audio file contains more than one user-supplied audio narration) within the audio file and is measured in milliseconds.

FIG. **6** illustrates an exemplary XML metadata file for a single photograph. Metafile **600** represents the image "meta1.xml" pointed to by the metafile illustrated in FIG. **5B**. Metafile **600** includes URLs that point to two image files, a full size image **605** that may be used in area **103** of the display and a thumbnail image **610** that may be used in the tracks **105**, **110**, and **115**. In addition, the metafile **600** includes color data for a reduced representation. The reduced representation of the image may be rendered either as a thumbnail image or as a full size.

In one embodiment, using XML allows for easy translation to other formats such as Hypertext Markup Language (HTML) or Synchronized Multimedia Integration Language (SMIL). This enables stories to be shared with others and viewed on different devices. The SMIL format is especially appropriate as it allows the synchronization of audio with a series of images to match the structure of the stories. Using any of these formats, a story including the associated photos and audio clips can be saved in a file. The file may then be uploaded to a web server and assigned a unique URL. The URL may then be sent on the web to specified recipient or list of recipients by email using the standard email protocols, for example SMTP. In one embodiment, to send the electronic mail (email), the system provides a network interface, for example Ethernet, modem, or wireless. Alternatively, the file may be sent to the recipient(s) as an email attachment using a standard attachment encoding technique, for example Multipurpose Internet Mail Extensions (MIME).

In one embodiment, the email address of the recipients may be specified using the scroll left/right and the add (+)/remove (−) buttons. These buttons are used to navigate among letters and punctuation symbols displayed on the top track **105**. An email address may be constructed on the bottom track **115**. The middle track may be used to display previously saved email addresses. Email addresses of people who send stories to the users may automatically be added to the second track. Furthermore, the system may accept input email addresses through a "contact" file or vCard file (a Personal Data Interchange (PDI) technology developed by the Versit Consortium) beamed by IR from a PDA (e.g., a Palm Pilot). To generate a new email address, the user may use a stylus to type on an on-screen keyboard. Using the stylus, handwriting recognition software, for example Graffiti by Palm Computing, may be used to recognize the user's handwriting. Alternatively, the user may use an external keyboard plugged into a keyboard interface provided by the system. Besides sending stories to email recipients, the system may also automatically check for new stories, for example, in the form of email messages or a predetermined web page listing new stories sent to the device/owner, at set intervals or at set times of day. The system may also automatically download any new stories or messages.

In one embodiment, the system includes a cradle or docking station that includes power and network interface. In one embodiment, all communication (sending/receiving messages) is queued for execution when the system is docked. The communication then occurs automatically when docked. In one embodiment, while the system is in the cradle or otherwise unused for a set period of time, an auto play screen saver feature is activated causing the screen to cycle through all the stories in the system.

In one embodiment, the system may create a movie file using the images and the associated audio clips in synchronization with each other, just as they are shown on the system when the user presses the play button. The movie file may then be stored in a standard format, such as, for example MPEG, AVI, or QuickTime, and may then be sent to the recipient(s) as an email attachment. In another embodiment, the author of a story may choose to send his or her own photograph to be associated with a story when the story is sent to a recipient. A link to this photograph is included and associated with the email. When the recipient views the email, the photograph of the author is displayed in an image slot. Alternatively, the photograph associated with the author might also be displayed as the first photograph in a story, or somehow combined with the first photograph especially for the collapsed view.

As discussed above, the system may accept as input media objects from various sources. In one embodiment, other media objects, for example video clips, presentation slides, pages of documents, web pages, and audio clips may also be loaded onto the system. With the video clips as input, an incoming video stream can be captured through a standard analog video capture board, or via a "firewire" (IEEE 1394) interface, or by direct connection to an already-digitized video file, for example a MPEG file, or a QuickTime file. The stream can then be segmented into clips using standard scene-change detection algorithms. Each clip can then be treated as a photograph. Furthermore, each clip may already have an associated audio segment from the original video source. In this embodiment, pressing the play button enables the system to play both the audio segment and the video clip synchronized with each other. The system then moves on to a next clip of the story. A first frame of the video clip may be used as a thumbnail image representing the video clip.

With presentation slides as input, the system creates an image for each presentation slide. The presentation slides may have been generated by presentation software (e.g., Powerpoint) or other document or graphics editing tools. The story is then viewed on the system as a sequence of slides, similar to a presentation. With the pages of document as input, a story in the top track corresponds to the pages of an original document, in order. A story in the middle track is a collection of reorganized pages with added audio commentary, for example a summary. Documents can easily be imported from existing formats, both page-based, for example Postscript, or PDF, and linear, for example HTML, or plain text. In the latter case a pagination operation would be required.

With Web pages as input, the top track **115** may contain a user's chronological browsing history. This may be captured by monitoring a Web browser or by acting as a proxy server intercepting and serving all of a user's HTTP requests. Each story corresponds to a length of time (e.g., one day or one browsing session, etc.). The second track allows the user to compose and sequence groups of Web pages for easy access and later retrieval. In the second track, a story might correspond to a bookmark folder, a series of pages found in the course of one search, or any other structure as is useful to the user.

With the audio clips as input, the top track may represent "albums" or audio CDs that the user has scanned into the system via a CD-ROM drive, or downloaded from the Web directly as a series of audio files, for example MP3 files from MP3.com, Windows Media Audio files from Microsoft, Liquid Audio files from LiquidAudio.com, RealJukebox files from Real Networks, etc. Each "album" is an ordered set of "songs". The second track represents the user's "playlists" (e.g., the user's own sequences of songs to be played). In this case, there is a default visual representation for each song, or the user chooses relevant icons, or a Web service provides icons to match artist names, song titles or album titles.

FIG. **7** illustrates an embodiment of an exemplary computer system that comprises the storage, display and interaction components of the digital story creation and play back system. The various components shown in FIG. **7** are provided by way of example. Certain components of the computer in FIG. **7** can be deleted from the system for a particular implementation of the invention. In other systems, additional components may be added without affecting the scope of the present invention. In other systems, additional components may be added without affecting the scope of the present invention.

FIG. **7** illustrates a system bus **700** to which various components are coupled. A processor **701** performs processing tasks required by the computer. Processor **701** may be any type of processing device capable of implementing the steps necessary to perform the storage, displaying, and interaction capabilities described herein. An input/output (I/O) device **704** is coupled to bus **700** for communicating with other devices coupled to the computer. A read-only memory (ROM) **703** and a random access memory (RAM) **705** are coupled to bus **700** to provide storage for various data and information used by the computer. Although ROM **703** and RAM **705** are shown coupled to bus **700**, in alternate embodiments, ROM **703** and RAM **705** are coupled directly to processor **701** or coupled to a dedicated memory bus (not shown).

A video display **710** is coupled to bus **700** and displays various information and data to the user of the computer. A disk drive **702** is coupled to bus **700** to provide long-term

mass storage of information. In one embodiment, a pointing device **708** is coupled to bus **700** for entering information and commands to the computer system. In another embodiment two displays may be used, one low resolution display for the 3 tracks and a high-resolution display for the main viewing area. The main viewing area may not be needed for audio and other media.

From the above description and drawings, it will be understood by those of ordinary skill in the art that the particular embodiments shown and described are for purposes of illustration only and are not intended to limit the scope of the invention. Those of ordinary skill in the art will recognize that the invention may be embodied in other specific forms without departing from its spirit or essential characteristics. References to details of particular embodiments are not intended to limit the scope of the claims.

What is claimed is:

1. A system comprising:

means for displaying a first list of reduced visual representations in a first track of a first display area, the first list of reduced visual representations including a plurality of media objects ordered automatically in chronological order and grouped by media objects relating to one another;

means for recording an audio narration to be associated with at least one of the reduced visual representations, the recorded audio narration being displayed within a second display area different from the first display area;

means for displaying within the second display area an icon representing the recorded audio narration comprising a non-numeric, visual representation corresponding to a length of the audio narration;

means for displaying in a second track different from the first track within the first display area a second list of reduced visual representations of the plurality of media objects selected from the first list of reduced visual representation displayed in the first track of the first display area, the second list including one or more authored stories and each story having an audio narration associated with at least one of the reduced visual representations; and

means for displaying in a third track different from the first and second tracks within the first display area a third list of reduced visual representations selected from the first track, the third list of reduced visual representations representing a story being authored including associating one or more audio narrations with one or more reduced visual representations displayed within the third track.

2. The system of claim **1** wherein the first list comprises imported stories, and the second list comprises authored stories.

3. The system of claim **1** wherein the display means displays imported stories, the authored stories, and/or a representation for each associated audio clip or a selected object in the imported stories or the authored stories.

4. The system of claim **3** further comprising means for displaying in a third display area different from the first and second display areas one of the reduced visual representations of the third track of the first display area, wherein the displayed visual representation is displayed in the third display area having a resolution larger than the corresponding reduced visual representation displayed in the third track of the first display area, and wherein the displayed visual representation in the third display area indicates a current visual representation being authored using at least one of the audio narrations displayed in the second display area.

5. The system of claim **1** further comprising:

means for moving the authored story from the second track to the third track such that a user can edit the authored story; and

means for moving the authored story from the third track back to the second track once the user completes authoring.

6. The system of claim **1** wherein means for displaying a first list of reduced visual representations of a plurality of media objects comprises means for displaying a series of audio files.

7. The system defined in claim **6** wherein the audio files are from a group comprising MP3 files, Liquid Audio files, and RealJukebox files, WAV files, or other compressed or uncompressed audio file formats.

8. The system of claim **1** wherein means for displaying a first list of reduced visual representations of a plurality of media objects comprises means for displaying a plurality of video clips.

9. The system defined in claim **8** wherein the video clips are from a group comprising MPEG files, QuickTime files, AVI files, and RealVideo files.

10. A method comprising:

displaying a first list of reduced visual representations in a first track of a first display area, the first list of reduced visual representations including a plurality of media objects ordered automatically in chronological order and grouped by media objects relating to one another;

recording an audio narration to be associated with at least one of the reduced visual representations, the recorded audio narration being displayed within a second display area different from the first display area;

displaying within the second display area an icon representing the recorded audio narration comprising a non-numeric, visual representation corresponding to a length of the audio narration;

displaying in a second track different from the first track within the first display area a second list of reduced visual representations of the plurality of media objects selected from the first list of reduced visual representation displayed in the first track of the first display area, the second list including one or more authored stories and each story having the audio narration associated with at least one of the reduced visual representations; and

displaying in a third track different from the first and second tracks within the first display area a third list of reduced visual representations selected from the first track, the third list of reduced visual representations representing a story being authored including associating one or more audio narrations with one or more reduced visual representations displayed within the third track.

11. The method of claim **10** wherein the first list comprises imported stories, and the second list comprises authored stories.

12. The method of claim **10** wherein displaying the plurality of media objects comprises displaying imported stories, the authored stories, and/or a representation for each associated audio clip for a selected object in the imported stories or the authored stories.

13. The method of claim **12** further comprising displaying in a third display area different from the first and second display areas one of the reduced visual representations of the third track of the first display area, wherein the displayed visual representation is displayed in the third display area

having a resolution larger than the corresponding reduced visual representation displayed in the third track of the first display area, and wherein the displayed visual representation in the third display area indicates a current visual representation being authored using at least one of the audio narrations displayed in the second display area.

14. The method of claim **10** further comprising:

moving the authored story from the second track to the third track such that a user can edit the authored story; and

moving the authored story from the third track back to the second track once the user completes authoring.

15. The method of claim **10** wherein displaying a first list of reduced visual representations of a plurality of media objects comprises displaying a series of audio files.

16. The method defined in claim **15** wherein the audio files are from a group comprising MP3 files, Liquid Audio files, and RealJukebox files, WAV files, or other compressed or uncompressed audio file formats.

17. The method of claim **10** wherein displaying a first list of reduced visual representations of a plurality of media objects comprises displaying a plurality of video clips.

18. The method defined in claim **17** wherein the video clips are from a group comprising MPEG files, QuickTime files, AVI files, and RealVideo files.

19. A system comprising:

a storage device having a plurality of stories, each story comprising a plurality of objects; and

a processor in communication with the storage device, the processor to

display a first story track within a first display area a plurality of imported stories which have objects automatically ordered in chronological order,

record an audio narration to be associated with at least one of the reduced visual representations;

display within a second display area different from the first display area an icon representing the recorded audio narration comprising a non-numeric, visual representation corresponding to a length of the audio narration;

display a second story track of the first display area different from the first story track for a plurality of authored stories including the recorded audio narration,

display a full size image of a selected object in the story in a third display area, the full size image representing the selected object being authored using at least one of the audio narrations displayed in the second display area,

process navigation input from a user, the navigation input comprising moving a track selection from one story track to another story track, moving an object selection from one object to another object, and

process operational input from the user, the operation input comprising playing the story, stopping recording or the playing, and saving the story.

20. The system of claim **19** wherein process operational input from the user further comprises recording a narration for the selected object.

21. The system of claim **19** wherein the processor is further operable to display a third story track for a story being constructed, and wherein the navigation input further comprises adding an object to the third track, and removing an object from the third track.

22. The system of claim **19** wherein the processor is further operable to display a plurality of narrations associated with the selected object.

23. The system of claim **19** further comprising an object input device to input new objects, the new objects comprising imported stories, digital photographs, video clips, pages of documents, presentation slides, audio clips, and web pages.

24. The system of claim **19** further comprising a docking cradle for communication and an output device to send a story to a recipient's email address in the form of email attachment.

25. The system of claim **24** further comprising sending the story to a web server, assigning unique URL to the story, and sending the URL to the recipient by email.

26. The system of claim **19** further comprising a recording device to record a narration for the audio clip, the recording device being one of a group comprising voice activated recording and microphone recording.

27. The system of claim **19** wherein the selected object is in one or more stories and has one or more associated audio clips, each audio clip is associated with one story, and each audio clip has zero or one narration.

28. The system of claim **19** wherein displaying an audio clip comprises displaying all audio clips associated with the selected object, and wherein the audio clip associated with the story is displayed as a current audio clip, the current audio clip is played before all other audio clips.

29. The system of claim **19** wherein the story under construction in the third story track is placed at the end of the second story track when the construction is completed and wherein the story is saved in the storage device.

30. The system of claim **29** further comprising grouping objects in the third story track and recording a narration for each object, and wherein saving the story comprises saving the objects and the associated audio clips.

31. The system of claim **29** wherein the story and the associated objects are saved as files in the storage device using a markup language format.

32. The system of claim **31** wherein the markup language format comprises HTML, SMIL, or XML.

33. The system of claim **19** wherein playing the story comprises

selecting a story from the first track, from the second track, or from the third track using the navigation input,

activating a play operation, and

viewing the full size image corresponding to each of the plurality of objects in the selected story.

34. The system of claim **33** wherein viewing the image comprises

selecting the objects in the story in a sequence, wherein the sequence is from beginning of the story to end of the story, and

playing the audio clip corresponding to the selected object.

35. The system of claim **19** further comprising a pointing device configured to enable the user to perform track selection, object selection, and moving of the selected object from one track to another track, the pointing device being one from a group comprising a mouse, an external joy stick, a voice activated control device, a touch screen, a track pad, and a cursor control device.

36. The system of claim **19** further comprising an attached video camera, the video camera used to add new objects to the first track.

37. The system of claim **19** wherein the objects in the first track, the second track and the third track are displayed as thumbnail images or in reduced representation of the corresponding objects.

38. The system of claim 37 wherein a first thumbnail image for each story is used to represent the corresponding story when the tracks are configured to display in collapsed form.

39. The system of claim 19 wherein moving the object selection from one object to another object comprises displaying the thumbnail images in high resolution if the movement is in standard speed and displaying the thumbnail images in low resolution if the movement is in high speed.

40. The system of claim 39 further comprising not displaying the thumbnail image and the associated audio clips when the movement is in high speed.

41. A computer readable storage medium having executable code to cause a machine to perform a method, the method comprising:

displaying a first list of reduced visual representations in a first track of a first display area, the first list of reduced visual representations including a plurality of media objects ordered automatically in chronological order and grouped by media objects relating to one another;

recording an audio narration to be associated with at least one of the reduced visual representations, the recorded audio narration being displayed within a second display area different from the first display area;

displaying within the second display area an icon representing the recorded audio narration comprising a non-numeric, visual representation corresponding to a length of the audio narration;

displaying in a second track different from the first track within the first display area a second list of reduced visual representations of the plurality of media objects selected from the first list of reduced visual representation displayed in the first track of the first display area, the second list including one or more authored stories and each story having the audio narration associated with at least one of the reduced visual representations; and

displaying in a third track different from the first and second tracks within the first display area a third list of reduced visual representations selected from the first track, the third list of reduced visual representations representing a story being authored including associating one or more audio narrations with one or more reduced visual representations displayed within the third track.

42. The computer readable storage medium of claim 41 wherein the first list comprises imported stories, and the second list comprises authored stories.

43. The computer readable storage medium of claim 41 wherein displaying the plurality of media objects comprises displaying imported stories, the authored stories, and/or a representation for each associated audio clip for a selected object in the imported stories or the authored stories.

44. The computer readable storage medium of claim 43 wherein the method further comprises displaying in a third display area different from the first and second display areas one of the reduced visual representations of the third track of the first display area, wherein the displayed visual representation is displayed in the third display area having a resolution larger than the corresponding reduced visual representation displayed in the third track of the first display area, and wherein the displayed visual representation in the third display area indicates a current visual representation being authored using at least one of the audio narrations displayed in the second display area.

45. The computer readable storage medium of claim 41 wherein the method further comprises:

moving the authored story from the second track to the third track such that a user can edit the authored story; and

moving the authored story from the third track back to the second track once the user completes authoring.

46. The computer readable storage medium of claim 41 wherein displaying a first list of reduced visual representations of a plurality of media objects comprises displaying a series of audio files.

47. The computer readable storage medium of claim 46 wherein the audio files are from a group comprising MP3 files, Liquid Audio files, and RealJukebox files, WAV files, or other compressed or uncompressed audio file formats.

48. The computer readable storage medium of claim 41 wherein displaying a first list of reduced visual representations of a plurality of media objects comprises displaying a plurality of video clips.

49. The computer readable storage medium of claim 48 wherein the video clips are from a group comprising MPEG files, QuickTime files, AVI files, and RealVideo files.

* * * * *

Appendix C

US006760721B1

(12) **United States Patent**
Chasen et al.

(10) **Patent No.: US 6,760,721 B1**
(45) **Date of Patent: Jul. 6, 2004**

(54) **SYSTEM AND METHOD OF MANAGING METADATA DATA**

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(52) **U.S. Cl.** ..... **707/3**; 707/5; 707/103 R; 707/104.1; 709/219; 345/804

(58) **Field of Search** ..... 707/5, 10, 102, 707/104.1, 501, 513, 200, 103 R; 709/219, 200, 201, 202; 345/854, 428, 804

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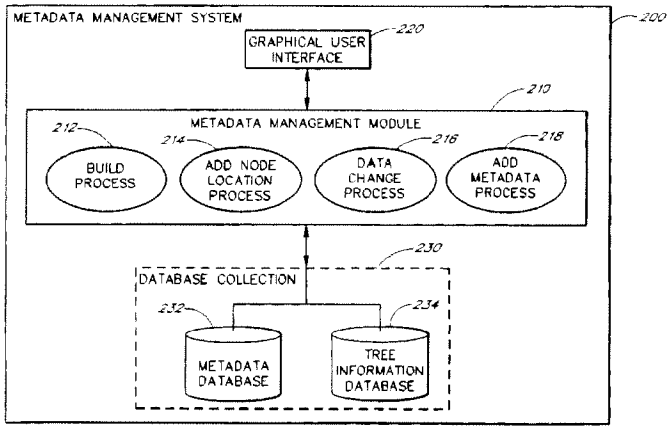
(57) **ABSTRACT**

A system and method of the present invention allow users to access, manage, and edit information about content data, often referred to as metadata. Metadata is collected from various sources, added, and maintained in a metadata database. In addition, metadata is dynamically read from the metadata database and dynamically displayed in a graphical user interface in an organized manner, such as a hierarchical tree. In the graphical user interface, a user may add, delete, and/or modify the metadata. As the user changes the metadata, the metadata database is updated and the user's changes are propagated throughout the graphical user interface such that the hierarchical tree is displays the changed metadata.

38 Claims, 7 Drawing Sheets



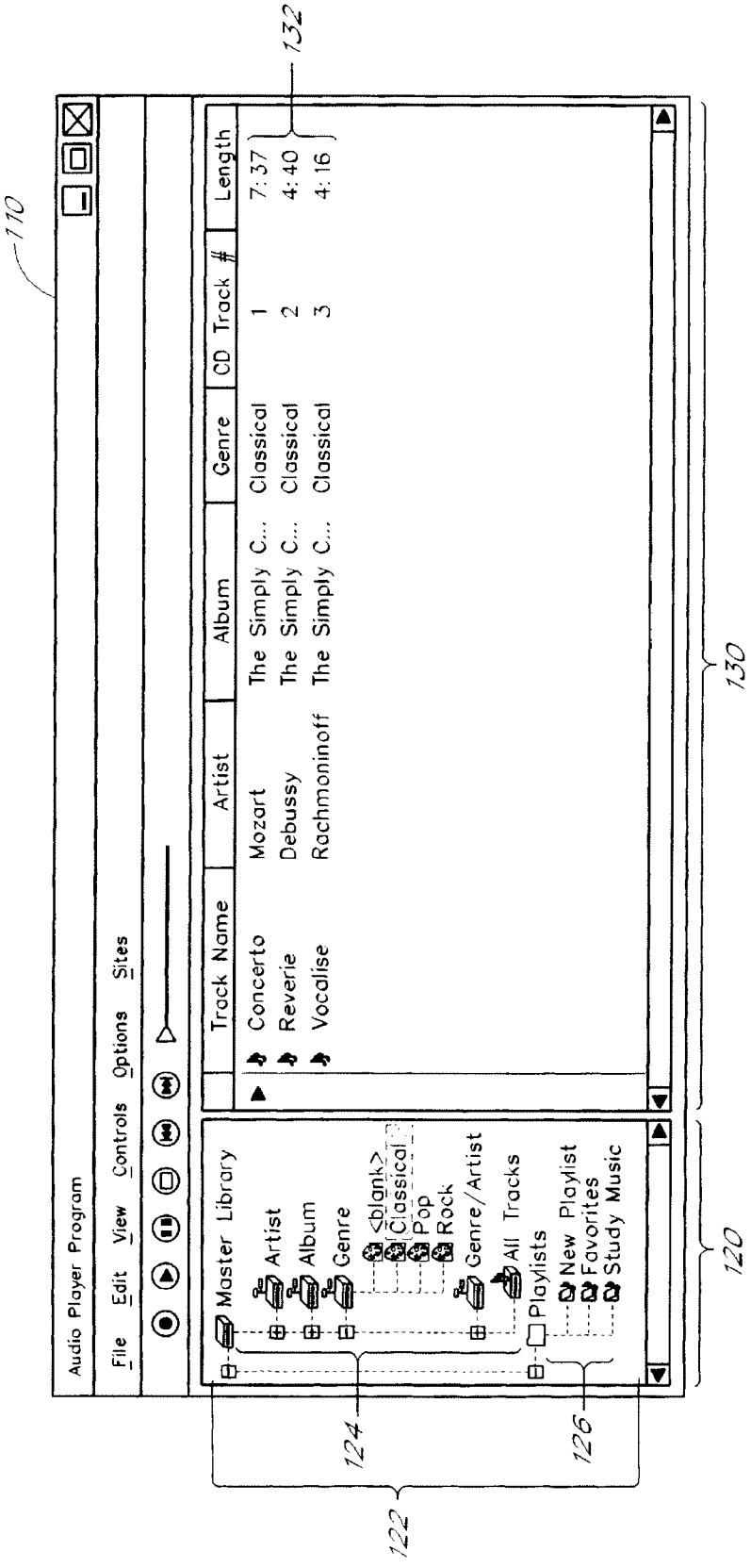


FIG. 1

METADATA MANAGEMENT SYSTEM
GRAPHICAL USER INTERFACE
220
METADATA MANAGEMENT MODULE
210
BUILD PROCESS
212
ADD NODE LOCATION PROCESS
214
DATA CHANGE PROCESS
216
ADD METADATA PROCESS
218
DATABASE COLLECTION
230
METADATA DATABASE
232
TREE INFORMATION DATABASE
234
200

FIG. 2

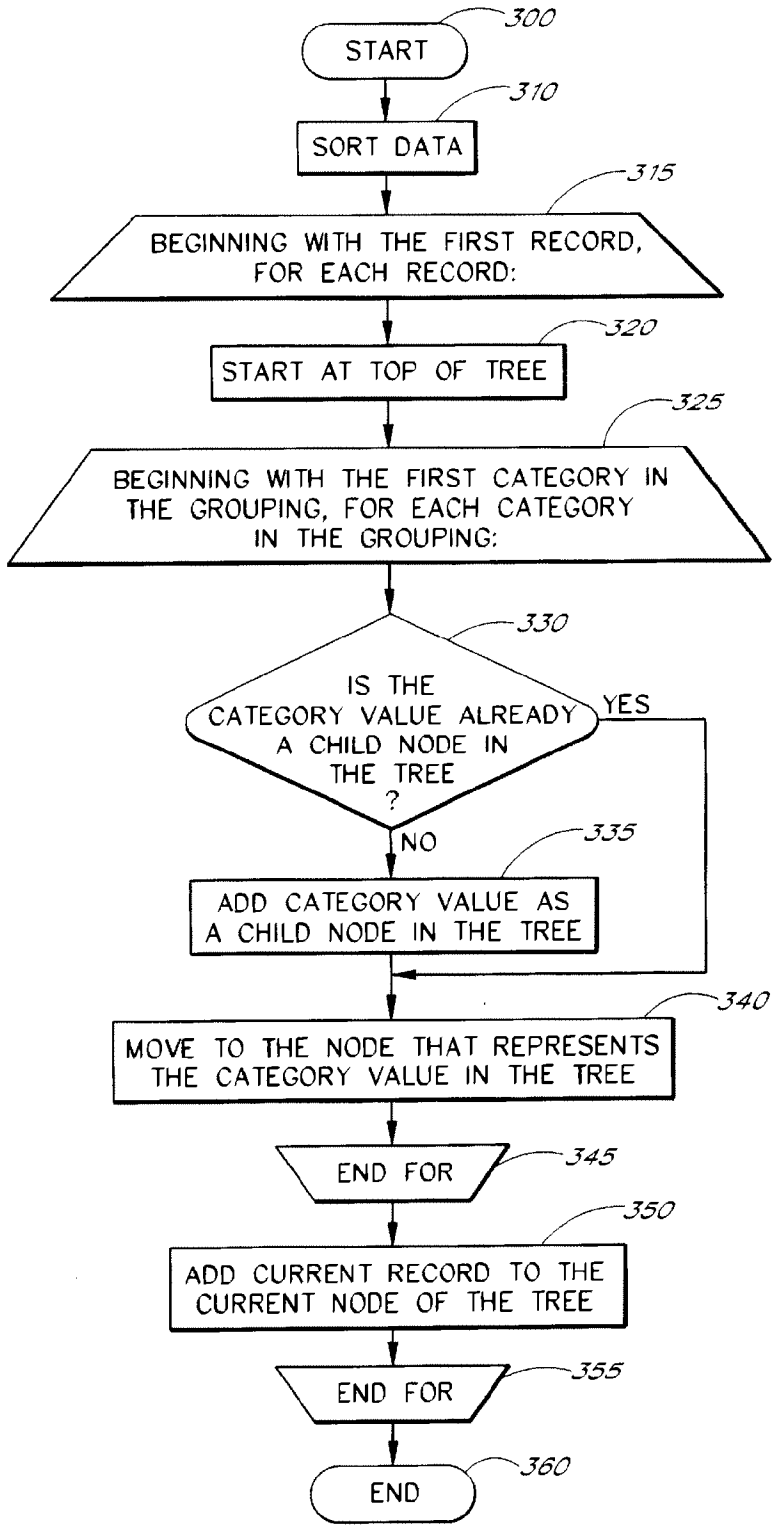

300
START
310
SORT DATA
315
BEGINNING WITH THE FIRST RECORD, FOR EACH RECORD:
320
START AT TOP OF TREE
325
BEGINNING WITH THE FIRST CATEGORY IN THE GROUPING, FOR EACH CATEGORY IN THE GROUPING:
330
IS THE CATEGORY VALUE ALREADY A CHILD NODE IN THE TREE ?
YES
NO
335
ADD CATEGORY VALUE AS A CHILD NODE IN THE TREE
340
MOVE TO THE NODE THAT REPRESENTS THE CATEGORY VALUE IN THE TREE
345
END FOR
350
ADD CURRENT RECORD TO THE CURRENT NODE OF THE TREE
355
END FOR
360
END

FIG. 3

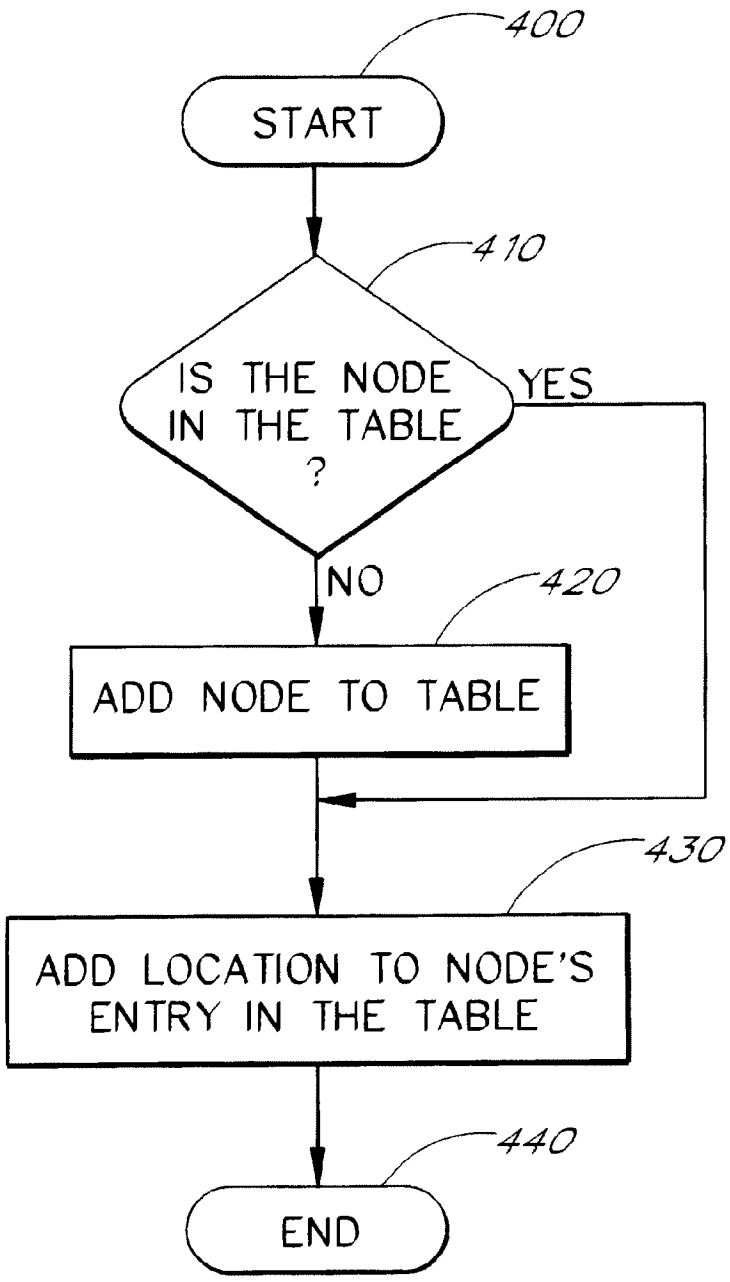

400
START
410
IS THE NODE IN THE TABLE ?
YES
NO
420
ADD NODE TO TABLE
430
ADD LOCATION TO NODE'S ENTRY IN THE TABLE
440
END

FIG. 4

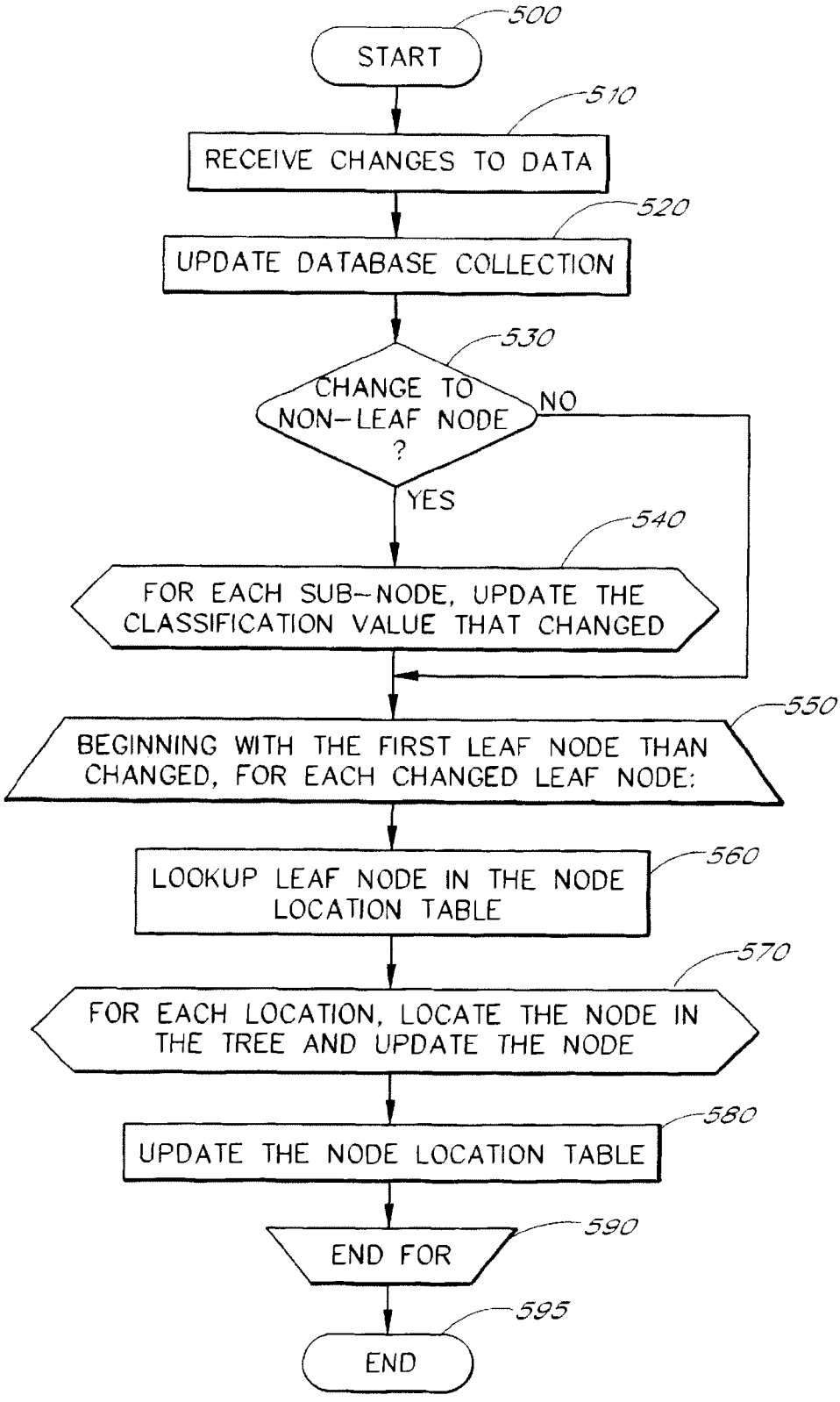

500
START
510
RECEIVE CHANGES TO DATA
520
UPDATE DATABASE COLLECTION
530
CHANGE TO NON-LEAF NODE ?
NO
YES
540
FOR EACH SUB-NODE, UPDATE THE CLASSIFICATION VALUE THAT CHANGED
550
BEGINNING WITH THE FIRST LEAF NODE THAN CHANGED, FOR EACH CHANGED LEAF NODE:
560
LOOKUP LEAF NODE IN THE NODE LOCATION TABLE
570
FOR EACH LOCATION, LOCATE THE NODE IN THE TREE AND UPDATE THE NODE
580
UPDATE THE NODE LOCATION TABLE
590
END FOR
595
END

FIG. 5

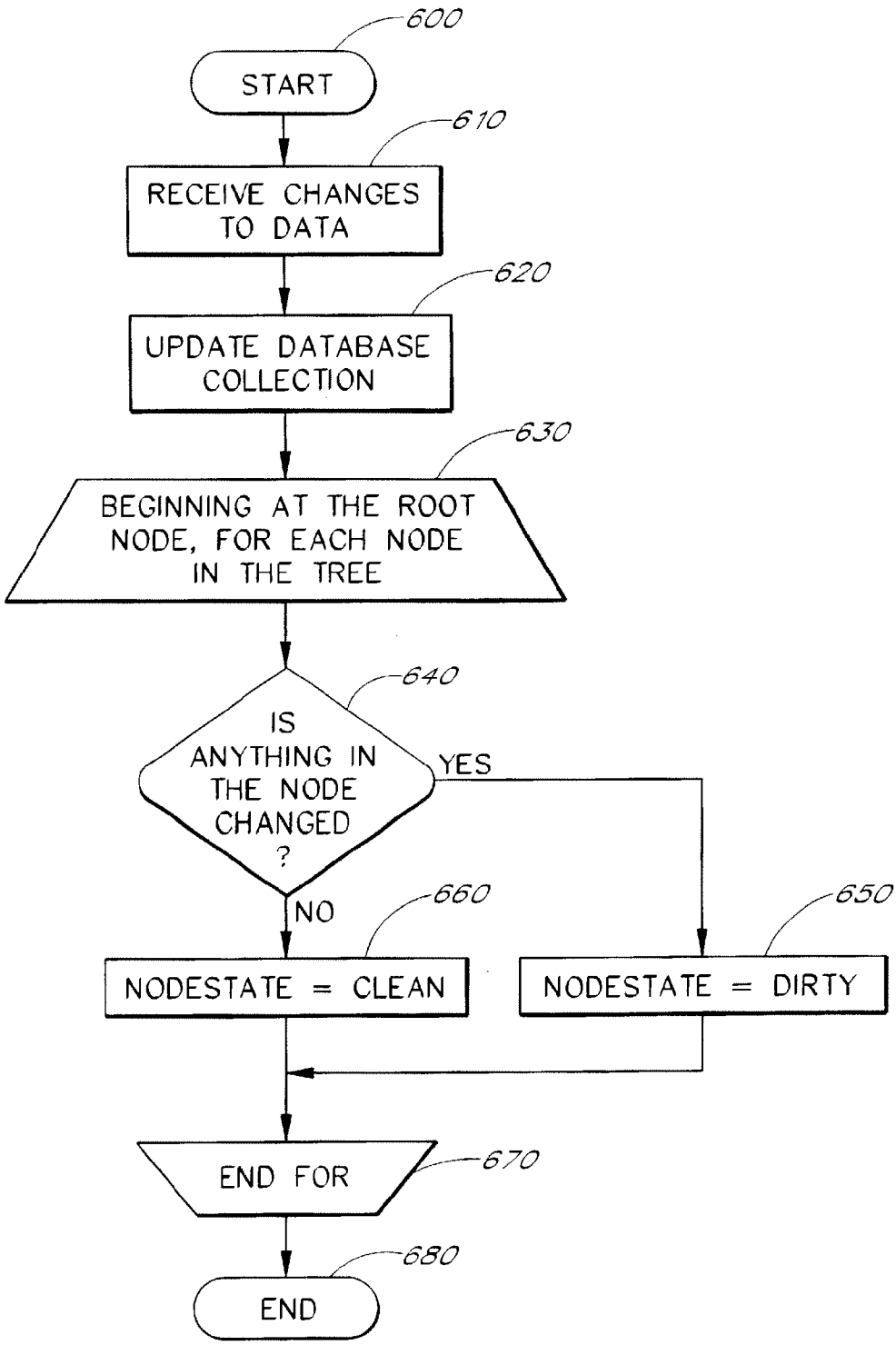

600
START
610
RECEIVE CHANGES TO DATA
620
UPDATE DATABASE COLLECTION
630
BEGINNING AT THE ROOT NODE, FOR EACH NODE IN THE TREE
640
IS ANYTHING IN THE NODE CHANGED ?
YES
NO
660
NODESTATE = CLEAN
650
NODESTATE = DIRTY
END FOR
670
680
END

FIG. 6

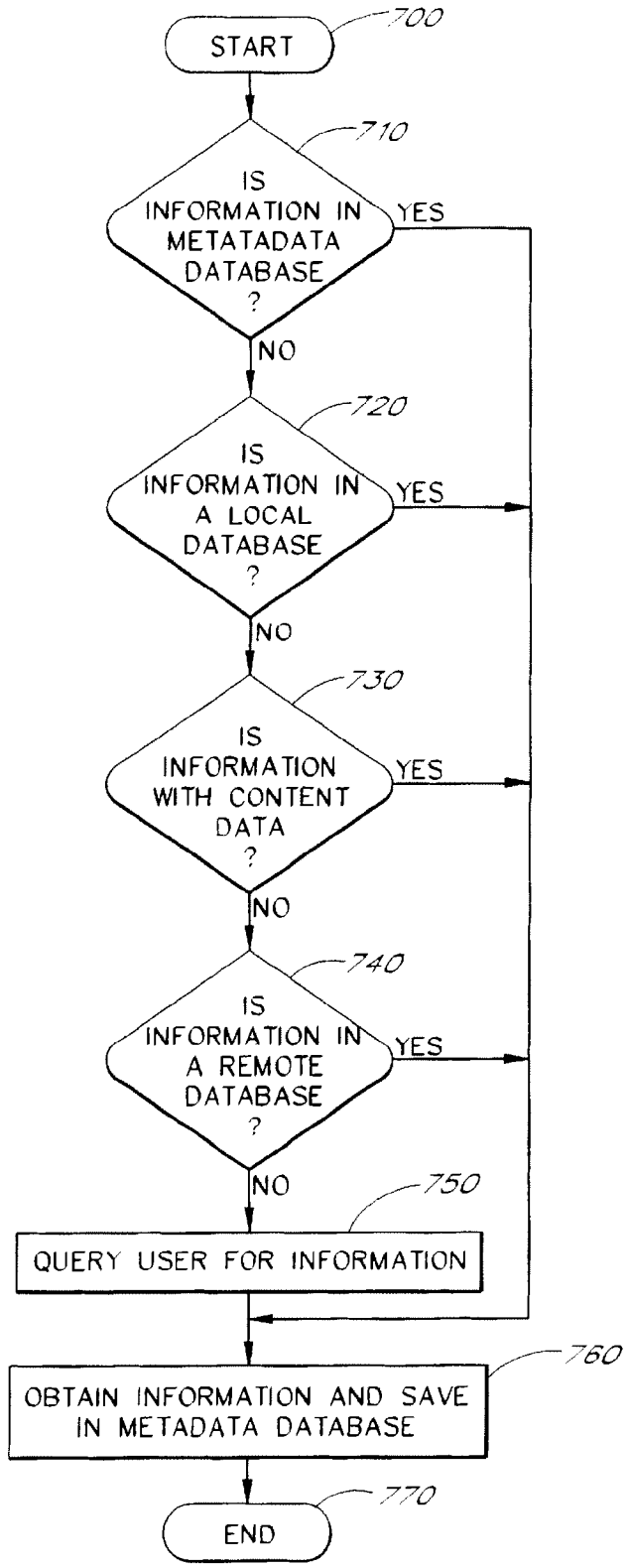

700
START
710
IS INFORMATION IN METATADATA DATABASE ?
YES
NO
720
IS INFORMATION IN A LOCAL DATABASE ?
YES
NO
730
IS INFORMATION WITH CONTENT DATA ?
YES
NO
740
IS INFORMATION IN A REMOTE DATABASE ?
YES
NO
750
QUERY USER FOR INFORMATION
760
OBTAIN INFORMATION AND SAVE IN METADATA DATABASE
770
END

FIG. 7

SYSTEM AND METHOD OF MANAGING METADATA DATA

FIELD OF THE INVENTION

The system and method of the present invention relate generally to the field of managing metadata.

BACKGROUND

The increased reliance on digital data has led to a need for detailed information about the digital data as well as techniques for managing and controlling this detailed information. This detailed information is known as "metadata." For example, there is a high demand for audio data, and accordingly, there is a high demand for metadata about the audio data such as, for example, the artist or speaker name, album name, genre, number of songs, and so forth.

While access to metadata provides the public with a vast amount of information, it is often difficult to manage the metadata. For example, keeping track of various audio files as well as the immense amount of metadata for each audio file can be a difficult task.

One common problem is that conventional approaches do not allow the user to easily view and access the metadata. For example, it is typical for a user to have hundreds or even thousands of audio files making it difficult for the user to sift through each file of metadata. A user may have to look through hundreds or through thousands of files to find the desired file.

Another common problem is that conventional approaches fail to provide users with control over the metadata such as the ability to make changes to a piece of metadata or a set of metadata. For example, a user may want to alter the genre of an audio file by changing the genre from Jazz to New Age.

SUMMARY OF THE INVENTION

In one embodiment, the present invention is a method for dynamically organizing metadata located in a database of metadata for presentation to a user in a display. The method comprises receiving a plurality of categories of metadata wherein the plurality of categories of metadata represent a hierarchical representation of the metadata; querying a database of metadata to produce a set of metadata query results; arranging the metadata query results in a hierarchical representation of metadata based at least upon a subset of the plurality of categories; and presenting the hierarchical representation of metadata to a user in a graphical display.

Another embodiment of the present invention is a method of dynamically updating a display of metadata to a user. The method comprises storing metadata in a database; displaying a hierarchical representation of a subset of the metadata to a user; receiving a change to at least a portion of the subset of metadata displayed to the user; processing the change to update the corresponding portion of the subset of metadata in the metadata database; determining which portions of the hierarchical representation are affected by the change; updating the portions of the hierarchical representations affected by the change; and displaying the updated hierarchical representation to the user.

Another embodiment of the present invention is a metadata management system used to access, manage, and edit information about content data. The metadata management system comprises a metadata database that includes information about content data; a metadata management module used to access the information about content data in the metadata database; and a graphical user interface configured to communicate with the metadata management module, to dynamically access the information about content data in the metadata database, and to dynamically present an organized grouping of at least a portion of the information about content data for display to a user.

Another embodiment of the present invention is a method for presenting metadata in a database. The method comprises obtaining a hierarchy of category nodes; querying the database for a set of metadata; dynamically arranging the set of metadata in the hierarchy of category nodes; and presenting the set of metadata in the hierarchy of category nodes to a user.

Another embodiment of the present invention is a method for presenting metadata in a database. The method comprises displaying a set of metadata from a metadata database in a hierarchy of category nodes; receiving a change to a portion of the set of metadata; and dynamically updating the display of the set of metadata and the hierarchy of category nodes to reflect the change.

Another embodiment of the present invention is a method for dynamically presenting metadata in a hierarchical form. The method comprises executing a search on a database, to obtain a set of search results, wherein the database stores metadata; receiving a set of user preferences for viewing the search results wherein the user preferences are based on properties of the metadata; dynamically generating a tree structure based on the search results and the set of user preferences; dynamically determining a layout of the tree structure; dynamically mapping the search results onto the tree structure based on the layout; and dynamically displaying the tree structure.

Another embodiment of the present invention is a method of obtaining information about content data wherein information about content data is stored in a database and displayed in a graphical user interface using a standard data structure. The method comprises obtaining an identifier related to a set of content data; creating a request for information about the set of content data using the identifier; processing the request for information; receiving a set of request information in response to the request for information; and storing the set of request information a database.

For purposes of summarizing the invention, certain aspects, advantages, and novel features of the invention are described herein. It is to be understood that not necessarily all such advantages may be achieved in accordance with any particular embodiment of the invention. Thus, for example, those skilled in the art will recognize that the invention may be embodied or carried out in a manner that achieves one advantage or group of advantages as taught herein without necessarily achieving other advantages as may be taught or suggested herein.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** illustrates an example display from one embodiment of the present invention.

FIG. **2** illustrates a high-level block diagram of one embodiment of the present invention.

FIG. **3** illustrates a flowchart of one embodiment of building a tree grouping.

FIG. **4** illustrates a flowchart of one embodiment of adding an entry to the node location table.

FIG. **5** illustrates a flowchart of one embodiment of processing a data change.

FIG. 6 illustrates a flowchart of one embodiment of processing a data change.

FIG. 7 illustrates a flowchart of one embodiment of adding metadata.

DETAILED DESCRIPTION

A system and method which represent one embodiment and example application of the invention will now be described with reference to the drawings. Variations to the system and method which represent other embodiments will also be described. In one disclosed embodiment, the system and method are used to dynamically represent audio metadata using a master tree and a node table. It will be recognized, however, that other embodiments may use only one of these two types of data structures and/or different types of data structures to help users organize and access data. In addition, other types of data may also be used.

For purposes of illustration, one embodiment will be described in the context of a master tree and node table for organizing and accessing audio metadata and audio data within an audio playing device such as, for example, RealJukebox™. While the inventors contemplate that the present invention is not limited by the type of content data and/or metadata to be managed and that the types of data may include video, audio, audio-visual, slideshow, image and text, and so forth, the figures and descriptions relate to an embodiment of the invention using audio metadata and audio content data. Furthermore, the details of the master tree, node table, and of specific implementations are set forth in order to illustrate, and not to limit, the invention. The scope of the invention is defined by the appended claims.

These and other features will now be described with reference to the drawings summarized above. The drawings and the associated descriptions are provided to illustrate embodiments of the invention, and not to limit the scope of the invention. Throughout the drawings, reference numbers are re-used to indicate correspondence between referenced elements. In addition, the first digit of each reference number indicates the figure in which the element first appears.

I. Overview

Audio metadata, such as track name, artist, album, genre, track number, length, and so forth, is collected from various sources, added, and maintained in a metadata database. A metadata management module dynamically reads metadata from the metadata database, organizes the metadata into groupings using a groupings tree, combines the groupings tree with other trees to form a master tree, combines metadata relating to the selected grouping into a node table, and presents the master tree and the node table in a graphical user interface. In the graphical user interface, a user may add, delete, and/or modify the metadata in the master tree and/or the node table. As the user changes the metadata, the metadata database is updated and the user's changes are propagated throughout the graphical user interface. The user may also use the master tree and the node table to begin playing an audio file and/or a set of audio files.

The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as the groupings tree and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while the other nodes represent groupings (or sub-groupings) of audio tracks. This relationship structure allows the master tree to include various types of trees. For example, the groupings tree provides ways to group and categorize audio metadata, such as, for example, by Album, Artist, Genre, and so forth as well as by nested groupings such as, for example, Artist/Album, Genre/Artist, Genre/Artist/Album, and so forth. The groupings may be based upon fields of the metadata database as well as other groupings, categories, and/or preferences created by the user, hard-coded into the system, and so forth. The playlist tree provides ways to create or provide ordered lists of audio tracks.

The master tree and the node table are dynamically populated and displayed to the user. In addition, when a user makes any changes to the master tree and/or the metadata in the node table, both the master tree and the node table may be dynamically updated. In one embodiment, the master tree and the node table are dynamically updated without having to rebuild the entire master tree and the entire node table. Instead, the changes may be propagated throughout the master tree and node table through the use of a node location table that tracks the locations of the node within the master tree.

One benefit of this embodiment is that the metadata management system can read metadata from the metadata database and dynamically organize the metadata for display in the graphical user interface. Thus the metadata can be stored in a basic format and still presented to the user in an accessible format without requiring extensive or time consuming processing of the metadata.

Another benefit of this embodiment is that the user is given access to the metadata to make additions, changes, and/or deletions through an easy to use graphical user interface. Using the graphical user interface, the user has access to the data through interface tools such as, for example, menus, windows, pointing devices, drag and drop features, and so forth. For example, rather than having to manually edit each piece of the metadata, the user can use the interface tools to add data, move data into new categories and/or groupings, and so forth.

An additional benefit of this embodiment is that the metadata information may be displayed in the graphical user interface using organizational techniques. Rather than having to traverse vast amounts of metadata to find a particular record, the user is instead presented with an organized view of the metadata. This embodiment allows the metadata to be presented in a variety of categories using a variety of subtrees. The user may create custom categories as well as custom subtrees affording much flexibility and user control. For example, one user may create groupings for the Genres Rock and Jazz, while another user may create groupings for the Artists Styx and Abba. In addition, one user may group data into categories that are often used such as Artist/Genre/Album, while another user may create customized playlists.

A further benefit of this embodiment is the ability to dynamically update the data in the database collection as well as the data displayed in the graphical user interface. Thus, when users make changes to the metadata and/or the groupings or categories, the changes are made in the database and propagated throughout the graphical user interface such that the user is seeing an accurate representation of the metadata database. The user can view changed data without having to reread all of the data and regenerate the entire display. Instead, this embodiment provides fast, dynamic updating of the view of the data within the graphical user interface without causing much delay and/or inconvenience to the user.

Another benefit of this embodiment is that the user can update multiple sets of metadata with simple changes in the graphical user interface. For example, if a user has one

thousand files with the genre value as Pop and the user wants to change the genre to Rock, the user can rename the genre grouping from Pop to Rock and all of the nodes within that genre grouping may be updated to reflect the genre value change. This feature saves the user from having to manually edit each of the metadata files one-by-one.

An additional benefit of this embodiment is that the user may update the metadata located in the individual content data files with the current metadata in the metadata database. For example, a user may select a command wherein the data within the metadata database is then copied to the appropriate MP3 header file that includes the metadata. For example, if a user changes the Genre of an audiofile from Rock to Pop in the graphical user interface and then executes an update MP3 file command, then the user's MP3 file will also automatically be updated such that the Genre is changed from Rock to Pop in the MP3 file.

II. Sample Display

FIG. **1** illustrates an example program display of a graphical user interface. In FIG. **1**, an audio player program display **110** includes two windows, a tree window **120** that includes a master tree **122**, with an example groupings tree **124** and an example playlist tree **126**, and a table window **130** that includes a node table **132** with an example set of audio metadata.

The tree window **120** displays the master tree **122**. In the exemplary master tree **122**, there are two subtrees, Master Library **124** and Playlists **126**. The Master Library subtree **124** represents a groupings tree and illustrates ways to group or categorize the audio metadata in the metadata database. The Master Library subtree's **124** grouping includes five groupings, Artist, Album, Genre, Genre/Artist, and All Tracks. Furthermore, the Genre grouping includes four sub-groupings, <blank>, Classical, Pop, and Rock. The Playlists subtree **126** provides ways to group or categorize the audio metadata into custom playlists, (i.e., lists of tracks that the user wants played in a specific order). Users can create custom playlists indicating the order in which the user would like to listen to the audio files. The Playlists subtree **126** includes three playlists, New Playlist, Favorites, and Study Music.

The table window **130** displays a node table **132** that includes information about the node that is selected in the tree window **120**. This information includes details about the audio tracks that fall within the selected node. A user may display a node table **132** by selecting a grouping such as, for example, by using a mouse to click on the desired node in the tree window **120**. Other methods of selecting a grouping are discussed below.

In FIG. **1**, the Master Library→Genre→Classical grouping was selected, and thus, the metadata for audio tracks that have the value "Classical" in the Genre field in the database are displayed as audio track records in the node table **132** within the table window **130**. In the exemplary table window **130**, three audio track records are shown: Concerto by Mozart, Reverie by Debussy, and Vocalise by Rachmaninoff. In one embodiment, the user may begin playing the audio file of a track record by selecting an audio track for playback such as, for example, by using a mouse to double click on any field of the audio track record in the node table **132**. Other methods of selecting an audio track record for playback are discussed below. In another example, the user may select a higher level node, such as the Genre node located under the Master Library→Genre grouping. The node table **132** may then display the sub-groupings of the Genre node such as, for example, <blank>, Classical, Pop, and Rock, as well as collective information about the tracks within the sub-groupings such as, for example, the total number of tracks, total length, and total size.

III. The Metadata Management System

FIG. **2** represents an overview of one embodiment of a metadata management system **200**. In one embodiment, the metadata management system **200** manages descriptive data, herein after referred to as metadata, about content data. For example, if the content data is a set of audio files, the corresponding metadata may include information about the audio files such as, for example, the album, artist or speaker, genre, the unique identifying characteristic of a track, and so forth. In another embodiment, the content data may be a set of video files, and the corresponding metadata may include information about the video files such as, for example, the genre, video length, leading actors, parent advisory rating, and so forth. It is recognized that in other embodiments, the metadata management system **200** may manage other types of content data and/or metadata.

In FIG. **2**, the metadata management system **200** includes a metadata management module **210** that communicates with a graphical user interface **220** and a database collection **230**. The metadata management module **210** includes a build process **212**, an add node location process **214**, a data change process **216**, and an add metadata process **218**. Furthermore, the database collection **230** includes a metadata database **232** as well as a tree information database **234**.

As used herein, the word module, whether in upper or lower case letters, refers to logic embodied in hardware or firmware, or to a collection of software instructions, possibly having entry and exit points, written in a programming language, such as, for example, C++. A software module may be compiled and linked into an executable program, or installed in a dynamic link library, or may be written in an interpretive language such as BASIC. It will be appreciated that software modules may be callable from other modules or from themselves, and/or may be invoked in response to detected events or interrupts. Software instructions may be embedded in firmware, such as an EPROM. It will be further appreciated that hardware modules may be comprised of connected logic units, such as gates and flip-flops, and/or may be comprised of programmable units, such as programmable gate arrays or processors. The modules described herein are preferably implemented as software modules, but may be represented in hardware or firmware.

In one embodiment, the metadata management system **200** is implemented on a user computer (not shown). The user computer is a device which allows a user to access the content data and/or the metadata. While the term user computer is used, it is recognized that in other embodiments, the metadata management system **200** may be implemented on other systems such as, for example, a portable computing device, a portable audio player, a portable video player, a server, a computer workstation, a local area network of individual computers, an interactive television, an interactive kiosk, a personal digital assistant, an interactive wireless communications device, a handheld computer, a telephone, a router, a satellite, a smart card, an embedded computing device, or the like.

In one embodiment, the user computer is a conventional, general purpose computer using one or more microprocessors, such as, for example, a Pentium processor, a Pentium II processor, a Pentium Pro processor, an xx86 processor, an 8051 processor, a MIPS processor, a Power PC

processor, or an Alpha processor. In one embodiment, the user computer runs an appropriate operating system, such as, for example, Microsoft® Windows® 3.X, Microsoft® Windows 98, Microsoft® Windows® NT, Microsoft® Windows® CE, Palm Pilot OS, Apple® MacOS®, Disk Operating System (DOS), UNIX, Linux®, or IBM® OS/2® operating systems.

In one embodiment, the metadata management system **200** includes or is connected to a player module (not shown). For example, the metadata management system **200** may include an audio player, a video player, and so forth such that a user may access the content data as well as the metadata using the graphical user interface **220**.

A. Metadata Management Module

In one embodiment, the metadata management system **200** includes a metadata management module **210**. As indicated above, the metadata management module **210** communicates with the graphical user interface **220** and the database collection **230**.

The metadata management module **210** works in concert with the graphical user interface **220** to build the master tree **122** displayed in the tree window **120** and the node table **132** displayed in the table window **130**. The metadata management module **210** may be requested to build the master tree **122** and the node table **132** upon the occurrence of several events such as, for example, upon user request (e.g., selecting the "refresh" button or via a menu option), upon an automatic request when the audio player program is opened, and so forth. In other embodiments, the metadata management module **210** may generate a portion of or the entire master tree **122** and/or the node table **132** off-line.

As indicated above, in one embodiment, the metadata management module **210** may generate several types of trees (sometimes referred to as subtrees) and combine the trees into a master tree **122** for display in the tree window **120**. The metadata management module **210** may combine the trees by creating a root node and attaching the various trees as children of the root node. It is recognized that the various trees may be combined in other manners that are well known to those skilled in the art. Furthermore, in other embodiments, the audio data tree may represent a combination of several types of trees and/or a single type of tree.

In one embodiment, the metadata management module **210** may also generate the node table **132** for display in the table window **130**. As discussed above, the node table **132** displays additional information about the selected grouping. In one embodiment, a default selected grouping may be stored in the tree information database **234** wherein the default selected grouping may be based on one or more factors such as, for example, the last grouping that the user selected, the most popular grouping that has been selected, a pre-selected grouping, and so forth. To build the node table **132**, the metadata management module **210**, queries the metadata database **232** for records that fall within the selected grouping. In one embodiment, if the selected node is a leaf node, the node table **132** may display metadata pertaining to the audio tracks that fall within the selected grouping. If the selected node is a non-leaf node, the node table **132** may display collective information about the tracks within the sub-groupings of the selected grouping. For more information on the node table **132**, see the section below entitled Graphical User Interface—Node Table.

The metadata management module **210** illustrated in FIG. **2** includes a build process **212**, an add node location process **214**, a data change process **216**, and an add metadata process **218**. For more information on these process, see the section below entitled Metadata Management Module Processes.

The metadata management module **210** may include other processes (not shown) such as, for example, a process for combining one or more grouping trees into a groupings tree **124**, combining one or more trees (e.g., groupings tree **124**, playlist tree **126**, etc.) into a master tree **122**, and so forth.

B. Graphical User Interface

In one embodiment, the metadata management system **200** includes a graphical user interface **220** ("GUI"). The GUI **220** in FIG. **2** presents information to the user such as the content data and metadata. The GUI **220** may also allow the user to view the data, change the view of the data, access data (e.g., for playback), modify data, delete data, and/or add new data to the database collection **230**.

The GUI **220** may be implemented as a module that uses text, graphics, audio, video, and other media to present data and to allow interaction with the data. The GUI **220** may be implemented as a combination of an all points addressable display such as a cathode-ray tube (CRT), a liquid crystal display (LCD), a plasma display, or other types and/or combinations of displays; input devices such as, for examples, a mouse, trackball, touch screen, pen, keyboard, voice recognition module, and so forth; and software with the appropriate interfaces which allow a user to access data through the use of stylized screen elements such as, for example, menus, windows, dialog boxes, toolbars, controls (e.g., radio buttons, check boxes, sliding scales, etc.), and so forth.

As illustrated in FIG. **1**, in one embodiment, the GUI **220** may display a master tree **122** in the tree window **120** and a node table **132** in the table window **130**.

1. Master Tree

As indicated above, the master tree **122** provides various ways to group and categorize audio data. In one embodiment, the master tree **122** displays nodes that have at least one child (non-leaf nodes) such that the leaf nodes are not displayed in the master tree **122**, but are instead displayed in a table format in the node table **132**. It is recognized that in other embodiments, the leaf nodes as well as the non-leaf nodes may be displayed in the master tree **122**. In addition, the GUI **220** allows the user to expand a subtree of the master tree **122** in order to view the subtrees children.

The master tree **122** is preferably in the form of a directed acyclic graph (a tree that allows a child node to have multiple parents). While this embodiment uses an acyclic graph representation, it is recognized that in other embodiments, other types of graphs or trees may be used such as, for example, B* trees, optical trees, binary trees, n-way trees, balanced trees, min-max trees, Huffinan trees, splay trees, AVL trees, and so forth. Furthermore, other data structures, such as, for example, files, lists, arrays, records, tables, and so forth, or a combination of data structures may be used.

2. Node Table

As indicated above, the node table **132** displays additional information about the node that is selected in the master tree **122**. In one embodiment, if the selected node is a leaf node, the node table **132** may display metadata pertaining to the audio tracks that fall within the grouping as audio track records. The node table **132** in FIG. **1** includes the fields Track Name, Artist, Album, Genre, CD Track #, and Length and is arranged in a standard table format wherein the rows represent audio track records and the columns represent categories or attributes of data within the metadata database **232**. If the selected node is a non-leaf node, the node table **132** may display collective information about the tracks within the sub-groupings of the selected node such as, for example, the total number of tracks, total length, and total

size. For example, if the selected node is Artist under the grouping Master Library→Artist, the node table **132** may then display the sub-groupings of the Artist node such as, for example, Debussy, Mozart, and Rachmaninoff, as well as the total number of tracks, total length, and total size of audio files data for each artist.

It is recognized that in other embodiments different categories, attributes, and/or collective information may be used that include fewer fields of the metadata database **232**, additional fields of the metadata database **232**, user customized categories, as well as other categories. In addition, some or all of the exemplary categories or attributes may be omitted from the node table **132**.

The node table **132** is preferably in the form of a standard table wherein data is arranged in rows and columns such that multiple audio track records are visible in the table window **130**. It is recognized that other formats may be used. For example, the table window **130** may display individual records, a tree of records, a linked list of records, and so forth. It is recognized that in other embodiments, other types of data structures such as, for example, trees, files, lists, arrays, records, and so forth, or a combination of data structures may be used.

C. Database Collection

In one embodiment, the metadata management system **200** includes a database collection **230**. The database collection **230** in FIG. **2** includes a metadata database **232** and a tree information database **234**.

1. Metadata Database

The metadata database **232** includes metadata about the audio content data. The metadata may include information such as track name, artist, album, genre, CD track number, length, format, quality, comments, date and/or time last played, date and/or time the track was created, file size, file location, protection flag, as well as other types of information related to the audio file. The metadata may include fields that are used in standards such as, for example, ID3v1, ID3v2, ID3v2.3.0, and so forth, as well as other fields that are created by other parties, by users, by content providers, and so forth. As indicated above, it is also recognized that in other embodiments, the metadata database **232** may manage other types of content data and/or metadata.

In one embodiment, the metadata database **232** includes the metadata as well as the content data. For example, the metadata database **232** may include the audio files as well as the metadata that corresponds to the audio files. In another embodiment, the content data may be stored in a different database and/or only a subset of the content data may be stored in the metadata database **232**. It is recognized that the metadata database **232** may be implemented as several separate databases.

2. Tree Information Database

The tree information database **234** includes data about the trees within the master tree **122**. This information may include tree types, groupings, node names, node locations, and so forth. For example, the tree information database may include grouping tables that include data about the grouping tree structure wherein the grouping tables include information such as, for example, the names of the nodes, the relationship between nodes, whether the node is a standard node or customized node, and so forth. In addition, the tree information database **234** may include playlist tables that define the various playlists and include information about the playlists such as, for example, data/time created, name of the creator, and so forth. The tree information database **234** may also include node location tables that define the location of nodes in the subtrees and/or the master tree **122**.

It is recognized that the tree information database **234** may include other types of information as well. In addition, in other embodiments, the tree information database **234** may be implemented as several separate databases.

3. Additional Embodiments

The database collection **230** may also include other databases (not shown) for performing various management tasks. For example, the database collection **230** may include a user preferences database that includes information on the types of audio content and metadata that the user prefers and/or the user's favorite web sites for downloading audio content and metadata.

In connection with the database collection **230**, in one embodiment, there may be several processes (not shown) such as ID generators, number generators, statistic generators, session generators, and temp storage units that work with the database collection **230**.

In one embodiment, the database collection **230** is implemented using CodeBase, a semi-relational database offered by Sequiter. CodeBase is a high-speed xBase-compatible database engine that works with C/C++, Visual Basic, Delphi and Java under standalone and client/server environments. It is recognized that the database collection **230** may be implemented using a different type of relational database, such as Sybase, Oracle, Microsoft® SQL Server, and so forth as well as other types of databases such as, for example, a flat file database, an entity-relationship database, and object-oriented database, a record-based database, and so forth.

Moreover, while the database collection **230** depicted in FIG. **2** is comprised of several separate databases, it is recognized that in other embodiments, the database collection **230** may contain other databases or some of the databases may be omitted and/or combined. In addition, the database collection **230** may be implemented as a single database with separate tables or as other data structures that are well know in the art such as linked lists, binary trees, and so forth.

In one embodiment, the database collection **230** may be connected to a backend component (not shown) that receives database requests via servlets, small programs that run on servers, and sends a corresponding request to the database collection **230**. It is recognized that in other embodiments data access may be performed differently, for example, a different type of backend component may be used, or the database collection **230** may be accessed directly.

IV. Metadata Management Module Processes

The metadata management module **210** illustrated in FIG. **2** includes a build process **212**, an add node location process **214**, a data change process **216**, and an add metadata process **218**.

A. Build Process

The build process **212** is used to dynamically build a grouping tree that represents a grouping wherein the grouping is a category or a set of categories by which the data may be grouped. For example, one grouping may be Artist while another grouping may be Genre/Artist, and yet another grouping may be Genre/Artist/Album.

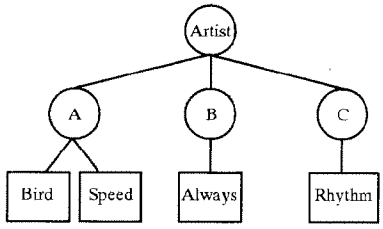
For example, Table 1 represents a sample set of audio metadata.

TABLE 1

Track Name	Artist	Album	Genre	Length
Always	B	XXX	Funk	2:34:35
Bird	A	YYY	Pop	1:56:22
Rhythm	C	YYY	Pop	3:21:48
Speed	A	ZZZ	Rock	2:15:03

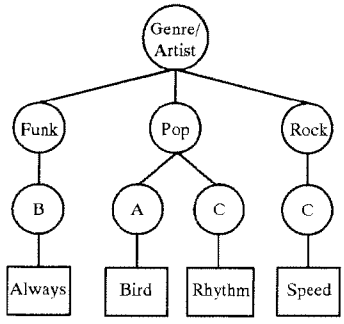
The field names are located in the first row and represent categories, and the metadata information, also referred to as a category value, is shown in the subsequent rows. For example, the category Track Name has four different category values: Always, Bird, Rhythm, and Speed; and the category Artist has three different category values: A, B, and C.

A tree based on the grouping "Artist" for the data in Table 1 may look like the following, wherein the grouping is "Artist" that includes one category, Artist:



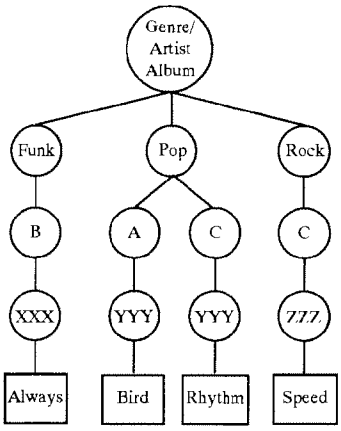
The circles represent categories from the groupings and the squares represent the audio track records which are the leaf nodes of the tree. The top node (or root note of this grouping) represents the grouping name. The next level of nodes represents the category values for the category Artist category. The leaf nodes represent the audio track records (and/or a reference to the records).

To further illustrate, a tree based on the grouping "Genre/Artist" for the data in Table 1 may look like the following, wherein the grouping is "Genre/Artist" that includes two categories, first Genre and second Artist:



The root node represents the grouping name. The next level of nodes under the root node represent the category values for the Genre category and the next level of nodes represent the category values for the Artist category. The leaf nodes represent the audio track records (and/or a reference to the records).

In the next example, a tree based on the grouping "Genre/Artist/Album" for the data in Table 1 may look like the following, wherein the grouping is "Genre/Artist/Album" that includes three categories, first Genre, second Artist, and third Album:



The root node represents the grouping name. The next level of nodes under the root node represent the category values for the Genre category; the next level of nodes represent the category values for the Artist category; the third level of nodes represent the category values for the Album category. The leaf nodes represent the audio track records (and/or a reference to the records).

One embodiment of a build process **212** will now be described with reference to FIG. **3**, though it is recognized that a variety of methods may be used to implement the build tree process.

The build process **212** begins at a start state **300** and then proceeds to a state **310**. In state **310**, the build process **212** sorts the data by the first category in the grouping, then by the second category in the grouping, and so forth for each category in the grouping and then proceeds to a state **315**. In state **315**, beginning with the first record of the sorted data, and continuing until all of the records have been traversed (states **315** and **355**), the build process **212** proceeds to a state **320**. In state **320**, the build process **212** creates a grouping name node as the top of the tree and moves the current location to the top of the tree. Proceeding to a state **325**, beginning with the first category in the grouping, and continuing until all of the categories in the grouping have been traversed (states **325** and **345**), the build process **212** proceeds to a state **330**. In state **330**, the build process **212** determines if the category value is already a child node in the tree. If the category value for the current record is not already a child node in the current location of the tree, the build process **212** proceeds to a state **335** and adds the category value as a child node in the current location of the tree and proceeds to a state **340**. If the category is already a child node in the current location of the tree, the build process **212** proceeds to state **340**. In state **340**, the build process **212** moves the current location to the node that represents the category value and proceeds to a state **345**. In state **345**, the build process **212** returns to state **325** if there are any more categories in the grouping. Once all of the categories in the grouping have been traversed (states **325** and **345**), the build process **212** proceeds to a state **350**. In state **350**, the build process **212** adds the current record to the current node of the tree and proceeds to a state **355**. In state **355**, the build process **212** returns to state **315** if there are any more records that have not been traversed. Once all of the records have been traversed, the build process **212** proceeds to an end state **360**.

As indicated above, it is recognized that other methods of building a grouping tree may also be used. In addition,

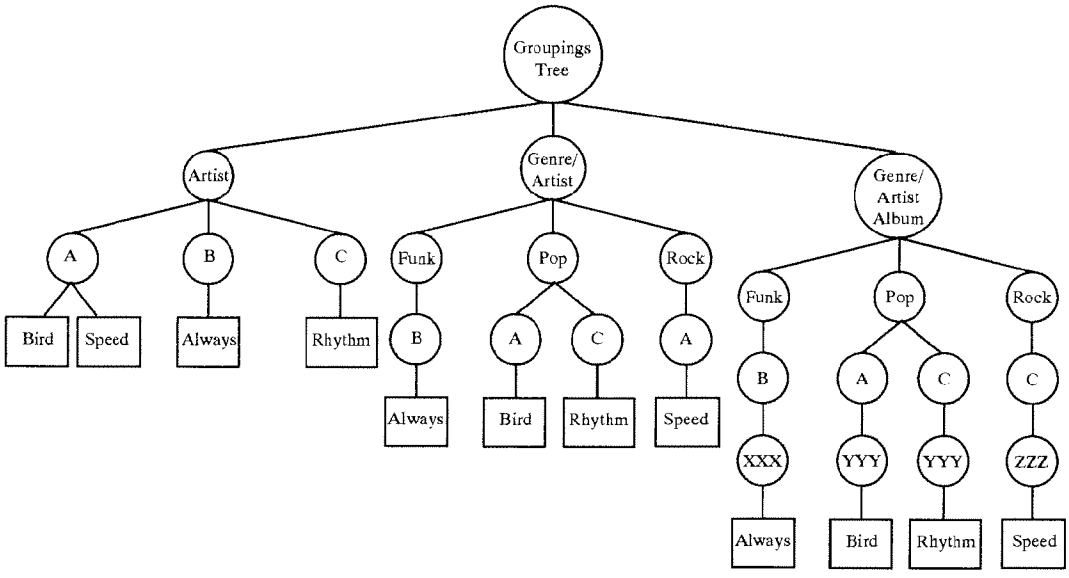
various methods for improving efficiency may also be used using tools such as recursion and other data management tools that are well-known to those skilled in the art. For example, the build process **212** may build the entire tree first without leaf nodes before adding any of the records. In addition, the build process **212** may recursively add nodes down one path of a tree and then add all records that fall within that path before moving onto the next path of the tree.

It is recognized that the various grouping trees may be combined to form a groupings tree **124**, such as, for example, by creating a root node and attaching each of the grouping trees to the root node as a child node. A sample groupings tree **124** that corresponds to the data in Table 1 includes the grouping tree "Artist," the grouping tree "Genre/Artist," and the grouping tree "Genre/Artist/Album" may look like the following:

TABLE 2

Node	Location 1	Location 2	Location 3
Always	Artist-B	Genre/Artist-Funk-B	Genre/Artist/Album-Funk-B-XXX
Bird	Artist-A	Genre/Artist-Pop-A	Genre/Artist/Album-Pop-A-YYY
Rhythm	Artist-C	Genre/Artist-Pop-C	Genre/Artist/Album-Pop-C-YYY
Speed	Artist-A	Genre/Artist-Rock-C	Genre/Artist/Album-Rock-C-ZZZ

While Table 2 includes only three locations, it is recognized that in other embodiments, the node location table may include N locations where N is a positive integer. In addition, some nodes may have more locations than others.



B. Add Node Location Process

The add node location process **214** is used to track the various locations of nodes in the master tree **122**. In one embodiment, as the leaf-nodes are being added to any of the trees to be displayed in the tree window **120**, the metadata management module **210** tracks the various locations in which the node is located and stores the data in the tree information database **234**. As indicated above, the master tree **122** is preferably an acyclic graph that allows nodes to have multiple parent nodes. Thus, each time a node is added to a tree, the metadata management module **210** tracks and stores the node's location information in a data structure, such as a node location table, though it is recognized that a variety of data structures may be used such as, for example, a list, a tree, an array, a database, and so forth. The node location table may then be stored in the tree information database **234**.

Table 2 illustrates a sample node location table that corresponds to the node locations of the example nodes used in the Build Process section above based upon the sample data of Table 1.

For example, if the node Speed is in two of the user's playlists and Always is not in the user's playlists, then Speed may have two more locations than Always.

One embodiment of an add node location process **214** will now be described with reference to FIG. **4**, though it is recognized that a variety of methods may be used to implement an add node location process **214**. In one embodiment, the add node location process **214** is executed each time a node is added to any of the trees in the master tree **122**.

The add node location process **214** begins at a start state **400** and then proceeds to a state **410**. In state **410**, the add node location process **214** determines whether the node exists in the node location table. If the node does not exist in the node location table, the add node location process **214** adds the node to the node location table in state **420** and proceeds to a state **430**. If the node already exists in the node location table, then the node location process proceeds to state **430**. In state **430**, the add node location process **214** adds the current location of the node to the node's first empty location field in the node location table and proceeds to an end state **440**.

C. Data Change Process

The data change process **216** is used to dynamically integrate changes into the database collection **230** as well as

the master tree **122** and/or the node table **132**. As indicated above, the user has access to add, change, or delete data in the tree window **120** and/or the table window **130** and the metadata management module **210** dynamically updates the master tree **122** and the node table **132** to reflect the user's additions, changes, and/or deletions. One embodiment of a data change process **216** is illustrated in FIG. **5**.

Beginning at a start state **500**, the data change process **216** proceeds to a state **510**. In state **510**, the data change process **216** receives a user's changes to data. For example, a user may reclassify a song from the genre Jazz to the genre New Age by using a mouse to drag the song from the Jazz node to the New Age node. In another example, a user may change the value of a grouping (e.g., rename a grouping) by selecting the grouping and typing in a new value. The user may also create a new playlist by selecting one or more audio tracks and copying them into a playlist node. The user may make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping using the menu system, and so forth. When a user drags, one node to a different grouping, the node will then inherit the characteristics of the new grouping (i.e., be reclassified), and the metadata database **232** will be updated accordingly. For example, if the audio track entitled "Always" was located under the Genre/Artist grouping Funk→B and the user moved it to Pop→A, the Genre value of the "Always" track may be updated to Pop and the Artist value may be updated to B.

The data change process **216** then proceeds to a state **520**. In state **520**, the data change process **216** updates the database collection **230** (e.g., the metadata database **232** and/or the tree information database **234**) with the changes and proceeds to a state **530**. In state **530**, the data change process **216** determines whether the change was made to a leaf node or a non-leaf node. If the change was made to a non-leaf node, then the data change process **216** proceeds to state **540** wherein for each sub-node (e.g. children, grandchildren, and so forth) of the non-leaf node, the data change process **216** updates the classification or field value that changed and proceeds to a state **550**. If the change was made to a leaf node, then the data change process **216** proceeds to state **550**. In state **550**, beginning with the first leaf node that was changed, and continuing until all of the leaf nodes that were changed (states **550** and **590**) are processed, the data change process **216** proceeds to a state **560**. In state **560**, the data change process **216** looks up the leaf node in the node location table and proceeds to a state **570**. In state **570**, for each location in the node location table entry, the data change process **216** locates the node in the master tree **122**, updates the node and proceeds to a state **580**. In state **580**, the data change process **216** updates the node location table to reflect any location changes and proceeds to a state **590**. In state **590**, the data change process **216** returns to state **550** if there are more changed leaf nodes that have not been updated. Once all of the changed leaf nodes have been updated, the data change process **216** proceeds to an end state **595**.

It is recognized that in other embodiments, the data change process **216** may be implemented in a different manner. For example, the node location table may be limited to include only those nodes that are displayed in the graphical user interface **220** such that the data change process **216** updates only those nodes that are being displayed in the graphical user interface **220**. In other embodiments, the data change process **216** may be implemented without using a node location table.

An additional embodiment of the data change process **216** is illustrated in FIG. **6**. Beginning at a start state **600** the data change process **216** proceeds to a state **610**. In state **610**, the data change process **216** receives a user's changes to data and proceeds to a state **620**. In state **620**, the data change process **216** updates the database collection **230** (e.g., the metadata database **232** and/or the tree information database **234**) with the changes and proceeds to a state **630**. In state **630**, beginning with the root node, and continuing until all of the nodes in the tree (states **630** and **670**) are traversed, the data change process **216** proceeds to a state **640**. In state **640**, the data change process determines whether anything in the node has been changed. If anything in the node has been changed, the data change process proceeds to a state **650** wherein a Node State is set to DIRTY, and proceeds to a state **670**. If the node has not been changed, the data change process proceeds to a state **660** wherein the Node State is set to CLEAN, and proceeds to state **670**. In state **670**, the data change process **216** returns to state **630** if there are nodes that have not been traversed. Once all of the nodes have been traversed, the data change process **216** proceeds to an end state **680**.

Thus, at then end of the process, each node in the tree has been marked as DIRTY or CLEAN. The next time the node is accessed, (e.g., selected by the user), then the node is regenerated to reflect the changes, and the changes are recursively propagated to any of the accessed node's sub-nodes.

It is recognized that in other embodiments, the data change process **216** may be implemented in a different manner. For example, additional, fewer, and/or different states may be used to track the changes to the nodes; a non-recursive process may be implemented; each node in the tree may be regenerated before the node is accessed; and so forth.

It is also recognized that the leaf-nodes may contain references to leaf node data such that when the leaf node data is changed, the changes may be automatically propagated to the other locations in which the leaf node resides.

D. Add Metadata Process

The add metadata process **218** is used to find and add metadata to the metadata database **232**. In one embodiment, the add metadata process **218** is triggered if there is no information in the metadata database **232** for an audio track. In other embodiments, the add metadata process **218** may be triggered if there is information in the metadata database **232** for an audio track, but certain portions of the information is missing. In such embodiments, when new data is found that includes data that conflicts with the existing data, the add metadata process **218** may default to overwriting the old data, keeping the old data, keeping the old data only if the user had edited the data, or use other defaults.

