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	Examiner Name	Erika A. Gary
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☐ See attached certification statement.

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A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mark J. Rozman/	Date (YYYY-MM-DD)	2009-06-04
Name/Print	Mark J. Rozman	Registration Number	42117

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12015320
	Filing Date	2008-01-16
	First Named Inventor	Russell W. White, et al.
	Art Unit	2617
	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

	40	NORBERT A. STREITZ, et al., "i-Land: An Interactive Landscape for Creativity and Innovation," Proceedings of the ACM Conference on Human Factors in Computing Systems, May 15-20, 1999, pages 120-127.	☐
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	First Named Inventor	Russell W. White, et al.
	Art Unit	2617
	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mark J. Rozman/	Date (YYYY-MM-DD)	2009-06-04
Name/Print	Mark J. Rozman	Registration Number	42117

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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(71)出願人　000004329
日本ビクター株式会社
神奈川県横浜市神奈川区守屋町3丁目12番地

(72)発明者　滝玉　宏
神奈川県横浜市神奈川区守屋町3丁目12番地　日本ビクター株式会社内

(72)発明者　蒲野　正美
神奈川県横浜市神奈川区守屋町3丁目12番地　日本ビクター株式会社内

(74)代理人　弁理士　羽鳥　亘

最終頁に続く

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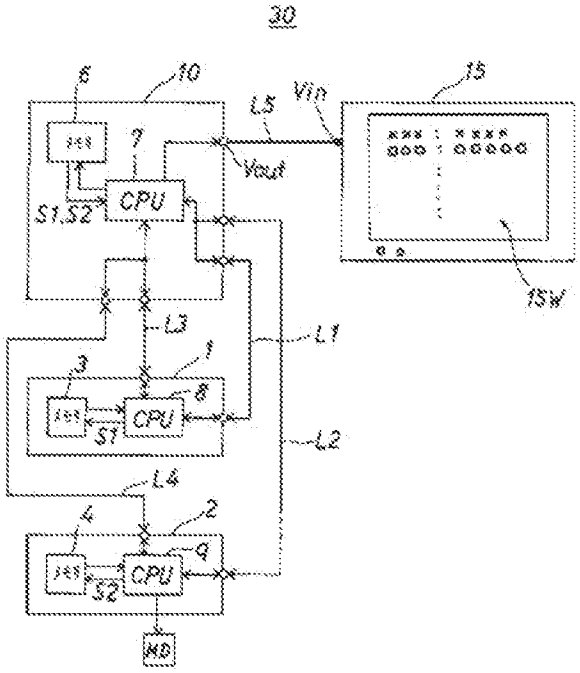

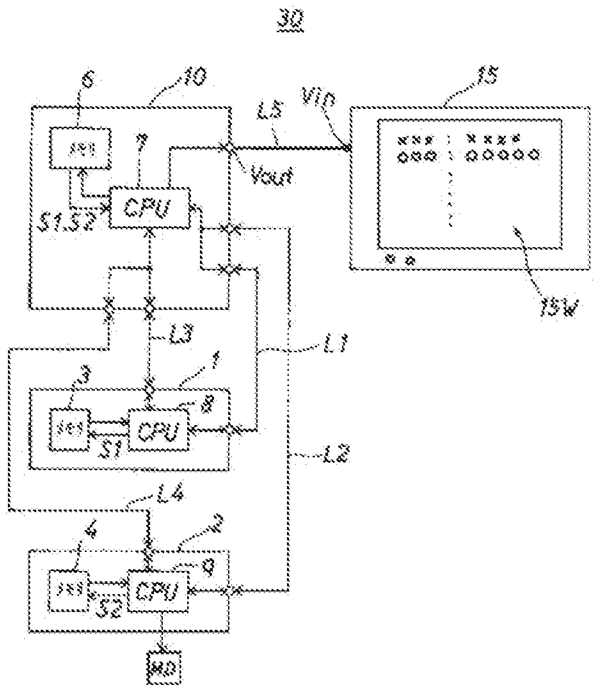
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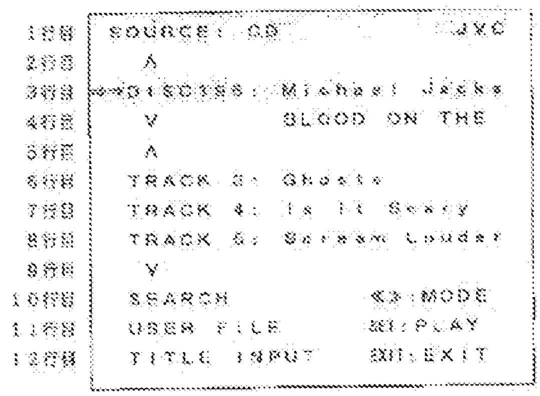
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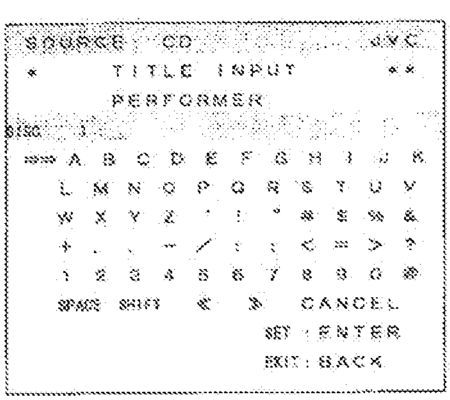
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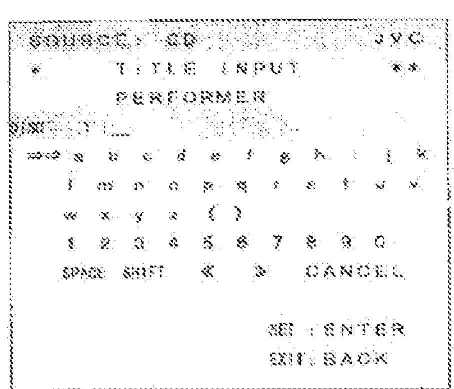
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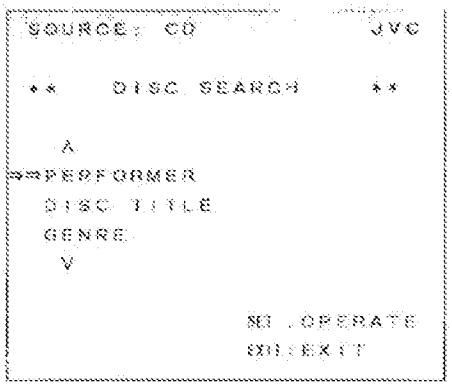
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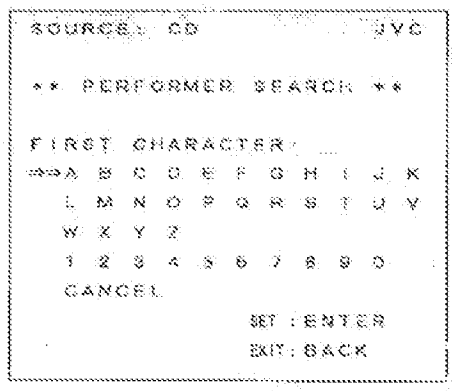
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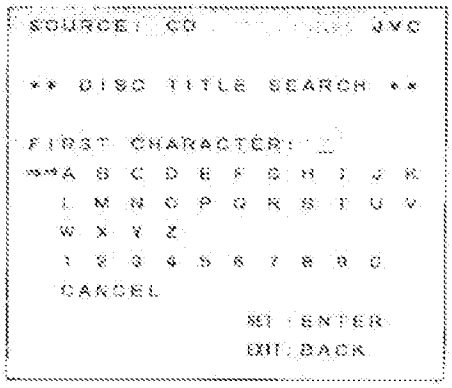
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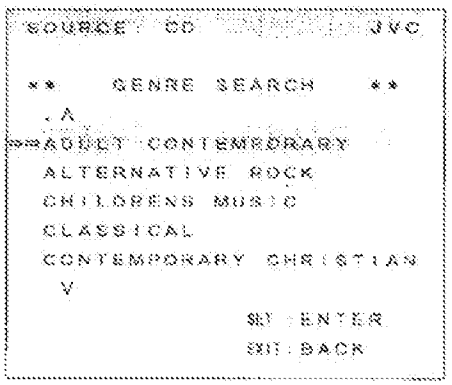
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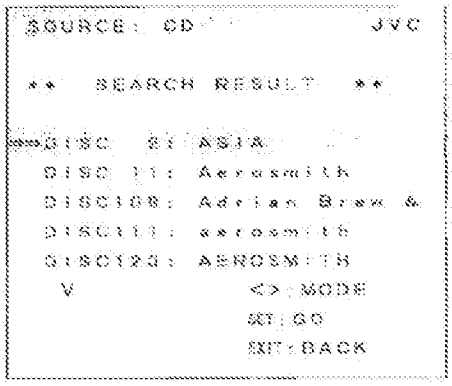
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(72) LUSSIER, Luc, CA
(72) BÉRIAULT, Richard, CA
(72) GLANDON, Gilles, CA
(71) PHILSAR ELECTRONICS INC., CA

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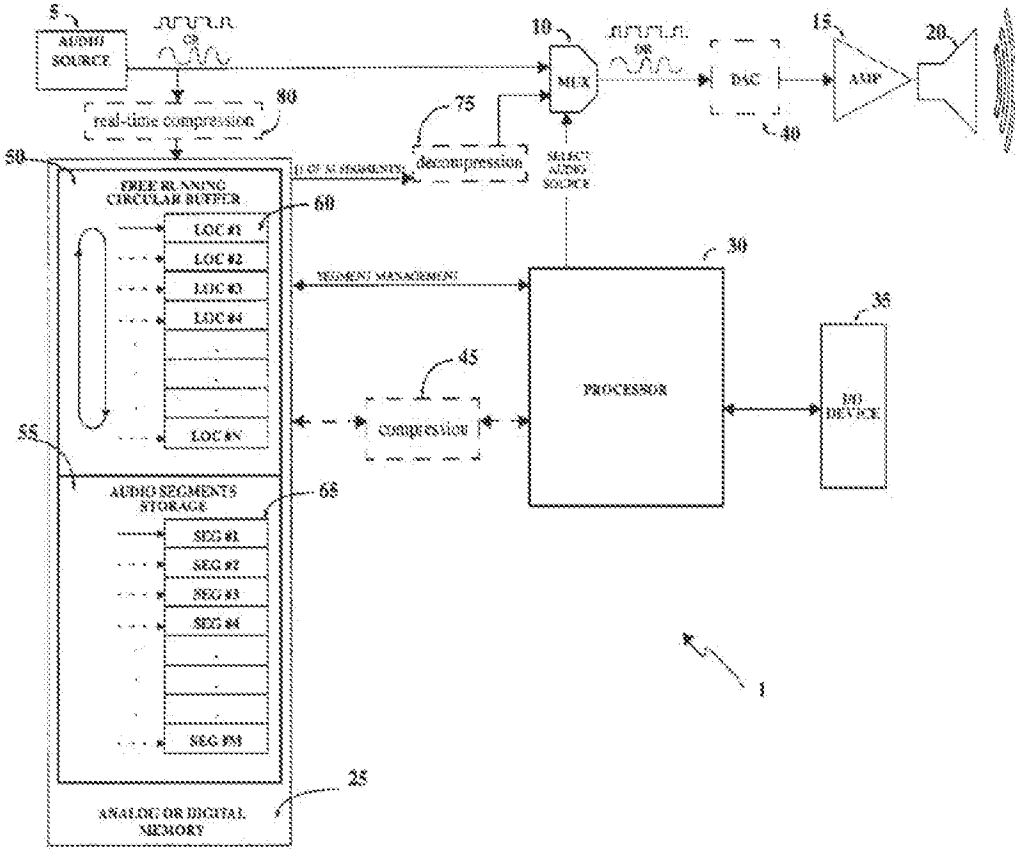
(54) **SYSTEME D'ENREGISTREMENT ET DE LECTURE AUDIO**

(54) **AUDIO RECORDING AND PLAYBACK SYSTEM**



(57) An audio recording and playback system includes an apparatus and method for receiving an audio signal and continuously recording the most recent portion of the signal. Upon receiving input from an input device, typically operated by a user, the most recent portion of the signal is stored for later retrieval. The subsequent audio signal, or a portion thereof, may also be stored for later retrieval.

ABSTRACT

An audio recording and playback system includes an apparatus and method for receiving an audio signal and continuously recording the most recent portion of the signal. Upon receiving input from an input device, typically operated by a user, the most recent portion of the signal is stored for later retrieval. The subsequent audio signal, or a portion thereof, may also be stored for later retrieval.

AUDIO RECORDING AND PLAYBACK SYSTEM

Field of Invention

This invention relates generally to the storage and retrieval of audio signals.

Background of the Invention

Recording and playback devices for audio signals, such as tape recorders, telephone answering machines and voice mail boxes, have existed in various forms for quite sometime, and are now widely used.

The typical use of such devices in recording applications is to start the recording of the audio stream only when the user knows that the incoming signal contains information that is desired to be stored or recorded. Examples of apparatus used in this way are telephone answering machines and other voice mail systems, home tape recorders and recording studio equipment. One disadvantage of such recording and playback devices is that, when information worth recording is not recorded, the information must be repeated to permit its recording. Unfortunately, such repeating of information is not always possible (for example, radio broadcasts).

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Other recording applications continuously record in the hope that the information recorded is valuable (for example, police interrogations, monitoring systems and the like). Typically, the valuable information, if any, must be extracted from the recording medium at a later time.

Summary of the Invention

An object of the present invention is to provide a method and apparatus that will enable a user to store a segment of an audio stream (without repeating the audio stream) for later retrieval, such storage taking place after the segment has been heard by the user and judged to be worth storing.

The invention provides an apparatus and method for receiving an audio signal and continuously recording the most recent portion of the signal. Upon receiving input from an input device, typically operated by a user, the most recent portion of the signal is stored for later retrieval. The subsequent audio signal, or a portion thereof, may also be stored for later retrieval.

According to the invention, there is provided a method for monitoring an incoming audio signal and for recording a portion thereof, comprising the steps of: temporarily storing a length

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of the most recent portion of the incoming audio signal; storing the length of audio signal; and retrieving the stored length of audio signal.

According to the invention, there is further provided an apparatus for monitoring an incoming audio signal and for recording a portion thereof, comprising: a buffer for temporarily storing a length of the most recent portion of the incoming audio signal; a memory area for storing the length of audio signal; and means for retrieving the stored length of audio signal.

Other advantages, objects and features of the present invention will be readily apparent to those skilled in the art from a review of the following detailed description of preferred embodiments in conjunction with the accompanying drawings and claims.

Brief Description of the Drawings

The embodiments of the invention will now be described with reference to the accompanying drawings, in which:

Figure 1, "Audio Buffer Block Diagram," shows a top level block diagram of the invention.

Figure 2, "Circular Audio Buffer Application," shows an embodiment of the invention for either a digital source (such as a PCS phone) or an analog source (such as a car radio).

Figure 3, "Linear Audio Buffer Application," shows a further embodiment of the invention for either a digital source (such as a PCS phone) or an analog source (such as an analog phone).

Similar references are used in different figures to denote similar components.

Detailed Description of the Invention

Referring to Figures 1 to 3, an audio recording and playback system 1 includes a memory area 25, a multiplexer (MUX) 10, a processor 30 with software and input/output devices 35. The audio source 5, the digital to analog converter (DAC) 40 which is necessary in digital audio systems, the amplifier 15 and the sound reproducing devices 20 are not part of this invention.

The memory area 25, which may be either digital or analog depending on the source, may be configured as a circular buffer 50 (see Figure 2) or linear buffer 70 (see Figure 3), and as a segment storage area 55.

The multiplexer 10 is a switching device which allows the audio output to be selected between incoming audio signal 5 or pre-recorded segment of audio signal. The multiplexer 10 is controlled by the processor 30 which has software to handle the various requests of the user.

The processor 30 and its associated software can be either dedicated to the functions performed by this invention, or can be an available, resident to the target system processor with enough capability to perform the required functions. The processor 30 is responsible for managing the memory area 25 and for interfacing with the user through the input/output device block 35.

The input/output device block 35 may include keys, buttons, and the like, and displays such as LCD, LEDs, monitor, and the like.