One embodiment of an add metadata process **218** is illustrated in FIG. **7**. The embodiment depicted in FIG. **7** looks for data if there is no information in the metadata database **232** for a track and thus, there are no conflicts. As previously indicated, it is recognized that an add metadata process **218** may be implemented using other defaults.

Beginning at a start state **700**, the add metadata process **218** proceeds to a state **710**. In state **710**, the add metadata process **218** determines whether there is information for the designated track in the metadata database **232**. The track may be designated using a variety of methods such as, for example, by placing a CD in the CD-ROM drive, by having the user select a group of tracks, by preselecting a group of tracks, and so forth. If there is already information for the designated track in the metadata database **232**, the add

metadata process **218** proceeds to an end state **770**. If the information is not already in the metadata database **232**, the add metadata process **218** proceeds to a state **720**. In state **720**, the add metadata process **218** determines whether the information is located in a local database. The local database may be, for example the CDPlayer.ini file as well as any other database or file of metadata that may be stored on or accessed by the add metadata process **218**. If the information is in a local database, the add metadata process **218** proceeds to a state **760** wherein the add metadata process **218** obtains a copy of the information and saves the information in the metadata database **232** and proceeds to the end state **770**. If the information is not in the local database, the add metadata process **218** proceeds to a state **730**. In state **730**, the add metadata process **218** determines whether the information is located with the content data. For example, if the content data is stored on a CD-ROM, then CD-ROM is checked for metadata information. If the content data is stored in an encoded data file such as, for example an MP3 file, the encoded data file is checked for metadata information. If the information is with the content data, the add metadata process **218** proceeds to a state **760** wherein the add metadata process **218** obtains a copy of the information and saves the information in the metadata database **232** and proceeds to the end state **770**. If the information is not with the content data, the add metadata process **218** proceeds to a state **740**. In state **740**, the add metadata process **218** determines whether the information is located in a remote database. For example, the adding data process may contact a remote database of audio metadata and perform a lookup of the designated track(s) to look for and retrieve the corresponding metadata. The corresponding metadata may then be sent to the add metadata process **218**. The contact with the remote database may be through a variety of mediums such as, for example, a direct network connection, a dial-up connection, an internet connection, and so forth. If the information is in the remote database, the add metadata process **218** proceeds to a state **760** wherein the add metadata process **218** obtains a copy of the information and saves the information in the metadata database **232** and proceeds to the end state **770**. If the information is not in the remote database, the add metadata process **218** proceeds to a state **750**. In state **750**, the add metadata process **218** queries the user for the information and the add metadata process **218** proceeds to a state **760** wherein the add metadata process **218** obtains a copy of the entered information, saves the information in the metadata database **232**, and proceeds to the end state **770**.

In one embodiment, the graphical user interface **220** may also be updated each time the metadata database **232** is updated. In addition, it is recognized that a subset of the various checks for data described above may be used. For example, in one embodiment, the add metadata process **218** may only look in a local database and a remote database.

In another embodiment, metadata information may also be added by user-initiated actions. For example, a user may drag and drop a set of metadata information the user received in an e-mail or on a disk into the graphical user interface **220**. Furthermore, the user may also initiate the add metadata process **218** wherein the user requests to be queried for information about the metadata. In other embodiments, metadata information may also be added by other processes. For example, if a user downloads a file, the download process may automatically import metadata information into the metadata database **232**. In another example, when the user updates the audio playing program, audio playing program may automatically trigger a lookup of any missing metadata information.

V. Conclusion

While certain embodiments of the invention have been described, these embodiments have been presented by way of example only, and are not intended to limit the scope of the present invention. Accordingly, the breadth and scope of the present invention should be defined in accordance with the following claims and their equivalents.

What is claimed is:

1. In a user computer, a method comprising:

generating a graphical representation of a plurality of metadata database entries corresponding to, audio/video content to be played by a media player application, each metadata entry stored locally at the user computer in the metadata database and characterized in accordance with a plurality of attributes that are associated with the audio/video content and shared between one or more of the plurality of metadata database entries;

receiving user input to manually modify one of the shared attributes;

recharacterizing in the metadata database, those of the plurality of metadata database entries characterized by the modified one of the shared attributes; and

dynamically updating the graphical representation of the one or more of the plurality of metadata database entries based upon the user input.

2. The method of claim **1**, wherein the audio/video content is played by the media player application in response to a metadata entry being selected by the user.

3. The method of claim **1**, wherein the user may manually perform at least one of a metadata addition, metadata deletion, and a metadata modification via the graphical representation.

4. The method of claim **1**, wherein the audio/video content comprises an MP3 file.

5. The method of claim **1**, wherein the metadata database is stored separate from the audio/video content.

6. The method of claim **1**, wherein the graphical representation further comprises a plurality of content grouping trees, each representing one or more of the plurality of metadata database entries and characterized in accordance with at least a first of the one or more attributes.

7. The method of **6**, wherein the graphical representation further comprises a table including metadata entries corresponding to nodes of a selected one of the plurality of content grouping trees.

8. The method of **7**, wherein the table includes metadata entries corresponding to leaf nodes of the selected one of the plurality of content grouping trees.

9. The method of **6**, wherein the plurality of content grouping trees comprises a hierarchical folder structure.

10. The method of **9**, wherein the plurality of content grouping trees comprises a hierarchical folder structure wherein the hierarchical folder structure is selectively expandable based upon user input.

11. The method of claim **1**, wherein the graphical representation further comprises a table including metadata entries characterized in accordance with at least a subset of the plurality of attributes associated with the audio/video content.

12. The method of claim **1**, wherein the metadata database is a hierarchically arranged database containing the plurality of metadata database entries corresponding to a plurality of audio/video content.

13. The method of claim **1**, wherein the attributes associated with the audio/video content comprise a selected one of a title, artist, genre, and track name.

14. In a user computer, a method comprising:

generating a graphical representation of a plurality of metadata entries characterizing audio/video content to be played by a media player application, wherein the metadata is stored locally at the user computer in a metadata database and characterized in accordance with one or more attributes associated with the audio/video content, the graphical representation including

a plurality of content grouping trees, with each content grouping tree representing one or more metadata entries characterized in accordance with a first of the one or more attributes; and

a table including metadata entries corresponding to nodes of a selected one of the plurality of content grouping trees;

receiving user input to manually modify at least one of the attributes associated with the audio/video content; and

dynamically updating the graphical representation of the metadata and the metadata database to reflect the user input.

15. The method of claim 14, wherein a user may recharacterize a metadata entry by graphically associating the metadata entry displayed in the table with a second content grouping tree corresponding to a second of the one or more attributes.

16. The method of claim 15, wherein the metadata entry inherits characteristics associated with the second content grouping tree.

17. The method of claim 14, wherein the table comprises a plurality of attribute field names including at least one of track name, artist, album, genre and track length.

18. The method of claim 14, wherein the audio/video content is played by the media player application in response to a metadata entry being selected by the user.

19. The method of claim 14, wherein the user may manually perform at least one of a metadata addition, metadata deletion, and a metadata modification via the graphical representation.

20. The method of claim 14, wherein the audio/video content comprises an MP3 file.

21. The method of claim 14, wherein the table includes metadata entries corresponding to leaf nodes of a selected one of the plurality of content grouping trees.

22. An apparatus comprising:

a storage medium having a plurality of programming instructions stored therein, the programming instructions designed to

generate a graphical representation of a plurality of metadata database entries corresponding to, audio/video content to be played by a media player application, each metadata entry stored locally in the metadata database and characterized in accordance with a plurality of attributes that are associated with the audio/video content and shared between one or more of the plurality of metadata database entries,

receive user input to manually modify one of the shared attributes,

recharacterize in the metadata database, those of the plurality of metadata database entries characterized by the modified one of the shared attributes, and

dynamically update the graphical representation of the one or more of the plurality of metadata database entries based upon the user input; and

at least one processor coupled with the storage medium to execute the programming instructions.

23. The apparatus of claim 22, wherein the programming instructions are further designed to play the audio/video content in response to a metadata entry being selected by the user.

24. The apparatus of claim 22, wherein the programming instructions are further designed to facilitate at least one of a metadata addition, metadata deletion, and a metadata modification by a user via the graphical representation.

25. The apparatus of claim 22, wherein the graphical representation further comprises a plurality of content grouping trees, each representing one or more of the plurality of metadata database entries and characterized in accordance with at least a first of the one or more attributes.

26. The apparatus of 25, wherein the graphical representation further comprises a table including metadata entries corresponding to nodes of a selected one of the plurality of content grouping trees.

27. The apparatus of 26, wherein the table includes metadata entries corresponding to leaf nodes of the selected one of the plurality of content grouping trees.

28. The apparatus of 25, wherein the plurality of content grouping trees comprises a hierarchical folder structure.

29. The apparatus of 28, wherein the plurality of content grouping trees comprises a hierarchical folder structure wherein the hierarchical folder structure is selectively expandable based upon user input.

30. The apparatus of claim 22, wherein the graphical representation further comprises a table including metadata entries characterized in accordance with at least a subset of the plurality of attributes associated with the audio/video content.

31. The apparatus of claim 22, wherein the metadata database is a hierarchically arranged database containing the plurality of metadata database entries corresponding to a plurality of audio/video content.

32. The apparatus of claim 22, wherein the attributes associated with the audio/video content comprise a selected one of a title, artist, genre, and track name.

33. An apparatus comprising:

a storage medium having a plurality of programming instructions stored therein, the programming instructions designed to

generate a graphical representation of a plurality of metadata entries, characterizing audio/video content to be played, wherein the metadata is stored locally in a metadata database and characterized in accordance with one or more attributes associated with the audio/video content, the graphical representation including a plurality of content grouping trees, with each content grouping tree representing one or more metadata entries

characterized in accordance with a first of the one or more attributes, and a table including metadata entries corresponding to nodes of a selected one of the plurality of content grouping trees,

receive user input to manually modify at least one of the attributes associated with the content, and

dynamically update the graphical representation of the metadata and the metadata database to reflect the user input; and

at least one processor coupled with the storage medium to execute the programming instructions.

34. The apparatus of claim 33, wherein the programming instructions are further designed to facilitate a user in recharacterizing a metadata entry by graphically associating the metadata entry displayed in the table with a second content grouping tree corresponding to a second of the one or more attributes.

35. The apparatus of claim 33, wherein the table comprises a plurality of attribute field names including at least one of track name, artist, album, genre and track length.

36. The apparatus of claim 33, wherein the audio/video content comprises an MP3 file.

37. The apparatus of claim 33, wherein the programming instructions are further designed to play the audio/video content in response to a metadata entry being selected by the user.

38. The apparatus of claim 33, wherein the programming instructions are further designed to facilitate at least one of a metadata addition, metadata deletion, and a metadata modification by a user via the graphical representation.

* * * * *

Appendix D

US005739451A

United States Patent [19]

Winksy et al.

[11] Patent Number: 5,739,451

[45] Date of Patent: Apr. 14, 1998

[54] **HAND HELD ELECTRONIC MUSIC ENCYCLOPEDIA WITH TEXT AND NOTE STRUCTURE SEARCH**

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[21] Appl. No.: **775,015**

[22] Filed: **Dec. 27, 1996**

[51] **Int. Cl.**[6] **A63H 5/00**; G04B 13/00; G10H 7/00

[52] **U.S. Cl.** **84/609**

[58] **Field of Search** 84/600, 609, 634, 84/615

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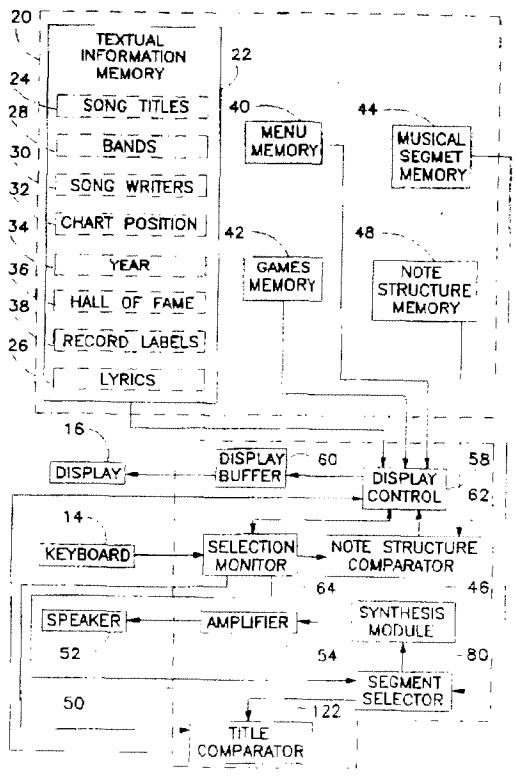
Primary Examiner—William M. Shoop, Jr.
Assistant Examiner—Jeffrey W. Donels
Attorney, Agent, or Firm—McAulay Fisher Nissen Goldberg & Kiel, LLP

[57] **ABSTRACT**

A hand held electronic music reference machine includes a platform having a keyboard and a display for displaying text. A database removably or permanently mounted to the platform has a first memory portion storing, for each of a multiplicity of songs, selected lyrics and identification information including a title. The database has a second memory portion storing a segment from each of the songs. A user actuated selection component is operatively connected to the first memory portion of the database and to the display for permitting operator selection of a song from a list of song titles shown on the display and inducing display of the lyrics stored in the first memory portion for the selected song. In addition, a user actuated audio production element provided on the platform is operatively coupled to selection component and the database for enabling an audible reproduction of the segment stored in the second memory portion for the selected song. Search filters are provided for enabling a user to determine a song title from bits of ancillary information, including a series of relative note or pitch values, i.e., a melody line which is rising, falling or remaining the same in pitch value.

12 Claims, 4 Drawing Sheets



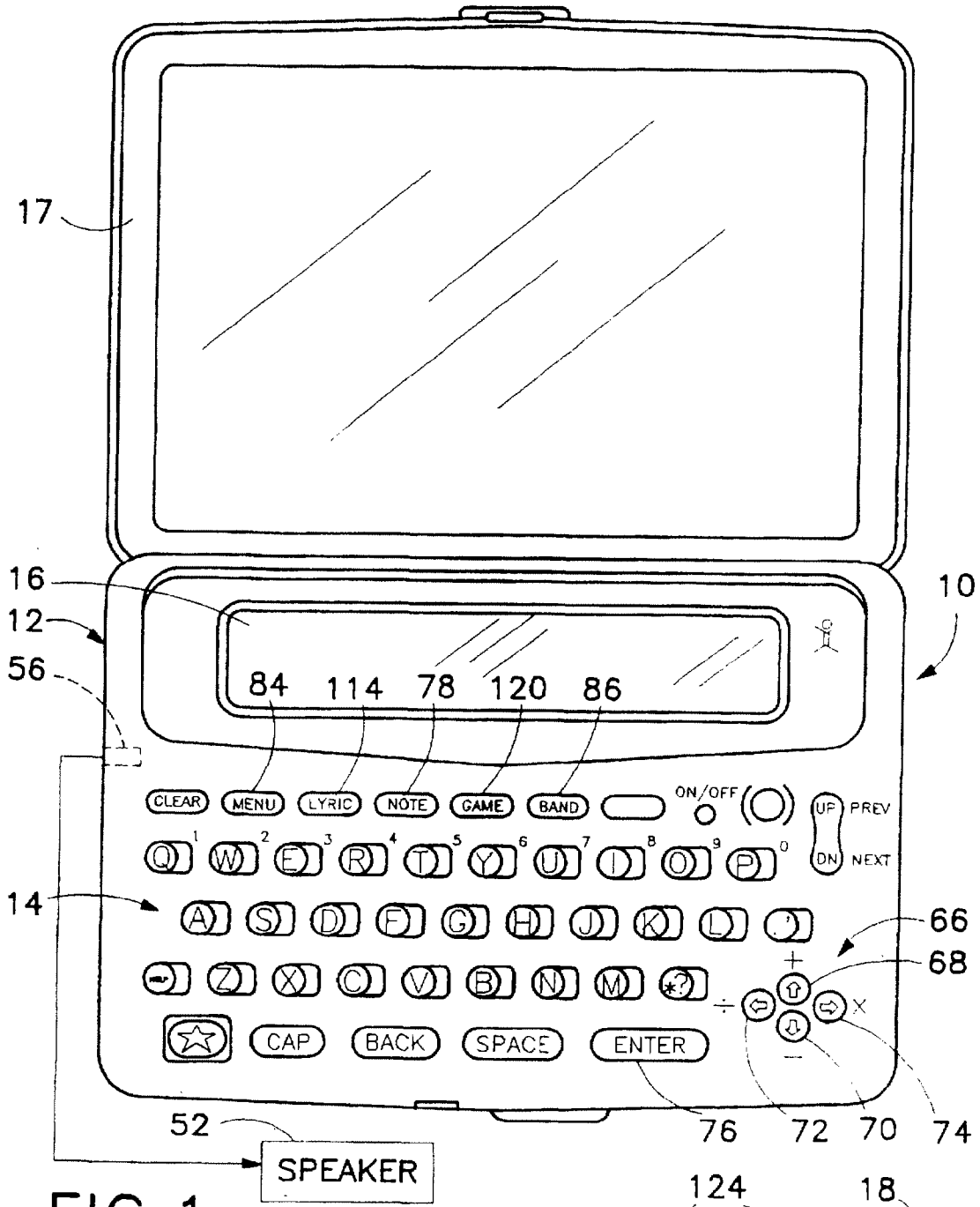

17
16
12
56
10
84
114
78
120
86
CLEAR
MENU
LYRIC
NOTE
GAME
BAND
ON/OFF
UP
PREV
DN
NEXT
14
66
68
CAP
BACK
SPACE
ENTER
52
SPEAKER
76
72
70
74

FIG. 1

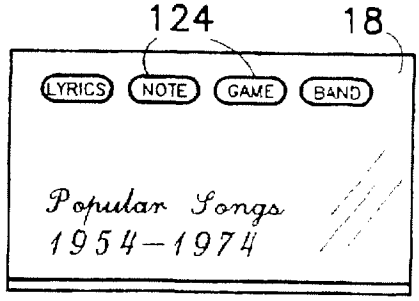

124
18
LYRICS
NOTE
GAME
BAND
Popular Songs
1954–1974

FIG. 2

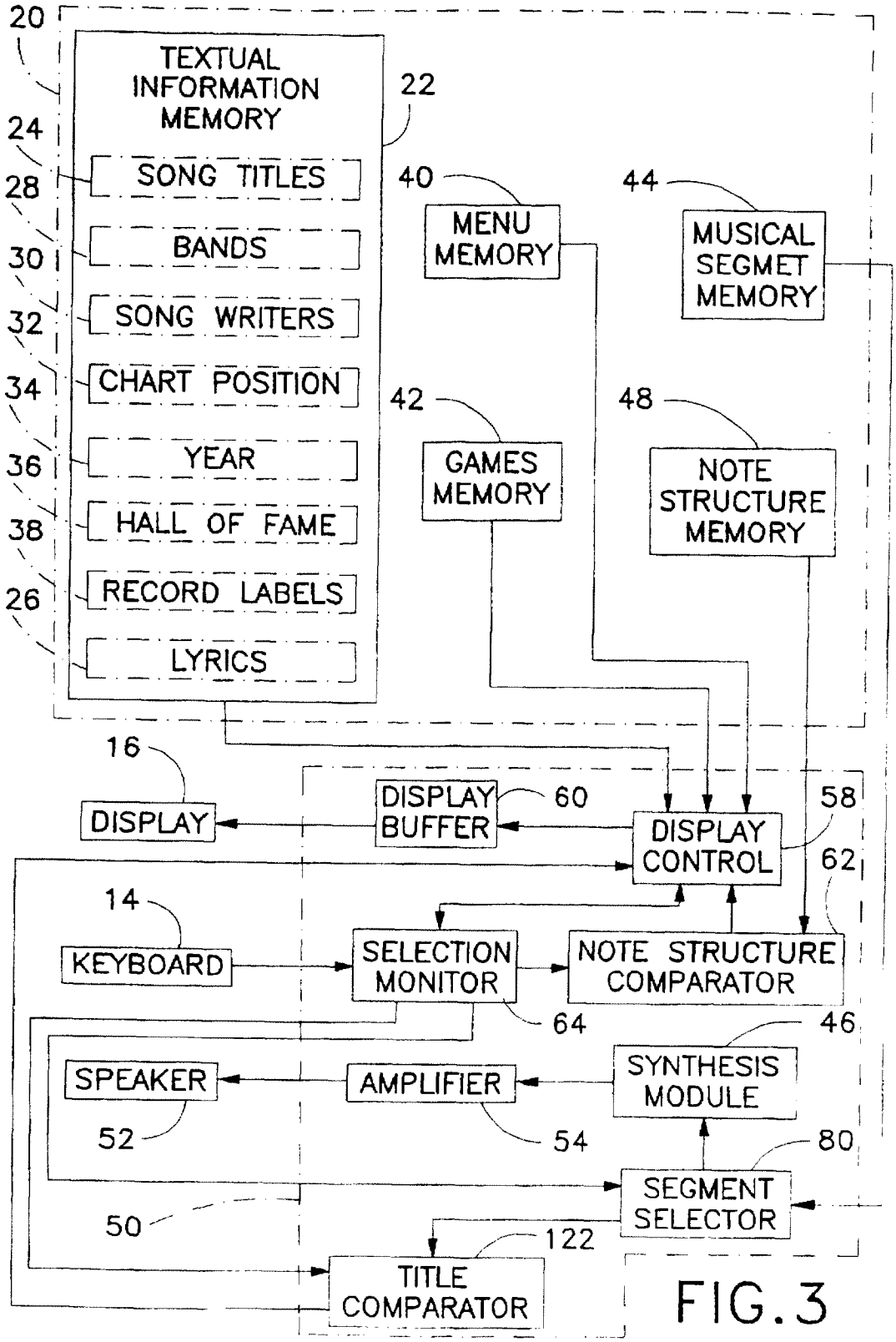

20
TEXTUAL INFORMATION MEMORY
22
24
SONG TITLES
28
BANDS
30
SONG WRITERS
32
CHART POSITION
34
YEAR
36
HALL OF FAME
38
RECORD LABELS
26
LYRICS
40
MENU MEMORY
44
MUSICAL SEGMET MEMORY
42
GAMES MEMORY
48
NOTE STRUCTURE MEMORY
16
DISPLAY
DISPLAY BUFFER
60
DISPLAY CONTROL
58
62
14
KEYBOARD
SELECTION MONITOR
NOTE STRUCTURE COMPARATOR
64
46
SPEAKER
AMPLIFIER
SYNTHESIS MODULE
52
54
80
SEGMENT SELECTOR
50
122
TITLE COMPARATOR

FIG. 3

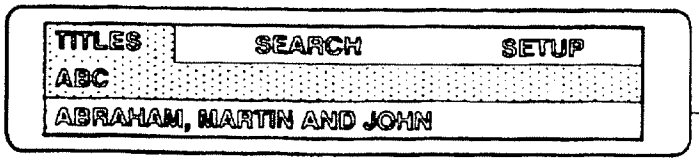


FIG.4

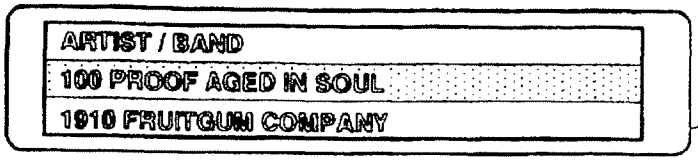


FIG.5A

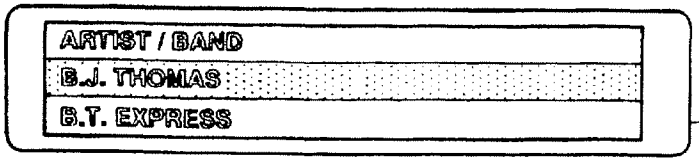


FIG.5B

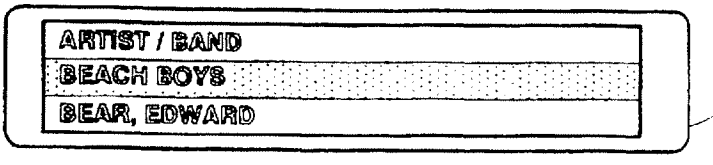


FIG.5C

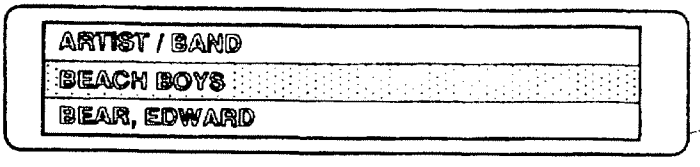


FIG.5D

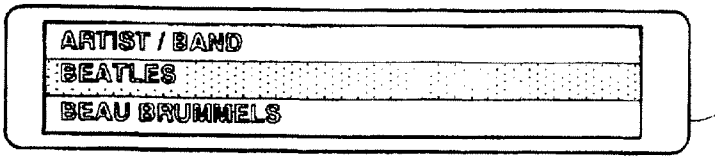


FIG.5E

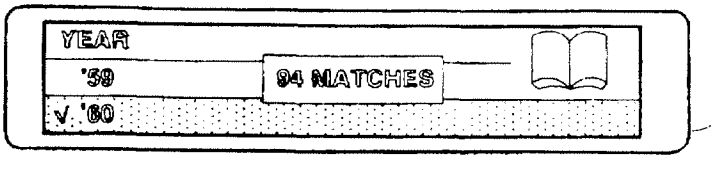


FIG.7A

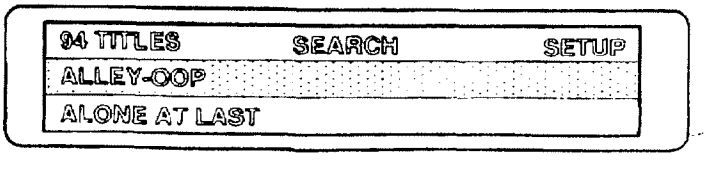


FIG.7B

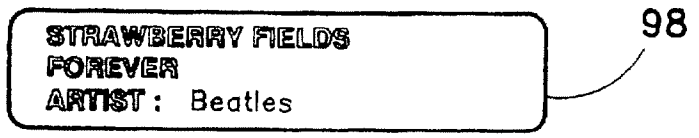


FIG.6A

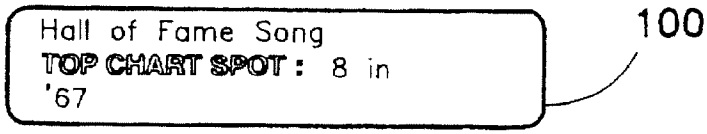


FIG.6B

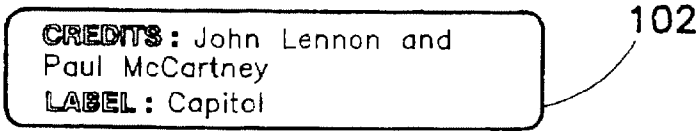


FIG.6C

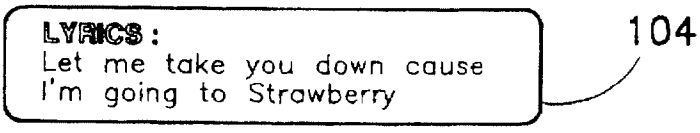


FIG.6D

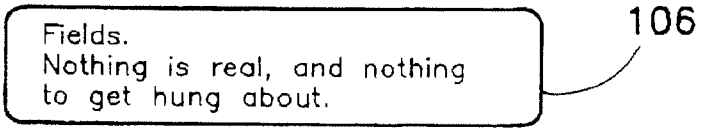


FIG.6E

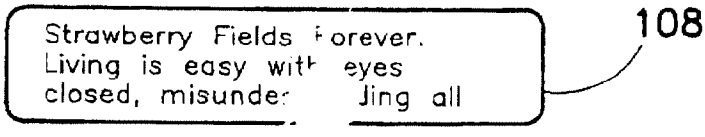


FIG.6F

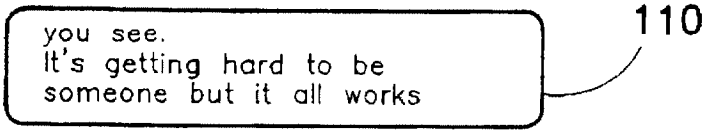


FIG.6G

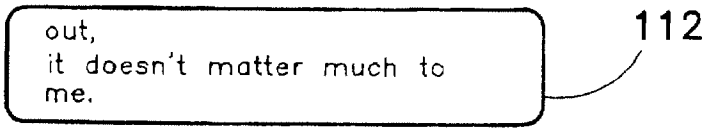


FIG.6H

HAND HELD ELECTRONIC MUSIC ENCYCLOPEDIA WITH TEXT AND NOTE STRUCTURE SEARCH

BACKGROUND OF THE INVENTION

This invention relates to a hand held electronic reference machine and to an associated method for operating the machine. More particularly, this invention relates to such a machine and associated method for use in researching information about songs.

Many people experience memory lapses or mental gaps with respect to music they have heard. Even musicians and song writers occasionally remember only a musical phrase or a fragment of lyrics of a song, or ancillary information relating to the song, such as the name of the songwriter or the year in which the song hit the charts, without being able to recall other lyrics or even the name of the song. In such a situation, the individual has little recourse but to consult other people's memories to fill in the missing information. Clearly, it would be beneficial to have a reference work which would facilitate the identification of the song, as well as supply ancillary information pertaining to the song.

One technique exists which enables one to determine a song title by manually searching a paper reference work for an up-down-repeat note structure, i.e., a sequence of directions of changes in pitch values for a melody segment of the song. In performing such a search, the first note of the tune is designated as the reference point and therefore has no change direction in and of itself. Following notes are designated as "D," "U" or "R" if the pitch value goes down, up or remains the same relative to the immediately preceding note.

This note structure search technique can sometimes result in a small list of possible song titles. However, it is not uncommon for many songs to have the same note structure although their melodies are widely different. In these cases, the note structure search is not especially helpful.

OBJECTS OF THE INVENTION

Accordingly, it is an object of this invention to provide an electronic reference device and/or an associated method which will enable a user to identify a song from only pieces of available information about the song.

A more particular object of the invention is to provide such a device and/or method which will enable a user to identify a song from available identification information, such as some lyrics, and/or from a segment of its melody line.

Another, related object of the invention is to provide an electronic reference device and/or method which will provide a user with at least some lyrics and an audio reproduction of at least a portion of the song.

It is an associated purpose of this invention to reach the above objects in a device that exhibits minimum complexity and is easy to use.

A further related purpose is to provide a device which has reasonable cost so that it can be made available to a wide variety of users.

BRIEF DESCRIPTION

In brief, one embodiment of a hand held electronic music reference machine in accordance with the present invention includes a platform having a keyboard and a display for displaying text. The machine includes a database removably or permanently mounted to the platform. The database or memory has a first memory portion for storing preselected ancillary textual identification information for each of a plurality of musical works, the identification information including an identifier (e.g., a song title or a bridging piece of music) for each of the musical works. The database or memory further has a second memory portion storing a predetermined reproducible segment (e.g., arrangement) for each of the musical works. A note structure determination component is disposed on the platform for providing a reference sequential note structure for each of the musical works. By "note structure" is meant a sequence of directional changes in successive pitch values (up, down, same) for a melody segment of the song. A user actuated note structure input on the platform of the electronic reference machine provides an input search sequential note structure, while the keyboard enables user input of a textual search term (e.g., a word or words). A functional search module disposed on the platform is operatively connected to the keyboard, the user actuated note structure input, the memory and the note structure determination component for searching the identification information in the first memory portion in response to the search term and for cooperating with the note structure determination component to search the reference sequential note structures in response to the input search sequential note structure, to provide a set of proposed identifiers on the display. The set of proposed identifiers is determined by the search module in accordance with dual match criteria comprising (a) a first match criterion between the search term and the identification information and (b) a second match criterion between the input search sequential note structure and the sequential note structures of the musical works. A user actuated selector on the keyboard enables a user to select one of the proposed identifiers on the display and a melody production component disposed on the platform and connected to the memory generates an audio reproduction of one of the predetermined reproducible musical segments in the second memory portion corresponding to the selected one of the proposed identifiers.

Generally, it is contemplated that the musical works are songs and the identification information includes lyrics.

Preferably, the note structure determination component includes a third memory portion of the database or memory. This third memory portion stores the sequential note structure for each of the musical works. Alternatively, the note structure determination component may include means for deriving a sequence of pitch value change directions from the reproducible musical segments in the second memory portion.

Pursuant to a particular feature of the present invention, the machine further comprises user-activated game implementation componentry operatively connected to the memory for automatically and essentially randomly selecting a reproducible segment from the second memory portion. The game implementation componentry is operatively connected to the melody production means for generating an audible reproduction of the randomly selected reproducible segment. In addition, the machine includes elements for indicating to a user that an identifier selected by the user in response to the reproduction of the randomly selected reproducible segment corresponds to the randomly selected reproducible segment.

The ability to perform a search based on both written information (lyrics, band, etc.) and melody information dramatically enhances the research value of the machine. Moreover, the portability and ease of use of a hand held device is especially advantageous.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a plan view of a platform with a keyboard and a display, for a hand held electronic music reference machine in accordance with the present invention.

FIG. 2 is a plan view of a database connectable to the platform of FIG. 1, the database electronically storing song titles, lyrics, and ancillary identifying information for display.

FIG. 3 is a block diagram showing programmed functional elements of an electronic music reference machine in accordance with the present invention.

FIG. 4 shows a main menu display screen and the beginning of a master list of song titles in an electronic music reference machine in accordance with the present invention.

FIGS. 5A–5E illustrate successive display screens produced by an electronic music reference machine and an associated method in searching for songs by a particular band or recording artist in accordance with the present invention.

FIGS. 6A–6H illustrate successive display screens listing identification information and lyrics of a selected song, produced by an electronic music reference machine and an associated method in accordance with the present invention.

FIGS. 7A and 7B illustrate successive display screens produced by an electronic music reference machine and an associated method in searching for songs which were popular in a particular year (1960) in accordance with the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

As shown in FIG. 1, an electronic music reference machine **10** according to this invention includes a platform, frame member or casing **12** which can be held by hand and which carries a keyboard **14** and a display screen **16**. The platform **12** has an optional hinged cover **17** and is provided with a slot (not shown) for receiving a card **18** (FIG. 2) which carries a database **20** (FIG. 3). Alternatively, database **20** may be permanently incorporated into platform **12**.

As illustrated in FIG. 3, database **20** has a first memory portion **22** storing textual or alphanumeric information which can be shown on display **16**. Memory portion **22** includes an area **24** storing song titles and another memory area **26** storing at least some lyrics for each song whose title exists in memory area **24**. Memory portion **22** further includes areas **28**, **30**, **32**, **34**, **36** and **38** respectively storing band or artist names, songwriter names, highest chart positions attained by the various songs, the years in which the highest chart positions were attained, Hall of Fame listings and recording labels.

Database **20** includes an additional memory portion **40** storing a main menu, as well as other programming for ancillary functions of the music reference machine **10**. Such ancillary functions include generic search functions, automatic shut-off, screen clearing, a tutorial, and page up and page down functions. Another memory portion **42** of database **20** stores programming for game functions of the music reference machine **10**.

Database **20** further includes a memory portion **44** which stores, for each song, a segment of the song's musical arrangement. The stored reproducible musical segments are preferably the most memorable and well known portions of the songs. The reproducible segments are preferably stored as compressed MIDI (Musical Instrument Digital Interface) files, capable of conversion to an analog signal by a decompression and music synthesis module **46**. Alternatively, the reproducible musical segments can be stored in digitized form, convertible by a digital-to-analog converter (not shown). In another alternative construction (not illustrated), the MIDI files are transmittable directly to an ancillary device that is capable of processing the MIDI format, such as certain electronic keyboards.

Yet another portion **48** of database **20** stores note structure information, i.e., information pertaining the directions of change of pitch values of melody segments. The term "note structure" is defined herein to mean a series of directions of change of note values. A note structure specifies the directions which successive notes take, each relative to the immediately preceding note. If a given note in a melody has a higher pitch than the preceding note, the sequence goes up at the given note. Conversely, if the given note has a lower pitch than the preceding note, the sequence goes down at the given note. If the given note and the preceding note have the same pitch value, the note structure remains the same. Of course, this characterization of a melody extracts only part of the information which defines the melody. Absolute pitch values, durations and intervals are left out. However, for purposes of identifying a song, the note structure information in memory portion **48** of database **20** can be effective in narrowing a search to a small number of song titles.

Database **20**, as contained in card **18**, is removably mounted to platform **12** for enabling the use of platform **12** with different databases storing song identification and melody information for different periods or different types of music. For example, a first card can carry music information for songs appearing between 1954 and 1974, while a second card can hold information pertaining to the years between 1974 and 1994. One card might be limited to popular songs, while another card carries jazz or country western songs.

Platform **12** carries a microprocessor **50** which accesses database **20** to obtain textual type information from memory portion **22** for display on screen **16** and to obtain digitized reproducible musical segments from memory portion **44** for audible reproduction via a headphone speaker or other electroacoustic transducer **52** (FIGS. 1 and 3). Headphone speaker **52** is connected to microprocessor **50** and database **20** and, more particularly, to an amplifier **54**, via a jack **56** disposed on platform **12**. Amplifier **54** is disposed downstream of synthesis module **46**. Amplifier **54** and synthesis module **46** may be implemented by circuits of microprocessor **50** or by other, dedicated circuit components (not shown) in platform **12**.

Microprocessor **50** includes a display control module **58** which extracts or selects information from database **20** for reproduction in visually sensible form on display screen **16**. The information to be displayed is temporarily stored in a buffer **60** operatively connected at an input side to display control module **58** and on an output side to display screen **16**. Display control module **58** obtains a menu and submenus from memory portion **40**, song identification information from memory portion **22** and games programming from memory portion **42**.

Display control module **58** is also connected at a data input to a note structure comparator **62**. Comparator **62** is connected at an input to keyboard **14** for receiving therefrom note structure data input by a user for purposes of researching and ultimately identifying a song.

The note structure data input by the user via keyboard **14** is detected and decoded by a selection monitor component **64** of microprocessor **50**. Selection monitor **64** forwards the

input note structure data to comparator **62** for comparison with the note structure information stored in memory portion **48**. Upon identifying one or more songs having a note structure matching the input sequence, comparator **62** signals display control **58** to access memory portion **22** and to display a list of the identified song titles on display **16**.

The note structure data is input via directional keys **66**. More particularly, "up" and "down" directional keys **68** and **70** are used to respectively indicate a rise or fall in pitch of a given note over a preceding note, while left and/or right directional key **72**, **74** is used to indicate that the given note has the same pitch as the preceding note.

Selection monitor **64** is also coupled to display module **58** for directing the operation thereof, i.e., the selection of information for display on screen **16**. In general, selection monitor **64** scans an Enter function key **76** and directional keys **66** to determine which entry in a displayed menu is highlighted and scans other keys to determine whether a function is selected and, if so, which function. Upon such a selection of an entry by a user, selection monitor **64** signals display control **58** to show different information on display screen **16**, e.g., identification information and lyrics for a selected song or a submenu such as a list of search options. Alternatively, a submenu may be selected by actuating a left or right directional key **72** or **74** included in directional group **66**.

Selection monitor **64** also determines whether the user desires to have a particular melody reproduced via speaker or transducer **52**. To that end, upon the highlighting of a song title as described above, the user actuates a specialized function key **78** labeled "NOTE" in FIG. **1**, to induce the transmission of a reproducible musical segment from memory portion **44** to a segment selector module **80**. Selector module **80** functions as an addressing unit controlled by selection monitor **64** for extracting the reproducible musical segment for a selected song from memory portion **44**. The extracted segment is fed to speaker **52** via synthesis module **46** and amplification stage **54**.

FIG. **4** shows a main menu screen **82** brought to display **16** upon initialization of the device, or upon pressing of a specialized key **84** (FIG. **1**) labeled "Menu." The main menu includes a "Titles" selection, a "Search" selection and a "Setup" selection. A selection is made by actuating Enter function key **76** when the desired selection is highlighted. The highlighting can be shifted among the different selections by using left and right directional keys **72** and **74** (FIG. **1**). FIG. **4** shows the beginning of an alphabetical master list of song titles ("ABC" and "Abraham, Martin and John") which appears upon selection of "Titles" from the main menu. When "Search" is selected from the main menu, display **16** shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line. Any search filter may be selected by actuating Enter function key **76** upon highlighting the desired search filter. In executing the first eight search filters, display control **58** accesses the respective areas of memory portion **22**. In executing a melody line search, note structure comparator **62** accesses memory portion **48** in accordance with a note structure input via directional keys **66**.

Selection of "Setup" from the main menu induces display of a submenu including the following entries: "Tutorial," "Copyright," "Set Type Size," "Set Shutoff," "Set Contrast," and "View Demo." These operating functions are ancillary features not germane to the invention and are not discussed herein.

The names of bands and other recording artists are searched via menu selection, as described above. Alternatively, a specialized function key **86** may be pressed at any time to display an alphabetical list of recording artists, shown as a display screen **88** in FIG. **5A**. The list of recording artists is searched by display control **58** in response to successive keystrokes as detected by selection monitor **64**. FIG. **5B** shows a display screen **90** shown on display **16** after typing in the letter "B." FIGS. **5C–5E** show similar display screens **92**, **94** and **96** brought to display **16** after entry of the letters "E," "A," and "T," respectively. This mode of searching is called an "alphasearch." Microprocessor **60** does not wait for an actuation of Enter function key **76** in order to commence a search. Instead, the search is updated every time an alphanumeric key of keyboard **14** is pressed.

During a search of the band list, highlighting of the entries may be shifted from artist to artist by using up and down directional keys **68** and **70**. If selection monitor **64** detects the actuation of Enter function key **76**, a list of song titles appears for the highlighted recording artist. As in every case where a list of song titles is shown on display **16**, actuation of special function key **78**, which is detected by selection monitor **64**, causes selector module **80** to retrieve the stored reproducible musical segment for a highlighted song from memory portion **44** and to feed the retrieved segment to synthesis module **46** for playback via speaker **52**.

Whenever a song title is highlighted on display **16** and selection monitor **64** detects the actuation of Enter function key **76**, display control **58** accesses memory portion **22** to obtain identification information and lyrics for the highlighted song. FIGS. **6A–6H** illustrate a sequence of successive screens **98**, **100**, **102**, **104**, **106**, **108**, **110**, and **112** in which the identification information and lyrics are displayed for the user. Screen **98** lists the song title and the recording artist, that information being obtained from memory areas **24** and **28**, respectively. The next screen **100** identifies the song, "Strawberry Fields Forever," as a Hall of Fame song (memory area **36**) with a top chart spot of 8 (memory area **36**) in the year 1967 (memory area **36**). The remaining screens **104**, **106**, **108**, **110**, and **112** show lyrics of the selected song. The lyrics corresponding to a highlighted song title may be selected immediately for viewing on display **16** by pressing a special function key **114** labeled "LYRIC" in FIG. **1**.

A list of song titles shown in display **16** for a specified recording artist may be narrowed down by performing a further search. A desired search parameter or filter is selected via the menu function. As discussed above, a user can search for a label under which the song was recorded, the highest chart position attained by the song, the year in which the song attained that chart position, Hall of Fame status, and the name of the songwriter. Microprocessor **50** respectively accesses memory areas **38**, **32**, **34**, **36** and **30**, respectively, during those searches.

FIG. **7A** shows a display screen **116** indicating that 94 songs were found in a search of the year 1960. The year search may have been implemented, for example, following another search such as a band search. As shown in FIG. **7B**, another screen **118** lists the 94 titles uncovered in the year search. The main menu appears at the top of the screen and may be used to undertake an additional search in an attempt to decrease the number of titles on the list. Such an additional search may be, for example, a word search of the lyrics stored in memory area **26** (FIG. **2**). Upon a selection of "Lyrics" from the search submenu, microprocessor **50** awaits the entry of alphanumeric characters alphanumeric

characters via keyboard **14** and the actuation of Enter function key **76**. As in other searches, the songs incorporating the inputted alphanumeric characters have their titles listed on display **16**.

As discussed above, another search function is performed by note structure comparator **62** in response to a note structure entered via directional keys **66**. Again, the term "note structure" refers to a series of relative note or pitch values, i.e., a melody line which is rising, falling or remaining the same in pitch value. An illustrative note structure is FFSRFF where the second and third notes of a melody fall in pitch, the fourth note remains the same as the third, the fifth note rises in tone, and the sixth and seventh notes fall. The first note of the sequence is the starting value and is not specified. In response to this note structure search request, comparator **62** advises display control **58** as to which songs have the inputted note structure FFSRFF.

Generally, the reproducible musical segments in memory portion **44** and the note structures in memory portion **48** are taken from the most commonly recognizable parts of the respective songs. Preferably, the reproducible segments stored in memory portion **44** are musical arrangements. The arrangements are frequently of chorus sections and occasionally correspond to the words of the title, where the title appears in the lyrics of a song. The reproducible segments stored in memory portion **44** may be converted into sound during display of lyrics (FIGS. 6D–6H).

Microprocessor **50** accesses memory portion **42** of database **20** for purposes of carrying out any of several music trivia games. Upon detecting the actuation of a special function key **120** labeled "GAME," selection monitor **64** induces display control module **58** to extract a game menu from memory portion **40**. Several of the games available in machine **10** utilize a selection function according to which selector module **80** automatically and randomly selects a reproducible musical segment from memory portion **44**. The randomly selected musical segment, or a part thereof, is played over speaker **52**. In response to the audio presentation, the user attempts to identify the song's title by typing the title on keyboard **16** or by selecting from a list of titles shown on display **16** by display control **58**. Selection monitor **64** relays the song title to a comparison module **122** which checks whether the inputted song title is correct. To that end, comparison module **122** is connected to selector module **80** for receiving address information therefrom. In response to an address from selector module **80**, comparison module **122** accesses memory area **24** of memory portion **22** to obtain the title of the song acoustically reproduced via speaker **52**. Upon determining that the user has correctly identified a song title, comparison module **122** forwards a signal to display control **58** for providing a visual signal to the user via display **16**.

In one game, the complete stored segment of the randomly selected song is played and the user is presented, on the display **16**, at the end of the audio reproduction, with a list of titles from which to choose. In another game, the user can interrupt the playing of the reproducible musical segment by pressing Enter function key **76**. Display control **58** then brings a list of song titles to display **16** and the user selects the desired song title by using the alphasearch technique described above. In a related game, a part of the randomly selected song is played several times, with the length of the reproduced portion increasing each time, until the user actuates Enter function key **76**. At that time, the user "alphasearches" a list of song titles on display **16**.

In yet another game, the user inputs a note structure via directional keys **66** in response to the playing of a randomly selected song segment via speaker **52**. In this game, selection monitor **64** automatically and randomly selects a song in response to an instruction from keyboard **14**. An address specifying the song is transmitted at that time from selection monitor **64** to selector module **80**, which accesses memory portion **44** for the reproducible musical segment of the randomly selected song. The same address is transmitted from selection monitor **64** to note structure comparator **62**, which obtains the corresponding note structure from memory **48**. Upon a subsequent input of a note structure via directional keys **66**, as described hereinabove, and the feeding of the input note structure to comparator **62**, that component of microprocessor **50** compares the user-input note structure with the note structure of the randomly selected song, obtained from memory portion **48**. Upon detecting a correct note structure match, comparator **62** alerts display control **58** which in turn communicates the correctness of the inputted note structure to the user via display **16**.

Another game, selected from the game menu called to display **1** by pressing special function key **120**, is a music trivia game wherein microprocessor **50** randomly accesses memory portion **22** for a song title and then prompts the user for ancillary information such as band or artist names, songwriter names, highest chart positions attained by the various songs, the years in which the highest chart positions were attained, Hall of Fame listings, and recording labels. Alternatively, identifying information such as selected lyrics may be shown on display **16**. The user then guesses the song title corresponding to the displayed information.

It is understood that display control module **58**, note structure comparator **62**, selection monitor module **64**, selector module **80**, title comparator **122** and other functional circuit components of microprocessor **50** are implemented by generic microprocessor circuits as modified by programming. The programming for those functional circuit components of microprocessor **50** are permanently stored in database **20** and transferred to RAM in microprocessor **50** for purposes of implementing the language learning functions therein. Alternatively, microprocessor **50** directly accesses ROM on card **18** and follows the programming therein without intermediate transfer to a RAM on platform **12**. In any event, the programming in database **20** largely and perhaps most significantly determines the programmed structure of microprocessor **50** and the operation thereof. Exchanging a card **18** on platform **12** for another card carrying different programming relating, for example, to different songs essentially generates a new machine.

As illustrated in FIG. **2**, a card **18** is provided with printed key representations **124**. Representations **124** are color coded to match respective colored keys on keyboard **14**, thereby enabling a reassignment of function in accordance with a particular card **18**.

The search filters described hereinabove are implemented in the music reference machine **10** pursuant to the techniques described in U.S. Pat. No. 5,321,609, the disclosure of which is hereby incorporated by reference. After the display of a master list of titles (FIG. **4**), the use of search filters reduces the number of titles listed. Generally, the greater the number of filters used, the smaller the resulting list of titles.

The above-described alphasearch technique is utilizable with the titles listing, as well as the search filters pertaining to recording artist (band), year of song ascendance, recording label, and songwriter. A word search technique, also alluded to above, is limited to title searching and lyrics searching, i.e., to memory areas **24** and **26** (FIG. **3**).

Although the invention has been described in terms of particular embodiments and applications, one of ordinary skill in the art, in light of this teaching, can generate additional embodiments and modifications without departing from the spirit of or exceeding the scope of the claimed invention. For example, the note structure information, instead of being stored separately in memory portion **48**, may be derived from the reproducible musical segments (arrangements or melodies) in memory portion **44**, as in the case where those reproducible segments are stored in a MIDI (Musical Instrument Digital Interface) file. Accordingly, it is to be understood that the drawings and descriptions herein are proffered by way of example to facilitate comprehension of the invention and should not be construed to limit the scope thereof.

What is claimed is:

1. A hand held electronic music reference machine having a platform, a keyboard, and a display for displaying text, comprising:

a memory mounted to said platform, said memory having a first memory portion for storing preselected ancillary textual identification information for each of a plurality of musical works, said identification information including an identifier for each of said musical works, said memory further having a second memory portion storing a predetermined reproducible segment of each of said musical works;

note structure determination means disposed on said platform for providing a reference sequential note structure for each of said musical works;

user actuated note structure input means on said platform for providing an input search sequential note structure, said keyboard enabling user input of a textual search term;

search means disposed on said platform and operatively connected to said keyboard, said user actuated note structure input means, said memory and said note structure determination means for searching the identification information in said first memory portion in response to said search term and for cooperating with said note structure determination means to search said reference sequential note structures in response to said input search sequential note structure, to provide a set of proposed identifiers on said display, said set of proposed identifiers being determined by said search means in accordance with dual match criteria comprising (a) a first match criterion between said textual search term and said identification information and (b) a second match criterion between said input search sequential note structure and said reference sequential note structures;

user actuated selection means on said keyboard for selecting one of said proposed identifiers on said display; and

melody production means disposed on said platform and connected to said memory for enabling generation of an audio reproduction of one of said predetermined reproducible segments in said second memory portion corresponding to the selected one of said proposed identifiers.

2. The machine defined in claim **1** wherein said identifiers include titles of said musical works.

3. The machine defined in claim **1** wherein said musical works are songs and said identification information includes lyrics.

4. The machine defined in claim **1** wherein said note structures each comprise directions of change of note values.

5. The machine defined in claim **1** wherein said note structure determination means includes a third memory portion of said memory, said third memory portion storing the sequential note structure for each of said musical works.

6. The machine defined in claim **1** wherein said identification information includes band data pertaining to recording artists.

7. The machine defined in claim **1**, further comprising user-activated random selection means operatively connected to said memory for automatically and essentially randomly selecting a reproducible segment from said second memory portion, said random selection means being operatively connected to said melody production means for generating an audible reproduction of the randomly selected reproducible segment, also comprising means for indicating to a user that an identifier selected by the user in response to the reproduction of the randomly selected reproducible segment corresponds to said randomly selected reproducible segment.

8. The machine defined in claim **1** wherein the stored reproducible segments are musical arrangements.

9. The machine defined in claim **1** wherein the stored reproducible segments include melodies.

10. A hand-held electronic music encyclopedia having a platform, a keyboard, a display for displaying text, and a speaker for providing audible information comprising:

a memory within said platform,

a first portion of said memory storing text identification information for each of a plurality of musical works,

a second portion of said memory storing a reference sequential note structure for each of said musical works,

a third portion of said memory storing a reproducible audible musical segment for each of said musical works,

said memory including an identifier for each of said works,

first user actuated means on said keyboard for inputting a text search element,

second user actuated means on said keyboard for inputting a sequential note structure search element,

a search program in said platform,

said search program being responsive to said text search element to provide on said display said identifier for each of said musical works having text in memory that meet a first match criteria with said text search element,

said search program being responsive to said sequential note structure search element to provide on said display said identifier for each of said musical works having a sequential note structure in memory that meets a second match criteria with said sequential note structure search element,

third user actuated means on said keyboard to select one of said identifiers when on said display, and

music production means responsive to a user selection of one of said identifiers to provide said audible musical segment for the one of said musical works identified by the selected one of said identifiers for generation through said speaker.

11. The hand-held music reference encyclopedia of claim **10** wherein:

when either of said search elements is input as a first search element, the other of said search elements when entered as a second search element will search only from the set of musical works identified by the search responsive to said first search element.

12. The hand-held electronic music reference encyclopedia of claim **10** wherein:

said third user actuated means is operable whenever at least one of said identifiers is provided on said display.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 5,739,451

DATED : April 14, 1998

INVENTOR(S) : Gregory J. Winsky
Michael Woolf
Jules Egyud

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the title page, under item [19] and item [75], "Winksy" should read --Winsky--.

Signed and Sealed this

Ninth Day of June, 1998

Attest:

BRUCE LEHMAN

Attesting Officer

Commissioner of Patents and Trademarks

Appendix E

US 20020045960A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2002/0045960 A1**

Phillips et al. (43) **Pub. Date: Apr. 18, 2002**

(54) **SYSTEM AND METHOD FOR MUSICAL PLAYLIST SELECTION IN A PORTABLE AUDIO DEVICE**

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(21) Appl. No.: **09/975,748**

(22) Filed: **Oct. 10, 2001**

Related U.S. Application Data

(63) Non-provisional of provisional application No. 60/240,766, filed on Oct. 13, 2000.

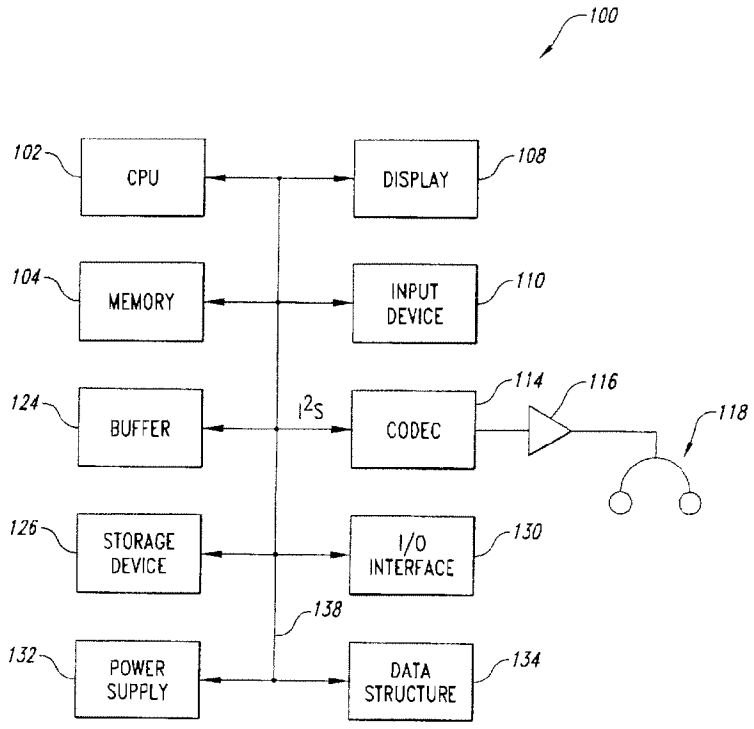
Publication Classification

(51) **Int. Cl.**[7] **G06F 17/00**; G10L 11/00

(52) **U.S. Cl.** **700/94**; 381/61; 704/270

(57) **ABSTRACT**

A portable audio playing device implements a jukebox manager function to permit the simple generation of musical playlists and the alteration or editing of existing playlists. Data, such as MPEG-3 data or other conventional audio format data, may be readily downloaded into the system for storage in a solid state memory or in a spinning media device. The audio tracks are associated with one or more metatags that are used to describe the content of each track. The metatags and associated audio tracks are stored in a data structure that may be implemented as a database or other convenient data structure that readily permits searching by user-specified search terms. The user generates a new playlist by selecting one or more metatags corresponding to the desired musical tracks. The system queries the data structure using the user-specified metatags and automatically generates a playlist containing one or more audio tracks whose metatags correspond to the user-specified metatags. Alternatively, the system may perform the same query and simply generate a results list that will allow the user to manually specify which of the audio tracks identified by the search process will be added to the newly created playlist. The system also permits the simple editing of existing playlists. New audio tracks may be added in the manner described above using metatags for searching or maybe manually added from the list of stored audio tracks. The system readily supports different audio formats and different playlist types.



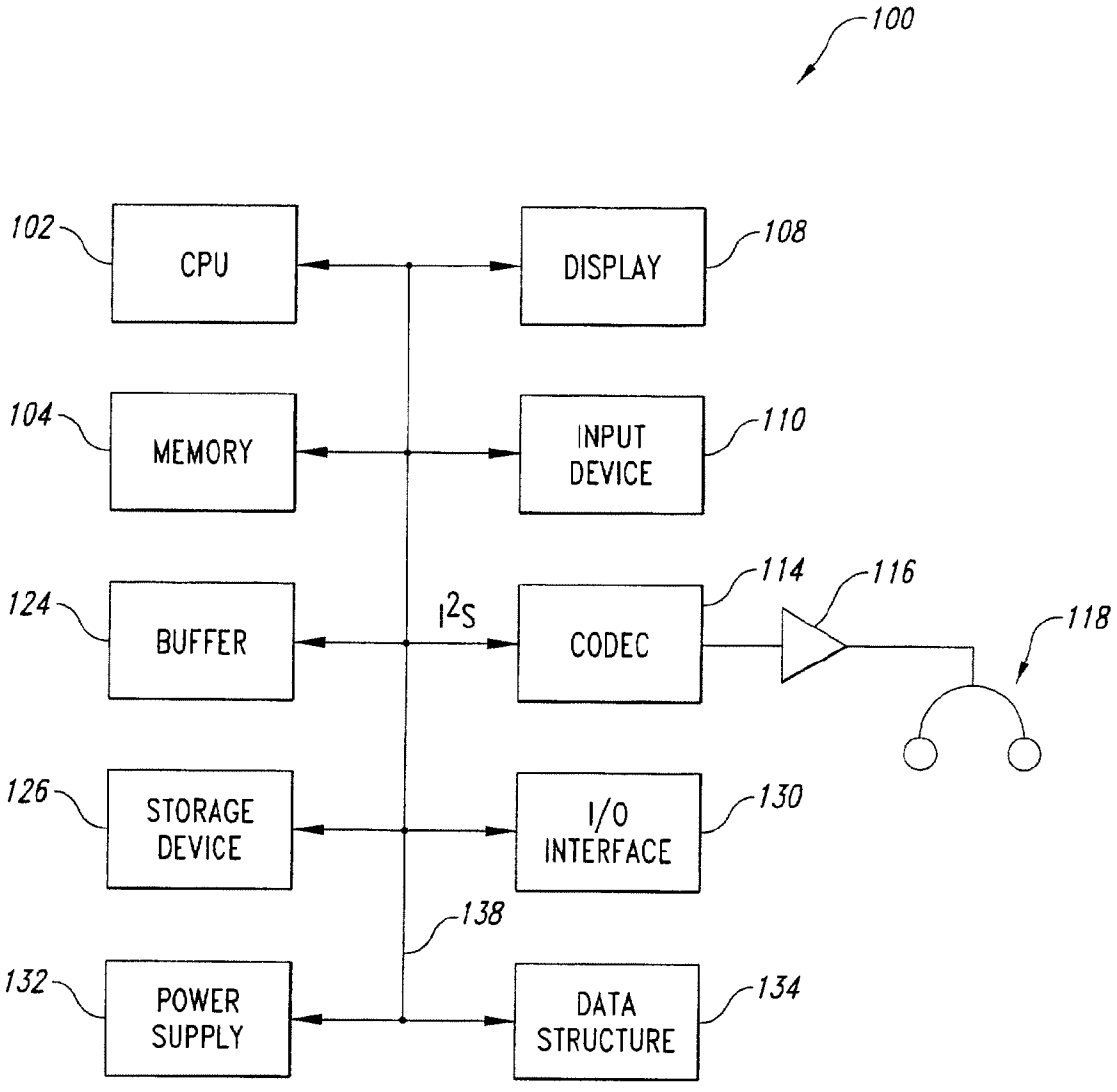

100
102
CPU
DISPLAY
108
104
MEMORY
INPUT DEVICE
110
124
BUFFER
I2S
CODEC
114
116
118
126
STORAGE DEVICE
I/O INTERFACE
130
138
132
POWER SUPPLY
DATA STRUCTURE
134

Fig. 1

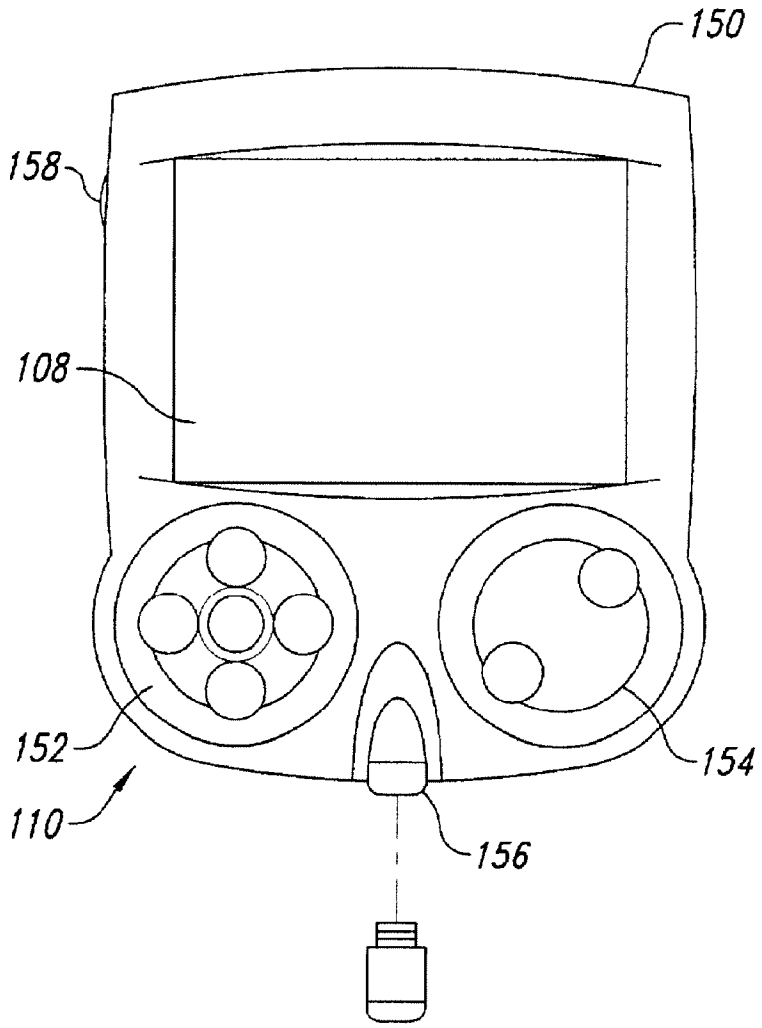


Fig. 2

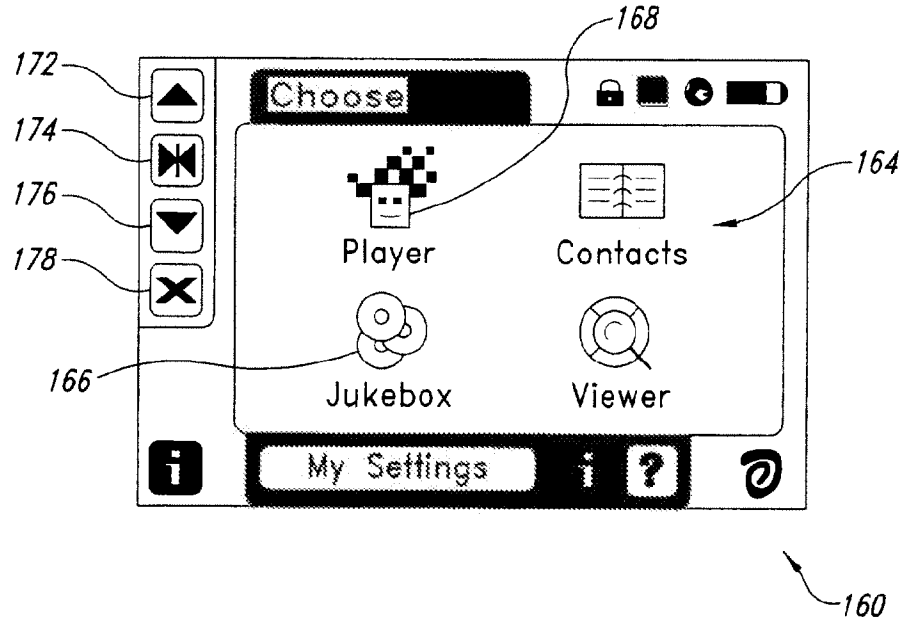

168
172
174
176
178
Choose
Player
Contacts
164
166
Jukebox
Viewer
My Settings
160

Fig. 3

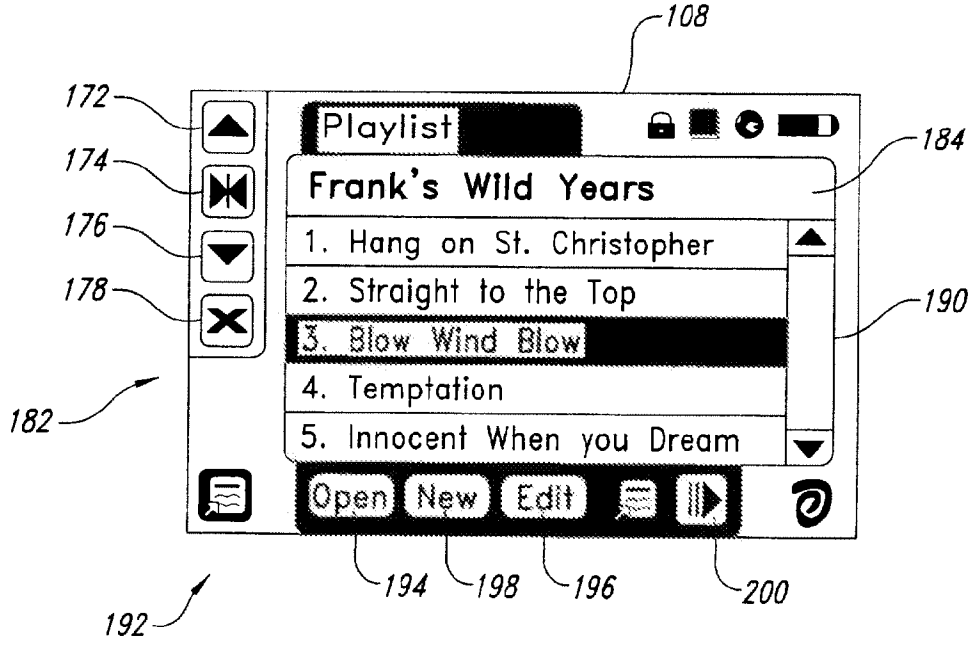

108
172
174
176
178
Playlist
184
Frank's Wild Years
1. Hang on St. Christopher
2. Straight to the Top
3. Blow Wind Blow
4. Temptation
5. Innocent When you Dream
190
182
Open
New
Edit
194
198
196
200
192

Fig. 4

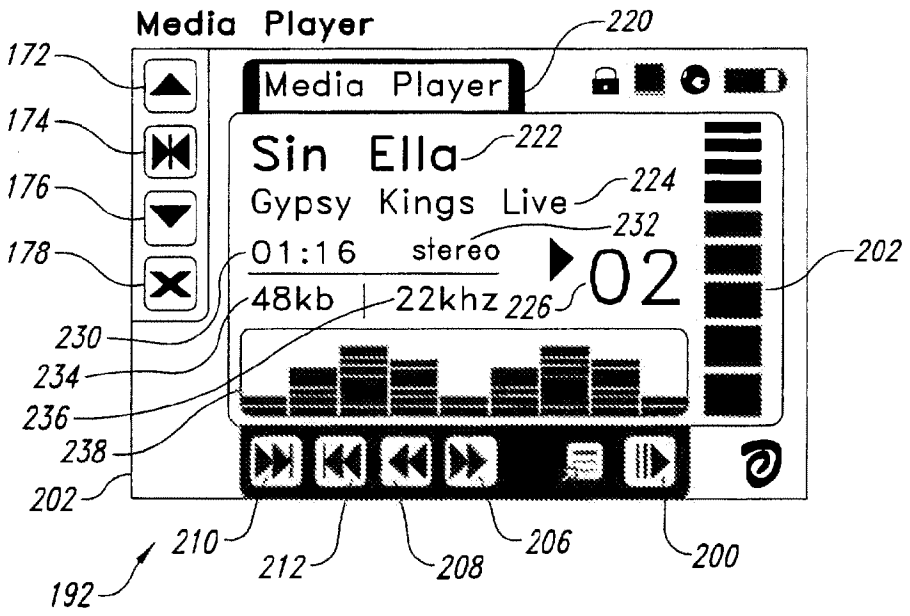

Media Player
Media Player
Sin Ella
Gypsy Kings Live
01:16 stereo
48kb | 22khz
02
172
174
176
178
230
234
236
238
202
210
212
208
206
200
192
220
222
224
232
226
202

Fig. 5

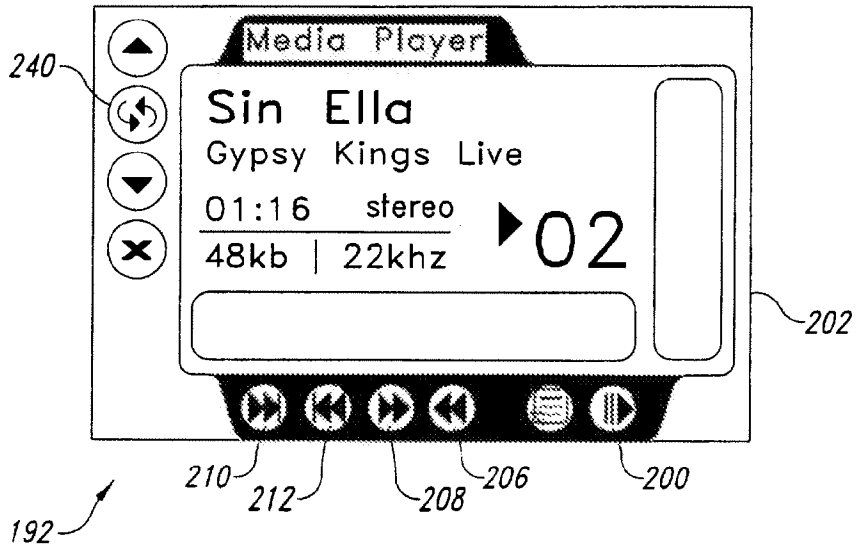

Media Player
Sin Ella
Gypsy Kings Live
01:16 stereo
48kb | 22khz
02
240
210
212
208
206
200
192
202

Fig. 6

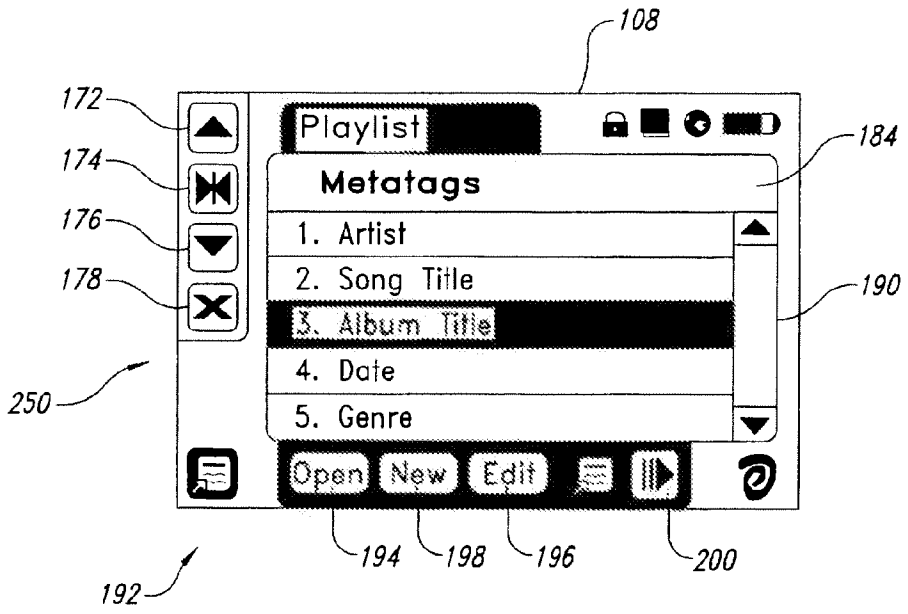

108
172
174
176
178
250
Playlist
184
Metatags
1. Artist
2. Song Title
3. Album Title
4. Date
5. Genre
190
Open
New
Edit
194
198
196
200
192

Fig. 7

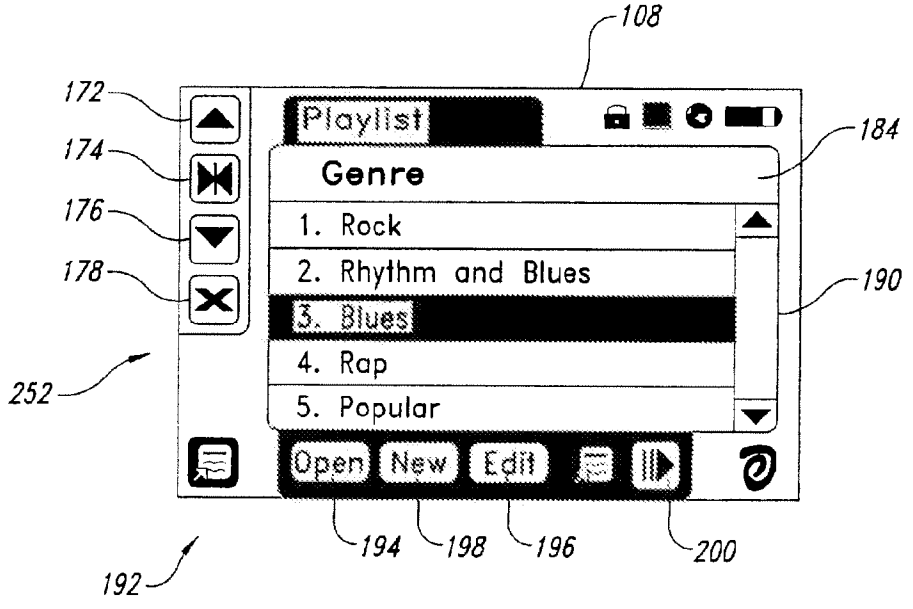

108
172
174
176
178
252
Playlist
184
Genre
1. Rock
2. Rhythm and Blues
3. Blues
4. Rap
5. Popular
190
Open
New
Edit
194
198
196
200
192

Fig. 8

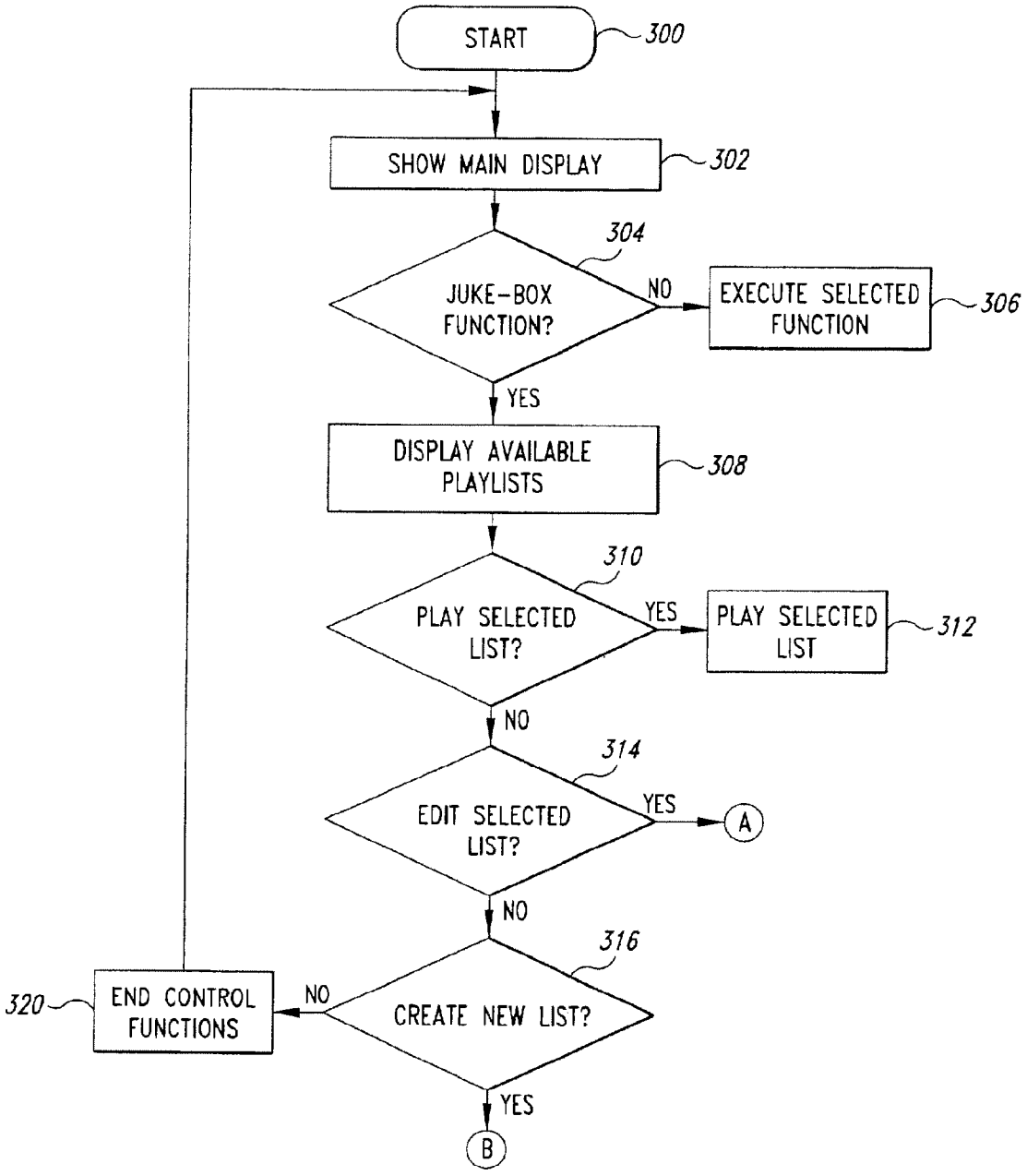

START
300
SHOW MAIN DISPLAY
302
304
JUKE-BOX FUNCTION?
NO
EXECUTE SELECTED FUNCTION
306
YES
DISPLAY AVAILABLE PLAYLISTS
308
310
PLAY SELECTED LIST?
YES
PLAY SELECTED LIST
312
NO
314
EDIT SELECTED LIST?
YES
A
NO
316
CREATE NEW LIST?
NO
320
END CONTROL FUNCTIONS
YES
B

Fig. 9

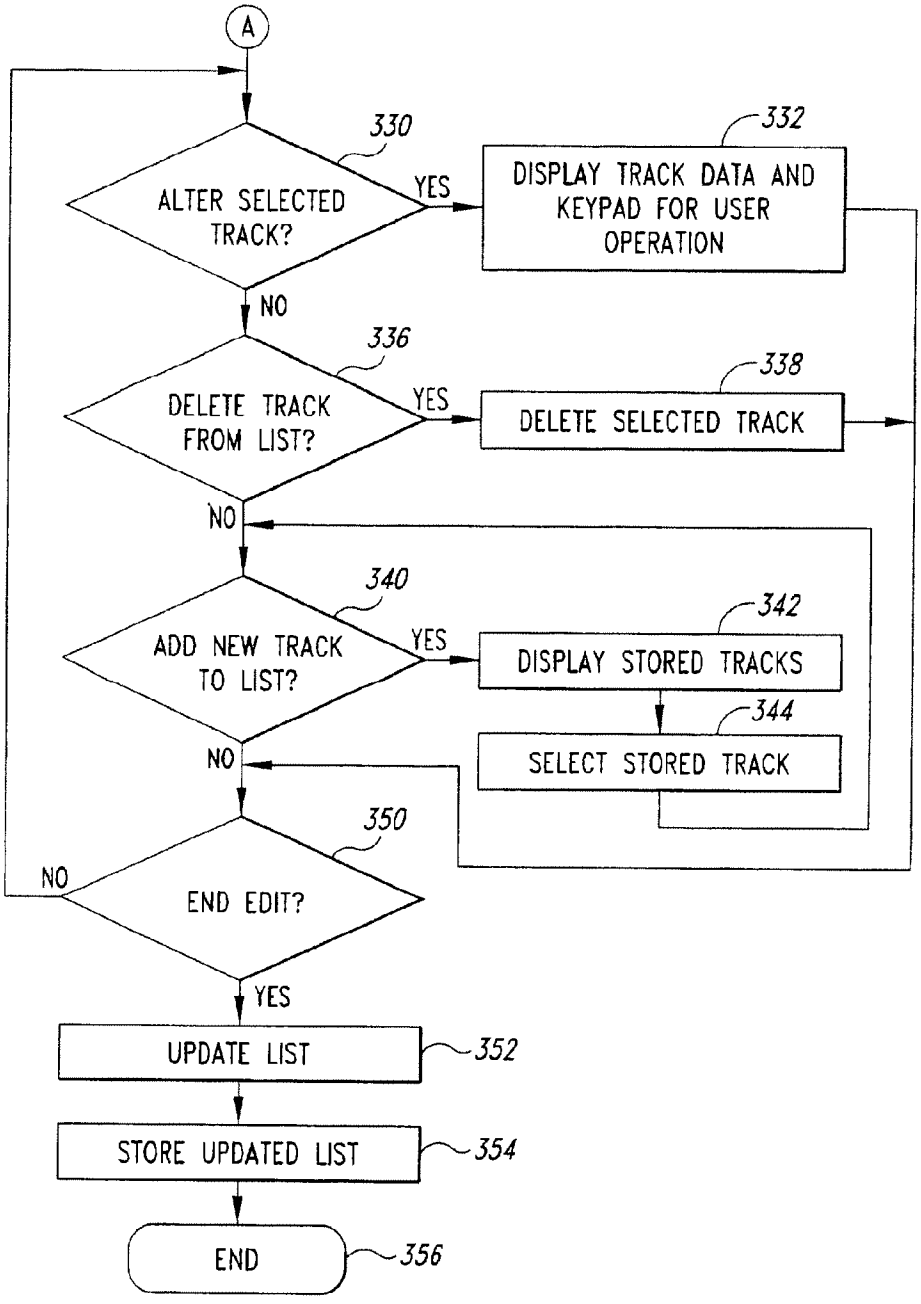

A
330
ALTER SELECTED TRACK?
YES
332
DISPLAY TRACK DATA AND KEYPAD FOR USER OPERATION
NO
336
DELETE TRACK FROM LIST?
YES
338
DELETE SELECTED TRACK
NO
340
ADD NEW TRACK TO LIST?
YES
342
DISPLAY STORED TRACKS
344
SELECT STORED TRACK
NO
350
END EDIT?
NO
YES
UPDATE LIST
352
STORE UPDATED LIST
354
END
356

Fig. 10

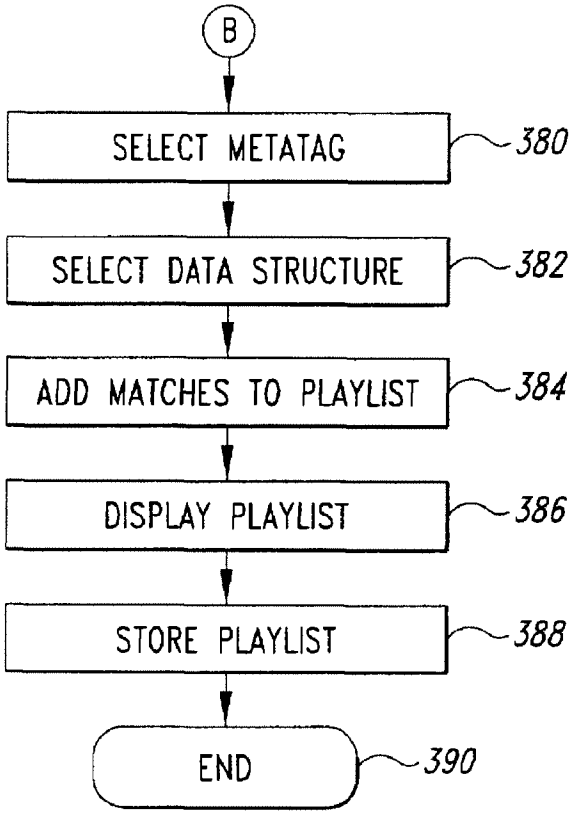

B
SELECT METATAG
380
SELECT DATA STRUCTURE
382
ADD MATCHES TO PLAYLIST
384
DISPLAY PLAYLIST
386
STORE PLAYLIST
388
END
390

Fig. 11

SYSTEM AND METHOD FOR MUSICAL PLAYLIST SELECTION IN A PORTABLE AUDIO DEVICE

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 60/240,766 filed Oct. 13, 2000, where this provisional application is incorporated herein by reference in its entirety.

TECHNICAL FIELD

[0002] The present invention is related generally to portable audio devices and, more particularly, to a system and method for cataloging and creating playlists of audio data files.

BACKGROUND OF THE INVENTION

[0003] Portable audio devices have evolved from large cumbersome analog tape players to highly miniaturized digital storage devices. Early portable audio devices were typically in the form of analog tape players that sequentially played musical selections (or other audio presentations). For example, a prerecorded audio tape could be purchased by the user and sequentially played in a portable tape player. However, the user had no control over the sequence of play other than to stop the playing and manually fast forward or rewind to skip over one or more selections.

[0004] With the advent of portable digital devices in the form of compact disk (CD) players, the user has additional flexibility in the selections of songs from a CD. For example, some CD players permit the user to manually enter the sequence of musical tracks that will be played rather than play the musical tracks in a predetermined sequence from start to finish. Alternatively, some CD players also include a "random" mode in which musical tracks are randomly selected. However, the CD players described above are still limited to the selection of musical tracks on a single CD. Digital musical devices have been designed to eliminate all moving parts. These devices incorporate solid state memory storage technology and utilize digital processing capabilities, such as data compression, to minimize data storage requirements. A popular musical format, known as Motion Pictures Expert Group layer 3 (MPEG-2 layer 3) defines a digital musical format that plays "near-CD quality" music from a relatively small digital file as compared with the original digital file stored on a CD. Using known data compression techniques, the data structure defined by MPEG-2 layer 3, sometimes abbreviated as MP3, is approximately one tenth the size of a comparable data file on a CD.

[0005] With the introduction of large storage capacity MP3 players, the user may record and store a large number of musical data files. However, track selection and organization of such data files cannot be readily accomplished with conventional techniques. Therefore, it can be appreciated that there is a significant need for a system and method that will allow easy organization of data files in a portable digital audio device. The present invention provides this, and other advantages, as will be apparent from the following detailed description and accompanying figures.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] **FIG. 1** is a functional block diagram of an exemplary embodiment of the present invention.

[0007] **FIG. 2** is a top plan view of one embodiment of the present invention.

[0008] FIGS. **3-8** are various screen displays illustrating the operation of the present invention in various data entry and editing modes.

[0009] FIGS. **9-11** together form a flow chart illustrating the operation of the system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0010] The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists. As will be discussed in greater detail below, the system supports different play file formats and allows the user to generate or edit a playlist regardless of the format of the data file.

[0011] The present invention is embodied in a system **100**, illustrated in the functional block diagram of **FIG. 1**. The system **100** includes a central processing unit (CPU) **102** and a memory **104**. The CPU **102** may be implemented using a device, such as the ARM **7209** from Cirrus Logic or other processor designed for operation as an MP3 player. However, those skilled in the art will appreciate that the CPU **102** may be implemented using any convenient processor, such as a microprocessor, embedded controller, digital signal processor (DSP) or the like. The present invention is not limited by the specific form of the CPU **102**. The memory **104** may typically include both random access memory (RAM) and readonly memory (ROM). In one embodiment, the ROM portion of the memory **104** may be implemented using a flash program memory or a NAND flash memory. In addition, the memory **104** includes a basic input output system (BIOS), which contains instructions that allow the CPU **102** to communicate with various peripheral devices.

[0012] In addition, the system **100** includes a display **108**. In an exemplary embodiment, the display **108** is implemented as a liquid crystal display (LCD) to reduce overall power consumption. In one example, the display **108** may be a 240 by 160 pixel LCD subsystem, such as may be commercially purchased from a number of vendors. The display **108** may conveniently provide instructions to the user as well as programmable functions that may be context-sensitive. For example, when playing a music signal, the display **108** may provide commands associated with music playing, song information, and the like. For example, the display **108** may show the data sampling rate and number of kilobytes (Kb) in a particular data file. The display **108** may also include other information, such as power status, startup information, and the like.

[0013] The system **100** also includes an input device **110**. The input device **110** may be implemented as a series of electromechanical switches using conventional techniques. Alternatively, the input device **110** may be implemented in conjunction with the display **108** to provide a touch-sensitive display. A touch-sensitive display advantageously minimizes the need for electromechanical switches and further

provides labels on the display that may be readily altered to accommodate variations in the implementation of the system **100**. Alternatively, the input device **110** may comprise both electromechanical switches and a touch-sensitive display. Electromechanical switches and touch-sensitive displays are known in the art and need not be described in further detail herein. However, the present invention is not limited by the specific form of the input device **110**.

[**0014**] As those skilled in the art can appreciate, the data representing the audio signal is in the form of digital samples. The digital data must be converted to analog form to produce a useful signal for the user. The system **100** includes a coder/decoder (CODEC) **114**. The CODEC **114** is also sometimes referred to as a "compressor/decompressor" because the digital data samples are usually stored in a compressed form and are decompressed for playback. The CODEC **114** accepts a digital data stream and converts it to a representative analog signal. Different commercial CODECs are available for audio applications. Some CODECs, such as a code excited linear prediction (CELP) CODEC is designed for operations at relatively low frequencies and thus is particularly useful as a speech CODEC. Other forms of speech CODECs include adaptive delta modulation (ADM), pulse code modulation (PCM) and adaptive differential pulse code modulation (ADPCM).

[**0015**] Other forms of CODECs are designed for operation at higher data sampling rates and are thus useful for music applications. These music CODECs include MPEG or MP3 CODECs, G2 format, developed by Real Networks, Enhanced Perception Audio Decoder (ePAC), developed by Lucent, AC3 algorithm, which is a modified version of PCM, and Windows Media Audio (WMA), developed by the Microsoft Corporation. Some formats, such as the G2 format, may be used for both music and voice. Although the examples illustrated herein are directed to MP3 music format, those skilled in the art will recognize that the CODEC **114** illustrated in **FIG. 1** may be satisfactorily implemented using any of the known CODEC technologies for either speech applications, music applications, or both. Thus, the present invention is not limited by the specific implementation of the CODEC **114**.

[**0016**] In a typical embodiment, the system **100** may include multiple CODECs to process different file types. For example, an MP3 CODEC may be included to process music files encoded in accordance with an MP3 format. Other data files, such as audio books, may be processed using a different CODEC, such as the CELP CODEC. The playlists generated by the present invention may include data files of different types, such as an MP3 data file. The data file types may typically be identified by the file extension. For example, an MP3 file is followed by an extension ".m3u" while other data files may have a different file extension, such as ".1st." For the sake of convenience in operation, the system **100** of the present invention may display the names of data files without file extensions since multiple CODECs are available to process different file types. From the perspective of the end user, the file type and format is irrelevant so long as the user knows that the system can process the data file(s) selected by the user. Therefore, the playlist need not contain any file extensions. Alternatively, the system can display file extensions simply to provide the user with additional information concerning the various file types.

[**0017**] In an MP3 environment, the digital data is provided to the CODEC **114** using an I^2S bus. The I^2S bus is a high speed serial bus that is well known to those of ordinary skill in the art. As such, implementation details of the I^2S bus need not be provided herein. The CODEC **114** receives the data on the I^2S bus and converts it from digital data form to analog data. An analog amplifier **116** has an input terminal coupled to the output of the CODEC and receives the analog signal thereon. The amplifier **116** provides the necessary amplification and drive capability to power an audio output device **118**, such as a pair of headphones. It should be noted that in a typical implementation, the output of the amplifier **116** is coupled to a standard ⅛ inch phone jack (not shown). The headphones **118** plus into the phone jack.

[**0018**] The system **100** also includes a buffer **124** that receives and temporarily stores digital data and provides the digital data to the CODEC **114**. As will be discussed below, the buffer **124** receives data from a storage device **126**. The buffer **124** may be a stand-alone device, or may be a portion of the memory **104**. The use of the buffer **124** in optimizing the response of the storage device **126** will be discussed below.

[**0019**] The storage device **126** is typically implemented as a spinning media device, such as a micro-drive, click drive, or the like. The storage device **126** has a controllable motor (not shown) that is only enabled when the system **100** requires a data transfer to or from the storage media. The optimization of the storage device **126** includes a determination of when to start the motor on the storage device to allow it to come up to full speed, and how long to maintain power to the motor so as to transfer the desired amount of data from the storage media to the buffer **124**.

[**0020**] Those skilled in the art will recognize that the storage device **126** is an optional component and may be eliminated without adversely affecting the operation of the present invention. A number of portable audio devices contain no storage device **126**, but rely solely on the memory **104** to store the musical tracks. For the sake of completeness, the buffer **124** and storage device **126** are described herein. The buffer **124** is implemented in the system to optimize data transfer from the storage device **126**. Although it is beyond the scope of the present invention, the buffer **124** may be allocated into a large number of buffer portions with one of the buffer portions being actively used to transfer data to the CODEC **114** while the remaining buffer portions are available for data transfer from the storage device **126**. If the system **100** is implemented without the storage device **126**, the buffer **124** may also be eliminated without adversely affecting the operation of the system. In this implementation, the musical track data is transferred directly from the memory **104** to the CODEC **114**. Because the memory **114** is a solid state memory, data transfer rates are sufficiently high to accommodate satisfactory data transfer to the CODEC so as not to cause interruptions in the generation of output data.

[**0021**] The system **100** also may include an optional input/output (I/O) interface **130**. The system **100** may include any conventional form of I/O interface and may typically include a serial interface and/or a universal serial bus (USB) interface. The operation of a serial interface and USB interface are well-known in the art and need not be described in greater detail herein. Although illustrated as a

single I/O interface **130**, those skilled in the art will recognize that the I/O interface **130** is intended to illustrate the function of one or more conventional interfaces.

[**0022**] A power supply **132** provides power to all of the components of the system **100**. In an exemplary embodiment, the power supply **132** comprises two or more AAA batteries. A voltage regulator (not shown) in the power supply **132** provides a regulated voltage of approximately 3.1 VDC. The power supply **132** may also include provisions, such as an external power supply jack **170** (see **FIG. 2**), to permit the introduction of power from an external source, such as a cigarette lighter in an automobile, or the like.

[**0023**] The system also includes a data structure **134** to store data related to user-generated playlists and associated data. In one embodiment, the data structure **134** may be implemented as a database. However, those skilled in the art will recognize that any convenient form of known data structure will operate satisfactorily with system **100**. Furthermore, the data structure **134** may be a portion of the memory **104** or a stand-alone data storage element. The present invention is not limited by the specific form in which the data structure **134** is implemented.

[**0024**] The various components of the system **100** are coupled together by a bus system **138**. The bus system **138** may include a data bus, control bus, the I^2S bus, a memory bus, and the like. However, for the sake of simplicity, these various buses are illustrated in **FIG. 1** as the bus system **138**.

[**0025**] The system **100** is intended for portable operation. The various components described above are typically implemented as one or more integrated circuits on a printed circuit (PC) board (not shown). The PC board power supply **132**, display **108**, input device **110**, and other components of the system **100** are enclosed in a case or housing **150**, as illustrated in **FIG. 2**. As further illustrated in **FIG. 2**, the input device **110** comprises a four-button key pad assembly **152**, a two-button key pad assembly **154**, and an optional joystick **156**. The four-button key pad **152** may be conveniently configured to function in a manner similar to well-known hand-held electronic games. Alternatively, the four-button key pad **152** can be replaced with a membrane (not shown) to permit the operation of four hardware buttons in a manner similar to a top hat switch on a joystick wherein one or two of the buttons may be activated to provide eight unique switch settings. In yet another alternative, the four-button key pad **152** or the two-button key pad **154** could be replaced with a position-sensing membrane, such as a touch pad commonly used in laptop computers. Those skilled in the art will recognize that other configurations may also be used for the input device **110**. As will be described in greater detail below, the display **108** may conveniently comprise touch-sensitive display technology that will allow readily alterable configurations for control buttons that will correspond with the particular data shown on the display **108**. A power switch **158** may be conveniently installed in the side of the housing **150** to allow the user to turn the system on and off.

[**0026**] When power is first applied to the system **100**, the display **108** may be configured to illustrate a main menu, such as illustrated in the screen display **160** of **FIG. 3**. The screen display **160** may include a series of icons **164**, such as a jukebox icon **166**, a player icon **168**, and the like. In addition to icons **164**, the screen display **160** may include touch-sensitive programmable controls, such as a "Scroll Up" control button **172**, a "Selection" control button **174**, a "Scroll Down" control button **176** and an "Exit" control button **178**. The operation of a touch-sensitive screen to implement these buttons are well known and need not to be described in any greater detail herein. Furthermore, the operation of the buttons, such as the Scroll Up button **172** and the Scroll Down button **176** are well known in the art and need not be described in detail. Activating the Scroll Up button **172** or the Scroll Down button **176** will cause the display to highlight a different one of the icons **164**. When the desired icon is highlighted, such as by reverse video or other conventional technique, the user may activate the selection button **174** to activate the selected function.

[**0027**] **FIG. 4** illustrates a sample screen display **182** shown by the system in response to the activation of the jukebox icon **166** and the selection of one playlist. As previously noted, the system **100** supports a plurality of different playlists. The screen display **182** comprises a playlist title portion for a playlist title display **184** to permit the user to readily identify the selected playlist. The user may simply activate the playlist to play musical tracks in the predetermined sequence shown in the playlist by pressing the Selection control button **174**. When a display list is first shown on the display **108**, the first entry in the playlist may be automatically selected and indicated using, by way of example, reverse video. The user may also scroll through the selected playlist using a scroll bar **190** in a well-known fashion or, alternatively, simply by touching the touch-sensitive display **108** at a point corresponding to the desired musical track. The system **100** may also be configured to allow the user to scroll through the selected playlist using the Scroll Up button **172**, a Scroll Down button **176**, and the Selection control button **174** in the manner described above to select a musical track out of the sequence illustrated in the playlist.

[**0028**] The user may also control the operation of the system **100** to open or edit playlists, or create new playlists using additional programmable control buttons **192** on a predetermined portion of the touch-sensitive display **108**. The Programmable control buttons **192** may comprise buttons such as a "Open" control button **194**, an "Edit" control button **196** and a "New" control button **198**. The Open control button **194** may be used to display a number of different playlists and permit the user to select from one of the displayed playlists in the manner described above. That is, the user may activate the scroll bar **190** or the Scroll Up button **172**, the Scroll Down button **174**, and the like, to navigate through the displayed playlists. As the displayed playlists scroll up or down the display **108**, a selected display list is shown in a highlighted fashion, such as reverse video. The user opens the selected playlist using the Selection control button **174** or another one of the convenient Programmable control buttons **192**. The user may edit a selected playlist by selecting the Edit control button **196**.

[**0029**] The user may edit an existing playlist by activating the Edit control button **196**. Activation of the Edit control button **196** will cause the system **100** to display the names of already established playlists. The user may manipulate through the lists of playlists using, by way of example, the scroll bar **190** to select the desired playlist. When the desired playlist has been selected, the display **108** will indicate the

musical tracks already selected in the playlist, as illustrated in **FIG. 4**. In an exemplary embodiment, the first musical track in the playlist is highlighted using, by way of example, reverse video. The user selects a particular musical track in the manner described above. The user can edit a selected musical track, to correct misspellings or other information, delete an existing musical track from the current playlist, or add additional musical tracks to the selected playlist using conventional editing techniques. The user exits the edit mode by activating the Exit control button **178**.

[**0030**] In addition to editing an existing playlist, the user may elect to create a new playlist by activating the New control button **198**. When the user activates the New control button **198**, the display **108** may be configured to show all musical tracks currently stored in the memory **104**. The user may scroll through the list of musical tracks using conventional controls, such as the scroll bar **190**. As the user scrolls through the list of musical tracks, a selected musical track may be highlighted using, by way of example, reverse video. Other conventional techniques, such as bold video, underlined text, an asterisk or other indicator, may also be used to indicate the selected musical track. To enter a selected musical track into the new playlist, the user may activate the Selection control button **174**. The user may scroll through the displayed list of stored musical tracks and select other musical tracks in the manner described above to thereby enter them into the playlist. When the playlist is completed, the user may exit the data entry mode by selecting the Exit control button **178**. Thus, the system **100** has provided the user with a simple technique for creating music playlists.

[**0031**] When a playlist or individual musical track has been selected, that selection may be played by activating the Selection control button **174** or a special control button, such as a "Play/Pause" button **200**. When a selected musical track begins to play, the touch-sensitive display **108** may be reprogrammed to show a screen display **202**, illustrated in **FIG. 5**. The touch-sensitive display **108** has also been changed such that the control buttons perform different functions relevant to a media player. For example, the Scroll Up control button **172** and Scroll Down control button **174** may now be used to control the volume. A graphical representation **204** may provide visual cues to the user as to the volume level. The programmable control buttons **192** may now comprise a Fast Forward button **206** and Rewind button **208** to advance or rewind within the selected musical track. A Skip Forward button **210** may be used to automatically advance to the next musical track in the playlist while a Skip Rewind button **212** may be activated to rewind to the beginning of the current musical track if activated once and rewound to the beginning of the previous musical track in the playlist if activated twice within a short period of time. In addition, the Play/Pause control button **200** may be used in the manner previously described.

[**0032**] In addition to control buttons, the display screen **202** can provide user information, such as the currently selected function **220**, a title **222**, an artist name **224**, and a track selection **226**. Other information, such as an elapsed time **230**, stereo indicator **232**, sample rate indicator **234**, and bandwidth indicator **236** may also be provided on the display screen **202**. In addition, an exemplary embodiment of the system **100** may include a graphical equalization display **238** to indicate the relative power of signals at different frequency bands. Those skilled in the art will recognize that numerous variations are possible with the present invention. For example, the graphical equalization display **238** can be eliminated and replaced with other information, such as metatags indicating categories or other identifier tags that correspond to the selected musical track.

[**0033**] One convenient aspect of on-screen programming using the display **108** is that many configurations are possible. An alternative configuration of the media player is illustrated in **FIG. 6** where the programmable controls **192** have a different appearance, but perform the same functions as previously described with respect to **FIG. 5**. In addition, the Scroll Up control button **172**, Scroll Down control button **176** and Exit button **178** have a different appearance in the display screen **202** of **FIG. 6**, but perform identical functions to those described above with respect to the corresponding buttons in **FIG. 5**. In **FIG. 6**, the selection control button **174** has been replaced with a Repeat control button **240** to permit the user to repeat a selected musical track or selected musical playlist. Other programmable features, such as random selection of musical tracks within a playlist, and the like may also be readily provided using the touch-sensitive display **108**.

[**0034**] Although the operation of the system **100** has been described with respect to buttons on the touch-sensitive display **108**, similar control of the system may be accomplished using, by way of example, the four-button key pad **152** (see **FIG. 2**) and the two-button key pad **154**. Essentially, the buttons of the four-button key pad **152** and two-button key pad **154** are mapped into the functions described above with respect to the Programmable control buttons **192** and the control buttons **172-178**. The operation of the four-button key pad **152** and two-button key pad **154** is within the scope of knowledge of one of ordinary skill in the art and thus, need not be described in greater detail herein.

[**0035**] The operation of the system **100** to open, edit, or create playlists has been previously described. In addition to selection of musical tracks by title, the system **100** advantageously allows the selection of musical tracks using metatags. In an exemplary embodiment, the system **100** creates the data structure **134** (see **FIG. 1**) to store metatags corresponding to musical tracks stored in the memory **104** (see **FIG. 1**). The data structure or database **134** may be part of the memory **104** (see **FIG. 1**) or a separate data storage element. Those skilled in the art will recognize that any one of a number of well-known data structures may be satisfactorily used to implement the data structure described herein. For the sake of convenience, the data structure **134** will be subsequently described as a database. However, the present invention is not limited by the specific implementation of a data structure to store metatags.

[**0036**] A number of different data elements may be used as metatags. For example, the artist's name, song title, album title, date, copyright, or any other information associated with a musical track can be potentially used as a metatag. In an exemplary implementation, the user may elect to create a new playlist by activating the New control button **198** (see **FIG. 4**) using metatags to describe the desired musical tracks. In this example, illustrated in **FIG. 7**, the display **108** shows a screen display **250** that lists a series of possible metatags for selection by the user. In an exemplary embodiment, the first metatag in the list of metatags is automatically

selected. The user may scroll through the list using, by way of example, the scroll bar **190** to select a desired metatag, as illustrated in **FIG. 7**. As noted above, the system **100** can automatically generate a playlist based on the user-selected metatag or provide a list of musical tracks that match the selected metatag for display and subsequent manual selection by the user. For example, if the user selected the metatag "Artist," the system **100** would permit the user to enter the name of a desired artist or, alternatively, will display the artist name for all musical tracks stored in the memory **104** (see **FIG. 1**). When the user selects a desired artist, the system may automatically generate the playlist and include all songs stored in the memory **104** that have a metatag corresponding to the user-selected artist name. Alternatively, the system **100** can display all musical tracks whose metatag corresponds to the user-selected artist name and thereby permit the user to manually select which musical tracks will be added to the playlist.

[0037] In addition to the metatags discussed above, other metatags, such as musical genre may be used as a metatag. For example, songs may be classified as "Rock,""Blues, ""Rap," and the like. If the user selects a particular metatag, the system **100** accesses the database to determine which musical tracks stored in the memory **104** (see **FIG. 1**) correspond to the selected metatag. If the user selects genre as the desired metatag, the system **100** may generate a screen display **252** on the display **108**, as illustrated in **FIG. 8**, to list the various musical genre for musical tracks stored in the memory **104**. As noted above, the first item in the list may be automatically selected and the user may alter the selection using, by way of example, the scroll bar **190**. In the example illustrated in **FIG. 8**, the user-selected musical genre is "Blues." The user may activate the selection using the Selection control button **174**. Once a particular genre, such as Blues, has been selected, the system **100** may search the data structure **134** (see **FIG. 1**) and automatically generate a playlist containing the musical tracks stored in the memory **104** whose metatags match the selected musical genre (i.e., Blues). Alternatively, the system **100** may search the data structure **134** and create a list of all musical titles stored in the memory **104** whose metatag matches the selected musical genre. The list may be shown on the display **108** to permit subsequent manual selection by the user.

[0038] It should be noted that each musical track may have a number of different metatags to easily enable the user to search the data structure and automatically generate playlists. The association of musical tracks with multiple metatags makes it easier for the user to search for desired musical tracks. In certain cases, a musical track may appear in more than one category. For example, certain musical tracks may be considered to belong to multiple genre, such as "Rock" and "Popular."

[0039] In an alternative embodiment, the system **100** permits searching by multiple metatags. For example, the user may wish to search the data structure **134** for musical tracks that match metatags for both artist name and a particular date. In another example, the user may wish to select a particular musical genre, such as "Rock" and date to automatically generate a musical playlist of rock songs prior to a user-selected date.

[0040] The operation of the invention is illustrated in the flowchart of FIGS. **9-11**. At a start **300**, illustrated in **FIG. 9**, it is assumed that the system is under power or has just been turned on by the user. In step **302**, the system **100** shows the main display, such as illustrated in **FIG. 3**. In decision **304**, the system determined whether the user has selected the jukebox function. If the user has not selected the jukebox function, the result of decision **304** is NO. In that event, the system moves to step **306** and executes the selected function, such as displaying a contact list of user-entered names, addresses and telephone numbers. These additional functions are beyond the scope of the present invention and will not be discussed in greater detail herein.

[0041] If the user has selected the jukebox function, the result of decision **304** is YES. In that event, the system **100** queries the data structure **134** and extracts the titles of all existing playlists and, in step **308**, the existing playlists are shown on the display **108** (see **FIG. 1**). In decision **310**, the system **100** determines whether the user has activated one or more buttons to select a playlist. If the user has selected a playlist for play, the result of decision **310** is YES and, in step **312**, the system plays the selected playlist by transferring data from the buffer **124** (or the memory **104**) to the CODEC **114** in a conventional fashion. As previously noted, the musical tracks of the selected playlist may be played sequentially in the sequence originally specified by the user when creating the playlist, in a new sequence specified by the user at the present time, or in some other fashion, such as random selection.

[0042] If the user has not selected a playlist to play, the result of decision **310** is NO. In that event, in decision **314**, the system **100** determines whether the user has selected a playlist for editing. If the user has selected a playlist for editing, the result of decision **314** is YES and the system enters an edit mode, described in the flowchart of **FIG. 10**. If the user has not selected a playlist for editing, the result of decision **314** is NO. In that event, the system determines, in decision **316**, whether the user has activated one or more buttons to create a new playlist. If the user has activated one or more buttons on the system **100** to create a new playlist, the result of decision **316** is YES and, the system enters a data entry mode illustrated in **FIG. 11**. If the user has not elected to create a new playlist, the result of decision **316** is NO and, in step **320**, the system ends the control function operation and, in one example, may return to display the main menu in step **302**. Those skilled in the art will recognize that a number of different possible flowcharts may be implemented by the present system. For example, the system **100** may return to decision **310** until the user selects an operation. In addition, the activation of other buttons, such as a main menu button (not shown) may be used to exit the control function process and return to the main display in step **302**. The flowchart of FIGS. **9-11** are intended simply as an illustration of possible control flow to create, edit, and play selected playlists. The present invention is not limited to the specific processing sequence illustrated in the flowcharts of FIGS. **9-11**.

[0043] As previously stated, the user may activate one or more of the buttons on the system **100** to edit a selected playlist. If the user has elected to edit a selected playlist, the result of decision **314** in **FIG. 9** is YES. In that event, the system **100** moves to decision **330**, illustrated in **FIG. 10**, to determine whether the user has elected to alter a selected track. If the user has elected to alter a selected track, the result of decision **330** is YES. In step **332**, the system

displays stored data about the selected track and may further display a keypad (not shown) for user operation to change selected data. For example, the user may wish to edit the title of a musical track to correct a typographical error from a previous entry. The user can highlight the selected data element (e.g., the title) and activate the edit control button **196** (see **FIG. 4**). The user can operate the touch-sensitive display **108** to enter a new title. The altered data will be displayed and stored in subsequent steps described below.

[**0044**] If the user has not elected to alter a selected track, the result of decision **330** is NO. In that event, the system **100** moves to decision **336** to determine whether the user has activated one or more keys to delete a selected track from the playlist. If the user has elected to delete a track from the playlist, the result of decision **336** is YES. In that event, in step **338**, the system **100** deletes the selected track and the newly edited playlist is updated and stored in steps described below. The system **100** also checks to see if the user wishes to perform more edits, as will be described in greater detail below. If the user has not activated one or more buttons on the system **100** to delete a musical track from the playlist, the result of decision **336** is NO.

[**0045**] In decision **340**, the system **100** determines whether the user has activated one or more buttons on the system **100** to add a new musical track to an existing playlist. If the user has elected to add a new musical track to the playlist, the result of decision **340** is YES. In that event, in step **342**, the system **100** displays a list of all musical tracks that may be stored in the memory **104** (or the optional storage device **126**). In step **344**, the user selects the desired musical track to the selected playlist in the manner described above. In an exemplary embodiment, a musical track that may be stored on the optional storage device **126** may be relocated to the memory **104**. Following the selection of the stored musical track in step **344**, the system **100** returns to decision **340** to determine whether additional new tracks will be added to the selected playlist.

[**0046**] If no additional musical tracks are to be added to the existing playlist, the result of decision **340** is NO and the edit operation. Following the completion of the selected edit operation, such as altering the selected track in step **332**, deleting a selected track in step **338**, or adding selected tracks in steps **342-344**, the system **100** moves to decision **350** to determine if the user wishes to perform additional edit operations on the selected existing playlist. If the user does not wish to end the current editing session, the result of decision **350** is NO and the system may return to decision **330** to permit additional editing of one or more tracks in the existing playlist.

[**0047**] If the user wishes to end the editing session by activating, by way of example, the Exit control button **178** (see **FIG. 4**), the result of decision **350** is YES. In that event, in step **352**, the system **100** updates the existing playlist to include all edits performed by the user and, in step **354**, the system stores the newly edited playlist. As previously discussed, the edited playlists may be conveniently stored as part of the data structure **134**. The edit operation ends at **356**.

[**0048**] Returning momentarily to the flow chart of **FIG. 9**, if the user wishes to create a new playlist, the result of decision **316** is YES. In that event, the system executes processes illustrated in the flowchart of **FIG. 11** to create a new playlist. As previously discussed, the system **100** may simply display the titles of all musical tracks stored in the memory **104** and allow the user to manually select ones of the displayed musical tracks to add to the newly created playlist. **FIG. 11** illustrates the operation of the system **100** to generate a playlist using metatags. In step **380**, the user selects a desired metatag from the list shown, by way of example, in the screen display **250**, illustrated in **FIG. 7**. The user may select a metatag, such as genre, which causes the system **100** to display the display screen **252** listing the various genre metatags corresponding to the various musical tracks stored in the memory **104** (or in the storage device **126**). In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step **380** may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process.

[**0049**] After one or more metatags have been selected in step **380**, the system **100** searches the data structure **134** (see **FIG. 1**) in step **382**. In one example implementation, the data structure **134** may be a conventional database in which search terms, such as the selected metatags, are provided as inputs to the database and results are produced by the database in the form of one or more musical tracks whose metatags correspond to the user-selected metatags.

[**0050**] In step **384**, the system automatically adds to the playlist musical tracks whose metatags match the user-selected metatags. The automatically selected playlist is displayed for the user in step **386**. The user may manually edit one or more of the musical tracks on the newly generated playlist in the manner described above with respect to the flowchart of **FIG. 10**. Alternatively, the system **100** may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist. In step **388**, the completed playlist is stored in the memory **104** or, alternatively, in the data structure **134**. The process ends at **390**.

[**0051**] Thus, the system **100** provides a powerful but simple interface that allows the user to quickly generate playlists from stored musical tracks using one or more user-selected metatags. The system further provides simple editing processes that allow the user to readily alter existing playlists.

[**0052**] From the foregoing it will be appreciated that, although specific embodiments of the invention have been described herein for purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention. For example, the operation of the system **100** has been described using the example of musical tracks as the audio data files that are selected by a user and placed in playlists. However, the system **100** is applicable to any type of audio data file, such as audio books, as well as musical data files. Accordingly, the invention is not limited except as by the appended claims.

What is claimed is:

1. A system for the display and control of music selection in a hand-held portable multi-media device, the system comprising:

a housing sized to be held by a user;

a circuit board within the housing;

a battery power supply to provide electrical power to electrical circuitry on the circuit board;

a data structure to store a plurality of music data files, each music selection data file having identification data associated therewith;

a display to display data comprising a playlist indicating music data files to be played;

an input device operable by the user to select identification data associated with desired music data files for the playlist;

a processor responsive to the input device to select the music data files for the playlist based on the user selected identification data;

a CODEC to receive the selected music data files and convert the selected music data files to audio data; and

an audio output driver coupled to the CODEC to receive the audio data therefrom, the audio output driver further having an output and providing analog signals to the output for connection to an audio output device.

2. The system of claim 1 wherein the data structure contains music data files having different data format types.

3. The system of claim 1 wherein the data associated with the stored music data files comprises song names and the display displays the song names, the user manually generating the playlist by operating the user input device to select song names and the processor generating the playlist based on the selected song names.

4. The system of claim 1 wherein the data associated with the stored music data files comprises metatags and the display displays the metatags, the user generating the playlist by operating the user input device to select metatags and the processor generating the playlist based on the selected metatags.

5. The system of claim 1, further comprising an associated data structure wherein the associated data comprises a plurality of data types, the processor analyzing the music data file to determine one or more associated data types and storing each of the data types for each music data file in the associated data structure in association with the music data file.

6. The system of claim 5 wherein the processor selects the music data files for the playlist by generating an indicator to indicate a storage location in the associated data structure for an associated data type for each of the selected music data files.

7. The system of claim 1 wherein the associated data comprises a plurality of data types and the user selects a desired data type using the user input device, the display displaying the user-selected data type associated with each of the plurality of music data files.

8. The system of claim 1 wherein the associated data comprises a plurality of data types and the display displays all associated data types for a user-selected one of the music data files.

9. The system of claim 1, further comprising a selection data structure wherein the playlist is stored for subsequent use.

10. The system of claim 1 wherein the processor alters the stored playlist and wherein the altered playlist is stored for subsequent use.

11. The system of claim 1 wherein the processor is responsive to the input device to select music data files based on user-selection of a plurality of identification data associated with the music data files.

12. A method for the automatic control of music selection in a hand-held portable multi-media device, the method comprising:

storing a plurality of music data files, each music selection data file having identification data associated therewith;

sensing user operation of an input device to select identification data associated with desired music data files for the playlist;

selecting a portion of the music data files to generate the playlist based on the user selected identification data;

processing the selected music data files with a CODEC to convert the selected music data files to audio data; and

providing the audio data to an output for connection to an audio output device.

13. The method of claim 12 wherein the music data files have different data format types.

14. The method of claim 12 wherein the data associated with the stored music data files comprises song names, the method further comprising displaying the song names and sensing user-operation of the input device to manually generate the playlist by operating the user input device to select song names wherein selecting comprises generating the playlist based on the selected song names.

15. The method of claim 12 wherein the data associated with the stored music data files comprises metatags, the method further comprising displaying the metatags and sensing user-operation of the input device to select metatags wherein selecting comprises generating the playlist based on the selected metatags.

16. The method of claim 12 wherein the associated identification data comprises a plurality of data types, the method further comprising analyzing the music data file to determine one or more associated data types and storing each of the data types for each music data file in association with the music data file.

17. The method of claim 12, further comprising sensing user input to select a plurality of identification data wherein selecting music data files is based on the user-selected plurality of identification data associated with the music data files.

18. A computer-readable media that causes a processor to control of music selection in a hand-held portable multi-media device by performing the steps of:

storing a plurality of music data files, each music selection data file having identification data associated therewith;

sensing user operation of an input device to select identification data associated with desired music data files for the playlist;

selecting a portion of the music data files to generate the playlist based on the user selected identification data;

processing the selected music data files with a CODEC to convert the selected music data files to audio data; and

providing the audio data to an output for connection to an audio output device.

19. The computer-readable media of claim 18 wherein the data associated with the stored music data files comprises metatags, the computer-readable media causing the processor to perform the steps of displaying the metatags and sensing user-operation of the input device to select metatags wherein selecting comprises generating the playlist based on the selected metatags.

20. The computer-readable media of claim 18, further causing the processor to sense user input to select a plurality of identification data and select music data files based on the user-selected plurality of identification data associated with the music data files.

* * * * *

PROOF OF SERVICE UNDER 37 C.F.R. §§ 1.33(c), 1.248, AND 1.915 (b)(6)

I hereby certify that a true copy of the foregoing REQUEST FOR *INTER PARTES* REEXAMINATION OF U.S. PATENT NO. 6,928,433 and all attachments thereto were serviced in their entirety by First Class Mail on the date indicated below, on the attorneys of record for the Assignee, Creative Technology, Ltd., Singapore, owner of the subject patent, as indicated below:

Gean Desmond, Kennedy Koblin, and Russell Swerdon
Creative Labs, Inc., Legal Department
1901 McCarthy Blvd.
Milpitas, CA 95035

Date Mailed: December 1, 2009 By

PTO/SB/58 (02-09)
Approved for use through 08/31/2010. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also referred to as FORM PTO-1465)

REQUEST FOR *INTER PARTES* REEXAMINATION TRANSMITTAL FORM

Address to:
Mail Stop *Inter Partes* Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attorney Docket No.: 016788-000-0004

Date: December 1, 2009

1. [X] This is a request for *inter partes* reexamination pursuant to 37 CFR 1.913 of patent number 6,928,433 issued August 9, 2005. The request is made by a third party requester, identified herein below.

2. [X] a. The name and address of the person requesting reexamination is:

David A. Jakopin - Pillsbury Winthrop Shaw Pittman LLP

P.O. Box 10500 - Intellectual Property Group

McLean, VA 22102

b. The real party in interest (37 CFR 1.915(b)(8)) is: Archos, SA

3. [ ] a. A check in the amount of $_____ is enclosed to cover the reexamination fee, 37 CFR 1.20(c)(2);

[X] b. The Director is hereby authorized to charge the fee as set forth in 37 CFR 1.20(c)(2) to Deposit Account No. 033975 ; **or**

[ ] c. Payment by credit card. Form PTO-2038 is attached.

4. [ ] Any refund should be made by [ ] check or [X] credit to Deposit Account No. 033975 37 CFR 1.26(c). If payment is made by credit card, refund must be to credit card account.

5. [X] A copy of the patent to be reexamined having a double column format on one side of a separate paper is enclosed. 37 CFR 1.915(b)(5)

6. [ ] CD-ROM or CD-R in duplicate, Computer Program (Appendix) or large table
   [ ] Landscape Table on CD

7. [ ] Nucleotide and/or Amino Acid Sequence Submission
   If applicable, items a. – c. are required.
   a. [ ] Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. [ ] CD-ROM (2 copies) or CD-R (2 copies); **or**
      ii. [ ] paper
   c. [ ] Statements verifying identity of above copies

8. [X] A copy of any disclaimer, certificate of correction or reexamination certificate issued in the patent is included.

9. [X] Reexamination of claim(s) 1-16 is requested.

10. [X] A copy of every patent or printed publication relied upon is submitted herewith including a listing thereof on Form PTO/SB/08, PTO-1449, or equivalent.

11. [ ] An English language translation of all necessary and pertinent non-English language patents and/or printed publications is included.

12. ☒ The attached detailed request includes at least the following items:

a. A statement identifying each substantial new question of patentability based on prior patents and printed publications. 37 CFR 1.915(b)(3)
b. An identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited art to every claim for which reexamination is requested. 37 CFR 1.915(b)(1) & (3).

13. ☒ It is certified that the estoppel provisions of 37 CFR 1.907 do not prohibit this reexamination. 37 CFR 1.915(b)(7)

14. ☒ a. It is certified that a copy of this request has been served in its entirety on the patent owner as provided in 37 CFR 1.33(c).
The name and address of the party served and the date of service are:

Gean Desmond, Kennedy Koblin, and Russell Swerdon

Creative Labs, Inc., Legal Department

1901 McCarthy Blvd., Milpitas, CA 95035

Date of Service: December 1, 2009 ; **or**

☐ b. A duplicate copy is enclosed because service on patent owner was not possible. An explanation of the efforts made to serve patent owner **is attached**. See MPEP 2620.

15. Third Party Requester Correspondence Address: Direct all communications about the reexamination to:

☒ The address associated with Customer Number: 27498

OR

☐ Firm or Individual Name

Address

City	State	Zip
Country		
Telephone	Email	

16. ☐ The patent is currently the subject of the following concurrent proceeding(s):

☐ a. Copending reissue Application No.
☐ b. Copending reexamination Control No.
☐ c. Copending Interference No.
☐ d. Copending litigation styled:

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

Authorized Signature	December 1, 2009 Date
DAVID A. JAKOPIN Typed/Printed Name	32,995 Registration No., if applicable

FORM PTO-1449 (modified) U.S. Department of Commerce Patent and Trademark Office	To:	Attorney Docket No.	016788-000-0004	Client Reference No.:

INFORMATION DISCLOSURE STATEMENT FORM 1449

Inventors: Ron Goodman et al.	
Patent No.: 6,928,433	
Date of Issue: August 9, 2005	
Examiner: Rones, C.	Group Art Unit: 2164

Page 1 of 1

U.S. PATENT DOCUMENTS

Examiner's Initials*		Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
	1	6,976,229 B1	12-13-2005	BALABANOVIC ET AL.	715	838	
	2	6,760,721 B1	07-06-2004	CHASEN ET AL.	707	3	
	3	5,739,451	04-14-1998	WINKSY ET AL.	84	609	
	4	2002/0045960 A1	04-18-2002	PHILLIPS ET AL.	700	94	
	5						
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	17						
	18						
	18						
	20						
	21						

Examiner	Date Considered:

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FOREIGN PATENT DOCUMENTS						English Abstract		Translation available	
		Document No.	Date (dd/mm/yy)	Country					

OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)		

Examiner	Date Considered:

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Application Number	Application/Control No.	Applicant(s)/Patent Under Reexamination
	95/001,274	6928433
	Examiner	**Art Unit**
	***	3992

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	95001274	6928433
	Examiner	Art Unit
	***	3992

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original									
	1									
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	5									
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	20									

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	95001274	6928433
	Examiner	Art Unit
	***	3992

ORIGINAL		INTERNATIONAL CLASSIFICATION	
CLASS	SUBCLASS	CLAIMED	NON-CLAIMED
707	104.000		

CROSS REFERENCE(S)					
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original

(Assistant Examiner) (Date)	Total Claims Allowed:	
(Primary Examiner) (Date)	O.G. Print Claim(s)	O.G. Print Figure

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	95001274	6928433
	Certificate Date	Certificate Number

Requester Correspondence Address: ☐ **Patent Owner** ☒ **Third Party**

PILLSBURY WINTHROP SHAW PITTMAN LLP
P.O. BOX 10500
MCLEAN, VA 22102

LITIGATION REVIEW ☐	(examiner initials)	(date)
Case Name		Director Initials

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	95001274	6928433
	Examiner	Art Unit
	***	3992

SEARCHED			
Class	Subclass	Date	Examiner
707	104.000		

SEARCH NOTES		
Search Notes	Date	Examiner

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Bib Data Sheet

CONFIRMATION NO. 6990

SERIAL NUMBER	FILING OR 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
95/001,274	12/01/2009 RULE	707	3992	016788-000-0004

APPLICANTS

6928433, Residence Not Provided;
CREATIVE TECHNOLOGY LIMITED (OWNER), SINGAPORE, SINGAPORE;
DAVID A. JAKOPIN (3RD PTY. REQ.), MCLEAN, VA;
ARCHOS, SA (REAL PTY IN INTEREST), Residence Not Provided;
PILLSBURY WINTHROP SHAW PITTMAN LLP, MCLEAN, VA

**** CONTINUING DATA ***************************

This application is a REX of 09/755,723 01/05/2001 PAT 6,928,433

**** FOREIGN APPLICATIONS *********************

Foreign Priority claimed	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ yes ☐ no				
35 USC 119 (a-d) conditions met ☐ yes ☐ no ☐ Met after Allowance				
Verified and Acknowledged Examiner's Signature Initials				

ADDRESS
40032

TITLE
AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA

FILING FEE RECEIVED	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
95/001,274	12/01/2009	6928433

CONFIRMATION NO. 6990

ASSIGNMENT NOTICE

40032
CREATIVE LABS, INC.
LEGAL DEPARTMENT
1901 MCCARTHY BLVD
MILPITAS, CA 95035

OC000000039621321

Date Mailed: 01/12/2010

NOTICE OF ASSIGNMENT OF *INTER PARTES* REEXAMINATION REQUEST

The above-identified request for *inter partes* reexamination has been assigned to Art Unit 3992. All future correspondence in this proceeding should be identified by the control number listed above and directed to: Mail Stop Inter Partes Reexam, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

A copy of this Notice is being sent to the latest attorney or agent of record in the patent file or, if none is of record, to all owners of record. (See 37 CFR 1.33(c).) If the addressee is not, or does not represent, the current owner, he or she is required to forward all communications regarding this proceeding to the current owner(s)

(MPEP 2222). An attorney or agent receiving this communication who does not represent the current owner(s) may wish to seek to withdraw pursuant to 37 CFR 1.36 in order to avoid receiving future communications. If the address of the current owner(s) is unknown, this communication should be returned with the request to withdraw pursuant to Section 1.36.

cc: Third Party Requester
PILLSBURY WINTHROP SHAW PITTMAN LLP
P.O. BOX 10500
MCLEAN, VA 22102

/jawhitfield/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
95/001,274	12/01/2009	6928433

CONFIRMATION NO. 6990

PILLSBURY WINTHROP SHAW PITTMAN LLP
P.O. BOX 10500
MCLEAN, VA 22102

REEXAM ASSIGNMENT NOTICE

OC000000039621320

Date Mailed: 01/12/2010

NOTICE OF *INTER PARTES* REEXAMINATION REQUEST FILING DATE

Requester is hereby notified that the filing date of the request for *inter partes* reexamination is 12/01/2009, the date that the filing requirements of 37 CFR § 1.915 were received.

A decision on the request for *inter partes* reexamination will be mailed within three months from the filing date of the request for *inter partes* reexamination. (See 37 CFR 1.923.)

A copy of this Notice is being sent to the person identified by the requestor as the patent owner. Further patent owner correspondence will be with the latest attorney or agent of record in the patent file. (See 37 CFR 1.33.) Any paper filed should include a reference to the present request for *inter partes* reexamination (by Reexamination Control Number) and should be addressed to: Mail Stop Inter Partes Reexam, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

cc: Patent Owner
40032
CREATIVE LABS, INC.
LEGAL DEPARTMENT
1901 MCCARTHY BLVD
MILPITAS, CA 95035

/jawhitfield/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900

Patent Assignment Abstract of Title

Total Assignments: 2

Application #: 09755723 **Filing Dt:** 01/05/2001 **Patent #:** 6928433 **Issue Dt:** 08/09/2005
PCT #: NONE **Publication #:** US20020147728 **Pub Dt:** 10/10/2002
Inventors: Ron Goodman, Howard N. Egan, DAVID BRISTOW
Title: AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA

Assignment: 1

Reel/Frame: 011788 / 0174 **Received:** 05/15/2001 **Recorded:** 04/23/2001 **Mailed:** 07/30/2001 **Pages:** 4
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignors: GOODMAN, RON **Exec Dt:** 03/14/2001
EGAN, HOWARD N. **Exec Dt:** 03/22/2001
Assignee: CREATIVE TECHNOLOGY LTD., A CORP. OF THE REPUBLIC OF SINGAPORE
CREATIVE RESOURCE
31 INTERNATIONAL BUSINESS PARK
SINGAPORE, SINGAPORE 60992
Correspondent: TOWNSEND AND TOWNSEND AND CREW LLP
CHARLES E. KRUEGER
TWO EMBARCADERO CENTER, EIGHTH FLOOR
SAN FRANCISCO, CALIFORNIA 94111

Assignment: 2

Reel/Frame: 015640 / 0748 **Received:** 02/01/2005 **Recorded:** 07/15/2004 **Mailed:** 02/04/2005 **Pages:** 3
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: BRISTOW, DAVID **Exec Dt:** 07/07/2004
Assignee: CREATIVE TECHNOLOGY LIMITED
31 INTERNATIONAL BUSINESS PARK
CREATIVE RESOURCE
SINGAPORE 609921
Correspondent: CREATIVE LABS, INC.
CORPORATE LEGAL DEPARTMENT
RUSSELL N. SWERDON
1901 MCCARTHY BOULEVARD
MILPITAS, CA 95035

Search Results as of: 01/12/2010 08:02 AM

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
95/001,274	12/01/2009	6928433	016788-000-0004	6990

40032 7590 02/26/2010

CREATIVE LABS, INC.
LEGAL DEPARTMENT
1901 MCCARTHY BLVD
MILPITAS, CA 95035

EXAMINER	
FERRIS III, FRED O	
ART UNIT	**PAPER NUMBER**
3992	

MAIL DATE	DELIVERY MODE
02/26/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patents and Trademark Office
P.O.Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

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THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS
PILLSBURY WINTHROP SHAW PITTMAN LLP
P.O. BOX 10500
MCLEAN, VA 22102

Date:

MAILED

FEB 26 2010

CENTRAL REEXAMINATION UNIT

Transmittal of Communication to Third Party Requester
Inter Partes Reexamination

REEXAMINATION CONTROL NO. : 95001274
PATENT NO. : 6928433
TECHNOLOGY CENTER : 3999
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified Reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the inter partes reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an ex parte reexamination has been merged with the inter partes reexamination, no responsive submission by any ex parte third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

PTOL-2070(Rev.07-04)

ORDER GRANTING/DENYING REQUEST FOR* INTER PARTES *REEXAMINATION	**Control No.** 95/001,274	**Patent Under Reexamination** 6928433	
	Examiner Fred Ferris	**Art Unit** 3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

The request for *inter partes* reexamination has been considered. Identification of the claims, the references relied on, and the rationale supporting the determination are attached.

Attachment(s): ☐ PTO-892 ☐ PTO/SB/08 ☒ Other: IDS

1. ☒ The request for *inter partes* reexamination is GRANTED.

   ☐ An Office action is attached with this order.

   ☒ An Office action will follow in due course.

2. ☐ The request for *inter partes* reexamination is DENIED.

This decision is not appealable. 35 U.S.C. 312(c). Requester may seek review of a denial by petition to the Director of the USPTO within ONE MONTH from the mailing date hereof. 37 CFR 1.927. EXTENSIONS OF TIME ONLY UNDER 37 CFR 1.183. In due course, a refund under 37 CFR 1.26(c) will be made to requester.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Order.

Transmittal of Communication to Third Party Requester Inter Partes Reexamination	Control No.	Patent Under Reexamination	
	95/001,274	6928433	
	Examiner	Art Unit	
	Fred Ferris	3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

INTER PARTES REEXAMINATION COMMUNICATION	Control No.	Patent Under Reexamination	
	95/001,274	6928433	
	Examiner	Art Unit	
	Fred Ferris	3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

BELOW/ATTACHED YOU WILL FIND A COMMUNICATION FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL(S) IN CHARGE OF THE PRESENT REEXAMINATION PROCEEDING.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this communication.

DETAILED ACTION

Decision on Request

The instant request for *inter partes* reexamination alleges a substantial new question of patentability affecting claims 1-16 of United States Patent Number 6,928,433 issued to Goodman et al is raised by the request for *inter parte* reexamination.

A substantial new question of patentability is raised by the present request for *inter partes* reexamination and the prior art cited therein for the reasons set forth below.

The examiner has considered if a substantial new question of patentability has been raised by the following prior art references:

U.S. Patent No. 5,739,451 ("the '451 patent")

U.S. Patent No. 6,976,229 ("the '229 patent")

U.S. Patent No. 6,760,721 ("the '721 patent")

U.S. Patent Appl. Publ. No. 2002/0045960 ("the Phillips publication")

Issue(s) Raised by Request

Issue 1: The requester alleges (pages 24-44) that the '451 Patent either alone or in combination with the '299 Patent, and/or the common knowledge of a skilled artisan, raises a substantial new question of patentability regarding claims 1-16. The '451 Patent was filed December 27, 1996 and issued on April 14, 1998 which predates the filing of the '433 patent. The '229 Patent was filed December 16, 1999 which also predates the filing of the '433 patent.

Issue 2: The requester alleges (pages 44-53) that the '721 Patent alone raises a substantial new question of patentability regarding claims 1-16. The '721 Patent was filed April 14, 2000 which predates the filing of the '433 patent.

Issue 3: The requester alleges (pages 53-65) that the Phillips Publication alone raises a substantial new question of patentability regarding claims 1-16. The Phillips Publication claims priority to Provisional application 60/240,766 filed October 13, 2000 which predates the filing of the '433 patent.

Issue 4: The requester alleges (pages 65-83) that the '451 Patent in view of the '721 Patent raises a substantial new question of patentability regarding claims 1-16. The '451 Patent was filed December 27, 1996 and issued on April 14, 1998 which predates the filing of the '433 patent. The '721 Patent was filed April 14, 2000 which predates the filing of the '433 patent.

Issue 5: The requester alleges (pages 83-104) that the '721 Patent in combination with the Phillips Publication raises a substantial new question of patentability regarding claims 1-16. The '721 Patent was filed April 14, 2000 which predates the filing of the '433 patent. The Phillips Publication claims priority to Provisional application 60/240,766 filed October 13, 2000 which predates the filing of the '433 patent.

Issue 6: The requester alleges (pages 104-126) that the Phillips Publication in combination with the '451 Patent raises a substantial new question of patentability regarding claims 1-16. The

Phillips Publication claims priority to Provisional application 60/240,766 filed October 13, 2000 which predates the filing of the '433 patent. The '451 Patent was filed December 27, 1996 and issued on April 14, 1998 which predates the filing of the '433 patent.

On November 2, 2002, Public Law 107-273 was enacted. Title III, Subtitle A, Section 13105, part (a) of the Act revised the reexamination statute by adding the following new last sentence to 35 U.S.C. 303(a) and 312(a):

The existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office.

For any reexamination ordered on or after November 2, 2002, the effective date of the statutory revision, reliance on previously cited/considered art, i.e., "old art," does not necessarily preclude the existence of a substantial new question of patentability (SNQ) that is based exclusively on that old art. Rather, determinations on whether a SNQ exists in such an instance shall be based upon a fact-specific inquiry done on a case-by-case basis.

In the instant request for reexamination the examiner has considered new art that was not before the examiner at the time of allowance.

Background

The claims being requested for reexamination are current claims in United States Patent Number 6,928,433 to Goodman et al that issued August 9, 2005 from application 09/755,723 filed January 5, 2001.

The '433 patent is concerned with a method of selecting one or more tracks from many tracks stored in the memory of a portable media player. The portable media player is described as having sequential first, second and third display screens on a display of the player, and a track access hierarchy including many categories, subcategories and items. Figure 4 from the '433 patent is reproduced below, showing an example of the hierarchical category structure.

During prosecution of the '433 patent the examiner originally rejected all claims as being anticipated by United States patent no. 5,670,730 to Grewe et al. (First Office Action, mailed January 15, 2003) Applicants responded on May 15, 2003 with an amendment to the claims. A final Office Action was mailed on July 29, 2003, maintaining the rejection of all claims. Applicants responded to the final Office Action with a further amendment and a request for continued examination on February 3, 2004. In this amendment, Applicants included a new independent claim to a method of displaying media information on a display screen. The examiner viewed this new independent claim as a separate invention and issued a restriction requirement. The Applicants responded on April 30, 2004 by selecting the invention of the new independent claim. In their response Applicants replaced the elected claims with a new set of claims directed to a method of selecting at least one track from a plurality of tracks stored in a computer readable medium of a portable media player. Applicants asserted that the new set of

claims corresponds to the elected invention. Furthermore, Applicants asserted that the new set of claims were "patentable over the art of record for at least the reason that Grewe doesn't teach or suggest displaying categories or subcategories in a display screen." See Amendment filed on April 30, 2004, page 8. The examiner passed the case to allowance citing no specific reasons for allowance on June 9, 2004. Thus, it appears that Applicants believed that the feature "displaying categories or subcategories in a display screen" distinguished the claimed invention over the prior art at the time of allowance.

Analysis

Issue 1: The '451 Patent and the '299 Patent are new prior art. The '451 Patent teaches, among other things, a "hand held electronic music reference machine" (col. 2, line 64-65), that has the ability to allow a user to obtain information relative to a variety of songs. As shown in Figure 3 and then further described, a database 20 of the hand held electronic reference machine "has a first memory portion 22 storing textual or alphanumeric information which can be shown on display 16. Memory portion 22 includes an area 24 storing song titles and another memory area 26 storing at least some lyrics for each song whose title exists in memory area 24." (col. 3, line 43-48) Each of these song titles correspond to one of the plurality of tracks. Most importantly, the '451 Patent teaches that the main menu shown on the display 16 of the hand held electronic music reference machine 10 contains three categories: titles, search, and setup. (e.g. the search category. (col. 5, line 40-44) Upon selection of the search category, "display 16 shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line." (col. 5, line 51-54) As

further expressly taught by the '451 patent with respect to the specific example, "[i]f selection monitor 64 detects the actuation of Enter function key 76, a list of song titles appears for the highlighted recording artist." (col. 6, line 19-21) Thus, the list of song titles corresponds to the displayed items. In other words, the '451 Patent appears to disclose the very features relating to "displaying categories or subcategories in a display screen" that were believed to distinguish the claimed invention over the prior art at the time of allowance.

The '299 Patent similarly teaches a system for multimedia digital story creation and playback; exemplary embodiments of said system are hand held. Col. 6, lines 30-37. The '229 patent describes downloading audio clips, including music albums, audio CDs and songs, which are displayed and can be used to create playlists. Col. 3, lines 18-41 and col. 12, lines 26-38. Furthermore, the '229 patent describes storing, displaying, choosing and playing audio clips, where audio clips include albums, audio CDs and songs. (col. 3, lines 18-41 and col. 12, lines 26-38)

Hence, the '451 Patent either alone or in combination with the '299 Patent appears to teach every element of at least claim 1 including features relating to "displaying categories or subcategories in a display screen" that were believed to distinguish the claimed invention over the prior art at the time of allowance.

Since this teaching is directly related to subject matter considered as the basis for allowability of the patent claims, a reasonable examiner would consider evaluation of the '451 Patent either alone or in combination with the '299 Patent as important in determining the patentability of the claims. Further, neither the '451 Patent nor the '299 Patent were before the examiner at the time of Allowance. As such, it is agreed that the '451 Patent either alone or in combination with the

'299 Patent raises a substantial new question of patentability with respect to at least claim 1 of the Goodman et al patent.

Issue 2: The '721 Patent is new prior art. The '721 Patent teaches, among other things, a master tree and/or node hierarchy for organizing, selecting and accessing audio metadata and audio data within an audio playing device. The hierarchical representation of metadata is presented to the user in a graphical display. (col. 1, lines 39-49; col. 2, lines 8-14; col. 3, lines 11-22) The sample display of Figure 1 includes a tree window showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) See also examples of trees in columns 11-14. The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) Referring to Figure 1, whenever a new node in the metadata tree 122 is selected a new screen is displayed in table window 130 with information on the selected node. For example, when selecting first Master Library, second Genre, and third Classical, three different screens are automatically sequentially displayed in the table window 130 corresponding to the three different nodes. Furthermore, each time a user clicks on a node in the tree 122 to expand/contract it, the tree window 120 changes to show a screen with the expanded/contracted tree 122. (col. 8, line 28 through col. 9, line 23) "If the selected node is Artist under the grouping Master Library --, Artist, the node table may display the sub-groupings of the Artist node such as, for example,

Debussy, Mozart, and Rachmaninoff .... " (col. 9, lines 1-6) In other words, the '721 Patent appears to disclose the very features relating to "displaying categories or subcategories in a display screen" that were believed to distinguish the claimed invention over the prior art at the time of allowance.

Hence, the '721 Patent alone appears to teach every element of at least claim 1 including features relating to "displaying categories or subcategories in a display screen" that were believed to distinguish the claimed invention over the prior art at the time of allowance.

Since this teaching is directly related to subject matter considered as the basis for allowability of the patent claims, a reasonable examiner would consider evaluation of the '721 Patent as important in determining the patentability of the claims. Further, the '721 Patent was not before the examiner at the time of Allowance. As such, it is agreed that the '721 Patent alone raises a substantial new question of patentability with respect to at least claim 1 of the Goodman et al patent.

Issue 3: The Phillips Publication is new prior art. The Phillips Publication teaches, among other things, techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) The musical tracks are stored in the portable audio device on a storage device, such as a micro-drive, or in memory. (paragraphs 19-20) A data structure is used to store metatags corresponding to musical tracks stored in memory. The datastructure may be searched

for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. These categories of metatags may be further divided to form sub-categories – for example subcategories of genre are "Rock", "Blues", "Rap", etc. Finally within all of these categories and sub-categories are items- the musical tracks. (paragraphs 35-39) Most importantlty, "FIG. 11 illustrates the operation of the system 100 to generate a playlist using metatags. In step 380, the user selects a desired metatag from the list shown, by way of example, in the screen display 250, illustrated in FIG. 7. The user may select a metatag, such as genre, which causes the system 100 to display the display screen 252 listing the various genre metatags corresponding to the various musical tracks stored in the memory 104 (or in the storage device 126). In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step 380 may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) In other words, the Phillips Publication appears to disclose the very features relating to "displaying categories or subcategories in a display screen" that were believed to distinguish the claimed invention over the prior art at the time of allowance. Hence, the Phillips Publication alone appears to teach every element of at least claim 1 including features relating to "displaying categories or subcategories in a display screen" that were believed to distinguish the claimed invention over the prior art at the time of allowance. Since this teaching is directly related to subject matter considered as the basis for allowability of the patent claims, a reasonable examiner would consider evaluation of the Phillips Publication as important in determining the patentability of the claims. Further, the Phillips Publication was not before the examiner at the time of Allowance. As such, it is agreed that the Phillips Publication

alone raises a substantial new question of patentability with respect to at least claim 1 of the Goodman et al patent.

Issue 4: The '451 Patent and the '721 Patent are new prior art. The '451 Patent teaches, among other things, a "hand held electronic music reference machine" (col. 2, line 64-65), that has the ability to allow a user to obtain information relative to a variety of songs. As shown in Figure 3 and then further described, a database 20 of the hand held electronic reference machine "has a first memory portion 22 storing textual or alphanumeric information which can be shown on display 16. Memory portion 22 includes an area 24 storing song titles and another memory area 26 storing at least some lyrics for each song whose title exists in memory area 24." (col. 3, line 43-48) Each of these song titles correspond to one of the plurality of tracks. Most importantly, the '451 Patent teaches that the main menu shown on the display 16 of the hand held electronic music reference machine 10 contains three categories: titles, search, and setup. (e.g. the search category. (col. 5, line 40-44) Upon selection of the search category, "display 16 shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line." (col. 5, line 51-54) As further expressly taught by the '451 patent with respect to the specific example, "[i]f selection monitor 64 detects the actuation of Enter function key 76, a list of song titles appears for the highlighted recording artist." (col. 6, line 19-21) Thus, the list of song titles corresponds to the displayed items. In other words, the '451 Patent appears to disclose the very features relating to "displaying categories or subcategories in a display screen" that were believed to distinguish the claimed invention over the prior art at the time of allowance. As already addressed above, the

'721 Patent similarly teaches a hierarchical representation of metadata is presented to the user in a graphical display. (col. 1, lines 39-49; col. 2, lines 8-14; col. 3, lines 11-22) The sample display of Figure 1 includes a tree window showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) Whenever a new node in the metadata tree 122 is selected a new screen is displayed in table window 130 with information on the selected node. For example, when selecting first Master Library, second Genre, and third Classical, three different screens are automatically sequentially displayed in the table window 130 corresponding to the three different nodes. Furthermore, each time a user clicks on a node in the tree 122 to expand/contract it, the tree window 120 changes to show a screen with the expanded/contracted tree 122. (col. 8, line 28 through col. 9, line 23) "If the selected node is Artist under the grouping Master Library --, Artist, the node table may display the sub-groupings of the Artist node such as, for example, Debussy, Mozart, and Rachmaninoff .... " (col. 9, lines 1-6)

Hence, the '451 Patent and the '721 Patent appear to both teach every element of at least claim 1 including features relating to "displaying categories or subcategories in a display screen" that were believed to distinguish the claimed invention over the prior art at the time of allowance. Since this teaching is directly related to subject matter considered as the basis for allowability of the patent claims, a reasonable examiner would consider evaluation of the '451 Patent either alone or in combination with the '721 Patent as important in determining the patentability of the

claims. Further, neither the '451 Patent nor the '721 Patent were before the examiner at the time of Allowance. As such, it is agreed that the '451 Patent either alone or in combination with the '721 Patent raises a substantial new question of patentability with respect to at least claim 1 of the Goodman et al patent.

Issues 5 and 6: As already explained above, the '721 Patent, '451 Patent, and the Phillips Publication are new prior art that was not before the examiner at the time of allowance the elements of at least claim 1. As further explained above, each of these references appear to teach the features relating to "displaying categories or subcategories in a display screen" that were believed to distinguish the claimed invention over the prior art at the time of allowance. Since this teaching is directly related to subject matter considered as the basis for allowability of the patent claims, a reasonable examiner would consider evaluation of the '451 Patent, the '721 Patent, and the Phillips Publication in combination as important in determining the patentability of the claims. Further, the '451 Patent, the '721 Patent, and the Phillips Publication were not before the examiner at the time of Allowance. As such, it is agreed that the '451 Patent, the '721 Patent, and the Phillips Publication in combination raises a substantial new question of patentability with respect to at least claim 1 of the Goodman et al patent.

Conclusion

Any paper filed with the USPTO, i.e., any submission made, by either the Patent Owner or the Third Party Requester must be served on every other party in the reexamination proceeding,

including any other third party requester that is part of the proceeding due to merger of the reexamination proceedings. As proof of service, the party submitting the paper to the Office must attach a Certificate of Service to the paper which sets forth the name and address of the party served and the method of service. Papers filed without the required Certificate of Service may be denied consideration. 37 CFR 1.903; MPEP 2666.06.

All correspondence relating to this inter partes reexamination proceeding should be directed as follows:

By U.S. Postal Service Mail to:
Mail Stop Inter Partes Reexam ATTN: Central Reexamination Unit Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to:

(571) 273-9900
Central Reexamination Unit

By hand:

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

Fred Ferris
Primary Examiner
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Conferees:

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FORM PTO-1449 (modified) U.S. Department of Commerce Patent and Trademark Office	To:	Attorney Docket No.	016788-000-0004	Client Reference No.:

INFORMATION DISCLOSURE STATEMENT FORM 1449

Inventors: Ron Goodman et al.
Patent No.: 6,928,433
Date of Issue: August 9, 2005
Examiner: Rones, C. | Group Art Unit: 2164

Page 1 of 1

U.S. PATENT DOCUMENTS

Examiner's Initials*		Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
	1	6,976,229 B1	12-13-2005	BALABANOVIC ET AL.	715	838	
	2	6,760,721 B1	07-06-2004	CHASEN ET AL.	707	3	
	3	5,739,451	04-14-1998	WINKSY ET AL.	84	609	
	4	2002/0045960 A1	04-18-2002	PHILLIPS ET AL.	700	94	
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	18						
	18						
	20						
	21						

Examiner | Date Considered:

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FOREIGN PATENT DOCUMENTS

		Document No.	Date (dd/mm/yy)	Country		English Abstract		Translation available	

OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)

Examiner | Date Considered: 2/23/10

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

PAT-1449 12/98

Litigation Search Report CRU 3999

Reexam Control No. 95/001,274

To: Mary Steelman **Location: CRU** **Art Unit: 3992** **Date: 03/26/2010** **Case Serial Number: 95/001,274**	**From: Renee Preston** **Location: CRU 3999** **MDW 7C71** **Phone: (571) 272-1607** **Renee.preston@uspto.gov**

Search Notes

U.S. Patent No. 6,928,433

1) I performed a KeyCite Search in Westlaw, which retrieves all history on the patent including any litigation.

2) I performed a search on the patent in Lexis CourtLink for any open dockets or closed cases.

3) I performed a search in Lexis in the Federal Courts and Administrative Materials databases for any cases found.

4) I performed a search in Lexis in the IP Journal and Periodicals database for any articles on the patent.

5) I performed a search in Lexis in the news databases for any articles about the patent or any articles about litigation on this patent.

Litigation was found

Stayed: No
Closed: No
U.S. District – California Northern
(San Francisco)
3:06cv3218
Creative Technology Ltd v. Apple Computer, Inc

Stayed: No
Closed: Yes
U.S. District – California Northern
(Oakland)
4:06cv3218
Creative Technology Ltd v. Apple Computer, Inc

Westlaw Delivery Summary Report for PRESTON,RENEE

Date/Time of Request:	Friday, March 26, 2010 09:39 Central
Client Identifier:	RENEE.PRESTON@USPTO.GOV
Database:	KEYCITE-HIST
Citation Text:	US PAT 6928433
Service:	KeyCite
Lines:	68
Documents:	1
Images:	0

Litigation Search Report CRU 3999

Reexam Control No. 95/001,274

To: Mary Steelman **Location: CRU** **Art Unit: 3992** **Date: 03/26/2010** **Case Serial Number: 95/001,274**	**From: Renee Preston** **Location: CRU 3999** **MDW 7C71** **Phone: (571) 272-1607** **Renee.preston@uspto.gov**

Search Notes

U.S. Patent No. 6,928,433

1) I performed a KeyCite Search in Westlaw, which retrieves all history on the patent including any litigation.

2) I performed a search on the patent in Lexis CourtLink for any open dockets or closed cases.

3) I performed a search in Lexis in the Federal Courts and Administrative Materials databases for any cases found.

4) I performed a search in Lexis in the IP Journal and Periodicals database for any articles on the patent.

5) I performed a search in Lexis in the news databases for any articles about the patent or any articles about litigation on this patent.

Litigation was found

Stayed: No
Closed: No
U.S. District – California Northern
(San Francisco)
3:06cv3218
Creative Technology Ltd v. Apple Computer, Inc

Stayed: No
Closed: Yes
U.S. District – California Northern
(Oakland)
4:06cv3218
Creative Technology Ltd v. Apple Computer, Inc

Westlaw.

Date of Printing: Mar 26, 2010

KEYCITE

C US PAT 6928433 AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA, Assignee: Creative Technology LTD (Aug 09, 2005)

History

Direct History

=> 1 **AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA,** US PAT 6928433, 2005 WL 1914838 (U.S. PTO Utility Aug 09, 2005) (NO. 09/755723)

Patent Family

2 AUDIO TRACK FILING METHOD IN PORTABLE DIGITAL MUSIC PLAYER, INVOLVES DETERMINING APPROPRIATE LOCATION TO FILE AUDIO TRACK BY READING HIERARCHICAL TREE STRUCTURED FILE BASED ON TRACK METADATA, Derwent World Patents Legal 2003-110747

Assignments

3 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 004, (DATE RECORDED: Apr 23, 2001)

Patent Status Files

.. Certificate of Correction, (OG DATE: Jun 06, 2006)

.. Patent Suit(See LitAlert Entries),

Docket Summaries

6 "CREATIVE TECHNOLOGY LTD. v. APPLE COMPUTER, INC.", (N.D.CAL. May 15, 2006) (NO. 3:06CV03218), (35 USC 271 PATENT INFRINGEMENT)

Litigation Alert

7 Derwent LitAlert P2006-51-06 (May 15, 2006) Action Taken: Stipulated dismissal - Plaintiff Creative Technology Ldt and Defendant Apple Computer Inc hereby stipulate to the dismissal with prejudice

Prior Art (Coverage Begins 1976)

H 8 DATA PROTOCOL AND METHOD FOR SEGMENTING MEMORY FOR A MUSIC CHIP, US PAT 5670730Assignee: Lucent Technologies Inc., (U.S. PTO Utility 1997)

C 9 MULTIMEDIA CONTENT DELIVERY SYSTEM AND METHOD, US PAT 6248946Assignee:

iJockey, Inc., (U.S. PTO Utility 2001)

H 10 MUSIC ORGANIZER AND ENTERTAINMENT CENTER, US PAT 5969283Assignee: Looney Productions, LLC, (U.S. PTO Utility 1999)

C 11 PERFORMANCE SETTING DATA SELECTING APPARATUS, US PAT 5918303Assignee: Yamaha Corporation, (U.S. PTO Utility 1999)

C 12 SING-ALONG DATA TRANSMITTING METHOD AND A SING-ALONG DATA TRANSMITTING/RECEIVING SYSTEM, US PAT 6062868Assignee: Pioneer Electronic Corporation, (U.S. PTO Utility 2000)

C 13 SYSTEM AND METHOD FOR PLAYING COMPRESSED AUDIO DATA, US PAT 6377530Assignee: Compaq Computer Corporation, (U.S. PTO Utility 2002)

C 14 SYSTEM AND METHODS FOR SELECTING MUSIC ON THE BASIS OF SUBJECTIVE CONTENT, US PAT 5616876Assignee: Microsoft Corporation, (U.S. PTO Utility 1997)

C 15 SYSTEM FOR MANAGING POWER IN A PORTABLE MUSIC PLAYER, US PAT 6590730Assignee: Creative Technology Ltd., (U.S. PTO Utility 2003)

C 16 SYSTEM FOR MANAGING POWER IN A PORTABLE MUSIC PLAYER, US PAT APP 20020089774 (U.S. PTO Application 2002)

US District Court Civil Docket

U.S. District - California Northern
(San Francisco)

3:06cv3218

Creative Technology Ltd v. Apple Computer, Inc

This case was retrieved from the court on Monday, May 22, 2006

Date Filed: 05/15/2006
Assigned To: Honorable Bernard Zimmerman
Referred To:
Nature of suit: Patent (830)
Cause: Patent Infringement
Lead Docket: None
Other Docket: None
Jurisdiction: Federal Question

Class Code: ADRMOP, AO279, E-Filing
Closed: No
Statute: 35:271
Jury Demand: Both
Demand Amount: $0
NOS Description: Patent

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Apple Computer, Inc A California Corporation
Defendant

Date	#	Proceeding Text
05/15/2006	1	COMPLAINT for Patent Infringement & Demand for Jury Trial - [Summons Issued] against Apple Computer, Inc., [Filing Fee: $350.00, Receipt Number 5514559]. Filed by Plaintiff Creative Technology Ltd.. (tn, COURT STAFF) (Filed on 5/15/2006) (Entered: 05/16/2006)
05/15/2006	--	SUMMONS Issued as to Apple Computer, Inc.. (tn, COURT STAFF) (Entered: 05/16/2006)
05/15/2006	2	ADR SCHEDULING ORDER: Case Management Statement due 8/7/2006 & Initial Case Management Conference set for 8/14/2006 at 4:00 P.M.. (Attachments: #(1) Standing Order). (tn, COURT STAFF) (Filed on 5/15/2006) (Entered: 05/16/2006)
05/15/2006	3	DISCLOSURE STATEMENT Pursuant to Fed.R.Civ.P.7.1 Filed by Plaintiff Creative Technology Ltd.. (tn, COURT STAFF) (Filed on 5/15/2006) (Entered: 05/16/2006)
05/15/2006	4	REPORT on the filing or determination of an Action Regarding Patent Infringement. (cc: form mailed to register). (tn, COURT STAFF) (Filed on 5/15/2006) Additional attachment(s) added on 5/16/2006 (tn, COURT STAFF). (Entered: 05/16/2006)
05/15/2006	--	CASE DESIGNATED for Electronic Filing. (tn, COURT STAFF) (Entered: 05/16/2006)
05/17/2006	5	Defendant Apple Computer, Inc.'s ANSWER to Complaint with Jury Demand byApple Computer, Inc.. (Lamison, Eric) (Filed on 5/17/2006) (Entered: 05/17/2006)

US District Court Civil Docket

U.S. District - California Northern (Oakland)

4:06cv3218

Creative Technology Ltd v. Apple Computer, Inc

This case was retrieved from the court on Friday, March 26, 2010

Date Filed:	**05/15/2006**	**Class Code:**	**CLOSED**
Assigned To:	**Honorable Saundra Brown Armstrong**	**Closed:**	**Yes**
Referred To:		**Statute:**	**35:271**
Nature of suit:	**Patent (830)**	**Jury Demand:**	**Both**
Cause:	**Patent Infringement**	**Demand Amount:**	**$0**
Lead Docket:	**None**	**NOS Description:**	**Patent**
Other Docket:	**None**		
Jurisdiction:	**Federal Question**		

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Date	#	Proceeding Text
05/15/2006	1	COMPLAINT for Patent Infringement & Demand for Jury Trial - [Summons Issued] against Apple Computer, Inc., [Filing Fee: $350.00, Receipt Number 5514559]. Filed by Plaintiff Creative Technology Ltd.. (tn, COURT STAFF) (Filed on 5/15/2006) Additional attachment(s) added on 5/22/2006 (tn, COURT STAFF). Additional attachment(s) added on 5/22/2006 (tn, COURT STAFF). (Entered: 05/16/2006)
05/15/2006	--	SUMMONS Issued as to Apple Computer, Inc.. (tn, COURT STAFF) (Entered: 05/16/2006)
05/15/2006	2	ADR SCHEDULING ORDER: Case Management Statement due 8/7/2006 & Initial Case Management Conference set for 8/14/2006 at 4:00 P.M.. (Attachments: #(1) Standing Order). (tn, COURT STAFF) (Filed on 5/15/2006) (Entered: 05/16/2006)
05/15/2006	3	DISCLOSURE STATEMENT Pursuant to Fed.R.Civ.P.7.1 Filed by Plaintiff Creative Technology Ltd.. (tn, COURT STAFF) (Filed on 5/15/2006) Additional attachment(s) added on 5/22/2006

		(tn, COURT STAFF). (Entered: 05/16/2006)
05/15/2006	4	REPORT on the filing or determination of an Action Regarding Patent Infringement. (cc: form mailed to register). (tn, COURT STAFF) (Filed on 5/15/2006) Additional attachment(s) added on 5/16/2006 (tn, COURT STAFF). (Entered: 05/16/2006)
05/15/2006	--	CASE DESIGNATED for Electronic Filing. (tn, COURT STAFF) (Entered: 05/16/2006)
05/17/2006	5	Defendant Apple Computer, Inc.'s ANSWER to Complaint with Jury Demand byApple Computer, Inc.. (Lamison, Eric) (Filed on 5/17/2006) (Entered: 05/17/2006)
05/19/2006	6	APPLICATION of Attorney Stephen K. Shahida for Leave to Appear in Pro Hac Vice [Filing Fee: $210.00 Receipt No. 3385810]. Filed by Plaintiff Creative Technology Ltd.. (tn, COURT STAFF) (Filed on 5/19/2006) (Entered: 05/22/2006)
05/19/2006	--	RECEIVED ORDER: [Proposed] Order Granting re 6 Application for Admission of Attorney Stephen K. Shahida Pro Hac Vice Submitted by Plaintiff Creative Technology Ltd.. (tn, COURT STAFF) (Entered: 05/22/2006)
05/19/2006	7	APPLICATION of Attorney John R. Fuisz for Leave to Appear in Pro Hac Vice [Filing Fee: $210.00 Receipt No. 3385807]. Filed by Plaintiff Creative Technology Ltd.. (tn, COURT STAFF) (Filed on 5/19/2006) (Entered: 05/22/2006)
05/19/2006	--	RECEIVED ORDER: [Proposed] Order Granting re 7 Application for Admission of Attorney John R. Fuisz Pro Hac Vice Submitted by Plaintiff Creative Technology Ltd.. (tn, COURT STAFF) (Entered: 05/22/2006)
05/19/2006	8	APPLICATION of Attorney Mark G. Davis for Leave to Appear in Pro Hac Vice [Filing Fee: $210.00 Receipt No. 3385808]. Filed by Plaintiff Creative Technology Ltd.. (tn, COURT STAFF) (Filed on 5/19/2006) (Entered: 05/22/2006)
05/19/2006	--	RECEIVED ORDER: [Proposed] Order Granting re 8 Application for Admission of Attorney Mark G. Davis Pro Hac Vice Submitted by Plaintiff Creative Technology Ltd.. (tn, COURT STAFF) (Entered: 05/22/2006)
05/22/2006	9	Declination to Proceed Before a U.S. Magistrate Judge by Creative Technology Ltd. And Request for Reassignment to a United States District Judge . (Koh, Lucy) (Filed on 5/22/2006) (Entered: 05/22/2006)
05/22/2006	10	CERTIFICATE OF SERVICE by Creative Technology Ltd. re 9 Declination to Proceed Before a U.S. Magistrate Judge (Koh, Lucy) (Filed on 5/22/2006) (Entered: 05/22/2006)
05/23/2006	11	CLERK'S NOTICE of Impending Reassignment to U.S. District Judge (ls, COURT STAFF) (Filed on 5/23/2006) (Entered: 05/23/2006)
05/23/2006	12	ORDER REASSIGNING CASE. Case reassigned to Judge Saundra Brown Armstrong for all further proceedings. Judge Bernard Zimmerman no longer assigned to the case. Signed by Executive Committee on 5/23/06. (ha, COURT STAFF) (Filed on 5/23/2006) (Entered: 05/23/2006)
05/31/2006	13	CASE MANAGEMENT SCHEDULING ORDER FOR REASSIGNED CIVIL CASES: Case Management Conference set for 9/7/2006 03:45 PM. via telephone. Signed by Judge Armstrong on 5/31/06. (lrc, COURT STAFF) (Filed on 5/31/2006) Modified on 6/1/2006 (jlm, COURT STAFF). (Entered: 05/31/2006)
06/01/2006	14	CERTIFICATE OF SERVICE by Creative Technology Ltd. re 13 Case Management Scheduling Order (Koh, Lucy) (Filed on 6/1/2006) (Entered: 06/01/2006)
06/01/2006	15	ORDER by Judge Saundra Brown Armstrong GRANTING 6 Motion for Pro Hac Vice (Stephen K. Shahida) (kc, COURT STAFF) (Filed on 6/1/2006) Additional attachment(s) added on 6/5/2006 (jlm, COURT STAFF). (Entered: 06/02/2006)
06/01/2006	16	ORDER by Judge Saundra Brown Armstrong GRANTING 7 Motion for Pro Hac Vice (John R. Fuisz) (kc, COURT STAFF) (Filed on 6/1/2006) Additional attachment(s) added on 6/5/2006 (jlm, COURT STAFF). (Entered: 06/02/2006)
06/01/2006	17	ORDER by Judge Saundra Brown Armstrong GRANTING 8 Motion for Pro Hac Vice (Mark G. Davis) (kc, COURT STAFF) (Filed on 6/1/2006) Additional attachment(s) added on 6/5/2006 (jlm, COURT STAFF). (Entered: 06/02/2006)
06/02/2006	18	SUMMONS Returned Executed by Creative Technology Ltd.. Apple Computer, Inc. served on 5/15/2006, answer due 6/5/2006. (Koh, Lucy) (Filed on 6/2/2006) (Entered: 06/02/2006)
06/05/2006	19	CERTIFICATE OF SERVICE by Apple Computer, Inc. re 5 Answer to Complaint (Lamison, Eric) (Filed on 6/5/2006) (Entered: 06/05/2006)
06/19/2006	20	MOTION to Stay filed by Apple Computer, Inc.. Motion Hearing set for 7/25/2006 01:00 PM in Courtroom 3, 3rd Floor, Oakland. (Higgins, Zachariah) (Filed on 6/19/2006) (Entered:

		06/19/2006)
06/19/2006	21	Declaration of Zachariah A. Higgins in Support of 20 MOTION to Stay filed byApple Computer, Inc.. (Attachments: # 1 Exhibit A# 2 Exhibit B)(Related document(s) 20) (Higgins, Zachariah) (Filed on 6/19/2006) (Entered: 06/19/2006)
06/19/2006	22	Proposed Order re 20 MOTION to Stay by Apple Computer, Inc.. (Higgins, Zachariah) (Filed on 6/19/2006) (Entered: 06/19/2006)
06/26/2006	23	STIPULATION and [Proposed] Order to Stay Action by Apple Computer, Inc.. (Arnold, Brian) (Filed on 6/26/2006) (Entered: 06/26/2006)
07/10/2006	24	ORDER by Judge Armstrong granting 20 Motion to Stay (lrc, COURT STAFF) (Filed on 7/10/2006) (Entered: 07/10/2006)
08/29/2006	25	STIPULATION of Dismissal by Creative Technology Ltd.. (Koh, Lucy) (Filed on 8/29/2006) (Entered: 08/29/2006)
08/29/2006	--	REPORT on the determination of an action regarding PATENT INFRINGEMENT (cc: form mailed to register). (jlm, COURT STAFF) (Filed on 8/29/2006) (Entered: 08/30/2006)

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Reexamination requested December 1, 2009 by Archos, SA; (Att'y Is: David A. Jakopin, Pillsbury Winthrop Shaw Pittman, LLP., McLean, VA), Reexamination No. 95/001,274 (O.G. March 16, 2010) Ex. Gp.: 3992 December 1, 2009

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ASSIGNEE-PRE-ISSUE:
April 23, 2001 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., CREATIVE TECHNOLOGY LTD., A CORP. OF THE REPUBLIC OF SINGAPORE CREATIVE RESOURCE 31 INTERNATIONAL BUSINESS PARKSINGAPORE, (1)60992, Reel and Frame Number: 011788/0174
July 15, 2004 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., CREATIVE TECHNOLOGY LIMITED 31 INTERNATIONAL BUSINESS PARK CREATIVE RESOURCE (1)609921, Reel and Frame Number: 015640/0748

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IPC-ADDL-CL: [8] G11B 027#34 (20060101) Advanced Inventive 20051008 (A I R M EP)

PRIM-EXMR: Rones, Charles

REF-CITED:

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NON-PATENT LITERATURE:
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Web page on “MusicMatch Jukebox 4.0: Screen Shot 1,” PC Magazine, Jun. 17, 1999, 2 pages, http://web.archive.org/web20000226113655/www.zdnet.com/products/stories/reviews/0,4161,2

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Web page on “Can you carry your CD collection in your pocket? Yes, you can.” Compaq web site, 3 pages, http://research.compaq.com/SRC/pjb/, Printed on Apr. 30, 2004.