Audio information is typically received from the external source 5 in a continuous fashion. Typically, this information is processed, amplified by an audio amplifier 15 and then sent to a sound reproduction device 20.

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Referring to Figure 2, the audio recording system 1 monitors the audio signal 5 in its analog or digital form and stores it in an analog or digital circular buffer memory 50.

The circular buffer 50 operates like a FIFO type memory, where each location, starting with the first 60, is written into memory in a sequential manner until the last location is filled. Any further information written to the buffer will start overwriting previously stored information, with the first location 60, and continue on, overwriting the second, third, and fourth locations, until the end of the buffer 50 is again reached. This process is repeated continuously while an audio signal 5 is sent to the sound reproduction device 20, constantly updating the circular memory 50.

The input/output device block 35 is a means by which the user manages the audio information being monitored. Through the input/output device block 35, a user requests that audio information stored in the circular buffer 50 be transferred to the audio segments storage 55. A request can also be made to play back a pre-recorded segment of audio, or that one or all audio segments in the segment storage 55 be cleared or compressed by the compression block 45. An indication of the status of the segments storage 55 memory is returned to the input/output device block 35 to provide feedback to the user.

The audio segments storage memory 55 is partitioned into segments. Each segment is used to store a segment of the audio information previously stored in the circular buffer memory 50. Upon reception of a request for storing a segment of the audio information held in the circular buffer memory 50, the processor 30 can, depending on the hardware implementation, either designate parts of the circular buffer memory 50 as segment storage 55 or transfer the data to a separate segment storage entity 55.

In the former case, where segments are either designated as circular buffer 50 or as segment storage 55, the circular buffer 50 becomes progressively smaller as segments are designated as segment storage 55 for later playback. The processor 30 keeps track of the location of the captured segments and effectively jumps over them when managing the circular buffer 50.

As a background activity, or upon request from the user, the processor 30 can apply compression with the compression block 45 on the segments to maximize the size of circular buffer 50. The audio source 5 can also be compressed by the real-time compression block 80 before it is stored in the circular buffer 50.

Captured segments that have been compressed are decompressed by the decompression block 75 when playback is requested. The action of erasing segments frees up segments for re-inclusion in the circular buffer 50. As captured sequences are kept, they can be fragmented in the memory space 25. Thus, the processor 30, when idle, performs the task of defragmenting the sequences. Segment management is under the control of processor 30 and is accessed through the input/output device block 35.

In the latter case, where circular buffer 50 and segment storage 55 are in two distinct memory spaces, the processor 30 generates the necessary address and control signals that are sent to the circular buffer memory 50 and audio segment storage 55 to store a segment of audio information. These signals together will orchestrate the transfer of audio information from the circular buffer memory 50 to the audio segment storage 55. Audio segments are initially stored in a sequential manner starting with segment #1 65 until all segments are used. Later, after being played back, segments can be erased if it is desired to free up space for new segments.

As a background activity, or upon request from the user, the processor 30 can apply compression with the compression block 45 on the segments to maximize the size of segment storage 55. The audio source 5 can also be compressed by the real-time

compression block 80 before it is stored in the circular buffer 50.

Captured segments that have been compressed are decompressed by the decompression block 75 when playback is requested. Segment management is under the control of processor 30 and is accessed through the input/output device block 35.

The system operates in three basic modes: recording mode, playback mode and idle mode. The following is an explanation of the three modes.

The system is in recording mode whenever there is an audio stream 5 directed to the sound reproduction device 20. When in recording mode, the circular buffer 50 is active and constantly being refreshed by the audio stream 5. Upon a request from the user, a segment is put in segment storage 55. The length of the sequence is controlled by the user through the input/output device block 35. The user also has the choice of forward recording a segment as in conventional recorders.

The system can be put in playback mode whenever it is in idle mode for segment playback, compression/decompression and erase. When in playback mode, the user input 35 directs the processor 30 to switch the multiplexer 10 to the segment storage

memory 55, to select the segment which needs to be played back and to perform management functions on the segments (such as compression, erasing, and the like).

The system is in idle mode whenever it is not in either playback or record mode. When in idle mode the system can perform management tasks such as defragmentation of sequences or compression of segments if it is configured to do so.

Referring to Figure 3, the audio recording system 1 monitors the audio signal 5 in its analog or digital form and stores it in an analog or digital linear buffer memory 70. The linear buffer memory 70 lends itself well to applications such as cellular phones where the audio signal 5 is of short duration compared to the capacity of the linear buffer 70.

The linear buffer 70 operates like a sequential memory, where each location starting with the first 60 is written into memory in a sequential manner until the last location is filled.

In the event that the linear buffer 70 fills up, the user is notified through the input/output device block 35 and can again through the input/output device block 35 reset the linear buffer 70 to start overwriting each location starting with the first 60.

The input/output device block 35 is a means by which the user manages the audio information being monitored. Through the input/output device block 35, a user requests that audio information stored in the linear buffer 70 be transferred to the audio segments storage 55. A request can also be made to play back a pre-recorded segment of audio or that one or all audio segments in the segment storage 55 be cleared or compressed by the compression block 45. An indication of the status of the segments storage memory 55 is returned to the input/output device block 35 to provide feedback to the user.

The audio segments storage memory 55 is partitioned into segments. Each segment is used to store a segment of the audio information previously stored in the linear buffer memory 70. Upon reception of a request for storing a segment of the audio information held in the linear buffer memory 70, the processor 30 can, depending on the hardware implementation either designate parts of the linear buffer memory 70 as segment storage 55 or transfer the data to a separate segment storage entity 55.

In the former case, where segments are either designated as linear buffer 70 or as segment storage 55, the linear buffer 70 becomes progressively smaller as segments are designated as segment storage 55 for later playback. The processor 30 keeps

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track of the location of the captured segments and effectively jumps over them when managing the linear buffer 70.

As a background activity, or upon request from the user, the processor 30 can apply compression with the compression block 45 on the segments to maximize the size of linear buffer 70. The audio source 5 can also be compressed by the real-time compression block 80 before it is stored in the linear buffer 70.

Captured segments that have been compressed are decompressed by the decompression block 75 when playback is requested. The action of erasing segments frees up segments for re-inclusion in the linear buffer 70. Captured sequences can be fragmented in the memory space 25. Thus, the processor 30, when idle, performs the task of defragmenting the sequences. Segment management is under the control of processor 30 and is accessed through the input/output device block 35.

In the latter case, where linear buffer 70 and segment storage 55 are in two distinct memory spaces, the processor 30 generates the necessary address and control signals that are sent to the linear buffer memory 70 and audio segment storage 55 to store a segment of audio information. These signals together will orchestrate the transfer of audio information from the linear buffer memory 70 to the audio segment storage 55. Audio segments

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are initially stored in a sequential manner starting with segment #1 65 until all segments are used. Later, after being played back, segments can be erased if it is desired to free up space for new segments.

As a background activity or upon request from the user, the processor 30 can apply compression with the compression block 45 on the segments to maximize the size of segment storage 55. The audio source 5 can also be compressed by the real-time compression block 80 before it is stored in the linear buffer 70.

Captured segments that have been compressed are decompressed by the decompression block 75 when playback is requested. Segment management is under the control of processor 30 and is accessed through the I/O device block 35.

The system again operates in three basic modes: recording mode, playback mode and idle mode. The following is an explanation of the three mode.

The system is in recording mode whenever there is an audio stream 5 directed to the sound reproduction device 20. When in recording mode, the linear buffer 70 is active and if necessary, being refreshed by the audio stream 5 upon a request from the user. Upon a store request from the user, a segment is put in

segment storage 55. The length of the sequence is controlled by the user through the input/output device block 35. The user also has the choice of forward recording a segment as in conventional recorders.

The system can be put in playback mode whenever it is in idle mode for segment playback, compression/decompression and erase. When in playback mode, the user input 35 directs the processor 30 to switch the multiplexer 10 to the segment storage memory 55, to select the segment which needs to be played back and to perform management functions on the segments (such as compression, erasing, and the like).

The system is in idle mode whenever it is not in either playback or record mode. When in idle mode the system can perform management tasks such as defragmentation of sequences or compression of segments if it is configured to do so.

Generally, as a system, the invention also provides to the user full control of recording and playback parameters, such as length of a selected segment to be recorded (i.e. how long back in time the segment starts from the moment the user selects it), quality of the stored segments (note that in digital systems, memory space can be extended by using fewer bits to store the audio signal), background or real-time compression on the stored

segments, and recording mode (note that the system can also operate in forward/conventional recording mode).

Numerous modifications, variations and adaptations may be made to the particular embodiments of the invention described above without departing from the scope of the invention, which is defined in the claims.

THE EMBODIMENTS OF THE PRESENT INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A method for monitoring an incoming audio signal and for recording a portion thereof, comprising the steps of:

   a. temporarily storing a length of the most recent portion of the incoming audio signal;

   b. storing the length of audio signal; and

   c. retrieving the stored length of audio signal.

2. A method as defined in claim 1, comprising the steps of:

   a. temporarily storing a length of the most recent portion of the incoming audio signal;

   b. storing the length of audio signal;

   c. storing the portion of the incoming audio signal subsequent to the length of audio signal; and

   d. retrieving the stored length and the stored subsequent portion of audio signal.

3. A method as defined in claim 1, comprising the steps of:

   a. temporarily storing a length of the most recent portion of the incoming audio signal;

   b. selecting a segment of the length of audio signal;

   c. storing the selected segment of audio signal; and

   d. retrieving the stored segment of audio signal.

4. A method as defined in claim 1, wherein step (a) comprises the step of:

a. circularly storing a length of the most recent portion of the incoming audio signal.

5. A method as defined in claim 1, wherein step (a) comprises the step of:

a. temporarily linearly storing a length of the most recent portion of the incoming audio signal.

6. A method as defined in claim 1, comprising the steps of:

a. compressing the incoming audio signal;

b. temporarily storing a length of the most recent portion of compressed audio signal;

c. storing the length of audio signal;

d. retrieving the stored length of audio signal; and

e. decompressing the retrieved length audio signal.

7. A method as defined in claim 1, comprising the steps of:

a. temporarily storing a length of the most recent portion of the incoming audio signal;

b. compressing the length of audio signal;

c. storing the compressed length of audio signal;

d. retrieving the stored length of audio signal; and

e. decompressing the retrieved length of audio signal.

8. An apparatus for monitoring an incoming audio signal and for recording a portion thereof, comprising:

a buffer for temporarily storing a length of the most recent portion of the incoming audio signal;

a memory area for storing the length of audio signal; and

means for retrieving the stored length of audio signal.

9. An apparatus as defined in claim 8, comprising:

a buffer for temporarily storing a length of the most recent portion of the incoming audio signal;

a memory area for storing the length of audio signal;

a memory area for storing the portion of the incoming audio signal subsequent to the length of audio signal; and

means for retrieving the stored length and the stored subsequent portion of audio signal.

10. An apparatus as defined in claim 8, comprising:

a buffer for temporarily storing a length of the most recent portion of the incoming audio signal;

means for selecting a segment of the temporarily stored length of audio signal;

a memory area for storing the selected segment of audio signal; and

means for retrieving the stored segment of audio signal.

11. An apparatus as defined in claim 8, wherein the buffer is a circular buffer.

12. An apparatus as defined in claim 8, wherein the buffer is a linear buffer.

13. An apparatus as defined in claim 8, comprising:

means for compressing the incoming audio signal;

a buffer for temporarily storing a length of the most recent portion of the compressed incoming audio signal;

a memory area for storing the length of audio signal;

means for retrieving the stored length of audio signal; and

means for decompressing the retrieved length of audio signal.

14. An apparatus as defined in claim 8, comprising:

a buffer for temporarily storing a length of the most recent portion of the incoming audio signal;

means for compressing the length of audio signal;

a memory area for storing the compressed length of audio signal;

means for retrieving the stored length of audio signal; and

means for decompressing the retrieved length of audio signal.

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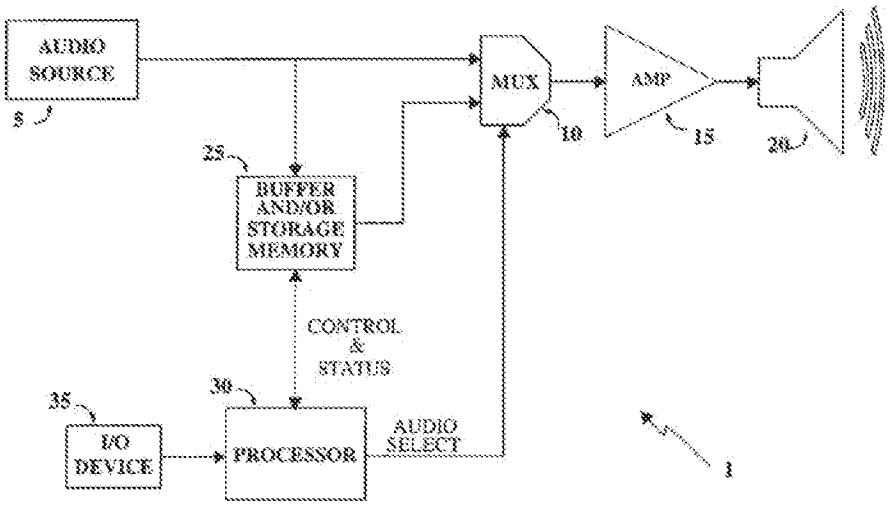
AUDIO SOURCE
5
MUX
10
AMP
15
20
25
BUFFER AND/OR STORAGE MEMORY
CONTROL & STATUS
30
35
I/O DEVICE
PROCESSOR
AUDIO SELECT
1

FIG. 1

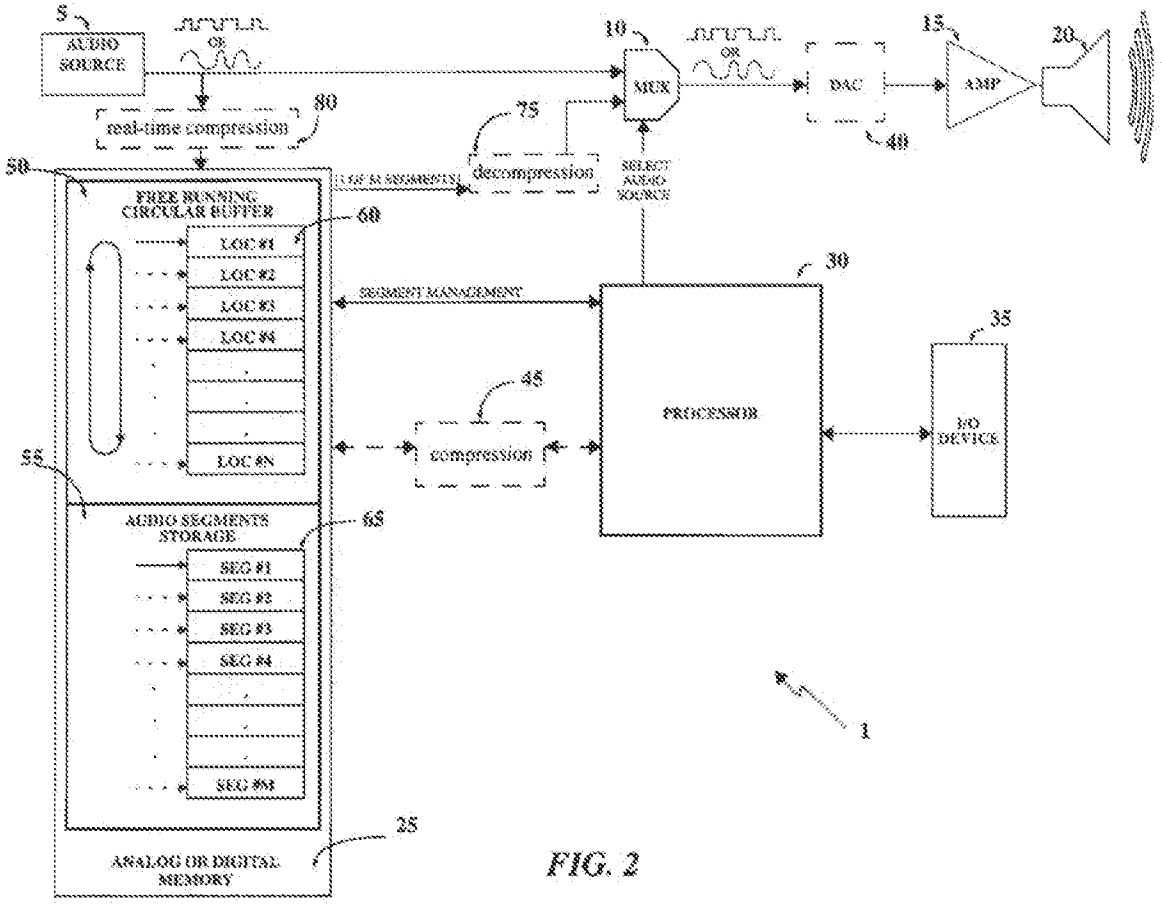
5
AUDIO SOURCE
OR
10
MUX
OR
DAC
15
AMP
20
40
real-time compression
80
75
decompression
SELECT AUDIO SOURCE
50
FREE RUNNING CIRCULAR BUFFER
LOC #1
LOC #2
LOC #3
LOC #4
LOC #N
60
LOG N SEGMENTS
SEGMENT MANAGEMENT
30
35
45
PROCESSOR
I/O DEVICE
compression
55
AUDIO SEGMENTS STORAGE
SEG #1
SEG #2
SEG #3
SEG #4
SEG #M
65
1
25
ANALOG OR DIGITAL MEMORY