CORE TERMS: track, song, album, user, button, screen, artist, playlist, interface, tree, metadata, soft, stored, music, display, hierarchy, portable, playback, jukeboxes, select, genre, queue, player, format, host, displayed, computer, audio, automatically, hierarchical

ENGLISH-ABST:

A method, performed by software executing on the processor of a portable music playback device, that automatically files tracks according to hierarchical structure of categories to organize tracks in a logical order. A user interface is utilized to change the hierarchy, view track names, and select tracks for playback or other operations.

NO-OF-CLAIMS: 16

NO-OF-FIGURES: 14

NO-DRWNG-PP: 12

PARENT-PAT-INFO:

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001]This application is related to Application Ser. No. 09/755,629, entitled System for Selecting and Playing Songs in a Playback Device with a Limited User Interface, now abandoned and Application Ser. No. 09/755,367, entitled Audioplayback Device with Power Savings Storage Access Mode, issued as U.S. Pat. No. 6,590,730, all filed Jan. 5, 2001, the disclosures of which are incorporated herein by reference.

SUMMARY:

BACKGROUND OF THE INVENTION

[0002]Today, portable consumer electronic devices are more powerful than ever. For example, small, portable music playback devices can store hundreds, even thousands, of compressed songs and can play back the songs at high quality. With the capacity for so many songs, a playback device can store many songs from different albums, artists, styles of music, etc.

[0003]Music jukeboxes implemented in software executed by a digital computer and portable MP3 and CD players both provide facilities for forming playlists. For example, the OOZIC player, distributed by the assignee of the present application, runs on a host PC and has a playlist feature that allows selection of tracks from the PC's hard disk to be included in the playlist.

[0004]As storage capacity increases and songs are compressed to shorter file lengths the number of songs that can be stored increases rapidly. Major problems facing the consumer are organizing and accessing the tracks.

[0005]Typically, portable devices have a user interface including a small screen and buttons. Such a display screen might be, e.g., 1″×2″. This small display size is necessary because of the physical size of the device which is typically carried in the hand. The small size also limits the number, size, shape, and types of user input controls that can be mounted on the device. For example, a few pushbuttons are usually provided to perform all of the device's control functions. Using such a compact user interface to navigate and select among hundreds of songs is inefficient and often frustrating. The display screen can only show a few song titles at one time, and the limited controls make it difficult for a user to arbitrarily select, or move among, the songs.

[0006]The creation of playlists is one technique to organize the playing of songs. A set of songs can be included in a playlist which is given a name and stored. When the playlist is accessed, the set of songs can be played utilizing various formats such as sequential play or shuffle.

[0007]However, the creation of playlists itself becomes problematic as the number of songs increases, since the user often arbitrarily selects songs from a large number of tracks to form a playlist. This selection mechanism: can be fairly tedious; does not necessarily produce playlists that are of interest to the user over the course of time; may not remain up-to-date if new songs are added that logically fit into a previously created playlist (e.g. [ldquo]Favorites by Band X[rdquo] might become out of date if a new favorite by Band X is added after the playlist was created); and leads to [ldquo]lost[rdquo] songs that are not members of any playlist.

[0008]Accordingly, improved techniques for organizing and grouping tracks useful in a portable music player are needed. Further, it is desirable to provide a user interface suitable for a small device. The user interface should allow a user to efficiently navigate among, and select from, many items stored in the device.

SUMMARY OF THE INVENTION

[0009]The present invention provides an efficient user interface for a small portable music player. The invention is suitable for use with a limited display area and small number of controls to allow a user to efficiently and intuitively navigate among, and select, songs to be played. By using the invention, very large numbers of songs can be easily accessed and played.

[0010]One aspect of the invention includes an overlapping hierarchy of categories. Categories include items that can also be included in other categories so that the categories [ldquo]overlap[rdquo] with each other. Thus, a song title can be accessed in multiple different ways by starting with different categories. For example, a preferred embodiment of the invention uses the top-level categories [ldquo]Albums[rdquo], [ldquo]Artists[rdquo], [ldquo]Genres[rdquo] (or styles), and [ldquo]Play Lists[rdquo]. Within the Albums category are names of different albums of songs stored in the device. Within each album are the album tracks, or songs, associated with that album. Similarly, the Artists category includes names of artists which are, in turn, associated with their albums and songs. The Genre category includes types of categories of music such as [ldquo]Rock[rdquo], [ldquo]Hip Hop [rdquo], [ldquo]Rap[rdquo], [ldquo]Easy Listening[rdquo], etc. Within these sub-categories are found associated songs. Finally, the [ldquo]Play Lists[rdquo] category includes collections of albums and/or songs which are typically defined by the user.

[0011]Advantageous use is made of the overlapping hierarchy to allow the user to quickly designate a song for playback. The device uses three [ldquo]soft[rdquo] pushbuttons that have assignable functions. The interface maintains consistent button functionality whenever possible and uses uniform command names and operations in different types of items so that the interface is more intuitive. For example, the user can open and queue both albums and songs with predictable results.

[0012]The interface also provides for multiple functions for a single control. For example, a [ldquo]Play[rdquo] button can act, in a first function, to play a currently-selected song. The Play button can act, in a second function, to cycle through different playback modes. The modes can be, e.g., (1) playback of songs from a hard disk; (2) playback of music from a radio receiver built into the device; and (3) playback of voice messages. The first function for the Play button can be activated by momentarily depressing the Play button for a short period of time. The second function is invoked by depressing the Play button for a longer period of time whereupon the device cycles through the different modes. Other ways of invoking the functions are possible such as where the second function is automatically entered from a powered-down state.

[0013]In one embodiment, the invention provides a method for selecting songs to be played in an electronic audio device, wherein the device includes a display and one or more user input controls, wherein songs are organized into categories, albums, wherein songs and albums are associated with artist names. The method includes steps of displaying categories on the display; accepting signals from a user input control to select a category; displaying one or more songs in the selected category on the display; accepting signals from a user input control to select a displayed song; and entering selected songs into a playlist queue, wherein the device plays back songs in the playlist queue.

[0014]According to one aspect of the present invention, a technique is provided for organizing tracks on a portable music player by automatically filing tracks in a hierarchical order based on attributes of the tracks.

[0015]According to another aspect of the invention, metadata is associated with each track that is used to automatically define the track's appropriate place in the hierarchy.

[0016]According to another aspect of the invention, the hierarchy is displayed on the portable music player so that a user can traverse the organizational hierarchy to find individual tracks or find playlists composed of logical groups of tracks.

[0017]According to another aspect of the invention, the hierarchy is derived by using metadata associated with the audio content that was obtained through any source of metadata (e.g. CDDB metadata, id3v2 metadata, other obtainable metadata) and

subsequently stored with or alongside the file that stores the track.

[0018]According to another aspect of the invention, a file is formatted so that an unaltered track is stored as file data and information about the track is stored in file attribute files.

[0019]Other features and advantages of the invention will be apparent in view of the following detailed description and appended drawings.

DRWDESC:

BRIEF DESCRIPTION OF THE DRAWINGS

[0020]
Clipped Image
is a schematic diagram of a tree structure for hierarchical filing of tracks;

[0021]
Clipped Image
is a definition file that specifies the hierarchy depicted in
Clipped Image
;

[0022]
Clipped Image
is a user's view of the hierarchy;

[0023]
Clipped Image
is a schematic diagram of a user interface displaying the hierarchical category structure;

[0024]
Clipped Image
is a diagram of a file format for storing filed data and file attributes;

[0025]
Clipped Image
is a flow chart depicting steps for filing tracks according to the hierarchical tree structure;

[0026]
Clipped Image
depicts a tree resulting from searching the tracks; and

[0027]
Clipped Image
depicts a format for a user interface;

[0028]
Clipped Image
illustrates the NOMAD Jukebox and its user interface controls;

[0029]
Clipped Image
illustrates a sequence of display screens describing how to navigate to lower levels;

[0030]
Clipped Image
illustrates associations among items;

[0031]
Clipped Image
shows display screens used to search for a song or other item;

[0032]
Clipped Image
illustrates details of different items; and

[0033]
Clipped Image
illustrates a playback device coupled to a host computer system.

DETDESC:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0034]A preferred embodiment of the invention will now be described in the context of a portable personal player that plays audio files stored in memory. The files may be in MP3, wav. or other digital formats.

[0035]In the presently described embodiment, users are able to see the tracks on their player in some organized fashion other than as a single list of tracks. As will be described in more detail below, in one embodiment tracks are sorted utilizing a tree structure having branches labeled according to types of metadata associated with the tracks

[0036]For example, a track recorded as [ldquo]Golden Slumbers[rdquo] by the Beatles that appears on their album [ldquo]Hey Jude[rdquo] might appear as a track under the album [ldquo]Abbey Road[rdquo] as well as a track under the list of tracks by the Beatles. It might appear as a track under the genre [ldquo]Pop Rock[rdquo] as well as [ldquo]Songs from the 60's.[rdquo] Furthermore, the organization can have more complex hierarchies. For example, the category of [ldquo]Pop Rock[rdquo] might contain subcategories [ldquo]British Musicians,[rdquo] [ldquo]American Musicians[rdquo] and [ldquo]Other Musicians[rdquo]. In all cases, the track is automatically filed into all appropriate locations without requiring user interaction.

[0037]In the currently defined embodiment, a tree structure is defined by a file having the following structure.

[0038]The first line of a TreeDef.inf file contains a version number:

- -
  - -

    V1.0

[0040]Each subsequent line (at least in v1.0) contains lines of the following format:

- -
  - -

    CATEGORY_NAME[verbar]TRACK_TYPE MASK[verbar]CATEGORY_STRUCTURE
  - -

    CATEGORY_NAMEs are the top-level names of the branch under which tracks are sorted. They include things like [ldquo]Album,[rdquo] [ldquo]Artist,[rdquo] [ldquo]Voice Tracks,[rdquo] [ldquo]All Tracks,[rdquo] etc.
  - -

    TRACK_TYPE_MASKs tell which types of tracks are to be filed under this particular branch. The actual value is a hexadecimal numerical value (in [lsquo] 0X[rsquo] format, e.g. 0X01) generated by ORing the following flags together as appropriate:

[0044]

Search terms may have been found within the contents of this table. Please see the table in the original document.

[0045]So, for example, the [ldquo]Album[rdquo] branch has a TRACK_TYPE_MASK of kTTSong, because only songs are filed under that branch, but the [ldquo]All Tracks[rdquo] branch has a TRACK_TYPE_MASK of (kTTSong[verbar]kTTVoice[verbar]kTTBook).

[0046]Other elements might be added to tTrackType (e.g. kTTVideo) as appropriate.

[0047]CATEGORY_STRUCTUREs tell how to file the songs based on their metadata information. The CATEGORY_STRUCTURE is a string of characters that tell, from left to right, the order of hierarchy. The characters come from the following enum constants:

[0048]

Search terms may have been found within the contents of this table. Please see the table in the original document.

[0049]Thus, a CATEGORY_STRUCTURE of LN tells to create a subcategory that is a list of Albums, each of which contains a list of Tracks.

[0050]In total, a line like:

- -
  - -

    Album[verbar]0×01[verbar]LN

[0052]Says to create a branch called [ldquo]Album[rdquo] which contains tracks of type

kTTSong organized first by album name, and then by track name.

[0053]The following is an example of a tree definition file similar (though not identical) to the hierarchy presented in the Nomad Jukebox product (the [lsquo]B[rsquo] before each FileTag was used to identify that these are basic tags so that we wouldn't run out of letters in the alphabet as we included more complex metadata[mdash]thus each group of two letters represents a level in the hierarchy):

[0054]

Search terms may have been found within the contents of this table. Please see the table in the original document.

[0055]
Clipped Image
depicts a hypothetical organization hierarchy. The tree shows how tracks might be listed (as leaves in the tree) after having been organized. Example values for nodes in the tree are shown as well. The same track may appear more than once as a leaf in the tree, as described above, if it fits into multiple categories (e.g. a song that appears on the Abbey Road branch would also appear in the Beatles branch). In the example shown, the first branch contains tracks organized by album. As shown in the example, this music collection contains three tracks from [ldquo]Abbey Road[rdquo] and three tracks from [ldquo]Hits from the 60's [rdquo]. The second branch contains tracks organized by artist, and sub organized by where the artist is from. Thus, a user browsing would first select the [ldquo]Artists[rdquo] branch and then choose between [ldquo]British Artists[rdquo] and [ldquo]American Artists[rdquo]. Finally, they would select the particular artist. In the third branch, all tracks are shown.

[0056]The tree definition file that would specify the hierarchy shown in
Clipped Image
is shown in FIG. **2**.

[0057]The first line identifies the version of the tree definition file.

[0058]The second line defines the [ldquo]Albums[rdquo] branch. The first part of the line, [ldquo]Albums[rdquo] defines the name of the branch. The second part, [ldquo]0×01, [rdquo] defines that all musical tracks should be categorized on this branch. The third part, [ldquo]BLBN,[rdquo] defines that the branch lists first the names of all albums (BL) and then tracks on those albums (BN).

[0059]The third line defines the [ldquo]Artists[rdquo] branch. The first part of the line [ldquo]Artists[rdquo] defines the name of the branch. The second part, [ldquo]0×01, [rdquo] defines that all musical tracks should be categorized on this branch. The third part, [ldquo]BCBMBN,[rdquo] defines that the branch lists first the names of all countries where artists in this collection come from (BC) and under those items, the artists' names (BM), and then tracks by those artists (BN).

[0060]
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shows what a user's view of this hierarchy might be if he/she were shown a fully expanded view of the 6-song tree. Notice that each song appears three times, once in each branch.

[0061]In consumer products the tree define file is not edited directly but through a user interface, one example of which is depicted in FIG. **4**. An example of a user interface for viewing songs by category and editing the tree structure is depicted in FIG. **4**.

[0062]An embodiment of the invention is utilized in the Nomad® Jukebox, manufactured by the assignee of the present invention, and described more fully in the copending application, filed on the same date as the present application, entitled [ldquo] System for Selecting and Playing Songs in a Playback Device with a Limited User Interface, [rdquo] (Attny. Docket No. 17002-020800).

[0063]In a preferred embodiment, metadata is associated with each track and includes such information as title, genre, artist name, type, etc. In the preferred embodiment, software stored in a portable player and executed by the onboard processor automatically files each track in the correct category utilizing the associated metadata and the tree define file. The program code can be stored in any computer readable medium including magnetic storage, CD ROM, optical media, or digital data encoded on an electromagnetic signal.

[0064]Thus, the user is automatically provided with a powerful and flexible tool for organizing and categorizing the tracks stored on the portable player.

[0065]If the tracks are formatted in MP3 format the metadata can be stored in ID3 tags included in the MP3 file. In one embodiment of the invention, the tracks are stored in alternate file format including file data and file attributes. The file data is the music track itself and the file attributes part of the file includes fields of arbitrary size which are used to store metadata characterizing the track stored as the file data. Again this metadata includes information about the track such as title, genre, artist name, type, etc.

[0066]There are several advantages to using the alternate file format. Metadata of types not easily included in an ID3 tag can be utilized. Further, the original track format is not changed, so that error correction data such as checksums are valid. Finally, any file format can be used (e.g. WAV, WMA, etc.) because the metadata is stored separately, and thus audio formats that have limited support for metadata can still be stored on the portable player in native format without transcoding. The formatted files are formed by software stored in the portable music player and executed by an on-board processor.

[0067]The metadata for each track is utilized to file each track, using the categories defined in the hierarchical structure as described above, without any input from the user.

[0068]
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is a schematic diagram of the alternative file format including file data in the form of an MP3 track, and metadata fields for holding data indicating the name of the album the track is from, the name of the song, the genre of the song, and the type of track.

[0069]A particular embodiment of a file format will now be described. All tracks are created with some set of attributes as shown below:

[0070]

Search terms may have been found within the contents of this table. Please see the table in the original document.

[0071]These attributes can be subsequently changeable via a host application, running on a personal computer connected to the portable music player.

[0072]
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shows a flow chart of an embodiment the process used to build the hierarchical database of tracks. It starts by iterating through each track, and, for each track, iterating through each

branch to find if the track belongs on the branch, and, if so, where. In this case, the term track could refer to any content, e.g. a music track, a spoken word track, or even a video track.

[0073]Also, the hierarchical catalog of tracks can be used to form playlists in a structured manner. For example, if a user wants to hear Jazz and Blues the entire sub-categories can be selected to form one playlist.

[0074]An alternative hierarchical catalog generation technique will now be described. In this alternative embodiment, at system startup and as tracks are added or changed, the hierarchy is generated as an in-memory tree structure. Each track is added to the tree using the categories ALBUM, ARTIST and GENRE.

[0075]The following example shows the algorithm for adding a track. For clarity, only the attributes used by the tree are shown.

[0076]

Search terms may have been found within the contents of this table. Please see the table in the original document.

[0077]The following function is executed to build the in-memory memory tree.

[0078]

Search terms may have been found within the contents of this table. Please see the table in the original document.

[0079]
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depicts a tree which could result from implementing Build Tree( ) function. Note that [ldquo] Stardust[rdquo] does not have any entries for Album or Artist. The host software running on a computer connected to the portable music player could be utilized to add missing attributes to the [ldquo]Stardust[rdquo] track and, optionally, edit the title attribute. The Build Tree( ) function would then reinsert this track in the correct location in the tree.

[0080]
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is an embodiment of a user interface according to another embodiment of the invention. In this example the root node is labeled [ldquo]My Configuration[rdquo] and the Playlist category has been selected and the Playlist subcategory [ldquo]Meddle[rdquo] has been selected. Note that the types of Metadata, in this example, Track Name, Artist, Album, Tempo and Dance, are listed across the top of the screen, and the attribute values for each track are listed in a row across the screen. Various control buttons are displayed to the right of configuration window that facilitate quickly invoking selected processing on a selected track.

[0081]As noted above, a preferred embodiment of the present invention is incorporated into a product manufactured and distributed by Creative Technology, Ltd. The product is called the [ldquo]NOMAD Jukebox.[rdquo] The following description describes further details of the display screens and interface controls.

[0082]
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illustrates the NOMAD Jukebox and its user interface controls.

[0083]In
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, electronic audio device **100** measures about 5.5″ wide by 5.5″ tall by 1″ thick. Display screen **102** is about 2″ wide by 1″ tall. Display screen **102** includes different regions such as main region **104** and soft button function description region **106**.

[0084]Three soft buttons are located at **108**; including buttons **110**, **112** and **114**. The specific command, or function, that any of the soft buttons perform when depressed is indicated by the label in soft button function description region **106**. Thus, the function of soft button **112** (as shown in
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) is [ldquo]open,[rdquo] the function of soft button **114** is [ldquo]search[rdquo] while soft button **110** is currently not assigned a function.

[0085]The other eight buttons on device **100** perform essentially the same functions at all times. In other words, they are not subject to function changes according to soft button function description area **106**. These button include Library button **116**, EAX and System button **118**, Skip Backward button **120**, Play button **122**. Stop button **124**, Skip Forward Button **126**, Scroll Up button **128** and Scroll Down button **130**. However, as discussed below, these buttons (or any type of controls used with the device) can include alternate functionality that is invoked in different ways.

[0086]The device uses visual cues, or indicators, in the display. When an item is highlighted it indicates that the item is the [ldquo]current[rdquo] item, or currenty-selected item, which is susceptible to be operated on by a subsequent user action[mdash]such as playback, or expansion of the item. In
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, screen **102** shows that the item, [ldquo]ALBUMS,[rdquo] is highlighted. The highlighted item can be acted upon by using the soft buttons, or another button, as decribed below. The current item can be changed by using Scroll Up button **128** and Scroll Down button **130** to move the highlight up or down, respectively, throughout a list of displayed items.

[0087]Icons are used to provide additional visual cues for an item. In
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, each of the categories has a category icon to the left of it. The category icon, which may not be distinctly visible in the Figure, illustrates a first box connected by lines to additional boxes below the first box. The icon depicts a hierarchy and illustrates the property of categories, i.e., that categories can contain additional categories, songs or other items.

[0088]
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illustrates a sequence of display screens describing how to navigate to lower levels.

[0089]In
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, library category screen **150** shows the display as it appears when the user depresses library button **116** of
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preferred embodiment of the device uses 4 first-level categories. These are [ldquo]Albums [rdquo], [ldquo]Artists,[rdquo] [ldquo]Styles[rdquo] and [ldquo]Play Lists[rdquo]. Each of these categories can [ldquo]contain,[rdquo] or be associated with, other categories, songs, or items.

[0090]Note that in library category screen **150** ALBUMS is currently highlighted. By depressing soft button **112** of
Clipped Image
, the [ldquo]open[rdquo] command is performed on the highlighted category, as indicated by the labeling of soft button **112** and soft button function description area **152** of FIG. **10**.

[0091]Lists screen **154** is displayed as a result of a user opening Album category of library category screen **150**. Lists screen **154** shows items within the Albums category such as commercial albums of multiple songs from a record label, pre-made lists or collections created by a user, or other predefined lists or collections of songs or recordings.

[0092]In
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, lists screen **154** shows each item as a list of songs. This is shown visually by the icon to the left of each item which depicts a miniature list. Possible soft button commands are [ldquo] Close[rdquo], [ldquo]Open[rdquo] and [ldquo]Queue[rdquo]. These commands correspond to soft button **110**, **112** and **114**, respectively. If the user selects the Close command, the display reverts to library category screen **150**. If the user selects the Open command, the display shows tracks screen **156**. Alternatively, the user can select the Queue command to instruct the device to place all the songs from the selected (i.e., highlighted) list into the play list for eventual playback. Yet another option allows the user to press play button **122** of
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to cause any currently-selected songs or a list of songs (e.g., an album) to immediately be played.

[0093]Returning to
Clipped Image
, tracks screen **156** shows that a single song called [ldquo]JukeBox Demo[rdquo] is in the list. The list is also called JukeBox Demo as shown in lists screen **154**. Tracks screen **156** shows possible soft commands assigned to buttons, namely [ldquo]Close[rdquo], [ldquo] Details[rdquo] and [ldquo]Queue.[rdquo] The Close button performs the same function as before[mdash]it returns the user to the previous screen which, in this case, is lists screen **154**. The user can also select the Details command to cause details of the song JukeBox Demo to be displayed in details screen **158** as shown in FIG. **10**. The user can select the Queue command by soft butto **114** to enter the selected song into the play list queue. As before, the user can also depress play button **122** of
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to cause immediate playback of the selected song.

[0094]Details screen **158** shows information about the selected song including the name of the song, album (or list) name containing the song; the track number, if applicable, and track duration. Note that other information can be included. The user can preview the song, close the Details screen to return to the Tracks screen or queue the song on the play list queue.

[0095]The device provides the ability to [ldquo]preview[rdquo] audio files even while a current song, or playlist, is being played. When a user chooses to preview an audio file, the audio file is played for about 10 seconds while any currently-played file or playlist is suspended. After previewing is complete, the suspended file or playlist resumes playback. In other embodiment, the preview duration can vary, or be stopped by user selection.

[0096]
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illustrates associations among items.

[0097]In

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, song **168** is one of many songs stored in the device. Categories such as albums **160**, artists **162**, play lists **164** and genres **166** each include sub-categories. For example, albums **160** includes the names of various albums. Songs are associated with albums, genres and playlists. Such association can be by using pointers, a data structure including items to be associated, etc. [ldquo]Association[rdquo] as used herein, includes a first item associated with a second item; and the second item associated with the first item. In other words, albums can be associated with one or more songs in the database of the device so that an utomated search to find all songs associated with an album is easier. The direction of arrow pointers in
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is not intended to limit the manner of associations among items in the present invention.

[0098]Similar to albums, the category of artists **162** includes names of artists, or performers, of songs. Each artist name is associated with one or more songs in the database. Playlists **164** includes names of playlists. These are collections of songs that can be defined by the user, the device manufacturer, or others. Each playlist can be associated with one or more songs. Genres **166** includes various styles of music which are associated with one or more songs. Genres **166** includes various styles of music which are associated with one or more songs in the database. Note that items can exist without being associated with a song. Also, items can be associated with other items as where an artist name is associated with the albums containing the songs that the artist has created.

[0099]Although not shown in
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, items can have additional information, such as properties, details, etc., associated with the item. For example, a song can have information such a play time, artist name, artist album, copyright owner, etc., associated with the song.

[0100]
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illustrates display screens used to search for a song or other item.

[0101]In
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, screen **180** is the initial library screen, as discussed above. If the user invokes the Search command (via the appropriate soft button) with Albums selected then screen **182** is displayed. Note that the search function can be applied to any of the categories. The user can depress the Plus or Minus soft buttons to cycle through the alphabet and change the character in the current location as indicated by the cursor. The cursor position is changed by using the scroll up/scroll down buttons **128** and **130**, respectively, of FIG. **9**. As each letter is entered the letters are compared and the nearest match of the stored albums' names is displayed as shown in screen **184**. When the desired match is displayed the user selects the Go! command. Screen **186** shows the result of selecting the Go! command. A list of albums is displayed with the matched album centered and selected. The user can close, open or queue the album as discussed above.

[0102]
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illustrates details of different items.

[0103]In
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, screen **200** illustrates details displayed as a result of selecting the [ldquo]Details[rdquo] command from soft button **1**A track is selected. Screen **200** shows that details of the track [ldquo]JukeBox Demo[rdquo] shows the name of the album that the track resides on, the

creator, or copyright owner, of the track, and the playing time of the track.

[0104]Screen **202** illustrates details of an item on the active queue list. Items are placed onto the active queue list be selecting the [ldquo]Queue[rdquo] command when an album, song, track, or other item is selected, as discussed above. For example, screen **204** shows the active queuelist where the track [ldquo]JukeBox Demo[rdquo] is selected. By invoking the [ldquo]Details[rdquo] command screen **202** is brought up to show details of the Jukebox Demo track.

[0105]As shown in screen **202**, the Detail screen shows what track number the selected track is, which album the track is from; the creator, or copyright owner, of the track, and the title of the track. Additionally, the details for an item on the queue list also show playback settings. These are shown by two-letter abbreviations at the bottom of the screen. The settings are as shown in Table I, below.

[0106]

Search terms may have been found within the contents of this table. Please see the table in the original document.

[0107]These settings have their common meanings, as is known in the art. Note that the setting **4**S is not shown in screen **202** as it is not currently active.

[0108]
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illustrates the Nomad Jukebox coupled to a host computer system.

[0109]In
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, device **300** (e.g., the Nomad Jukebox) is coupled to host system **302**. In a preferred embodiment host system **302** is a personal computer, such as an IBM-PC compatible computer. Host sytem **302** includes a user interface having display **304** and user input devices such as keyboard **306** and mouse **308**. In other embodiments the host system need not be a full computer system. Any type of processing system having a user interface is possible. For example, it is possible to couple the device to a laptop computer, game console, web-enabled television, or any consumer electronic device or digital platform, in general. The host user interface need not provide a display and can be much more minimal than the keyboard and mouse shown in
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preferred embodiment of the invention uses a Universal Synchronous Bus (USB) connection but any type of connection such as IEEE 1394 (FireWire), Ethernet, Serial Port, etc. can be used. A wireless (i.e., optical or radio frequency) connection can be used.

[0110]Once device **300** is coupled to host system **302**, a user of host system **302** can launch a bridge interface to allow for the transfer of files between device **300** and host system **302**. In a preferred embodiment, once the bridge interface is launched, the controls of device **300** are inoperable. The user interface of host sytem **302** is used to operate the bridge interface to transfer files.

[0111]The invention has now been described with reference to the preferred embodiments. Alternatives and substitutions will now be apparent to persons of skill in the art.

ENGLISH-CLAIMS:
Return to Top of Patent

1. A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:

selecting a category in the first display screen of the portable media player;

displaying the subcategories belonging to the selected category in a listing presented in the second display screen;

selecting a subcategory in the second display screen;

displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and

accessing at least one track based on a selection made in one of the display screens.

2. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting a subcategory in the second display screen and playing a plurality of tracks associated with the selected subcategory.

3. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist.

4. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting an item in the third display screen and playing at least one track associated with the selected item.

5. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting an item in the third display screen and adding at least one track associated with the selected item to a playlist.

6. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises one of playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item.

7. The method of selecting a track as recited in claim 1 wherein the accessing at least one track is made after the presentation of the third display screen by reverting back to one of the second and first display screens, the second display screen presented sequentially after the third display screen.

8. The method of selecting a track as recited in claim 1 further comprising selecting one of the items displayed in the third display screen and presenting a listing of items associated with the selected item in a fourth sequentially presented display screen.

9. The method of selecting a track as recited in claim 1 wherein the category genre is selected in the first display screen from available categories that include at least artist, album, and genre; and the subcategories listed in the second display screen comprise a listing of at least one genre type and one of the at least one genre type is selected.

10. The method of selecting a track as recited in claim 9 further comprising displaying in the third display screen at least one album associated with the selected genre type and selecting

one of the at least one albums displayed in the third display screen and presenting a listing of tracks associated with the selected album in a fourth sequentially presented display screen.

11. The method of selecting a track as recited in claim 1 wherein the category artist is selected in the first display screen from available categories that include at least artist, album, and genre; the subcategories listed in the second display screen comprise a listing of names of artists and a first artist name is selected; and the items displayed in the third display screen comprises at least one album associated with the first artist name.

12. The method of selecting a track as recited in claim 1 wherein the track is a music track, accessing at least one track comprises accessing a track title in the third display screen, and the track is played in response to the access.

13. The method of selecting a track as recited in claim 1 wherein receipt of the selection in the first display screen results in an automatic transition of the first display screen into the second display screen and receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third display screen.

14. The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is from a top level of the hierarchy.

15. The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is a category from a level at least one level below the top level of the hierarchy.

16. The method of selecting a track as recited in claim 1 wherein the plurality of categories comprise a list of artist names, the plurality of subcategories comprise a list of album names and the plurality of items comprise a list of track names.

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... infringe U.S. Patent **6,928,433,** which Creative refers to as the "Zen ...

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Source: Command Searching > **News, All (English, Full Text)**
Terms: **6928433 or 6,928,433** (Edit Search | Suggest Terms for My Search)
View: Cite
Date/Time: Friday, March 26, 2010 - 10:47 AM EDT

Search Notes (continued)	Application/Control No.	Applicant(s)/Patent under Reexamination	
	95/001,274	6,928,433 B2 to Goodman et al.	
	Examiner	Art Unit	
	MARY STEELMAN	3992	

SEARCHED			
Class	Subclass	Date	Examiner

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
Prosecution History	3/16/2010	MS

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	95/001,274	6928433
	Certificate Date	Certificate Number

Requester Correspondence Address: ☐ Patent Owner ☒ Third Party
Pillsbury Winthrop Shaw Pittman LLP PO Box 10500 McLean, VA 22102

LITIGATION REVIEW ☒	ms (examiner initials)	03/26/2010 (date)
Case Name		Director Initials
USDist CA-N San Fran 3:06cv3218 Creative Tech v Apple Computer OPEN		JL for GM
USDistCt CA-N Oakland 4:06cv3218 Creative Tech v Apple Computer CLOSED		JL for GM

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER
1. No concurrent office proceedings	
2.	
3.	
4.	

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
95/001,274	12/01/2009	6928433	016788-000-0004	6990

40032 7590 03/29/2010

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EXAMINER	
STEELMAN, MARY J	
ART UNIT	PAPER NUMBER
3992	
MAIL DATE	DELIVERY MODE
03/29/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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CONTROL NO.	FILING DATE	PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
950001274	01/12/2010	6928433	167880000004

CREATIVE LABS, INC.
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EXAMINER	
M STEELMAN	
ART UNIT	**PAPER**
3992	

DATE MAILED:

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MAR 29 2010

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INTER PARTES REEXAMINATION COMMUNICATION

BELOW/ATTACHED YOU WILL FIND A COMMUNICATION FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL(S) IN CHARGE OF THE PRESENT REEXAMINATION PROCEEDING.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this communication.

PTOL-2071 (Rev.07-04)

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Date:
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MAR 29 2010
CENTRAL REEXAMINATION UNIT

Transmittal of Communication to Third Party Requester
Inter Partes Reexamination

REEXAMINATION CONTROL NO. : 95001274
PATENT NO. : 6928433
TECHNOLOGY CENTER : 3999
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified Reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the inter partes reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an ex parte reexamination has been merged with the inter partes reexamination, no responsive submission by any ex parte third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

PTOL-2070(Rev.07-04)

OFFICE ACTION IN INTER PARTES REEXAMINATION	Control No.	Patent Under Reexamination	
	95/001,274	6928433	
	Examiner	Art Unit	
	MARY STEELMAN	3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:
Patent Owner on _____
Third Party(ies) on 1 December 2009

RESPONSE TIMES ARE SET TO EXPIRE AS FOLLOWS:

For Patent Owner's Response:
2 MONTH(S) from the mailing date of this action. 37 CFR 1.945. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956.
For Third Party Requester's Comments on the Patent Owner Response:
30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

This action is not an Action Closing Prosecution under 37 CFR 1.949, nor is it a Right of Appeal Notice under 37 CFR 1.953.

PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892
2. ☐ Information Disclosure Citation, PTO/SB/08
3. ☐ _____

PART II. SUMMARY OF ACTION:

1a. ☒ Claims 1-16 are subject to reexamination.
1b. ☐ Claims _____ are not subject to reexamination.
2. ☐ Claims _____ have been canceled.
3. ☐ Claims _____ are confirmed. [Unamended patent claims]
4. ☐ Claims _____ are patentable. [Amended or new claims]
5. ☒ Claims 1-16 are rejected.
6. ☐ Claims _____ are objected to.
7. ☐ The drawings filed on _____ ☐ are acceptable ☐ are not acceptable.
8. ☐ The drawing correction request filed on _____ is: ☐ approved. ☐ disapproved.
9. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has: ☐ been received. ☐ not been received. ☐ been filed in Application/Control No 95001274.
10. ☐ Other _____

Inter Partes Reexamination

Non Final Office Action

A substantial new question of patentability ("SNQ") affecting claims 1-16 of USPN 6928433 B2 to Goodman et al, (file date 01/05/2001, publication date 10/10/2002, issue date 08/09/2005) has been raised by the *inter partes* reexamination request filed ("Request") 12/01/2009. The *Inter Partes* Order granting a decision for Reexamination was mailed 02/26/2010.

Extensions of Time

Extensions of time under 37 CFR 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 314(c) requires that inter partes reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.937). Patent Owner extensions of time in *inter partes* reexamination proceedings are provided for in 37 CFR 1.956. Extensions of time are not available for third party requester comments, because a comment period of 30 days from service of patent owner's response is set by statute. 35 U.S.C. 314(b)(3).

Notification of Other Proceedings

The patent owner is reminded of the continuing responsibility under 37 CFR 1.985(a) to apprise the Office of any litigation activity, or other concurrent proceeding, involving USPN 6,928,433 B2 to Goodman et al. throughout the course of this reexamination proceeding. The

third party requester is also reminded of the ability to similarly apprise the Office of any such activity or proceeding throughout the course of this reexamination proceeding. See MPEP §2686 and 2686.04.

References Cited in this Action

USPN 5,739,451 to Winsky et al (hereinafter Winsky '451) (file date 12/27/1996, issue date 04/14/1998)

USPN 6,760,721 B1 to Chasen et al. (hereinafter Chasen '721) (file date 04/14/2000, issue date 07/06/2004)

USPN 6,976,229 B1 to Balabanovic et al. (hereinafter Balabanovic '229) (file date 12/16/1999, issue date 12/13/2005)

US Patent Application Publication 2002/0045960 A1 to Phillips et al. (hereinafter Phillips '960) (file date 10/10/2001, provisional application 60/240766 filed 10/13/2000, publication date 04/18/2002)

Prosecution History

Prosecution history was outlined in Office Action / Order dated 02/26/2010.

Rejections Proposed by Requester

The Request of 12/01/2009 indicates that the requester considers claims 1-16 of USPN 6,928,433 B2 to Goodman et al. to be unpatentable based on the following proposed rejections:

1. Winsky '451 anticipates and / or renders obvious claims 1-16. Winsky has a priority date and issue date that predate the patent under reexamination and, thus, qualify as prior art under 35 USC 102(b). Therefore Winsky qualifies as prior art under 35 USC 102 (b) and/or 35 USC 103(a).

2. Winsky '451 anticipates and / or renders obvious in combination with Balabanovic '229 and the common knowledge of a skilled artisan, claims 1-16. Winsky has a priority date and issue date that predate the patent under reexamination and, thus, qualify as prior art under 35 USC 102(b). Balabanovic's file date predates the earliest priority date of the patent under reexamination. The combination of Winsky and Balabanovic, thus, qualify as prior art under 35 USC 103(a).

3. Chasen '721 anticipates and/or renders obvious claims 1-16. Chasen '721 has an issue date greater that one year prior to the patent under reexamination and Chasen's file date is earlier than the file date of the patent under reexamination, by less than one year. Thus, Chasen '721 qualifies as prior art under 35 USC 102(e) and/or 35 USC 103(a).

4. Phillips '960 anticipates and/or renders obvious claims 1-16. Philips' earliest priority date predates the patent under reexamination by less than one year and, thus, qualifies as prior art under 35 USC 102(e).

5. The combination of Winsky '451 and Chasen '721 renders obvious claims 1-16. The priority dates of Winsky and Chasen predate the earliest priority date of the patent under reexamination and, thus, qualify as prior art under 35 USC 103(a).

6. The combination of Chasen '721 and Phillips '960 renders obvious claims 1-16. The priority dates of Chasen and Phillips predate the priority date of the patent under reexamination and, thus, qualify as prior art under 35 USC 103(a).

7. The combination of Phillips '960 and Winsky '451 renders obvious claims 1-16. The priority dates of Phillips and Winsky predate the priority date of the patent under reexamination and, thus, qualify as prior art under 35 USC 103(a).

Claims under Reexamination

1. A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:
selecting a category in the first display screen of the portable media player;
displaying the subcategories belonging to the selected category in a listing presented in the second display screen;

selecting a subcategory in the second display screen;

displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and

accessing at least one track based on a selection made in one of the display screens.

2. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting a subcategory in the second display screen and playing a plurality of tracks associated with the selected subcategory.

3. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist.

4. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting an item in the third display screen and playing at least one track associated with the selected item.

5. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting an item in the third display screen and adding at least one track associated with the selected item to a playlist.

6. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises one of playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item.

7. The method of selecting a track as recited in claim 1 wherein the accessing at least one track is made after the presentation of the third display screen by reverting back to one of the second and first display screens, the second display screen presented sequentially after the third display screen.

8. The method of selecting a track as recited in claim 1 further comprising selecting one of the items displayed in the third display screen and presenting a listing of items associated with the selected item in a fourth sequentially presented display screen.

9. The method of selecting a track as recited in claim 1 wherein the category genre is selected in the first display screen from available categories that include at least artist, album, and genre; and the subcategories listed in the second display screen comprise a listing of at least one genre type and one of the at least one genre type is selected.

10. The method of selecting a track as recited in claim 9 further comprising displaying in the third display screen at least one album associated with the selected genre type and selecting one of the at least one albums displayed in the third display screen and presenting a listing of tracks associated with the selected album in a fourth sequentially presented display screen.

11. The method of selecting a track as recited in claim 1 wherein the category artist is selected in the first display screen from available categories that include at least artist, album, and genre; the subcategories listed in the second display screen comprise a listing of names of artists and a first artist name is selected; and the items displayed in the third display screen comprises at least one album associated with the first artist name.

12. The method of selecting a track as recited in claim 1 wherein the track is a music track, accessing at least one track comprises accessing a track title in the third display screen, and the track is played in response to the access.

13. The method of selecting a track as recited in claim 1 wherein receipt of the selection in the first display screen results in an automatic transition of the first display screen into the second display screen and receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third display screen.

14. The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is from a top level of the hierarchy.

15. The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is a category from a level at least one level below the top level of the hierarchy.

16. The method of selecting a track as recited in claim 1 wherein the plurality of categories comprise a list of artist names, the plurality of subcategories comprise a list of album names and the plurality of items comprise a list of track names.

Discussion related to claim terms and USPN 5,739,451 to Winsky

As defined in the '433 Specification (col. 7, lines 22-24), "the term track could refer to any content, e.g., a music track, a spoken word track or even a video track." Examiner does not adopt a narrow interpretation of the term "track" and as such, storing a "predetermined reproducible segment (e.g., arrangement) for each of the musical works" ('451, col. 2, lines 7-9), fairly reads on a "track."

It is noted that claim language refers to the nested hierarchy levels as "category", "subcategory", and "items", where logically "items" are specifically linked to the "subcategory" and the "subcategory" is specifically linked to the "category." The labels given to the levels of hierarchy are insignificant, as the importance is found in the relationship between a higher level and a lower level. Winsky '451 refers to this hierarchy using terms such as "menu and submenus" ('451, col. 4, line 55), where a selection higher or lower in the hierarchy is done by an Enter function key and directional keys ('451, col. 5, lines 15-19). Winsky's lowest "submenu" level in the hierarchy lists "identification information and lyrics" ('451, col. 6, line 31) which are selected to access at least one reproducible music segment (track). The reproducible segments stored in memory may be converted into sound during display of lyrics. ('451, col. 7, lines 25-27)

Statutory Basis for Claim Rejections – 35 USC § 102 and 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Rejections:

The Requester has alleged:

A. Claims 1, 2, 4 and 6-16 are unpatentable under 35 U.S.C. §102(b) over the '451 patent.

The proposed anticipation rejections of claims 1, 2, 4, 6- 8, and 12-15 are adopted. In addition to rejection citations below, the pertinent discussions in the Request and Claim Charts put forth on pages 24-33 of the Request, are hereby incorporated by reference.

The anticipation rejections of Claims 9, 10, 11 and 16 are not adopted. Regarding claims 9, 10, 11, and 16, Winsky '451 fails to explicitly or inherently teach a first screen displays categories including artist, album and genre.

Claims 1, 2, 4, and 6-8, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Winsky '451.

Regarding independent claim 1:

Winsky '451 teaches: A "hand held electronic music reference machine" (col. 2, line 64-65), that has the ability to allow a user to obtain information relative to a variety of songs. Database 20 of the hand held electronic reference machine "has a first memory portion 22 storing textual or alphanumeric information which can be shown on display 16. Memory portion 22 includes an area 24 storing song titles and another memory area 26 storing at least some lyrics for each song whose title exists in memory area 24." (col. 3, line 43-48) Each of these song titles correspond to one of the plurality of tracks. Winsky '451 teaches a hierarchy of categories, within memory portion 22, "areas 28, 30, 32, 34, 36 and 38 [see Figure 3] respectively storing band or artist names, songwriter names, highest chart positions attained by the various songs, the years in which the highest chart positions were attained, Hall of Fame listings and recording labels." (col. 3, line 48-53) The hierarchy is described as having a "main menu [that] includes a 'Title' selection, a 'Search' selection and a 'Setup' selection.' (col. 5, line 42-44) (first display screen/level of hierarchy; selecting a category in the first display screen) When 'Search' is selected from the main menu, display 16 shows a list of (second display screen / level of

hierarchy; displaying the subcategories belonging to the selected category in a listing presented in the second display screen) nine search parameters or filters (subcategories) including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line. Any search filter may be selected (third display screen/level of hierarchy; selecting a subcategory in the second display screen) by actuating Enter function key 76 upon highlighting the desired search filter." (col. 5, line 51-56; col. 8, line 59-61) Winsky '451 teaches that "at least a portion of the song" (col. 1, lines 51-54) be provided as the audio reproduction (accessing at least one track). In the detailed description, the "portion of the song" stored in memory is referred to as a "stored reproducible musical segment" (col. 3, lines 62-66). In a specific example given within the Winsky '451 patent, "[d]uring a search of the band list (third display screen; displaying the items belonging to the selected subcategory in a listing presented in the third display screen), highlighting of the entries may be shifted from artist to artist by using up and down directional keys 68 and 70." (col. 6, line 17-19) In a hierarchical, nested search, while searching the band list, a subcategory of 'artist' may be selected, and for each 'artist' a subcategory of 'song title' may be selected. Winsky '451 teaches, "[i]f selection monitor 64 detects the actuation of Enter function key 76, a list of song titles appears for the highlighted recording artist." (col. 6, line 19-21) Thus, the list of song titles corresponds to the displayed items. Winsky '451 discloses, "As in every case where a list of song titles is shown on display 16, actuation of special function key 78, which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment (accessing at least one track based on a selection made in one of the display screens) for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback via

speaker 52." (col. 6, line 21- 27) (selecting at least one track from a plurality of tracks stored; accessing at least one track based on a selection made in one of the display screens)

Regarding claim 2:

Winsky '451 discloses (col. 5, line 54-56) "[a]ny search filter may be selected (selecting a subcategory) by actuating Enter function key 76 upon highlighting the desired search filter." A plurality of tracks can be played from the selected subcategory by highlighting different songs within the subcategory, and then actuating the special function key 78, which is detected by selection monitor 64, to cause selector module 80 to retrieve the stored reproducible musical segment (track) for a highlighted song from memory portion 44 and to feed the retrieved segment to synthesis module 46 for playback (repeat playing a plurality of tracks associated with the selected subcategory) via speaker 52." (col. 6, line 21-27)

Regarding claim 4:

Winsky '451 teaches highlighting of a song (selecting an item in the third display screen) that is on the list of the display 16 in order to obtain further information relating to that song. (col. 6, line 24) "As in every case where a list of song titles is shown on display 16, actuation of special function key 78 (selecting an item in the third display screen), which is detected by selection monitor 64, causes selector module 80 to retrieve the stored reproducible musical segment (track; accessing at least one track) for a highlighted song from memory portion 44 and to feed the retrieved segment (track) to synthesis module 46 for playback via speaker 52." (col. 6, line 21-27) (playing at least one track associated with the selected item)

Per claim 6:

Winsky '451 expressly teaches playing at least one track associated with a selected one of the category, subcategory, and item. See Abstract, "audible reproduction (accessing at least one track, playing at least one track) of the segment stored...for the selected song (selected one of the category, subcategory, and item)." See also col. 6, lines 21-27.

Regarding claim 6, Winsky '451 fails to explicitly or inherently teach a playlist as defined in the '433 Specification. Specification '433, 10: 4-7, defines a playlist as collections of songs defined by the user, the device manufacture, or others. However, the "OR" language does not require this limitation to be met, where, otherwise, the first limitation is taught by Winsky '451.

Regarding claim 7:

Winsky '451 teaches usage of left or right directional keys 72 and 74 that can be used to access different submenus, thereby allowing a user to revert from the third display back to one of the second and first display screens. (col. 5, line 24-26)

Regarding claim 8:

Winsky '451 teaches highlighting of a song that is on the list of the display 16 in order to obtain further information relating to that song. (col. 6, line 24) Upon actuation of the "Enter function key 76, display control 58 accesses memory portion 22 to obtain identification information and lyrics for the highlighted song." (col. 6, line 29-32) (selecting one of the items

displayed in the third display screen) A fourth display screen is presented with some of this information, as shown in Figure 6, with further information presented in subsequent display screens shown as Figures 6B-6H.

Per claim 12:

Each "Title" in the '451 patent has a "reproducible music segment" (track) associated with it. (col. 5, line 32) Accessing this music track is achieved by highlighting the Title (accessing a track title) in the third display screen and then pressing the specialized function key 78 labeled "NOTE" in Figure 1 causes the music track to play. (col. 5, line 29-39) (selecting a music track; accessing at least one track; track is played in response to the access)

Per claim 13:

Winsky teaches "Upon such a selection of an entry by a user, selection monitor 64 signals display control 58 to show different information on display careen 16..." (col. 5, lines 19-22) (automatic transition of the display), "[w]hen 'Search' is selected from the main menu [i.e. the recited first display screen], display 16 shows a list of nine search parameters .... " (col. 5, line 51-52) (transition to second display screen) From the second display that shows the list of nine search parameters, if the search parameter "Artist" is selected, a list of artists then appears (automatic transition into third display screen). This is shown at Figs. 5A with screen 88, and explained at col. 6, line 1-2. As further explained at col. 6, line 17-19, the list of artist names (third display screen) can be shifted from artist to artist using up and down directional keys 68 and 70.

Per claim 14:

The "Main menu" as described above with respect to claim 1 is a first display screen that appears at the top level of the hierarchy. (col. 3, lines 13-16, & Fig. 4) To select a "track", entries are made in the menu / submenus until the reproducible musical segment is accessed for playback.

Per claim 15:

The "Search menu"(col. 5, lines 35-61) as described above with respect to claims 9 and 11 is a first display screen that appears at least one level below the "main menu" (col. 5, line 41) (top level of the hierarchy).

Per claim 16:

"Microprocessor 50 includes a display control module 58 which extracts or selects information from database 20 for reproduction in visually sensible form on display screen 16." (col. 4, lines 49-51) "Display control module 58 obtains a menu (plurality of categories) and submenus (plurality of sub categories, plurality of items) from memory portion 40." (col. 4, lines 55-56)

"...display control 58 to show different information on display screen 16, e.g., identification information (album names) and lyrics (items comprise a list of track names) for a selected song or a submenu such as a list of search options (subcategories...list of album names). Alternatively, a submenu may be selected..." (col. 5, lines 21-24)

Upon selection of the "Bands", available under the "Search" category of the Main Menu, a category of "Artist" is available for selection. (col. 6, lines 16-18) For each "Artist" a subcategory of songs is available for selection. (col. 6, lines 19-20) Every song title in the list is mapped to a stored reproducible musical segment (tracks) (col. 6, lines 23-4) "Whenever a song title is highlighted on display 16 and selection monitor 64 detects the actuation of Enter function key 76, display control 58 accesses memory portion 22 to obtain identification information and lyrics (track names) for the highlighted song. FIGS. 6A-6H illustrates a sequence of successive screens 98, 100, 102, 104, 106, 108, 110, and 112 in which the identification information and lyrics (track names) are displayed for the user. Screen 98 lists the song title and the recording artist...The remaining screens 104, 106, 108, 110, and 112 show lyrics of the selected song. The lyrics corresponding to a highlighted song title may be selected immediately for viewing on display 16..." (col. 6, lines 27-43) "The reproducible segments (tracks) stored in memory portion 44 may be converted into sound during display of lyrics (FIGS. 6D – 6H)." (col. 7, lines 25-27)

Based on this evidence, it is clear that '451 discloses each and every element in claims 1, 2, 4, and 6- 8, and 12-16, thus anticipating these claims.

The Requester has alleged:

B. Claims 1-16 are unpatentable under 35 U.S.C. 103(a) over the '451 patent.

The proposed rejections of claims 1-16 are adopted as modified. Examiner has modified the rejections to include additional comments and citations. In addition to rejection citations

below, the pertinent discussions in the Request and Claim Charts put forth on pages 33-35 of the Request, are hereby incorporated by reference.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winsky '451.

Per claim 1:

See rejection of limitations addressed in the '451 anticipation rejection above.

To the extent that Winsky fails to explicitly disclose selecting from a hierarchy comprising a plurality of categories, subcategories and items respectively in a first, second, and third level of the hierarchy, it would have been obvious to modify Winsky's teachings of (col. 4, line 51) "reproduction in a visually sensible form on display screen 16", where (col. 4, lines 55-56) "display control module 58 obtains a menu and submenus (categories, subcategories) from memory portion 40, song identification information (items) from memory portion 22..."

To the extent that Winsky fails to explicitly disclose "accessing at least one track", it would be obvious that that converting into sound during the display of lyrics is a suggestion of "accessing at least one track." Winsky (col. 7, lines 18-27) discloses "reproducible segments (tracks) stored in memory portion 44 are musical arrangements...frequently of chorus sections and occasionally correspond to the words of the title, where the title appears in the lyrics of a song. The reproducible segments stored in memory portion 44 may be converted into sound (necessarily accessing the track) during display of lyrics (FIGS. 6D-6H)."

Per claim 2:

See rejection provided in the '451 anticipation rejection above. To the extent that Winsky discloses (col. 6, lines 24-27) a single reproducible musical segment for a highlighted song (col. 3, line 62 – 67), it would be obvious to store multiple musical segments for playing a plurality of tracks, or otherwise to repeat the selection steps to repeat and play a plurality of tracks. Winsky is suggestive of a "plurality of tracks" (col. 7, lines 18-27), "the reproducible musical segments in memory portion 44...are taken from the most commonly recognizable parts of the respective songs. Preferably, the reproducible segments stored in memory portion 44 are musical arrangements. The arrangements are frequently of chorus sections and occasionally correspond to the words of the title...The reproducible segments stored in memory portion 44 may be converted into sound during display of lyrics (FIGS 6D-6H)."

Per claim 3:

Winsky failed to explicitly or inherently disclose a "playlist." The Goodman Specification '433 (the patent under reexamination) defines a playlist (col. 7, lines 25-28 and col. 10, lines 4- 7), "Playlists 164 includes names of playlists. These are collections of songs that can be defined by the user, the device manufacturer, or others. Each playlist can be associated with one or more songs."

It is obvious that Winsky teaches the selection of at least a single reproducible sound segment ("at least a portion of the song" may infer one song or, otherwise, it would be obvious to substitute an entire song for a segment of a song, col. 1, lines 53-54) during the display of lyrics related to a song title (col. 6, lines 28-45 & col. 7, 18-27), where the song title could represent a playlist of one song, and adding tracks could be accomplished by including multiple musical

segments taken from the most commonly recognizable parts of the respective songs. (col. 7, lines 20-21) (See rejection of claim 2 above.) "Selecting a subcategory" is suggested by Winsky in the selection of a particular artist, and "adding the tracks associated with the selected subcategory" is suggested by the selection of one or more particular songs by the particular artist. (col. 6, lines 17-27) Such an obvious variation would be within the level of one of ordinary skill in the art. Winsky '451 (col. 1, lines 53-57) states an objective is to provide a user with at least some lyrics and an audio reproduction of at least a portion of the song (a playlist) in a device that exhibits minimum complexity and is easy to use.

Per claim 4:

See rejection provided in the '451 anticipation rejection above.

Per claim 5:

See limitations addressed in claim 3 anticipation rejection above, where a playlist song title (selecting an item in the third display screen) and the related lyric / track for audible reproduction (adding at least one track associated with the selected item to a playlist) is suggested. See Abstract.

It is obvious that Winsky teaches the selection of at least a single reproducible sound segment ("at least a portion of the song" may infer one song or, otherwise, it would be obvious to substitute an entire song for a segment of a song, col. 1, lines 53-54) during the display of lyrics related to a song title (col. 6, lines 28-45 & col. 7, 18-27), where the song title could represent a playlist of one song, and adding tracks could be accomplished by including multiple musical

segments taken from the most commonly recognizable parts of the respective songs. (col. 7, lines 20-21) (See rejection of claim 2 above.) "Selecting a subcategory" is suggested by Winsky in the selection of a particular artist, and "adding the tracks associated with the selected subcategory" is suggested by the selection of one or more particular songs by the particular artist. (col. 6, lines 17-27) Such an obvious variation would be within the level of one of ordinary skill in the art. Winsky '451 (col. 1, lines 53-57) states an objective is to provide a user with at least some lyrics and an audio reproduction of at least a portion of the song (a playlist) in a device that exhibits minimum complexity and is easy to use.

Per claims 6-8:

See rejections provided in the '451 anticipation rejection above.

Per claim 9:

Winsky '451 teaches Search categories available for selection that include (col. 3, lines 48-53) "band or artist names (artist), songwriter names, highest chart positions attained by the various songs, the years in which the highest chart position were attained, Hall of Fame listings and recording labels" or (col. 5, lines 40-56), "song titles (or as a variation, an album), bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics and melody line."

It would be an obvious variation for albums or genres to be included in this selectable Search category (available categories include at least artist, album, and genre). Winsky '451 is suggestive of this (col. 4, lines 28-31) by disclosing a removably mounted database 20 "for

enabling the use of platform 12 with different databases storing song identification (album) and melody information for different periods or different types of music (genre)." It would have been obvious for a subcategory in a second display screen to comprise a listing of at least one genre type (i.e., jazz or country western) because Winsky '451 suggested (col. 4, lines 34-35), "One card might be limited to popular songs, while another card carries jazz or country western songs." (sub category listed in the second display screen comprises a listing of at least one genre type, i.e., jazz or country western) Winsky '451 teaches (col. 5, lines 54-56) that "any search filter (search category, sub category, or item; genre type is selected) may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (at least one genre type is selected)

Per claim 10:

"Displaying in the third display screen at least one album associated with the selected genre type and selecting one of the at least one albums displayed" is an obvious variation of Winsky's invention. Winsky '451 suggests that different types of music (genres) may be stored in a database. Winsky '451 teaches (col. 4, lines 49-51) "a display control module 58 which extracts or selects information from database 20 for reproduction in a visually sensible form (first display screen, second display screen, third display screen, etc.) on display screen 16." Winsky '451teaches (col. 4, lines 55-56) "Display control module 58 obtains a menu and submenus from memory portion 40." Should an album be selected from a subcategory under a genre type category, a subsequent submenu screen for the album would logically link to associated identification information and lyrics (listing of tracks associated with the selected album) (col. 5,

lines 20-24). Winsky '451 teaches, (col. 3, lines 42-47; col. 3, lines 61-63), "Database 20 further includes a memory portion 44 which stores, for each song, a segment of the song's musical arrangement (track)."

It would have been obvious, for one of ordinary skill in the art, to modify Winsky's invention to include an album associated with a genre type in a third display screen, where the selection of the album in a genre category results in the presentation of a listing of tracks (identification information and lyrics) associated with the selected album in a fourth sequential screen, as the presentation would be in a visually sensible form. Winsky '451 is suggestive of variations in selectable options (col. 4, lines 28-31) by disclosing a removably mounted database 20 "for enabling the use of platform 12 with different databases storing song identification (album) and melody information for different periods or different types of music (genre)." It would have been obvious for a subcategory to comprise a listing of at least one genre type (i.e., jazz or country western) because Winsky '451 suggested (col. 4, lines 34-35), "One card might be limited to popular songs, while another card carries jazz or country western songs." Winsky '451teaches (col. 5, lines 54-56) that "any search filter (search category, sub category, or item; genre type is selected) may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (at least one genre type is selected)

Per claim 11:

See rejection addressed in claim 9 above. Where the first display screen displays options labeled "Titles", "Search", and "Setup", and where a selection of "Search" option, transitions to a second display screen selection of "Names of Artists" (col. 5, lines 51-55), and upon selection

of an "Artist" a transition to a third display screen of list of song titles (col. 6, lines 19-21) (albums, an obvious variation of song titles, substitute albums for song titles) associated with the first artist name. Notably, Winsky '451 suggests (col. 5, lines19-23) "Upon such a selection of an entry by a user, selection monitor 64 signals display control 58 to show different information on display screen 16, e.g., identification information and lyrics for a selected song or a submenu such as a list of search options (search for an album by a particular artist)."

(Claim 11 is similar to claims 9 and 10, where a first screen displays options labeled "Titles", "Search", and "Setup", where a selection of "Search" transitions optionally to a selection of "Genres" (an obvious variation of the selectable Search categories), a selection of a specific genre (jazz or country western) on a second display transitions to a third display of albums associated with the specific genre, followed by a transition to a 4th display of identification information and lyrics (track names) associated with the selected album.)

It would have been obvious, to one of ordinary skill in the art, at the time of the invention to modify Winsky's teachings to substitute "album" as an available category and to associate an artist name and an album because an album name is recognizable information for song identification. The simple substitution of category would be within the level of one of ordinary skill in the art. Winsky '451 teaches (col. 1, lines 21-22), "It would be beneficial to have a reference work which would facilitate the identification of the song, as well as supply ancillary information pertaining to the song." Winsky '451 teaches (col. 1, lines 56-57) as an objective a device that exhibits minimum complexity and is easy to use.

Per claims 12 - 15:

See rejections provided in the '451 anticipation rejection above.

Per claim 16:

The hierarchy of nested displays, as disclosed by Winsky '451, teaches or suggests a plurality of categories comprising a list of artist names (col. 6, lines 1-2, "names of bands and other recording artists are searched via menu selection"), where a submenu (subcategory) comprises a list of album names (col. 6, lines 19-21) (Winsky '451 teaches song titles where "albums" are an obvious substitution of song titles.), and a selection of the album is associated with items comprising song titles (col. 6, lines 19-20, "a list of song titles appears for the highlighted recording artist"), where for a song title, memory stores identification information and lyrics (track names) (col. 5, lines 21-24)

It would have been obvious, to one of ordinary skill in the art, at the time of the invention to modify Winsky's teachings to substitute "album" as an available category and to associate an artist name and an album because an album name is recognizable information for song identification. The simple substitution of category would be within the level of one of ordinary skill in the art. Winsky '451 teaches (col. 1, lines 21-22), "It would be beneficial to have a reference work which would facilitate the identification of the song, as well as supply ancillary information pertaining to the song." Winsky '451 teaches (col. 1, lines 56-57) as an objective a device that exhibits minimum complexity and is easy to use.

The Requester has alleged:

C. Claims 1-16 are unpatentable under 35 U.S.C. 103(a) over the '451 patent, in view of the '229 patent.

The proposed rejections of claims 1-16 are adopted as modified. Examiner has modified the rejections to include additional comments and citations. In addition to rejection citations below, the pertinent discussions in the Request and Claim Charts put forth on pages 35-44 of the Request, are hereby incorporated by reference.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winsky '451, in view of Balabanovic '229.

Per claim 1:

Winsky '451 teaches a "hand held electronic music reference machine" (col. 2, line 64-65), stores and presents related categories information in a hierarchical manner, using menus and submenus. See claim limitations addressed in the '451 anticipation rejection above.

To the extent that Winsky '451 fails to explicitly disclose selecting from a hierarchy comprising a plurality of categories, subcategories and items respectively in a first, second, and third level of the hierarchy, it would have been obvious to modify Winsky's teachings of (col. 4, line 51) "reproduction in a visually sensible form on display screen 16", where (col. 4, lines 55-56) "display control module 58 obtains a menu and submenus (categories, subcategories) from memory portion 40, song identification information (items) from memory portion 22..."

To the extent that Winsky '451 fails to explicitly disclose "accessing at least one track", it would be obvious that that converting into sound during the display of lyrics is a suggestion of "accessing at least one track." Winsky '451 (col. 7, lines 18-27) discloses "reproducible

segments (tracks) stored in memory portion 44 are musical arrangements...frequently of chorus sections and occasionally correspond to the words of the title, where the title appears in the lyrics of a song. The reproducible segments stored in memory portion 44 may be converted into sound (necessarily accessing the track) during display of lyrics (FIGS. 6D-6H)."

In further support, as related to the claim limitations of claim 1, Balabanovic '229 teaches ('229, col. 1, lines 39-56) a method and system for authoring and viewing various forms of digital media, using a visual interface. The third area of the visual interface displays a representation of one or more audio clips and other information. ('229, col. 1, lines 53-54) Balabanovic explicitly teaches storing, displaying, choosing and playing audio clips, where audio clips include albums, audio CDs and songs. (col. 3, lines 18-41 and col. 12, lines 26- 38) Balabanovic explicitly teaches navigating, using control buttons, through various levels (Balabanovic calls the various hierarchical levels "tracks", which is not analogous to the "tracks" disclosed in the Goodman '433 Specification. The Goodman '433 Specification refers to the various hierarchical levels of the interface as a display of "categories", "subcategories" and "items". Winsky '451 refers to the various hierarchical levels of the interface as a display of "menus" and "submenus.") of the visual interface to create and view multimedia ('229, col. 6, lines 29-44)

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Winsky '451, to include the teachings of Balabanovic '229 because both analogously teach storing, displaying, choosing and playing audio clips of songs on a hand held device, and such a combination would provide and organize a wide variety of music, specific to a user. Further, both Winsky '451 and Balabanovic '229 are built using the same type of portable

device. Compare col. 2, lines 66-67 of Winsky '451 with col. 1, lines 33-34, col. 11, lines 25-26 and col. 13, lines 6-7 of Balabanovic '229. Furthermore, both the '451 and '229 patents describe essentially similar constructions using generic processors and memory. Compare col. 8, lines 31-48 in Winsky '451 with col. 2, line 61 through col. 3, line 3, and col. 12, lines 39-50 in Balabanovic '229. The combination is proper for at least the following additional reasons. Winsky '451 explicitly contemplates additional programming, stating "[e]xchanging a card 18 on platform 12 for another card carry different programming relating, for example, to different songs essentially generates a new machine." Col. 8, lines 46-48. (emphasis added) While the specific example in this quote is programming relating to a different machine, different application programming is also contemplated, as Winsky '451 teaches, in the very next paragraph, that "[a]s illustrated in FIG. 2, a card 18 is provided with printed key representations 124. Representations 124 are color coded to match respective colored keys on keyboard 14, thereby enabling a reassignment of function in accordance with a particular card 18." As such, additional functionality is also contemplated by Winsky '451 - such as the playlist functionality of Balabanovic '229. Both patents are in the same field of endeavor and one skilled in the art at the time the invention of the '433 patent was made would have been motivated to combine aspects of the system and method of the Balabanovic '229 patent with the system and method of the Winsky '451 patent. For example, one skilled in the art would have been motivated to combine with the method of the Winsky '451 patent at least the provision of storing, displaying, choosing and playing audio clips, where audio clips include albums, audio CDs and songs, as described by Balabanovic '229 at col. 3, lines 18-41 and col. 12, lines 26-38, to provide a user with a wide variety of music. Furthermore, one skilled in the art would have been motivated to

combine with the method of the '451 patent at least the provision of a playlist as described by Balabanovic '229 patent at col. 3, lines 18-41 and col. 12, lines 33-35, to organize music to a user's specification.

Per claims 2-16:

See limitations addressed in the '451 obvious and anticipation rejections above.

Per claims 3, 5, and 6:

Winsky '451 failed to explicitly or inherently disclose a "playlist." Goodman '433 (the patent under reexamination) defines a playlist (col. 7, lines 25-28 and col. 10, lines 4- 7), "Playlists 164 includes names of playlists. These are collections of songs that can be defined by the user, the device manufacturer, or others. Each playlist can be associated with one or more songs."

Balabanovic '229, which in the embodiment that is described with respect to "other media objects"- and specifically audio clips -- describes creating "user's 'playlists' (e.g. the user's own sequences of songs to be played)." Col. 12, lines 33-35.

Per claims 9, 10, and 11:

Winsky '451 failed to explicitly or inherently disclose an "album" as a displayable category for selection. While an album is a reasonable substitution for a disclosed category ('451, col. 5, lines 50-55), as taught by Winsky '451, Balabanovic '229 explicitly discloses ('229, col. 12, lines 26-38) an album as an ordered set of songs from which a user can select and create a playlist.

As such it would have been obvious to add tracks associated with the selected subcategory to a playlist, since both Winsky '451 and Balabanovic '229 teach storing, choosing and playing audio clips - songs -- on a hand held device. Winsky '451 describes a hand held electronic music reference machine with search and playback functionality. (Abstract) Balabanovic '229 describes a system for multimedia digital story creation and playback; exemplary embodiments of said system are hand held. See col. 6, lines 30-37. It is further noted that Winsky '451 describes in the summary of the invention that "at least a portion of the song" (col. 1, lines 51-54) (emphasis added) be provided as the audio reproduction, and the verbiage "at least a portion" contemplates more than a portion, i.e. the entire song be stored. Balabanovic '229 describes downloading audio clips, including music albums, audio CDs and songs, which can then be used to create playlists. See col. 12, lines 26-38. Further, both the '451 and '229 patents describe machines built using the same type of portable device. Compare col. 2, lines 66-67 of Winsky '451 patent with col. 1, lines 33-34, col. 11, lines 25-26 and col. 13, lines 6-7 of Balabanovic '229. The device as claimed can be realized by modifying the hand held electronic music reference machine, as taught by Winsky '451, to substitute the created playlist defined by the user and storing a collection of songs (as taught by Balabanovic '229) for Winsky's disclosed "reproducible segments." Balabanovic's description of a "playlist" reads on the definition provided in Goodman '433, the patent under reexamination.

The Requester has alleged:

D. Claims 1-16 are unpatentable under 35 U.S.C. 102(e) over the '721 patent.

E. Claims 1-16 are unpatentable under 35 U.S.C. §103(a) over the '721 patent

The proposed rejections of claims 1-16 are adopted as modified. Examiner has modified the rejections to include additional comments and citations. In addition to rejection citations below, the pertinent discussions in the Request and Claim Charts put forth on pages 44-53 of the Request, are hereby incorporated by reference.

Claims 1-16 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chasen '721.

Per claim 1:

Chasen '721 describes a master tree and/or node hierarchy for organizing, selecting and accessing audio metadata and audio data within an audio playing device. The hierarchical representation of metadata is presented to the user in a graphical display (present sequentially a first, second, and third display screen). (col. 1, lines 39-49; col. 2, lines 8-14; col. 3, lines 11-22) See Chasen '721 Figure 1, a tree window showing a master tree, with hierarchical groupings of categories and sub categories on the left, and items on the right. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as the groupings tree and the playlist tree (plurality of tracks of playlist accessed according to a hierarchy). (The next lower level represents sub trees / sub categories an Artist subtree, an Album subtree, a Genre subtree, a Genre / Artist nested subtree.) The lowest-level nodes of the master tree represent audio metadata of individual audio tracks (hierarchy having a plurality of "items" at a third level of the hierarchy), while other nodes represent groupings (or sub-groupings) of audio tracks." (hierarchy having a plurality of categories and

subcategories in a first and second level of the hierarchy) (col. 3, lines 59-64) See also examples of trees in columns 11-14. The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) Referring to Figure 1, whenever a new node in the metadata tree 122 is selected a new screen is displayed in table window 130 with information on the selected node. (selecting a category in the first display screen) For example, when selecting first Master Library, second Genre (subcategory in second display), and third Classical ("item" Classical selected from second display and displayed in third display), three different screens are automatically sequentially displayed in the table window 130 corresponding to the three different nodes. Furthermore, each time a user clicks on a node in the tree 122 to expand / contract it, the tree window 120 changes to show a screen with the expanded/contracted tree 122. (col. 8, line 28 through col. 9, line 23) The metadata management system may be integrated into a variety of devices with graphical user interfaces, including...portable audio players (portable media player)... A user may use input devices such as touch screen, pen, keyboard, etc. and software interfaces with stylized screen elements such as menus, windows, and controls (e.g. radio buttons). (col. 6, lines 49-62; col. 8, lines 14-30) (to enable selecting , displaying, accessing) Chasen '721 discloses the use of such systems and methods for managing metadata for a variety of media including...audio... (col. 3, lines 22-28) The tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees, for example. Selecting Master Library will display its subtrees, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46)

"If the selected node is Artist (in second display screen) under the grouping Master Library (in first display screen) --, Artist, the node table may display (items in third display

screen) the sub-groupings of the Artist node such as, for example, Debussy, Mozart, and Rachmaninoff ...." (col. 9; lines 1-6) (items) "The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." (col. 3, lines 56-58; col. 5, lines 59-64; col. 18, lines 27-29) (accessing the track based on a selection made in one of the display screens)

While a selection of a track may involve more than three display levels, depending on the arrangement of the tree and subtrees, when considering the '721 Chasen reference, it is an obvious variation that a selectable retrieval is filtered through the hierarchically arranged sub categories (a tree traversal) until the "leaf node" or track (as found in the node table) is accessed.

To the extent that the number of display screens may vary, such that by a third display screen, the display screen (graphical user interface) transitions to a display of tracks (to enable accessing at least one track), it would be an obvious variation of the invention as disclosed by Chasen '433. The user, in combination with the metadata management module, has the ability to organize the groupings of information for sequential presentation on the user interface. Thus, a hierarchy structure that accesses a particular display, such as a display of tracks, in a particular number of sequential screens, such as by a third display screen, may be custom defined. (col. 4, lines 38-46)

While in some given examples, Chasen '721 is silent as to the numbered order of the screen that presents of a listing of items, Chasen '721 teaches an obvious variation. The numbers of nodes traversed in the hierarchy determines the number of screens presented to traverse to reach a leaf node in the node table. The "metadata management module" dynamically reads metadata...organizes the metadata...combines...to form a master tree...and presents the master

tree and the node table in a graphical user interface. It follows then that a varying numbers of categories / subcategories may be generated / display screens traversed before the final listing of items (leaf nodes) are accessed. Alternately, a user may select from any node in the tree for the next sequential display.

Chasen '721 recognizes (col. 1: line 25) the need for users to easily view and access the metadata related to audio files. Chasen '721 discloses (col. 1, lines 32-35) a common problem is the failure to provide users with control over the metadata such as the ability to make changes to a piece of metadata or asset of metadata. It would be an obvious variation to order screens differently and, well within the skills of one of ordinary skill in the art, to control the metadata for easier access and viewing.

Per claim 2:

Chasen '721 teaches the tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees (subcategories), for example. Selecting Playlist will display its subtrees - various playlists (subcategory). (col. 5, lines 28-46) See also Figure 1. "The user may use the master tree and the node table (items) to begin playing an audio file and/or a set of audio files." (playing a plurality of tracks associated with the selected subcategory) (col. 3, lines 56-58; col. 5, lines 28-46; col. 5, lines 59-64) From a subcategory of a particular playlist, a user may select a track from the node table. See comment in rejection of claim 1 as related to the numbering of sequential display screens.

Per claim 3:

Chasen '721 expressly provides for this limitation, teaching that "[t]he user may also create a new playlist (within the Playlist subcategory) by selecting one or more audio tracks and copying them into a playlist node (adding tracks to a playlist). The user may make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping using the menu system, and so forth." (col. 15, lines 14-21)

Per claim 4:

Chasen '721 teaches, "If the selected node is Artist under the grouping Master Library --, Artist, the node table may display the sub-groupings of the Artist node such as, for example, Debussy, Mozart, and Rachmaninoff ...." (col. 9, lines 1-6) "The user may use the master tree and the node table (accessing; selecting an item in the third display screen / node tree, and playing the track) to begin playing an audio file and/or a set of audio files." (playing the track) (col. 3, lines 56-58; col. 5, lines 59-64) See comment in rejection of claim 1 as related to the numbering of sequential display screens.

Per claim 5:

Chasen '721 expressly teaches, "[t]he user may also create a new playlist by selecting one or more audio tracks (selecting an item) and copying them into a playlist node (adding at least one track). The user may make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a

different grouping, adding a new grouping using the menu system, and so forth." (col. 15, lines 14-21) See comment in rejection of claim 1 as related to the numbering of sequential display screens.

Per claim 6:

Chasen '721 expressly teaches, "[t]he user may also create a new playlist by selecting one or more audio tracks and copying them into a playlist node (adding to a playlist). The user may make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping (category, subcategory, item) using the menu system, and so forth." (col. 15, lines 14-21)

Per claim 7:

Chasen '721 discloses: The sample display of Figure 1 includes a tree window showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node (first display of categories). The next level of the master tree represents root nodes of subtrees (categories) such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks (items), while other nodes represent groupings (or sub-groupings) (subcategories, items) of audio tracks." (col. 3, lines 59-64) The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) The teachings of Chasen '721

enable a user to select nodes in the tree window in an order that reverts back to a previous node. For example, the user may navigate through the metadata tree 122 in Figure 1 in forward and/or backward directions. By clicking on the plus/minus signs the user may expand/contract categories / subcategories in the master tree 122. Furthermore, the user may click on any visible node in the tree to display information about that node, and the order in which the user views information about visible nodes is unrestricted. (revert back to second or first display) Chasen '721 teaches, "...the user may select a higher level node..." (reverting back to a prior screen) (col. 5, lines 64-65) See comment in rejection of claim 1 as related to the numbering of sequential display screens.

Per claim 8:

Chasen '721 discloses, "In FIG. 1, the Master Library --, Genre Classical grouping was selected, and thus, the metadata for audio tracks that have the value "Classical" in the Genre field in the database are displayed as audio track records in the node table (listing of items) within the table window. In the exemplary table window, three audio track records are shown: Concerto by Mozart, Reverie by Debussy, and Vocalise by Rachmaninoff." (col. 5, lines 52-58) "...the master tree 122 provides various ways to group and categorize audio data...leaf nodes are displayed in a table format in the node table 132." (col. 8, lines 32-37) "...the node table 132 displays additional information about the node that is selected in the master tree 122...if the selected node is a leaf node, the node table 132 may display metadata pertaining to the audio tracks..." (col. 8, lines 54-58) (presenting a listing of items associated with the selected item in

a fourth sequentially presented display screen) See comment in rejection of claim 1 as related to the numbering of sequential display screens.

Per claim 9:

Chasen '721 discloses: The tree window displays the master tree, and the master tree may contain Master Library (first display screen). The Master Library displayed categories includes Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) Chasen '721 teaches a user to select any node in the tree window, thereby allowing a user to first select a node at a level below a top node - for example a user may first select Genre. See Figure 1, tree 122. The genre grouping includes four sub-groupings: <blank> , Classical, Pop and Rock. (genre types) (col. 5, lines 34- 35) "In FIG. 1, the Master Library -, Genre --, Classical grouping was selected .... " (col. 5, lines 52-53) (genre type "Classical" selected)

Per claim 10:

Chasen '721 discloses, "...the master tree 122 provides various ways to group and categorize audio data." (col. 8, lines 32-33) Chasen '721 discloses "It is recognized that in other embodiments different categories, attributes, and/or collective information may be used that include fewer fields o the metadata database 232, additional fields of the metadata database 232, user customized categories, as well as other categories." At col. 10, line 58 through col. 13, line 16 building / grouping trees is taught, including categories such as Genre and Album, and with audio track recordings at the leaf nodes. Selecting the node for the Album name will provide

a listing of tracks associated with said Album in a table window. See col. 5, lines 44-46 and Figure 1.

Chasen '721 discloses these categories of metadata and provides the suggestion that a user may create custom category groupings and subtrees. (col. 4, lines 43-51) In an obvious variation of Chasen '721, given that a variety and number of categories may be used, a user can build a group tree with a category (subcategory) of Genre, a next level category (subcategory) of Album name, and a final level list (items) of track names. Chasen '721 (col. 1, lines 25-35) recognized the need for users to easily view and access the metadata and the need to provide users with control over the metadata such as the ability to make changes to a piece or set of metadata.

Per claim 11:

In the Sample Display of Figure 1, Master Library has available categories displayed, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) Each selected category is a node of a subsequent subtree (subcategory). At col. 10, line 58 through col. 13, line 16 building grouping trees is taught, including categories such as Artist and Album. Following the teaching of Chasen '721, a user can build a group tree with a category of Artist and a next level category of Album name. Consequently, a user may select the category Artist in a display screen, where the following display screen lists the names of Artists. For a selected Artist name, a related list of Album names associated with said Artist. As an obvious variation of Chasen '721, the traversal path of nodes Master Library /Artist/Names of

Artists/Album may be created by a user. (col. 4, lines 38-52) Using the metadata management module the metadata is organized into groupings using a groupings tree, and combined trees to form a master tree and node table. (col. 3, lines 43-52) Chasen '721 suggested the groupings of Artist Names and Albums.