FIG. 2

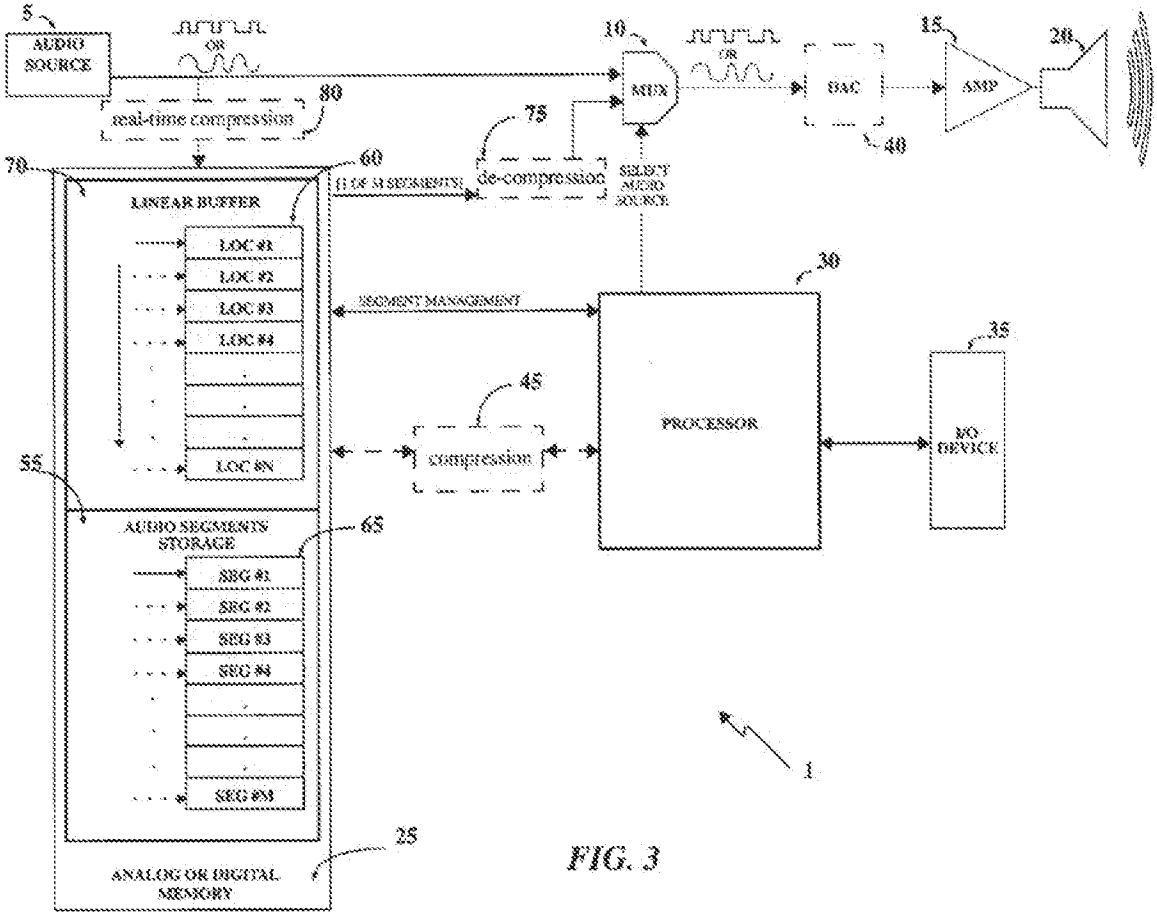
5
AUDIO SOURCE
OR
10
MUX
OR
DAC
15
AMP
20
40
80
real-time compression
75
de-compression
SELECT AUDIO SOURCE
70
60
LINEAR BUFFER
LOC #1
LOC #2
LOC #3
LOC #4
LOC #N
SEGMENT MANAGEMENT
30
45
compression
PROCESSOR
35
I/O DEVICE
55
AUDIO SEGMENTS STORAGE
65
SEG #1
SEG #2
SEG #3
SEG #4
SEG #M
1
25
ANALOG OR DIGITAL MEMORY

FIG. 3

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(71) Applicant : AT & T GLOBAL INFORMATION SOLUTIONS INTERNATIONAL INC.
1700 South Patterson Boulevard
Dayton, Ohio 45479 (US)

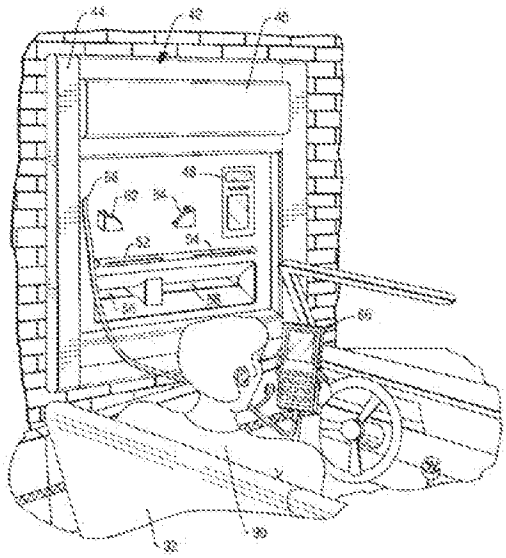
(72) Inventor : Swaine, Stephen William
4 Castle Street,
Newtyle
Angus PH12 8TX, Scotland (GB)
Inventor : Johnson, Graham Iain
53 Castle Street,
Tayport
Fife DD6 9AA, Scotland (GB)

(74) Representative : Robinson, Robert George
International Intellectual Property Department
AT&T GLOBAL INFORMATION SOLUTIONS LIMITED
915 High Road
North
Finchley
London N12 8QJ (GB)

(54) Automated teller machines.

(57) An automated teller machine (ATM) includes a hand-held remote control unit (66) attached to the user interface (42) of the ATM by an armoured cable sheathed in a plastics material. The remote control unit (66) contains a small screen, which may be a liquid crystal display, and a key pad that may be in a standard PIN pad 4 x 4 layout. The user interface (42) includes a holder (62,64) for removably retaining the control unit (66) on the user interface (42). By removing the control unit (66) from the user interface (42), a person in a wheelchair or a driver in a vehicle has easy access to the key pad and the screen provided on the control unit (66).

FIG. 3



EP 0 661 676 A1

The present invention relates to automated teller machines (ATMs).

Automated teller machines and similar interactive business devices require a user interface in order to interact with a user. To date there have been two major concerns with the design of such user interfaces. First, there is the question of privacy, that is, being able to enter a personal identification number (PIN) or a password without being observed by an unauthorized person. Second, there is the question of ready or convenient access, particularly with respect to disabled persons, for whom access is important and may be required by law.

Automated teller machines have become very widely used during the past few years, including the use of such machines, both in an "inside" environment, such as the lobby of a bank or other financial institution, and in a "through-the-wall" environment, in which a machine is mounted in a wall structure out of doors. A through-the-wall ATM may be used in a drive-up environment in which a driveway is provided next to the ATM, so that a vehicle can be driven up to the ATM to enable the driver to operate the ATM through the vehicle window, while remaining seated within the vehicle.

In addition to the concerns mentioned above, certain additional concerns have arisen in connection with the use of ATMs. First of all, users frequently have considerable difficulty in reading the screen of an ATM because of sunlight and artificial light creating problems of glare. Second, access to the various elements of a user interface of an ATM used in a drive-up environment may be difficult since a driver will normally stop the vehicle in a position in which the distance from the vehicle window to the ATM user interface is no closer than approximately 40 centimetres. Third, access to these elements may be further limited as a result of handedness on the part of the driver. Finally, in a drive-up environment, the degree to which a driver is exposed to the elements is, of course, related to the length of interaction while the driver's vehicle is parked at the ATM.

It is an object of the present invention to provide an ATM which alleviates some or all of the concerns discussed above.

According to the invention there is provided an automated teller machine (ATM) having a user interface , characterized by a remote control unit which is connected to the ATM by an armoured cable and which can be held by a user, said control unit including a keyboard for entering data, and further characterized by a holder for removably retaining said control unit on the user interface.

Preferably, the control unit of an ATM in accordance with the invention includes a display screen on which information is provided to a user to assist in carrying out ATM transactions.

It should be understood that in an ATM in accordance with the present invention, the hand-held remote control unit is designed to provide comfortable and easy access to keys (including function keys) and a screen that normally appear on the user interface or fascia of an ATM. This remote control unit enables a user to input confidential data and to view and select transaction options, as can be done with the standard ATM interface. The remote unit facilitates faster transactions than can normally be accomplished using a conventional drive-up or other type of ATM, because the proximity of the decision-making keys and the clarity of the display when viewed from close up contribute to convenience of use. The remote unit can be lifted and held at virtually any height, allowing wheelchair-bound ATM users full access to the control unit. Furthermore, the fact that the personal identification number (PIN) entry and option selection can take place within the shelter of a vehicle in a drive-up environment means that the effects of weather on user comfort are significantly lessened.

Two embodiments of the present invention will now be described by way of example with reference to the accompanying drawings, in which:

Fig.1 is a perspective view of a user interface of an ATM designed for use in a drive-up environment;

Fig.2 is a perspective view of a hand-held unit of the ATM of Fig.1;

Fig.3 is a perspective view, showing a user in a vehicle in the process of carrying out a transaction using the hand-held unit of Fig.2; and

Fig.4 is a perspective view, showing another embodiment of the invention, comprising an ATM designed for use in an in-lobby environment.

Referring to Fig.1, there is shown therein a user interface 40 of a drive-up ATM 42 constructed in accordance with the present invention. A moulding 44 extends around the edges of the user interface 40 to overlap the wall 41 in which the ATM 42 is located. An illuminated sign 46 is located at the top of the interface 40. A card reader 48 having a card-receiving slot 50 is located below the sign 46 and receives a user's identifying card at the commencement of a transaction. Located generally below the card reader 48 are two slots 52 and 54. An envelope may be offered to the user by the ATM 42 through the slot 52 for use in making a deposit. The slot 54 is a receipt slot that enables a printed record of the transaction to be offered to the user. Located below the slot 52 is a slot 56 for receiving deposits made by the user. Located below the slot 54 is a slot 58 through which cash is dispensed to the user in the case of a withdrawal transaction. Located above the slots 52 and 54 on the interface 40 is a bracket or holder 60 that is shown as comprising two corner retaining elements 62 and 64 for retaining on the interface 40 a remote control hand-held unit 66. The unit 66 is disposed in the bracket 60 on the interface 40 in a horizontal orienta-

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tion and is operatively connected to the interface 40 and the ATM 42 by a cable 68 that is armoured to prevent its being removed from the ATM 42 and that is preferably coated with a suitable plastics material that will prevent damage to a vehicle if the cable 68 engages some portion of the vehicle as the hand-held unit 66 is being brought into the interior of the vehicle.

The hand-held remote control unit 66 is shown in greater detail in Fig.2 and includes a display 70 on which instructions for carrying out a transaction and other information may appear. The display 70 may be of the liquid crystal type or other suitable type. Located below the display 70 on the unit 66 is a keyboard 72, comprising a plurality of keys 74. Certain of the keys 74 may be function keys which are used to initiate desired transactions of the ATM 42. Other keys 74 may be numeric keys or alphanumeric keys. The hand-held unit 66 is provided along its sides 76 and 78 with a plurality of recesses 80 for receiving fingers of a user's hand and thereby facilitating the secure gripping of the unit 66 by the user. On the opposite side of the unit from the display 70 and the keyboard 72 is located an indicator 82 that may be a light of the LED type. This light provides a signal to the user when appropriate, as when the user is being directed to pick up the unit 66 and bring it into the vehicle. If desired, the light may flash and may be accompanied by an audible signal from a suitable device located either within the unit 66 or elsewhere in the ATM, to provide an additional indication to the user. The bracket 60 and the unit 66 should desirably be configured so that the unit 66 will properly fit within the bracket 60 only when its side containing the indicator 82 is facing outwardly towards the user, as shown in Fig.1.

In Fig.3, a user 90 in a vehicle 92 is shown using the drive-up ATM 42 of the present invention. The user is grasping the remote control hand-held unit 66 and the connecting cable 68 extends between the user interface 42 and the unit 66. It will be seen that the display 70 and the keyboard 72 can be brought as close to the user as desired, as contrasted with the situation when the display and the keyboard are located on the user interface of a known ATM. It will also be seen that the unit 66 can be held equally well by either a right-handed or a left-handed user 90 in the vehicle 92. This provides a clear advantage over prior art drive-up ATMs in which ease of operation with respect to right-handedness and left-handedness is not equal.

Shown in Fig.4 is a free-standing version 100 of the ATM. In Fig.4, parts similar to corresponding parts in the embodiment of Figs.1-3 are given the same reference numbers. In the user interface 40 there is provided a card reader 48 having a card-receiving slot 50 which receives a user's identifying card at the beginning of a transaction, the reader 48 being arranged to read information carried by the card for the purpose of enabling a determination to be made as to whether the card is valid. The receipt slot 54 enables a receipt to be offered to a user. Deposits made by the user are inserted in the slot 56. Cash is dispensed to the user through the slot 58. Above the slots 56 and 58 on the user interface 40 is a holder 60 for holding the hand-held remote control unit 66 which is operatively connected to the control panel 40 and to the ATM 100 by the armoured cable 68. The hand-held unit 66 can be of the same construction as described above in connection with Fig.2. If desired, an optional display 102 may be included on the user interface 40 of the ATM 100. The optional display 102 may, for example, advertise services provided by the financial institution on whose premises the ATM 100 is located.

Operation of either the drive-up ATM 42 or the free-standing ATM 100 of the present invention is initiated by insertion of a user's identifying card into the slot 50 of the card reader 48. If the identifying card is determined by the ATM to be a valid card, on the basis of information read from the card by the card reader 48, then in the case of the ATM 42 the indicator 82 on the unit 66 is energized, signalling to the user that the unit 66 should be picked up from the user interface 42 and brought into a convenient position for the user's use in performing the transaction. In the case of the ATM 100, following a determination that the identifying card is valid, the optional display 102 could be used to advise the user to pick up and use the unit 66 or to use the unit 66 while still located in the holder 60. The transaction is then carried out in a normal manner, commencing with entering a PIN by the user, using the keyboard 72, to establish the user's identity, and continuing with use of appropriate function keys and other keys on the keyboard 72 to complete the desired transaction. When the transaction is completed, the user must place the hand-held unit 66 back in the bracket 60 in the proper orientation before the user's identifying card will be returned from the card reader 48 in the user interface 40.

In an alternative arrangement to those described above, the remote control unit 66 can be used as a replacement solely for the PIN pad.

Advantages of the present invention include the following. Private and confidential entry of the PIN is provided. Since the control unit is hand-held at the end of a cable, possible variations in distance and position of a user with respect to the ATM are greatly increased, which facilitates use by a user in a wheelchair or in a vehicle. Visual problems such as reflections of displays are minimized, since the display can be held and viewed at any viewing angle and distance that the user chooses. Purchasers of an ATM constructed in accordance with the present invention can configure the ATM in a variety of ways, facilitating customization.

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Claims

1. An automated teller machine (ATM) having a user interface (40), characterized by a remote control unit (66) which is connected to the ATM by an armoured cable (68) and which can be held by a user, said control unit including a keyboard (72) for entering data, and further characterized by a holder (60) for removably retaining said control unit (66) on the user interface (40).

2. An ATM according to claim 1, characterized in that said control unit (66) includes a display screen (70) on which information is provided to a user to assist in carrying out ATM transactions.

3. An ATM according to either claim 1 or claim 2, characterized in that said armoured cable (68) is covered with a plastics material.

4. An ATM according to any one of the preceding claims, characterized in that at least one side of said control unit (66) is provided with recesses (80) for receiving fingers of a user's hand and thereby facilitating holding of the control unit (66) by the user.

5. An ATM according to any one of the preceding claims, characterized by card reader means (48) for reading information carried by a user identifying card inserted by a user in a card entry slot (50) of said reader means.

6. An ATM according to claim 5, characterized in that said control unit (66) includes indicator means (82) arranged to provide an indication to a user to pick up said control unit and enter data therein, said indication being provided following insertion of a user identifying card in said card entry slot (50) and a determination being made that the card is valid.

7. An ATM according to claim 6, characterized in that said indicator means (82) is an LED type of light.

8. An ATM according to any one of claims 5 to 7, characterized in that the ATM is arranged to retain an inserted user identifying card in said card reader (48) until said control unit (66) is returned to said holder (60).

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FIG. 1

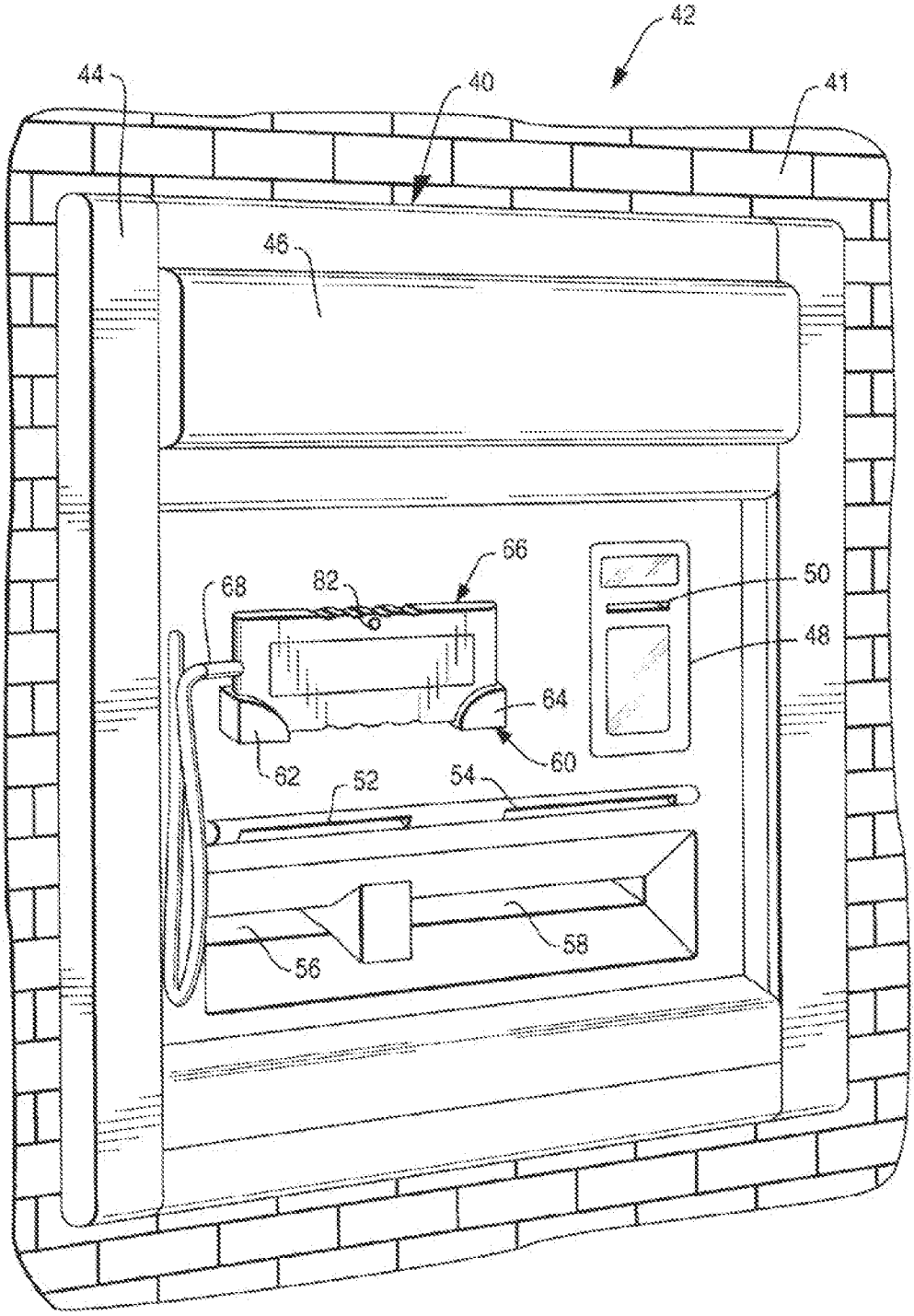

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FIG. 2

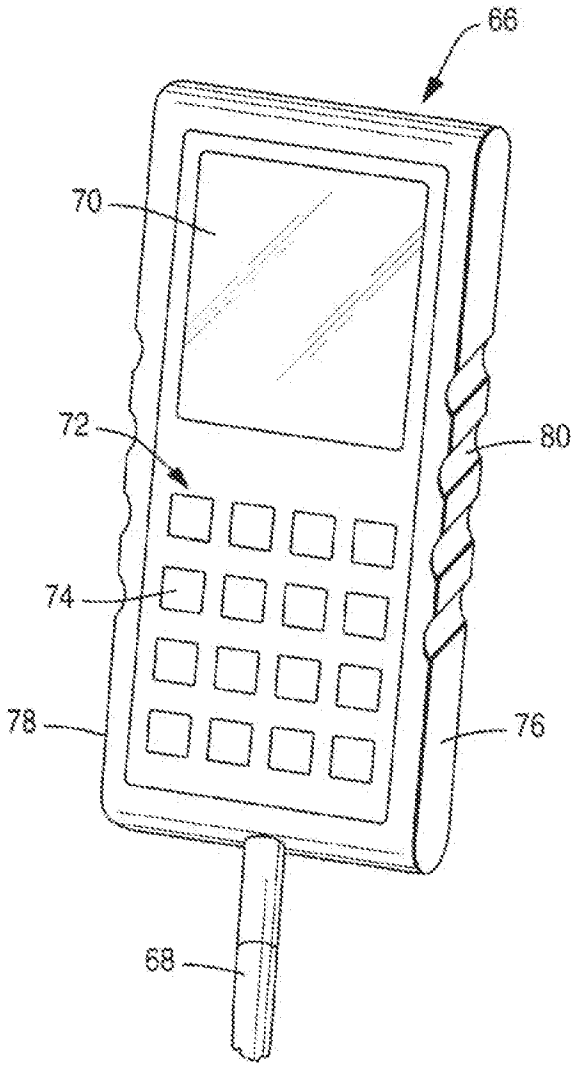


FIG. 3

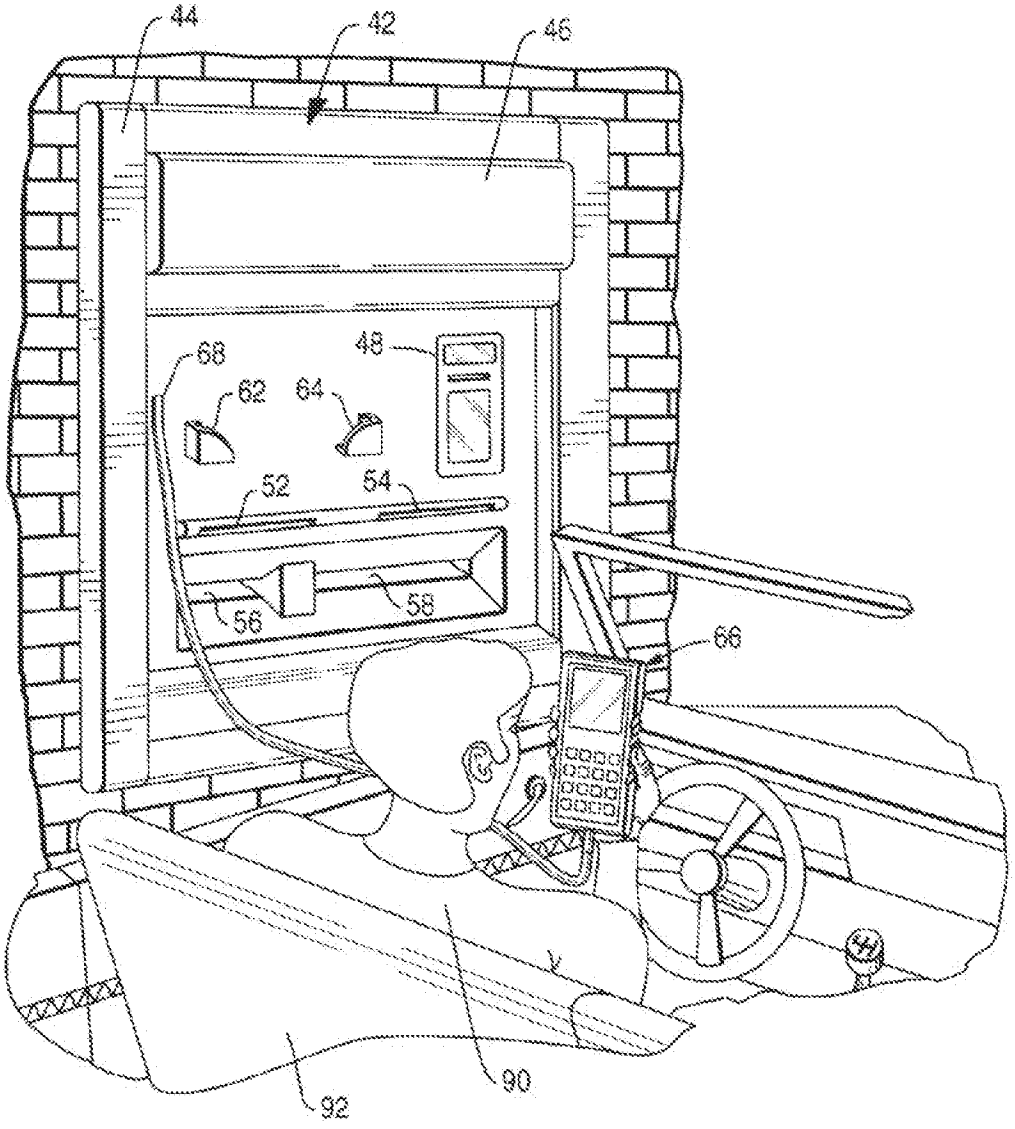
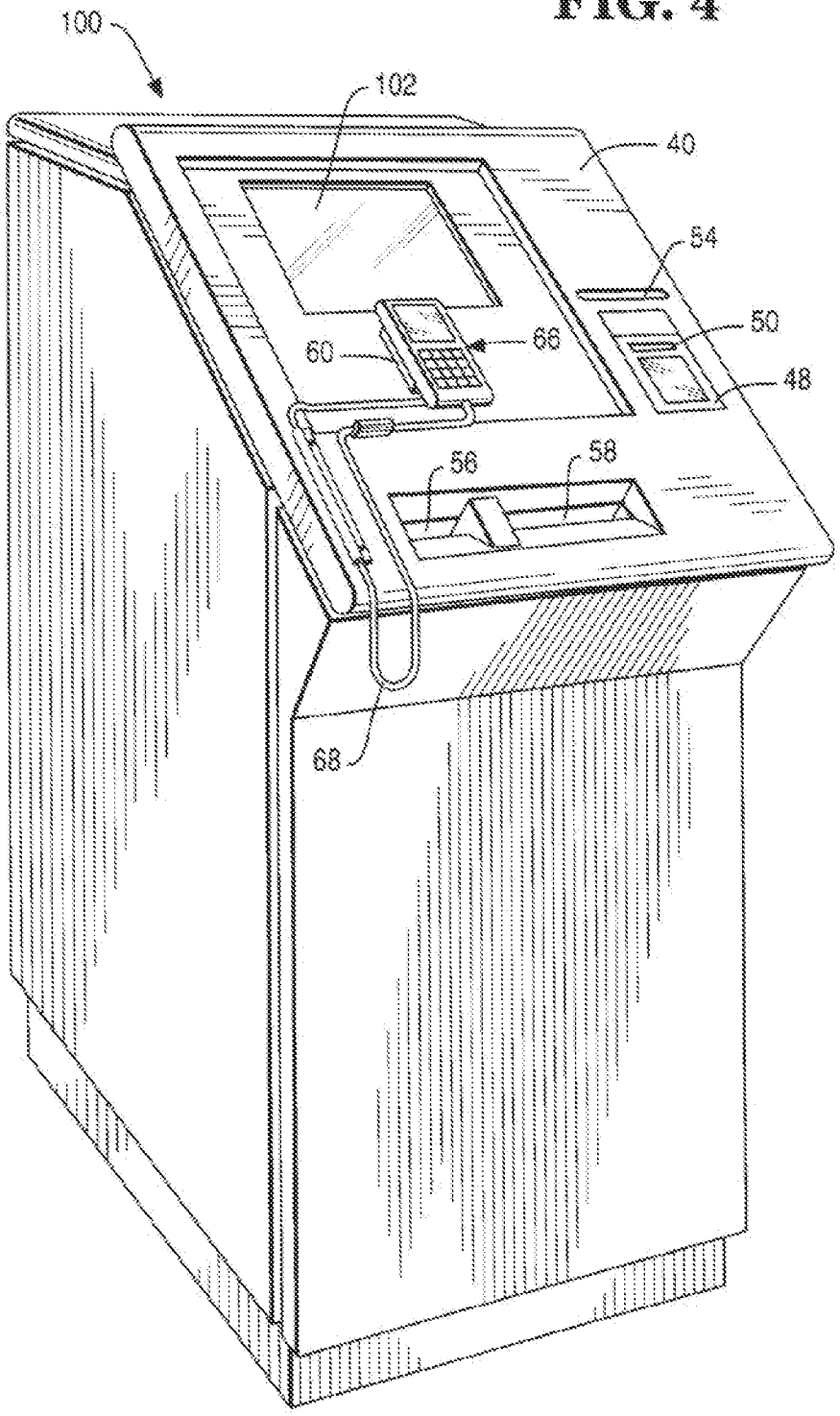


FIG. 4



European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 94 30 9608

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	RESEARCH DISCLOSURE, no. 291, July 1988 page 475 XP 000006544 'HAND-HELD KEYBOARD DISPLAY ON A RETRACTING CABLE FOR A SELF-SERVICE MACHINE'	1,2,5,6, 8	G07F7/10
A	* the whole document *	3	
X	PATENT ABSTRACTS OF JAPAN vol. 016 no. 520 (P-1444) ,26 October 1992 & JP-A-04 191994 (OKI ELECTRIC IND CO LTD) 10 July 1992, * abstract *	1,5	
A	EP-A-0 196 192 (IMP OIL LTD) 1 October 1986 * page 2, line 32 - page 3, line 32 * * page 9, line 5 - page 12, line 5 * * page 12, line 33 - page 13, line 33; claims 1,8,10,11; figures 1,3-5 *	1,5,8	
A	US-A-4 967 366 (KAEHLER DAVID L) 30 October 1990 * abstract; figures 1-3,5,6 * * column 3, line 23 - line 45; claim 1 *	1,5,8	TECHNICAL FIELDS SEARCHED (Int.Cl.6) G07F
A	EP-A-0 535 417 (IBM) 7 April 1993 * abstract *	2,5-8	
A	DE-U-93 08 244 (HEGEDUS JOHANNES ET.AL.) 5 August 1993 * page 1, line 23 - line 31; claim 1 *	1	
A	EP-A-0 193 505 (INTER INNOVATION AB) 3 September 1986		
A	US-A-4 735 289 (KENYON ANTHONY) 5 April 1988		