Per claim 12:

"The lowest-level nodes of the master tree represent audio metadata of individual audio tracks .... " (music track) (col. 3, lines 59-64) "The user may use the master tree and the node table to begin playing an audio file and/or a set of audio files." (col. 3, lines 56-58) "The user may begin playing the audio file of a track record by selecting an audio track for playback such as, for example, by using a mouse to double click on any field (accessing a track title) of the audio track record in the node table 132." (col. 5, lines 59-64) Regarding "accessing a track title in the third display", see comments in the rejection of claim 8 regarding the number of display screen traversed. It would be an obvious variation of Chasen '721, to reach the track title by the 3rd display screen. The variation would depend on the metadata groupings that can be customized by the user. (Col. 4, lines 38-51) See comment in the rejection of claim 1 related to the number of sequential screen displays. To arrange the metadata so that a track title could be reached by the 3rd display screen is within the level of skill by one of ordinary skill in the art.

Per claim 13:

Chasen '721 teaches "metadata is dynamically read from the metadata database and dynamically displayed in a graphical user interface in an organized manner, such as a hierarchical tree." (Abstract) "...presenting the set of metadata in the hierarchy of category nodes to a user." (col. 2, lines 12-14) "...dynamically displaying the tree structure." (col. 2, lines 33-34) "...to dynamically represent audio metadata using master tree and a node table." (col. 3, lines 12-13) "The master tree and the node table are dynamically populated and displayed (automatic transition) to the user." (col. 4, lines 9-10) It is inherent that as a user makes a selection at the Master Library (first display screen) that causes the user interface to traverse to a selected subcategory (in the second display screen), that an "automatic transition" takes place, populating the display screen with the related audio metadata. A subsequent selection will result, accordingly, in an "automatic transition" to a third display screen. As an example, when selecting first Master Library, second Genre, and third Classical, three different screens automatically transition sequentially, displayed in the table window 130 corresponding to the three different nodes. Furthermore, each time a user clicks on a node in the tree 122 to expand/contract it, the tree window 120 automatically changes to show a screen with the expanded/contracted tree 122. (col. 8, line 28 through col. 9, line 23) Chasen '721 teaches, "The metadata management module 210 may be requested to build the master tree 122 and the node table 132 (automatic transition) upon the occurrence of several events such as, for example, upon user request (e.g., selecting the 'refresh' button or via a menu option)." (for a given user selection in a first / second display screen, automatically transition to a second / third display respectively)

Per claim 14:

The tree window displays the master tree, and the master tree may contain Master Library (a top level of the hierarchy) and Playlist nodes. Selecting Master Library will display its subtrees, including Artist, Album, Genre, Genre/Artist, and All Tracks. (col. 5, lines 28-35 and 44-46) See also Figure 1. Subtree nodes also represent "a top level" of the hierarchy of each subtree branches. See col. 7, lines 32-42 regarding the combination of subtrees under a root node (a top level of the hierarchy)

Per claim 15:

The sample display of Figure 1 includes a tree window showing a master tree. (col. 5, lines 20-26) "The top node of the master tree represents a root node. The next level of the master tree represents root nodes of subtrees such as groupings trees and the playlist tree. The lowest-level nodes of the master tree represent audio metadata of individual audio tracks, while other nodes represent groupings (or sub-groupings) of audio tracks." (col. 3, lines 59-64) The sample display of Figure 1 also includes a table window which displays information about the node that is selected in the tree window. (col. 5, lines 44-46) "A user may display a node table 132 by selecting a grouping such as, for example, by using a mouse to click on the desired node (category selected) in the tree window 120." (col. 5, lines 46-49) The teaching of the '721 patent allows a user to select any node in the tree window (category selected...from at least one level below), thereby allowing a user to first select a node at a level below a node at a top level of the hierarchy and to have information about that node displayed in the table window.

Per claim 16:

At col. 11, line 63 through col. 12, line 26 an example is given of a tree with a category of Artist, a next level category of Album name, and a final level category of track names. "...the next level of nodes represent the category values for the Artist category (list of artist names); the third level of nodes represent the category values for the Album category (list of album names). The leaf nodes represent the audio track records (list of track names)..."

The Requester has alleged:

F. Claims 1-16 are unpatentable under 35 U.S.C. §102(e) over the Phillips publication.

G. Claims 1-16 are unpatentable under 35 U.S.C. §103(a) over the Phillips publication.

The proposed rejections of claims 1-16 are adopted as modified. Examiner has modified the rejections to include additional comments and citations. In addition to rejection citations below, the pertinent discussions in the Request and Claim Charts put forth on pages 53-65 of the Request, are hereby incorporated by reference.

Claims 1-16 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Patent Application Publication 2002/0045960 A1, the Phillips publication. (Phillips '960)

Per claim 1:

"The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) The musical tracks are stored in the portable audio device on a storage device, such as a micro-drive, or in memory. (paragraphs 19-20) A data structure is used to store metatags corresponding to musical tracks stored in memory. The data structure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. These categories of metatags may be further divided to form sub-categories - for example sub-categories of genre are "Rock", "Blues", "Rap", etc. Finally within all of these categories and sub-categories are items- the musical tracks. (paragraphs 35-39) "FIG. 11 illustrates the operation of the system 100 to generate a playlist using metatags. In step 380, the user selects a desired metatag from the list shown, by way of example, in the screen display 250, illustrated in FIG. 7. The user may select a metatag, such as genre, which causes the system 100 to display the display screen 252 listing the various genre metatags corresponding to the various musical tracks stored in the memory 104 (or in the storage device 126). (plurality of tracks accessed according to a hierarchy) In addition, as noted above, the user may select more than one metatag (present sequentially a first, second, and third display screen) to further refine the selection of musical tracks. Thus, step 380 may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) For example, the user may select the

metatag "genre" in a display screen showing the categories of metatags (plurality of categories, selecting a category in the first display screen), for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. (plurality of subcategories; selecting a subcategory in the second display screen) See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. (plurality of items) Alternatively, when a particular genre is selected - e.g. "Blues"- the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37) A selected playlist or individual musical track may be played. (paragraph 31) (accessing at least on track based on a selection made in one of the display screens)

Per claim 2:

Phillips '960 teaches the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display (second display screen) then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected - e.g. "Blues"- the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37) A selected playlist or

individual musical track may be played. (paragraph 31) (playing a plurality of tracks associated with the selected subcategory)

Per claim 3:

"The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) "In step 384, the system automatically adds to the playlist musical tracks whose metatags match the user selected metatags (selecting a subcategory)...The user may manually edit one or more of the musical tracks (adding the tracks associated with the selected subcategory to a playlist)...permit the user to manually select which musical tracks will be added ... (paragraph 50) For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated (selecting a subcategory) . The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected - e.g. "Blues"- the system may automatically generate a playlist of musical tracks (adding the tracks associated with the selected subcategory to a playlist) that satisfy the search criteria. (paragraphs 36-37)

Per claim 4:

Phillips '960 discloses, for example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. (third display screen) See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. (accessing at least one track) Alternatively, when a particular genre is selected - e.g. "Blues"- the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37) A selected playlist or individual musical track may be played. (paragraph 31) (playing at least one track associated with the selected item)

Per claim 5:

See rejection of limitations addressed in claim 3, where limitation recites "selecting a subcategory" in comparison to claim 5 which recites "selecting an item." "Subcategory" is a label given to levels in the hierarchical structure ('433 Specification, col. 9, lines 55-56), and "item" is a label given to any of selectable choices given at a branch node ('433 Specification, col. 5, lines 53-55) "branch lists first the names....and under those items, the artists' names..." So it follows that given a selection of options at a branch node / subcategory, that the selection of any one choice represents "selecting an item."

Phillips '960 discloses, "The present invention is directed to techniques that permit the user to implement a form of "jukebox" on a portable audio device. A jukebox manager allows the user to create, edit, and utilize a playlist comprising one or more data files. In a typical implementation, each data file is a separate musical track. The jukebox manager provides the user with a quick, flexible tool to organize music into playlists." (paragraph 10) For example, (in a first screen) the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display (second display screen) then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. (items) See Figure 8. If the user then selects (select in the second screen) the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen (third display screen) to allow the user to select a particular musical track or tracks. (selecting an item in the third display screen) Alternatively, when a particular genre is selected - e.g. "Blues" - the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37) "Alternatively, the system 100 may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50) (adding at least one track)

Per claim 6:

Phillips '960 discloses, for example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See

Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. (at least one track...associated with a selected one of the category, subcategory, and item) The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected - e.g. "Blues" - the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37) "Alternatively, the system 100 may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50) (adding to the playlist) A selected playlist or individual musical track may be played. (paragraph 31) (comprises one of playing)

Per claim 7:

Phillips '960 discloses, "FIG. 11 illustrates the operation of the system 100 to generate a playlist using metatags. In step 380, the user selects a desired metatag from the list shown, by way of example, in the screen display 250, illustrated in FIG. 7. The user may select a metatag, such as genre (where genre may be in a third display screen), which causes the system 100 to display the display screen 252 listing the various genre metatags corresponding to the various musical tracks stored in the memory 104 (or in the storage device 126). In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step 380 may represent multi-step processes in which one or more screen displays

(first display screen, second display screen, third display screen) are provided to the user to guide the user through the metatag selection process." (paragraph 48) The process described in paragraph 48 is a general process of using display screens to guide the user through a selection process. This process does not require a particular order of movement through categories, sub-categories and items, consequently the user is not restricted from reverting back to an already visited display screen. See navigating via the Open control button, Scroll Up / Down button. (paragraph 28) "The user may manipulate through the lists of playlists using, by way of example, the scroll bar 190 to select the desired playlist." (paragraph 29) See Exit control button 178, which inherently takes control back one level. (paragraph 29) See Skip Rewind button 212, which reverts a play command. (paragraph 31) Inherently, Phillips '960 teaches reverting back. Alternately, an obvious variation of Phillips '960 includes "reverting back", given that "the user may manipulate through the lists of playlists...using the scroll bar...", thereby reverting back a level.

Per claim 8:

"FIG. 11 illustrates the operation of the system 100 to generate a playlist using metatags. In step 380, the user selects a desired metatag from the list shown, by way of example, in the screen display 250, illustrated in FIG. 7. The user may select a metatag, such as genre, which causes the system 100 to display the display screen 252 listing the various genre metatags corresponding to the various musical tracks (present musical tracks in a 4th display screen, musical track items are associated with the genre selected) stored in the memory 104 (or in the

storage device 126). In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step 380 may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The process described in paragraph 48 may involve providing to the user "one or more screen displays." "One or more screen displays" includes four screen displays.

Per claim 9:

Phillips '960 discloses a data structure is used to store metatags corresponding to musical tracks stored in memory. The data structure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39) The various "genre", may include: "Rock", "Blues", "Rap", etc. See Figure 8. For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected - e.g. "Blues" - the system may automatically generate a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)

To the extent that a first display fails to explicitly display "Artist", Album" and "Genre", it is noted that Phillips '960 suggested variations in the user information provided to the display screen. "Those skilled in the art will recognize that numerous variations are possible with the present invention...replaced with other information, such as metatags indicating categories or other identifier tags that correspond to the selected musical track." (paragraph 32) (replace with categories such as Artist, Album, and Genre) Phillips '960 explicitly teaches the Artist and Album metatag at paragraph 36. Phillips '960 explicitly teaches the Genre metatag at paragraph 37. "It should be noted that each musical track may have a number of different metatags to easily enable the user to search the data structure and automatically generate playlists." (paragraph 38)

Per claim 10:

Phillips '960 discloses, "FIG. 11 illustrates the operation of the system 100 to generate a playlist using metatags. In step 380, the user selects a desired metatag (See rejection of claim 9 above, that suggests an album and genre metatags)from the list shown, by way of example, in the screen display 250, illustrated in FIG. 7. The user may select a metatag, such as genre, which causes the system 100 to display the display screen 252 listing the various genre metatags corresponding to the various musical tracks stored in the memory 104 (or in the storage device 126). In addition, as noted above, the user may select more than one metadata to further refine the selection of musical tracks. Thus, step 380 may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection

process." (paragraph 48) The process described in paragraph 48 may involve providing to the user "one or more screen displays." The data structure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39) A listing of musical tracks matching the search criteria may be displayed in a screen. (paragraph 37) "[T]he system 100 may simply display the resultant matches and permit the user to manually select which musical tracks will be added to the newly created playlist." (paragraph 50)

To the extent that Phillips '690 fails to expressly or inherently the display of an album associated with a genre in a third screen, it is an obvious variation of Phillips '690 teachings for the display screens to be sequentially displayed first, second, third, etc., according to the assigned metatags available for selection. (paragraph 36) To alter the arrangement of display screens is an obvious variation well within the skill level of one of ordinary skill in the art.

Per claim 11:

Phillips '960 suggests metatags for Artist, Album, and Genre. See rejection of claim 9 above. "FIG. 11 illustrates the operation of the system 100 to generate a playlist using metatags. In step 380, the user selects a desired metatag from the list shown, by way of example, in the screen display 250, illustrated in FIG. 7. The user may select a metatag, such as genre, which causes the system 100 to display the display screen 252 listing the various genre metatags corresponding to the various musical tracks stored in the memory 104 (or in the storage device 126). In addition, as noted above, the user may select more than one metatag (name of artist

followed by genre) to further refine the selection of musical tracks. Thus, step 380 may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The data structure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39)

See comment in the rejection of claim 10 above, related to a first, second, and third display screen. It is an obvious variation of Phillips '690 invention, to present the information / selections associated with metatags in varying order.

Per claim 12:

Phillips '960 discloses, "FIG. 11 illustrates the operation of the system 100 to generate a playlist using metatags. In step 380, the user selects a desired metatag from the list shown, by way of example, in the screen display 250, illustrated in FIG. 7. The user may select a metatag, such as genre, which causes the system 100 to display the display screen 252 listing the various genre metatags corresponding to the various musical tracks stored in the memory 104 (or in the storage device 126). In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step 380 may represent multi-step processes in which one or more screen displays (third display screen) are provided to the user to guide the user through the metatag selection process." (paragraph 48) The data structure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title (accessing a track

title), album title, date of recording, etc. (paragraphs 35-39) A selected playlist or individual musical track may be played. (paragraph 31) (track is played in response to the access)

See comment in the rejection of claim 10 above, related to a first, second, and third display screen. It is an obvious variation of Phillips '690 invention, to present the information / selections associated with metatags in varying order.

Per claim 13:

For example, the user may select the metatag "genre" in a display screen showing the categories of metatags, for searching the database of musical tracks. See Figure 7. The display then shows a screen listing the various "genre", such as "Rock", "Blues", "Rap", etc. See Figure 8. If the user then selects the genre "Blues", a listing of musical tracks with metatags matching the selected search criteria is generated. (automatic transition) The listing is shown in a display screen to allow the user to select a particular musical track or tracks. Alternatively, when a particular genre is selected - e.g. "Blues"- the system may automatically generate (automatic transition) a playlist of musical tracks that satisfy the search criteria. (paragraphs 36-37)

See comment in the rejection of claim 10 above, related to a first, second, and third display screen. It is an obvious variation of Phillips '690 invention, to present the information / selections associated with metatags in varying order. The portable audio playing device, disclosed by Phillips '960, automatically transitions from a first, second, third display screen in response to user selections. (paragraph 26)

Per claim 14:

Phillips '960 teaches a main menu. (paragraph 26) (top level of the hierarchy) The top level of the hierarchy, as shown in Phillips '960, Figure 3, displays four categories, Player, Jukebox, Contacts, Viewer. From the Player or Jukebox category, a track by be selected. A first display screen viewed by the user during the process of selecting tracks for a playlist may show the categories of metatags used for searching the database of musical tracks, including genre, artist, song title, album title, date of recording, etc.. See Figure 7. (paragraphs 35-39)

Per claim 15:

Phillips '960 shows a top level of the hierarchy with the Main Menu screen shown in Figure 3. A selection of one of the categories, such as Jukebox, automatically transitions to one level below the top level of the hierarchy. See Figure 9, Main Display (top level hierarchy), where upon selection of the Juke box from within the top level, the level below the top level is presented, "Display Available Playlists."

Per claim 16:

Phillips '960 discloses, "FIG. 11 illustrates the operation of the system 100 to generate a playlist using metatags. In step 380, the user selects a desired metatag from the list shown, by way of example, in the screen display 250, illustrated in FIG. 7. The user may select a metatag, such as genre, which causes the system 100 to display the display screen 252 listing the various

genre metatags corresponding to the various musical tracks stored in the memory 104 (or in the storage device 126). In addition, as noted above, the user may select more than one metatag to further refine the selection of musical tracks. Thus, step 380 may represent multi-step processes in which one or more screen displays are provided to the user to guide the user through the metatag selection process." (paragraph 48) The data structure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39) The data structure may be searched for musical tracks that match multiple metatags, such as genre, artist, song title, album title, date of recording, etc. (paragraphs 35-39) The ranking in the hierarchy of categories, subcategories, and items is user defined by metatags.

It would be an obvious variation of Phillips '960 to define a category metatag listing artist names, and to further define a subcategory metatag listing album names, and to further define metatags comprising a list of track names. Phillips '960 suggested these labels (paragraph 36) and defined user metatags can be used to order the labels in a desired hierarchy.

The Requester has alleged:

H. Claims 1-16 are unpatentable under 103(a) over the '451 patent, in view of the '721 patent.

The proposed rejections of claims 1-16 are adopted as modified. See Request 12/01/2009, pages 65-83. Examiner notes that "playlist", a limitation of claims 3, 5, and 6, may be considered to not expressly or inherently be taught by Winsky '451. "Genre" may be found to be inherently taught by Winsky '451. "Album" is not explicitly taught by Winsky '451.

Examiner has modified the proposed rejection as follows:

Claims 3, 5, 6, 9, 10, 11, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,739,451 to Winsky et al, in view of USPN 6,760,721 B1 to Chasen et al..

Regarding the limitations of claims 3, 5, 6, 9, 10, 11, and 16 see the 35 USC 102 (b) / 103(a) rejections under Winsky '451, provided above. Should it be found that Winsky '451 fails to expressly or inherently disclose a "playlist" (as defined in the '433 Specification, col. 10, lines 4-7), Chasen '721 expressly discloses this limitation at col. 5, lines 35-42, col. 15, lines 14-21. One skilled in the art would have been motivated to combine with the method of Winsky '451 at least the provision of storing, displaying, choosing and playing audio files, where audio files include musical tracks, as described in Chasen '721 at col. 5, line 20 through col. 6, line 4 and shown in Figure 1. Should it be found that Winsky '451 fails to expressly or inherently disclose "genre" or album, Chasen '721 expressly discloses "genre" and "album" , as an example in Fig. 1.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Winsky '451, with the teachings of Chasen '721 because Winsky '451 recognized (col. 1,lines 21-22) the benefits of facilitate the identification of the song. Winsky '451 recognized the benefit of a device that exhibits minimum complexity and ease of use. To modify Winsky '451 to include categories of playlist, genre, and album simplify the organization of the music for selection.

The combination is proper, for at least the following reasons. As described in the Abstract, Winsky '451 describes a hand held electronic music reference machine with search and

playback functionality for songs. Chasen '721 describes a hierarchy comprising categories, subcategories and items for use in selecting tracks stored on a portable media player. See Chasen '721, Figure 1, col. 5, line 20 through col. 6, line 4, and col. 6, lines 54-62. Both Winsky '451 and Chasen '721 teach storing, displaying, choosing and playing audio files on a hand held device. Both patents are in the same field of endeavor and one skilled in the art at the time the invention of the Winsky '433 patent was made, would have been motivated to combine aspects of the system and method of Chasen '721 with the system and method of the Winsky '451 patent to improve the control over organization of data / metadata (Chasen '721, col. 1, lines 24-37), making it easier for users to find the data.

The Requester has alleged:

I. Claims 1-16 are unpatentable under 103(a) over the '721 patent, in view of the Phillips publication.

The proposed rejections of claims 1-16 are not adopted. The Requester has not pointed out specific teachings related to claim limitations that Chasen '721 failed to disclose, which are otherwise taught by Phillips '960. See Request 12/01/2009, pages 83-104. As such the prior arts, which are individually applied in the reexamination above, disclose cumulative teachings.

The Requester has alleged:

J. Claims 1-16 are unpatentable under 103(a) over the '451 patent, in view of the Phillips publication.

The proposed rejections of claims 1-16 are adopted as modified. See pertinent discussions in Request 12/01/2009, pages 104-126. Examiner notes that "playlist", a limitation of claims 3, 5, and 6, may be considered to not be expressly or inherently taught by Winsky '451. "Genre" may be found to be inherently, but not explicitly taught by Winsky '451. "Album" is not explicitly taught by Winsky '451.

The proposed rejections for claims 1, 2, 4, 7, 8, and 12-15 are not adopted because Requester failed to point to limitations in the claims that Winsky '451 failed to disclose, which otherwise were disclosed by Phillips '960. As such, Winsky '451 and Phillips '960, as related to claims 1, 2, 4, 7, 8, and 12-15 provide cumulative teachings. See claims 1, 2, 4, 7, 8, and 12-15 limitations addressed above in the rejections related to A, B, F, & G above.

Examiner has modified the proposed rejection as follows:

Claims 3, 5, 6, 9, 10, 11, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,739,451 to Winsky et al, in view of United States Patent Application Publication 2002/0045960 A1 to Phillips et al.

Regarding the limitations of claims 3, 5, 6, 9, 10, 11, and 16 see the 35 USC 102 (b) / 103(a) rejections under Winsky '451, provided above. Should it be found that Winsky '451 fails to expressly or inherently disclose a "playlist" (as defined in the '433 Specification, col. 10, lines 4-7), Phillips '960 expressly discloses creating, editing and playing playlists (Phillips' 960, Fig. 9, and paragraph 10). One skilled in the art would have been motivated to combine with the method of Winsky '451 at least the provision of storing, displaying, choosing and playing audio files, where audio files include musical tracks/ playlists, as described in Phillips '960 at

paragraphs 10, 19, 27 and 28. Should it be found that Winsky '451 fails to expressly or inherently disclose "genre" or "album", Phillips '960 expressly discloses "genre" and "album", as an example in Figs. 7 & 8.

As described in the Abstract, Winsky '451 describes a hand held electronic music reference machine with search and playback functionality for songs. Phillips '960, an analogous art, teaches a system and method for selection of a musical playlist in a portable device.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Winsky '451, with the teachings of Phillips '960 because Winsky '451 recognized (col. 1,lines 21-22) the benefits of facilitating the identification songs. Winsky '451 recognized (col. 1, lines 56-57) the benefit of a device that exhibits minimum complexity and ease of use. To modify Winsky '451 to include categories of playlist, genre, and album simplify the organization of the music for selection. Likewise, Phillips '960 recognized (paragraph 5) the need for easy organization of data files in a portable digital audio device, given that large storage capacity players can record and store a large number of musical data files.

Conclusion

For the reasons above, claims 1-16 have been examined. No claims have been confirmed.

Service of Papers

Any paper filed with the USPTO, i.e., any submission made, by either the Patent Owner or the Third Party Requester must be served on every other party in the reexamination

proceeding, including any other third party requester that is part of the proceeding due to merger of the reexamination proceedings. As proof of service, the party submitting the paper to the Office must attach a Certificate of Service to the paper, which sets forth the name and address of the party served and the method of service. Papers filed without the required Certificate of Service may be denied consideration. 37 CFR 1.903; MPEP 2666.06.

Amendment in *Inter Partes* Reexamination Proceedings

Any proposed amendment to the specification and/or claims in this reexamination proceeding must comply with 37 CFR 1.530(d)-(j), must be formally presented pursuant to 37 CFR 1.52(a) and (b), and must contain any fees required by 37 CFR 1.20(c). Amendments in an *inter partes* reexamination proceeding are made in the same manner that amendments in an *ex parte* reexamination are made. MPEP 2666.01. See MPEP 2250 for guidance as to the manner of making amendments in a reexamination proceeding.

Submissions

In order to ensure full consideration of any amendments, affidavits or declarations, or other documents as evidence or patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be an Action Closing Prosecution (ACP), will be governed by 37 CFR 1.116(b) and (d), which will be strictly enforced.

All correspondence relating to this *inter partes* reexamination proceeding should be directed:

By EFS: Registered users may submit via the electronic filing system EFS-Web, at https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html.

By Mail to: Mail Stop Inter Partes Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By Hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

For EFS-Web transmission, 37 CFR 1.8(a)(1)(i) (C) and (ii) states that correspondence (except for a request for reexamination and a corrected or replacement request for reexamination) will be considered timely filed if (a) it is transmitted via the Office's electronic filing system in accordance with 37 CFR 1.6(a)(4), and (b) includes a certificate of transmission for each piece of correspondence stating the date of transmission, which is prior to the expiration of the set period of time in the office action.

Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/Mary Steelman/

Mary Steelman

Primary Examiner

Central Reexamination Unit 3992

(571) 272-3704

Conferees:

JESSICA HARRISON
SUPERVISORY PATENT EXAMINER

Electronic Acknowledgement Receipt

EFS ID:	7567101
Application Number:	95001274
International Application Number:	
Confirmation Number:	6990
Title of Invention:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA
First Named Inventor/Applicant Name:	6928433
Customer Number:	40032
Filer:	Ann Maria Pease./Vikki Athen
Filer Authorized By:	Ann Maria Pease.
Attorney Docket Number:	016788-000-0004
Receipt Date:	06-MAY-2010
Filing Date:	01-DEC-2009
Time Stamp:	18:22:24
Application Type:	inter partes reexam

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	POA.pdf	1359433 1348a34284c6ea5829a5b39127d096c2a167cea7	no	2

Warnings:	
Information:	

2	Reexam Certificate of Service	COS.pdf	306040 7f35581e0fd619afd31c4644da18896224acc8fe	no	1
Warnings:					
Information:					
			Total Files Size (in bytes):	1665473	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent No.:	**6,928,433**	Reexam Control No.:	**95/001,274**
Original Issue Date:	August 9, 2005	Examiner:	STEELMAN, MARY J.
Original Serial No.:	09/755,723	Group Art Unit:	3992
Original Filing Date:	January 5, 2001	Confirmation No.:	6990
By:	Ron Goodman, Howard N. Egan, David Bristow		
For:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA		

COMBINED POWER OF ATTORNEY BY ASSIGNEE AND STATEMENTS UNDER 37 CFR §§ 3.73(B) AND 3.71

Mail Stop *Inter Partes* Reexam
ATTN: Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Examiner:

Creative Technology Ltd, a corporation of the Republic of Singapore, is the assignee of the entire right, title and interest in the above-captioned patent by virtue of assignments from the inventors of the above-captioned application to Creative Technology Ltd, recorded in the United States Patent and Trademark Office as follows:

1. From Ron Goodman to Creative Technology Ltd, recorded in the United States Patent and Trademark Office at Reel 011788, Frame 0174;
2. From Howard N. Egan to Creative Technology Ltd, recorded in the United States Patent and Trademark Office at Reel 011788, Frame 0174;
3. From David Bristow to Creative Technology Ltd, recorded in the United States Patent and Trademark Office at Reel 015640, Frame 0748;

As required by 37 CFR § 3.73(b)(1)(i), documentary evidence of the chain of title from the inventors of the above-captioned application and patent to Creative Technology Ltd was previously submitted for recordation pursuant to 37 CFR § 3.11.

Creative Technology Ltd hereby revokes all previous powers of attorney and appoints **Justin F. Boyce, Registration No. 40,920,** and the **Dechert LLP** attorneys and agents associated with **Customer Number 37509** as its attorneys with full power of substitution and revocation, to prosecute the above-captioned reexamination and to transact all business in the Patent and Trademark Office connected therewith, said appointment being to the exclusion of the inventor(s) and his/her attorney(s) in accordance with the provisions of 37 CFR § 3.71; provided that if any one of said attorneys or agents ceases to be affiliated with the law firm of Dechert LLP as partner, employee or of counsel, such attorney or agent's appointment as attorney and all powers derived therefrom shall terminate on the date such attorney or agent ceases being so affiliated.

Please direct all correspondence address for the above-identified application to:

☒ Customer Number **37509**

☐ Firm or Individual Name:

Address:

Telephone:

The undersigned, whose title is supplied below, is authorized to act on behalf of the assignee.

Assignee: Creative Technology Ltd

Date: May 4, 2010 Signed: [signature]

Print Name: C. Hock Leong

Print Title: Chief Technology Officer

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent No.:	**6,928,433**	Reexam Control No.:	**95/001,274**
Original Issue Date:	August 9, 2005	Examiner:	STEELMAN, MARY J.
Original Serial No.:	09/755,723	Group Art Unit:	3992
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By:	Ron Goodman, Howard N. Egan, David Bristow		
For:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA		

CERTIFICATE OF SERVICE PURSUANT TO 37 CFR § 1.248(a)(4)

I hereby certify that on this 6th day of May, 2010, true and correct copies of:

- COMBINED POWER OF ATTORNEY BY ASSIGNEE AND STATEMENTS UNDER 37 CFR §§ 3.73(B) AND 3.71, and
- this Certificate of Service

as filed in the United States Patent and Trademark Office on May 6, 2010 in the above-captioned reexamination, were sent by Patent Owner's counsel via first class mail to current counsel of record for the Third Party Requester at the address set forth below:

David A. Jakopin
Pillsbury Winthrop Shaw Pittman LLP
P.O. Box 10500 - Intellectual Property Group
McLean, VA 22102

Respectfully submitted,

Date: May 6, 2010

Justin F. Boyce
Registration No. 40,920

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Customer No. 37509
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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Bib Data Sheet

CONFIRMATION NO. 6990

SERIAL NUMBER	FILING OR 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
95/001,274	12/01/2009 RULE	707	3992	016788-000-0004

APPLICANTS

6928433, Residence Not Provided;
CREATIVE TECHNOLOGY LIMITED (OWNER), SINGAPORE, SINGAPORE;
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ARCHOS, SA (REAL PTY IN INTEREST), Residence Not Provided;
PILLSBURY WINTHROP SHAW PITTMAN LLP, MCLEAN, VA

**** CONTINUING DATA ***************************

This application is a REX of 09/755,723 01/05/2001 PAT 6,928,433

**** FOREIGN APPLICATIONS *********************

		STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
Foreign Priority claimed	☐ yes ☐ no				
35 USC 119 (a-d) conditions met	☐ yes ☐ no ☐ Met after Allowance				
Verified and Acknowledged	Examiner's Signature Initials				

ADDRESS
37509

TITLE
AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA

FILING FEE RECEIVED	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
95/001,274	12/01/2009	6928433	016788-000-0004

CONFIRMATION NO. 6990

POA ACCEPTANCE LETTER

37509
DECHERT LLP
P.O. BOX 390460
MOUNTAIN VIEW, CA 94039-0460

OC000000041573448

Date Mailed: 05/12/2010

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/06/2010.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/jawhitfield/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
95/001,274	12/01/2009	6928433	016788-000-0004

CONFIRMATION NO. 6990

POWER OF ATTORNEY NOTICE

40032
CREATIVE LABS, INC.
LEGAL DEPARTMENT
1901 MCCARTHY BLVD
MILPITAS, CA 95035

OC000000041573374

Date Mailed: 05/12/2010

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/06/2010.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/jawhitfield/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

CERTIFICATE-OF SERVICE PURSUANT TO 37 C.F.R. §1.248(a)(4)

I hereby certify that on this 14th day of May, 2010, a true and correct copy of this REQUEST FOR EXTENSION OF TIME PURSUANT TO 37 C.F.R. § 1.956 was sent by Patent Owner's counsel via first class mail to current counsel of record for the Third Party Requester at the address set forth below:

David A. Jakopin
Pillsbury Winthrop Shaw Pittman LLP
P.O. Box 10500 - Intellectual Property Group
McLean, VA 22102

Respectfully submitted,

Date: May 14, 2010

Justin F. Boyce
Registration No. 40,920

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent No.:	**6,928,433**	Reexam Control No.:	**95/001,274**
Original Issue Date:	August 9, 2005	Examiner:	STEELMAN, MARY J.
Original Serial No.:	09/755,723	Group Art Unit:	3992
Original Filing Date:	January 5, 2001	Confirmation No.:	6990
By:	Ron Goodman, Howard N. Egan, David Bristow		
For:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA		

Mail Stop *Inter Partes* Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR EXTENSION OF TIME PURSUANT TO 37 C.F.R. § 1.956

Pursuant to 37 C.F.R. §1.956, Patent Owner hereby requests an extension of time of one month to respond to the first office action mailed on March 29, 2010 in connection with the above-identified reexamination proceeding. The current deadline for Patent Owner's response is May 29, 2010. A one-month extension would extend the deadline to June 29, 2010. In view of the imminent nature of the nominal deadline, Patent Owner requests expedited action on this Request.

As set forth below, Patent Owner respectfully submits that "sufficient cause" to grant the requested extension of time is presented in light of: (1) the need to gather and analyze evidence concerning conception and reduction to practice for the purpose evaluating the possibility of filing a declaration pursuant to 37 C.F.R. § 1.131 to establish invention prior to the effective dates of one or more references relied upon in the outstanding office action; (2) the need to gather and analyze evidence concerning non-obviousness, including secondary indicia of non-obviousness, for the purpose evaluating the possibility of filing a declaration concerning non-obviousness; (3) the need to consult with an expert concerning the scope and content of the prior art, differences between the prior art and the claimed invention, and the level of ordinary skill in the art; and (4) the numerous and complex issues raised in the outstanding office action.

While counsel for the Patent Owner has been diligently working on preparation of a response to the outstanding office action, an additional one month is needed to complete the response and to prepare

and gather evidence in support of one or more declarations supporting the Patent Owner's traversal of the rejections.

I. Relevant Facts

U.S. Patent No. 6,928,433 (the "`433 Patent") was filed on January 5, 2001, and issued on August 9, 2005 to Creative Technology Ltd (the "Patent Owner"). On December 1, 2009, Archos S.A. (the "Requestor") filed a Request for *Inter Partes* Reexamination of the `433 Patent (the "Request"). On February 26, 2010, the USPTO issued an Order Granting *Inter Partes* Reexamination of the `433 Patent (the "Order Granting Reexamination"). On March 29, 2010, the USPTO issued a non-final office action rejecting claims 1-16 of the `433 Patent. The current due date for a response to this outstanding office action is May 29, 2010.

Since the outstanding office action was issued on March 29, 2010, Patent Owner has acted diligently in its effort to provide a response. Actions taken by the Patent Owner include searching for and interviewing attorneys, and engaging Dechert LLP on April 7, 2010 to act as attorneys of record in the above-identified reexamination proceeding.

Even before receiving the outstanding office action, in-house counsel for the Patent Owner, including Russ Swerdon, began the process of reviewing and analyzing the prior art references cited in the Order Granting Reexamination. Also, before receiving the outstanding office action, Mr. Swerdon observed that only one of the cited references constitutes prior art under 35 U.S.C. § 102(b), while the other three, listed below, constitute prior art under 35 U.S.C. § 102(e):

- U.S. Pat. App. 2002/0045960 by Phillips, filed 10/13/2000;
- U.S. Pat. 6,760,721 to Chasen, filed 4/14/2000; and
- U.S. Pat. 6,976,229 to Balabanovic, filed 12/16/1999.

In light of the proximity in time between the filing date of the `433 patent and the effective dates of the above references, Patent Owner has been investigating whether or not the subject matter claimed in the `433 Patent was invented prior to the effective dates of the references. Before the office action was issued on March 29, 2010, Mr. Swerdon began discussions with one of the inventors, Howard Egan, to discuss the conception and reduction to practice of the subject matter claimed in the `433 Patent.

Since at least as early as the time of issuance of the outstanding office action, Mr. Egan has been diligently searching for and reviewing source code and other documents related to a research and development project he worked on in 1999. Mr. Egan has been working on this search and review process while meeting his other employment responsibilities. On April 30, 2010, the attorneys of record began working with Mr. Egan to assist in the process of evaluating evidence of conception and reduction

to practice of the claims of the `433 Patent. This evidence includes a large amount of source code maintained in an archive that is over ten years old. The attorneys of record are continuing to work with in-house counsel to locate additional documents concerning conception and reduction to practice of the claimed invention. Mr. Egan and the attorneys of record are also working diligently to correlate portions of the evidence of invention with elements of the claims of the `433 Patent.

Upon receiving the Order Granting Reexamination, Mr. Swerdon also identified the potential need to prepare and gather evidence in support of non-obviousness, including but not limited to secondary indicia of non-obviousness. While some evidence has been gathered on this issue, Mr. Swerdon is continuing to coordinate a search for additional documents. This search has been, and continues to be, complicated by the fact that the Patent Owner's organization has been affected by a major down-sizing that occurred primarily in 2009.

Since April 7, 2010, the attorneys of record have worked diligently to review all issues raised by the outstanding office action. The outstanding office action presents 92 separate grounds of rejection for alleged anticipation and obviousness. Each of the 92 grounds of rejection incorporates by reference one of the Requester's claim charts. *See* Request, pp. 25-126. In total, the 92 grounds for rejection incorporate about 100 pages of claim charts. *Id.*

After reviewing the office action and considering related issues, Patent Owner has identified a need to consult with an expert concerning the scope and content of the prior art, differences between the prior art and the claimed invention, and the level of ordinary skill in the art to which the `433 Patent pertains. To this end, the attorneys of record have begun the process of interviewing potential experts who may be qualified to consult on issues raised by the outstanding office action.

II. The Instant Response Deadline Should Be Extended

Patent Owner respectfully submits that there are several independent and acceptable reasons why "sufficient cause" exists to extend the period for response to the outstanding office action by the requested one month. These reasons present a compelling argument to extend the period for response.

A. Patent Owner Needs Time To Gather and Analyze Evidence Concerning Conception and Reduction to Practice of the Claimed Invention

As explained, some of the rejections in the outstanding office action are based on alleged prior art under 35 U.S.C. § 102(e). After interviewing one of the inventors on the `433 Patent, and reviewing evidence relevant to the dates of conception and reduction to practice, Patent Owner has developed a good faith belief that the inventors at least conceived of the subject matter of at least some of the claims

of the `433 Patent prior to the effective dates of one or more of the references cited in the outstanding office action.

Since at least as early as the time of issuance of the outstanding office action, one of the inventors on the `433 Patent, Mr. Egan, has been diligently searching for and reviewing source code and other documents related to a research and development project he worked on in 1999. Mr. Egan has been working on this search and review process while also meeting his other employment responsibilities. On April 30, 2010, the attorneys of record began working with Mr. Egan to discuss the possibility of preparing a declaration pursuant to 37 C.F.R. § 1.131. The attorneys of record are also working with in-house counsel for the Patent Owner to locate additional documents concerning conception and reduction to practice of the claimed invention.

As explained above, the Patent Owner has been working diligently to marshal evidence in support of prior invention. However, for all of the reasons explained above, additional time is needed to gather evidence and analyze complex issues associated with conception and reduction to practice of the claimed invention. Thus, there is sufficient cause to warrant a one-month extension to allow the Patent Owner to gather additional evidence and analyze facts in order to evaluate the possibility of filing a declaration pursuant to 37 C.F.R. § 1.131.

B. Patent Owner Needs Time to Gather And Analyze Evidence Concerning Non-Obviousness

Many of the grounds of rejection in the outstanding office action are based on obviousness. Upon receiving the Order Granting Reexamination, the Patent Owner identified the need to gather and analyze evidence in support of non-obviousness, including but not limited to secondary indicia of non-obviousness. While some evidence has been gathered for this issue, the Patent Owner is continuing to coordinate a search for additional documents. This search has been, and continues to be, complicated by the fact that the Patent Owner's organization has been affected by a major down-sizing that occurred primarily in 2009. In addition, Patent Owner is still working to identify potential witnesses in support of non-obviousness. While significant progress has been made on this issue, additional time is needed to locate all relevant evidence, and thus there is sufficient cause to warrant a one-month extension to allow the Patent Owner to evaluate the possibility of submitting a declaration concerning non-obviousness.

C. Patent Owner Needs Time To Consult With An Expert Concerning Issues Raised By The Outstanding Office Action

Many of the rejections in the outstanding office action are based on obviousness. The Supreme Court has held that patent obviousness may be determined by examining: (1) "the scope and content of

the prior art," (2) the "differences between the prior art and the claims at issue," and (3) "the level of ordinary skill in the pertinent art." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 399 (2007) citing *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). After analyzing the outstanding office action, the Patent Owner has decided to search for and consult with an independent expert in the pertinent art.

The attorneys of record have begun the process of interviewing potential experts who may be qualified to consult on factual issues raised by the outstanding office action. However, additional time is needed to locate and consult with a qualified independent expert. Thus, there is sufficient cause to warrant a one-month extension to allow the Patent Owner to consult with an expert concerning factual issues raised by the outstanding office action.

D. The Outstanding Office Action is Long and Complex

The sheer size and complexity of the outstanding office action also supports granting a one-month extension to allow the Patent Owner to prepare a full and complete response to each and every ground of rejection. The office action presents 92 separate grounds of rejection based on alleged anticipation and obviousness. Each of the 92 grounds of rejection incorporates by reference one of the Requester's claim charts. *See* Request, pp. 25-126. In total, the 92 grounds of rejection incorporate about 100 pages of claim charts. *Id.* The sheer volume and magnitude of the rejections warrants additional time for Patent Owner to assemble an appropriate response.

III. Conclusion

For the reasons stated herein, Patent Owner respectfully requests an extension of time of one month to June 29, 2010 to provide a full and fair opportunity to respond to the outstanding office action.

A fee is due for this Request in accordance with 37 C.F.R. 1.17(g). The Director is authorized to charge any additional fees that may required, or credit any overpayment, to Dechert LLP Deposit Account No. 50-2778 (Order No. 380786-108980).

Respectfully submitted,

Date: May 14, 2010

Justin F. Boyce
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Electronic Patent Application Fee Transmittal

Application Number:	95001274
Filing Date:	01-Dec-2009
Title of Invention:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA
First Named Inventor/Applicant Name:	6928433
Filer:	Ann Maria Pease./Vikki Athen
Attorney Docket Number:	016788-000-0004

Filed as Large Entity

inter partes reexam Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Petition fee- 37 CFR 1.17(g) (Group II)	1463	1	200	200

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**200**

Electronic Acknowledgement Receipt

EFS ID:	7618975
Application Number:	95001274
International Application Number:	
Confirmation Number:	6990
Title of Invention:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA
First Named Inventor/Applicant Name:	6928433
Customer Number:	37509
Filer:	Ann Maria Pease./Vikki Athen
Filer Authorized By:	Ann Maria Pease.
Attorney Docket Number:	016788-000-0004
Receipt Date:	14-MAY-2010
Filing Date:	01-DEC-2009
Time Stamp:	19:41:28
Application Type:	inter partes reexam

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$200
RAM confirmation Number	5310
Deposit Account	502778
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		EOT.pdf	304380 c5d322ad826e571f7ac40386ad896ed225710578	yes	6
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Reexam Request for Extension of Time		1	5	
	Reexam Certificate of Service		6	6	
Warnings:					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	30303 33602921aa57db2cf999162c8cf0a74b0052d24a	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	334683		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
95/001,274	12/01/2009	6928433	016788-000-0004	6990

37509 7590 05/21/2010

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MOUNTAIN VIEW, CA 94039-0460

EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 05/21/2010

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patents and Trademark Office
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Alexandria, VA 22313-1450
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THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS
PILLSBURY WINTHROP SHAW PITTMAN LLP
P.O. BOX 10500
MCLEAN, VA 22102

Date:

MAILED

MAY 2 1 2010

CENTRAL REEXAMINATION UNIT

Transmittal of Communication to Third Party Requester
Inter Partes Reexamination

REEXAMINATION CONTROL NO. : 95001274
PATENT NO. : 6928433
TECHNOLOGY CENTER : 3999
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified Reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the inter partes reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an ex parte reexamination has been merged with the inter partes reexamination, no responsive submission by any ex parte third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

PTOL-2070(Rev.07-04)

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
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MAILED

MAY 2 1 2010

CENTRAL REEXAMINATION UNIT

DECHERT LLP
P.O. BOX 390460
MOUNTAIN VIEW CA 94039-0460

(For Patent Owner)

PILLSBURY WINTHROP SHAW
PITTMAN LLP
P.O. BOX 10500
MCLEAN, VA 22102

(For Third Party Requester)

In re: Goodman *et alia*
Inter Partes Reexamination Proceeding
Control No. 95/001,274
Deposited on: 01 December 2010
For: US Patent No. 6,928,433 B2

DECISION
DISMISSING
PETITION FOR EXTENSION
OF TIME
[37 CFR §§ 1.956 & 1.181]

This is a decision on the 14 May 2010, "Request for Request Extension of Time Pursuant to 37 CFR § 1.956" requesting that the time for responding to the non-final Office action mailed 29 March 2010, be further extended. The petition was timely filed with certificate of service.

The petition is before the Director of the Central Reexamination Unit for consideration.

The petition is dismissed for the reasons set forth below.

DISCUSSION

The Patent Owner's representative requests the period of time be extended in which to file a response to the non-final Office action mailed 29 March 2010, which set two (2) months time for filing a response thereto. The instant petition for extension of time requests one (1) month extension of time. The petition was timely filed on 18 May 2010, together with electronic fee transmittal for the $200.00 petition fee as required by 37 CFR § 1.956 and 37 CFR § 1.17 (g). A certificate of service was provided with the petition.

The petition is dismissed for the reasons set forth below.

> **37 CFR § 1.956. Patent owner extensions of time in inter partes reexamination.** *The time for taking any action by a patent owner in an inter partes reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified. Any request for such extension must be filed on or before the day on which action by the patent owner is due, but in no case will the mere filing of a request effect any extension. Any request for such extension must be accompanied by the petition set forth in § 1.17(g). See § 1.304(a) for extensions of time for filing a notice of appeal to the U.S. Court of Appeals for the Federal Circuit.*

Addressing the requirement of 37 CFR § 1.956 to make a showing of "sufficient cause" to grant an extension request, MPEP § 2665 states, in pertinent part:

> As noted above, a request for extension of time under 37 CFR § 1.956 will be granted only for sufficient cause, ...
>
> Evaluation of whether "sufficient cause" has been shown for an extension must be made by **balancing** the desire to provide the patent owner with a fair opportunity to respond, **against** the requirement of the statute, 35 U.S.C. § 314(c), that the proceedings be conducted with special dispatch. ...

Any petition request must include the required petition fee as set forth according to 37 CFR § 1.17 (g) and 37 CFR § 1.956.

MPEP § 2665 Extension of Time for Patent Owner Response (in-part)

Requests for an extension of time in an inter partes reexamination proceeding will be considered only after the first Office action on the merits in the reexamination is mailed. Any request for an extension of time filed prior to the first action will be denied.

The certificate of mailing and the certificate of transmission procedures (37 CFR § 1.8), and the "Express Mail" mailing procedure (37 CFR § 1.10), may be used to file a request for extension of time, as well as any other paper in an existing *inter partes* reexamination proceeding (see MPEP § 2666).

As noted above, a request for extension of time under 37 CFR § 1.956 will be granted only for sufficient cause, and the request must be filed on or before the day on which action by the patent owner is due. In no case, will the mere filing of a request for extension of time automatically effect any extension, because the showing of cause may be insufficient or incomplete. In the prosecution of an *ex parte* reexamination, an automatic 1-month extension of time to take further action is granted upon filing a first timely response to a final Office action (see MPEP § 2272). The automatic extension given in *ex parte* reexamination does not apply to the first response to an Action Closing Prosecution (ACP) in an inter partes reexamination. The reason is that in *inter partes* reexamination, parties do not file an appeal in response to an ACP, and a further Office action (Right of Appeal Notice) will issue even if the parties make no response at all. Thus, there is no time period to appeal running against the parties after the ACP is issued, unlike ex parte reexamination where an appeal is due after final rejection and the time is thus automatically extended one month to provide time for the patent owner to review the Office's response to the amendment before deciding whether to appeal.

Evaluation of whether "sufficient cause" has been shown for an extension must be made by balancing the desire to provide the patent owner with a fair opportunity to respond, against the requirement of the statute, 35 U.S.C. § 314(c), that the proceedings be conducted with special dispatch.

Any request for an extension of time in a reexamination proceeding must fully state the reasons therefor. The reasons must include (A) a statement of what action the patent owner has taken to provide a response, to date as of the date the request for extension is submitted, and (B) why, in spite of the action taken thus far, the requested additional time is needed. The statement of (A) must provide a factual accounting of reasonably diligent behavior by all those responsible for preparing a response to the outstanding Office action within the statutory time period.

> Prosecution will be conducted by initially setting a time period of at least 30 days or one month (whichever is longer), see MPEP § 2662. First requests for extensions of these time periods will be granted for sufficient cause, and for a reasonable time specified-usually 1 month. The reasons stated in the request will be evaluated, and the request will be favorably considered where there is a factual accounting of reasonably diligent behavior by all those responsible for preparing a response or comments within the statutory time period. Second or subsequent requests for extensions of time, or requests for more than one month, will be granted only in extraordinary situations.
>
> ...

DECISION

The patent owner's representative petitions under 37 CFR § 1.956 to further extend the period for response by adding one (1) month to the period for response. The decision to extend the period for response is evaluated based upon a showing of "sufficient cause." There is always the consideration to balance the need for the patent owner to have a fair opportunity to respond to the Office action between the need for special dispatch.

The petition notes that the patent owner used 5 weeks time searching for counsel. Note the power of attorney submission dated 06 May 2010. It is unclear what diligent behavior would require the additional one (1) month time. It is unclear why in spite of actions taken, one (1) month additional time is needed. On balance, there is not "sufficient cause" to extend the period for response.

The petition request to extend the response time is hereby dismissed.

CONCLUSION

1. The patent owner's petition for extension for time is hereby **dismissed.**

2. The Patent Owner's response is due **29 May 2010.**

3. All correspondence involving this proceeding may be addressed to the following:

By Mail to: Mail Stop *Ex Parte* Reexam
Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P. O. Box 1450
Alexandria, VA 22313-1450

By Fax to: (571) 273-9900
Central Reexamination Unit

By Hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

By EFS: Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html. EFS-Web offers the benefit of quick submission to the particular area of the Office that needs to act on the correspondence. Also, EFS-Web submissions are "soft scanned" (i.e., electronically uploaded) directly into the official file for the reexamination proceeding, which offers parties the opportunity to review the content of their submissions after the "soft scanning" process is complete.

4. Telephone inquiries with regard to this decision should be directed to Mark Reinhart, at (571) 272-1611, in the absence of Mark Reinhart calls may be directed to Eric Keasel, at (571) 272-4929, or Jessica Harrison, at (571) 272-4449, all are Supervisory Patent Examiners in the Central Reexamination Unit, Art Unit 3992.

/Mark Reinhart/

Mark Reinhart,
Supervisory Patent Examiner,
AU 3992,
Central Reexamination Unit
571-272-1611

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent No.:	**6,928,433**	Reexam Control No.:	**95/001,274**
Original Issue Date:	August 9, 2005	Examiner:	STEELMAN, MARY J.
Original Serial No.:	09/755,723	Group Art Unit:	3992
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For:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA		

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P.O. Box 1450
Alexandria, VA 22313-1450

RENEWED PETITION FOR EXTENSION OF TIME UNDER 37 CFR § 1.956

Patent Owner hereby respectfully submits this Renewed Petition for Extension of Time Under 37 CFR § 1.956 to respond to the outstanding non-final Office action mailed March 29, 2010 in the above captioned *inter partes* reexamination, which set a two month deadline for response. A **one month** extension of time to respond is requested which, if granted, would reset the due date for response to June 29, 2010. This renewed request is accompanied by the petition fee required under 37 CFR § 1.17(g).

On May 14, 2010, Patent Owner filed a Request for Extension of Time Pursuant to 37 CFR § 1.956 to respond to the Office action, accompanied by the required fee, requesting a one month extension of time to respond. The Request set forth facts establishing the diligent efforts undertaken by Patent Owner's in-house counsel, as well as its counsel of record in the instant *inter partes* reexamination, to respond to the Office action within the two month deadline, and further explained why an additional month to respond was nevertheless required.

A week later, on May 21, 2010, the Patent Office mailed a Decision which dismissed Patent Owner's request, and indicated that Patent Owner had not demonstrated sufficient diligence to merit receiving an extension. Petition Decision, p. 4. The Decision also stated, as the apparent reason for denying Patent Owner's request, that "[t]he petition notes that the patent owner used 5 weeks time searching for counsel. Note the power of attorney submission dated 06 May 2010." *Id.* It therefore appears that the Patent Office is under the misimpression that the main extent of Patent Owner's diligence

in preparing to respond to the outstanding Office action amounted to locating and retaining counsel of record, and that that endeavor consumed five weeks time. Because this is manifestly at odds with the facts set forth in Patent Owner's Request for Extension of Time, submitted May 14, 2010, Patent Owner is renewing its request for an extension of time so that it may dispel any misconceptions, and highlight those facts proving diligence.

Importantly, **Patent Owner engaged counsel of record as of April 7, 2010**, a little over a week after the Office action was mailed. Thus, **Patent Owner did not spend five weeks of the response period searching for counsel**. The fact that a power of attorney was filed on May 6, 2010 is not relevant to the question of diligence because such counsel was, before that date, working on behalf of Patent Owner in a representative capacity under 37 CFR § 1.34.

Because Patent Owner's in-house counsel and outside counsel have been diligently involved in preparing a response throughout the response period, Patent Owner respectfully submits that its renewed request for an extension of time to respond to the outstanding Office action should be granted.

I. Relevant Facts

As explained in more detail below, Patent Owner's diligence in preparing its response to the outstanding Office action is demonstrated by the efforts of its in-house counsel, who has been involved since before the Office action was mailed, as well as its counsel of record, which became actively involved just over a week thereafter.

Even before receiving the Office action, Patent Owner's in-house counsel, Russ Swerdon, had commenced review and analysis of the prior art references cited in the Order Granting Reexamination, and the issues they raised. For example, the small time difference between the filing date of the '433 patent, the instant patent under reexamination, and the effective filing dates of the published U.S. application to Phillips and the U.S. patents to Chasen and Balabanovic, raised the possibility that the claimed subject matter was invented prior to these references, which would eliminate them as prior art. Accordingly, even before the Office action was mailed, Mr. Swerdon, in collaboration with Howard Egan, one of the inventors, had begun to collect facts and evidence relating to conception and reduction to practice of the subject matter claimed in the '433 patent. And, at least since the time the Office action was available, Mr. Egan has contributed to Patent Owner's diligent efforts by locating and reviewing source code, and related documents, concerning research and development work he conducted in 1999 which might reflect on conception and reduction to practice.

Upon receiving the Order Granting Reexamination, Mr. Swerdon additionally identified the likely need to prepare and gather evidence in support of the non-obviousness of the claims now under rejection, including, but not limited to, evidence of secondary indicia of non-obviousness. Mr. Swerdon therefore began the process of identifying and gathering such evidence for use in preparing an eventual response. This process was ongoing after receipt of the Office action, and Mr. Swerdon is continuing to coordinate the search for additional relevant information.

The Office action was mailed March 29, 2010, and received by Patent Owner's in-house counsel Russ Swerdon on March 31, 2010. On April 7, 2010, a week after the Office action was received, Patent Owner formally engaged counsel of record to assist it with preparing its response. Although a power of attorney in favor of such counsel was filed on May 6, 2010, counsel of record began working on behalf of Patent Owner in a representative capacity under 37 CFR § 1.34 from the date of its engagement. Thus, a total of nine calendar days transpired between the mailing of the Office action and engagement of outside counsel, not five weeks.

Since being engaged, Patent Owner's attorneys have been working diligently to prepare a response, including reviewing all issues raised by the Office action, the relevant documents in the case, and reviewing and understanding the facts and evidence gathered through the diligent efforts of Patent Owner's in-house counsel relating to date of invention, non-obviousness and other issues. These efforts have been supported by Mr. Swerdon, as well as the inventor, Mr. Egan, who is assisting counsel of record to evaluate evidence concerning conception and reduction to practice of the claims, including a large volume of source code maintained in a ten-year old archive. Work is ongoing to identify additional information and documents relevant to the date of invention of the claimed subject matter as well as the non-obviousness of the claims.

Counsel of record also undertook to identify and retain a fact expert who could assist Patent Owner to understand the scope and content of the prior art as it relates to the non-obviousness of the clams, as well as to prepare a declaration in support of the response. After diligent efforts to identify an expert qualified to undertake this work, one was formally retained on May 18, 2010. This individual has been diligently working with counsel of record since that time to prepare the response.

II. The Facts Establish the Necessary Diligence

According to M.P.E.P. § 2665, a request for extension of time to respond to an Office action must provide a factual accounting of reasonably diligent behavior by those responsible for preparing the response, and state why, in spite of the action taken thus far, additional time is needed.

Through the combined efforts of Patent Owner's in-house counsel, and counsel of record, Patent Owner believes that it has been reasonably diligent throughout the response period in working toward preparing a response to the outstanding Office action.

As set forth above, Patent Owner's in-house counsel has been actively and continually involved in identifying key issues, and gathering facts and evidence relating to conception and reduction to practice of the inventions claimed in the '433 patent, as well as the non-obviousness of the claims now under rejection. His efforts commenced before the Office action was mailed, and have been ongoing since then. Assisting him on behalf of Patent Owner has been Mr. Egan, one of the inventors, to review a voluminous quantity of old source code, and other documents, for evidence of conception and reduction to practice.

Just over a week after the Office action was mailed, Patent Owner formally engaged counsel of record. Such counsel then became actively and continually involved in understanding the issues raised in the Office action, evaluating evidence identified and gathered by Patent Owner's in-house counsel, and formulating a strategy for response. In connection with preparing a response, counsel of record has also been continually engaged in the process of identifying additional facts and evidence relevant to the issues raised in the Office action. To help Patent Owner understand the issues raised by the Office action, counsel of record successfully identified and retained a fact expert who has been instrumental in explaining the scope and content of the asserted art. This individual is further assisting Patent Owner by preparing a supporting declaration for submission with the response which will address various grounds on which the Office action rejected the claims.

Contrary to the Patent Office's Decision denying Patent Owner's request for an extension of time, Patent Owner **did not** spend five weeks since the mailing of the Office action searching for outside counsel. Indeed, counsel of record was actively engaged in the matter as of April 7, 2010, one week after the Office action was received by Patent Owner's in-house counsel. The date of submission of the power of attorney is not relevant in this regard because counsel was working on behalf of Patent Owner in a representative capacity under 37 CFR § 1.34. Thus, Patent Owner respectfully submits that the basis on which the Decision found a lack of diligence is unsupported by any relevant facts. Instead, as the facts

recited above demonstrate, Patent Owner's in-house counsel and counsel of record, as well an inventor and retained expert assisting them, have been diligently involved in understanding the issues raised by the Office action, and collecting and evaluating evidence necessary to respond, throughout the response period.

Despite the diligent efforts of Patent Owner's in-house counsel and outside counsel, a one month extension of time is required to permit Patent Owner to completely address the issues raised by the Office action. As noted above, Patent Owner is investigating whether the claimed subject matter was invented before the filing dates of certain art over which the claims stand rejected. This has required review of extensive amounts of source code, which is time consuming to understand and analyze. Additional time is required to complete this analysis, as well as to search for and consider other evidence of conception and reduction to practice.

Additional time is also required to address the rejection of the claims for alleged obviousness. As the Office well knows, the question of obviousness requires careful consideration of what one of ordinary skill in the art would understand regarding the asserted art as of the time the '433 patent was filed. Secondary considerations of non-obviousness must also be considered. More time is needed for Patent Owner's fact expert and attorneys to locate, review and analyze documents and other information relevant to the scope and content of the asserted art, as well as other evidence of non-obviousness. The expert assisting Patent Owner in this process also requires additional time to fully and adequately consider the large number of rejections contained in the Office action, and to synthesize the information he has reviewed so as to prepare a declaration in support of the response.

Because diligence and need for additional time have been demonstrated, an extension of time is appropriate. By contrast, denying Patent owner time sufficient to fully respond to the rejections merely because it filed a power of attorney on May 6, 2010 would be highly prejudicial. Because the next Office action is likely to be final, Patent Owner will then have limited opportunity to introduce additional evidence into the record to put the case in condition for appeal. Although Patent Owner acknowledges that reexaminations are to be carried out with special dispatch, this does not mean that patentees should be prejudiced by being given insufficient time to develop a full evidentiary record.

III. Conclusion

For the reasons explained above, Patent Owner respectfully submits that it has demonstrated reasonable diligence in preparing to respond to the outstanding Office action, but that a **one month** extension to June 29, 2010 is nevertheless required to respond completely.

The Commissioner is authorized to charge the fee required under 37 CFR § 1.17(g), and any other fee that may be required for consideration of the instant Renewed Request for Extension of Time, to Dechert LLP Deposit Account No. 50-2778 (Order No. 380786-108980).

Respectfully submitted,

Date: May 26, 2010

Justin F. Boyce
Registration No. 40,920

DECHERT LLP
Customer No. 37509
Tel: 650.813.4800
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CERTIFICATE-OF SERVICE PURSUANT TO 37 C.F.R. §1.248(a)(4)

I hereby certify that on this 26th day of May, 2010, a true and correct copy of this RENEWED REQUEST FOR EXTENSION OF TIME UNDER 37 CFR § 1.956 was sent by Patent Owner's counsel via first class mail to current counsel of record for the Third Party Requester at the address set forth below:

David A. Jakopin
Pillsbury Winthrop Shaw Pittman LLP
P.O. Box 10500 - Intellectual Property Group
McLean, VA 22102

Respectfully submitted,

Date: May 26, 2010

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13807742.1.LITIGATION

Electronic Patent Application Fee Transmittal

Application Number:	95001274
Filing Date:	01-Dec-2009
Title of Invention:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA
First Named Inventor/Applicant Name:	6928433
Filer:	Ann Maria Pease./Vikki Athen
Attorney Docket Number:	016788-000-0004

Filed as Large Entity

inter partes reexam Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Petition fee- 37 CFR 1.17(g) (Group II)	1463	1	200	200

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**200**

Electronic Acknowledgement Receipt

EFS ID:	7694404
Application Number:	95001274
International Application Number:	
Confirmation Number:	6990
Title of Invention:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA
First Named Inventor/Applicant Name:	6928433
Customer Number:	37509
Filer:	Ann Maria Pease./Vikki Athen
Filer Authorized By:	Ann Maria Pease.
Attorney Docket Number:	016788-000-0004
Receipt Date:	26-MAY-2010
Filing Date:	01-DEC-2009
Time Stamp:	17:09:30
Application Type:	inter partes reexam

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$200
RAM confirmation Number	3525
Deposit Account	502778
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		EOT.pdf	322765 98d357b8ea61b2e14c0fd0b0f9938bb750a36976	yes	7

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Reexam Request for Extension of Time	1	6
	Reexam Certificate of Service	7	7

Warnings:

Information:

2	Fee Worksheet (PTO-875)	fee-info.pdf	30303 59ba6801b02af20c2ffa990c29462b5620acb242	no	2

Warnings:

Information:

Total Files Size (in bytes):	353068

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

EXPRESS MAIL NO. EM 189559825US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent No.:	6,928,433	Reexam Control No.:	95/001,274
Original Issue Date:	August 9, 2005	Examiner:	STEELMAN, MARY J.
Original Serial No.:	09/755,723	Group Art Unit:	3992
Original Filing Date:	January 5, 2001	Confirmation No.:	6990
By:	Ron Goodman, Howard N. Egan, David Bristow		
For:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA		

AMENDMENT AND RESPONSE UNDER 37 C.F.R. §§ 1.941, 1.943 AND 1.945

Mail Stop *Inter Partes* Reexamination
ATTN: Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

An Office Action was mailed on March 29, 2010 in the *inter partes* reexamination of the above-captioned patent, which set a two month deadline for response. This paper includes the Patent Owner's timely response to the outstanding Office Action under 37 CFR §§ 1.941, 1.943 and 1.945. Reconsideration of the claims in light of the remarks that follow is requested.

New claims are being presented herein.

Remarks begin on page 5 of this paper.

AMENDMENT

Please insert new claims 17-33, as follows:

17. (New) The method of selecting a track as recited in claim 1 wherein the hierarchy is an overlapping hierarchy having a plurality of categories that include items, and wherein at least one of the items is included in more than one of the categories.

18. (New) The method of selecting a track as recited in claim 17 wherein the items comprise a plurality of track names, wherein at least one of the track names is included in more than one of the categories, whereby the least one track name may be accessed in at least two different ways by starting with different ones of the categories.

19. (New) The method of selecting a track as recited in claim 1 wherein the hierarchy comprises an implementation of a tree-structure.

20. (New) The method of selecting a track as recited in claim 19 wherein the tree-structure is organized based on metadata associated with the tracks.

21. (New) The method of selecting a track as recited in claim 3 wherein the playlist is an active queue list of songs that is currently being played.

22. (New) The method of selecting a track as recited in claim 5 wherein the playlist is an active queue list of songs that is currently being played.

23. (New) The method of selecting a track as recited in claim 5 wherein the selected item in the third display screen is associated with a plurality of tracks, and wherein the accessing at least one track comprises adding the plurality of tracks associated with the selected item to a playlist.

24. (New) The method of selecting a track as recited in claim 23 wherein the playlist is an active queue list of songs that is currently being played.

25. (New) The method of selecting a track as recited in claim 5 wherein the selected item in the third display screen is a selected album name, and wherein the accessing at least one track comprises adding the plurality of tracks associated with the selected album name to a playlist.

26. (New) The method of selecting a track as recited in claim 25 wherein the playlist is an active queue list of songs that is currently being played.

27. (New) The method of selecting a track as recited in claim 1 wherein:

the category album is selected in the first display screen from available categories that include at least artist and album;

the subcategories listed in the second display screen comprise a listing of album names and one of the album names is selected; and

the accessing at least one track comprises playing a plurality of tracks associated with the selected album name.

28. (New) The method of selecting a track as recited in claim 1 wherein:

the category album is selected in the first display screen from available categories that include at least artist and album;

the subcategories listed in the second display screen comprise a listing of album names and one of the album names is selected; and

the accessing at least one track comprises adding a plurality of tracks associated with the selected album name to a playlist.

29. (New) The method of selecting a track as recited in claim 28 wherein the playlist is an active queue list of songs that is currently being played.

30. (New) The method of selecting a track as recited in claim 1 wherein:

the category genre is selected in the first display screen from available categories that include at least artist, album, and genre;

the subcategories listed in the second display screen comprise a listing of a plurality of genre types, and one of one genre types is selected;

the items displayed in the third display screen comprise a listing of a plurality of album names associated with the selected genre type, and one of the album names is selected; and

the accessing at least one track comprises adding a plurality of tracks associated with the selected album name to a playlist.

31. (New) The method of selecting a track as recited in claim 30 wherein the playlist is an active queue list of songs that is currently being played.

32. (New) The method of selecting a track as recited in claim 1 wherein:

the category artist is selected in the first display screen from available categories that include at least artist, album, and genre;

the subcategories listed in the second display screen comprise a listing of artist names, and one of the listed artist names is selected;

the items displayed in the third display screen comprise a listing of album names associated with the selected artist name, and one of the listed album names is selected; and

the accessing at least one track comprises adding a plurality of tracks associated with the selected album name to a playlist.

33. (New) The method of selecting a track as recited in claim 32 wherein the playlist is an active queue list of songs that is currently being played.

STATUS OF CLAIMS

The status of the claims is as follows. Claims 1-16 of the '433 patent are subject to reexamination and stand rejected. Claims 17-33 of the '433 patent, newly added, are pending.

SUPPORT FOR CLAIMS

Support for the claims newly added is found generally throughout the specification, and specifically as follows. Claims 17-18 find support in the specification at least at: Figs. 1-5; col. 2, lines 12-36; col. 5, lines 23-60. Claims 19-20 find support in the specification at least at: Figs. 1-6; col. 2, lines 64-67; col. 3, lines 56-62; col. 3, lines 1-12; col. 6, lines 38-40; col. 7, lines 29-55. Claims 21, 22, 24, 26, 29, 31 and 33 find support in the specification at least at: Figs. 10, 12 and 13; col. 2, lines 35-36; col. 2, lines 57-63; col. 9, lines 10-51; col. 10, lines 39-53. Claims 23, 25, 27, 28, 30 and 32 find support in the specification at least at: Figs. 3 and 8-13; col. 2, lines 17-29; col. 2, lines 35-36; col. 2, lines 57-63; col. 3, lines 4-7; col. 7, lines 25-28; col. 8, lines 38-48; col. 8, line 56 through col. 9, line 51; col. 9, lines 54-67; and col. 10, lines 1-53.

REMARKS

U.S. Patent No. 6,928,433 (the "'433 patent") contains original claims 1-16, all of which stand rejected as allegedly anticipated or obvious over one or more references discussed in the Office Action. New claims 17-33 have been added. For the following reasons, it is respectfully submitted that the rejections are in error and should be withdrawn.

I. Overview of the Invention Claimed in the '433 Patent

The invention of the '433 Patent arose from a need to solve problems associated with portable media players (*e.g.*, an MP3 player). '433 Patent, col. 1, lines 32-35. The problem is that a portable device has a very small display that shows only a few songs at a time, but it may store thousands of songs. *Id.*, col. 1, lines 36-49. So, the challenge is how to allow a user to access and select from a large number of songs using a very small display. *Id.*, col. 1, lines 36-49; col. 2, lines 1-11. Also, users of portable media players need to organize music tracks in their own way (*e.g.*, creating playlists) so they can optimize their listening experience. *Id.*, col. 1, line 50 through col. 2, line 11.

An overview of the '433 Patent is presented in the Declaration of James D. Foley, Ph.D. Under 37 CFR § 1.132 (the "Foley Declaration"), which is being filed in support of this response. *See* Foley Decl. ¶¶ 17-31. The '433 Patent includes one independent claim (*i.e.*, claim 1), which recites:

1. A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:

selecting a category in the first display screen of the portable media player;

displaying the subcategories belonging to the selected category in a listing presented in the second display screen;

selecting a subcategory in the second display screen;

displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and

accessing at least one track based on a selection made in one of the display screens.

'433 Patent, Claim 1.

The features of claim 1 afford great advantages over the prior art of record. In particular, the claimed features provide a more efficient, user-friendly, and intuitive graphical user interface that overcomes the constraints and limitations imposed by the small display screens required on portable media players. *See* Foley Decl. ¶¶ 19-20, 29-31. The features of claim 1 allow a user to quickly and easily select and access not only individual tracks, but whole categories and sub-categories of tracks with a single touch of a button. These features are provided by the "hierarchy" based accessing method by which a user can access tracks on at least three "levels" including the first level in which whole categories are accessed all at once, the second level in which whole sub-categories are accessed all at once, and the third level in which an individual track may be accessed. The method allows the user to quickly and easily navigate in an intuitive manner by selecting categories, sub-categories and items, and as the user makes his or her selections, the interface progresses from one display screen to the next while traversing the three levels of the hierarchy in order access single tracks or groups of tracks as desired by the user.

II. Evidence Is Presented Pursuant to Patent Rule 131 To Antedate The Three References Cited As Prior Art Under 35 U.S.C. § 102(e)

References cited in the present Office Action include three U.S. patents alleged to constitute prior art under 35 U.S.C. § 102(e), including:

- U.S. Patent Pub. No.2002/0045960, filed on October 10, 2001, claiming the benefit of U.S. provisional application No. 60/240,766 filed on October 13, 2000, and published on April 18, 2002 by Phillips (hereinafter "Phillips '960");
- U.S. Patent No. 6,760,721, filed on April 14, 2000, and issued on July 6, 2004 to Chasen et al. (hereinafter "Chasen '721"); and

- U.S. Patent No. 6,976,229, filed on Dec. 16, 1999, and issued on Dec. 13, 2005 to Balabanovic et al. (hereinafter "Balabanovic '229").

See Office Action, pp 3-5.

The Patent Rules provide that when any claim of a patent under reexamination is rejected, the patent owner may submit an appropriate declaration to establish invention of the subject matter of the rejected claim prior to the effective date of the reference on which the rejection is based. *See* 37 C.F.R. § 1.131(a). Declarations under 37 C.F.R. § 1.131 may be used to antedate a reference that qualifies as prior art under 35 U.S.C. 102(e), where the reference has a prior art date under 35 U.S.C. 102(e) prior to applicant's effective filing date, and shows but does not claim the same patentable invention. *See* M.P.E.P. § 715. The Rules require that "[t]he showing of facts shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing of the application." *Id.*, § 1.131(a).

Pursuant to 37 C.F.R. § 1.131(a), the Patent Owner is submitting declarations along with evidence sufficient to demonstrate that the inventors of the '433 Patent invented the subject matter of claims 1-33 of the '433 Patent on or before Dec. 14, 1999, which is prior to the effective date of Balabanovic '229 (*i.e.*, Dec. 16, 1999), prior to the effective date of Chasen '721 (*i.e.*, April 14, 2000), and prior to the *earliest possible* effective date of Phillips '960 (*i.e.*, Oct. 13, 2000). None of these three patents claim the same patentable inventions as recited in claims 1-33 of the '433 Patent.

The inventors on the '433 Patent are Ron Goodman, Howard N. Egan, David Bristow (hereinafter, the "Inventors"). Concurrently with this Response, Patent Owner is filing: (1) a Declaration of Howard N. Egan Under 37 CFR § 1.131 (the "Egan Declaration"); and (2) a Declaration of Inventors Under 37 CFR § 1.131 (the "Inventors Declaration"), signed by all three Inventors.

As explained below, the Egan Declaration and the Inventors Declaration are being submitted along with copies of lab notebooks, source code files, engineering diagrams, schematics, photographs, and other documents from the 1999 period to establish that: (1) the Inventors conceived the methods recited in claims 1-33 of the '433 Patent at least as early as Dec. 14, 1999; and (2) Mr. Egan and others reduced to practice the methods recited in claims 1-33 at least as early as Dec. 14, 1999. In the alternative, the proffered evidence establishes that: (1) the Inventors conceived the methods of claims 1-33 of the '433 Patent at least as early as Dec. 14, 1999; (2) the Inventors and others reduced to practice the methods of claims 1-33 at least as early as Jan. 4, 2000; and (3) the Inventors and others were diligent in reducing to practice the methods recited in claims 1-33 during the entire time period spanning from

Dec. 14, 1999 and proceeding on a daily basis through Jan. 4, 2000.

Conception is defined as a "formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice." *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1376 (Fed. Cir. 1986) (citation omitted). Conception is complete when "the idea is so clearly defined in the inventor's mind that only ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation." *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994).

"In order to establish an actual reduction to practice, the inventor must prove that: (1) he constructed an embodiment or performed a process that met all the limitations . . . and (2) he determined that the invention would work for its intended purpose." *Cooper v. Goldfarb*, 154 F.3d 1321, 1327 (Fed. Cir. 1998). "Testing is required to demonstrate reduction to practice in some instances because without such testing there cannot be sufficient certainty that the invention will work for its intended purpose." *Slip Track Sys., Inc. v. Metal-Lite, Inc.*, 304 F.3d 1256, 1267 (Fed. Cir. 2002).

The Patent Owner asserts that the Inventors conceived of the inventions of claims 1-33 of the '433 Patent at least as early as Dec. 14, 1999. *See* Egan Declaration, ¶¶ 1-31; *see also* Inventors Declaration, ¶¶ 9-11. Evidence corroborating this date of conception includes copies of source code files, engineering diagrams, schematics and other documents bearing dates of Dec. 14, 1999 or earlier. *See* Egan Declaration, ¶¶ 1-31, Exhs. A through T; *see also* Inventors Declaration, ¶¶ 22-24, Exh. RR. In addition, the Egan Declaration presents a table explaining how the Dec. 14, 1999 source code implements each and every element of claims 1-33, and also explaining how the source code was designed as firmware for use on a portable media player having a hard disk storage, an LCD display, and control buttons. *See* Egan Decl. pp. 8-25 citing Exhs. A through T.

The Patent Owner further asserts that Mr. Egan (and others who worked at the direction of the Inventors) reduced to practice the inventions recited in claims 1-33 of the '433 Patent at least as early as Dec. 14, 1999. *See* Egan Declaration, ¶¶ 1-48; *see also* Inventors Declaration, ¶¶ 12-31. Evidence corroborating this date of reduction includes copies of source code files, lab notebooks, engineering diagrams, schematics and other documents bearing dates of Dec. 14, 1999 or earlier. *See, e.g.*, Egan Declaration, ¶¶ 1-48, Exhs. A through W. As mentioned, the Egan Declaration presents a table explaining how the Dec. 14, 1999 source code implements each and every element of claims 1-33. *See* Egan Decl. pp. 8-25 citing Exhs. A through T. In addition, Mr. Egan tested the Dec. 14, 1999 source code – which implemented all of claims 1-33 – in two different ways prior to Dec. 14, 1999. *See* Egan Declaration, ¶¶ 32-48. First, Mr. Egan tested the Dec. 14, 1999 source code in a software emulation

environment. *Id.*, ¶¶ 32-36 and 48. Second, Mr. Egan tested the Dec. 14, 1999 source code as compiled firmware running on a prototype of a portable media player. *Id.*, ¶¶ 37-48. The results of these tests indicated to Mr. Egan that the Dec. 14, 1999 source code successfully implemented each and every element of claims 1-33 on or before Dec. 14, 1999. *Id.*, ¶¶ 32-48.

An evaluation of whether testing is sufficient to establish an actual reduction to practice is made on a case-by case basis. *Scott v. Finney*, 34 F.3d 1058, 1061, (Fed. Cir. 1994); *Gordon v. Hubbard*, 347 F.2d 1001, 1006 (CCPA 1965). An inquiry into the sufficiency of testing is not what kind of test was conducted, but whether the test conducted shows that the invention would work as intended in its contemplated use. *Scott*, 34 F.3d at 1061 (Fed. Cir. 1994). Although testing under actual operating conditions of use is not necessarily a requirement for an actual reduction to practice, the tests must prove that the invention will perform satisfactorily in the intended functional setting. *Koval v. Bodenschatz*, 463 F.2d 442, 447 (CCPA 1972). In *Scott v. Finney*, the court explained that "the testing should demonstrate 'the soundness of the principles of operation of the invention.' The inventor need show only that the invention is 'suitable' for its intended use." *Id.*, 34 F.3d at 1062-63 (citation omitted).

In the present case, Mr. Egan's testing of the portable media player prototypes on or before Dec. 14, 1999 was sufficient to establish an actual reduction to practice by Dec. 14, 1999 because the testing showed the invention would work for its intended purpose. *See* Egan Declaration, ¶¶ 32-48. First, the software emulation testing of the Dec. 14, 1999 Oasis source code was sufficient to demonstrate that the inventions of claims 1-33 worked for their intended purpose because the inventions were implemented as software, and a person of ordinary skill in the art would understand that testing software in an emulation system is an adequate method for testing software. *Id.*, ¶¶ 32-48; Exhs. V and W. Regarding the firmware testing, it is true that the portable media player prototypes tested on or before Dec. 14, 1999 were connected to test equipment that assisted certain operations of the portable media player. *Id.*, ¶¶ 32-48; Exh. U. However, the portable media player did not need to be detached from the test equipment in order to ascertain that the inventions would work for the intended purpose. *Scott*, 34 F.3d at 1061. The intended purpose of the inventions recited in claims 1-33 of the `433 Patent was to provide a graphical user interface on a small screen of a portable media player to allow the user to select tracks stored in a computer-readable medium. *See* Foley Decl. ¶ 31. Given this intended purpose, it was not necessary that the portable media player prototypes be disconnected from the test equipment in order for Mr. Egan to conclude that the user interface would work for its intended purpose. *Scott*, 34 F.3d at 1061. Therefore, Mr. Egan's testing of the portable media player prototypes on or before Dec. 14, 1999 was sufficient to establish an actual reduction to practice by Dec. 14, 1999. *See* Egan Declaration, ¶¶ 32-48.

Alternatively, the Patent Owner asserts that Mr. Egan (and others who worked at the direction of the Inventors) reduced to practice the inventions recited in claims 1-33 at least as early as Jan. 4, 2000. *See* Egan Declaration, ¶¶ 46-63; *see also* Inventors Declaration, ¶¶ 27-31. Beginning on Jan. 5, 2000, the Patent Owner publicly demonstrated the operation of the Nomad® Jukebox portable media player at the Consumer Electronics Show 2000 ("CES 2000"). *See* Egan Declaration, ¶¶ 57-63; *see also* Inventors Declaration, ¶¶ 28-31. These devices were tested on or before Jan. 4, 2000, and they were determined to work for the intended purpose of the invention. *See* Egan Declaration, ¶¶ 57-63; *see also* Inventors Declaration, ¶¶ 27-31. Mr. Egan and others who worked at the direction of the Inventors were diligent in efforts to reduce to practice the inventions of claims 1-33 starting on Dec. 14, 1999 and proceeding on a daily basis up until the time of the actual reduction to practice on Jan. 4, 2000. *See* Egan Declaration, ¶¶ 57-63; *see also* Inventors Declaration, ¶¶ 27-33.

Because the evidence shows the inventions were conceived at least as early as Dec. 14, 1999, and reduced to practice at least as early as Jan. 4, 2000, and because the evidence shows reasonable diligence was exercised in reducing the inventions to practice starting from Dec. 14, 1999 and proceeding through Jan. 4, 2000, the evidence establishes invention of the subject matter of claims 1-33 at least as of Dec. 14, 1999, which is prior to the effective date of Balabanovic '229 (*i.e.*, December 16, 1999). Therefore, the proffered evidence is sufficient to remove Balabanovic '229 as a prior art pursuant to 37 C.F.R. §1.131.

Also, as explained above, the evidence shows the inventions of claims 1-33 were reduced to practice at least as early as Jan. 4, 2000, which is prior to the effective date of Chasen '721 (*i.e.*, April 14, 2000), and prior to the *earliest possible* effective date of Phillips '960 (*i.e.*, October 13, 2000). For this reason, the proffered evidence is sufficient to remove Chasen '721 and Phillips '960 as prior art references pursuant to 37 C.F.R. §1.131.

For all of the reasons explained above, Patent Owner respectfully submits that the proffered evidence is sufficient to remove Balabanovic '229, Chasen '721, and Phillips '960 as prior art pursuant to 37 C.F.R. §1.131, and Patent Owner respectfully requests that the Examiner withdraw all rejections based on these three references.

III. Original Claims 1, 2, 4, 6-8, 12-16 and New Claims 17-33 Are Not Anticipated by Winsky

Claims 1, 2, 4, 6-8, and 12-16 currently stand rejected under 35 U.S.C. § 102(b) as being anticipated by USPN 5,739,451 to Winsky et al (hereinafter "Winsky '451"). Patent Owner respectfully traverses these rejections for the following reasons. In addition, Patent Owner asserts that new claims 17-33 are also patentable over Winsky '451.