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	27 April 1995	Guivol, D

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
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P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

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(71) Applicant:
Saehan Information Systems Inc.
Seoul, 121-710 (KR)

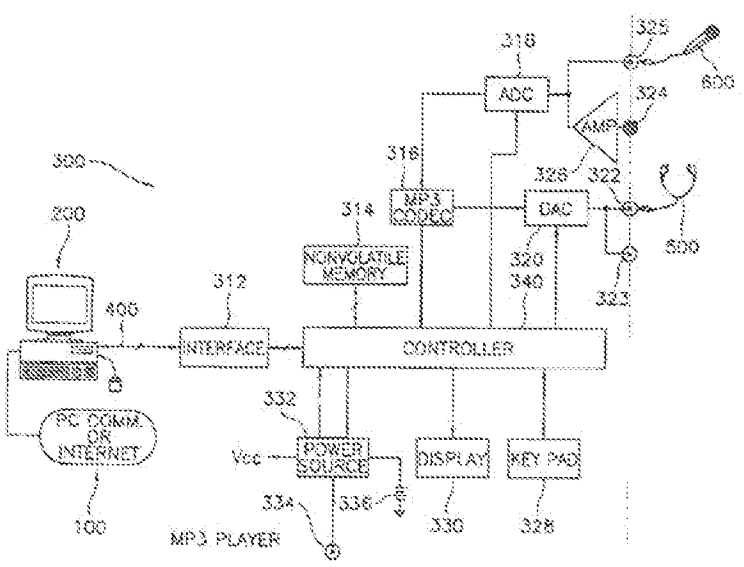
(72) Inventor:
Hahm, Yeong Ook,
Saehan Building 254-8
Seoul 121-710 (KR)

(74) Representative:
Dr. Weitzel & Partner
Friedenstrasse 10
89522 Heidenheim (DE)

(54) Portable MP3 player having various functions

(57) An MP3 player and its data providing system are disclosed. A voice from a microphone is convened into a digital audio signal by an A/D converter. An MP3 music file and private information such as phone numbers or memos are downloaded from a data providing apparatus such as a computer through an interface to the MP3 player. A CODEC decodes the MP3 music file for reproduction, encodes the digital audio signal into a voice data file by PCM or an ADPCM method, and decodes the encoded voice data file. A D/A converter converts the decoded digital audio signal into an analog audio signal for the reproduction of voice or music. The MP3 player uses an nonvolatile memory for storing the encoded voice data file or the downloaded files from the computer. The MP3 player has a key pad comprising various function keys with which a user can direct an operation of the MP3 player, which is controlled by a microcomputer. The files stored in the MP3 player can be also uploaded to the computer. Furthermore, the MP3 player has various additional functions.

FIG. 1



EP 0 982 732 A1

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2.16/7.8.6

Description

Background of the invention

1. Field of the invention

[0001] The present invention relates to an apparatus for recording and reproducing digital data and more particularly to a MP3 player, having basic functions for downloading, storing and reproducing digital files from a data providing apparatus such as a computer or a data vending machine and further having additional functions.

2. Description of the Prior Art

[0002] A typical MP3 file is obtained by compression-coding audio data in a format of MPEG1 LAYER3. Generally, this MP3 format is widely used for making a computer music file, but nowadays news or lecture is also realized through the MP3 format.

[0003] As MP3 files are intrinsically oriented for a computer environment, it was able to be reproduced only by a computer system with a multimedia function until a dedicated audio reproducing apparatus was known. Conventionally, without the use of a multimedia computer system, various methods of reproducing MP3 file are being used. For a cassette tape player, MP3 music files are first converted to analog type audio signals in a computer system, and then the analog signals are recorded on a cassette tape. Another way is to use a compact disc (CD) player. For this, MP3 files are copied on a CD disk.

[0004] However, these methods are disadvantageous in that when MP3 files are recorded on the recording medium such as the above cassette tapes or CD disks, data errors may be appear on the recorded data from the recoding medium, which may result in a deteriorated quality of sound during the reproduction.

Summary of the invention

[0005] Therefore, it is a first object of the present invention to provide an MP3 player having a function of downloading MP3 music files and various additional information such as phone numbers or memos from an external data providing apparatus reproducing them if necessary.

[0006] It is a second object of the present invention to provide an MP3 player having functions of recording voice data in a form of a digital data file after signal processing and reproducing or transmitting the recorded voice file to an external apparatus if necessary.

[0007] It is a third object of the present invention to provide an MP3 player having function of displaying all kinds of languages, so far as they can be supported by the data providing apparatus, on its display panel.

[0008] In order to accomplish the above objects, there is provided a method of recording and reproducing a digital data as a first aspect of the invention, comprising the steps of: a) executing a management program of a data providing apparatus for integrally managing both the data providing apparatus and a MP3 player; b) selecting a file to be downloaded to the MP3 player from files stored in the data providing apparatus in a running state of the management program; c) storing the downloaded file in a nonvolatile memory of the MP3 player; d) recording a voice signal from a microphone in a form of a digital voice file in the nonvolatile memory; e) selecting a file to be reproduced from the files stored in the nonvolatile memory; and f) reproducing the selected file into an audio output by decoding the selected file.

[0009] The voice signal which is an analog signal is at first converted into a digital voice data, then is encoded in either a pulse coded modulation (PCM) method or an adaptive differential pulse coded modulation (ADPCM) method, and finally recorded in a form of a voice file in the nonvolatile memory of the MP3 player. The recorded voice file can be reproduced into the original voice through a decoding process in the same method, if necessary.

[0010] The MP3 music file includes a music data and an additional data. The latter is convened into a bit-map format form prior to being downloaded and is displayed on a display panel of the MP3 player upon the reproduction of the MP3 music file.

[0011] The files stored in the nonvolatile memory can be uploaded to the data providing apparatus, if necessary. Besides, phone numbers or memos inputted with the data providing apparatus also can be downloaded to the MP3 player and then can be displayed on the display panel of the MP3 player.

[0012] As a second aspect of the present invention, there is provided a portable data recording/reproducing MP3 player apparatus. The MP3 player includes an analog-to-digital converting means for convening an analog audio signal of a voice provided by a microphone into a digital audio signal; a coding/decoding means for decoding an MP3 music file in an MP3 decoding method, encoding the digital audio signal into a voice data file in a predetermined decoding method, and decoding the voice data file by the predetermined decoding method; an interfacing means for interfacing a reception and a transmission of a data file between an external data providing apparatus and the MP3 player; a nonvolatile memory means for storing the encoded voice data file from the coding/decoding means and the data file from the data providing means at a designated address; a key input means, including a plurality of function selection keys, for selecting a file to be reproduced into an audio signal from the nonvolatile memory and for directing a predetermined function with the function selection keys; a digital-to-analog converting means for convening a digital audio signal decoded by the coding/decoding means into an analog audio signal for an

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audio reproduction; and a control means, in response to an output signal of the key input means, for controlling a data communication between the data providing apparatus and the data recording/reproducing apparatus, reading and writing operations to the nonvolatile memory and a reproduction of a read-out file. A computer system or a data vending machine can be utilized as the data vending machine.

[0013] As a third aspect of the present invention, there is provided a system for recording and reproducing a digital data comprising: a computer, including an MP3 file management program, for performing download and upload of any kinds of computer files besides an MP3 music file and a recorded voice file through a parallel port; and an MP3 player for reproducing the MP3 music file while displaying information related to the MP3 music file, for recording a voice signal originated from a microphone in a form of a digital voice file in a nonvolatile memory and reproducing the digital voice file if necessary, and for displaying information of phone numbers and memos, in response to user's key operations, wherein the MP3 player is connected to the computer through the parallel port, the MP3 music file and the information of the phone numbers and memos are downloaded from the computer to be stored in the nonvolatile memory.

[0014] According to the present invention, the MP3 player has a voice recording function and additional functions for saving and displaying character data such as phone numbers and memos except the basic function for storing and reproducing of the MP3 music file. That is, with the MP3 player, a user can easily record a voice at any time or place, and reproduce the recorded voice file if necessary. Furthermore, the user can upload the recorded voice file to computer and can preform the reproduction and management of the voice file. As such, the MP3 player works as another input/output apparatus of the computer and has a more convenient function when it is cooperated with the computer.

[0015] Meanwhile, the MP3 player does not need a recording medium such as a cassette tape for a cassette tape player or a CD for a CD player as a data source. Thus, there is no need for the MP3 player to have a driving mechanism of the recording medium. This allows a simple configuration of the MP3 player and a good quality of the output signal even when an impact is applied to the MP3 player.

[0016] Furthermore, the MP3 player does not require to have a large size font ROM and can support various languages because the character data are downloaded in the form of a bit-map from the computer, which results in a lower manufacturing cost.

Brief Description of the Drawings

[0017] The above objects and other advantages of the present invention will become more apparent by describing in detail a preferred embodiment thereof with reference to the attached drawings, in which:

FIG. 1 shows a configuration of a digital data recording and reproducing system according to the present invention;

FIGs. 2 to 5 shows screen views of a computer monitor displayed by an execution of a management program according to the present invention;

FIG. 6 shows an external appearance of a portable MP3 player according to the present invention;

FIG. 7 illustrates a mapping format of a flash memory of the portable MP3 player;

FIG. 8 explains various operation modes of the portable MP3 player;

FIGs. 9 to 16 shows various hierarchy views of every operation mode in a liquid crystal display (LCD) panel of the MP3 player.

Description of the Preferred Embodiment

[0018] An embodiment of the present invention will hereinafter be described in detail with reference to the drawings.

[0019] Referring to FIG. 1, a configuration of a digital data recording/reproducing system according to the present is illustrated. The system includes broadly a computer 200 and an MP3 player 300. Here, computer 200 should be understood as an example of an external data providing apparatus. A commercially available data vending system, which has ever been commercialized nowadays, can works as the external data providing apparatus if it has a management program which makes the system work as designed functions according to the present invention.

[0020] Computer 200 is required that it should have an operating system which can support a graphic user interface, for example, Window series operating system of Microsoft Co. Ltd., and a communication environment which can support a data communication with an external source through a communication network, like a conventional personal computer. A management program for an integral file management between MP3 player and computer 200 is installed in computer 200. By means of the management program, some files such as various kinds of the MP3 music files which was downloaded to computer 200 through Internet or a computer communication network 100 or computer files stored in a hard disc of computer 200 can be downloaded to MP3 player 300, and reversely some files stored in MP3 player 300 can be uploaded to computer 200.

[0021] Computer 200 and MP3 player 300 are connected with each other by a communication cable 400 for a data communication. In detail, one end of communication cable 400 is connected to a parallel port of computer 200 and the other end is connected to a communication port of MP3 player 300.

[0022] FIG. 2 shows a main menu 202 of the manage-

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ment program displayed on a monitor of computer 200 when the management program is running after an installation of the management program.

[0023] In main menu 202, there is provided with a menu section 204 having some menus named "File, PC, MPMan, Tool and Help". Here, the MPMan is a trademark of the MP3 player of the applicant. As shown in FIG. 3, the File menu includes "Exit" menu, and the PC menu includes some submenus of "Cut, Copy, Paste, Delete, Rename, Folder, Latest Information, and Download to MPMan" in its dropdown menu box 208. The MPMan menu includes "MPMan Initialize, Delete, Latest Information, and Upload to PC" in its dropdown menu box 210. There are also provided with some submenus of The Tool menu such as "Phone/Memo, MP3 play, MP3 File Information and Environment" in a dropdown menu box 212.

[0024] In main menu 202, there are provided with two windows: a first window 214 showing directory information of computer 200 in a left side and a second window 216 showing file information of MP3 player 300 in a right side. There are provided with two move buttons over the windows 214 and 216: a first move button 218 for downloading a selected files from computer 200 to MP3 player 300 and a second move button 220 for uploading a file stored in MP3 player 300 to computer 200. If a user selects a file from first window 214 with a mouse pointer and then clicks first move button 218, the selected file is downloaded to MP3 player 300. To the contrary, in order to upload a file stored in MP3 player to computer, the user should select the file from second window 216 with the mouse pointer and then click the second move button 220.

[0025] In response to a selection of the Phone/Memo menu of Tool menu 212, a Phone/Memo window 222 is displayed as shown in FIG. 4. There are provided with three menus such as "Memo, Phone, and Preview" and two buttons of "Cancel and Select". In response to a selection of the Phone menu, there is displayed a Phone menu window 223 having two input windows of "Group and Name and Phone Number" and four buttons of "Edit, Insert, Delete and Save". For a registration of a phone number, a user should choose a group in Group input window 226, input the phone number through Name and Phone Number window 228 and click save button. Besides, Phone menu window 223 has some other buttons for vertical and horizontal scroll, edit, insert, delete, and save.

[0026] When the Memo menu is selected, a Memo window 230 is displayed as shown in FIG. 5. There are provided with a "Title" window 232, a "Memo" window 234, vertical ans horizontal scroll buttons, and save and font buttons 238 in Memo window 230. After the user sets a particular font face and size with the font button, the graphic character is displayed as a set in a display panel 330 of MP3 player.

[0027] The Preview menu allows the user to see the contents of display panel 330 of MP3 player through the monitor of computer 200.

[0028] Character data, except English character and numeric data, of additional information for a music file such as title, artist and genre, which are called ID3 tag information, phone numbers and memos are downloaded to MP3 player 300 in a form of a bit-map data for the display through display panel 330 of MP3 player 300. For this, computer 200 converts the character data of a file to be downloaded to MP3 player 300 into a bit-map data and loads them to a virtual image buffer. At this time, the record unit to the image buffer is dependent on the resolution of display panel 330 of MP3 player 300. For example, if display panel 330 is realized with the LCD panel, the record unit is 16x16 pixels. Especially, the ID3 tag information is also converted into a bit-map data which is added to the head of the MP3 music file and is downloaded in a MP3 file form to MP3 player 300. Furthermore, text codes of the phone numbers and memos are also converted into a bit-map data prior to the download to MP3 player.

[0029] As such, computer 200 is connected with MP3 player 300 through the parallel port and manages the data communication with MP3 player 300 for the download and upload of any kinds of computer files including the MP3 music file, the phone number file and the memo file with the management program.

[0030] Without mentioning that a phone number file or a memo file can be made with computer 200, such file can be made with MP3 player 300 if it has a data input means. As the phone number and memo data are managed in computer 200 and an initialization of the previous data of MP3 player 300 is performed prior to the transfer of data, a new version of the data is stored in MP3 player at every download of data.

[0031] MP3 player 300 has a voice recording function, which will be described below in detail, and a voice signal is encoded by PCM or ADPCM method prior to being stored as a voice file in MP3 player 300. The management program supports a wave driver function that enables uploading of the encoded voice file from MP3 player to computer 200 and transforming the voice file into a wave signal so as to output a voice through a sound card of computer 200. Furthermore, the management program has a function of compressing a music data of other formats other than MP3 format and of decompressing and decoding a compressed MP3 music file to reproduce music.

[0032] Meanwhile, referring to FIG. 1, MP3 player 300 includes an interfacing section 312, memory 314, a coder/decoder (CODEC) 316, an analog-to-to digital (A/D) convener 318, a digital-to-analog (D/A) converter 320, an earphone jack 322, a line-out jack 323, a built-in type microphone 324, a line-in jack 325, an amplifier 326, a key pad 328, a display section (330), a power supplier 332, a DC adapter jack 334, a battery 336 and a controller 340.

[0033] Interfacing section 312 supports the data communication between computer 200 and MP3 player 300.

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interfacing section 312 has a parallel port socket which is connected to the parallel port of computer 200 through a communication cable 400. An example of the parallel port socket is a personal computer memory card international association (PCMCIA) with 15 pins comprising a ground pin, 8-bits data pins and 6-bits control signal pins. The six control signals are as follows: strobe, ack, busy, auto-feed, initialize, select-in. Especially, the strobe signal, here, is used as a read signal and the auto-feed signal is used as a write signal. That is, interfacing section 312 supports a bidirectional data communication between computer 200 and MP3 player 300 in response to the six control signals.

[0034] For a voice recording, MP3 player 300 has line-in jack 325, built-in type microphone 324, amplifier 326 connected to microphone 324, and A/D converter 318 connected to line-in jack 325 and amplifier 326. An external microphone 600 can be connected to A/D converter 318. A voice source which transfers a voice signal through line-in jack 325 is not confined to microphone 600 and a conventional cassette tape recorder can be an example of the voice source. The voice signal provided from built-in microphone 324 or line-in jack 325 is amplified by amplifier 326. The amplified voice signal is converted into digital data by A/D converter 318 which is controlled by controller 340. The digital data is fed to CODEC 316.

[0035] Memory 314 works as a data storage of MP3 player which stores various kinds of computer files downloaded from computer 200 and voice files encoded by CODEC 316. It is required that memory 314 can sustain its data even in the state of power-off. Accordingly, a nonvolatile memory should be used as memory 314. In view of size and stability, a flash memory is strongly recommended.

[0036] FIG. 7 illustrates a mapping format of memory 314. The memory map comprises an file allocation table (FAT) area 702 and a data area 704. A first block BLK0 is designated as FAT area and the other blocks BLK1 ~ BLKm are designated as data area 704. One block includes a main area 706 with a dimension of 512 bytes by 16 pages and a sub area 708 with a dimension of 16 bytes by 16 pages.

[0037] In main area 706, block information of all the blocks is stored as shown in Table 1, and identification information of the flash memories is stored in sub area 708.

(Table 1)

CODE	CONTENT
FF	blank block
00	bad block
CC	non-existent block
M	first block of the music file

(Table 1)(continued)

CODE	CONTENT
m	music file block
T	first block of phone number file
t	phone number file block
D	first block of memo file
d	memo file block
P	first block of PCM file
p	PCM file block
E	first block of computer file (wp, txt, exe)
e	computer file block

[0038] In data area 704, file information is stored. Every file consists of a plurality of blocks. In the first block of sub area 710 of every file, the file information of the corresponding file is stored. The file information includes a file type (a music file, a PCM file, a phone number file, a memo file and any other computer file), a block number of the file, a current block number, a next block number, an effective data size in the current block, a file size, a file name, and date and time. Sub area 712 of each block from the second block of every file contains block information of the corresponding block. The block information consists of a file type, a block offset, a previous block number, a current block number, a next block number, and an effective data size in a current block.

[0039] Accordingly, the file structure can be analyzed by referring the first block of each file in FAT area 702 and then by referring the file information in sub area 710 of the referred first block. Since the next block information is stored in the sub area of the current block (refer to 710 and 712) for the block linkage, the blocks of each file can be successively read out. Regarding file 1 in FIG. 7, it can be known from the information (1)-(7) in sub area 710 of the first block that the current block number is 1 and the next block number is 7. Furthermore, it can be known from the information (1)-(7)-(20) in sub are 712 that the current block number is 7, the previous block number being 1, the next block number being 20. Since the data of every file can be read out referring to the linkage information of all the blocks, the forward or backward reproducing operation can be easily and accurately performed.

[0040] CODEC 316 functions as a encoder together with a decoder. For the reproduction of a MP3 music file stored in memory 314, CODEC 316 decompresses the MP3 music file from controller 340 according to the MP3 format and decodes the decompressed music file into in an audio data in a bit stream form. Further, when CODEC 316 is provided with a digital voice data from A/D converter 318, CODEC 316 functions as an encoder which encodes the digital voice data by PCM or

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ADPCM method. The encoded data is stored in a file form in memory 314 by controller 340. Meanwhile, for the reproduction of the voice data file stored in memory 314 through earphone 500, CODEC 316 decodes the voice data file in a corresponding demodulation method into a bit stream form of the digital voice data which is provided to D/A converter 320. For the three optional functions, CODEC 316 has a read only memory (ROM) and a random access memory (RAM). A decoding program for the MP3 decoder function is stored in the ROM. Programs for decoding and encoding the voice signal are selectively loaded to the RAM by controller 340 when necessary. That function for CODEC 316 to perform is dependent on the program loaded by controller 340. If controller 340 does not direct a particular function, CODEC 316 functions as the MP3 decoder; otherwise, CODEC 316 performs the particular function of the encoder and decoder for the voice. For the control of the function of CODEC 316, controller 340 should designate the function of CODEC 316 based on the type of a file to be processed together with feeding and fetching the data in relation with CODEC 316 in a serial transmission method.

[0041] D/A converter 320 converts the decoded voice data provided from CODEC 316 into an analog voice signal to be transferred to earphone jack 322 or line-out jack 323 by the control of controller 340. Line-out jack 323 can be utilized as an output terminal for any other apparatus other than earphone 500.

[0042] In the meantime, MP3 player 300 has display section 330 for displaying characters or graphics. Display section 330 can be made with LCD panel, for example, which has an icon display window and a graphic dot display window with a dimension of 128 by 32 dots and a driver for the LCD panel. In the icon display window, there are provided several icons representing such as a battery indicator, a holder indicator for blocking unintended button operation, a play mode indicator, a genre indicator, a volume indicator, and an available memory size. In the graphic dot display window, information such as the title of a music, phone number and contents of a memo are displayed. The data of these kinds of information can be displayed simply in the form of a bit-map image in the display panel without any particular signal process because they are stored in memory 314 as a bit-map. Consequently, by means of the bit-map image method, all languages from the world can be displayed in LCD panel 330 so long as they can be expressed in computer 200.

[0043] Power supplier 332 includes at least a battery 336 and has a configuration for receiving an external power through DC adapter jack 334. Power supplier 332 provides operating voltages to every section of MP3 player and is controlled by controlled 340 to be automatically power-on or power-off.

[0044] Meanwhile, FIG. 6 shows a perspective view of MP3 player 300. Line-in and line-out jack 325 and 323, built-in type microphone 324 and earphone jack 322 are arranged at the cop of a housing, and a parallel port socket of interface section 312 is disposed at the left side of the housing. In the front of the housing, a LCD panel and key pad 328 therebelow are disposed. Any other components are installed within the housing.

[0045] Key pad 326 includes seven keys such as a play/stop key 600, a forward key 610, a backward key 620, a up key 630, a down key 640, a function key 650 and a selection key 660 and a hold key 670 for preventing keys from being operated accidentally or being in contact unintended. Functions of every keys will be described later.

[0046] Controller 340 can be made with a microcomputer. The microcomputer may includes a CPU, a system RAM, a system ROM and an A/D converter on an one-chip. Controller 340, being connected to computer 200 through interface section 312, receives a selected file from computer 200 and stores it in memory 314. In addition, controller 340 loads a voice data encoded by CODEC 316 in a form of ADPCM file to memory 314. Controller 340 also performs, in response to the selection signals from key pad 328, a function of reading the voice data file or MP3 music file stored in memory 314 to be transferred to CODEC 316 and controlling the conversion of a read-out file into an audio output signal by controlling CODEC 316 and D/A converter 320. Particularly, controller 340 controls A/D converter 318 to sample an analog voice signal in a frequency of 8, 16 or 32 Mkz for converting it into the digital data, and controls CODEC 316 to compress the digital data into one fourth and to convert the compressed data into PCM or ADPCM data file.

[0047] Furthermore, when the key selection signal from key pad 328 directs the output of character information, controller 340 reads a related file from memory 314 and controls the display of the related file on display section 330. Controller 340 is only comprised of font data, for example the English character font and the numeric font, necessary for the operation of MP3 player and for the message output. This can downsize a font ROM to be provided in controller 340. Although controller 340 contains a minimum size of font data, it can support the display of all languages because the character data to be displayed through display section 330 is a bit-map data. In other words, even if a file concerning character data is in other languages other than English, there is no need of such font data so long as the file can be converted into a bit-map data. Therefore, MP3 player 300 can display all languages so long as such language is supportable in computer 200.

[0048] FIG. 8 shows a configuration of operating modes of MP3 player 300. There are provided various operation modes: a communication mode 350, an auto power-off mode 352, a volume control mode 354 and a function mode 360. Function mode 360 includes six function modes: an MP3 mode 362 which is a main function mode for the control of play/stop of a MP3 music file, a phone mode 364, a voice record (PCM)

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mode 366, a voice playback 368, a memo display mode 370, a file delete mode 372, and a time set mode 374. Transition between MP3 mode 362 and one of six function modes 364 ~ 374 is performed with function key 650, and the transition between the six function modes 364-374 is performed with forward key 610 and backward key 620.

[0049] If auto power-off mode 362 is set or play/stop key 600 is selected over a predetermined time, for example 3 seconds during volume control mode 354 or function mode 360, power-off mode 356 is enabled to shut off the power supply. And, if any key is selected during power-off mode 356 or communication mode 350 is performed, an initial window display mode 358 is enabled and a predetermined message is displayed in the LCD panel of display section 330.

[0050] Hereinafter, the function modes are described in detail.

1. MP3 Mode

[0051] This mode is the main mode for operating a MP3 music file. Referring to FIG. 9, when the power is turned on, there is displayed information of music file such as a music number, a file size and a title of music which was played prior to the power-off (380) in displaying section 300. In response to a signal of select key 660 during a stop mode in which no MP3 music file is played, an ID3 tag information such as the title, artist and genre of a MP3 music file is displayed (382). If a user selects a file with forward or backward keys 610 or 620 and pressing play/stop key 600, information such as the music number, title and play time of currently playing MP3 music file is displayed. It is allowable to select in addition to a forward play mode or a backward play mode, a fast forward play mode or a fast backward play mode during a play mode. Pressing play/stop key 600 during the play mode stops the play of the music file and activates initial display 380 together with saving the displayed data. At every pressing of select key 660 in the play mode, following modes are sequentially selected: a normal mode for playing all MP3 files and stopping, a repeat mode for repeating the current MP3 file, a repeat all mode for looping all MP3 files, a shuffle mode for playing randomly MP3 files once, a shuffle repeat all mode for playing randomly and repeating all songs. A genre can be changed by pressing function key 650 in the play mode. The types of genre are as follows: normal (no sound effect applied), classic, disco, jazz, pop and rock.

2. Function Mode Selection

[0052] Referring to FIG. 10, if function key 650 is selected in the play mode (382 or 384), six icons for various utilities are displayed on the LCD panel of display section 330 (386): phone menu 364 for browsing phone groups and their contents; voice record menu 366 for recording voice in PCM (or ADPCM) file; voice playback menu 368 for playing the recorded PCM files; memo menu 370 for browsing memo titles and their contents; delete menu 372 for deleting unnecessary files including MP3 files, PCM files and memo files; and time set menu 374 for setting the time. At first, a cursor can be shifted to an adjacent icon by forward key 610 and backward key 620. In order to select a function mode, a user should presses select key 660 after locating the cursor on a desired icon.

3. Phone Menu

[0053] In FIG. 11, a phone groups downloaded from computer 200 to MP3 player are listed by pressing select key 660 in phone menu 660 (402). In this state, a desired group is selected with select key 660 while scrolling the groups with forward and backward keys 610 and 620. Then a user will see the name and phone numbers in each phone group displayed on the LCD panel (404). The scroll of the phone numbers is also performed with forward and backward keys 610 and 620 and the return of the previous view is performed with function key 650.

4. Voice Record Menu

[0054] Referring to FIG. 12, in response to selecting the voice record icon, the file number and other information of a file to be recorded are displayed (406). If a user selects a new file or an available recorded file with forward and backward keys 610 and 620, the file number and recording time of the selected file are displayed. And, the user can select a record quality with select key 660 in a voice record standby mode 406. If the user presses play/stop key 600 in order to record the voice, a PCM data of a voice originated from microphone 324 and line-in jack 325 is appended to the end of an available file or is recorded in a new file (408). To stop the recording, play/stop key 600 should be pressed again.

5. Voice Playback Menu

[0055] Referring to FIG. 13, selecting the icon of this menu 390 displays a PCM file number and a playback time (410). In this state, a user can select a PCM file in be played by scrolling the PCM file number with forward and backward keys 610 and 620. If the user presses play/stop key 600 after file selection, a PCM data is reproduced into an original voice together with displaying the selected PCM file number and the playback time (412).

6. Memo Menu

[0056] Referring to FIG. 14, selecting the icon of this menu 392 displays a memo title (414). In this state, if a user selects a memo information with forward and back-

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ward keys 610 and 620 and presses select key 660, the contents of the memo is displayed. The contents of the memo can be scrolled with up and down keys 630 and 640 or forward and backward keys 610 and 620.

7. Delete Menu

[0057] Referring to FIG. 15, selecting the icon of delete menu 394 displays three icons corresponding to a MP3 music file, a PCM file and a memo file (418). In this state, if a user presses select key 660 after selecting one from these three types of files with forward and backward keys 610 and 620, the file number, size and title of the selected file are displayed (420). In order to delete a file, the user should press select key 660 after selecting a file to be deleted with scrolling the stored files with forward and backward keys 610 and 620. In response to the file deletion, the deleted file number and the available memory size are displayed and then the view of step 418 is displayed.

8. Time Set Menu

[0058] Referring to FIG. 16, selecting the icon of time set menu 394 displays the current date and time (424). In this state, a user can go into the time set mode with select key 660. Move to an item to be set can be done with forward and backward keys 610 and 620, and change of data can be adjusted with up and down keys 630 and 640. In order to save the changed value, the user should press select key 660.

[0059] As described above, a user can select a MP3 music file or a PCM voice file to be selected from memory 314 with suitable key operations and various function keys of key pad 328 and can further direct to display phone numbers and memos stored in memory 314 on the LCD panel. In addition, the user can record voices originated from microphones 324 and 600 by enabling a voice recording function. Operations of key pad 328 is acknowledged by controller 340 which reads periodically output terminals of key pad 328. And, controller 340 controls corresponding elements to perform directed functions by providing suitable control signals based on the analyzed direction from key pad 328.

[0060] While the present invention has been particularly shown and described with reference to particular embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be effected therein without departing from the spirit and scope of the invention as defined by the appended claims.

Claims

1. A method of recording and reproducing a digital data, comprising the steps of:

   a) executing in a data providing apparatus a management program for integrally managing both a data providing apparatus and a portable data recording/reproducing apparatus;

   b) selecting a file to be downloaded to the portable data recording/reproducing apparatus from files stored in the data providing apparatus in a running state of the management program;

   c) storing the downloaded file in a nonvolatile memory of the portable data recording/reproducing apparatus;

   d) recording a voice signal from a microphone in a form of a digital voice file in the nonvolatile memory;

   e) selecting a file to be reproduced from the files stored in the nonvolatile memory; and

   f) reproducing the selected file into an audio output by decoding the selected file.

2. The method as claimed in claim 1, wherein a MP3 music file downloaded from the data providing apparatus includes a music data and an additional data, and the additional data is downloaded in a form of bit-map and is displayed on a display panel of the portable data recording/reproducing apparatus when the MP3 music file is reproduced.

3. The method as claimed in claim 1, further comprising the step of selecting a file from the nonvolatile memory and uploading the selected file.

4. The method as claimed in claim 1, further comprising the steps of: inputting predetermined information via an input means of the data providing apparatus in a running state of the management program; downloading the information in a form of bit-map to the portable data recording/reproducing apparatus; storing the downloaded information in the nonvolatile memory; and displaying the information stored in the nonvolatile memory on a display panel of the portable data recording/reproducing apparatus.

5. The method as claimed in claim 4, wherein the predetermined information includes a data comprising phone number and/or memo.

6. The method as claimed in claim 5, wherein the data comprising the phone number includes at least a group and the group includes at least a phone number and a name.

7. The method as claimed in claim 5, wherein the data comprising the memo includes a file name and a memo string.

8. The method as claimed in claim 4, further comprising the step of updating the predetermined informa-

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tion by using functions of editing, deleting and inserting.

9. The method as claimed in claim 4, further comprising the step of displaying the predetermined information on a monitor of the data providing apparatus in a form corresponding to a display format of the portable data recording/reproducing apparatus.

10. The method as claimed in claim 1, wherein the step d) includes the steps of: displaying recording file names on a display panel of the portable data recording/reproducing apparatus in response to a selection of voice recording mode; selecting an available file name from the displayed recording file names; transforming the voice signal from the microphone into an analog voice signal; converting the analog voice signal into a digital voice data; encoding the digital voice data by a pulse coded modulation method or an adaptive differential pulse coded modulation method; and storing the encoded voice data in the nonvolatile memory in a selected file name.