A. Overview of Winsky `451

Winsky `451 describes a "reference machine" for researching information about songs. *Id.*, col. 1, lines 5-10. The problem Winsky addressed is that users may remember only "a fragment of lyrics of a song, or ancillary information relating to the song ... without being able to recall ... the name of the song." *Id.*, col. 1, lines 16-18. The goal of Winsky `451 was to "facilitate the identification of the song, as well as supply ancillary information pertaining to the song." *Id.*, col. 1, lines 21-23; Foley Decl. ¶ 32.

The machine described by Winsky `451 includes a database 20 having: (1) a textual information memory 22 for storing song identification information (*e.g.*, song titles and lyrics); (2) a menu memory 40 for storing a main menu, as well as programming functions (*e.g.*, generic search functions); (3) a games memory 42 for storing game functions; and (4) a musical segment memory 44 for storing "segments" of songs (*e.g.*, a portion of a song). *Id.* at Fig. 3; col. 3, line 43 through col. 4, line 26; Foley Decl. ¶ 32. The machine also includes a processor for accessing the database. *Id.* at Fig. 3; col. 4, lines 36-50.

Winsky `451 describes a main menu screen including "Titles," "Search," and "Setup" selections. *Id.*, Figs. 1 and 4, col. 5, lines 40-61. When "Search" is selected, the display shows a list of "search parameters" (or "filters") including "song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line" (not shown). *Id.*, col. 5, lines 48-61.

Upon selecting one of the search parameters (*e.g.*, bands), a user must enter a "search term" via a keyboard. *See* Foley Decl. ¶ 35. More specifically, Winsky `451 teaches that the names of bands may be searched "via menu selection," which involves querying the textual information memory 22 (*see* Fig. 3) using a "search term." *Id.* at col. 5, lines 51-61, col. 2, lines 16-18 (explaining "the keyboard enables user input of a textual search term (*e.g.*, a word or words)"); col. 2, lines 21-23 (referring to "searching the identification information in the first memory portion in response to the search term"); *see also* col. 2, lines 27-33; *see also* Foley Decl. ¶ 35.

As an alternative to searching via a search term, Winsky `451 teaches use of a specialized function key 86 to display a list of artists. *Id.*, Fig. 5A, col. 6, lines 1-5. The user may select an artist from the list, which causes a list of song titles to appear for the selected artist. *Id.*, Figs. 1, 3 and 5A, col. 6, lines 5-7, col. 6, lines 17-21. Thereafter, a user may select a song title from the list, which causes the machine to retrieve a "musical segment" for playback. *Id.*, Figs. 1, 3 and 5A, col. 6, lines 22-27.

The textual information and the musical segments are stored in separate memory portions 22, 44. *Id.* at Fig. 3; col. 3, lines 43-53; col. 3, lines 62-64; col. 4, lines 50-59; *see also* Foley Decl. ¶¶ 38-39. Winsky `451 does not teach that the "search parameters" may be used to access segments. *See* Foley

Decl. ¶¶ 38-39, 47. Instead, Winsky '451 teaches that the "search parameters" are only used to search the textual information memory 22. *Id.* at Fig. 3; col. 3, lines 43-53; col. 3, lines 62-64; col. 4, lines 50-59; *see also* Foley Decl. ¶¶ 38, 47. Winsky '451 only describes one way of accessing the segments, which is by selecting from a list of song titles. *See* Foley Decl. ¶ 39-40.

B. Claim 1 is Not Anticipated by Winsky '451

For all of the reasons explained below, Winsky '451 does not anticipate claim 1 because it does not teach all of the limitations of claim 1.

1. Winsky '451 Does Not Teach "Tracks Accessed According to a Hierarchy"

Winsky '451 does not teach "tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy," as recited in claim 1. By parsing this claim language and comparing it to the teachings of Winsky '451, it will become clear that Winsky '451 does not teach: (a) "tracks accessed according to a hierarchy"; (b) a "plurality of categories ... in a ... first level"; and (c) "categories, subcategories, and items respectively in a first, second, and third level."

a. Winsky '451 Does Not Teach "Tracks Accessed According to a Hierarchy"

Winsky '451 does not teach "tracks accessed according to a hierarchy" that includes "a first, second, and third level," as recited in claim 1. *See* Foley Decl. ¶ 40. The office action asserts that Winsky '451 teaches this limitation based on a contention that: (1) the "first ... level" is allegedly satisfied by a "main menu" having Titles, Search and Setup options; (2) the "second ... level" is allegedly satisfied by a list of "search parameters" displayed upon selection of the Search option; and (3) the "third level" is allegedly satisfied by a list of bands allegedly displayed upon selection of "bands" from the list of search parameters." *See* Office Action, pp. 12-13 *citing* Winsky '451 at col. 5, lines 42-56, col. 6, lines 17-19, col. 8, lines 59-61; *see also* Request, pp. 25-26. Patent Owner respectfully traverses this rejection because the cited aspects of Winsky '451 (*i.e.*, the main menu, list of search parameters, and list of artists) do not teach or suggest "levels" of a "hierarchy."

Winsky '451 does not mention a "hierarchy," and there is nothing in Winsky '451 to suggest that tracks are "accessed according to a hierarchy" that includes "a first, second, and third level," as recited in claim 1. *See* Foley Decl. ¶ 40. As will be understood by a person of ordinary skill in the art, a "musical segment" may be accessed from memory without the use of a "hierarchy." *See* Foley Decl. ¶ 41.

Neither the Office Action nor the Request offers any reason to believe Winsky '451 teaches use of a "hierarchy." The Requester points to multiple "display screens" (*i.e.*, a "main menu" screen, a "search parameters" screen, a screen showing a list of bands, and a screen showing a list of song titles). However, for all of the reasons explained below, a "screen" is quite different from a "level of a "hierarchy" by which tracks may be "accessed."

Patent Owner submits that the above-cited rejection may stem from confusion about the meaning of certain claim terms, including "hierarchy," "levels," "screens," "selected" and "accessed." The preamble of claim 1 recites:

> a method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy

The preamble of claim 1 uses different terms to refer to different elements. Thus, there is a difference between the terms "select[ed]" and "accessed," and there is also a difference between the terms "levels" and "screen[s]." *See* Foley Decl. ¶ 43.

The term "accessed" pertains to access to the "computer-readable medium," whereas "selecting" has a broader meaning. *See* Foley Decl. ¶ 43 The words "selecting" and "accessing" appear not only in the preamble, but also in the body of claim 1. For example, in the first step (*i.e.*, "selecting a category in the first display screen ..."), the term "selecting" may generally include selecting a display element representing a category on the first display screen. *See* Foley Decl. ¶ 43. Thus, "selecting" is a user interface function, and in the context of claim 1, it includes choosing elements on the "display screens." But in the last step (*i.e.*, "accessing at least one track based on a selection ..."), the term "accessing" requires accessing tracks (or meta-data associated with tracks) stored in the computer-readable medium. Thus, "accessing" is narrower than "selecting" in that "accessing" involves accessing of tracks stored in the "computer-readable medium."

There is also a difference between "levels" and "screen[s]." The preamble of claim 1 requires "first, second, and third display screen[s]" and it also requires "first, second, and third level[s]." These terms have different meanings. The three "levels" actually form the "hierarchy" by which tracks are "accessed." *See* Foley Decl. ¶ 44. While the "screens" facilitate "selecting" of tracks by a user, the three "levels" of the "hierarchy" facilitate "access[]" of tracks (or meta-data associated with tracks).

Patent owner does not dispute that Winsky `451 teaches an interface that generally involves "first, second, and third display screen[s]." However, this does not mean that Winsky `451 teaches or even suggests that segments may be "accessed according to a hierarchy ... having ... a first, second, and third level ...." *See* Foley Decl. ¶ 44-46. Winsky `451 only describes one way of accessing segments, which is by selecting a song title from a one-dimensional list. *See* Foley Decl. ¶ 39-40, citing Winsky `451 at Figs. 1 and 3; col. 5, lines 29-39; col. 6, lines 21-27. A "list" is not a "hierarchy."

Winsky `451 does not teach that the "search parameters" may be used to access segments from the segment memory 33. *See* Foley Decl. ¶¶ 47-48. To the contrary, Winsky `451 explicitly states that the "search parameters" are used to access the textual information memory 22, or to access the note structure memory 48:

> When "**Search**" is selected from the main menu, display 16 shows a list of nine **search parameters or filters** including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line. Any **search filter may be selected** by actuating Enter function key 76 upon highlighting the desired search filter. **In executing the first eight search filters, display control 58 accesses the respective areas of memory portion 22. In executing a melody line search, note structure comparator 62 accesses memory portion 48** in accordance with a note structure input via directional keys 66.

Winsky `451, col. 5, lines 51-61, Fig. 3 (emphasis added).

As already stated, Winsky `451 only describes one way of accessing segments, which is by selecting a song title from a list. *See* Foley Decl. ¶ 39-40, citing Winsky `451 at Figs. 1 and 3; col. 5, lines 29-39; col. 6, lines 21-27. The description of retrieving a segment by selecting from a "list of song titles" does not suggest use of a "hierarchy." *Id.*, Figs. 1 and 3, col. 6, lines 21-27; Foley Decl. ¶ 39-40.

There are important advantages to using a "hierarchy" for accessing tracks, especially in combination with the other elements of claim 1 for the claimed purpose of selecting and accessing musical tracks on a portable media player that has a small display screen. *See* Foley Decl. ¶ 45.

The claim element "tracks accessed according to a hierarchy" is an important aspect of the claimed invention, affording an advantage in that "very large numbers of songs can be easily accessed and played." *See* Foley Decl. ¶ 17, 29, citing `433 Patent, col. 2, lines 10-11. This claim element is important in solving problems addressed by the `433 Patent, which relate to organizing and accessing the tracks on a portable media player. `433 Patent, col. 1, lines 34-35. For example, "the hierarchical catalog of tracks can be used to form playlists in a structured manner." *Id.*, col. 7, lines 25-28.

Winsky '451 teaches accessing of segments one at a time by selecting from a list of song titles one at a time. *See* Foley Decl. ¶ 48. Winsky '451 does not teach selecting and accessing a whole "category" of tracks via a "first level" of the "hierarchy", and does not teach accessing a whole "sub-category" of tracks via a "second level" of the "hierarchy." *Id.* Therefore, Winsky '451 simply does not teach a "plurality of tracks accessed according to a hierarchy."

The fact that Winsky `451 does not teach tracks "accessed according to a hierarchy" is not surprising given the nature of the problem that Winsky `451 was trying to solve, which is to provide an electronic music "reference machine" for use in "researching information about songs." Winsky `451, col. 1, lines 6-11. The "reference machine" described by Winsky `451 is not designed for listening to songs, and it is not designed for "organizing and accessing tracks." *See* `433 Patent, col. 1, lines 34-35. Indeed, the "musical segments" stored in the device are not whole songs, but rather each one is "a segment of the song's musical arrangement," wherein the segments are "preferably the most memorable and well-known portions of the songs." *Id.*, col. 3, lines 62-66. The portions of songs may be played for various purposes such as music trivia games. *Id.*, col. 7, lines 28-52. Because the "reference machine" described by Winsky `451 is not designed for listening to songs, it makes sense that it would not provide for selecting and accessing a whole "category" (or sub-category") of tracks via a "level" of a "hierarchy *Id.* Therefore, Winsky '451 simply does not teach "tracks accessed according to a hierarchy."

b. The Description of a "Main Menu" in Winsky `451 Does Not Satisfy "A Plurality of Categories ... in a First ... Level of the Hierarchy."

The "main menu" (including the "Titles," "Search" and "Setup" selections) in Winsky `451 does not satisfy the requirement of a "plurality of categories ... in a first ... level" of a "hierarchy" used to access tracks, as recited in claim 1. The fact that these selections appear on a display "screen" is not relevant to whether or not they satisfy the requirement of a "plurality of categories ... in a first ... level" of a "hierarchy." The "Search" and "Setup" selections are not "categories" in any level of any hierarchy in which tracks are "accessed." The "Search" option is not a "category," but rather is "an ancillary function." Winsky `451 explains:

> Database 20 includes an additional memory portion 40 storing a main menu, as well as other programming for ancillary functions of the music reference machine 10. Such **ancillary functions include generic search functions**, automatic shut-off, screen clearing, a tutorial, and page up and page down functions.

Winsky `451, Fig. 3, col. 3, lines 54-61 (emphasis added).

Winsky `451 teaches that when "Search" is selected from the "main menu," the display shows a list of "search parameters" (*i.e.* "song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line"). *Id.* at col. 5, lines 48-61. Upon selecting one of the search parameters (*e.g.*, bands), a user must enter a "search term" via a keyboard. *Id.* at col. 5, lines 51-61; col. 2, lines 16-23; *see also* Foley Decl., ¶¶ 35 and 53-54. More specifically, Winsky `451 teaches that the names of bands may be searched "via menu selection," which involves querying the textual information memory 22 using a "search term." *Id.* at col. 5, lines 51-61, col. 2, lines 16-18 (explaining "the keyboard enables user input of a textual search term (*e.g.*, a word or words)"); col. 2, lines 21-23 (referring to "searching the identification information in the first memory portion in response to the search term"); *see also* col. 2, lines 27-33; *see also* Foley Decl., ¶¶ 35 and 53-54. Aside from mentioning a "generic search function," Winsky `451 does not describe the exact algorithm used for the "Search" function, but rather it points to another patent for an explanation. Winsky `451 explains that "the search filters described hereinabove are implemented in the music reference machine 10 pursuant to the techniques described in U.S. Pat. No. 5,321,609, the disclosure of which is hereby incorporated by reference." *Id.*, col. 5, lines 62-65. Regardless, a "Search" function does not teach or suggest a "category" or a "level" of a hierarchy.

The "Setup" option described by Winsky `451 is also not a "category" or a "level" of a hierarchy, but rather is a function for controlling setup features of a device. Winsky `451 explains that:

> Selection of "Setup" from the main menu induces display of a submenu including the following entries: "Tutorial," "Copyright," "Set Type Size," "Set Shutoff," "Set Contrast," and "View Demo."

Id., col. 8, lines 54-57.

For the reasons explained above, the "Search" and "Setup" options in the "main menu" of Winsky `451 do not satisfy the requirement of a "category" or a "level" of a hierarchy. Even if the "Titles" option is a "category," it would be the lone category in the "main menu," and thus the "main menu" cannot constitute a "**plurality** of categories." Therefore, Winsky `451 clearly does not teach a "plurality of categories ... in a first ... level of the hierarchy," as recited in claim 1.

c. The "Search Parameters" in Winsky `451 Are Not "Sub-categories ... in a ... Second ... Level of the Hierarchy."

As mentioned, the present Office Action asserts that a three-level "hierarchy" is found in: (1) the "main menu"; (2) a list of "search parameters"; and (3) a list of artists allegedly displayed upon selection of "bands" from the search parameters. *See* Office Action, pp. 12-13 *citing* Winsky `451 at col. 5, lines

42-56, col. 6, lines 17-19, col. 8, lines 59-61.

As explained above, the "Search" option is "an ancillary function." Winsky '451 explains:

> Database 20 includes an additional memory portion 40 storing a main menu, as well as other programming for ancillary functions of the music reference machine 10. Such **ancillary functions include generic search functions**, automatic shut-off, screen clearing, a tutorial, and page up and page down functions.

Winsky '451, Fig. 3, col. 3, lines 54-61 (emphasis added).

Winsky '451 teaches that when "Search" is selected from the "main menu," the display shows a list of "search parameters" (*i.e.* "song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line"). *Id.* at col. 5, lines 48-61. Upon selecting one of the search parameters (*e.g.*, bands), a user must enter a "search term" via a keyboard. *Id.* at col. 5, lines 51-61; col. 2, lines 16-23; *see* Foley Decl., ¶¶ 35, 52-53. More specifically, Winsky '451 teaches that the names of bands may be searched "via menu selection," which involves querying the textual information memory 22 using a "search term." *Id.* at col. 5, lines 51-61, col. 2, lines 16-18 (explaining "the keyboard enables user input of a textual search term (*e.g.*, a word or words)"); col. 2, lines 21-23 (referring to "searching the identification information in the first memory portion in response to the search term"); *see also* col. 2, lines 27-33; *see* Foley Decl., ¶¶ 35, 52-53. This "Search" function (*i.e.*, querying the textual information memory using a "search term") does not teach or suggest accessing a "category" of tracks via a "level" of a "hierarchy."

2. Winsky '451 Does Not Teach "Selecting a Subcategory in the Second Display Screen" and "Displaying the Items Belonging to the Selected Subcategory in a Listing Presented in the Third Display Screen" as Recited In Claim 1

Winsky '451 does not teach the steps of "selecting a subcategory in the second display screen" and "displaying the items belonging to the selected subcategory in a listing presented in the third display screen," as required by claim 1. The Request apparently asserts that: (1) the step of "selecting a subcategory in the second display screen" is met by selecting "bands" from the list of search parameters; and (2) the step of "displaying the items belonging to the selected subcategory in a listing presented in the third display screen" is met by displaying a list of song titles associated with the selected band. *See* Request, p. 26 *citing* Winsky '451 at col. 5, lines 54-56, col. 6, lines 17-21.

Winsky '451 does not describe exactly what functionality is made available to a user upon selection of "bands" from the list of "search parameters." The Request seems to assume that Winsky '451 teaches that the "list of recording artists shown ... in FIG. 5A" is displayed upon selection of "bands" from the list of "search parameters." However, this is not what Winsky '451 teaches. *See* Foley Decl., ¶

55. Winsky `451 states:

> The names of bands and other recording artists are searched via menu selection, as described above. Alternatively, a specialized function key 86 may be pressed at any time to display an alphabetical list of recording artists shown as a display screen 88 in FIG. 5A. The list of recording artists is searched by display control 58 in response to successive keystrokes as detected by selection monitor 64.

See Winsky `451 at col. 6, lines 1-16.

The above-cited portion of Winsky `451 does not suggest that the band list in Fig. 5A is displayed upon selection of "bands" from the list of "search parameters." *See* Foley Decl., ¶ 55. Instead, the band list shown in Figure 5A is displayed upon pressing of the "specialized function key 86." *Id.* at col. 6, lines 1-16. *See* Foley Decl., ¶ 55. The first sentence in the above passage (*i.e.*, "the names of bands and other recording artists are searched via menu selection, as described above") describes an alternative to displaying the list in Figure 5A, and this statement must be understood in light of preceding sections. *See* Foley Decl., ¶ 55.

Searching of the names of bands and other recording artists "via menu selection" involves querying a database using a "search term." *See* Winsky `451 at col. 5, lines 51-61, col. 2, lines 16-18 (explaining "the keyboard enables user input of a textual search term (*e.g.*, a word or words)"); col. 2, lines 21-23 (referring to "searching the identification information in the first memory portion in response to the search term"); col. 2, lines 27-33 (stating "The set of proposed identifiers is determined by the search module in accordance with dual match criteria comprising (a) a first match criterion between the search term and the identification information and (b) a second match criterion between the input search sequential note structure and the sequential note structures of the musical works."); *see also* Foley Decl., ¶¶ 35, 52-53. Thus, Winsky `451 clearly teaches that after selecting one of the "search parameters or filters" (*e.g.*, bands), a user would use a keyboard to enter a "search term." *See* Foley Decl., ¶¶ 35, 52-53

Because Winsky `451 does not teach or suggest that the "list of recording artists shown ... in FIG. 5A" is displayed upon selection of "bands" from the list of "search parameters," Winsky `451 does not teach the steps of "selecting a subcategory in the second display screen" and "displaying the items belonging to the selected subcategory in a listing presented in the third display screen." *See* Foley Decl., ¶¶ 35, 52-53.

C. Claim 2 is Not Anticipated by Winsky `451

Claim 2 requires "wherein the accessing at least one track comprises selecting a subcategory in the second display screen and playing a plurality of tracks associated with the selected subcategory."

In rejecting claim 2, the Office Action states "a plurality of tracks can be played from the selected subcategory by highlighting different songs within the subcategory, and then actuating the special function key 78." *Id.* The Patent Owner respectfully disagrees with this characterization because Winsky '451 does not teach that multiple songs may be highlighted at one time. Rather, Winsky '451 teaches that a music segment is played "for a highlighted song." *See* Winsky '451, col. 6, line 21-27. In Winsky '451, the user can only select one "song" at a time.

More importantly, the Office Action and the Request fail to address the fact that claim 2 requires that the step of "selecting a sub-category" must be part of the "accessing" of a track. As explained, the search filters described by Winsky '451 are not used in accessing the "musical segments." *See* Foley Decl. ¶ 38-40, 47-48.

As mentioned, the "search parameters" in Winsky '451 are used to search the textual information memory portion 22 and note structure memory 48. *Id.*, Fig. 3; col. 3, lines 43-64; col. 4, lines 50-59; col. 5, lines 51-61. However, Winsky '451 does not teach that the search parameters are used to search access the musical segment memory 44. *See* Foley Decl. ¶ 37-39, 47-48. Winsky '451 only describes one way of accessing musical segments, which is by selecting song titles one at a time. *See* Foley Decl. ¶ 39-40, citing Winsky '451 at Figs. 1 and 3; col. 5, lines 29-39; col. 6, lines 21-27. Because the search parameters are not used to access the musical segment memory 44, Winsky '451 teaches no method of "selecting a subcategory in the second display screen and playing a plurality of tracks associated with the selected subcategory" as recited in claim 2. Thus, Winsky '451 does not anticipate claim 2.

D. Claim 7 is Not Anticipated by Winsky '451

Winsky '451 does not teach that "accessing at least one track is made ... by reverting back to one of the second and first display screens," as required by claim 7. It is true that Winsky '451 teaches "directional keys 72 and 74 that can be used to access different submenus, thereby allowing a user to revert from the third display back to one of the second and first display screens." *See* Office Action, p. 15. However, claim 7 requires "accessing at least one track ... by reverting back to one of the second and first display screens." This language therefore requires that tracks may be accessed via "one of the second and first display screens." Winsky '451 does not teach this feature.

The present Office Action asserts that Winsky '451 teaches three "display screens" as found in: (1) the "main menu"; (2) the list of "search parameters" displayed upon selection of Search in the main menu; and (3) the list of artists allegedly displayed upon selection of the "bands" search parameters. *See* Office Action, pp. 12-13 *citing* Winsky '451 at col. 5, lines 42-56, col. 6, lines 17-19, col. 8, lines 59-61.

As explained above, Winsky `451 teaches that a music segment is played "for a highlighted song." *See Id.*, col. 6, line 21-27. In rejecting claim 1, the Office Action characterizes the "list of song titles" in Winsky `451 as being presented on a third screen, and not on a first or second screen. *See* Office Action, p. 13. Neither the request nor the Office Action provide any explanation of how a track may be accessed via the alleged first screen (*i.e.*, the "main menu") or the alleged second screen (*i.e.*, the list of "search parameters"). *See* Foley Decl., ¶¶ 33-39, 47-48. For all of the reasons explained above, Winsky does not teach that that the "main menu" or the "search parameters" can be used to access segments. Thus, Winsky `451 does not teach "accessing at least one track ... by reverting back to one of the second and first display screens," as required in claim 7.

E. Claim 13 is Not Anticipated by Winsky `451

Winsky `451 does not teach that "receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third display screen," as required in claim 13 The present office action states that:

> "[w]hen `Search` is selected from the main menu [i.e. the recited first display screen], display 16 shows a list of nine search parameters .... " (col. 5, line 51-52) (transition to second display screen) From the second display that shows the list of nine search parameters, if the search parameter "Artist" is selected, a list of artists then appears (automatic transition into third display screen). This is shown at Figs. 5A with screen 88, and explained at col. 6, line 1-2.

See Office Action, p. 16.

As explained above, Winsky `451 does not describe any relationship between the selection of "bands" from the list of "search parameters" and the "list of recording artists shown as a display screen 88 in FIG. 5A." *See* Foley Decl., ¶¶ 33-39, 47-48. The "list of recording artists" is displayed by pressing a "function key 86." *See* Winsky `451 at Fig. 5A, col. 6, lines 1-16; *See* Foley Decl., ¶¶ 33-39, 47-48.

The Office Action relies on a statement that "[t]he names of bands and other recording artists are searched via menu selection, as described above." *See* Office Action, p. 16. This portion of Winsky `451 does not suggest that the band list is displayed upon selection of "bands" from the list of "search parameters." *See* Foley Decl. ¶ 52-54. Instead, the band list is displayed upon pressing of the "function key 86." *See* Foley Decl. ¶ 52, citing Winsky `451 at col. 6, lines 1-16.

Searching of the names of bands and other recording artists "via menu selection" involves querying a database using a "search term." *See* Foley Decl. ¶ 53, citing Winsky `451, col. 6, lines 1-2, col. 5, lines 51-61; col. 2, lines 16-33. Thus, Winsky `451 teaches that after selecting one of the "search parameters" (*e.g.*, bands), a user would use a keyboard to enter a "search term." *Id.* Therefore, Winsky

`451 clearly does not teach or suggest that "receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third display screen," as required in claim 13. Thus, Winsky `451 does not teach all of the elements of claim 13, it does not anticipate claim 13.

F. Claim 16 is Not Anticipated by Winsky `451

Claim 16 recites:

> 16. The method of selecting a track as recited in claim 1 wherein the plurality of categories comprise a list of artist names, the plurality of subcategories comprise a list of album names and the plurality of items comprise a list of track names.

Winsky `451 does not teach "album names" as a subcategory." The word "album" does not appear in Winsky `451. The reference to "identification information" in Winsky `451 does not suggest "album names." An "album" is a collection of songs, and an "album name" is a name for a collection of songs. The "identification information" referred to by Winsky `451 is associated with a single song, and not a collection of songs. *See, e.g.*, Winsky `451, col. 5, lines 21-23 (referring to "identification information and lyrics for a selected song"). Thus, Winsky `451 does not teach "subcategories comprise a list of album names" as in claim 16. Thus, Winsky `451 does not anticipate claim 16.

G. Claims 4, 6, 8, 12, 14 and 15 Are Not Anticipated by Winsky `451

Claims 4, 6, 8, 12, 14 and 15 depend from claim 1, and include all of the limitations of claim 1. Therefore, claims 4, 6, 8, 12, 14 and 15 are patentable over Winsky `451 for all of the same reasons discussed above with respect to claim 1.

H. New Claims 17-33 Are Not Anticipated by Winsky `451

Claims 17-33 depend from claim 1, and include all of the limitations of claim 1. Thus, claims 17-24 are not anticipated by Winsky `451 for all of the same reasons discussed above with respect to claim 1.

Claims 17-20 require additional limitations that further narrow the "hierarchy" element of claim 1. As explained above, Winsky `451 does not teach using a "hierarchy" to access tracks, and thus it certainly does not describe any of the additional hierarchy-related features recited in claims 17-20. For this additional reason, claims 17-20 are not anticipated by Winsky `451.

Claim 21 depends from claim 3, and thus include all of the limitations of claim 3, which does not stand rejected as being anticipated by Winsky `451, and thus claim 21 is also not anticipated by Winsky `451. Claims 22-26 depend from claim 5, and thus include all of the limitations of claim 5, which does

not stand rejected as being anticipated by Winsky '451. Thus, the Patent Owner submits that claims 22-26 are also not anticipated by Winsky '451.

IV. Original Claims 1-16 and New Claims 17-33 Are Not Obvious Over Winsky '451

Claims 1-16 currently stand rejected under 35 U.S.C. § 103(a) as being obvious over Winsky '451. Patent Owner respectfully disagrees and traverses these rejections for the following reasons. Patent Owner also asserts that new claims 17-33 are not obvious over Winsky '451.

A. Secondary Indicia of Non-Obviousness

The obviousness determination turns on underlying factual inquiries involving: (1) the scope and content of prior art; (2) differences between claims and prior art; (3) the level of ordinary skill in pertinent art; and (4) secondary considerations such as commercial success and satisfaction of a long-felt need. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). In support of non-obviousness, the Patent Owner is filing concurrently with this Response a Declaration of Craig McHugh Under 37 CFR § 1.132 (the "McHugh Declaration") in support of secondary indicia of non-obviousness.

The inventions of the '433 Patent have been used in many of Creative's NOMAD® and ZEN portable media players. *See* McHugh Declaration, ¶¶ 12-15 citing Exhs. A, B and F; *see also* Exh. O at ¶¶ 9-13 and 42, Exh. O (exhibits 9-10). These Creative products practice at least claims 1 and 5 of the '433 Patent. *Id.* ¶ 30 citing Exh. O at ¶¶ 9-13 and 42, and exhibits 9-10 of Exh. O. Creative's portable media players from Creative have enjoyed great commercial success, and they have been praised by reviewers who follow the portable media player industry. *Id.*, ¶¶ 16-27 citing Exhs. C-N, V and W. The commercial success of Creative's products is directly attributable to the advantages provided by the graphical user interface embodying the inventions of claims 1-33 of the '433 Patent. *Id.*, ¶¶ 23-27.

The inventions of the '433 Patent have also been used in the iPod products sold by Apple Computer, Inc. ("Apple"). *See* McHugh Declaration, ¶¶ 27-35 citing Exh. O, ¶ 16; Exh. P, ¶ 16; Exh. O, ¶¶ 1, 17-18, and 28-35; and Exhibit 4. The iPod products practice at least claims 1 and 5 of the '433 Patent. *See* McHugh Declaration, ¶ 29 *citing* Exh. O, ¶¶ 1, 17-18, and 28-35; and Exh. O (exhibit 4). The Apple iPod products have enjoyed great commercial success, and they have been praised by reviewers who follow the portable media player industry. *Id.*, ¶¶ 33-35 *citing* Exhs. S, T, and U. The commercial success of the Apple iPod products is directly attributable to the advantages provided by the graphical user interface embodying the inventions of claims 1-33 of the '433 Patent. *Id.*, ¶¶ 33-35 *citing* Exhs. S, T, and U. Apple paid one hundred million dollars ($100,000,000) to Creative in exchange for a license to the '433 Patent and other consideration. *See* McHugh Declaration, ¶ 32 citing Exh. Q, ¶¶ 6 and 13.

The facts and evidence described above support the Patent Owner's arguments concerning non-obviousness of claims 1-33 of the `433 Patent. See *Graham*, 383 U.S. at 17.

B. Claim1 is Not Obvious Over Winsky `451

For the reasons explained above in the section concerning novelty of claim 1 (*i.e.* section entitled "Claim 1 is Not Anticipated by Winsky `451"), Winsky `451 does not teach or suggest "tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy," as recited in claim 1.

The present office action states that:

> **To the extent that Winsky fails to explicitly disclose selecting from a hierarchy** comprising a plurality of categories, subcategories and items respectively in a first, second, and third level of the hierarchy, it would have been **obvious to modify Winsky's teachings of** (col. 4, line 51) "**reproduction in a visually sensible form** on display screen 16", where (col. 4, lines 55-56) "display control module 58 obtains a **menu and submenus** [categories, subcategories] from memory portion 40, song identification information [items] from memory portion 22 ...."

See Office Action, p. 19 (emphasis added).

Patent Owner disagrees with the above-cited reasoning. First, claim 1 does not recite "***selecting*** from a hierarchy ..." as suggested in the above-cited passage. *See* Office Action, p. 19. Rather, claim 1 recites "tracks ***accessed*** according to a hierarchy ...." As explained in the sections above concerning alleged anticipation by Winsky `451, the terms "accessed" and "selecting" have very different meanings. *See* Foley Decl. ¶ 43. The term "accessed" pertains to a process by which tracks are obtained from, or placed in, the "computer-readable medium." *Id.* The term "selecting" refers to identifying an element representing one or more tracks on a display screen. *Id.*

The reference in Winsky `451 to "reproduction [of information] in a visually sensible form on display screen 16" does not suggest that musical segments may be "accessed according to a hierarchy ...." The reference to "reproduction [of information] in a visually sensible form on display screen 16" does not say anything at all about how tracks might be "accessed" from a computer-readable medium.

The statement in Winsky `451 that "display control module 58 obtains a menu and submenus from memory portion 40, song identification information from memory portion 22" also does not suggest that musical segments may be "accessed according to a hierarchy ... having ... a first, second, and third level ...." *See* Winsky `451, col. 4, lines 55-56. The reference to "menu and submenus" pertains to different display screens. However, it does not suggest that musical segments may be "accessed according to a hierarchy ... having ... a first, second, and third level ...."

A person of ordinary skill in the art in 1999 would not have had any reason to substitute "tracks accessed according to a hierarchy" in the system taught by Winsky '451. As explained above, Winsky '451 teaches querying textual information using "search terms" and "search parameters." Winsky '451 at col. 5, lines 51-61; col. 2, lines 16-23; *see also* Foley Decl. ¶¶ 35 and 47-53. This technique works well for the intended purpose of Winsky '451, which was to provide an electronic "reference machine" for researching information about songs. *Id.*, col. 1, lines 5-10; col. 1, lines 16-23; Foley Decl. ¶ 50. A hierarchy method for accessing tracks would not facilitate the identification of a song based on partial information. *See* Foley Decl. ¶ 50. Thus, the overall purpose of Winsky '451 would be defeated by substituting a hierarchy method for accessing tracks (*i.e.*, "tracks accessed according to a hierarchy") in the system taught by Winsky '451. *See* Foley Decl. ¶ 50. Accordingly, there was no reason to make the substitution. *See* Foley Decl. ¶ 50. Therefore, claim 1 is not obvious over Winsky '451.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the invention of claim 1, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

C. Claim 2 is Not Obvious Over Winsky '451

Claim 2 recites "[t]he method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting a subcategory in the second display screen and playing a plurality of tracks associated with the selected subcategory."

The present office action states that:

> To the extent that Winsky discloses (col. 6, lines 24-27) a single reproducible musical segment for a highlighted song (col. 3, line 62 - 67), it would be obvious to store multiple musical segments for playing a plurality of tracks, or otherwise to repeat the selection steps to repeat and play a plurality of tracks. Winsky is suggestive of a "plurality of tracks" (col. 7, lines 18-27), "the reproducible musical segments in memory portion 44... are taken from the most commonly recognizable parts of the respective songs. Preferably, the reproducible segments stored in memory portion 44 are musical arrangements. The arrangements are frequently of chorus sections and occasionally correspond to the words of the title ... The reproducible segments stored in memory portion 44 may be converted into sound during display of lyrics (FIGS 6D-6H).

See Office Action, pp. 19-20.

Patent Owner disagrees with the above-cited reasoning for the rejection of claim 2 under 35 U.S.C. § 103(a). Winsky '451 teaches playing one "musical segment" at a time, for one "highlighted song" in order to assist the user in identifying the song. *Id.*, col. 5, lines 27-33, col. 6, lines 21-27. For example, Winsky '451 states that an "object of the invention is to .. enable a user to identify a song from available identification information such as some lyrics and/or from a segment of its melody line." *Id.*,

col. 1, lines 45-50. Each "segment" is not a whole song, but rather "a segment of the song's musical arrangement," wherein the segments are "preferably the most memorable and well-known portions of the songs." *Id.*, col. 3, lines 62-66.

Winsky `451 does not suggest "playing a plurality of tracks associated with the selected subcategory," as recited in claim 1. Winsky `451 actually teaches away from playing more than one "musical segment" in series because the whole purpose of Winsky's "reference machine" is to provide a "reference work which would facilitate the identification of the song." Winsky `451, col. 1, lines 21-23. The problem addressed by Winsky `451 is that users may "remember only a musical phrase or a fragment of lyrics of a song ... without being able to recall ... the name of the song." *Id.*, col. 1, lines 16-23.

Unlike the invention claimed in the present `433 patent, the device described by Winsky `451 is not designed for listening to songs, not designed for enjoying music, and it is not designed for "organizing and accessing tracks." *See* `433 Patent, col. 1, lines 34-35. Because the device described by Winsky `451 is not designed for listening to songs, a person of ordinary skill in the art would not understand it to suggest playing more than one track in series.

The Office Action and the Request both fail to address the element in claim 2 requiring that "the accessing at least one track comprises selecting a sub-category." This requires that the step of "selecting a sub-category" must be part of the "accessing" of a track from the computer readable medium. As explained above, the "search filters" described by Winsky `451 are not used in accessing the "musical segments." *See* Foley Decl. ¶ 47.

Given the substantial differences between claim 2 and the teachings of Winsky `451, a person having ordinary skill in the art would not have found the subject matter of claim 2 as a whole to have been obvious at the time the invention was made. *See* 35 U.S.C. § 103(a). Therefore, claim 2 is not obvious over Winsky `451.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

D. Claim 3 is Not Obvious Over Winsky `451

Claim 3 recites "[t]he method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist." *Id.*, (emphasis added).

The present office action states that:

Winsky failed to explicitly or inherently disclose a "playlist." The Goodman

> Specification `433 (the patent under reexamination) defines a playlist (col. 7, lines 25-28 and col. 10, lines 4- 7), "Playlists 164 includes names of playlists. These are **collections of songs that can be defined by the user**, the device manufacturer, or others. Each playlist can be associated with one or more songs." It is obvious that **Winsky teaches the selection of at least a single reproducible sound segment** ("at least a portion of the song" may infer one song or, otherwise, it would be obvious to substitute an entire song for a segment of a song, col. 1, lines 53-54) during the display of lyrics related to a song title (col. 6, lines 28-45 & col. 7, 18-27), **where the song title could represent a playlist of one song, and adding tracks could be accomplished by including multiple musical segments** taken from the most commonly recognizable parts of the respective songs. (col. 7, lines 20-21) (See rejection of claim 2 above.) **"Selecting a subcategory" is suggested by Winsky in the selection of a particular artist**, and **"adding the tracks associated with the selected subcategory" is suggested by the selection of one or more particular songs by the particular artist.** (col. 6, lines 17-27) Such an obvious variation would be within the level of one of ordinary skill in the art. Winsky `451 (col. 1, lines 53-57) states an objective is to provide a user with at least some lyrics and an audio reproduction of at least a portion of the song (a playlist) in a device that exhibits minimum complexity and is easy to use.

See Office Action, p. 20 (emphasis added).

Patent Owner disagrees with the above-cited reasoning for the rejection of claim 3 under 35 U.S.C. § 103(a). A person of ordinary skill in the art in 1999 would have no reason to add a "playlist" feature to the system taught by Winsky `451. As the Office Action notes, a "playlist" is a collection of songs that can be defined by a user. *See, e.g.,* `433 Patent, col. 1, lines 50-51. The advantage of a playlist is that it allows a user to enjoy listening to a chosen collection of songs, without having to navigate and select one song at a time. *Id.*

Winsky `451 clearly teaches playing <u>one</u> "musical segment" at a time (*i.e.,* just a portion of a song) to assist the user in identifying the song. *Id.*, col. 3, lines 62-66; col. 5, lines 27-33, col. 6, lines 21-27; *see also* Foley Dec., ¶¶ 47-48. For example, Winsky `451 states that an "object of the invention is to .. enable a user to identify a song from available identification information such as ... a segment of its melody line." *Id.*, col. 1, lines 45-50. A person of ordinary skill in the art would have no reason to adapt Winsky `451 to play multiple music segments because it would not help to identify a song.

The Office action offers no reason as to why a person skilled in the art might want to adapt Winsky `451 to play "multiple musical segments." *See* Office Action, p. 20. Unlike the invention claimed in the present `433 patent, the device described by Winsky `451 is <u>not</u> designed for listening to songs, and it is certainly not designed for "organizing and accessing tracks." *See* `433 Patent, col. 1, lines 34-35. As mentioned above, "the creation of playlists is one technique to organize the playing of songs." `433 Patent, col. 1, lines 50-51. Because the device described by Winsky `451 is not designed for

listening to songs, and is not designed for "organizing ... tracks," a person of ordinary skill in the art would have no reason to add a "playlist" feature to this device. Further evidence of non-obviousness includes commercial success attributable to the claimed inventions. *See* McHugh Declaration, ¶¶ 12-35.

E. Claim 5 is Not Obvious Over Winsky `451

Claim 5 recites "[t]he method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting an item in the third display screen and adding at least one track associated with the selected item to a playlist." For all of the same reasons discussed above with respect to non-obviousness of claim 3, Winsky `451 does not teach or suggest a "playlist," and a person of ordinary skill in the art would have no reason to combine a playlist with the teachings of Winsky `451. Therefore, claim 5 is not obvious under 35 U.S.C. § 103(a) over Winsky `451. As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the invention of claim 5, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

F. Claims 9 and 10 are Not Obvious Over Winsky `451

Claim 9 recites "[t]he method of selecting a track as recited in claim 1 wherein the category genre is selected in the first display screen from available categories that include at least artist, album, and genre; and the subcategories listed in the second display screen comprise a listing of at least one genre type and one of the at least one genre type is selected."

The present office action states that:

> **Winsky `451 teaches Search categories** available for selection that include (col. 3, lines 48-53) "band or artist names (artist), songwriter names, highest chart positions attained by the various songs, the years in which the highest chart position were attained, Hall of Fame listings and recording labels" or (col. 5, lines 40-56), "**song titles (or as a variation, an album),** bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics and melody line."
>
> **It would be an obvious variation for albums or genres to be included in this selectable Search category (available categories include at least artist, album, and genre).** Winsky `451 is suggestive of this (col. 4, lines 28-31) by disclosing a removably mounted database 20 "for enabling the use of platform 12 with different databases storing **song identification (album)** and melody information for different periods or **different types of music (genre).**" It would have been obvious for a subcategory in a second display screen to comprise a listing of at least one genre type (i.e., jazz or country western) because Winsky` 451 suggested (col. 4, lines 34-35), "**One card might be limited to popular songs, while another card carries jazz or country western songs.**" (sub-category listed in the second display screen comprises a listing of at least one genre type, i.e., jazz or country western) Winsky `451 teaches (col. 5, lines 54-56) that "any search filter (search category, sub-category, or item; genre type is selected) may be selected by actuating Enter function key 76 upon highlighting the desired search filter." (at least one genre type is selected)

See Office Action, p. 22 (emphasis added).

Winsky `451 does not teach or suggest "album" or "genre" as a subcategory." The words "album" and "genre" do not appear anyplace in Winsky `451.

The reference to "song identification" in Winsky `451 does not suggest an "album." An "album" is a collection of songs, and an "album name" is a name for a collection of songs. See `433 Patent at col. 9, lines 22-23. The "identification information" referred to by Winsky `451 is associated with a single song, and not a collection of songs. *See, e.g.*, Winsky `451, col. 5, lines 21-23 (referring to "identification information and lyrics for a selected song"). Thus, the reference to "song identification" in Winsky `451 clearly does not suggest an "album."

The teachings of Winsky `451 concerning a "removably mounted database 20" actually teach away from "the category genre is selected in the first display screen" as in claim 9. Winsky `451 states:

> Database 20, as contained in card 18, is removably mounted to platform 12 for enabling the use of platform 12 with different databases storing song identification and melody information for different periods or different types of music. For example, a first card can carry music information for songs appearing between 1954 and 1974, while a second card can hold information pertaining to the years between 1974 and 1994. One card might be limited to popular songs, while another card carries jazz or country western songs.

Winsky `451, col. 4, lines 27-35, Figs. 1-2.

As stated above, the "different types of music" would be stored on separate "cards" that could be swapped in and out of the platform at different times. *Id.* So, even if these "different types of music" are suggestive of "genres," Winsky `451 teaches that the "different types of music" should not be accessible by the reference machine at the same time. *Id.* This teaches away from the element of "the subcategories listed in the second display screen comprise a listing of at least one genre type and one of the at least one genre type is selected," as in claim 9. This feature of claim 9 would actually require that the "different types of music" be accessible at the same time; a concept that Winsky `451 teaches away from.

Therefore, Winsky `451 does not teach or suggest the element of "the subcategories listed in the second display screen comprise a listing of at least one genre type and one of the at least one genre type is selected," and a person of ordinary skill in the art would have no reason to combine this element with the teachings of Winsky `451. Therefore, claim 9 is not obvious under 35 U.S.C. § 103(a) over Winsky `451.

Claim 10 depends from claim 9, and includes all of the limitation of claim 9. Therefore, claim 10 is not obvious under 35 U.S.C. § 103(a) over Winsky `451 for the same reasons explained above with

respect to claim 9. As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions. *See* McHugh Declaration, ¶¶ 12-35.

G. Claim 11 is Not Obvious Over Winsky `451

Claim 11 recites:

> 11. The method of selecting a track as recited in claim 1 wherein
>
> the category artist is selected in the first display screen from available categories that include at least artist, album, and genre;
>
> the subcategories listed in the second display screen comprise a listing of names of artists and a first artist name is selected; and
>
> the items displayed in the third display screen comprises at least one album associated with the first artist name.

Claim 11 is similar to claims 9 and 10, as these claims also require the "album" and "genre" limitations. Indeed, the Office action states that "claim 11 is similar to claims 9 and 10." *Id*, pp. 24-25. Patent Owner asserts that claim 11 is not obvious over Winsky `451 for the same reasons explained above with respect to the "album" and "genre" elements in claims 9 and 10.

The present office action further states that:

> It would have been obvious, to one of ordinary skill in the art, at the time of the invention to modify Winsky's teachings to substitute "album" as an available category and to associate an artist name and an album because an album name is recognizable information for song identification. The simple substitution of category would be within the level of one of ordinary skill in the art. Winsky`451 teaches (col. 1, lines 21-22), "It would be beneficial to have a reference work which would facilitate the identification of the song, as well as supply ancillary information pertaining to the song." Winsky `451 teaches (col. 1, lines 56-57) as an objective a device that exhibits minimum complexity and is easy to use.

See Office Action, p. 25.

Patent Owner respectfully disagrees with the above-cited assertions because while an album name may be correlated with the names of songs on an album, an album name is not a piece of information that would be likely to help someone to identify a song if the person does not know the song title. The problem addressed by Winsky `451 is that users may "remember only a musical phrase or a fragment of lyrics of a song ... without being able to recall ... the name of the song." *Id.*, col. 1, lines 16-18. As noted in the Office Action, Winsky's references machine provides a "reference work which would facilitate the identification of the song." *Id.*, col. 1, lines 21-23. But, as already stated, an album name is

not a piece of information that is likely to help someone identify a song. Therefore, a person of ordinary skill in the art would not have any reason to add "album" as a search filter to Winsky `451.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

H. Claim 16 is Not Obvious Over Winsky `451

Claim 16 requires that the "subcategories comprise a list of album names." Claim 16 is similar to claims 9-11, in that all of these claims require "album" as a category or sub-category. Patent Owner asserts that claim 16 is not obvious over Winsky `451 for the same reasons explained above with respect to the "album" limitation in claims 9-11. As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

I. Claims 4, 6-8, and 12-15 are Not Obvious Over Winsky `451

Claims 4, 6-8, and 12-15 depend from claim 1, and include all of the limitations of claim 1. Therefore, claims 4, 6-8, and 12-15 are not obvious over Winsky `451 for all of the same reasons discussed above with respect to claim 1. As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the invention of claim 1, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

J. New Claims 17-33 Are Not Obvious Over Winsky `451

Claims 17-33 depend from claim 1, and include all of the limitations of claim 1. Thus, claims 17-33 are not obvious over Winsky `451 for all of the same reasons discussed above with respect to claim 1.

Claims 17-20 require additional limitations that further narrow the "hierarchy" element of claim 1. As explained above, Winsky `451 does not teach or suggest using a "hierarchy" to access tracks, and thus it certainly does not teach or suggest any of the additional hierarchy-related features recited in claims 17-20. For this additional reason, claims 17-20 are not obvious over Winsky `451.

Claims 21, 22, 24, 26, 29, 31 and 33 all require "wherein the playlist is an active queue list of songs that is currently being played." These claims find support in the specification if the 433 Patent at least at: Figs. 10, 12 and 13; col. 2, lines 35-36; col. 2, lines 57-63; col. 9, lines 10-44; col. 10, lines 39-53. A "playlist" is a collection of songs that can be defined by the user or others. *Id.*, col. 10, lines 4-6. An "active queue list" is a playlist that is currently being played. *Id.*, Figs. 10, 12 and 13; col. 2, lines 35-36; col. 2, lines 57-63; col. 9, lines 10-44; col. 10, lines 39-53. For all the reasons explained above with

respect to claims 3 and 5, Winsky '451 does not teach or suggest a "playlist," and a person of ordinary skill in the art would have no reason to add a "playlist" feature to the device taught by Winsky '451. The electronic reference machine described by Winsky '451 is not designed for listening to music, not designed for enjoying music, and not designed for organizing and accessing tracks. Foley Decl. ¶ 32, 49. Thus, one skilled in the art would have no reason to add an "active queue list" feature to the device taught by Winsky '451. Thus, claims 21, 22, 24, 26, 29, 31 and 33 are also not obvious over Winsky '451.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

V. Claims 1-16 Are Not Obvious Over Winsky '451 in View of Balabanovic '229

Claims 1-16 currently stand rejected under 35 U.S.C. § 103(a) as being obvious over Winsky '451 in view of Balabanovic '229. Patent Owner respectfully disagrees and traverses these rejections.

A. Balabanovic '229 Does Not Constitute Prior Art to the '433 Patent

Balabanovic '229 is alleged to be prior art under 35 U.S.C. § 102(e). For all of the reasons explained in the section above concerning Patent Rule 131, Patent Owner respectfully submits that the evidence proffered is sufficient to remove Balabanovic '229 as a prior art reference, and therefore Patent Owner respectfully requests that the Examiner withdraw all rejections based on Balabanovic '229. However, to the extent that the Examiner continues to maintain any rejections of any claims based on Balabanovic '229, the Patent Owner presents the following arguments.

B. Overview of Balabanovic '229

Balabanovic '229 teaches a multimedia storytelling system that provides a user with capabilities to share digital photographs and stories. *Id.*, col., 3, lines 18-22; *see also* Foley Decl. ¶ 60. The system allows for creating a "story" (or "playlist"), which is "an ordered collection of digital media objects, such as, for example, images or video clips, with one or more narration tracks." *Id.*, col. 3, lines 29-32.

Figure 1 of Balabanovic '229 shows a display and interface of a system for creating and/or viewing multimedia stories. *Id.*, Fig. 1, col. 4, lines 40-46, col. 6, lines 29-32. A visual interface 100 splits the screen into three areas 102, 103 and 104. *Id.*, Fig. 1, col. 4, lines 47-57. The first area 102 allows for browsing through media objects (*e.g.*, photographs, etc.), using three horizontal tracks 105, 110 and 115, of each of which can be navigated by scrolling. *Id.* The top track 105 shows images associated with existing stories. *Id.*, col. 4, lines 58-60, col. 5, lines 1-2. The second track 110 contains authored stories, each including a sequence of selected photographs. *Id.*, col. 5, lines 20-25. The third track 115 represents a story being authored, and includes a working set of thumbnail images that have been selected

and manipulated by a user. *Id.*, col. 5, lines 36-39. Users may also record a related voice narration to accompany the selected thumbnail image. *Id.* The central area 103 shows a large image 120 that corresponds to a thumbnail selected in the first area 102. *Id.*

Still referring to Figure 1 of Balabanovic `229, the area 104 shows available audio narrations 130 and 135 associated with the photograph 120 currently displayed in area 103. *Id.*, Fig. 1, col. 6, lines 16-29. Balabanovic `229 explains that audio clips may be input to the system. *Id.*, col. 12, lines 26-38. In this embodiment, the top track 105 may represent "albums," each comprising a set of "songs." *Id.* The second track 110 may represents a user's "playlists." *Id.* In this case, there is a default visual representation for each song, or the user chooses relevant icons, or a Web service provides icons to match artist names, song titles or album titles. *Id.*

C. Claim 1 is Not Obvious Over Winsky `451 in View of Balabanovic `229

As described in the section titled "Claim 1 is Not Anticipated by Winsky `451," and for all of the same reasons explained therein, Winsky `451 does not teach or suggest "tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy," as recited in claim 1.

As discussed in sections above, claim 1 requires a "hierarchy" having three "levels," and it also requires three "screen[s]." There is a difference between the terms "select[ed]" and "accessed," and there is also a difference between the terms "levels" and "screen[s]." *See* Foley Decl. ¶¶ 43-44. The term "accessed" pertains to access to the "computer-readable medium," whereas "selecting" has a broader meaning. *See* Foley Decl. ¶ 43. For example, in the first step of claim 1 (*i.e.*, "selecting a category in the first display screen ..."), the term "selecting" may generally include selecting a display element representing a category on the first display screen. *See* Foley Decl. ¶ 43. But in the last step (*i.e.*, "accessing at least one track based on a selection ..."), the term "accessing" requires accessing tracks stored in the "computer-readable medium."

There is also a difference between "levels" and "screen[s]." The three "levels" actually form the "hierarchy" by which tracks are "accessed." *See* Foley Decl. ¶ 44. While the "screens" facilitate "selecting" of tracks by a user, the three "levels" of the "hierarchy" facilitate "access[]" of tracks from the "computer-readable medium." Thus, the terms "level" and "screen" are separate and distinct limitations. And furthermore, multiple "screens" do not comprise a "hierarchy." *See* Foley Decl. ¶ 46.

Winsky `451 does not mention a "hierarchy," and there is nothing in Winsky `451 to suggest that tracks are "accessed according to a hierarchy" that includes "a first, second, and third level," as recited in

claim 1. *See* Foley Decl. ¶ 40. As will be understood by a person of ordinary skill in the art, a "musical segment" may be accessed from memory without the use of a "hierarchy." *See* Foley Decl. ¶ 41. Neither the Examiner nor the Requester has offered any reason to believe Winsky `451 teaches use of a "hierarchy" for accessing segments. The Requester has pointed to multiple "display screens" (*i.e.*, a "main menu" screen, a "search parameters" screen, a screen showing a list of bands, and a screen showing a list of song titles). However, for all of the reasons explained below, a "screen" is quite different from a "level of a "hierarchy" by which tracks may be "accessed" from storage in a computer readable medium.

Balabanovic `229 also fails to teach "tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy," as recited in claim 1. *See* Foley Decl. ¶¶ 64-68. The present office action states that:

> To the extent that Winsky `451 fails to explicitly disclose selecting from a hierarchy comprising a plurality of categories, subcategories and items respectively in a first, second, and third level of the hierarchy, it would have been obvious to modify Winsky`s teachings ...
>
> In further support, as related to the claim limitations of claim 1, Balabanovic `229 teaches (`229, col. 1, lines 39-56) a method and system for authoring and viewing various forms of digital media, using a visual interface. The third area of the visual interface displays a representation of one or more audio clips and other information. (`229, col. 1, lines 53-54) Balabanovic explicitly teaches storing, displaying, choosing and playing audio clips, where audio clips include albums, audio CDs and songs. (col. 3, lines 18-41 and col. 12, lines 26- 38) Balabanovic explicitly teaches navigating, using control buttons, through various levels (Balabanovic calls the various hierarchical levels "tracks", which is not analogous to the "tracks" disclosed in the Goodman `433 Specification. The Goodman `433 Specification refers to the various hierarchical levels of the interface as a display of "categories", "subcategories" and "items". Winsky`451 refers to the various hierarchical levels of the interface as a display of "menus" and "submenus.") of the visual interface to create and view multimedia (`229, col. 6, lines 29-44)

See Office Action, pp. 27-28.

The teaching of "tracks" in Balabanovic `229 does not suggest "tracks accessed according to a hierarchy," as recited in claim 1. *See* Foley Decl. ¶¶ 67-68. The "tracks" in Balabanovic `229 are graphical user interface tools for browsing through media objects by scrolling over images corresponding with media objects (*e.g.*, photographs, etc.). *See* Balabanovic `229, Fig. 1, col. 4, lines 47-57; col. 4, lines 58-60, col. 5, lines 1-2; *see* Foley Decl. ¶¶ 65-66. The "tracks" in Balabanovic `229 do not suggest "levels" of a hierarchy by which musical tracks may be accessed. *See* Foley Decl. ¶¶ 66-68

The three tracks in Balabanovic `229 are: (1) the imported story track 105 showing media objects (*e.g.*, images, narration, songs) associated with existing stories (*see id.* at col. 4, lines 58-60, col. 5, lines

1-39, col. 12, lines 26-38); (2) the authored story track 110 showing media objects associated with authored stories (*see id.* at col. 5, lines 20-25); and (3) the story-in-progress track showing working set of media objects that have been selected and manipulated by a user (*see id.* at col. 5, lines 36-39). Balbanovic '229 explains how a user may move media objects from the first two tracks 105 and 110 into the story-in-progress track 115:

> In a typical interaction, the user comes across a thumbnail image and adds it to the working set (bottom track 115). The users may also record a related voice narration to accompany the selected thumbnail image. At the end of the session, all the thumbnail images in the bottom track 115 are grouped into a single story, and the story is then appended or added to the middle track 110.

See Balabanovic '229, col. 6, lines 1-7.

In the embodiment wherein the media objects are audio clips, the top track 105 may represent "albums" (*e.g.*, CD's entered into the system via CD ROM, or MP3's downloaded from the web), and the second track 110 may represents a user's "playlist." *Id.*, col. 12, lines 26-38.

Thus, the three tracks 105, 110 and 115 in Balabanovic '229 serve as work areas within a graphical user interface by which a user may move objects from one area to another. These "tracks" are graphical user interface tools. *See* Balabanovic '229, Fig. 1, col. 4, lines 47-57; col. 4, lines 58-60, col. 5, lines 1-2. As such, the "tracks" in Balabanovic '229 are akin to the "display screens" recited in claim 1 of the 433 Patent, but they have nothing to do with the claimed "levels" of a "hierarchy." *See* Foley Decl. ¶¶ 66. As explained above, the three "levels" actually form the "hierarchy" by which tracks are "accessed." *See* Foley Decl. ¶¶ 43-44. While the "screens" facilitate "selecting" of tracks by a user, the three "levels" of the "hierarchy" facilitate "access[]" of tracks from the "computer-readable medium."

In no way do the "tracks" in Balabanovic '229 suggest that any data is "accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy," as recited in claim 1. *See* Foley Decl. ¶¶ 67-68. Balabanovic '229 teaches nothing about how any of the media objects displayed in any of the tracks 105, 110 and 115 might be accessed from memory. *See* Foley Decl. ¶¶ 67. Also, Balabanovic '229 does not suggest that the tracks 105, 110 and 115 correspond to "categories, subcategories, and items respectively in a first, second, and third level of the hierarchy." *See* Foley Decl. ¶ 67.

Even if Balabanovic '229 taught or suggested "categories, subcategories, and items respectively in a first, second, and third level of the hierarchy," which is does not, a person of ordinary skill in the art

would have no reason to combine the teachings of Balabanovic `229 and Winsky `451. The present Office Action further states that:

> Therefore, it would have been **obvious**, to one of ordinary skill in the art, at the time of the invention, **to modify Winsky `451, to include the teachings of Balabanovic `229 because both analogously teach storing, displaying, choosing and playing audio clips of songs on a hand held device**, and such a combination would **provide and organize a wide variety of music, specific to a user**. Further, both **Winsky `451 and Balabanovic `229 are built using the same type of portable device**. Compare col. 2, lines 66-67 of Winsky '451 with col. 1, lines 33-34, col. 11, lines 25-26 and col. 13, lines 6-7 of Balabanovic '229. Furthermore, both the '451 and '229 patents describe essentially similar constructions using generic processors and memory. Compare col. 8, lines 3148 in Winsky '451 with col. 2, line 61 through col. 3, line 3, and col. 12, lines 39-50 in Balabanovic '229.

See Office Action, pp. 27-30 (emphasis added).

The Patent Owner respectfully disagrees with the above characterization of Balabanovic `229 as teaching a hand-held device, and points out that the cited portions of Balabanovic `229 in the Office Action do not support the rejection. The first citation to - indicating that prior art systems "are typically not portable and are complex to use" - does not suggest that the system described by Balabanovic `229 is a hand-held device. *See* Balabanovic `229, col. 1, lines 32-34. The second citation – indicating that "the system includes a cradle or docking station that includes power and network interface" – does not necessarily mean that the described system is a hand-held device. A "cradle or docking station" may equally support a device larger than a hand-held device. In addition, the need for a "cradle or docking station" suggests that the system described by Balabanovic may requires peripherals such as a keyboard and monitor when it is used for applications like authoring a playlist. The third citation – indicating that the "main viewing area may not be needed for audio and other media" – also does not suggest that the described system is a hand-held device. The context for this statement is the full discussion of Figure 7, which spans columns 12 and 13, which describes the system as a "computer system" that may use two different displays. *Id.*, col. 12, line 39 through col. 13, line 7. Reading the entirety of Balabanovic `229 in context, a person of ordinary skill in the art would not understand it as describing a hand-held or portable device. Thus, a person of ordinary skill in the art would not perceive the size or portability of the system described by Balabanovic `229 as a reason to combine with Winsky '451.

Contrary to the rejection, the references in Winsky '451 concerning "reassignment of function in accordance with a particular card 18" do not provide any reason for a person of ordinary skill in the art to add any particular feature, such as a "hierarchy." *See* Office Action, pp. 27-30 citing Winsky '451 col. 8, lines 46-53. As acknowledged by the examiner, Winsky '451 teaches different cards having "different

songs." *Id.* The statement concerning "reassignment of function" is very general, and it certainly does not suggest adding the particular "hierarchy" feature recited in claim 1.

The Office action also suggests that a person of ordinary skill in the art would have had reason to combine the teachings of Balabanovic '229 and Winsky '451 because they are both allegedly "in the same field of endeavor." *See* Office Action, pp. 27-30. The Patent Owner respectfully disagrees. Balabanovic '229 describes a method for "authoring" stories (*e.g.*, a playlist), and to this end it describes a method for organizing and accessing media objects including music. *See, e.g.*, Balabanovic '229, Abstract. However, Winsky '451 addresses a completely different problem in a completely different field. The problem Winsky'451 addresses is that users may remember only "a fragment of lyrics of a song, or ancillary information relating to the song ... without being able to recall ... the name of the song." *See* Winsky '451, col. 1, lines 16-18; *see also* Foley Decl. ¶¶ 32, 71. The goal of Winsky '451 was to "facilitate the identification of the song." *Id.*, col. 1, lines 21-23. The device described by Winsky '451 is not designed for listening to songs or enjoying music, it is not designed for authoring a collection of music, and it is not designed for organizing and accessing tracks or other media objects.

The "hierarchy" feature of claim 1 is designed to facilitate organizing and accessing tracks, and it also facilitates creation of playlists. Because Winsky '451 does not address problems concerning organization of and access to tracks, a person of ordinary skill in the art would have no reason to combine its teaching with any other reference that does address this problem. *See* Foley Decl. ¶¶ 71. Moreover, for all the reasons explained above, Balabanovic '229 does not teach the "hierarchy" feature of claim 1.

For all of the reasons explained above, Balabanovic '229 fails to teach or suggest "tracks accessed according to a hierarchy ... having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy," as recited in claim 1. And, as explained above, even if Balabanovic suggested this feature, a person of ordinary skill in the art would have had no reason to combine the teachings of Balabanovic '229 and Winsky '451. Thus, claim 1 is not rendered obvious by the combination of Balabanovic '229 and Winsky '451.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the invention of claim 1, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

D. Claim 3 Is Not Obvious Over Winsky '451 in View of Balabanovic '229

The present office action states that:

> **Winsky '451 failed to explicitly or inherently disclose a "playlist."** Goodman '433 (the patent under reexamination) defines a playlist (col. 7, lines 25-28 and col. 10, lines 4- 7), "Playlists 164 includes names of playlists: These are collections of

songs that can be defined by the user, the device manufacturer, or others. Each playlist can be associated with one or more songs."

Balabanovic '229, which in the embodiment that is described with respect to "other media objects"- and specifically audio clips -- **describes creating "user's 'playlists' (e.g. the user's own sequences of songs to be played)."** Col. 12, lines 33-35.

See Office Action, p. 30.

While Balabanovic '229 describes a generic "playlist," it certainly does not describe the playlist creation functions recited in claim 3, which requires "selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist." The Office Action does not specifically address these additional limitations. The Request relies on the teachings in col. 12, lines 33-35 of Balabanovic '229, which states "Each 'album' is an ordered set of 'songs.' The second track represents the user's playlists' (*e.g.*, the user's own sequences of songs to be played)." *Id.* These statements do not teach or suggest "selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist," as recited in claim 3. There is no suggestion in Balabanovic '229 that a whole "album" of songs can be added to the playlist. See Foley Decl, ¶ 72. Taken individually or collectively, neither Winsky '451 nor Balabanovic '229 teaches the limitations of claim 3. Therefore, claim 3 cannot be obvious over Winsky '451 in view of Balabanovic '229. In addition, for all of the same reasons described above with respect to claim 1, even if Balabanovic '229 suggested the elements of claim 3 (which it does not), a person of ordinary skill in the art would have had no reason to combine the teachings of Balabanovic '229 and Winsky '451.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

E. Claim 6 is Not Obvious Over Winsky '451 in View of Balabanovic '229

While Balabanovic '229 describes a generic "playlist," it does not teach or suggest "playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item," as recited in claim 6. There is no suggestion in Balabanovic '229 that a whole "subcategory" or "category" of songs can be added to a playlist. Neither Winsky '451 nor Balabanovic '229 teaches "playing .... at least one track associated with a selected one of the category, subcategory, and item." Taken individually or collectively, neither Winsky '451 nor Balabanovic '229 teaches the limitations of claim 6. Therefore, claim 6 cannot be obvious over Winsky '451 in view of Balabanovic '229. In addition, for all of the same reasons described above with respect to claim 1, even if Balabanovic '229 suggested the elements of claim 6 (which it does not), a person of ordinary skill in the art would have had no reason to combine the teachings of Winsky '451 and Balabanovic '229.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

F. Claims 9-10 Are Not Obvious Over Winsky `451 in View of Balabanovic `229

Claim 9 recites, in part, "the category genre is selected in the first display screen from available categories that include at least artist, album, and genre." The present office action acknowledges that "Winsky `451 failed to explicitly or inherently disclose an 'album' as a displayable category for selection," but contends that this element is taught by Balabanovic `229. *See* Office Action, pp. 30-31. However, the office action does not specifically discuss "the category genre." For all of the same reasons discussed above in the section entitled "Claims 9 and 10 are Not Obvious Over Winsky `451," Winsky `451 does not teach or suggest "the category genre."

The Request states that the "recording labels" search parameters taught by Winsky `451 correspond to "genres" since recording labels conventionally record artists that have a same style of music. *See* Request, p. 29. However, the Request offers no support for the argument that "recording labels conventionally record artists that have a same style of music." Even if some "recording labels" correspond to "genres" in some instances, others do not. Thus, the "recording labels" search parameters do not suggest "genres."

For all of the same reasons described above with respect to claim 1, even if Balabanovic `229 suggested the elements of claim 9 (which it does not), a person of ordinary skill in the art would have had no reason to combine the teachings of Balabanovic `229 and Winsky `451.

Claim 10 depends from claim 9, and includes all of the limitation of claim 9. Therefore, claim 10 is not obvious over Winsky `451 in view of Balabanovic `229 for the same reasons as claim 9. As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

G. Claims 2, 4-5, 7-8 and 12-16 are Not Obvious Over Winsky `451 in View of Balabanovic `229

Regarding the rejection of claims 2, 4-5, 7-8 and 12-16 as being obvious over Winsky `451 in view of Balabanovic `229, the present office action simply states "see limitations addressed in the `451 obviousness and anticipation rejections above." *See* Office Action, p. 30.

Patent Owner traverses the rejection of claims 2, 4-5, 7-8 and 12-16 as being obvious over Winsky `451 in view of Balabanovic `229 based on all of the same arguments presented in response to the `451 obviousness and anticipation rejections above. In addition, claims 2, 4-5, 7-8 and 12-16 includes of

the limitations of claim 1, and thus all of the same arguments presented in the section entitled "Claim 1 is Not Obvious Over Winsky `451 in View of Balabanovic `229" would apply equally to claims 2, 4-5, 7-8 and 12-16. For these reasons, claims 2, 4-5, 7-8 and 12-16 are likewise not obvious over Winsky `451 in view of Balabanovic `229.

As further evidence of non-obviousness of claims 2, 4-5, 7-8 and 12-16 , the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

H. Claims 17-33 are Not Obvious Over Winsky `451 in View of Balabanovic `229

Claims 17-33 depend from claim 1, and include all of the limitation of claim 1. Therefore, claims 17-33 are not obvious over Winsky `451 in view of Balabanovic `229 for the same reasons explained above with respect to claim 1. As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

Claims 17-33 depend from claim 1, and include all of the limitation of claim 1. Therefore, claims 17-33 are not obvious over Winsky `451 for the same reasons explained above with respect to claim 1. As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

Claims 17-20 require additional limitations that further narrow the "hierarchy" element of claim 1. As explained above, neither Winsky `451 nor Balabanovic `229 teaches use of a "hierarchy" to access tracks, and thus this combination certainly does not describe any of the additional hierarchy features recited in claims 17-20.

Claim 21 depends from claim 3, and thus include all of the limitations of claim 3. Therefore, claim 21 is not obvious over Winsky `451 in view of Balabanovic `229 for the same reasons explained above with respect to claim 3.

Claims 22-26 depend from claim 5, and thus include all of the limitations of claim 5. Therefore, claims 22-26 are not obvious over Winsky `451 in view of Balabanovic `229 for the same reasons explained above with respect to claim 5.

Newly added claims 23, 25, 28, 30 and 32 further require adding "a plurality of tracks associated with the selected ["item" or "album"] to a playlist." Claim 3 has a similar limitation. As noted above, there is no suggestion in Balabanovic '229 of any way of selecting a plurality of songs associated with the selected "subcategory" or "item" or "album" for adding to a playlist. *See* Foley Decl., ¶ 72.

Newly added claims 17-18 further require an "overlapping hierarchy." Balabanovic '229 does not teach these limitations. *See* Foley Decl., ¶ 73.

Newly added claims 21, 22, 24, 26, 29, 31 and 33 all require "wherein the playlist is an active queue list of songs that is currently being played." As noted above, Balabanovic '229 teaches moving media objects from the first two "tracks" 105 and 110 into the story-in-progress "track" 115. *Id.* at col. 6, lines 1-7. But nothing in Balabanovic '229 suggests that any of those "tracks" is being played during that process. *See* Foley Decl., ¶ 74. Indeed, Balabanovic '229 clearly distinguishes "authoring mode," in which a media objects are added to a story, from "play" mode, in which a story is played back. *Id.* at col. 7, lines 37-40 at col. 8, lines 32-37. The specification makes clear that the mode of adding media objects to a story and the mode of playing a story are mutually exclusive. *See, e.g, id.* at col. 8, line 33 ("while in authoring mode (not the play mode)..."). *See* Foley Decl., ¶ 74.

VI. Claims 1-16 Are Not Anticipated By, or Obvious Over Chasen `721

Claims 1-16 currently stand rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Chasen `721. Patent Owner respectfully disagrees and traverses these rejections for the following reasons.

A. Chasen `721 Does Not Constitute Prior Art to the `433 Patent

Chasen `721 is alleged to be prior art under 35 U.S.C. § 102(e). However, as for all of the reasons explained in the section above concerning Rule 131, the evidence proffered under 37 C.F.R. §1.131 is sufficient to remove Chasen `721 as a prior art reference, and therefore Patent Owner respectfully requests that the Examiner withdraw all rejections based on Chasen `721. However, to the extent that the Examiner continues to maintain any rejections of any claims based on Chasen `721, the Patent Owner presents the following arguments traversing the rejections based on Chasen `721.

B. Overview of Chasen `721

Chasen `721 teaches a method allowing users to access, manage, and edit metadata. *Id.*, Abstract; *see also* Foley Decl. ¶¶ 75-76. The metadata is maintained in a metadata database, and displayed as a hierarchical tree. *Id.* A user may add, delete, and/or modify the metadata. *Id.* As the user changes the metadata, the metadata database is updated and the user's changes are propagated throughout the graphical user interface such that the hierarchical tree is displays the changed metadata. *Id.*

Chasen `721 focuses on a method implemented on a personal computer. *See, e.g., id.* at col. 6, lines 49-50; and col. 6, line 63 through col. 7, line 7. As noted in the Office action, Chasen `721 mentions

a "handheld computer" and a "personal digital assistant." *Id.*, col. 6, lines 53-62; *see also* Foley Decl. ¶ 76. However, the methods described by Chasen `721 are not well suited to devices using small display screens, as methods described by Chasen `721 are only suited for use on devices having a large display screen with room to display the multiple windows shown in Figure 1 of Chasen `721. *Id.*, Fig. 1; col. 5 line 20 through col. 6, line 4. *See* Foley Decl. ¶ 76.

C. Claim 1 is Patentable Over Chasen `721

The present office action asserts that claim 1 is anticipated by or, in the alternative, obvious over Chasen `721. *See* Office Action, pp. 32-35. Patent Owner respectfully disagrees and traverses this rejection because Chasen `721 does not teach a method of selecting tracks in a "portable media player," as recited in claim 1 . *See* Foley Decl. ¶¶ 75-78, 81-83.

The detailed description in Chasen `721 focuses on a method that is implemented on a personal computer. *See, e.g., id.* at col. 6, lines 49-50; and col. 6, line 63 through col. 7, line 7. As noted in the Office Action, Chasen `721 does mention the possibility of an implementation on a "handheld computer" or a "personal digital assistant." *Id.*, col. 6, lines 53-62. However, such devices are distinguishable from a "portable media player." *See* Foley Decl. ¶¶ 77-78.

A person of ordinary skill in the art would have no reason to try to implement the methods taught by Chasen `721 on a "portable media player." *See* Foley Decl. ¶¶ 78, 82-83. The methods described by Chasen `721 are not well suited to use on a "portable media player" because such devices tend to use small display screens, and the methods described by Chasen `721 are better suited for use on a large display screen that would have room to display the multiple windows shown in Figure 1 of Chasen `721. *Id.*, Fig. 1; col. 5 line 20 through col. 6, line 4; *see also* Foley Decl. ¶¶ 76, 78. In particular, the method taught by Chasen `721 requires: a tree window 120 including a master tree 122 for selecting nodes; and a table window 130 showing information about the node selected in the tree window. *Id.* This complicated arrangement using multiple windows is ill-suited for use on a "portable media player" because the display screens in such devices are too small to show multiple windows. *See* Foley Decl. ¶ 78. Chasen `721 teaches that the navigation between "groupings" and "sub-groupings" is done by selecting nodes within the tree window 120 in Figure 1. *Id.*, Fig. 1; col. 5 line 20 through col. 6, line 4. However, if the whole display of Fig. 1 was rendered on a small display screen of the type used in a "portable media player," the tree window 120 would become so small that a user would not find it effective for navigating between the "groupings" and "sub-groupings." *See* Foley Decl. ¶ 78. Thus, a person of ordinary skill in the art would view the methods taught by Chasen `721 as being suited for use on a personal computer, and not for use on a "portable media player," as recited in claim 1.

The purpose and methodology taught by Chasen '721 is best suited for use on a personal computer with a large display screen. *See* Foley Decl. ¶ 76, 78. The complicated arrangement using multiple windows (i.e., tree window 120 and table window 130) is best suited for use on a computer having a large display screen. Also, the "data change process" described by Chasen '721 is best suited for implementation on a personal computer. *See* Chasen '721, col. 15, lines 8-29.

Because Chasen '721 does not teach a selecting tracks in a "portable media player," as recited in claim 1, Chasen '721 does not anticipate claim 1. For the reasons explained above, a person of ordinary skill in the art would have no reason to substitute the method taught by Chasen '721 on a "portable media player." Thus, Chasen '721 does not render claim 1 obvious.

Chasen '721 also does not suggest a method "configured to present sequentially a first, second and third display screen" as recited in claim 1 of the '433 Patent. Instead, Chasen '721 teaches presenting both the "master tree" and the "node table" simultaneously on a single display. Id. at Fig. 1; col. 5, lines 20-26. *See* Foley Decl. ¶¶ 79.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the invention of claim 1, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

D. Claim 2 is Patentable Over Chasen '721

Chasen '721 does not teach or suggest "playing a plurality of tracks associated with the selected subcategory" as recited in claim 2. *See* Foley Decl. ¶ 80. The present office action states that:

> Chasen '721 teaches the tree window displays the master tree, and the master tree may contain Master Library and Playlist subtrees (subcategories), for example. Selecting Playlist will display its subtrees - various playlists (subcategory). (col. 5, lines 28-46) See also Figure 1. "The user may use the master tree and the node table (items) to begin playing an audio file and/or a set of audio files." (playing a plurality of tracks associated with the selected subcategory) (col. 3, lines 56-58; col. 5, lines 28-46; col. 5, lines 59-64) From a subcategory of a particular playlist, a user may select a track from the node table. See comment in rejection of claim 1 as related to the numbering of sequential display screens.

See Office Action, p. 35.

Patent Owner disagrees with the above-cited analysis. First, the statement in col. 3, lines 56-58 of Chasen '721 (*i.e.*, "The user may also use the master tree and the node table to begin playing an audio file and/or a set of audio files") is too vague to suggest anything about "playing a plurality of tracks associated with the selected subcategory" as recited in claim 2. *See* Foley Decl. ¶ 80. A person of ordinary skill in the art would understand this in light of the

more specific statements later in the specification, such as col. 5, lines 59-64, which is discussed below. *See* Foley Decl. ¶ 80. Second, col. 5, lines 28-46 of Chasen `721 teaches nothing at all about actually playing audio files. Finally, the statement in col. 5, lines 59-64 of Chasen `721 (*i.e.*, "In one embodiment, the user may begin playing the audio file of a track record by selecting an audio track for playback such as, for example, by using a mouse to double click on any field of the audio track record in the node table 132") actually teaches playing one track at time after selecting a "sub-category." *See* Foley Decl. ¶ 80. Thus, Chasen `721 does not teach or suggest "playing a plurality of tracks associated with the selected subcategory" as recited in claim 2. Accordingly, Chasen `721 does not anticipate claim 1.

Because Chasen `721 teaches playing one track at time after selecting a "sub-category," it teaches away from "playing a plurality of tracks associated with the selected subcategory" as recited in claim 2. *See* Foley Decl. ¶ 80. Thus, a person of ordinary skill in the art would have no reason to substitute "playing a plurality of tracks associated with the selected subcategory" into the system taught by Chasen `721. Therefore, Chasen `721 does not render claim 2 obvious. As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions. *See* McHugh Declaration, ¶¶ 12-35.

E. Claim 3 is Patentable Over Chasen `721

Chasen '721 does not teach "selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist," as recited in claim 3. The present office action states that:

> Chasen `721 expressly provides for this limitation, teaching that "[t]he user may also create a new playlist (within the Playlist subcategory) by selecting one or more audio tracks and copying them into a playlist node (adding tracks to a playlist). The user may make the changes using various actions such as, for example, typing and changing any of the fields of information, dragging and dropping one of the nodes into a different grouping, adding a new grouping using the menu system, and so forth." (col. 15, lines 14-21)

See Office Action, p. 36.

The statement that a "user may also create a new playlist (within the Playlist subcategory) by selecting one or more audio tracks and copying them into a playlist node (adding tracks to a playlist)" does not suggest "selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist." *See* Chasen `721, col. 15, lines 14-21. This statement appears in the middle of a discussion about a change process depicted in Figure 5, wherein the names of groupings may be changed. Id., col. 15, lines 8-29. The statement about "dragging and dropping one of the nodes into a different grouping"

concerns how a user may "make the changes." *Id.* Only in hindsight would these statements suggest "selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist." But a person of ordinary skill in the art in the 1999 time period would not understand these statements to teach or suggest "selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist," as recited in claim 3. Therefore, Chasen '721 does not render claim 3 obvious.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

F. Claim 10 is Patentable Over Chasen '721

Chasen '721 does not teach or suggest "presenting a listing of tracks associated with the selected album in a fourth sequentially presented display screen," as recited in claim 10. The present office action states that:

> Chasen '721 discloses, " ... the master tree 122 provides various ways to group and categorize audio data." (col. 8, lines 32-33) Chasen '721 discloses "It is recognized that in other embodiments different categories, attributes, and/or collective information may be used that include fewer fields 0 the metadata database 232, additional fields of the metadata database 232, user customized categories, as well as other categories." At col. 10, line 58 through col. 13, line 16 building / grouping trees is taught, including categories such as Genre and Album, and with audio track recordings at the leaf nodes. Selecting the node for the Album name will provide a listing of tracks associated with said Album in a table window. See col. 5, lines 44-46 and Figure 1.
>
> Chasen '721 discloses these categories of metadata and provides the suggestion that a user may create custom category groupings and subtrees. (col. 4, lines 43-51) In an obvious variation of Chasen '721, given that a variety and number of categories may be used, a user can build a group tree with a category (subcategory) of Genre, a next level category (subcategory) of Album name, and a final level list (items) of track names. Chasen '721 (col. 1, lines 25-35) recognized the need for users to easily view and access the metadata and the need to provide users with control over the metadata such as the ability to make changes to a piece or set of metadata.

See Office Action, pp. 39-40.

Patent Owner disagrees with the argument that a person of ordinary skill in the art in 1999 would have envisioned the subject matter of claim 10 as an "obvious variation" of Chasen '721. To the contrary, a person of ordinary skill in the art in 1999 would not have added the feature of "a listing of tracks associated with the selected album in a fourth sequentially presented display screen" – along with the other elements of claim 10 - to the system of Chasen '721 because to do so would require a very large and cumbersome master screen 122 (*see* Chasen '721, Fig. 1), which would be even more unsuitable for use

in a "portable media player" than the technique that is actually taught by Chasen `721. *See* Foley Decl. ¶ 82-83. For this reason, Chasen `721 does not anticipate claim 10, and it does not render claim 10 obvious.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

G. Claim 11 is Patentable Over Chasen `721

Chasen `721 does not teach or suggest "items displayed in the third display screen comprises at least one album associated with the first artist name," as recited in claim 11. The present office action argues that this feature would be "suggested" by the discussion of "building grouping trees" in Chasen `721, and that the elements of claim 11 would be "obvious variation" of Chasen `721. *See* Office Action, pp. 40-41.

Patent Owner disagrees with the argument that a person of ordinary skill in the art in 1999 would have envisioned the subject matter of claim 11 as an "obvious variation" of Chasen `721. To the contrary, a person of ordinary skill in the art in 1999 would not have added the feature of "items displayed in the third display screen comprises at least one album associated with the first artist name" – along with the other elements of claim 10 - to the system of Chasen `721 because to do so would require a very large and cumbersome master screen 122 (*see* Chasen `721, Fig. 1), which would be even more unsuitable for use in a "portable media player" than the technique that is actually taught by Chasen `721. For this reason, Chasen `721 does not anticipate claim 11, and it does not render claim 11 obvious.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

H. Claims 2-16 and 17-33 Are Not Anticipated By, or Obvious Over Chasen `721

Original claims 2-16 and new claims 17-33 include of the limitations of claim 1, and thus all of the same arguments presented above in the section entitled "Claim 1 is Patentable Over Chasen `721" would apply equally to claims 2-33. For these reasons, claims 2 through 33 are likewise not anticipated by, and are not obvious over Chasen `721.

Newly added claims 21, 22, 24, 26, 29, 31 and 33 all require "wherein the playlist is an active queue list of songs that is currently being played." As noted above, Chasen '721 teaches a method allowing users to access, manage, and edit metadata displayed in a graphical user interface. Chasen '721 indicates that users can use this to create a playlist or alternatively to "begin playing an audio file and/or set of audio files." Id. at col. 15, lines 14-21; col. 3, lines 56-58. But nothing in Chasen '721 suggests

performing these distinct functions at the same time, or adding songs to a playlist while it is being played. *See* Foley Decl., ¶ 84.

As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

VII. The Rejections Over Phillips `960 Are Not Supported By The Record

Claims 1-16 currently stand rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Phillips `960. Patent Owner respectfully disagrees and traverses these rejections for the following reasons.

A. Phillips `960 Does Not Constitute Prior Art to The `433 Patent

Phillips `960 was filed on October 10, 2001 and it claims the benefit of a provisional application filed on October 13, 2000. Phillips `960 issued on April 18, 2001. Because Phillips `960 claims the benefit of a provisional application filed before the filing date of the `433 Patent, Phillips `960 is alleged to be prior art under 35 U.S.C. § 102(e).

For all of the reasons explained in the section above concerning evidence presented under Patent Rule 131, Patent Owner respectfully submits that the evidence proffered under 37 C.F.R. §1.131 is sufficient to remove Phillips `960 as a prior art reference, and therefore Patent Owner respectfully requests that the Examiner withdraw all rejections based on Phillips `960.

B. The Requestor Has Not Alleged That The Teaching in the Phillips `960 Publication Is Also Presented In The Provisional Application Filed On October 13, 2000

The rejections over Phillips `960 are based on the teachings of U.S. Patent Pub. No.2002/0045960 (the "`960 Publication"), which was published on April 18, 2002. The `960 Publication claims the benefit of U.S. Patent Application No. 09/975,748 (the "`748 Application"), which was filed on Oct. 10, 2001. The `748 Application in turn claims the benefit of U.S. provisional application No. 60/240,766 (the "`766 Provisional Application") filed on Oct. 13, 2000.

Phillips `960 is alleged to constitute prior art under section 102(e) because the `766 Provisional Application was filed on Oct. 13, 2000, which is prior to the filing date of the `433 Patent (*i.e.*, Jan. 5, 2001). However, no copy of the `766 Provisional Application has been made of record in the present reexamination proceeding. Also, neither the Requestor nor the Examiner has alleged that the `766 Provisional Application includes any of the same subject matter that forms the bases of the rejections over Phillips `960. Accordingly, the Patent Owner submits that no prima facie case of unpatentability has been made based on Phillips `960. Therefore, Patent Owner is not presently required to respond to the

rejections based on Phillips '960. *See, e.g.,* Ex parte Yamaguchi, 88 USPQ2d 1606, 1613 (BPAI 2008) (precedential) (noting that once the Examiner finds a factual correspondence between a U.S. patent or published application and its underlying provisional application, the burden shifts to Appellant to show why this finding is erroneous). In any event, the Patent Owner respectfully submits that the evidence proffered under 37 C.F.R. §1.131 is sufficient to remove the '766 Provisional Application as a prior art reference for all of the same reasons explained above with respect to Phillips '960.

VIII. Claims 1-33 Are Not Obvious Over Winsky '451 in View of Chasen '721

Claims 3, 5, 6, 9, 10 and 11 currently stand rejected under 35 U.S.C. § 103(a) as obvious over Winsky '451 in view of Chasen '721. Patent Owner respectfully traverses these rejections.

A. Chasen '721 Does Not Constitute Prior Art to the '433 Patent

For all of the reasons explained in the section above concerning Patent Rule 131, Patent Owner respectfully submits that the evidence proffered under 37 C.F.R. §1.131 is sufficient to remove Chasen '721 as a prior art reference, and therefore Patent Owner respectfully requests that the Examiner withdraw all rejections based on Chasen '721. However, to the extent that the Examiner continues to maintain any rejections of any claims based on Chasen '721, the Patent Owner presents the following arguments traversing the rejections based on Winsky '451 in view of Chasen '721.

B. A Person of Ordinary Skill in the Art Would Have No Reason to Combine the Teachings of Winsky '451 and Chasen '721

The present Office Action argues that Winsky '451 and Chasen '721 are in the same field of endeavor, that both teach playing audio files on a handheld device, and that a person of ordinary skill in the art would therefore have been motivated to combine aspects of Winsky '451 and Chasen '721. *See* Office Action, pp. 59-60. The Patent Owner respectfully disagrees.

Chasen '721 teaches a system and method allowing users to access, manage, and edit metadata. *Id.*, Abstract; *see also* Foley Decl. ¶ 75. Chasen '721 does not teach a method of selecting tracks in a "portable media player," as recited in claim 1. *See* Foley Decl. ¶ 76. Chasen '721 mentions a "handheld computer" or a "personal digital assistant." *Id.*, col. 6, lines 53-62. However, such devices are distinguishable from a "portable media player." *See* Foley Decl. ¶¶ 76-78. Also, a person of ordinary skill in the art would have no reason to try to implement the methods taught by Chasen '721 on a "portable media player." *See* Foley Decl. ¶¶ 78, 82-83. The methods described by Chasen '721 are not suited to use on a "portable media player" because such devices tend to use small display screens. *Id.*, Fig. 1; col. 5 line 20 through col. 6, line 4. The purpose and methodology taught by Chasen '721 is best

suited for use on a personal computer with a large display screen. *See* Foley Decl. ¶¶ 76-78. Thus, contrary to the arguments set forth in the Office Action, Chasen '721 does not describe a hand-held or portable device, and therefore a person of ordinary skill in the art in 1999 would not see a commonality in the field of hand-held devices as a reason to combine Chasen '721 with Winsky '451.

A person of ordinary skill in the art in 1999 also would not have viewed the problems addressed by Chasen '721 and Winsky '451 as a reason to combine these references. The problem addressed by Chasen '721 is how to access, manage, and edit metadata. *Id.*, Abstract; *see also* Foley Decl. ¶ 75. Winsky '451 does not even discuss use of metadata. Winsky '451 addresses a completely different problem in a completely different field of endeavor. The problem Winsky '451 addresses is that users may remember only "a fragment of lyrics of a song, or ancillary information relating to the song ... without being able to recall ... the name of the song." *See* Winsky '451, col. 1, lines 16-18; *see also* Foley Decl. ¶ 32. The goal of Winsky '451 was to "facilitate the identification of the song, as well as supply ancillary information pertaining to the song." *Id.*, col. 1, lines 21-23. Because Chasen '721 and Winsky '451 address completely different fields of endeavor, a person of ordinary skill in the art would have no reason to combine these references.

Also, a person of ordinary skill in the art in 1999 would not have had any reason to substitute a "playlist" or "tracks accessed according to a hierarchy" in the system taught by Winsky '451. As explained above, Winsky '451 teaches querying textual information using "search terms" and "search parameters or filters." Winsky '451 at col. 5, lines 51-61; col. 2, lines 16-23; *see also* Foley Decl. ¶¶ 35 and 47-53. This technique works well for the intended purpose of Winsky '451, which was to provide an electronic "reference machine" for researching information about songs. *Id.*, col. 1, lines 5-10; col. 1, lines 16-23. A hierarchy method for accessing tracks would not facilitate the identification of a song based on partial information. *See* Foley Decl. ¶ 50. Thus, the overall purpose of Winsky '451 would be defeated by substituting a hierarchy method for accessing tracks (*i.e.*, "tracks accessed according to a hierarchy") in the system taught by Winsky '451. *See* Foley Decl. ¶ 50. Thus, there was no reason to make the substitution. *See* Foley Decl. ¶ 50. Therefore, claim 1 is not obvious over Winsky '451.

Because a person of ordinary skill in the art in 1999 would have had no reason to combine the features of Chasen '721 and Winsky '451, claims 1-33 of the '433 Patent are not obvious over Winsky '451 in view of Chasen '721. As further evidence of non-obviousness, the Patent Owner has provided evidence of commercial success attributable to the claimed inventions, as explained above. *See* McHugh Declaration, ¶¶ 12-35.

IX. Conclusion

For the reasons explained above, the original claims 1-16 of the `433 patent, and claims 17-33 newly added herein, are believed to satisfy all of the criteria for patentability. Withdrawal of the rejections and issuance of a reexamination certificate confirming the same is kindly requested

No fees are believed to be due in connection with this Response. However, the Director is authorized to charge any additional required fees, or credit any overpayment, to Dechert LLP Deposit Account No. 50-2778 (Order No. 380786-108980).

Respectfully submitted,

Date: June 1, 2010

Justin F. Boyce, Partner
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EXPRESS MAIL NO. EM 189559825US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent No.:	**6,928,433**	Reexam Control No.:	**95/001,274**
Original Issue Date:	August 9, 2005	Examiner:	STEELMAN, MARY J.
Original Serial No.:	09/755,723	Group Art Unit:	3992
Original Filing Date:	January 5, 2001	Confirmation No.:	6990
By:	Ron Goodman, Howard N. Egan, David Bristow		
For:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA		

TRANSMITTAL FORM

Mail Stop *Inter Partes* Reexamination
Attn: Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

Transmitted herewith are the following documents in the above-referenced patent reexamination:

I. ENCLOSURES:

- ☒ Amendment and Response Under 37 C.F.R. §§ 1.941, 1.943 and 1.945
- ☒ Declaration of James D. Foley, Ph.D. Under 37 CFR § 1.132, along with exhibits attached thereto;
- ☒ Declaration of Howard N. Egan Under 37 CFR § 1.131, along with exhibits attached thereto;
- ☒ Declaration of Inventors Under 37 CFR § 1.131, along with exhibits attached thereto;
- ☒ Declaration of Craig McHugh Under 37 CFR § 1.132, along with exhibits attached thereto;
- ☒ Notification of Prior or Concurrent Proceedings Under 37 CFR § 1.985(a);
- ☒ Information Disclosure Statement Under 37 CFR §§ 1.98 and 1.555;

☒ Substitute for form 1449/PTO

☒ Certificate of Service

The Director is authorized to charge any deficiencies, or credit any overpayment, in the fees specified to the Dechert LLP Deposit Account No. 50-2778 (Order No. 380786-108980).

Please direct any inquiries in connection with the above referenced patent reexamination to the undersigned at 650.813.4800.

Respectfully submitted,

Date: June 1, 2010

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By:	Ron Goodman, Howard N. Egan, David Bristow		
For:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA		

CERTIFICATE OF SERVICE PURSUANT TO 37 CFR § 1.248(a)(4)

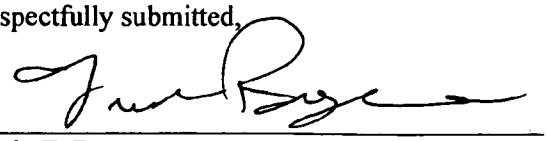
I hereby certify that on this 1st day of June, 2010, true and correct copies of:

- Amendment And Response Under 37 C.F.R. §§ 1.941, 1.943 and 1.945;
- Declaration of James D. Foley, Ph.D. Under 37 CFR § 1.132, along with exhibits attached thereto;
- Declaration of Howard N. Egan Under 37 CFR § 1.131, along with exhibits attached thereto;
- Declaration of Inventors Under 37 CFR § 1.131, along with exhibits attached thereto;
- Declaration of Craig McHugh Under 37 CFR § 1.132, along with exhibits attached thereto;
- Notification of Prior or Concurrent Proceedings Under 37 CFR § 1.985(a);
- Information Disclosure Statement Under 37 CFR §§ 1.98 and 1.555;
- Substitute for form 1449/PTO; and
- this Certificate of Service

as filed in the United States Patent and Trademark Office on June 1, 2010 in the above-captioned reexamination, were sent by Patent Owner's counsel via first class mail to current counsel of record for the Third Party Requester at the address set forth below:

David A. Jakopin
Pillsbury Winthrop Shaw Pittman LLP
P.O. Box 10500 - Intellectual Property Group
McLean, VA 22102

Respectfully submitted,



Date: June 1, 2010

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FOLEY DECLARATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent No.:	**6,928,433**	Reexam Control No.:	**95/001,274**
Original Issue Date:	August 9, 2005	Examiner:	STEELMAN, MARY J.
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Mail Stop *Inter Partes* Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF JAMES D. FOLEY, Ph.D. UNDER 37 CFR § 1.132

I, James D. Foley, declare:

1. I understand that I am submitting a declaration in connection with the above-[referenced reexamination pending in the United States Patent and Trademark Office ("USPTO") for U.S. Pat. 6,928,433 ("the '433 Patent"). I have no personal or financial stake or interest in the outcome of the above-referenced reexamination.

Personal Background and Qualifications

2. I am a professor in the College of Computing, and also in the School of Electrical and Computer Engineering at Georgia Institute of Technology ("Georgia Tech"). I am perhaps best known as a co-author of several widely-used textbooks in the field of computer graphics, including:

- J. Foley, A. van Dam, S. Feiner, J. Hughes (1995). *C Edition, Interactive Computer Graphics: Principles and Practice*. Reading, MA, USA: Addison-Wesley.
- J. Foley, A. van Dam, S. Feiner, J. Hughes, and R. Phillips (1993). *Introduction to Computer Graphics*. Reading, MA, USA: Addison-Wesley.

- J. Foley, A. van Dam, S. Feiner, J. Hughes (1990). *Interactive Computer Graphics: Principles and Practice*. Reading, MA, USA: Addison-Wesley.
- J. Foley, A. van Dam (1982). *Fundamentals of Interactive Computer Graphics*. Reading, MA, USA: Addison-Wesley (IBM Systems Programming Series).

3. I attended Lehigh University, graduating with a bachelor's degree in electrical engineering in 1964. I received my Ph.D. in computer, information, and control engineering from the University of Michigan in 1969.

4. After completing my graduate studies, I was employed by the University of North Carolina at Chapel Hill, where I was assistant professor of computer science. In 1977, I accepted a faculty position at George Washington University, where I later became chairman of the Department of Electrical Engineering and Computer Science.

5. I joined the Georgia Tech faculty in 1991. Shortly after moving to Georgia Tech, I founded the Graphics, Visualization & Usability Center (the "GVU Center"), which is an interdisciplinary research center affiliated with Georgia Tech. In 1996, the GVU Center was ranked first by U.S. News & World Report for graduate computer science work in graphics and user interaction.

6. In 1996, I became director of Mitsubishi Electric Research Lab in Cambridge, Massachusetts. In 1998, I became chairman and CEO of Mitsubishi Electric ITA, directing corporate R&D at four labs in North America.

7. I was named a Fellow of the Institute of Electrical and Electronics Engineers ("IEEE") for my contributions to the field of computer graphics. I was also named a Fellow of the Association for Computing Machinery ("ACM"). In 1997, I was recognized by ACM's Special Interest Group on Graphics and Interactive Techniques ("SIGGRAPH") with the Steven A. Coons Award, which is the penultimate award in the field of computer graphics, for "outstanding creative contributions to computer graphics." This award is presented to a single person every other year.

8. I was presented the ACM's special interest group on computer-human interaction ("CHI") life-time achievement award in 2007. This award is presented to a single person every year.

9. I was elected to the National Academy of Engineering in 2008.

10. In July 2001, I became chairman of the Computing Research Association ("CRA"), which is an association of more than 220 academic departments of computer science, computer engineering, and related fields; laboratories and centers in industry, government, and academia engaging in basic computing research; and affiliated professional societies. I stepped down from this position in 2005, but I remain active in CRA matters.

11. A copy of my *curriculum vitae* is attached hereto as Exhibit A.

Materials Considered

12. For the purpose of this declaration, I have considered:

- The '433 Patent and its file history;
- The Request for Inter Partes Reexamination of the '433 Patent filed on December 1, 2009 in connection with the above referenced reexamination proceeding (the "Request");
- The non-final office action mailed on March 29, 2010 in connection with the above referenced reexamination proceeding (the "Office Action");
- U.S. Patent No. 5,739,451 to Winsky *et al.* ("Winsky '451");
- U.S. Patent No. 6,976,229 to to Balabanovic *et al.* ("Balabanovic '229"); and
- U.S. Patent No. 6,760,721 to Chasen *et al.* ("Chasen '721").

Level of Ordinary Skill In The Art Pertaining to the '433 Patent

13. In determining the level of ordinary skill in the art, I understand that I should consider the following factors: (1) the educational level of the inventor; (2) the type of problems encountered in the art; (3) prior art solutions to those problems; (4) the rate innovations are made; (5) the sophistication of the technology; and (6) the educational level of active workers in the field.

14. It is my opinion that one of ordinary skill in the art of the '433 Patent in 1999 would have had at least a Bachelor of Science degree in computer science, with 2-3 years of experience in the design and implementation of user interfaces for hand-held portable electronic devices. I hereinafter refer to such a person as a person of ordinary skill in the art.

15. I frame my opinion of who is a "person of ordinary skill in the art" based on my 40+ years of experience with computer graphics and user interface design, implementation, education, and research. During this time I have hired, educated, or supervised hundreds of engineers who have worked on the design and implementation of graphical user interfaces. Typical levels of preparation and work experience for the majority of these engineers are reflected in my opinion on the level of skill of one of ordinary skill in the art pertaining to the '433 Patent in the 1999 time period, as set forth above.

16. Based on my 40+ years of experience with computer graphics and user interface design, implementation, education, and research, I believe that I possess a level of skill in the art that meets or exceeds the above-defined ordinary level of skill in the art pertaining to the '433 Patent.

Overview of the Invention Claimed in the '433 Patent

17. The invention of the '433 Patent arose from a need to solve problems associated with hand-held portable media players such as MP3 players. '433 Patent, col. 1, lines 32-35. The problem is that such a portable device has a very small display that shows only a few songs at a time, even though the device may store thousands of songs. *Id.*, col. 1, lines 36-49. So, the challenge is how to allow a user to access and select from a large number of songs using a very small display. *Id.*, col. 1, lines 36-49; col. 2, lines 1-11. Also, users of portable media players often want to organize music tracks in their own way (*e.g.*, creating playlists) so they can optimize their listening experience. *Id.*, col. 1, line 50 through col. 2, line 11.

18. It has been explained to me that the invention of a patent is defined by the claims. The '433 Patent includes only one independent claim (claim 1), which states:

> 1. A method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories,

subcategories, and items respectively in a first, second, and third level of the hierarchy, the method comprising:

selecting a category in the first display screen of the portable media player;

displaying the subcategories belonging to the selected category in a listing presented in the second display screen;

selecting a subcategory in the second display screen;

displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and

accessing at least one track based on a selection made in one of the display screens.

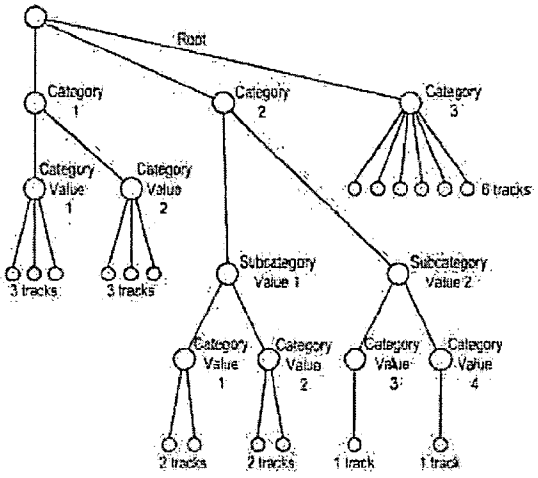
'433 Patent, Claim 1.

19. As will be explained below, the features of claim 1 afford great advantages over the prior art. In particular, the claimed features provide a more efficient, user-friendly, and intuitive graphical user interface that overcomes the constraints and limitations imposed by the small display screens required on portable media players. The features of claim 1 allow a user to quickly and easily select and access not only individual tracks, but whole categories and sub-categories of tracks with a single touch of a button. These features are provided by the "hierarchy" based accessing method by which a user can access tracks on at least three "levels" including the first level in which whole categories are accessed all at once, the second level in which whole sub-categories are accessed all at once, and the third level in which an individual track may be accessed. The method allows the user to quickly and easily navigate in an intuitive manner by selecting categories, sub-categories and items, and as the user makes his or her selections, the interface progresses from one display screen to the next while traversing the three levels of the hierarchy in order access single tracks or groups of tracks as desired by the user.

20. The claimed "hierarchy" based accessing method becomes even more powerful when used in the creation of a customized "playlist" (as featured in many of the dependent claims) because it allows a user to create a customized playlist in a more efficient manner than would be possible without the "hierarchy." These advantages are afforded by the multiple levels of access via the "hierarchy," which allow a user to selectively add whole categories or sub-categories of tracks all at once, or to selectively add individual tracks.

21. As indicated above, claim 1 requires three "display screens," and also requires that tracks be accessed using a "hierarchy" having three "levels." The three hierarchy "levels" are separate

and distinct from the "display screens." As known to a person of ordinary skill in the art in the 1999 time period, the term "hierarchy" pertains to a particular method of accessing data. Figure 1 of the '433 Patent (a portion of which is reproduced below) shows an abstracted example of a "hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy," as recited in claim 1. '433 Patent, col. 3, lines 23-24; col. 5, lines 23-60. I note that the hierarchy in Figure 1 actually includes a fourth level, which includes the six nodes across the bottom of the diagram.



See '433 Patent, Fig. 1

22. As explained in the '433 Patent, the "hierarchy" may be "derived by using metadata associated with the audio content that was obtained through any source of metadata...and subsequently stored with or alongside the file that stores the track." *Id.*, col. 3, lines 1-16. Figure 5 of the '433 Patent (reproduced below) shows an example of "metadata" associated with a music track, which may include title, genre, artist name and type. *Id.*, col. 6, lines 6-45. The metadata in Figure 5 includes a plurality of "metadata fields" for holding data indicating the name of the album the track is from, the name of the song on the track, the genre of the song on the track, and the type of track. *Id.*

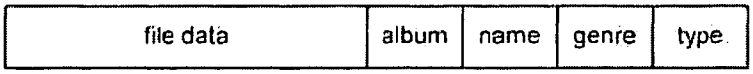


FIG. 5.

23. The '433 Patent describes various embodiments of how tracks may be "accessed according to a hierarchy." For example, the '433 Patent describes "utilizing a tree structure

having branches labeled according to types of metadata associated with the tracks." *See* '433 Patent, col. 3, lines 60-62. In one described embodiment, a "tree structure" is defined using particular files. *Id.*, col. 4, line 7 through col. 5, line 24. There are many different ways to organize a hierarchy, and different hierarchies may have different numbers of levels. *See, e.g., Id.*, Figs. 1-3, col. 5, line 23 through col. 6, line 40. As explained below, there are important advantages to using a "hierarchy" for accessing tracks, especially in combination with the other elements of claim 1 for the claimed purpose of selecting and accessing musical tracks on a portable media player that has a small display screen.

24. Figure 10 of the '433 Patent (reproduced below) shows how a user navigates between "first, second, and third display screen[s]" as in claim 1. *Id.*, Fig. 10; col. 8, line 57 through col. 9, line 52. Possible commands include "Open," "Close," "Play" and "Queue." *Id.*, Fig. 10; col. 9, lines 10-23. A first screen, called a "category screen 150" displays "first-level categories" (i.e., "Albums," "Artists," "Styles" and "Play Lists"). *Id.*, Fig. 10; col. 8, lines 61-65 (emphasis added). If the user highlights "Albums" and activates "Open," the system displays a second screen, called a "List screen 154." *Id.*, Fig. 10; col. 8, line 66 through col. 9, line 10.

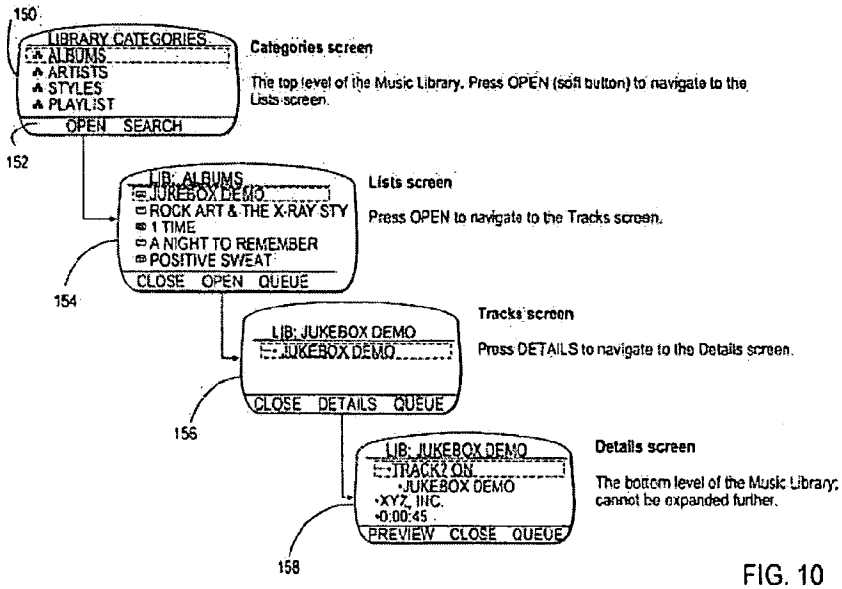


FIG. 10

25. Still referring to Fig. 10, the "List screen 154" shows a list of albums, which may be considered "sub-categories" in the "Albums" category. *Id.*, Fig. 10; col. 4, lines 64-67; col. 9, lines 4-13. If the user selects "Close" while screen 154 is displayed, the system reverts to the

category screen 150. *Id.*, Fig. 10; col. 9, lines 15-16. However, if the user highlights an album in the list and presses a "Play" button (*see* Fig. 9 at element 122), the system immediately plays all the songs on the album. *Id.*, Fig. 10; col. 9, lines 21-23. Alternatively, the user can select the "Queue" soft-button (*see* Fig. 10 at element 154) to place all songs from a highlighted album into a "playlist" for eventual playback. *Id.*, Fig. 10; col. 9, lines 18-22.

26. If the user highlights an album on the "List screen 154" and presses "Open," the system displays a "Tracks screen 156" showing a list of tracks on the selected album. *Id.*, Fig. 10; col. 9, lines 10-44. These tracks are "items" within the selected album. *Id.*, Figs. 10 and 11; col. 9, lines 10-44; col. 9, lines 54-67. From the Tracks screen 156, the user can activate the "Play" or "Queue" commands to either play a selected track immediately, or add it to a playlist. *Id.*, Fig. 10; col. 9, lines 33-37. Figure 10 depicts a single track item in the Tracks screen 156, but in general, multiple track items could be listed in accordance with the claimed invention.

27. To summarize, the Categories screen 150 shows a list of categories from a first "level" of the "hierarchy" on a first "display screen"; the Lists screen 154 shows a list of sub-categories from a second "level" of the "hierarchy" on a second "display screen"; and the Tracks screen 156 shows a list of items from a third "level" of the "hierarchy" on a third "display screen." As illustrated and described with respect to Figure 10, the system displays elements from different "levels" of the hierarchy on different "screens." As will be described below, this is a very important aspect of the invention important because it allows a user to organize and access a very large number of tracks using a very small display screen.

28. As mentioned, the "levels" of the hierarchy are separate and distinct elements as compared with the "display screens." However, an important aspect of the invention is that the "first, second, and third display screen[s]" have a particular relationship with the "first, second, and third level[s]"of the "hierarchy." *See* claim 1. Considering the invention as a whole, by reading the entirety of claim 1, it may be observed that the "categories" in the "first...level" are displayed in the "first display screen"; the "sub-categories" in the "second...level" are displayed in the "second display screen"; and the "items" in the "third level" are displayed in the "third display screen." *See, e.g.*, Fig. 10; col. 5, lines 6-11; col. 8, line 57 through col. 9, line 52; *see also* claim 1 (reciting "tracks accessed according to a hierarchy...having a plurality of categories, subcategories, and items respectively in a first, second, and third level"; "selecting a category in

the first display screen"; "displaying the subcategories...in the second display screen"; "displaying the items...in the third display screen"). This claim language reflects an aspect of the invention in which the interface moves from one "screen" to another as it moves from one hierarchy "level" to another. In other words, the flow from one screen to another is mapped out to follow movement between levels of the hierarchy.

29. This aspect of the invention – wherein the interface moves from one "screen" to another as it moves from one hierarchy "level" to another – is important because it allows a user to access a very large number of tracks using a small display screen. The methodology allows the user to traverse the hierarchy in an efficient manner. Once the user understands the basic structure of the hierarchy (*i.e.*, the relationships between categories, sub-categories and items), the user will find it easy to navigate through and access a large number of tracks based on easily understood relationships between categories. Most importantly for use on a portable media player, because the user interface moves from one hierarchy "level" to another as it moves from one "screen" to another, the limitations of the small display screen are minimized because the user does not need to see a very long list of categories, sub-categories or items on the display at one time. This is because once the user understands the basic structure of the hierarchy, the user will know how to navigate through the entire storage of tracks. Thus, the combination of elements recited in claim 1 provides a powerful advantage for organizing and accessing a large number of tracks stored on a portable media player having a small screen. These advantages are discussed in the '433 Patent itself. *Id.*, col. 1, lines 34-35; col. 2, lines 10-11; col. 7, lines 25-28 (stating "the hierarchical catalog of tracks can be used to form playlists in a structured manner").

30. The ability to access tracks via a "hierarchy" having three "levels" means that a user can access one or more tracks via screen selections corresponding to any one of the three levels. In other words, the hierarchy allows accessing tracks via multiple levels. Perhaps the most important advantage of accessing tracks "according to a hierarchy" is that it allows the system and the user to access and select whole "categories" (or whole "sub-categories") by one access or selection. *See, e.g,* '433 Patent at col. 7, lines 25-28. As explained, each category (or sub-category) may contain a large number of tracks. So, being able to access and select whole "categories" (or whole "sub-categories") of tracks in one access or selection provides a great advantage to a user. As well, the user is able to access tracks according to multiple sub-

hierarchies: in the example hierarchy of Fig. 1, one sub-hierarchy starts with album names, another with artist names, and another simply with track names.

31. I have also been asked to describe my understanding of the intended purpose of the invention of the '433 Patent. The intended purpose of the invention of the '433 Patent was to provide a graphical user interface on a small screen of a portable media player to allow the user to quickly and efficiently select and access individual tracks or collections or tracks stored in a computer-readable medium based on track characteristics. In forming such an understanding, I have considered and relied upon: (1) the description of the problem to be solved in the '433 Patent (*see* '433 Patent, col. 1, line 18 through col. 2, line 11); (2) the detailed description of the invention, including the claims; (3) the level of ordinary skill in the art pertaining to the '433 Patent; and (4) my 40+ years of experience with computer graphics and user interface design, implementation, education, and research.

Overview of Winsky '451

32. Winsky '451 describes a "reference machine" for researching information about songs. *Id.*, col. 1, lines 5-10. The problem Winsky addressed is that users may remember only "a fragment of lyrics of a song, or ancillary information relating to the song...without being able to recall...the name of the song." *Id.*, col. 1, lines 16-18. The goal of Winsky '451 was to "facilitate the identification of the song, as well as supply ancillary information pertaining to the song." *Id.*, col. 1, lines 21-23.

33. Referring to Figure 3 of Winsky '451 (reproduced below), the reference machine includes a processor 50 for accessing a database 20 having: (1) a textual information memory 22 for storing song identification information (*e,g.*, song titles and lyrics); (2) a menu memory 40 for storing a main menu, as well as programming functions (*e.g.*, generic search functions); (3) a games memory 42 for storing game functions; and (4) a musical segment memory 44 for storing "segments" of songs (*e.g.*, a portion of a song). *Id.*, Fig. 3; col. 3, line 43 through col. 4, line 26.

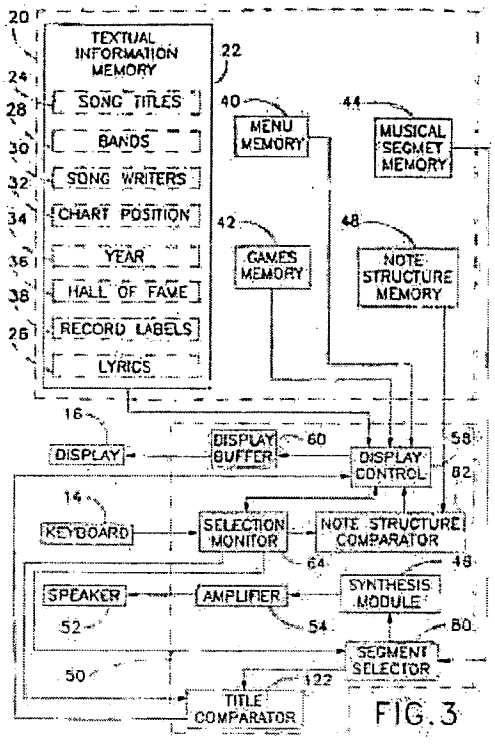


FIG. 3

34. Figure 4 of Winsky '451 (reproduced below) shows a main menu screen 82 including "Titles," "Search," and "Setup" selections. *Id.*, Figs. 1 and 4, col. 5, lines 40-61. Figure 4 also shows a list of song titles that appears upon selection of "Titles" from the menu. *Id.*

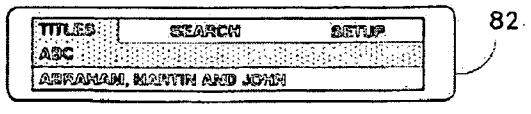


FIG. 4

35. When "Search" is selected from the menu of Fig. 4 (above), the display shows a list of "search parameters" including "song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line" (not shown). Winsky '451 at col. 5, lines 48-61. Upon selecting one of the search parameters (*e.g.*, bands), a user must enter a "search term" via a keyboard. *Id.* at col. 5, lines 51-61; col. 2, lines 16-23. More specifically, Winsky '451 teaches that the names of bands may be searched by querying the textual information memory 22 (*see* Fig. 3) using a "search term." *Id.* at col. 5, lines 51-61; col. 2, lines 16-18 (explaining "the keyboard enables user input of a textual search term (*e.g.*, a word or words)"); col. 2, lines 21-23 (referring to "searching the identification information in the first memory portion in response to the search term"); *see also* col. 2, lines 27-33.

36. Aside from mentioning a "generic search function," Winsky '451 does not describe any algorithm used for the "Search" function, but rather it points to another patent for an explanation. Winsky '451 explains that "the search filters described hereinabove are implemented in the music reference machine 10 pursuant to the techniques described in U.S. Pat. No. 5,321,609, the disclosure of which is hereby incorporated by reference." *Id.*, col. 5, lines 62-65.

37. As an alternative to searching for bands via a search parameter selected from the menu of Fig. 4, Winsky '451 teaches use of a specialized function key 86 to display a list of bands, as shown in FIG. 5A (below). *Id.*, Fig. 5A, col. 6, lines 1-5. The user may select a band from the list of Fig. 5A (below), which causes a list of song titles (not shown) to appear for the selected band. *Id.*, Figs. 1, 3 and 5A, col. 6, lines 5-7, col. 6, lines 17-21. Thereafter, a user may select a song title from the list, which causes the machine to retrieve a "musical segment" for playback via a speaker 52. *Id.*, Figs. 1, 3 and 5A, col. 6, lines 22-27. It should be noted that each "musical segment" is not a song, but rather a portion of a song (*e.g.*, "the most memorable and well-known portions"). *Id.*, col. 3, lines 62-66.

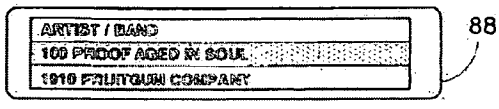


FIG.5A

38. Referring again to Figure 3 (above), the textual information and the musical segments are stored in separate memory portions 22 and 44. *Id.* at Fig. 3; col. 3, lines 43-53; col. 3, lines 62-64; col. 4, lines 50-59. Winsky '451 explicitly states that the "search parameters" are used to access the textual information memory 22, or to access the note structure memory 48:

> When "**Search**" is selected from the main menu, display 16 shows a list of nine **search parameters or filters** including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line. Any **search filter may be selected** by actuating Enter function key 76 upon highlighting the desired search filter. **In executing the first eight search filters, display control 58 accesses the respective areas of memory portion 22. In executing a melody line search, note structure comparator 62 accesses memory portion 48** in accordance with a note structure input via directional keys 66.

Winsky '451, col. 5, lines 51-61, Fig. 3 (emphasis added); *see also id.* at Fig. 3; col. 3, lines 43-53; col. 3, lines 62-64; col. 4, lines 50-59. Winsky '451 does not suggest that any of the "search parameters" may be used to access the segments stored in the musical segment memory 44 (Fig. 3).

39. In contrast, Winsky '451 teaches accessing the "musical segments" from the musical segment memory 44 (Fig. 3) by selecting from a list of song titles. *Id.*, Figs. 1 and 3, col. 5, lines 29-39, col. 6, lines 21-27. For example, Winsky '451 states:

> As in every case, **where a list of song titles is shown on display 16, actuation of special function key 78** which is detected by selection monitor 64 causes selector module 80 to **retrieve the stored reproducible musical segment for a highlighted song from memory portion 44** and to feed the retrieved segment to synthesis module 46 for playback via speaker 52.

Id., Figs. 1 and 3, col. 6, lines 21-27; *see also* col. 5, lines 29-39 (emphasis added). Indeed, this is the only way that Winsky '451 describes of accessing the musical segments. Winsky '451 does not teach that the "search parameters" may be used to access segments from the musical segment memory. Instead, as noted above, Winsky '451 teaches that the "search parameters" are used to search the textual information memory.

Comparison of The Claims of the '433 Patent to The Teachings of Winsky '451

40. Winsky '451 does not teach "tracks accessed according to a hierarchy" that includes "a first, second, and third level," as recited in claim 1. The method recited in claim 1 of the '433 Patent allows a user to select one or more tracks by way of a category, subcategory, or item, *i.e.*, "according to a hierarchy." In contrast, Winsky '451 describes only one way of accessing musical segments (tracks): by the title of the song. *See* Winsky '451 at col. 5, lines 29-39; col. 6, lines 21-27. Winsky '451 does not mention a "hierarchy," and there is nothing in Winsky '451 to suggest that tracks are "accessed according to a hierarchy" that includes "a first, second, and third level," as recited in claim 1.

41. As will be understood by a person of ordinary skill in the art, a "musical segment" may be accessed from memory without the use of a "hierarchy." For the "hierarchy" limitation of the '433 Patent, the Request points in Winsky '451 to multiple "display screens" (*i.e.*, a "main menu" screen, a "search parameters" screen, a screen showing a list of bands/artists, and a screen showing a list of song titles) comprising a graphical user interface that may be used to "select" a song title. *See* Request, pp. 25-26. However, a mere list of song titles is not a "hierarchy", and a "screen" used in selecting titles is not the same thing as a "level of a "hierarchy" according to which tracks may be "accessed" in a computer readable medium.

42. The preamble of claim 1 of the '433 Patent recites:

> a method of selecting at least one track from a plurality of tracks stored in a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player, the plurality of tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy

43. To a person of ordinary skill in the art, there is a difference between the terms "select[ed]" and "accessed." In the context of claim 1, the term "accessed" pertains to a process by which tracks are accessed in a "computer-readable medium." *See, e.g.*, '433 Patent, col. 4, lines 45-46; col. 3, lines 59-62; col. 6, lines 38-40. The term "accessed according to a hierarchy...having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy" pertains to a process wherein the "categories, subcategories, and items respectively in a first, second, and third level of the hierarchy" are used in the "access" of the computer readable medium. *Id.* On the other hand, the term "selecting" refers to a process by which one or more tracks are identified. The words "selecting" and "accessing" appear not only in the preamble, but also in the body of claim 1. For example, in the first step (*i.e.*, "selecting a category in the first display screen..."), the term "selecting" may generally include identifying a particular display element representing a particular category on the first display screen. Thus, "selecting" may include identifying elements on a "display screen." In simple terms, after one or more pieces of meta-data (*e.g.*, categories, sub-categories, items) are displayed on one of the "display screens," the system allows a user to then "select" from the displayed meta-data. A selection determines which one of the "at least one track[s]" is then "accessed."

44. There is also a difference between "levels" and "screen[s]." The preamble of claim 1 requires "first, second, and third display screen[s]" and also requires "first, second, and third level[s]." These terms have different meanings. The three "levels" actually form the "hierarchy" according to which tracks are "accessed." While the "screens" facilitate the *selecting* of tracks by a user, the three "levels" of the "hierarchy" facilitate the *accessing* of tracks from the "computer-readable medium." The phrase "tracks accessed according to a hierarchy" requires that the process by which tracks are accessed in the "computer-readable medium" must be done "according to a hierarchy."

45. As explained above, a very important advantage of accessing tracks "according to a hierarchy" is that that it allows the system and the user to access and select whole "categories" (or whole "sub-categories") by one access or selection. *See, e.g,* '433 Patent at col. 7, lines 25-28. As explained, each category (or sub-category) may contain a large number of tracks. So, being able to access and select whole "categories" (or whole "sub-categories") of tracks in one access or selection provides a great advantage to a user of the device. This advantage of accessing tracks "according to a hierarchy," is also indicated by the language of the body of claim 1, which states "accessing at least one track based on a selection made in one of the display screens." Reading claim 1 as a whole, a person of ordinary skill in the art would understand that "selecting a category in the first display screen" or "selecting a subcategory in the second display screen" may result in "accessing at least one [including ***more than one***] track based on a selection made in one of the display screens." Thus, to a person of ordinary skill in the art, the advantage of accessing tracks "according to a hierarchy" is clearly and unequivocally communicated upon reading claim 1 as a whole.

46. It is very clear to a person of ordinary skill in the art that Winsky '451 does not teach or suggest accessing tracks "according to a hierarchy," as recited in claim 1. The teaching in Winsky '451 of multiple display screens does not suggest that segments may be "accessed according to a hierarchy...having...a first, second, and third level," as recited in claim 1 of the '433 Patent. As explained above, the "display screens" and "levels" of a hierarchy are separate and distinct elements.

47. Winsky '451 does not teach that the "search parameters" may be used to access segments from the musical segment memory 33 (Fig. 3). Winsky '451 states that the "search parameters" are used to access the textual information memory 22 (Fig. 3), or to access the note structure memory 48 (Fig. 3):

> When "Search" is selected from the main menu, display 16 shows a list of nine search parameters or filters including song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line. Any search filter may be selected by actuating Enter function key 76 upon highlighting the desired search filter. In executing the first eight search filters, display control 58 accesses the respective areas of **memory portion 22**. In executing a melody line search, note structure comparator 62 accesses **memory portion 48** in accordance with a note structure input via directional keys 66.

Winsky '451, col. 5, lines 51-61; Fig. 3 (emphasis added).

48. To state the difference most simply, Winsky '451 teaches accessing of segments on one level, in which segments are accessed one at a time by selecting song titles one at a time. Winsky '451 does not teach selecting and accessing a whole "category" of tracks via the claimed "first level" of the "hierarchy", and does not teach accessing a whole "sub-category" of tracks via the claimed "second level" of the "hierarchy." Therefore, Winsky '451 simply does not teach a "plurality of tracks accessed according to a hierarchy."

49. Given the nature of the problem that Winsky '451was trying to solve, as well as the device it describes, a person of ordinary skill in the art in 1999 would not have had any reason to substitute "tracks accessed according to a hierarchy" in the system taught by Winsky '451. The goal of Winsky '451 was to provide an electronic music "reference machine" for use in "researching information about songs." *See* Winsky '451, col. 1, lines 6-11. The device described by Winsky '451 is not designed for listening to songs, and it is not designed for "organizing and accessing tracks." *See* '433 Patent, col. 1, lines 34-35. Indeed, the "musical segments" are not whole songs, but rather song segments; "preferably the most memorable and well-known portions of the songs." *Id.*, col. 3, lines 62-66. Because the device described by Winsky '451 is not designed for listening to songs, and because Winsky '451 is not at all concerned with organizing and accessing tracks, a person of ordinary skill in the art would have had no reason to substitute "tracks accessed according to a hierarchy" in the system taught by Winsky '451.

50. As explained above, Winsky '451 teaches querying textual information using "search terms" and "search parameters or filters." Winsky '451 at col. 5, lines 51-61; col. 2, lines 16-23. This technique works well for the intended purpose of Winsky '451, which was to provide an electronic "reference machine" for researching information about songs. *Id.*, col. 1, lines 5-10; col. 1, lines 16-23. A hierarchical structure for accessing tracks would not facilitate the identification of a song based on partial information. *Id.*, col. 1, lines 21-23. Thus, the overall purpose of Winsky '451 would be defeated by substituting a hierarchy for accessing tracks (*i.e.*, "tracks accessed according to a hierarchy") in the system taught by Winsky '451. For this reason also, there was no reason to substitute "tracks accessed according to a hierarchy" in the system taught by Winsky '451.

51. The "main menu" (including the "Titles," "Search" and "Setup" selections) in Winsky '451 does not suggest a "plurality of categories...in a first...level" of a "hierarchy" used to access tracks, as recited in claim 1. The fact that these selections appear on a display "screen" is irrelevant to whether they satisfy the requirement of a "plurality of categories...in a first...level" of a "hierarchy." The "Search" and "Setup" selections are not "categories" in any level of any hierarchy in which tracks are "accessed."

52. The Request assumes that Winsky '451 teaches that the "list of recording artists shown...in FIG. 5A" is displayed upon selection of "bands" from the list of "search parameters." However, this is not what Winsky '451 teaches. Winsky '451 states:

> The names of bands and other recording artists are searched via menu selection, as described above. Alternatively, a specialized function key 86 may be pressed at any time to display an alphabetical list of recording artists shown as a display screen 88 in FIG. 5A. The list of recording artists is searched by display control 58 in response to successive keystrokes as detected by selection monitor 64.

See Winsky '451 at col. 6, lines 1-16.

53. Menu selection is described in the preceding portions of Winsky '451. As I have explained in my Overview of Winsky '451, when "Search" is selected from the menu of Fig. 4 (above), the display shows a list of "search parameters" including "song titles, bands, song writers, song position, chart position, year, hall of fame status, record labels, lyrics, and melody line" (not shown). Winsky '451 at col. 5, lines 48-61. Upon selecting one of the search parameters (*e.g.*, bands), a user must enter a "search term" via a keyboard. *Id.* at col. 5, lines 51-61; col. 2, lines 16-23. More specifically, Winsky '451 teaches that the names of bands may be searched by querying the textual information memory 22 (*see* Fig. 3) using a "search term." *Id.* at col. 5, lines 51-61; col. 2, lines 16-18 (explaining "the keyboard enables user input of a textual search term (*e.g.*, a word or words)"); col. 2, lines 21-23 (referring to "searching the identification information in the first memory portion in response to the search term"); *see also* col. 2, lines 27-33. However, nothing in Winsky '451 teaches that a list of bands is displayed upon selection of "bands" from the list of "search parameters."

54. Moreover, the "search parameters" certainly do not constitute a "a plurality of...subcategories...in a second...level of the hierarchy." As explained above, the "hierarchy"

in claim 1 (including the "subcategories...in a second...level of the hierarchy") is used in accessing tracks. However, as also explained above, the "search parameters" taught by Winsky '451 are not used to access segments from the musical segment memory 33 (Fig. 3), but only to access the textual information memory 22 (Fig. 3), or to access the note structure memory 48 (Fig. 3). *See, e.g.,* Winsky '451, col. 5, lines 51-61, Fig. 3.

55. Nor does the "[a]lternative[]" process presented in column 6 of Winsky '451 suggest that the band list in Fig. 5A is displayed upon selection of "bands" from the list of "search parameters." Instead, the band list shown in Figure 5A is displayed upon pressing of the "specialized function key 86." Winsky '451 does not teach any method for displaying the band list shown in Figure 5A upon pressing of the "specialized function key 86." A person of ordinary skill in the art during the 1999 time period would understand Winsky '451 to teach that the specialized function key 86 uses the same underlying "search" function using a "search term" as described throughout Winsky '451. *See* Winsky '451 at col. 5, lines 51-61; col. 2, lines 16-18; col. 2, lines 21-23; col. 2, lines 27-33.

56. The statements in Winsky '451 concerning "reassignment of function in accordance with a particular card 18" do not provide any reason for a person of ordinary skill in the art to add any particular feature, such as a "hierarchy." *See* Winsky '451 at col. 8, lines 46-53. Winsky '451 teaches different cards having "different songs." *Id.* The statement concerning "reassignment of function" is very general, and at best it suggests adding some other wholly unidentified function (and in fact the example given in Winsky '451 is simply adding additional music); it certainly does not suggest adding a "hierarchy" feature as in claim 1 (*i.e.,* "tracks accessed according to a hierarchy...having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy").

57. In the '433 Patent, claim 2 and newly added claim 27 further require "playing a plurality of tracks associated with the selected ["subcategory" or "album name"]." Similarly, claim 3 further requires "adding the tracks associated with the selected subcategory to a playlist", while newly added claims 23, 25, 28, 30 and 32 all require adding "a plurality of tracks associated with the selected ["item" or "album"] to a playlist." Winsky '451 does not teach any of these limitations. Winsky '451 teaches playing one "musical segment" at a time (*i.e.,* just a portion of a song) to assist the user in identifying the song. Winsky '451 at col. 1, lines 45-50; col. 3, lines

62-66; col. 5, lines 27-33, col. 6, lines 21-27. Winsky '451 does not teach playing a whole track and certainly does not teach any "playlist." Furthermore, Winsky '451 teaches that one segment may be accessed upon selection of one corresponding song title. *See* Winsky '451 at col. 5, lines 29-39; col. 6, lines 21-27. Thus, once a list of tracks is generated by way of a search, tracks can only be selected individually. Winsky '451 does not suggest a way to add a plurality of tracks to a playlist, or to play a plurality of tracks.

58. Newly added claims 17-18 further require an "overlapping hierarchy." Specifically, claim 17 requires that "the hierarchy is an overlapping hierarchy having a plurality of categories that include items, and wherein at least one of the items is included in more than one of the categories." Claim 18 further requires "wherein the items comprise a plurality of track names, wherein at least one of the track names is included in more than one of the categories, whereby at least one track name may be accessed in at least two different ways by starting with different ones of the categories." Winsky '451 does not teach these limitations.

59. Newly added claims Claims 21, 22, 24, 26, 29, 31 and 33 all require "wherein the playlist is an active queue list of songs that is currently being played." As noted above, Winsky '451 teaches searching for songs according to search parameters; but nothing in Winsky '451 suggests playing the set of songs resulting from such a search, much less an "active queue list" that is currently being played.

Overview of Balabanovic '229

60. Balabanovic '229 teaches a multimedia storytelling system that provides a user with capabilities to share digital photographs and stories. *Id.*, col., 3, lines 18-22. The system allows for creating a "story" (also called a "playlist"), which is defined as "an ordered collection of digital media objects, such as, for example, images or video clips, with one or more narration tracks." *Id.*, col. 3, lines 29-32.

61. Figure 1 of Balabanovic '229 (reproduced below) shows a display and interface of a system for creating and/or viewing multimedia stories. *Id.*, Fig. 1, col. 4, lines 40-46, col. 6, lines 29-32.

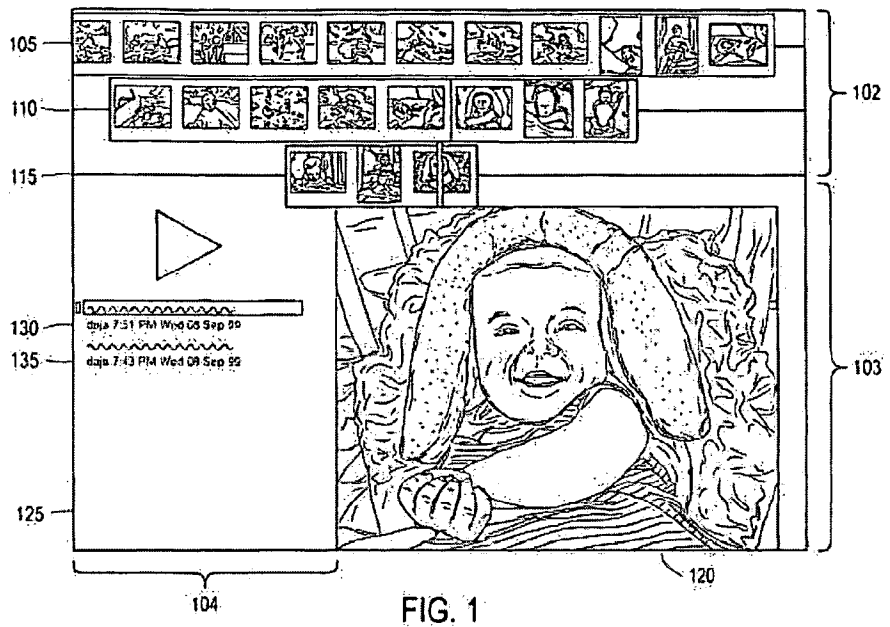


FIG. 1

62. A visual interface 100 splits the screen into three areas 102, 103 and 104. *Id.*, Fig. 1, col. 4, lines 47-57. The first area 102 allows for browsing through media objects (*e.g.*, photographs, etc.), using three horizontal "tracks" 105, 110 and 115, each of which can be navigated by scrolling. *Id.* The top track 105 shows media objects stored in the system. *Id.*, col. 4, lines 6-7. The second track 110 contains authored stories, each including a sequence of selected photographs. *Id.*, col. 5, lines 20-25. The third track 115 represents a story being authored, and includes a working set of thumbnail images that have been selected and manipulated by a user. *Id.*, col. 5, lines 36-39. Users may also record a related voice narration to accompany the selected thumbnail image. *Id.* The central area 103 shows a large image 120 that corresponds to a thumbnail selected in the first area 102. *Id.*

63. Still referring to Figure 1 of Balabanovic '229 (reproduced above), area 104 shows available audio narrations 130 and 135 associated with the photograph 120 currently displayed in area 103. *Id.*, Fig. 1, col. 6, lines 16-29. Balabanovic '229 explains that audio clips may be input to the system. *Id.*, col. 12, lines 26-38. In this embodiment, the top track 105 (Figure 1) may display "albums," each comprising a set of "songs." *Id.* The second track 110 may display a user's "playlists." *Id.*

Comparison of The Claims of the '433 Patent to The Teachings of Balabanovic '229

64. Balabanovic '229 does not teach "tracks accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy," as recited in claim 1.

65. Balabanovic '229 describes three display areas or "tracks"[1] in which media objects are displayed: (1) the imported story track 105 showing media objects (*e.g.*, images, narration, songs) associated with existing stories (*see id.* at col. 4, lines 58-60; col. 5, lines 1-19, col. 12; lines 26-33); (2) the authored story track 110 showing media objects associated with authored stories (*see id.* at col. 4, lines 8-9; col. 5, lines 20-25; col. 12, lines 33-35); and (3) the story-in-progress track showing a working set of media objects that have been selected and manipulated by a user (*see id.* at col. 4, lines 9-11; col. 5, lines 36-39). Balbanovic '229 explains how a user may move media objects from the first two tracks 105 and 110 into the story-in-progress track 115:

> In a typical interaction, the user comes across a thumbnail image and adds it to the working set (bottom track 115). The users may also record a related voice narration to accompany the selected thumbnail image. At the end of the session, all the thumbnail images in the bottom track 115 are grouped into a single story, and the story is then appended or added to the middle track 110.

See Balabanovic '229, col. 6, lines 1-7.

66. In the embodiment wherein the media objects are audio clips, the top track 105 (Figure 1) may show "albums" (*e.g.*, CD's entered into the system via CD ROM, or MP3's downloaded from the Web), and the second track 110 may show a user's "playlist." *Id.*, col. 12, lines 26-38. The three "tracks" 105, 110 and 115 in Balabanovic '229 serve as work areas within a graphical user interface by which a user may browse through multiple media objects. *See* Balabanovic '229, Fig. 1; col. 4, lines 47-57; col. 4, lines 58-60; col. 5, lines 1-2. These "tracks" are graphical user interface tools; they are not individual songs or media objects as in the '433 Patent (*see* '433

[1] Note that the "tracks" described by Balabanovic '229 are not individual songs or media objects as in the '433 Patent (*see* '433 Patent, col. 2, line 20). Rather, each "track" in Balabanovic is a graphical display/user interface tool for browsing through *multiple* media objects by scrolling over images corresponding with the objects. *See* Balabanovic '229, Fig. 1; col. 4, lines 47-57; col. 4, lines 58-60; col. 5, lines 1-2. The "tracks" described in Balabanovic '229 are thus distinct from, and do not indicate, the "tracks accessed according to a hierarchy" in the '433 Patent.

Patent, col. 2, line 20). Thus, while the "tracks" in Balabanovic '229 may be somewhat akin to the "display screens" recited in claim 1 of the 433 Patent,[2] they are not "tracks accessed according to a hierarchy" as recited in the '433 Patent and have nothing to do with the claimed "levels" of the "hierarchy."

67. In no way do the "tracks" in Balabanovic '229 suggest that any data is "accessed according to a hierarchy, the hierarchy having a plurality of categories, subcategories, and items respectively in a first, second, and third level of the hierarchy," as recited in claim 1. Balabanovic '229 teaches nothing about how any of the media objects displayed in any of the tracks 105, 110 and 115 might be accessed from memory. Also, Balabanovic '229 does not suggest that the tracks 105, 110 and 115 correspond to "categories, subcategories, and items respectively in a first, second, and third level of the hierarchy."

68. Balabanovic '229 also does not suggest any use of categories or subcategories as described in the '433 Patent, much less a hierarchy thereof. Nor does Balabanovic '229 suggest the selecting or displaying of such categories or subcategories. Similarly, Balabanovic '229 does not teach or suggest "playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item," as recited in claim 6. Moreover, there is no suggestion in Balabanovic '229 that a whole "subcategory" or "category" of songs can be added to a playlist.

69. While Balabanovic '229 describes a generic "playlist," it does not describe the playlist creation functions recited in claim 3, which requires "selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist." There is no suggestion in Balabanovic '229 that a whole "album" of songs can be added to the playlist.

70. A person of ordinary skill in the art would have no reason to combine the teachings of Balabanovic '229 and Winsky '451. First, Balabanovic '229 does not teach a small media device controller such as shown in Figure 9 of the '433 Patent. The storytelling system and method described in Balabanovic '229 presupposes a large display with multiple screen areas, all suitable for displaying images, which does not suggest that the described system is a small hand-held media controller. Reading the entirety of Balabanovic '229 in context, a person of ordinary

[2] Note, however, that the three "tracks" in Balabanovic '229 are presented contemporaneously, not sequentially as is the case for the "display screens" recited in the '433 Patent.

skill in the art would not understand it as describing a small media controller. Thus, a person of ordinary skill in the art would not perceive the size or portability of the system described by Balabanovic '229 as a reason to combine with Winsky '451.

71. Balabanovic '229 and Winsky '451 are not "in the same field of endeavor." Balabanovic '229 describes a method for "authoring" stories (*e.g.*, a playlist), and to this end it describes a method for organizing and accessing media objects including music. *See, e.g.,* Balabanovic '229, Abstract. Winsky '451 addresses a different problem in a different field of endeavor. The problem Winsky'451 addresses is that users may remember only "a fragment of lyrics of a song, or ancillary information relating to the song...without being able to recall...the name of the song." *See* Winsky '451, col. 1, lines 16-18. The goal of Winsky '451 was to "facilitate the identification of the song, as well as supply ancillary information pertaining to the song." *Id.*, col. 1, lines 21-23. The device described by Winsky '451 is not designed for listening to songs or enjoying music, it is not designed for "authoring" any collection of media objects, and it is not designed for organizing and accessing tracks or other media objects.

72. In the '433 Patent, claim 3 further requires "adding the tracks associated with the selected subcategory to a playlist", while newly added claims 23, 25, 28, 30 and 32 further require adding "a plurality of tracks associated with the selected ["item" or "album"] to a playlist." Claim 3 has a similar limitation. As noted above, there is no suggestion in Balabanovic '229 of any way of selecting a plurality of songs associated with the selected "subcategory" or "item" or "album" for adding to a playlist.

73. Newly added claims 17-18 further require an "overlapping hierarchy." Specifically, claim 17 requires that "the hierarchy is an overlapping hierarchy having a plurality of categories that include items, and wherein at least one of the items is included in more than one of the categories." Claim 18 further requires "wherein the items comprise a plurality of track names, wherein at least one of the track names is included in more than one of the categories, whereby at least one track name may be accessed in at least two different ways by starting with different ones of the categories." Balabanovic '229 does not teach these limitations.

74. Newly added claims claims 21, 22, 24, 26, 29, 31 and 33 all require "wherein the playlist is an active queue list of songs that is currently being played." As noted above, Balabanovic '229 teaches moving media objects from the first two "tracks" 105 and 110 into the story-in-

progress "track" 115. *Id.* at col. 6, lines 1-7. But nothing in Balabanovic '229 suggests that any of those "tracks" is being played during that process. Indeed, Balabanovic '229 clearly distinguishes "authoring mode", in which a media objects are added to a story, from "play" mode, in which a story is played back. *Id.* at col. 7, lines 37-40 at col. 8, lines 32-37. The specification makes clear that the mode of adding media objects to a story and the mode of playing a story are mutually exclusive. *See, e.g, id.* at col. 8, line 33 ("while in authoring mode (not the play mode)...").

Overview of Chasen '721

75. Chasen '721 teaches a system and method allowing users to access, manage, and edit metadata. *Id.*, Abstract. The metadata is maintained in a metadata database, and displayed in a graphical user interface in an organized manner, such as a hierarchical tree. *Id.* In the graphical user interface, a user may add, delete, and/or modify the metadata. *Id.* As the user changes the metadata, the metadata database is updated and the user's changes are propagated throughout the graphical user interface such that the hierarchical tree displays the changed metadata. *Id.*

76. The detailed description in Chasen '721 focuses on a method that is implemented on a personal computer. *See, e.g., id.* at col. 6, lines 49-50; and col. 6, line 63 through col. 7, line 7. As noted in the Office action, Chasen '721 does mention the possibility of implementation on a "handheld computer" or a "personal digital assistant." *Id.*, col. 6, lines 53-62. However, the methods described by Chasen '721 are not well suited to use on a "handheld computer" or a "personal digital assistant" because in 1999 such devices used small display screens, and the methods described by Chasen '721 are better suited to use on a large display screen that would have room to display the multiple windows shown in Figure 1 of Chasen '721. *Id.*, Fig. 1; col. 5 line 20 through col. 6, line 4.

Comparison of The Claims of the '433 Patent to The Teachings of Chasen '721

77. The detailed description if Chasen '721 focuses on a method that is implemented on a personal computer. *See, e.g., id.* at col. 6, lines 49-50; and col. 6, line 63 through col. 7, line 7. As noted in the Office Action, Chasen '721 does mention the possibility of an implementation on a "handheld computer" or a "personal digital assistant." *Id.*, col. 6, lines 53-62. A person of ordinary skill in the art at the time would have understood that these are general-purpose devices

for handling email, address lists, calendar, and similar office applications; and that such devices are distinguishable from a "portable media player."

78. A person of ordinary skill in the art would have no reason to try to implement the methods taught by Chasen '721 on a "portable media player." The methods described by Chasen '721 are not well suited to use on a "portable media player" because such devices tend to use small display screens, and the methods described by Chasen '721 are better suited for use on a large display screen that would have room to display the multiple windows shown in Figure 1 of Chasen '721. *Id.*, Fig. 1; col. 5 line 20 through col. 6, line 4. In particular, the method taught by Chasen '721 requires: a tree window 120 including a master tree 122 for selecting nodes, and a table window 130 showing information about the node selected in the tree window. *Id.* This complicated arrangement using multiple windows is ill-suited for use on a "portable media player" because the display screens in such devices are too small to show multiple windows. Chasen '721 teaches that the navigation between "groupings" and "sub-groupings" is done by selecting nodes within the tree window 120 in Figure 1. *Id.*, Fig. 1; col. 5 line 20 through col. 6, line 4. However, if the whole display of Figure 1 was rendered on a small display screen of the type used in a "portable media player," the tree window 120 would become so small that a user would not find it effective for navigating between the "groupings" and "sub-groupings." Also, the "data change process" described by Chasen '721 is best suited for implementation on a personal computer, as indicated by mention of a mouse interaction device and user action such as "selecting", "dragging" and "dropping." *See* Chasen '721, col. 15, lines 8-29. Thus, a person of ordinary skill in the art would view the methods taught by Chasen '721 as being suited for use on a personal computer, and not for use on a "portable media player."

79. Thus, Chasen '721 does not suggest a device "configured to present sequentially a first, second and third display screen" as recited in claim 1 of the '433 Patent. Instead, Chasen '721 teaches presenting both the "master tree" and the "node table" simultaneously on a single display. *Id.* at Fig. 1; col. 5, lines 20-26.

80. Chasen '721 does not teach or suggest "playing a plurality of tracks associated with the selected subcategory" as recited in claim 2. The statement in col. 3, lines 56-58 of Chasen '721 (*i.e.*, "The user may also use the master tree and the node table to begin playing an audio file and/or a set of audio files") is too vague to suggest anything about "playing a plurality of tracks

associated with the selected subcategory" as recited in claim 2. A person of ordinary skill in the art would understand this in light of the more specific statements later in the specification, such as col. 5, lines 59-64 (*i.e.*, "In one embodiment, the user may begin playing the audio file of a track record by selecting an audio track for playback such as, for example, by using a mouse to double click on any field of the audio track record in the node table 132"). This statement at col. 5, lines 59-64 teaches playing one track at time after selecting a "sub-category." Thus, Chasen '721 does not teach or suggest "playing a plurality of tracks associated with the selected subcategory" as recited in claim 2.

81. The statement that a "user may also create a new playlist (within the Playlist subcategory) by selecting one or more audio tracks and copying them into a playlist node (adding tracks to a playlist)" does not suggest "selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist." *See* Chasen '721, col. 15, lines 14-21. This statement appears in the middle of a discussion about a change process depicted in Figure 5, wherein the names of groupings may be changed. *Id.*, col. 15, lines 8-29. The statement about "dragging and dropping one of the nodes into a different grouping" concerns how a user may "make the changes." *Id.* Only in hindsight would these statements suggest "selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist." But a person of ordinary skill in the art in the 1999 time period would not understand these statements to teach or suggest "selecting a subcategory and adding the tracks associated with the selected subcategory to a playlist," as recited in claim 3. Moreover, a person of ordinary skill in the art would have understood that the drag-and-drop process described in Chasen '721 is not applicable to the small display screen of a portable media player as recited in the '433 Patent. Therefore, Chasen '721 does not render claim 3 obvious.

82. A person of ordinary skill in the art in 1999 would have had no reason to add the feature of "a listing of tracks associated with the selected album in a fourth sequentially presented display screen" – along with the other elements of claim 10 – to the system of Chasen '721 because to do so would require a very large and cumbersome master screen 122 (*see* Chasen '721, Fig. 1), which would be even more unsuitable for use in a "portable media player" than the technique that is actually taught by Chasen '721.

83. A person of ordinary skill in the art in 1999 would have had no reason to add the feature of "items displayed in the third display screen comprises at least one album associated with the first artist name" – along with the other elements of claim 10 – to the system of Chasen '721 because to do so would require a very large and cumbersome master screen 122 (see Chasen '721, Fig. 1), which would be even more unsuitable for use in a "portable media player" than the technique that is actually taught by Chasen '721. For this reason, Chasen '721 does not anticipate claim 11 of the '433 Patent, and it does not render claim 11 obvious.

84. In addition, newly added claims 21, 22, 24, 26, 29, 31 and 33 all require "wherein the playlist is an active queue list of songs that is currently being played." As noted above, Chasen '721 teaches a system and method allowing users to access, manage, and edit metadata, which is displayed in a graphical user interface. Chasen '721 indicates that users can use this to create a playlist or alternatively to "begin playing an audio file and/or set of audio files." *Id.* at col. 15, lines 14-21; col. 3, lines 56-58. But nothing in Chasen '721 suggests performing these distinct functions at the same time, or adding songs to a playlist while it is being played.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code.

Executed May 31, 2010 at Atlanta, Georgia.

James D. Foley

EXHIBIT
A

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Yamacraw Economic Development Initiative
Executive Director, 12/99–3/00; CEO, 4/00–10/00
(Leave of absence, 1996–1999)
Founding Director of the Graphics, Visualization & Usability Center, 1991–96
Professor of Computer Science, 1991–
Professor of Electrical and Computer Engineering (courtesy appointment), 1991 –

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Research Interests

Interactive Computer Graphics
Human Factors of the User-Computer Interface
Uses of Computing Technologies for Teaching and Learning
Information Visualization
Managing Research, Technology Transfer, and Economic Development

Professional Societies

Association for the Advancement of Science (Fellow)
Association for Computing Machinery (Fellow)
    SIGGRAPH (Computer Graphics)
    SIGCHI (Computer-Human Interaction)
Computer Graphics Pioneers
Institute for Electrical and Electronic Engineers (Fellow)
    Computer Society
International Society of the Learning Sciences
Human Factors Society

Honors

National Academy of Engineering, 2008

ACM/CHI Lifetime Achievement Award, 2007

AAAS Fellow, 2005

Hesburgh Teaching Fellow, Georgia Tech, 2003-2004

ACM/CHI Academy, inaugural member "For leadership in the field of computer human interaction," 2001

ACM Fellow, 1999

Photo Gallery of Computer Graphics Pioneers, SIGGRAPH 1998

ACM/SIGGRAPH biannual Steven A. Coons Award for Outstanding Creative Contributions to Computer Graphics, 1997 (Lifetime Achievement Award)

Honorary Chairman, 1995 IEEE Visualization Conference

Georgia Tech Interdisciplinary Activities Award, 1994

Georgia Tech College of Computing Graduate Student Committee Award, "Most Inspirational Faculty Member," 1994

Georgia Tech College of Computing Faculty Appreciation Award, "In recognition of his outstanding support and encouragement to the College of Computing Staff," 1994

Georgia Tech Interfraternity Council and Panhellenic Award, "For outstanding commitment to the Georgia Tech student body," 1993

Sigma Xi (Georgia Tech Chapter) Sustained Research Award, 1993

Georgia Tech College of Computing Graduate Student Committee Award, "Most Inspirational Faculty Member," 1993

Georgia Tech College of Computing Graduate Student Committee Award, "Most likely to make students want to grow up to be professors," 1992

Dean's Award, Georgia Tech College of Computing, "In recognition of outstanding commitment to the College of Computing," 1992

Georgia Tech College of Computing Graduate Student Committee Award, "Best all around faculty member," 1992

National Computer Graphics Association Academic Award, "For his outstanding leadership in the development and promotion of computer graphics applications in the academic community," 1991

IEEE Fellow "For contributions to computer graphics," 1986

Who's Who in America, Who's Who in Science and Engineering, Who's Who in Computer Graphics

Phi Beta Kappa, Tau Beta Pi, Sigma Xi, Eta Kappa Nu, Omicron Delta Kappa, Phi Eta Sigma, Phi Kappa Phi, Pi Mu Epsilon

Professional Activities – Professional Society Offices

ACM/CHI (Computer-Human Interaction) Adjunct Chair for Awards, 2003-2005

Computing Research Association
- Chairman, 2001–2005
- Treasurer, 1998–2001
- Executive Committee, 1998–2005
- Board of Directors, 1996–2006
- Nominating Committee Chair, 2005–2006
- Government Affairs Committee, 1998–2006
- Organizer, 2005 Leadership summit
- Organizer, Computing Image Task Force
- Organizer, Computing Research Funding Task Force
- Member, CRA-Education Task Force, 2008-

Co-chair, Image of Computing Task Force, 2007-2009

Council of Scientific Society Presidents
- Board of Directors, 2004–5

ACM/SIGGRAPH Vice Chairman, 1974–76, Vice President 2008–

National Computer Graphics Association Board of Directors, 1983–85

ACM-SIGGRAPH Committee for Core Graphics Standard Co-chairman, 1976–77

Workshops – Organizer

"Workshop on Graduate Education in Human-Computer Interaction"
SIGCHI 2005 Conference

Panel Sessions – Organizer

"Managing the Design of User-Computer Interfaces"
SIGCHI 1986 Conference
NCGA 1986 Conference

"Teaching User-Computer Interface Design"
First Annual SIGCHI Conference, Boston, MA, 1983

"Computer Graphics in Higher Education"
SIGGRAPH 1983 Conference

"Teaching the Design of User-Computer Interfaces"
ACM-NBS Human Factors in Computer Systems Workshop, March 1982

Refereeing and Proposal Reviewing

Visual Analytics Science and Technology Symposium, 2002, 2007, 2008
ICLS Conference, 2006
SIGCHI Conferences: 1983–97, 2006,2008
Department of Energy Battelle Pacific Northwest Laboratory
Interact 97
AVI (Advanced Visual Interfaces) Conferences: 1994–96
IEEE Multimedia Conferences: 1994–96
SIGGRAPH Conferences: 1974–1991, 1999 (Visionary Papers), 2001
Eurographics Conferences: 1981–83, 1988, 1996
UIST 1989–1999
National Aeronautics and Space Administration
National Science Foundation
National Sciences and Engineering Research Council of Canada
Army Research Office
Department of Energy
Computers and Structures
Computers and Graphics
Communication of the ACM
ACM Transactions on Graphics
IEEE Computer Graphics and Applications
IEEE Computer
IEEE Software
Human-Computer Interaction
International Journal of Man-Machine Systems
International Journal of Expert Systems
Software – Practice and Experience
Transactions on Office Information Systems
User Modeling and User-Adapted Interaction

Professional Activities – Publications

Editorial Board, *User Modeling and User-Adapted Interaction*, 1994–1999

Editorial Board, Computing Research Association Bulletin, 1992–95

Editor-in-Chief, *ACM Transactions on Graphics*, 1991–95

Editorial Board, *Presence: Teleoperators and Virtual Environments*, 1990–2000

Associate Editor, *ACM Transactions on Information Systems*, 1989–1991

SIGCHI Publications Committee, 1989–1991

Editorial Board, *The International Journal of Expert Systems: Research and Applications*, 1986–1990

Editorial Board, *International Journal of Man-Machine Studies*, 1985–1992

Board of Advisors, *Marquis Who's Who Directory of Computer Graphics*, 1985

Editorial Board, *IEEE Computer Graphics and Applications*, 1984–89

Editorial Advisory Board, *Computer Graphics Today*, 1983–88

Editorial Board, Springer-Verlag series in Computer Graphics, 1982–2001

Associate Editor, *ACM Transactions on Graphics*, 1981–88
Guest editor, three-issue special series on User Interface Software, 1986

ACM Planning Committee for *Transactions on Graphics*, 1980–81

Editorial Advisory Board, *Computers and Graphics*, 1976 –

Editor, Graphics and Image Processing Section, *Communications of the ACM*, 1975–1982

Professional Activities – Organizing Committees

Education Co-Chair, CHI 2006

Co-Chair, Computing Research Association 1998 Bi-Annual Meeting

Organizer, JTEC Study Mission on Human-Computer Interaction to Japan, May 1995

Organizer, NSF/IRIS Workshop on the World-Wide Web, October 1994

Co-organizer, Dagstuhl Workshops on Multimedia, 1992 and 1994

Organizing Committee, NSF-sponsored workshop on research directions in Human-Computer Interaction, 1991

Organizing Committee, Symposia on User Interface Software and Technology, 1989, 1990, 1991, 1992, 1993, 1994

Organizer, ACM-SIGGRAPH Tutorials on User-Computer Interfaces,

1980, 1981, 1982, 1983, 1984, 1985, 1986

Organizer, ACM-SIGGRAPH Tutorial on Raster Graphics, 1979

Organizing committee and session chairman, second annual Workshop on Interactive Computing – CAD/CAM: Electrical Engineering Education

Professional Activities – Program Committees

Visual Analytics Science and Technology Symposium, 2006, 2007, 2008

SIGGRAPH Conference 1977, 1980, 1985, 2001

Computing Research Association 2000 Bi-Annual Snowbird Meeting

3D Graphical Interaction Conference, 1999 (Program Committee Co-Chair)

ACM Multimedia, 1997 (Program Committee Co-Chair)

Symposium on Information Visualization, 1995, 1997

ACM Multimedia 95

International Eurographics Workshop on Design, Specification and Verification of Interactive Systems, 1995 and 1996

Graphicon '94, '95, and '96; Anigraph'97 & GraphiCon'97 (Russia)

Conference on User Modeling, 1994

Austrian Conference on Human-Computer Interaction, 1993

International Conference on Computer Graphics, 1993

Doctoral Consortium Chair, 1992 SIGCHI Human Factors in Computing Systems Conference

HCI 1991

1991 SIGCHI Human Factors in Computing Systems Conference (Area Chairman)

Visualization '90, '91, '92, '93, '94, 96, 97

Program Committee, First Annual Symposium on User Interface Software and Technology, 1988

SIGCHI Human Factors in Computing Systems Conference, 1983, 1985, 1987, and 1988

Eurographics '81, '82

Workshop on Interactive 3D Graphics, 1986

Program Committee, 1990 Symposium on Interactive 3D Graphics

First International IFIP Conference on User-Computer Interaction – Interact '84

Second International IFIP Conference on User-Computer Interaction – Interact '87

Third International IFIP Conference on User-Computer Interaction – Interact '90

Third IFAC/IFIP/IFORS Conference on Man-Machine Systems, 1988

Program Committee, Human Factors in Computer Systems Conference, 1982

Program Committee, CAD/CAM in Electrical Engineering Conference, 1982

Professional Activities – Review Panels / Advisory Boards

Panel Member, NRC Assessment of NIST Information Technology Laboratory, 2009

Visiting Committee, Department of Computer Science, Seoul National University, 2007-

Visiting Committee, Department of Computer Science, Lehigh University, 2006-

Scientific Advisory Board, Singapore National Research Foundation, 2006–

International Evaluation Panel, Competitive Research Programme,
Singapore National Research Foundation, 2007 –

Visiting Committee, School of Computer Science and Engineering, Nanying Technological University, Singapore, 2005–

Visiting Committee, Human-Computer Interaction Center, VPI, 2003

Directorate Review Committee, Computer Science, Battelle Pacific Northwest Labs, 2003–2006

Visiting Committee, Department of Computer Science, Columbia University, 2003

Visiting Committee, Department of Computer Science, University of Maryland, 2003

Advisory Board, Fraunhofer Institute for Integrated Publications and Information Systems, Darmstadt, Germany, 2003–

Visiting Committee, Human-Computer Interaction Institute, CMU, 2002

Visiting Committee, Department of Electrical and Computer Engineering, Lehigh University, 1998

Advisory Board, National Research Council Academy Industry Program, 1997–1999

Review Committee, Knowledge Media Design Institute, University of Toronto, 1998

Advisory Board, College of Computing, Georgia Tech, 1996–2000

MIT Industrial Liaison Program, Industry Advisory Panel, 1996–98

Technical Advisory Board, Fraunhofer Center for Research in Computer Graphics, 1994–2003

Advisory Board, GMD Institute for Integrated Publications and Information Systems, Darmstadt, Germany, 1992–2001

New York Board of Regent's Ph.D. program review for SUNY – Stony Brook, 1990

NASA review panel chair on Scientific Data Visualization, 1990

Review Board, Province of Ontario Information Technology Research Center at Universities of Toronto and Waterloo, 1990

Review panel, Human Interface Research Projects, Naval Research Labs, 1989

FAA Blue Ribbon Panel to review methodology for designing user-computer interfaces of next generation air traffic control system, 1984

Review panel, Analysis of Large Data Sets Project, Battelle Labs, 1980 and 1982

Professional Activities – Service to Georgia Tech

Member, International Plan Executive Committee, 2008-

Member, Educational Technology Board, 2007-

Member, Provost's Committee to Review College of Computing Dean Richrd DeMillo, 2007-08

Chair, Vice-Provost's Course Management System Evaluation Committee, 2006

Chair, Committee to Review School of Psychology Chair R. Engle, 2006-2007.