11. The method as claimed in claim 1, wherein the step f) includes the steps of: displaying file names on a display panel of the portable data recording/reproducing apparatus in response to a selection of voice reproducing mode; selecting a file from the displayed file names; reading the selected file from the nonvolatile memory; and decoding data of the read file by the predetermined method to output an analog audio signal for the audio output.

12. The method as claimed in claim 1, wherein the data providing apparatus is a computer and/or a data vending machine.

13. A portable data recording/reproducing apparatus, comprising:

an analog-to-digital converting means for converting an analog audio signal of a voice provided by a microphone into a digital audio signal;
a coding/decoding means for decoding an MP3 music file by MP3 decoding method, encoding the digital audio signal into a voice data file by a predetermined encoding method, and decoding the voice data file by a predetermined decoding method;
an interfacing means for interfacing download and upload of a data file between an external data providing apparatus and the portable data recording/reproducing apparatus;
an nonvolatile memory means for storing the encoded voice data file from the coding/decoding means and the data file from the data providing means at a designated address;
a key input means, including a plurality of function selection keys, for selecting a file to be reproduced into an audio signal from the nonvolatile memory and for directing a predetermined function with a function selection keys;
a digital-to-analog converting means for converting a digital audio signal decoded by the coding/decoding means into an analog audio signal for an audio reproduction; and
a control means, in response to an output signal of the key input means, for controlling a data communication between the data providing apparatus and the data recording/reproducing apparatus, reading and writing operations to the nonvolatile memory and a reproduction of a read-out file.

14. The apparatus as claimed in claim 13, further comprising a displaying means for displaying character data corresponding to the selected file by the key input means on a display panel.

15. The apparatus as claimed in claim 13, wherein the analog-to-digital convening means includes a built-in type microphone; a line-in jack; an amplifier for amplifying the analog audio signal from the microphone; and an analog-to-digital converter for converting the analog audio signal from the amplifier or the line-in jack into the digital audio signal.

16. The apparatus as claimed in claim 13, wherein the character data of the data providing apparatus is downloaded in a bit-map format.

17. The apparatus as claimed in claim 13, wherein the data file includes at least one of the MP3 music file, a phone number file and a memo file.

18. The apparatus as claimed in claim 13, wherein the voice data file is encoded either in a pulse coded modulation method or an adaptive differential pulse coded modulation.

19. The apparatus as claimed in claim 13, wherein the data providing apparatus is a computer and/or a data vending machine.

20. A system for recording and reproducing a digital data, comprising:

a computer, provided with an MP3 file management program, for performing download and upload of any kinds of computer files besides an MP3 music file and a recorded voice file through a parallel port; and
an MP3 player for reproducing the MP3 music file while displaying information corresponding

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to the MP3 music file, for recording a voice signal originated from a microphone in a form of digital voice file in an nonvolatile memory and reproducing the digital voice file if necessary, and for displaying information of phone numbers and memos, in response to user's key operations, wherein the MP3 player is connected to the computer through the parallel port, the MP3 music file and the information of the phone numbers and memos are downloaded from the computer to be stored in the nonvolatile memory.

21. The apparatus as claimed in claim 20, wherein the computer downloads the MP3 music file through Internet or a computer communication network.

FIG. 1

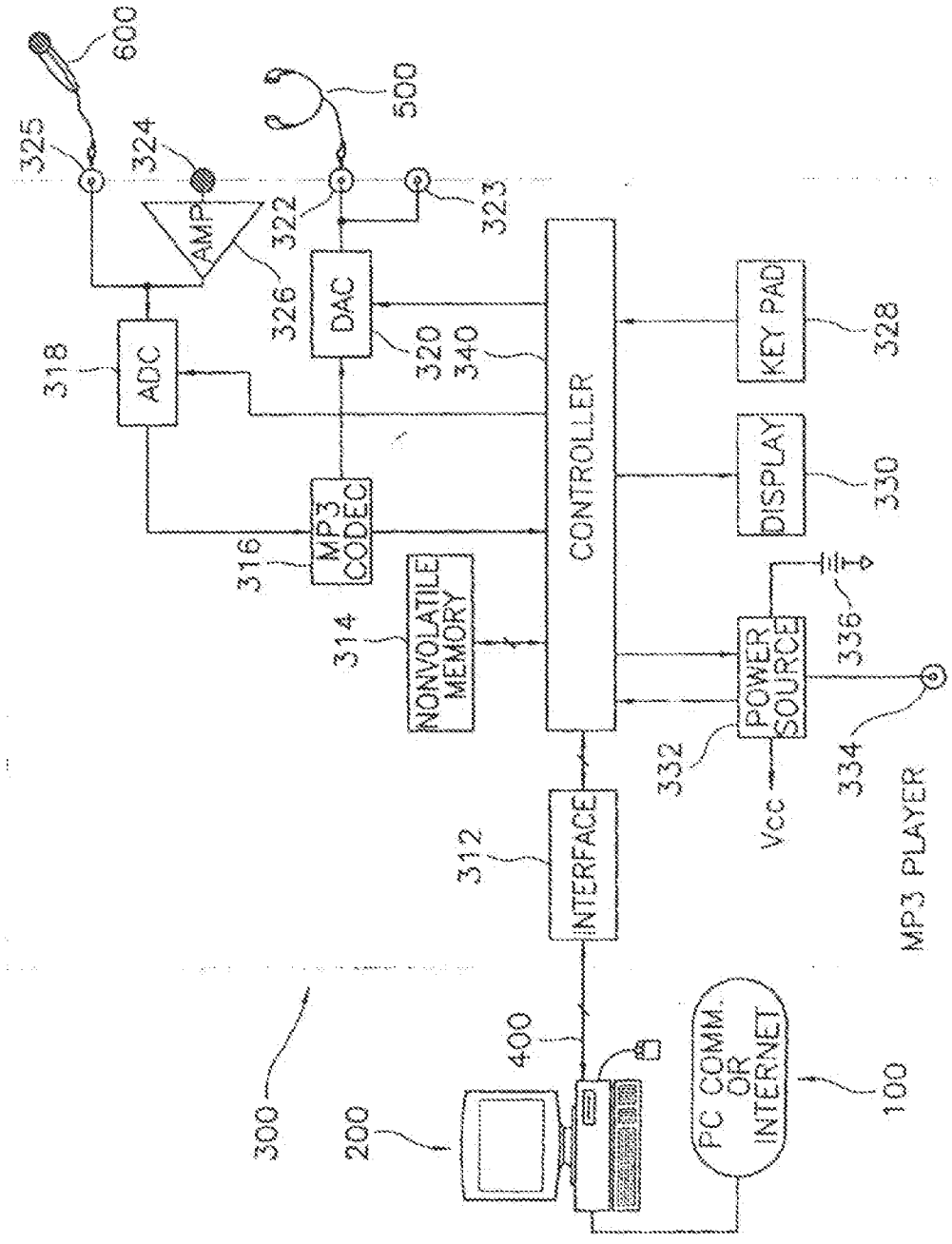
600
325
324
500
323
322
AMP
326
DAC
320
340
318
ADC
316
MP3 CODEC
314
NONVOLATILE MEMORY
CONTROLLER
KEY PAD
328
DISPLAY
330
POWER SOURCE
336
332
334
Vcc
MP3 PLAYER
312
INTERFACE
400
300
200
PC COMM. OR INTERNET
100

FIG. 2

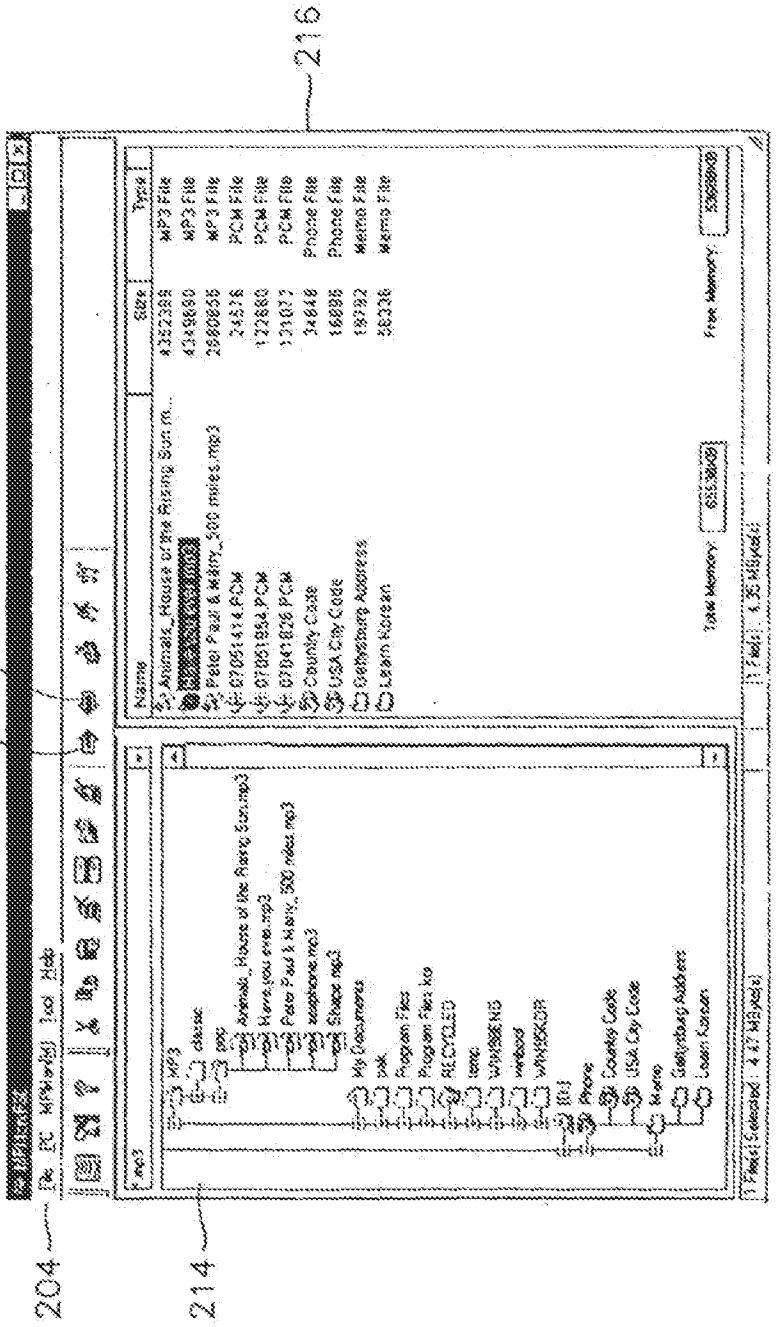

FIG. 3

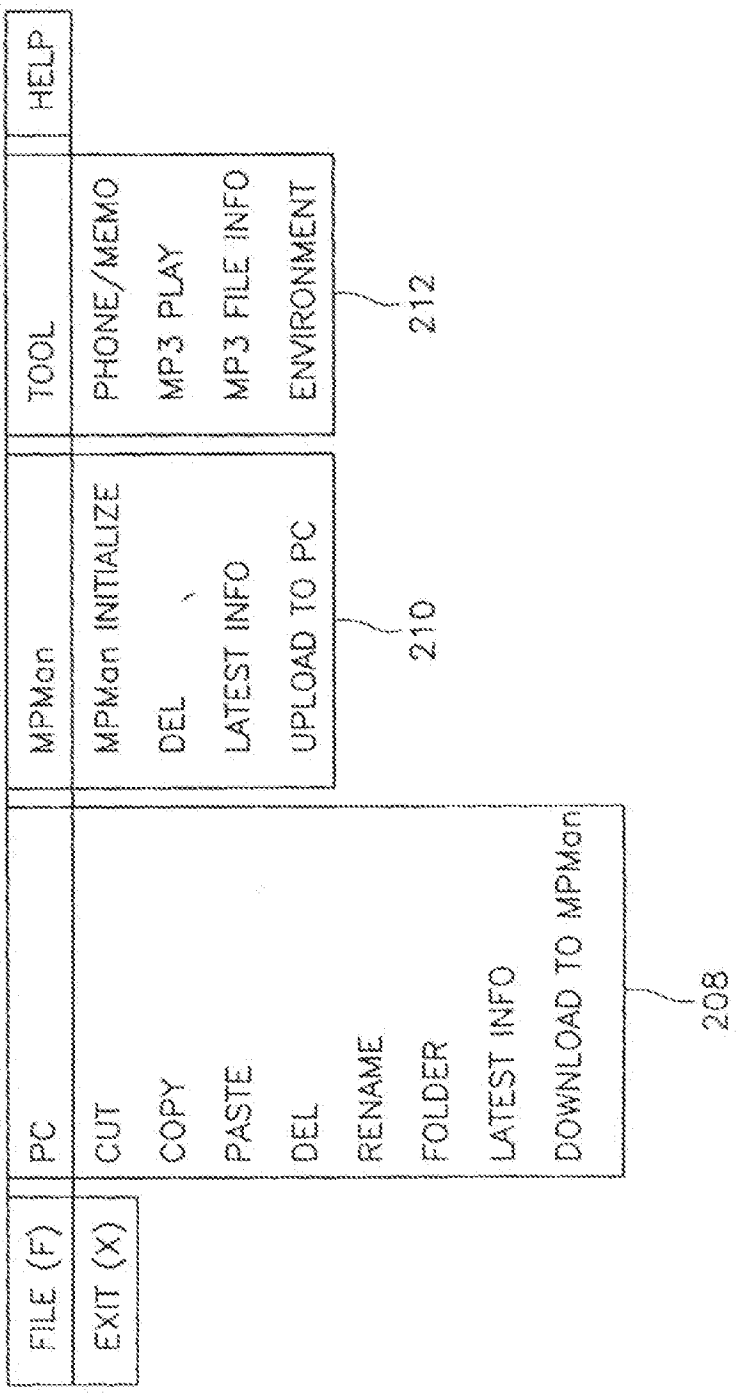
FILE (F)
EXIT (X)
PC
CUT
COPY
PASTE
DEL
RENAME
FOLDER
LATEST INFO
DOWNLOAD TO MPMan
208
MPMan
MPMan INITIALIZE
DEL
LATEST INFO
UPLOAD TO PC
210
TOOL
PHONE/MEMO
MP3 PLAY
MP3 FILE INFO
ENVIRONMENT
212
HELP