Member, Singapore Planning Committee, 2006-

CoC representative on International Plan Committee, 2006-

Elected member, Faculty Senate Executive Committee, 2004–2007

Co-chair, Faculty Senate Nominating Committee, 2007

Chair, HCC Ph.D. program admissions committee, 20042005

Member, College of Computing Future of Computing Education committee, 2004

Elected member, College of Computing RP&T Executive Committee, 2003–2004

Chair, Provost's Committee to Review Dean Sue Rosser, 2004

Member, Search Committee for Director of Global Learning Center, 2003-2004

Elected member, Academic Senate, 2003–2007

Elected member, Academic Integrity Hearings Committee, 2003–2004

Member, Founder's Day planning committee, Ivan Allan College, 2003

Member, Search Committee Global Learning Center Director, 2002–2004

Member, planning/advisory committee, Georgia Tech Policy Institute, 2003–

Co-chair, College of Computing Ph.D. committee on Human-Centered Computing, 2003–2004

Member, College of Computing Ph.D. admissions committee, 2003

Chair, Provost's Task Force on Continuing Education and Distance Learning, 2002

Chair, College of Computing Task Force on Introductory Computer Science Courses, 2002

Member, Georgia Tech Post-tenure Review Policy Committee, 2002–03

Chair, College of Computing Task Force on Research Infrastructure, 2001

Chair, Search Committee for Director of School of Psychology, 1994–95

Member, Georgia Tech Strategic Planning Committee, 1994–95

Member, College of Computing Search Committee, 1994–95

Member, Institute Promotion and Tenure Committee, 1994–96

Member, Institute Research Coordination Committee, 1994–95

Member, Institute Research Advisory Council, 1994

Member, College of Computing Computer Committee, 1992–94

Member, Presidential Search Advisory Committee, 1994

Member, Search Committee for Director of Center for Rehabilitation Technology, 1993–94

Member, Academic Vice-President's Review Committee for Office of Interdisciplinary Programs, 1993

Chair, Search Committee for Endowed Chair in Advanced Telecommunications Technology, 1992–94

Member, Petit Chair Search Committee (EE), 1992–93

Chair (elected), Dean's Advisory Committee, 1991–92, 1992–93

Chair, ad-hoc College of Computing Committee for Computer Cost Accounting, 1992

Member, Literature, Communication and Culture Director Search Committee, 1992–93

Coordinator for Georgia Tech Strategic Plan for Multimedia, 1992–93

Member, College of Architecture Dean Search, 1992

Chair, Search Committee for College of Computing Director of Computing and Networking, 1991

Professional Activities – Other

IEEE von Neuman Awards Committee, 2004–07

IEEE R&D Policy Committee, 2005–

CHI Awards Committee
Member 2002-2005
Chair 2003-2005

National Research Council/CSTB/SIGGRAPH Workshop on Grand Challenges in Computer Graphics, 2003

National Research Council/CSTB Panel Fundamentals of Computer Science, 2001–

CRA/NIST Workshop on a Research Agenda for the National Information Infrastructure, 1994

ONR Workshop on Scientific Data Visualization, Darmstadt, 1993

DARPA ISAT Study on Intelligent User Interfaces, 1991

NSF Workshop on Transfer of Innovation in Math, Science, and Engineering Education, 1990

SIGGRAPH '90 Workshop on Industry-University Collaboration

National Academy of Sciences/National Research Council
Workshop on Application Principles for Multi-Colored Displays, 1985

IFIP Workshop on the Methodology of Interaction, France, 1979

Invited Lectures (from 1978 to present)

Human Computer Interaction: Where we have been, where we are going
Keynote, CHI 2007, April 2007

Virtual Reality: Past, Present, Future
Opening Keynote, IEEE VR2007 Conference, March 2007

Information Visualizations: How Do we Know What Works?
Opening Convocation, UNC-C Visualization Center, May 2006
Samsung Research, Seoul Korea, January 2007

THE Grand Challenge in Computer Graphics: How Much Realism is Enough Realism?
Purdue University, 2008
Czech Technical University, Prague, 2005
Opening Keynote, VRCAI and GRAPHITE, Singapore, 2004
Delft University, 2004
Tübingen University, 2004
Darmstadt University, 2004
TNO Human Factors (NL), 2004

Computing, We Have a Problem
Indiana University, 2005

Domestic and International Technology-Based Economic Competition
National Academy of Engineering, Korea, 2004

Multidisciplinary Research & Education – What, Why, When, Where, Who?
Delft University, March 2003
University of Oregon, October 2002
Karakash Spring Lecture, Lehigh University, March 2002
Delft University, inauguration of new degree program in multimedia, October 2001
University of Tübingen, November 2001

Economic Development – the New Imperative for the Academy
Distinguished Lecture, State University of New York at Stony Brook, 2002
Cray Distinguished Lecture Series, University of Minnesota, 2001
University of California, Irvine, January 2001
Keynote Lecture, ACM User Interface Software Technology Conference, November 2000
ABET Annual Meeting, October 2000
Purdue University, September 2000

The Yamacraw Economic Development Initiative
Various civic and trade groups in Georgia during 2000
Computer Research Association Snowbird meeting, July 2000

Volume Rendering
Keynote lecture, Eurographics Conference, Lisbon, September 1998
Keynote lecture, Volume Rendering conference, October 1998

There's more to Computing than Computer Science
Distinguished Lecture, University of Utah, October 1999
Distinguished Lecture, University of Washington, October 1998

Future Directions for User Interfaces

Keynote lecture, IEEE Multimedia Conference, July 1998
Oregon Graduate Institute, February 1999

New Directions in Graphics and Imaging
Keynote lecture, Princeton University EE Dept. Corporate Affiliates Program, May 1997

Information Visualization and the WWW
Keynote Lecture, Information Visualization, SIGGRAPH96 Hyper-SIG, August 1996
Keynote Lecture, Canadian Computer Graphics Conference, May 1996
Keynote Lecture, IEEE Visualization Conference, October 1995
Distinguished Lecture, Brown University, November 1996
Distinguished Lecture, Washington University St. Louis, March 1997
Distinguished Lecture, University of Massachusetts, October 1997

Mastering the Complexity of Human – Machine Interaction
Carl Friedrich von Siemens Foundation "Nymphenburg Talks",
Nymphenburg Palace, München, June 1995
Technical University München, June 1995

Information Visualization: The Need for a Data Base Approach
Keynote lecture, IFIP Working Conference on Data Semantics, June 1995

Information Visualization: The Next Frontier for Computer Graphics
Keynote lecture, Symposium on Advanced Information Processing and
Analysis, March 1995
Keynote lecture, Visualization Workshop for the US Government's
Intelligence Community (AIPASG – P1000), September 1994.

Integrating Computer Technology, People Technology and Application Technology: Strategies and Case Studies from Georgia Tech's Graphics, Visualization & Usability Center
Hitachi Research Laboratory, May 1995
NEC C&C Research Laboratory, May 1995
Mitsubishi Electric Research Laboratory (MERL), March 1995
Advanced Visual Interfaces Workshop, Italy, June 1994
Clark Atlanta University, 1994
Mechanical Engineering Department, Georgia Tech, 1994

User-computer Interfaces: the Last Frontier
Siemens Central Research Labs, München, May 1994

Virtual Environments for Medical Applications
National Institutes of Health, Bethesda, 1994

Model-based User Interface Development Tools
Keynote lecture, Eurographics Workshop on Design, Specification and Verification of
Interactive Systems, Italy, June 1994
University of Colorado, 1994
US West, 1994
Distinguished Speaker Series, Clemson University, 1993
University of Maryland, April 1993
Distinguished Speaker Series, Carnegie-Mellon University, 1993
Sun Microsystems, 1993

Research Directions in Graphics, Visualization & Usability
Mitsubishi Electric Research Laboratory (MERL), September 1992

Siemens Central Research Labs, München, November 1992

Future Directions in User Interface Software
Sun Microsystems, 1991
Delft University, The Netherlands, 1991
Plenary Speaker, Gesellschaft für Informatik Annual Meeting, Darmstadt, 1991
Banquet Speaker, Conference on Organizational Computing Systems, Atlanta, 1991

Computer Graphics: An Enabler of Human Potential
John J. Karakash Invited Lecture, Lehigh University, April 1991

Interactive Computer Graphics: Ten Years of Progress, 1981 to 1990
Siemens Central Research Labs, München, February 1991

Multimedia: A Commentary
Siemens Central Research Labs, München, February 1991

Artificial Realities and Scientific Data Visualization: Possibilities for Clinical Data Management and Understanding
Hewlett-Packard Lecture on Medical Informatics, Society for Clinical Data Management Systems Annual Conference, March 1991

Scientific Data Visualization
Keynote lecture, Computer Use by Engineers (CUBE) Conference, Santa Fe, 1990

Expert Systems and Scientific Data Visualization: The Interface
USRA Annual Meeting, Washington DC, March 1990

Next Generation User Interface Development Tools
Open Software Foundation User Interface Conference, April 1989
Keynote lecture, Eurographics Conference, September 1989
Siemens Corporation Research Center, Munich, Germany, September 1989
Fraunhofer-Institut für Datenverarbeitung, Karlsruhe, Germany, September 1989
Georgia Institute of Technology, April 1990
Lehigh University, April 1991

The User-Computer Interface: The Next Frontier
Smithsonian Associates – Inaugural Session in series entitled "Frontiers of Computer Science: New Issues and New Answers", April 1989

Expert Systems Applied to the Design of Graphical User Interfaces
Distinguished Lecture Series on Computer Graphics, IBM T. J. Watson Research Center, May 1989
UCLA, September 1989

Interaction in Computer Graphics – Past, Present, Future
Keynote Speech, TAE User's Group, June 1988

The User Interface Design Environment
Software Productivity Consortium, November 1989
University of Tampere, Finland, June 1989
John Von Neuman Computer Center, May 1988
Rutgers University, November 1988

Transformations on a Formal Representation of User-Computer Interfaces
University of Toronto, March 1987

College of William and Mary, April 1987
IBM T.J. Watson Research Center, May 1987
Software Productivity Consortium, May 1987
University of Waterloo, November 1987
MCC, December 1987
Brigham Young University, February 1988
University of Colorado, April 1988

Computer Graphics at the Interface: A Tool for Modern Times
ACM National Conference, February 1987

User Interface Documentation and Testing
Army Research Institute, April 1985
American Institutes for Research, April 1985

User-Computer Interfaces
Keynote Speech, Nicograph Conference, Tokyo, November 1985

Managing the Design of User-Computer Interfaces
Computervision Corporation, 1993
Center for the Study of Data Processing, Washington University, January 1985
Computer Graphics '85 West Tutorial Course, June 1985
NCGA National Conference Tutorial, April 1985, May 1986, March 1987
Computer Sciences Corporation, February 1985
Defense Computer Graphics Conference Tutorial, Dec. 1984, Nov. 1985, Oct. 1986
SIGCHI National Conference, April 1986

State-of-the-Art in Computer Graphics
NASA Symposium on Advances and Trends in Structures and Dynamics, October 1984

Five Invited Lectures on Computer Graphics
Institute of Automation, Academica Sinica, Beijing, People's Republic of China, June 1985

Three Invited Lectures on Computer Graphics
Northwestern Polytechnic University, Xi'an, People's Republic of China, June 1985

Computer Graphics Issues in Office Automation
Office Automation Conference, February 1985
Computer Graphics '85 West, June 1985

State-of-the-Art in User-Computer Interfaces
Rensselear Polytechnic Institute, November 1983
ITT Research Labs, March 1984
Army Research Institute, August 1984

How to Design User-Computer Interfaces
NCGA Conference Tutorial Course, May 1984
Scitex Corporation, September 1984
SIGGRAPH Conference Tutorial Course, July 1984 (top-rated course), Aug. 1982, July 1981, July 1985, August 1986
Interact '84 Tutorial Course, September 1984
SIGCHI National Conference Tutorial Course, April 1987, April 1988, April 1989, April 1990, April 1991

A History of Interaction in Computer Graphics
Videotape presented at SIGGRAPH'84 Keynote Session, Computer Graphics – Six Perennial Issues

A Framework for the Design, Evaluation, and Implementation of User-Computer Interfaces
University of Maryland, April 1982
Graphics Interface '82, Toronto, May 1982
Harvard Computer Graphics Week, Boston, July 1982
National Bureau of Standards, July 1982

Tools for the Designers of User-Computer Interfaces
NCGA Conference, Baltimore, June 1981
Georgia Institute of Technology Workshop on User-Computer Interfaces, Atlanta, March 1981

Basic Graphics Hardware and Software
Eurographics Conference Tutorial Course, Darmstadt, Germany, September 1981

Important Trends in Interactive Computer Graphics
Washington, D.C. ACM Chapter, February 1980

User Interface Design Methodology for Interactive Systems
University of Virginia, February 1981

A Standard Core Graphics System
National Bureau of Standards, February 1979
United States Geological Survey, May 1979
European Share Meeting, The Netherlands, April 1979

Optimum Design of Two-Computer Networks, Los Alamos National Labs, October 1980

Raster Graphics Hardware and Software
SIGGRAPH Conference Tutorial Course, August 1978 and August 1979

Computer Graphics Hardware
Association of American Cartographers, February 1978

Panel Sessions – Participant

"UIST '007 – Where will we be in 10 years?"
UIST '97, October 1997

"Technology Transfer"
CHI '96 Annual Conference, April 1996

"Visualizing the Information Super Highway"
CHI '96 Annual Conference, April 1996
Visualization Conference, October 1995
SIGGRAPH '95 Annual Conference, August 1995

"Model-Based User Interface Development Tools
UIST '94, November 1994

"Scientific Data Visualization Software"
SIGGRAPH '89 Annual Conference, August 1989

"Human Factors of Interactive Systems"
SIGGRAPH'79 Annual Conference, July 1979

"People-Oriented Computing"
ACM Annual Conference, May 1979

"The Future of Computer Graphics"
IFIP, Toronto, August 1977

Corporate and Charitable Boards

NuBridges, Atlanta GA 2001–2005

Mitsubishi Electric Information Technology Center America, 1996–99 (Chairman, 1998–99)

Mitsubishi Electric America, 1998

Patriot Trails Girl Scout Council , 1997–99

Computer Graphics Consultants, 1983–95

Tour Designs, 1980–

Consulting clients

America On Line
Ashton-Tate
AT&T
Bell Telephone Labs
Boeing
Broadcom
Burroughs Corporation
Bellcore
Century Computing Corporation
Cirrus Logic
Digital Equipment Corporation
Eastman Kodak Corporation
General Electric
IBM
Institute for Defense Analysis
Los Alamos Labs
Macromedia
Microsoft Corporation
National Bureau of Standards
National Cash Register
National Security Agency
NASA Goddard
Open Software Foundation
Quark
Scientific Atlanta
Sybase Corporation
Tektronix
Wacom
Weyerhauser Corporation
Witness Systems

BIBLIOGRAPHY

Books

J. Foley, A. van Dam, S. Feiner, J. Hughes, *C Edition – Interactive Computer Graphics: Principles and Practice*, Addison-Wesley, Reading, MA, 1174 pp., 1995. Translated into Japanese.

J. Foley, A. van Dam, S. Feiner, J. Hughes, and R. Phillips, *Introduction to Computer Graphics*, Addison-Wesley, Reading, MA, 559 pp., 1993. Translated into German, French, Polish, and Spanish.

J. Foley, A. van Dam, S. Feiner, J. Hughes, *Interactive Computer Graphics: Principles and Practice*, Addison-Wesley, Reading, MA, 1174 pp., 1990.

J. Foley and A. van Dam, *Fundamentals of Interactive Computer Graphics*, Addison-Wesley (IBM Systems Programming Series), Reading, MA, 664 pp., 1982. Translated into Chinese, Japanese, and Russian (approximately 300,000 copies of these four books in print as of 1998).

Edited Books

J. Encarnacao and J. Foley, Eds., *Multimedia*, Springer-Verlag, Berlin, Germany, 253 pp., 1994.

Book Forewords

Interaction Design 2nd ed, Preece Rogers and Sharp, Wiley, 2007.

3D User Interfaces: Theory and Practice Bowman et al, Addison-Wesley, Boston, 2004.

Shaping Web Usability, A. Badre, Addison Wesley, Boston, 2002.

Software Visualization: Programming as a Multimedia Experience, J. Stasko, J. Domingue, M. Brown, and B. Price, eds., MIT Press, Cambridge, 1998, pp. xi–xiii.

User Interface Development: Ensuring Usability Through Product and Process, D. Hix and R. Hartson, John Wiley and Sons, New York, 1993, pp. v–viii.

Refereed Publications

Clarkson, E., Foley, J and Desai, K. ResultMaps: Visualization for Search Interfaces. To appear in *IEEE Transactions on Visualization and Computer Graphics*. Also to be presented at the IEEE InfoVis 2009 Conference.

Clarkson, E., Navathe, S. and Foley, J. Generalized Formal Models for Faceted User Interfaces. To appear in *Proceedings of IEEE/ACM JCDL '09.*

Day, J. and J. Foley, Evaluating a Web Lecture Intervention in a Human-Computer Interaction Course, *IEEE Transactions on Education*, 49(4), November 2006, pp. 420-431 (best paper of the year award).

J. Foley, S. Card, D. Ebert, A. MacEachren, B. Ribarsky, "Visual Analytics Education," VAST ,pp.209-211, *2006 IEEE Symposium On Visual Analytics Science And Technology*, 2006.

Clarkson, E. and J. Foley, Browsing Affordance Designs for the Human-Centered Computing Education Digital Library, *ACM/IEEE Joint Conference on Digital Libraries* '06, p. 361.

Clarkson, E., J. Day, and J. Foley, An Educational Digital Library for Human-Centered Computing, *CHI 2006 Extended Abstracts on Human Factors in Computing Systems*, ACM, New York, NY, pp. 646-651.

Day, J. and Foley, J. 2006. Evaluating web lectures: a case study from HCI. In *CHI 2006 Extended Abstracts on Human Factors in Computing Systems*, CHI 2006. ACM, New York, NY, pp. 195-200.

Day, J. A., Foley, J. D., Groeneweg, R., and Van der Mast, C., "Enhancing the Classroom Learning Experience with Web Lectures," *Proc. International Conference of Computers in Education* (2005), pp. 638-641.

Foley, J., Getting There: The Top Ten Problems Left (invited paper), *IEEE Computer Graphics and Applications*, Special Issue on the future of computer graphics, 20(1), January 2000, pp. 66–68.

Foley, J., 1997 Steven A. Coons Award Acceptance Speech – Three Challenges to the Computer Graphics Community, *Computer Graphics*, 32(1), February 1998, pp. 82–85.

Foley, J., Technology Transfer from University to Industry, *Communications of the ACM*, 39(9), September 1996, pp. 30–31.

Frank, M., P. Sukaviriya, J. Foley, Inference Bear: Designing Interactive Interfaces through Before and After Snapshots, *Proceedings DIS '95 – Symposium on Designing Interactive Systems: Processes, Practices, Methods, and Techniques*, August 1995, Ann Arbor, Michigan, pp. 167–175.

Mukherjea, S., J. Foley and S. Hudson, Visualizing Complex Hypermedia Networks through Multiple Hierarchical Views, *Proceedings of ACM SIGCHI '95*, May 1995, Denver, Colorado, pp. 331–337.

Mukherjea, S. and J. Foley, Visualizing the World-Wide Web with the Navigational View Builder, *Computer Networks and ISDN Systems, Special Issue on the Third International World-Wide Web Conference*, 27 (6), April 1995, pp. 1075–1087, http://www.elsevier.nl

Foley, J. and J. Pitkow, Eds. *Report of the NSF Workshop on WWW Research Issues*, http://www.cc.gatech.edu/gvu/nsf-ws/report/Report.html.

Frank, M. and Foley, J. A Pure Reasoning Engine for Programming by Demonstration. In *Proceedings of UIST'94, ACM Symposium on User Interface Software and Technology*, (November 2–4, Marina del Rey, California) ACM, New York, 1994.

Mukherjea, S., J. Foley and S. Hudson, Interactive Clustering for Navigating in Hypermedia Systems, *Proceedings of the ACM European Conference on Hypermedia Technology*, pp. 136–145, September 1994, Edinburgh, Scotland.

Encarnacao, J., J. Foley *et. al.*, Research Issues in Perception and User Interfaces, *IEEE Computer Graphics and Applications*, 14(2), March 1994, pp. 67–69.

Byrne, M., S. Wood, P. Sukaviriya, J. Foley, and D. Kieras, Automating Interface Evaluation, *Proceedings CHI'94 – SIGCHI 1994 Computer Human Interaction Conference*, ACM, New York, NY, 1994, pp. 232– 237.

Mukherjea, Sougata and J. Foley, *Navigational View Builder: A Tool for Building Navigational Views of Information Spaces*, CHI '94 Conference Companion, p. 289–290.

Frank, M. and J. Foley, Model-Based User Interface Design by Example and by Interview, Proceedings of UIST'93, Nov. 1993, pp. 129–137.

Frank, M. and J. Foley, Model-Based User Interface Design by Example and by Answering Questions, Proceedings INTERCHI 1993, ACM, New York, 1993, pp. 161–162.

Kuehme, T., U. Maliknowski and J. Foley, Facilitating Interactive Tool Selection by Adaptive Prompting, Adjunct

Proceedings INTERCHI 1993, ACM, New York, pp. 149–150.

Kim, W and J. Foley, Providing High-level Control and Expert Assistance in User Interface Presentation Design, Proceedings INTERCHI 1993, ACM, New York, pp. 430–437.

Sukaviriya, P., J. Foley and T. Griffith, A Second Generation User Interface Design Environment: The Model And The Runtime Architecture, Proceedings INTERCHI 1993, ACM, New York, pp. 375–382.

Sukaviriya, P. and J. Foley, Supporting Adaptive Interfaces in a Knowledge-based User Interface Environment, 1993 International Workshop on Intelligent User Interfaces, pp. 107–113.

Neches, R., J. Foley, P. Szekely, P. Sukaviriya, P. Luo, S. Kovacevic and S. Hudson, Knowledgeable Development Environments Using Shared Design Models. 1993 International Workshop on Intelligent User Interfaces, pp. 63–70.

D. Olsen, J. Foley, S Hudson, J. Miller, and B. Myers, Research Directions for User Interface Software Tools, *Behavior and Information Technology*, 12 (2), March-April 1993, pp. 80–97.

Gieskens, D. and J. Foley, Controlling User Interface Objects Through Pre- and Postconditions, *Proceedings CHI'92 – SIGCHI 1992 Computer Human Interaction Conference*, ACM, New York, NY, 1992, pp. 189–194.

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Graduate Fellowships, Department of Homeland Security, September 2008-July 2011, $400,000

Department of Energy Battelle Pacific Northwest Labs, January 2006-December 2008, John Stasko PI, approx $375,000 a year.

Established the GVU Industrial Affiliates Program, which created equipment, personnel, research grant, and membership fees of $3,124,200, 1991–96

Georgia Research Alliance equipment grant, $300,000, 1996–97

ASSERT ARPA Fellowship, $85,000, 1995–98

HCI Traineeships, NSF, $535,000, 1994–99

IBM SP-2 Parallel Computer, IBM SUR program, 1994, $800,000. Co-principal investigator with Karsten Schwan and Peter Freeman

MASTERMIND Model-based User Interface Development Tool, ARPA (via subcontract from ISI), $538,300, 1994–97

NSF/IRIS Workshop on the World-Wide Web, 1994–95, NSF, $8,000

Multimedia Educational Material, GRA/GCATT, $18,000 (split 50-50 with Georgia State)

Interactive Graphics Infrastructure, GRA, $18,000

Dagstuhl Workshop on Multimedia, NSF, 1994, $18,000.

User Interface Research, Schlumberger Foundation, $75,000, 1994–96.

Multimedia Educational Material, NSF, September 1994 – August 1996, $200,000. Co-principal Investigator with John Stasko and Mark Guzdial.

Multimedia Databases and User Interfaces, Digital Equipment Corporation, September 1992 – August 1995, $930,000 funding plus $450,000 of equipment, Co-Principal Investigator with Sham Navathe and Bob Fulton. (Includes on-site researchers from DEC and BellSouth.)

An Environment for Educational Delivery and Development for Computing, NSF, September 1992 – August 1994, $200,000, Co-Principal Investigator with Mike McCracken, Scott Hudson, Daryl Lawton, John Stasko.

Adaptive User Interfaces, Siemens Corporation, Oct 1991 – September 1994, $432,000, Principal Investigator. (Includes on-site Siemens researcher.)

User Interface Research, Sun Microsystems, July 1992 – June 1994, $500,000 funding plus $60,000 of equipment, Principal Investigator.

Pre and Postconditions for User Interface Widgets, Sun Microsystems, $22,500, July 1991– June 1992, Principal Investigator.

Automatic Layout of Dialogue Boxes and Menus, Sun Microsystems, $22,500, July 1991– June 1992, Principal Investigator.

Computer Graphics Equipment, Sun Microsystems, $125,000, 1991, Principal Investigator.

User Interface Designer's Aide, National Science Foundation, $25,000, 1991, Principal Investigator.

On-line Context Sensitive Help, Sun Microsystems, $105,000, July 1991– June 1992, Principal Investigator.

Research Support – The George Washington University

Integrated Program for Aerospace Design (IPAD) – Graphics and Data Bases, NASA-Langley Research Center, $10,000, 1977–78

Raster Extensions to GCS, Waterways Experiment Station, $4,000, 1978, Principal Investigator.

Raster Graphics Extensions to the Core System, NASA-Langley Research Center, $101,000, 1978–82, Principal Investigator.

The Design of Man-Computer Graphics Conversation, Army Research Institute, $48,869, 1979, Co-principal investigator with V. Wallace.

Research on Information Display Systems, Department of Energy, $844,000,1979–82; Co-Principal Investigator with M. Feldman.

Interaction Equipment Purchase Grant, Army Research Institute, $25,000, 1982, Principal Investigator.

Computer Equipment, International Business Machines, $2,000,000, 1982, with D. Esterling (Principal Investigator).

Computer Graphics Equipment, Evans & Sutherland Computer Corporation, $80,000, 1983, Principal Investigator.

Dynamic Process Visualization, National Bureau of Standards, $140,000, 1983–86, Principal Investigator.

Graphics Programming Languages, NASA, $50,000, 1984–86, Principal Investigator.

Scientific Workstation Research, Department of Energy, $165,000, 1983–86, Principal Investigator.

User Interface Designer's Aide, National Science Foundation, $120,000, 1986–88, Principal Investigator.

Research Fellowships in Robotics, Computer Graphics, Industrial Automation, and Computer Integrated Automation, National Bureau of Standards, $42,744, 1985–86, Co-Principal Investigator with M. Loew.

Research Fellowships in Robotics, Computer Graphics, Industrial Automation, and Computer Integrated Automation, National Bureau of Standards, $35,104, 1986–87, Co-Principal Investigator with D. Esterling.

Relationship in Data Models for User Interface Management Systems, IBM T. J. Watson Research Center, $40,000, 1987–88, Co-Principal Investigator with J. Sibert.

Improved Interfaces to User Interface Design Tools, Software Productivity Consortium, $60,000, 1988, Principal Investigator.

Workshop on Undergraduate Computer Science Education, National Science Foundation, $8000, 1988, Principal Investigator.

Intelligent User-Computer Interfaces, Siemens Corporation, $20,000, 1988, Principal Investigator.

Center for Excellence in Space Data Information Systems (NASA-Goddard), $400,000, 1988–1991, Co-Principal

Investigator with J. Sibert.

Computer Graphics Equipment, Hewlett-Packard Corporation, $1,500,000, 1988, Hewlett-Packard Corporation, Co-PI with M. White.

User Interface Designer's Aide, National Science Foundation, $140,000, 1989–90, Principal Investigator.

Intelligent User-Computer Interfaces, Siemens Corporation, $25,000, 1990, Principal Investigator.

Computer Graphics Equipment, Sun Microsystems, $100,000, 1990, Principal Investigator.

Research Support – University of North Carolina

Research on Displays – Visual and Kinesthetic, NSF, $325,000, 1972–75; Co-Principal investigator with F. Brooks, Jr.

Graphics System Modelling, Rome Development Center, $182,000, 1973–76, Co-Principal investigator with V. Wallace.

Interactive Graphics for Molecular Studies, National Institutes of Health, $150,000, 1974–76; with S. Kim, J. Hermans, V. Wallace and F. Brooks, Jr., (principal investigator).

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EGAN DECLARATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent No.:	**6,928,433**	Reexam Control No.:	**95/001,274**
Original Issue Date:	August 9, 2005	Examiner:	STEELMAN, MARY J.
Original Serial No.:	09/755,723	Group Art Unit:	3992
Original Filing Date:	January 5, 2001	Confirmation No.:	6990
By:	Ron Goodman, Howard N. Egan, David Bristow		
For:	AUTOMATIC HIERARCHICAL CATEGORIZATION OF MUSIC BY METADATA		

Mail Stop *Inter Partes* Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF HOWARD N. EGAN UNDER 37 CFR § 1.131

State of California

I, Howard N. Egan, being duly sworn, depose and say:

1. I am one of the inventors named on U.S. Patent No. 6,928,433 (the "`433 Patent"), which is the subject of the above-identified reexamination proceeding. I previously assigned my interest in the `433 Patent to Creative Technology Ltd.

2. I am currently an employee of Creative Advanced Technology Center ("Creative ATC"), located in Scotts Valley, California. Creative ATC is a wholly owned subsidiary of Creative Technology Ltd. Creative ATC was formed in 1999 via the merging of Silicon Engineering and the Joint Emu/Creative Technology Center, which had its roots as part of E-MU Systems, Inc. ("E-MU"). E-MU is also a wholly owned subsidiary of Creative Technology Ltd. I was originally hired by E-MU in August of 1999, but shortly thereafter I was transferred to Creative ATC. However, my primary job responsibilities did not change as a result of that restructuring.

3. I have been asked to provide evidence and testimony concerning the conception and reduction to practice of the inventions defined in the original claims 1-16 of the `433 Patent, as well as newly presented claims 17 through 33 of the `433 Patent.

4. It has been explained to me that conception is "the formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice." I have also been informed that "conception is established when the invention is made sufficiently clear to enable one skilled in the art to reduce it to practice without the exercise of extensive experimentation or the exercise of inventive skill."

5. It has also been explained to me that a reduction to practice occurs when: (1) a party constructed an embodiment or performed a process that met every element of the claim, and (2) the embodiment or process operated for its intended purpose. I also understand that a reduction to practice of an invention can be done by the inventors, and/or by others on behalf of the inventors.

6. For all of the reasons explained herein, and based on the evidence discussed herein, the Inventors conceived the methods recited in claims 1-33 of the `433 Patent at least as early as December 14, 1999.

7. For all of the reasons explained herein, and based on the evidence discussed herein, I believe that the Inventors and others reduced to practice the methods recited in claims 1-33 of the `433 Patent **both:** on **Dec. 14, 1999** in the form of a first prototype; **and** on **Jan. 4, 2000** in the form of a second prototype. In sections below, I will explain the differences between the first and second prototypes, how they were developed, how they worked, and under what conditions they were tested.

8. I have also been asked to provide evidence and testimony concerning the exercise of diligence by the Inventors towards reducing the invention to practice during the period between December 14, 1999 and January 4, 2000.

Overview of The R&D Project That Spawned The Inventions of the `433 Patent

9. The inventions of claims 1-33 of the `433 Patent were conceived and reduced to practice as a result of efforts by the Inventors while working on a research and development ("R&D") project that was known to engineers at Creative ATC and at E-MU in 1999 as the "Oasis" (or sometimes alternatively the "Nomad Jukebox") R&D project.

10. Development of the Nomad Jukebox began in early 1999 when members of the Oasis R&D team specified the basic concept of a portable media "Jukebox" player using a hard disk drive to store songs (or "tracks"). The use of a hard disk drive distinguished the Nomad "Jukebox" concept from Creative's earlier portable media players which used flash memory to store songs. The number of songs that could be stored on this portable digital media player was dramatically greater than the flash

based players. However, the large number of songs presented a significant problem - how to conveniently organize and access the ever growing number of songs stored on these devices in view of their small display screens and limited controls. The inventions claimed in the '433 Patent were conceived by the Inventors while addressing this problem.

11. Different members of the Oasis R&D team focused on different aspects of the Nomad Jukebox development. There were sub-groups focusing on electrical hardware development, mechanical parts, software, as well as other aspects of the product development. In 1999, some of the members of the Oasis R&D team were employees of E-MU and some were employees of Creative ATC. When I joined E-MU in August of 1999, I was immediately deployed to work on the Oasis R&D team. Mr. Goodman (one of my co-inventors) and I focused on the development of embedded software for the Nomad Jukebox product. As explained below, the methods claimed in the '433 Patent were ultimately implemented as embedded software (sometimes called "firmware") on a Nomad jukebox portable media player. I began work on the firmware development in August of 1999. By October of 1999, the team began committing our firmware development work (*i.e.*, source code) into a version control system called the concurrent versioning system (or "CVS"). We used the CVS to keep records of changes in the source code from one version to the next.

12. Creative ATC still possesses the same CVS database that was originally used in developing the Nomad Jukebox source code in 1999. The CVS allows for taking a "snapshot" of the state of development at any time during the history of project development. The CVS also maintains "check-in logs." In preparation of this declaration, I have reviewed and analyzed the Oasis source code stored in the CVS in the 1999-2000 time frame, focusing mostly on the code as it was developed during the period Nov. 10, 1999 through Jan. 10, 2000. I have also reviewed check-in logs on the CVS, and generated two snapshots of the code. Our check-in logs indicate that I checked in many different versions of the Nomad Jukebox source code, including versions checked in on Dec. 14, 1999 and Jan. 4, 2000. As explained below, I have prepared a "checkout" of the Nomad Jukebox source code for all code that was committed on or before Dec. 14, 1999. I have also prepared a "checkout" of the Nomad Jukebox source code for all code that was committed on or before Jan. 4, 2000.

Overview of Materials Attached Hereto

13. In preparing this declaration, I have reviewed the '433 Patent, including original claims 1-16. In addition, I have been provided a list of newly added claims 17-33, which are reproduced herein.

14. In preparing this declaration, I have reviewed all of the below-listed documents, which are

attached hereto as exhibits A through QQ. I have personal knowledge of all of the below-listed documents. I shall describe each of the below-listed documents as I make reference to them throughout this declaration.

Exhibit	Document
A	C:\Projects\OASIS_Review\ Dec14_1999_OasisFileList.txt
B	Source code file "LibraryTree.cpp" dated Dec. 14, 1999
C	Source code file "LibraryTree.h" dated Dec. 14, 1999
D	Source code file "LCDLibPage.cpp" dated Dec. 14, 1999
E	Source code file "LCDLibPage.h" dated Dec. 14, 1999
F	Source code file "LCDMgr.cpp" dated Dec. 14, 1999
G	Source code file "LCDMgr.h" dated Dec. 14, 1999
H	Source code file "NowPlayingQ.cpp" dated Dec. 14, 1999
I	Source code file "NowPlayingQ.h" dated Dec. 14, 1999
J	Source code file "LCDQListPage.cpp" dated Dec. 14, 1999
K	Source code file "LCDQListPage.h" dated Dec. 14, 1999
L	Source code file "LCDListBox.cpp" dated Dec. 14, 1999
M	Source code file "LCDListBox.h" dated Dec. 14, 1999
N	Source code file "LCDPage.cpp" dated Dec. 14, 1999
O	Source code file "LCDPage.h" dated Dec. 14, 1999
P	Marketing Requirements Document (03/09/99)
Q	Oasis Block Diagram, dated May 26, 1999
R	Printed Circuit Board (PCB) Layout for Oasis, dated July 1999
S	Oasis Operating System Software Diagram, Rev. 5, dated Nov. 7, 1999
T	Drawing showing "Oasis Nomenclature," dated Nov. 8, 1999
U	Pictures of Oasis Test Fixture Board (PC10536 Rev 1), Creative Technologies, Inc. © 1999
V	Creative Engineering Laboratory Notebook kept by Daniel Freeman, Issued 12/3/97, Logbook No. EE-109344-0007
W	Creative Engineering Laboratory Notebook kept by Daniel Freeman, Issued 12/3/97, Logbook No. EE-109344-0004
X	E-mail sent by Dan Freeman on December 28, 1999 to Andrei Veltchev and Howard Egan regarding "ARM Initialization Pwr Up/Down for CES"
Y	E-mail sent by Dan Freeman on December 30, 1999 to Howard Egan along with attached Word document, entitled "Script Guideline: Public Demonstration"

Exhibit	Document
Z	CVS LOG of all activity on Oasis source code between November 10, 1999 and January 10, 2000
AA	List of source code files (01/__/2000)
BB	Source code file "LibraryTree.cpp" dated Jan. 4, 2000
CC	Source code file "LibraryTree.h" dated Jan. 4, 2000
DD	Source code file "LCDLibPage.cpp" dated Jan. 4, 2000
EE	Source code file "LCDLibPage.h" dated Jan. 4, 2000
FF	Source code file "LCDMgr.cpp" dated Jan. 4, 2000
GG	Source code file "LCDMgr.h" dated Jan. 4, 2000
HH	Source code file "NowPlayingQ.cpp" dated Jan. 4, 2000
II	Source code file "NowPlayingQ.h" dated Jan. 4, 2000
JJ	Source code file "LCDQListPage.cpp" dated Jan. 4, 2000
KK	Source code file "LCDQListPage.h" dated Jan. 4, 2000
LL	Source code file "LCDListBox.cpp" dated Jan. 4, 2000
MM	Source code file "LCDListBox.h" dated Jan. 4, 2000
NN	Source code file "LCDPage.cpp" dated Jan. 4, 2000
OO	Source code file "LCDPage.h" dated Jan. 4, 2000
PP	January 5, 2000 Press Release from Creative, entitled "Creative Expands Nomad Family With New Portable Digital Audio Players"
QQ	January 28, 2000 Press Release from Creative, entitled "Creative Technology Posts Better Than Expected Q2 FY00 Earnings"

15. Exhibit A is a copy of a list of source code files from a checkout of all Nomad Jukebox source code that was committed to the CVS on or before December 14, 1999. Exhibits B through O show the state of certain Oasis source code files (*i.e.,* those relevant to conception and reduction to practice of the inventions of the `433 Patent) as they existed on December 14, 1999. As explained in detail below, these source code files were used to implement a working prototype of the inventions recited in claims 1-33 of the `433 Patent.

16. Exhibit AA is a copy of a list of source code files from a checkout of all Nomad Jukebox source code that was committed to the CVS on or before January 4, 2000. Exhibits BB through OO show the state of certain Oasis source code files (*i.e.,* those relevant to conception and reduction to practice of the inventions of the `433 Patent) as they existed on January 4, 2000. As explained in detail below, these source code files were used to implement a second working prototype of the inventions recited in claims 1-33 of the `433 Patent.

17. As mentioned, the Oasis firmware was designed to be used on a portable Jukebox audio player having a high-capacity hard disk drive for storing a large number of songs. A Marketing Requirements Document, prepared by Dan Freeman on March 9, 1999, outlines the basic concept. *See* Exh. P. Dan Freeman was the leader of the electrical hardware development sub-group of the Oasis R&D project. Mr. Freeman's Marketing Requirements Document describes some of the elements of claim 1 of the '433 Patent. *See* Exh. P, p. 1 (describing a "portable MP3 audio player" having "50 audio CD's worth of music on its internal hard disk," "DSP features" for playing music); *see also id.*, p. 2 (describing "song search and playlist support," an "LCD," a "user interface," "buttons"). This Marketing Requirements Document also states that the "user interface on Oasis will allow users to browse songs by song name, artist name, or genre," and further that "[m]ultiple playlists can be created and stored on the internal hard disk." *Id.*., p.2. While I was not yet a member of the Oasis R&D team in March of 1999, I reviewed this Marketing Requirements Document shortly after joining the team in August of 1999.

18. Exhibit Q is a document dated May 26, 1999 showing an "Oasis Block Diagram." *Id.* The diagram shows: an Acorn RISC machine ("ARM") type processing unit (i.e., "Cirrus 7212") designed for executing embedded software including graphical user interface functions; a Hard Disk Drive designed for storing songs; a liquid crystal display ("LCD") designed for displaying graphical user interface screens; dynamic random access memory ("DRAM") designed for storing the operating system and other code during operation of the device; a "Boot Flash' memory for storing boot-loader code, which was designed to access the operating system code from the Hard Disk Drive for loading into the DRAM upon initialization of the system; and a digital signal processor ("DSP") and other components for playing songs accessed from Hard Disk Drive. *Id.* While I was not responsible for designing the hardware of the Nomad Jukebox, I was very familiar with the hardware design shown in Exhibit Q because it was essential to my task of developing the firmware. While there were subsequent changes to the design shown in Exhibit Q, all subsequent iterations of the hardware included at least the components I have called out above in this paragraph.

19. Exhibit R is a copy of a printed circuit board ("PCB") layout dated July 1999 for the "Oasis" system. *Id.* While I was not responsible for designing the PCB layouts for Oasis, I was very familiar with the PCB layouts because some degree of familiarity was essential to my task of developing the firmware. As explained below, beginning in November of 1999, I began testing firmware loaded onto actual prototypes of the Oasis system that were further developed based on the documents shown in Exhibits Q and R.

20. Exhibit S is a copy of the "Oasis Operating System Software Diagram," dated November 7, 1999. I participated in creating this software design for the Oasis Operating System, which included many different components. *Id.* As shown, the Oasis Operating System included modules relevant to reduction to practice of the claims recited in the '433 Patent, including: (1) a front panel user interface manager "Front Panel U/I Manager (FPUI)" for controlling "which screen is currently displayed" and for calling appropriate "screen control functions based on button presses or notification events"; (2) a "Now Playing" List queue of playlists and/or tracks; (3) a playback manager ("Playback Mgr"); (4) a digital signal processor manager ("DSP Mgr") ; and other ancillary functions. *Id.* This diagram provides a basic overview of the source code for the Oasis embedded software as it as being developed in early November of 1999. Further details of the source code are described below.

21. In parallel with the development of the hardware and software for Oasis, other team members were working on development of a plastic casing for the Nomad Jukebox. Exhibit T is a copy of a drawing, dated November 8, 1999, and showing an early version of the plastic casing. *Id.* The drawing shows a display screen as well as buttons for controlling the user interface that I was developing along with other members member of the Oasis embedded software development sub-group including my co-inventor on the '433 Patent, Ron Goodman.

December 14, 1999 Oasis Source Code

22. As mentioned above, Exhibit A is a copy of a list of source code files from a checkout of all Oasis source code that was committed to the CVS on or before Dec. 14, 1999. Exhibits B through O show the state of certain Oasis source code files (*i.e.,* those relevant to conception and reduction to practice of the inventions of the '433 Patent) as they existed on Dec. 14, 1999. As explained in detail below, these source code files were used to implement a working prototype of the inventions recited in claims 1-33 of the '433 Patent.

23. I shall now explain the status of the Oasis source code as of Dec. 14, 1999. The files LibraryTree.cpp (*see* Exh. B) and LibraryTree.h (*see* Exh. C) implement a hierarchy in the form of a library tree. The library tree is built at system startup by traversing all the tracks stored in the file system. *Id.* Additionally, as the user adds tracks, the library tree is expanded. *Id.* The library tree stores human-readable information that is shown in a user interface, and also stores the actual details of where to find a particular track in the file system. *Id.* A display screen is displayed for every level of the hierarchy. *Id.* Thus, the entire display is replicated by the library tree. *Id.* This way the user-interface code traverses the tree and displays any items(s) at the current node. *Id.*

24. The files NowPlayingQ.cpp (*see* Exh. H) and NowPlayingQ.h (*see* Exh. I) implement a playlist. The files LCDLibPage.cpp (*see* Exh. D) and LCDLibPage.h (*see* Exh. E) implement the display of the library tree. Additionally these files enable the user to select and immediately play items from the tree, or queue items to an active playlist. The files LCDMgr.cpp (*see* Exh. F) and LCDMgr.h (*see* Exh. G) provide the overall control structure for all user interface elements. The files LCDQListPage.cpp (*see* Exh. J) and LCDQListPage.h (*see* Exh. K) implement the display and control of a playlist (or "queue"). The files LCDListBox.cpp (*see* Exh. L) and LCDListBox.h (*see* Exh. M) provide user interface scrolling and selecting functions.

25. The majority of the user interface classes, including CLCDLibPage (*see* Exhs. D and E) and CLCDQListPage (*see* Exhs. J and K), inherit their list box type functionality from CLCDPage (*see* Exhs. N and O) via it's protected member CLCDListBox (*see* Exhs. L and M). So all scrolling or selecting of any kind of "item" is internally handled by the list box functionality.

26. The CLCDMgr (Liquid Crystal Display manager) class – provided by the files LCDMgr.cpp (Exh. F) and LCDMgr.h (Exh. G) - responds to user input events (*i.e.* pressing of soft-keys). The soft-keys are context dependent. Soft-key presses are passed along from the CLCDMgr to, for example, the CLCDLibPage class (*see* Exhs. D and E). This way the context dependent keypress is handled appropriately.

27. An active playlist - referred to in the source code as the NowPlayingQ - is implemented via classes CNowPlayingList and CNowPlayingMgr in files NowPlayingQ.cpp (*see* Exh. H) and NowPlayingQ.h (*see* Exh. I). The class CNowPlayingMgr maintains the currently playing list of tracks using the class CNowPlayingList. Anytime either the class CLCDLibPage "Queues" an item, or the class CLCDMgr "Plays" an item, it is done via the CNowPlayingMgr member functions PlayElement() or QElement(). *See* Exhs. H and I.

28. Presented below in "Table A" is a chart explaining how the Dec. 14, 1999 Oasis source code implements each and every element of claims 1-33 of the '433 Patent.

Table A

Claim Elements	Dec. 14, 1999 Oasis Source Code
1. A method of selecting at least one track from a plurality of tracks stored in	The Nomad Jukebox source code (implementing the Oasis operating system) was designed to be executed on a portable media player. Prior to December 14, 1999, the Oasis R&D team had implemented

Claim Elements	Dec. 14, 1999 Oasis Source Code
a computer-readable medium of a portable media player configured to present sequentially a first, second, and third display screen on the display of the media player,	a prototype portable media player in hardware. This prototype included a processor, memory, hard disk drive, a liquid crystal display (LCD) unit, and a line-level output for connection to a speaker for playing music tracks stored on the hard disk of the media player. The Oasis operating system was designed to be used on a portable MP3 audio player having: a hard disk drive for storing songs; a liquid crystal display (LCD); control buttons and user interface (UI) software for browsing songs by song name, artist, or genre, and for creating playlists; and electronics components for playing songs. See Exh. P, p. 1 (describing a "portable MP3 audio player" having "50 audio CD's worth of music on its internal hard disk," "DSP features" for playing music); Exh. P, p. 2 (describing "song search and playlist support," an "LCD," a "user interface," "buttons"); see also Exhs. Q, R, S, and T; see also Exh. Y. On or before December 14, 1999, the prototype portable media player was tested. The test results demonstrated that the prototype successfully implemented all of the functions of the December 14, 1999 version of the Nomad Jukebox source code. The source code files LibraryTree.cpp and LibraryTree.h implement a hierarchy in the form of a library tree. *See* Exhs. B and C. The library tree stores human-readable information that is shown in a user interface, and also stores the actual details of where to find a particular track in the file system. *Id.* A display screen is displayed for every level of the hierarchy. *Id.* Thus, the entire display is replicated by the library tree. *Id.* This way the user-interface code traverses the tree and displays any items(s) at the current node. *Id.* A plurality of musical "tracks" are stored in a computer-readable medium accessed via the library tree. *See* file LibraryTree.cpp at Exh. B, p. 2 (referring to a "tracks directory"); *see also* Exh. C. As indicated by developer notes in the source code, the "Class CLibTreeMgr creates and makes modifications as necessary to a tree structure whose purpose is to make the track data on disk logically and quickly navigable. It is currently rebuilt every time the system boots." *See* Exh. B, p. 1; Exh. C, p. 1. On entry into the Library display screen, the elements of the top level of the Library Tree are displayed by the CLCDLibPage class. *See* Exhs. D and E. The top level of the Library Tree has the following categories: "ALBUMS" "ARTISTS" "STYLES" "PLAY LISTS" *See, e.g.,* Exh. B, pp. 1-2.

Claim Elements	Dec. 14, 1999 Oasis Source Code
	The display of the above elements is one example of a "first ... display screen." From here the user has the option of opening any of the displayed categories by pressing an "Open" softkey (*see* CLCDLib Page::Softkey1Handler() at Exh. D, pp. 1 and 3; Exh. E, p. 1). The user moves the selection up and down lists by pressing up and down arrow keys, wherein the key presses are handled by the CLCDMgr (*see* Exh. F, p. 5) which in turn tells the CLCDLibPage (*see* Exhs. D and E) to scroll the highlight up or down. When the user presses "Open" with the "Albums" item highlighted, the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Albums, which is one example of a "second ... display screen." As explained above, the user can scroll up and down the list, and either Open, Queue, or Play an item. At this level, the Close softkey is also active. (*See* Exhs. D and E.) When the user again presses "Open" with a selected album highlighted, the CLCDLibPage class (*see* Exhs. D and E) redraws the screen showing a list of tracks corresponding to the album. This is one example of a "third display screen." At this point CLCDLibPage (*see* Exhs. D and E) again changes the soft key labels to replace "Open" with "Details". Pressing a Details button for any selected track will display more detailed information, such as album, artist, duration.
the plurality of tracks accessed according to a hierarchy,	The source code files LibraryTree.cpp and LibraryTree.h implement a "hierarchy" in the form of a library tree. *See* Exhs. B and C. The library tree is built at system startup by traversing tracks stored in a file system. *Id.* Additionally, as the user adds tracks, the library tree is expanded. *Id.* The library tree stores human-readable information that is shown in a user interface, and also stores the actual details of where to find a particular track in the file system. *Id.* A display screen is displayed for every level of the hierarchy. *Id.* Thus, the entire display is replicated by the library tree. *Id.* This way the user-interface code traverses the tree and displays any items(s) at the current node. *Id.* The library tree is implemented in class by the files LibraryTree.cpp (*see* Exh. B) and LibraryTree.h (*see* Exh. C). Tracks are "accessed" using the "hierarchy" in the form of a library tree. *See* Exhs. B and C. As indicated by developer notes in the files LibraryTree.cpp and LibraryTree.h, "Class CLibTreeMgr creates and makes modifications as necessary to a tree structure whose purpose is to make the track data on disk logically and quickly navigable. It is currently rebuilt every time the system boots." *See* Exh. B, p. 1; Exh. C, p. 1.
the hierarchy having a plurality of categories, subcategories, and items	The source code files LibraryTree.cpp and LibraryTree.h implement a hierarchy in the form of a library tree. *See* Exhs. B and C.

Claim Elements	Dec. 14, 1999 Oasis Source Code
respectively in a first, second, and third level of the hierarchy, the method comprising:	The library tree stores human-readable information that is shown in a user interface, and also stores the actual details of where to find a particular track in the file system. *Id.* A display screen is displayed for every level of the hierarchy. *Id.* Thus, the entire display is replicated by the library tree. *Id.* This way the user-interface code traverses the tree and displays any items(s) at the current node. *Id.* The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. The elements are one example of a plurality of "categories" in a first "level" of the "hierarchy." When the user presses "Open" with the "Artists" element highlighted, the CLCDLibPage class (*see* Exhs. D and E) gets a current list of Artists from an artist level of the library tree. This artist level is one example of a "second level" of the "hierarchy." The list of artists is one example of a plurality of "subcategories" in a "second level" of the "hierarchy." Now if a user presses "Open" with a particular Artist item highlighted, the CLCDLibPage class (*see* Exhs. D and E) gets a current list of Albums for the selected Artist from an album level of the hierarchy. This album level is one example of a "third level" of the "hierarchy." The list of albums is one example of a plurality of "items" in a "third level" of the "hierarchy." Now if a user presses "Open" with a particular Album item highlighted, the CLCDLibPage class (*see* Exhs. D and E) gets the tracks for the selected album from a track level of the hierarchy. This track level is one example of a "fourth level" of the hierarchy. This list of tracks is another example of a plurality of "items." Highlighting a track and pressing the Play button cause the CLCDMgr (*see* Exh. F and G) to call CNowPlayingMgr::Play() function (*see* Exhs. H and I) to clear the contents of the NowPlayingQ, and replace it with the track and begin playing.
selecting a category in the first display screen of the portable media player;	On entry into the Library display screen, the elements of the top level of the Library Tree are displayed by the CLCDLibPage class. *See* Exhs. D and E. As mentioned, the top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. From here the user has the option of opening any of the displayed categories by pressing an "Open" softkey (*see* CLCDLib Page::Softkey1Handler() at Exh. D, pp. 1 and 3; Exh. E, p. 1). The user moves the selection up and down lists by pressing up and down arrow keys, wherein the key presses are handled by the

Claim Elements	Dec. 14, 1999 Oasis Source Code
	CLCDMgr (*see* Exh. F, p. 5) which in turn tells the CLCDLibPage (*see* Exhs. D and E) to scroll the highlight up or down. When the user presses "Open" with the "Albums" category highlighted in the "first display screen," the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Albums. This is one example of "selecting a category in the first display screen of the portable media player."
displaying the subcategories belonging to the selected category in a listing presented in the second display screen;	When the user presses "Open" with the "Albums" category highlighted in the "first display screen," the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Albums, which is one example of "subcategories belonging to the selected category in a listing presented in the second display screen." As explained above, the user can scroll up and down the list, and either Open, Queue, or Play a selected one of the albums in the list. (*See* Exhs. D and E.)
selecting a subcategory in the second display screen;	When the user presses "Open" with the "Albums" category highlighted in the "first display screen," the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Albums, which is one example of "subcategories belonging to the selected category in a listing presented in the second display screen." The user can scroll up and down list of Albums, and activate either Open, Queue, or Play buttons to select one of the albums on the list. (*See* Exhs. D and E.) This allows for "selecting a subcategory in the second display screen."
displaying the items belonging to the selected subcategory in a listing presented in the third display screen; and	When the user presses "Open" with the "Albums" category highlighted in the "first display screen," the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Albums, which is one example of "subcategories belonging to the selected category in a listing presented in the second display screen." The user can scroll up and down list of Albums, and activate either Open, Queue, or Play buttons to select one of the albums on the list. (*See* Exhs. D and E.) This allows for "selecting a subcategory in the second display screen." When the user again presses "Open" with a selected album highlighted, the CLCDLibPage class (*see* Exhs. D and E) redraws the screen showing a list of tracks corresponding to the selected album. This is one example of "displaying the items belonging to the selected subcategory in a listing presented in the third display screen." At this point CLCDLibPage (*see* Exhs. D and E) again changes the soft key labels to replace "Open" with "Details." Pressing a Details button for any selected track will display more detailed information, such as album, artist, duration. Pressing a Details button for any

Claim Elements	Dec. 14, 1999 Oasis Source Code
	selected track will display more detailed information, such as album, artist, duration.
accessing at least one track based on a selection made in one of the display screens.	When the user again presses "Open" with a selected album highlighted, the CLCDLibPage class (*see* Exhs. D and E) redraws the screen showing a list of tracks corresponding to the selected album. Highlighting a track and pressing the Play button causes the CLCDMgr (*see* Exh. F and G) to call CNowPlayingMgr::Play() function (*see* Exhs. H and I) to clear the contents of the NowPlayingQ, and replace it with the track and begin playing. This is one example of "accessing at least one track based on a selection made in one of the display screens."
2. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting a subcategory in the second display screen	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. When the user presses "Open" with the "Albums" category highlighted in a first display screen, the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Albums, which is one example of "a subcategory in the second display screen." The user can scroll up and down the list of Albums, and activate either Open, Queue, or Play buttons to select one of the albums on the list. (*See* Exhs. D and E.) This allows for "selecting a subcategory in the second display screen." The user moves the selection up and down the lists by pressing the up and down arrow keys. These key-presses are handled by the CLCDMgr (see Exh. F, p. 5) who in turn tells the CLCDLibPage (see Exhs. D and E) to scroll the highlight up or down.
and playing a plurality of tracks associated with the selected subcategory.	The user can scroll up and down the list of Albums (*see* Exhs. D and E) for "selecting a subcategory in the second display screen." When user presses "Play" with the "Albums" item highlighted, the CLCDMgr (*see* Exhs. FF and GG) calls CNowPlayingMgr::Play() function (see Exhs. H and I) to clear the contents of the NowPlayingQ, and replace it with all tracks which correspond to the selected Album. This causes the selected album to begin playing. *Id.*
3. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting a subcategory and	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. When the user presses "Open" with the "Albums" category highlighted in a first display screen, the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Albums, which is one

Claim Elements	Dec. 14, 1999 Oasis Source Code
	example of "a subcategory in the second display screen." The user can scroll up and down the list of Albums, and activate either Open, Queue, or Play buttons to select one of the albums on the list. (*See* Exhs. D and E.) This allows for "selecting a subcategory in the second display screen." The user moves the selection up and down the lists by pressing the up and down arrow keys. These key-presses are handled by the CLCDMgr (see Exh. F, p. 5) who in turn tells the CLCDLibPage (see Exhs. D and E) to scroll the highlight up or down.
adding the tracks associated with the selected subcategory to a playlist.	When the user presses the Queue button with a selected one of the albums on the list highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the items to the NowPlayingQ. (*See* Exhs. H, I). If the NowPlayingQ were actually empty, playback would also begin immediately. *Id.* If the NowPlayingQ has actively playing content already, it continues to play. *Id.* The newly added content plays in the order it was added. *Id.*
4. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting an item in the third display screen and playing at least one track associated with the selected item.	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. When the user presses Open with the "Artists" category highlighted, the CLCDLibPage class (see Exhs. D and E) displays the current list of Artists on a second display screen. The user then selects an Artist from the current list of Artists on the second display screen, and presses Open. The CLCDLibPage class (*see* Exhs. D and E) then populates a "third display screen" with a list of Albums for the selected Artist. Highlighting an Album and pressing the Play button cause the CLCDMgr (*see* Exhs. FF and GG) to call the CNowPlayingMgr::Play() function (*see* Exhs. H and I) to clear the contents of the NowPlayingQ, and replace it with all tracks which correspond to the selected Album. This causes the selected album to begin playing. *Id.*
5. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises selecting an item in the third display screen and	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. When the user presses "Open" with the "Artists" category highlighted, the CLCDLibPage class (see Exhs. D and E) displays a current list of Artists on a second display screen. The user then selects an Artist from the current list of Artists on the second display screen, and presses Open. The CLCDLibPage class (*see* Exhs. D and E) then populates a "third display screen" with a

Claim Elements	Dec. 14, 1999 Oasis Source Code
	list of Albums for the selected Artist.
adding at least one track associated with the selected item to a playlist.	Highlighting a selected Album in the current list of Albums for the selected Artist, and pressing the Queue button causes CLCDLibPage (*see* Exhs. D and E) to call the CLCDMgr::HandleQ() function (*see* Exhs. FF and GG). HandleQ() in turn calls CNowPlayingMgr::Queue() (*see* Exhs. H and I) and appends the items to the NowPlayingQ. If the NowPlayingQ is actually empty, playback will also begin immediately. *Id.* If the NowPlayingQ has actively playing content already, it will continue to play. *Id.* The newly added content will play in the order it was added. *Id*
6. The method of selecting a track as recited in claim 1 wherein the accessing at least one track comprises one of playing or adding to a playlist at least one track associated with a selected one of the category, subcategory, and item.	The above discussion in connection with claims 4 and/or 5 applies equally to claim 6.
7. The method of selecting a track as recited in claim 1 wherein the accessing at least one track is made after the presentation of the third display screen by reverting back to one of the second and first display screens, the second display screen presented sequentially after the third display screen.	"Reverting back" is implemented by the Close (or Back) soft key. (*See* Exh. D, pp 1 and 3; and Exh. E, p. 1.) Assume a starting point of having navigated down to a third level (*e.g.*, Albums->Album1->Track3). See, for example, the discussion above in connection with claim 4, wherein: (1) a user presses "Open" with the top level "Artists" category highlighted on a "first display screen"; (2) the CLCDLibPage class (see Exhs. D and E) then displays a current list of Artists on a "second display screen"; (3) the user then selects an Artist from the current list of Artists on the second display screen, and presses Open, causing the CLCDLibPage class (*see* Exhs. D and E) to populate a "third display screen" with a list of Albums for the selected Artist. The user pressing the Close soft key would then cause the CLCDLibPage class (*see* Exhs. D and E) to repopulate the "second display screen" with the list of Artists. Repeating pressing the Close soft will cause the CLCDLibPage class to repopulate the "first display screen" with the list of top level categories (Album, Artist, Genre, etc). At this point navigating back down the tree would follow just as in claim 4.
8. The method of selecting a track as recited in claim 1 further comprising selecting one of the items displayed in the third display screen and	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. When the user presses "Open" with the "Artists" category highlighted, the CLCDLibPage class (see Exhs. D and E) displays a current list of Artists on a second display screen.

Claim Elements	Dec. 14, 1999 Oasis Source Code
	The user then selects an Artist from the current list of Artists on the second display screen, and presses Open. The CLCDLibPage class (*see* Exhs. D and E) then populates a "third display screen" with a list of Albums for the selected Artist.
presenting a listing of items associated with the selected item in a fourth sequentially presented display screen.	Now if a user presses "Open" with a selected Album item highlighted in the list of Albums, the CLCDLibPage class (*see* Exhs. D and E) displays the tracks for that album. This corresponds to a "fourth display screen". Highlighting a track and pressing the Play button cause the CLCDMgr (*see* Exh. F and G) to call CNowPlayingMgr::Play() function (*see* Exhs. H and I) to clear the contents of the NowPlayingQ, and replace it with the track and begin playing the selected track.
9. The method of selecting a track as recited in claim 1 wherein the category genre is selected in the first display screen from available categories that include at least artist, album, and genre; and	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. The "Styles" category is equivalent to "genre."
the subcategories listed in the second display screen comprise a listing of at least one genre type and one of the at least one genre type is selected.	The user selects "Styles" from the top level by highlighting it and pressing Open, which is handled by the CLCDLibPage class. *See* Exhs. D and E. The CLCDLibPage class then displays a list of all known Styles (or "genres") in a second display screen. *Id.* Style. *Id.*
10. The method of selecting a track as recited in claim 9 further comprising displaying in the third display screen at least one album associated with the selected genre type and	See citations for claim 9, above. The user selects "Styles" from the top level by highlighting it and pressing Open, which is handled by the CLCDLibPage class. *See* Exhs. D and E. The CLCDLibPage class then displays a list of all known Styles (or "genres") in a second display screen. *Id.* By highlighting a selected one of the Styles in the list and again pressing the Open soft key, the LCDLibPage class displays a list of all albums that fall within the selected Style on a "third display screen." *Id.*

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selecting one of the at least one albums displayed in the third display screen and presenting a listing of tracks associated with the selected album in a fourth sequentially presented display screen.	The user highlights a selected Album (*i.e.* from the list of all albums that fall within the selected Style), and pressing Open causes the CLCDLibPage class (*see* Exhs. D and E) to display a list of names of tracks for the selected album in a "fourth sequentially presented display screen."
11. The method of selecting a track as recited in claim 1 wherein the category artist is selected in the first display screen from available categories that include at least artist, album, and genre;	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. The "Styles" category is equivalent to "genre." From here the user has the option of opening any of the displayed categories by pressing an "Open" softkey (*see* CLCDLib Page::Softkey1Handler() at Exh. D, pp. 1 and 3; Exh. E, p. 1). The user moves the selection up and down lists by pressing up and down arrow keys, wherein the key presses are handled by the CLCDMgr (*see* Exh. F, p. 5) which in turn tells the CLCDLibPage (*see* Exhs. D and E) to scroll the highlight up or down. When a user presses "Open" with the top level "Artists" category highlighted on a "first display screen" (that includes the above top-level categories), the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Artists on a "second display screen."
the subcategories listed in the second display screen comprise a listing of names of artists and a first artist name is selected; and.	When a user presses "Open" with the top level "Artists" category highlighted on a "first display screen" (that includes the above top-level categories), the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Artists on a "second display screen." The user then selects an Artist from the current list of Artists on the second display screen, and presses Open, causing the CLCDLibPage class (*see* Exhs. D and E) to populate a "third display screen" with a list of Albums for the selected Artist.
the items displayed in the third display screen comprises at least one album associated with the first artist name	The user then selects an Artist from the current list of Artists on the second display screen, and presses Open, causing the CLCDLibPage class (*see* Exhs. D and E) to populate a "third display screen" with a list of Albums for the selected Artist.
12. The method of selecting a track as recited in claim 1	A plurality of musical "tracks" are stored in a computer-readable medium accessed via the library tree. *See* Exhs. B and C. For example, the file LibraryTree.cpp refers to the "tracks directory. *See*

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wherein the track is a music track,	Exh. B, p. 2.
accessing at least one track comprises accessing a track title in the third display screen, and the track is played in response to the access.	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. Pressing Open with the "Albums" item highlighted, the CLCDLibPage class (*see* Exhs. D and E) displays the current list of Albums. This would correspond to a second display screen. When the user again presses "Open" with a particular album highlighted, the CLCDLibPage class (*see* Exhs. D and E) then displays a list of tracks corresponding to the selected album on a "third display screen." The user then highlights a selected tracks from the list, and pressing the Play Button causes the CLCDMgr (*see* Exhs. FF and GG) to call the CNowPlayingMgr::Play() function (*see* Exhs. H and I) to clear the contents of the NowPlayingQ, and replace it with the track that is currently selected. At this point the track begins playing. *Id.*
13. The method of selecting a track as recited in claim 1 wherein receipt of the selection in the first display screen results in an automatic transition of the first display screen into the second display screen and receipt of the selection in the second display screen results in an automatic transition of the second display screen into the third display screen.	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. Highlighting any item and pressing Open causes CLCDLibPage to automatically display elements in a second level for the selected category. Highlighting any item and pressing Open again causes CLCDLibPage to automatically display the third level.
14. The method of selecting a track as recited in claim 1 wherein the category selected in the first display screen is from a top level of the hierarchy.	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. The user has the option of opening any of the displayed top level categories by pressing the "Open" softkey. (*See* CLCDLibPage::Softkey1Handler() at Exhs. D and E).
15. The method of selecting a track as recited	To the extent that the "first display screen" is not limited to a display screen presented initially upon start-up of the system, the December 14, 1999 Nomad Jukebox source code implemented this claim.

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in claim 1 wherein the category selected in the first display screen is a category from a level at least one level below the top level of the hierarchy.	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. The has the option of opening any of the displayed top level categories by pressing the "Open" softkey. (*See* CLCDLibPage::SoftkeyIHandler() at Exhs. D and E). If the user presses "Open" with the "Albums" item highlighted, the CLCDLibPage class (*see* Exhs. D and E) displays the current list of Albums on another "display screen." If this "display screen" showing the current list of Albums may be considered to be a "first display screen," even though it is not the first screen upon start-up of the system, then "the category selected in the first display screen is a category from a level at least one level below the top level of the hierarchy."
16. The method of selecting a track as recited in claim 1 wherein the plurality of categories comprise a list of artist names,	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. When the user presses Open with the "Artists" category highlighted, the CLCDLibPage class (see Exhs. D and E) displays a current list of Artist names on a second display screen.
the plurality of subcategories comprise a list of album names and	The user then selects an Artist name from the current list of Artists on the second display screen, and presses Open. The CLCDLibPage class (*see* Exhs. D and E) then populates a display screen with a list of Album names for the selected Artist.
the plurality of items comprise a list of track names.	Now if a user presses "Open" with a selected Album item highlighted in the list of Albums, the CLCDLibPage class (*see* Exhs. D and E) displays the tracks for that album. Highlighting a track and pressing the Play button cause the CLCDMgr (*see* Exh. F and G) to call CNowPlayingMgr::Play() function (*see* Exhs. H and I) to clear the contents of the NowPlayingQ, and replace it with the track and begin playing the selected track.

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17. The method of selecting a track as recited in claim 1 wherein the hierarchy is an overlapping hierarchy having a plurality of categories that include items, and wherein at least one of the items is included in more than one of the categories.	The source code files LibraryTree.cpp and LibraryTree.h implement a hierarchy in the form of a library tree. *See* Exhs. B and C. The library tree stores human-readable information that is shown in a user interface, and also stores the actual details of where to find a particular track in the file system. *Id.* A display screen is displayed for every level of the hierarchy. *Id.* Thus, the entire display is replicated by the library tree. *Id.* This way the user-interface code traverses the tree and displays any items(s) at the current node. *Id.* The source code files LibraryTree.cpp and LibraryTree.h indicate that the library tree is an overlapping hierarchy. *See* Exhs. B and C.
18. The method of selecting a track as recited in claim 17 wherein the items comprise a plurality of track names, wherein at least one of the track names is included in more than one of the categories, whereby the least one track name may be accessed in at least two different ways by starting with different ones of the categories.	The source code files LibraryTree.cpp and LibraryTree.h implement a hierarchy in the form of a library tree. *See* Exhs. B and C. The library tree stores human-readable information that is shown in a user interface, and also stores the actual details of where to find a particular track in the file system. *Id.* A display screen is displayed for every level of the hierarchy. *Id.* Thus, the entire display is replicated by the library tree. *Id.* This way the user-interface code traverses the tree and displays any items(s) at the current node. *Id.* The source code files LibraryTree.cpp and LibraryTree.h indicate that the library tree is an overlapping hierarchy. *See* Exhs. B and C. The source code files LibraryTree.cpp and LibraryTree.h indicate that tracks may be accessed in different ways. *See* Exhs. B and C.
19. The method of selecting a track as recited in claim 1 wherein the hierarchy comprises an implementation of a tree-structure.	The source code files LibraryTree.cpp and LibraryTree.h implement a hierarchy in the form of a library tree. *See* Exhs. B and C. The library tree stores human-readable information that is shown in a user interface, and also stores the actual details of where to find a particular track in the file system. *Id.* A display screen is displayed for every level of the hierarchy. *Id.* Thus, the entire display is replicated by the library tree. *Id.* This way the user-interface code traverses the tree and displays any items(s) at the current node. *Id.* A plurality of musical "tracks" are stored in a computer-readable medium accessed via the library tree. *See* file LibraryTree.cpp at Exh. B, p. 2 (referring to a "tracks directory"); *see also* Exh. C. As indicated by developer notes in the source code, "Class CLibTreeMgr creates and makes modifications as necessary to a tree structure whose purpose is to make the track data on disk logically and quickly navigable. It is currently rebuilt every time the system boots." *See* Exh. B, p. 1; Exh. C, p. 1.
20. The method of selecting a track as recited in claim 19 wherein the	The source code files LibraryTree.cpp and LibraryTree.h implement a hierarchy in the form of a library tree. *See* Exhs. B and C. The library tree stores human-readable information that is shown in a

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tree-structure is organized based on metadata associated with the tracks.	user interface, and also stores the actual details of where to find a particular track in the file system. *Id.* A display screen is displayed for every level of the hierarchy. *Id.* Thus, the entire display is replicated by the library tree. *Id.* This way the user-interface code traverses the tree and displays any items(s) at the current node. *Id.* A plurality of musical "tracks" are stored in a computer-readable medium accessed via the library tree. *See* file LibraryTree.cpp at Exh. B, p. 2 (referring to a "tracks directory"); *see also* Exh. C. As indicated by developer notes in the source code, "Class CLibTreeMgr creates and makes modifications as necessary to a tree structure whose purpose is to make the track data on disk logically and quickly navigable. It is currently rebuilt every time the system boots." *See* Exh. B, p. 1; Exh. C, p. 1.
21. The method of selecting a track as recited in claim 3 wherein the playlist is an active queue list of songs that is currently being played.	When the user presses the Queue button with a selected one of the tracks on the list highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the items to the NowPlayingQ. (*See* Exhs. H, I). If the NowPlayingQ were actually empty, playback would also begin immediately. *Id.* If the NowPlayingQ has actively playing content already, it continues to play. *Id.* The newly added content plays in the order it was added. *Id.*
22. The method of selecting a track as recited in claim 5 wherein the playlist is an active queue list of songs that is currently being played.	When the user presses the Queue button with a selected one of the items on the list highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the items to the NowPlayingQ. (*See* Exhs. H, I). If the NowPlayingQ were actually empty, playback would also begin immediately. *Id.* If the NowPlayingQ has actively playing content already, it continues to play. *Id.* The newly added content plays in the order it was added. *Id.*
23. The method of selecting a track as recited in claim 5 wherein the selected item in the third display screen is associated with a plurality of tracks, and	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. The "Styles" category is equivalent to "genre." The user selects "Styles" from the top level by highlighting it and pressing Open, which is handled by the CLCDLibPage class. *See* Exhs. D and E. The CLCDLibPage class then displays a list of all known Styles in a second display screen. *Id.* By highlighting a selected one of the Styles in the list and pressing Open, the LCDLibPage class displays a list of all album namess that fall within the selected Style on a third display screen. Id.
wherein the plurality of	When the user presses Queue with a selected one of the albums

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tracks associated with the selected item are added to the playlist.	highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the tracks associated with the selected album to the NowPlayingQ. (*See* Exhs. H, I).
24. The method of selecting a track as recited in claim 23 wherein the playlist is an active queue list of songs that is currently being played.	When the user presses the Queue button with a selected one of the albums on the list highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the items to the NowPlayingQ. (*See* Exhs. H, I). If the NowPlayingQ were actually empty, playback would also begin immediately. *Id.* If the NowPlayingQ has actively playing content already, it continues to play. *Id.* The newly added content plays in the order it was added. *Id.*
25. The method of selecting a track as recited in claim 5 wherein the selected item in the third display screen is a selected album name,	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. The "Styles" category is equivalent to "genre." The user selects "Styles" from the top level by highlighting it and pressing Open, which is handled by the CLCDLibPage class. *See* Exhs. D and E. The CLCDLibPage class then displays a list of all known Styles in a second display screen. *Id.* By highlighting a selected one of the Styles in the list and again pressing Open, the LCDLibPage class displays a list of all album names that fall within the selected Style on a third display screen. Id.
and wherein the accessing at least one track comprises adding a plurality of tracks associated with the selected album name to a playlist.	When the user presses Queue with a selected one of the albums names highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the tracks associated with the selected album name to the NowPlayingQ. (*See* Exhs. H, I).
26. The method of selecting a track as recited in claim 25 wherein the playlist is an active queue list of songs that is currently being played.	When the user presses Queue with a selected one of the albums highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the tracks associated with the selected album name to the NowPlayingQ. (*See* Exhs. H, I). If the NowPlayingQ were actually empty, playback would also begin immediately. *Id.* If the NowPlayingQ has actively playing content already, it continues to play. *Id.* The newly added content plays in the order it was added. *Id.*

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27. The method of selecting a track as recited in claim 1 wherein: the category album is selected in the first display screen from available categories that include at least artist and album;	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. When the user presses Open with the "Albums" category highlighted, the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Album names
the subcategories listed in the second display screen comprise a listing of album names and one of the album names is selected; and	When the user presses Open with the "Albums" category highlighted, the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Album names The user can scroll up and down the list of Album names, and activate either Open, Queue, or Play buttons to select one of the albums on the list. (*See* Exhs. D and E.)
the accessing at least one track comprises playing a plurality of tracks associated with the selected album name.	When user presses Play with a selected album name highlighted, the CLCDMgr (*see* Exhs. FF and GG) calls CNowPlayingMgr::Play() function (see Exhs. H and I) to clear the contents of the NowPlayingQ, and replace it with all tracks which correspond to the selected Album. This causes the selected album to begin playing. *Id.*
28. The method of selecting a track as recited in claim 1 wherein: the category album is selected in the first display screen from available categories that include at least artist and album;	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. When the user presses Open with the "Albums" category highlighted, the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Album names on a second display screen.
the subcategories listed in the second display screen comprise a listing of album names and one of the album names is selected; and	When the user presses Open with the Albums category highlighted, the CLCDLibPage class (*see* Exhs. D and E) displays a current list of Album names on a second display screen. The user can scroll up and down the list of Album names on the second display screen, and activate either Open, Queue, or Play buttons to select one of the albums on the list. (*See* Exhs. D and E.)
the accessing at least one track comprises adding a plurality of tracks associated with the selected album name to a playlist.	When the user presses Queue with a selected one of the album names highlighted on the list, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the tracks associated with the selected album name to the NowPlayingQ. (*See* Exhs. H, I).
29. The method of selecting a track as recited	When the user presses Queue with a selected one of the album names highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the

Claim Elements	Dec. 14, 1999 Oasis Source Code
in claim 28 wherein the playlist is an active queue list of songs that is currently being played.	CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the tracks associated with the selected album name to the NowPlayingQ. (*See* Exhs. H, I). If the NowPlayingQ were actually empty, playback would also begin immediately. *Id.* If the NowPlayingQ has actively playing content already, it continues to play. *Id.* The newly added content plays in the order it was added. *Id.*
30. The method of selecting a track as recited in claim 1 wherein: the category genre is selected in the first display screen from available categories that include at least artist, album, and genre;	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "**Albums**," "**Artists**," "**Styles**," "**Play Lists**") on a first display screen. *See, e.g.*, Exh. B, pp. 1-2. The "Styles" category is equivalent to "genre."
the subcategories listed in the second display screen comprise a listing of a plurality of genre types, and one of one genre types is selected;	The user selects Styles from the first display screen by highlighting it and pressing Open, which is handled by the CLCDLibPage class. *See* Exhs. D and E. The CLCDLibPage class then displays a list of all known Styles in a second display screen. *Id.*
the items displayed in the third display screen comprise a listing of a plurality of album names associated with the selected genre type, and one of the album names is selected;	By highlighting a selected one of the Styles in the list on the second display screen and again pressing Open, the LCDLibPage class displays a list of all album names that fall within the selected Style on a third display screen. *Id.*
the accessing at least one track comprises adding a plurality of tracks associated with the selected album name to a playlist.	When the user presses Queue with a selected one of the album names highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the tracks associated with the selected album name to the NowPlayingQ. (*See* Exhs. H, I).
31. The method of selecting a track as recited in claim 30 wherein the playlist is an active queue list of songs that is currently being played.	When the user presses Queue with a selected one of the album names highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the tracks associated with the selected album name to the NowPlayingQ. (*See* Exhs. H, I). If the NowPlayingQ were actually empty, playback would also begin immediately. *Id.* If the NowPlayingQ has actively playing content already, it continues to play. *Id.* The newly added

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	content plays in the order it was added. *Id.*
32. The method of selecting a track as recited in claim 1 wherein: the category artist is selected in the first display screen from available categories that include at least artist, album, and genre;	The top level of the Library Tree (*see* LibraryTree.cpp) displays the top level categories (*i.e.*, "Albums," "Artists," "Styles," "Play Lists") on a first display screen. From here the user has the option of opening any of the displayed categories by pressing Open (*see* CLCDLib Page::Softkey1Handler() at Exh. D, pp. 1 and 3; Exh. E, p. 1). When a user presses "Open" with the top level "Artists" category highlighted (that includes the above top-level categories), the CLCDLibPage class (see Exhs. D and E) displays a current list of Artists on a second display screen.
the subcategories listed in the second display screen comprise a listing of artist names, and one of the listed artist names is selected;	When a user presses "Open" with the top level "Artists" category highlighted (that includes the above top-level categories), the CLCDLibPage class (see Exhs. D and E) displays a current list of Artists on a second display screen.
the items displayed in the third display screen comprise a listing of album names associated with the selected artist name, and one of the listed album names is selected; and	The user then selects an Artist name from the Artist names on the second display screen, and presses Open, causing the CLCDLibPage class (see Exhs. D and E) to populate a third display screen with a list of Album names for the selected Artist.
the accessing at least one track comprises adding a plurality of tracks associated with the selected album name to a playlist.	When the user presses Queue with a selected one of the album names highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the tracks associated with the selected album name to the NowPlayingQ. (*See* Exhs. H, I).
33. The method of selecting a track as recited in claim 32 wherein the playlist is an active queue list of songs that is currently being played.	When the user presses Queue with a selected one of the album names on the list highlighted, the CLCDLibPage (*see* Exhs. D and E) calls the CLCDMgr::HandleQ() function (*see* Exh. F, p. 6). HandleQ() in turn calls CNowPlayingMgr::Queue() and appends the tracks associated with the selected album name to the NowPlayingQ. (*See* Exhs. H, I). If the NowPlayingQ were actually empty, playback would also begin immediately. *Id.* If the NowPlayingQ has actively playing content already, it continues to play. *Id.* The newly added content plays in the order it was added. *Id.*

The Dec. 14, 1999 Oasis Source Code Shows Conception of Claims 1-33

29. Table A, above, shows how the Dec. 14, 1999 Oasis source code implements every element of claims 1-33 of the '433 Patent. It has been explained to me that conception is "the formation in the

mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice." By this standard, the inventors conceived the invention of the '433 patent well before Dec. 14, 1999 because the source code files of exhibits A through O constitutes an implementation of the invention. And thus, it was necessary to conceive the idea of the inventions before the source code was completed.

30. As explained below, the Oasis source code was further developed after Dec. 14, 1999. However, all subsequent work on the Oasis source code (including all the code described above in Table A) was in the nature of refinements for making the operating system more robust during execution as firmware within a specific hardware system. At the time the source code was checked in to the CVS of Dec. 14, 1999, no extensive experimentation and no exercise of inventive skill was needed to further reduce to practice the inventions of claims 1-33 of the '433 patent.

31. As further described below, the Oasis R&D team had developed a working prototype of the Nomad Jukebox by Dec. 14, 1999, and this working prototype was tested to my own satisfaction at least to the extent necessary to demonstrate that the methods recited in claims 1-33 of the '433 Patent were indeed functioning on a portable media player for the intended purpose.

Reduction to Practice And Testing Of the Dec. 14, 1999 Oasis Operating System

32. The Oasis source code was designed to be executed on a NOMAD portable media player. Prior to Dec. 14, 1999, the Oasis R&D team had implemented a prototype NOMAD portable media player in hardware. This prototype included a processor, memory, hard disk drive, a liquid crystal display (LCD) unit, and a line-level output for connection to a speaker for playing music tracks stored on the hard disk of the media player. On or before Dec. 14, 1999, the prototype portable media player was tested using executable code derived from the Dec. 14, 1999 version of the Oasis source code.

33. Throughout the fall of 1999, the Oasis R&D team worked very hard to develop a working prototype of the Nomad Jukebox. While work was performed on a daily basis, the Oasis team as whole met once-a-week for the Oasis Engineering Meeting. Dan Freeman kept very good notes at the meetings. Mr. Freeman no longer works for Creative ATC. However, I was able to locate two of his engineering notebooks, which are attached hereto as Exhibits V and W. I attended many of the Oasis Engineering Meetings referenced in these notebooks, and often Mr. Freeman took notes on my reports concerning the status of the embedded source code development. *Id.*

34. At the Oasis Engineering Meetings, leaders of the different sub-groups (*e.g.*, mechanical, host

software, embedded software, hardware, digital signal processing, etc.) gave status updates on progress or issues arising in connection with development of their respective subsystems. *See, e.g.,* Exh. V, pp. 188-189 (notes from Sep. 15, 1999 mtg.), pp. 190-191 (notes from Sep. 22, 1999 mtg.), pp. 193-194 (notes from Sep. 29, 1999 mtg.), pp. 196-197 (notes from Oct. 6, 1999 mtg.); *see also* Exh. W, pp. 2-3 (notes from Oct. 13, 1999 mtg.), pp. 6-7 (notes from Oct. 20, 1999 mtg.), pp. 9-10 (notes from undated mtg. some time after October 20, 1999 and before Dec. 9, 1999), pp. 12-13 (notes from undated mtg. some time after October 20, 1999 and before Dec. 9, 1999), pp. 14-15 (notes from Dec. 9, 1999 mtg.), pp. 16-18 (notes from Dec. 15, 1999 mtg.). I was the leader of the embedded software group. *Id.* I have read Mr. Freeman's notebooks recently, and the notes refresh my recollection of events in the fall of 1999 and also in the first few weeks of January of 2000.

35. At the Oasis Engineering Meeting on September 22, 1999, I reported on my progress in developing a system for emulating certain subsystems of the Nomad jukebox, which were still in the process of being developed. *See* Exh. V, pp. 190-191; *see* p. 191 (stating "working on simulators for IDS devices and kernel"). In this time period, I was in the process of writing source code for various Oasis operating system components including the user interface, file system, and library manager. *See, e.g., Id.* 191 (stating "System Design, Manager classes, DSP manager .... queue management systems working ... playback manager"). I developed the emulation system to emulate certain platform-specific components including the Oasis LCD, control buttons, and disk drive. *Id.*, p. 191. I used the emulation system to begin testing the source code for the user interface, file system, and library manager. *Id.*

36. At the Oasis Engineering Meeting on September 29, 1999, I reported on further progress in developing the emulation system. *See* Exh. V, pp. 193 (stating "Block device simulator, so can start File System .... DAC works .... LCD work started ... Lib not plugged in yet"). Mr. Freeman's notes indicate that as of Sep. 29, 1999, I was making progress in writing source code for the Oasis File System, and that I was able to begin testing this source code using the emulation system for the block device. *Id.* The reason I was using an emulation system in September of 1999 was that we did not yet have an adequate hardware prototype of the Nomad jukebox. *Id.* However, the notes from Sep. 15, Sep. 22 and Sep. 29, 1999 show that the hardware group was in the process of creating a prototype in this time period. *See, e.g.,* Exh. V, pp. 188-189 (stating "DSP booted ... DAC rework ... will begin Rev 2 scheme), pp. 190-191, 193-194.

37. At the Oasis Engineering Meeting on October 6, 1999, the hardware group reported on testing of certain subsystems within a very early prototype of the Nomad jukebox. *See* Exh. V, p. 196