FIG. 4

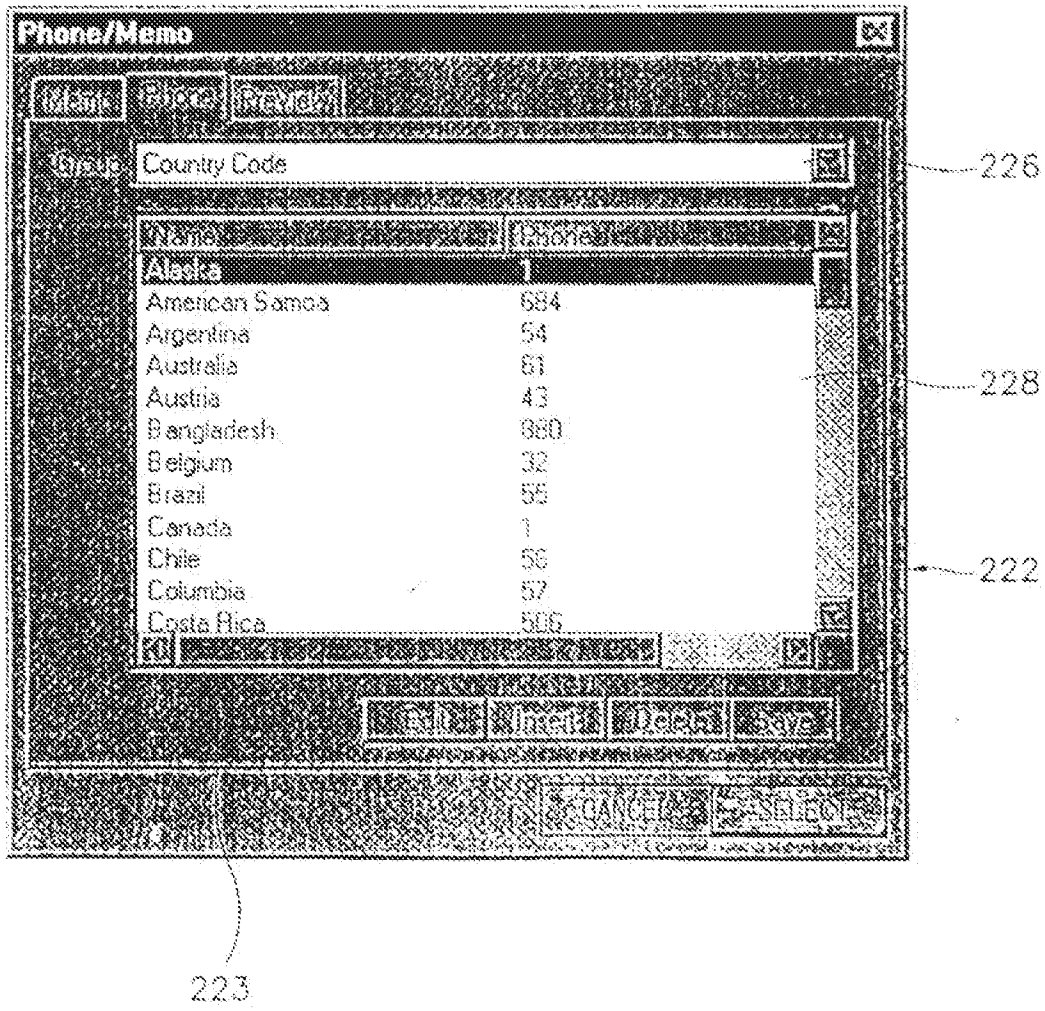

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FIG. 5

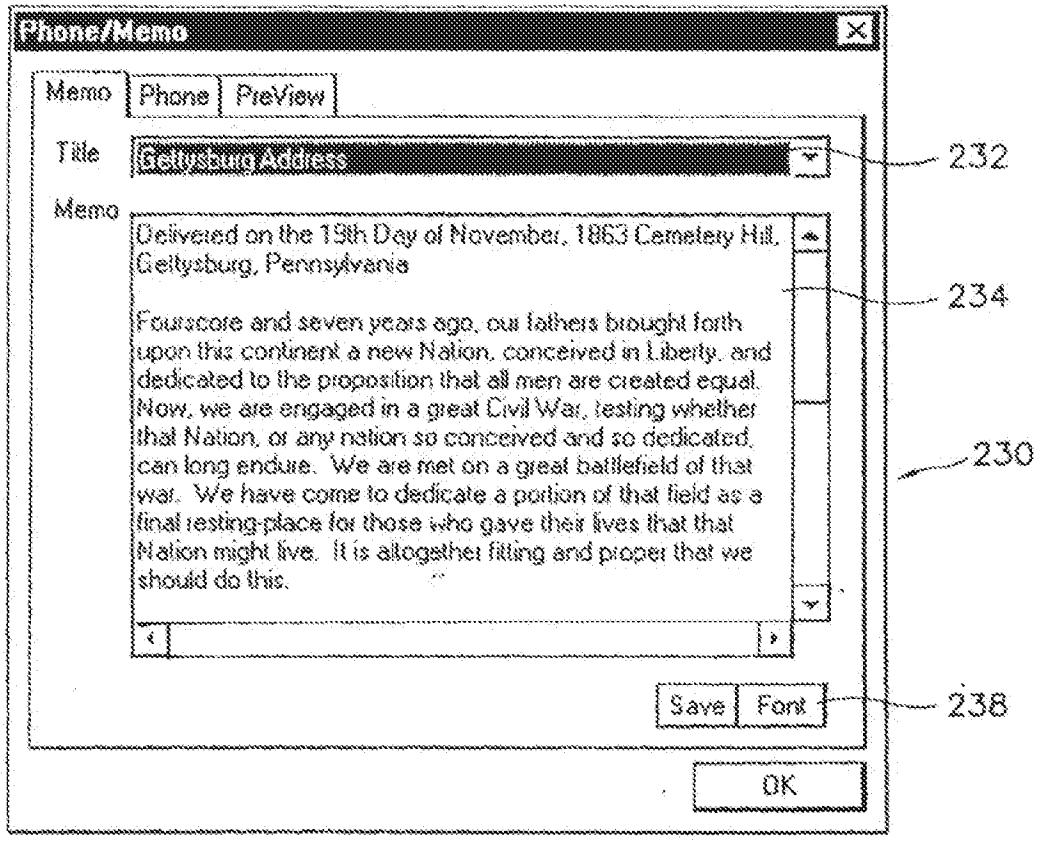
Phone/Memo
Memo
Phone
PreView
Title
Gettysburg Address
Memo
Delivered on the 19th Day of November, 1863 Cemetery Hill, Gettysburg, Pennsylvania
Fourscore and seven years ago, our fathers brought forth upon this continent a new Nation, conceived in Liberty, and dedicated to the proposition that all men are created equal. Now, we are engaged in a great Civil War, testing whether that Nation, or any nation so conceived and so dedicated, can long endure. We are met on a great battlefield of that war. We have come to dedicate a portion of that field as a final resting-place for those who gave their lives that that Nation might live. It is altogether fitting and proper that we should do this.
Save
Font
OK
232
234
230
238

FIG. 6

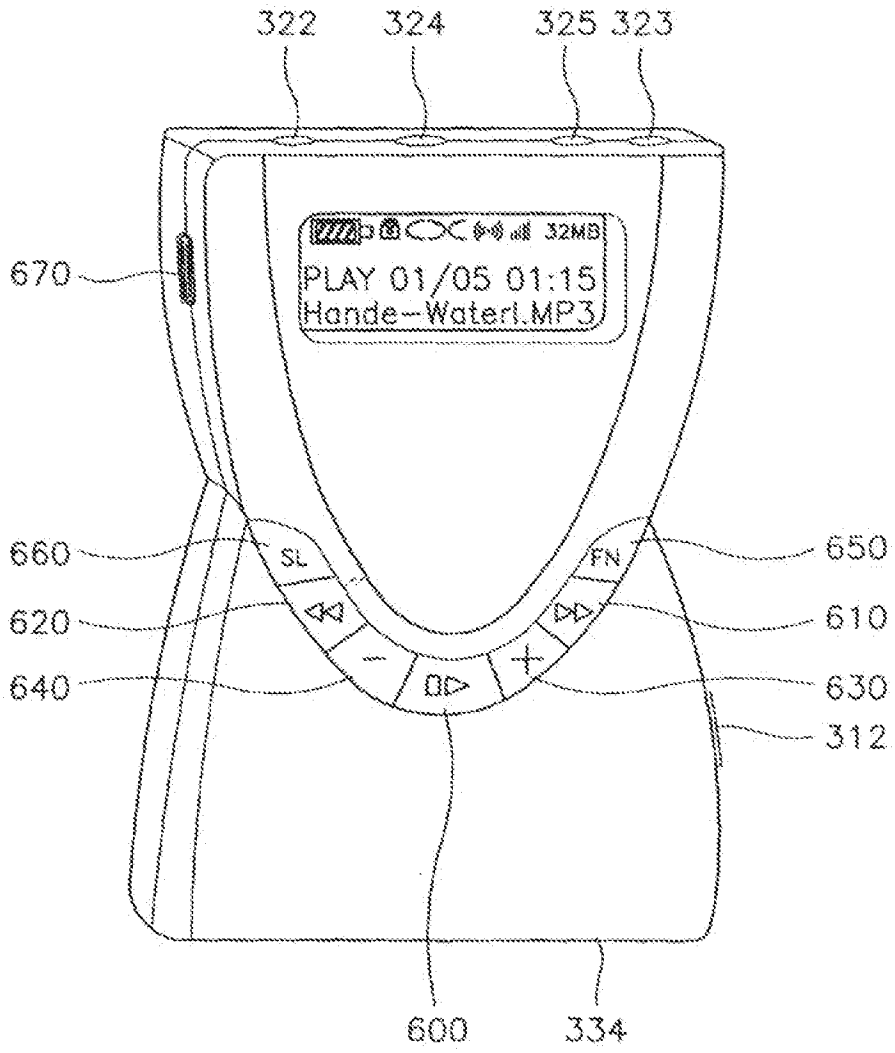
322
324
325
323
670
32MB
PLAY 01/05 01:15
Hande-Water1.MP3
660
650
620
610
640
630
312
600
334
SL
FN
-
+

FIG. 7

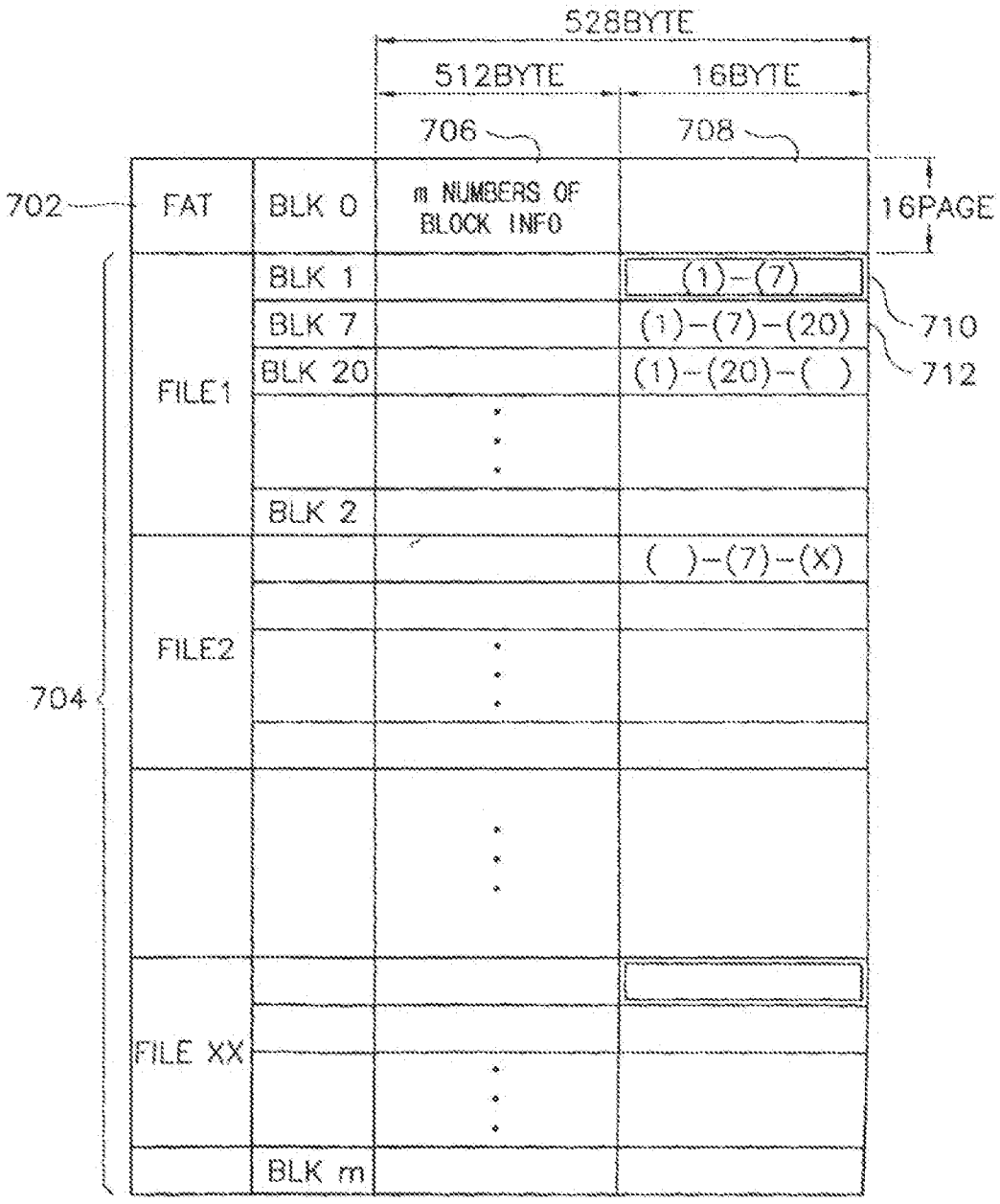

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FIG. 8

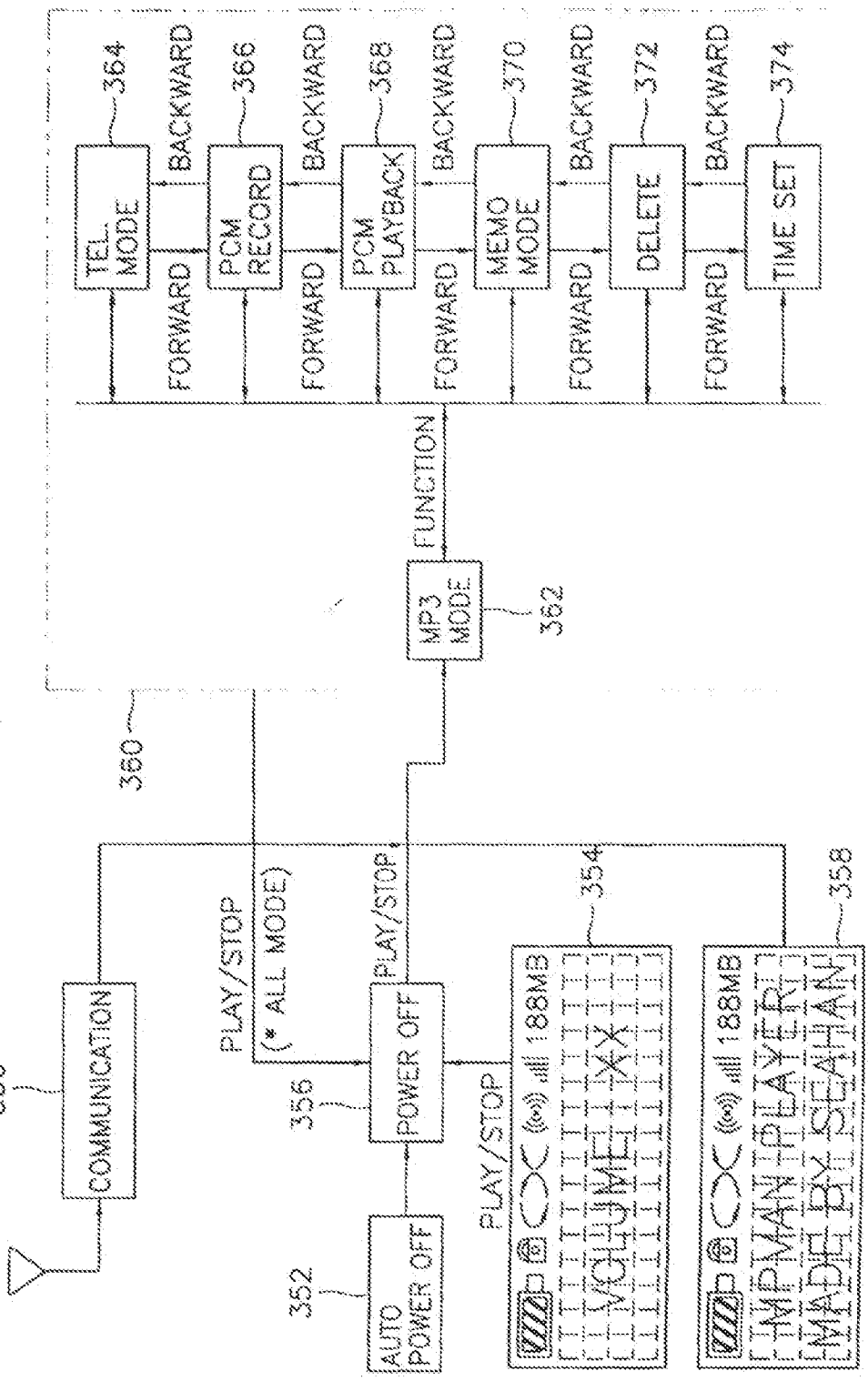
360
350
COMMUNICATION
352
AUTO POWER OFF
356
POWER OFF
PLAY/STOP
(* ALL MODE)
PLAY/STOP
PLAY/STOP
354
358
MP3 MODE
362
FUNCTION
TEL MODE
364
FORWARD
BACKWARD
PCM RECORD
366
PCM PLAYBACK
368
MEMO MODE
370
DELETE
372
TIME SET
374

FIG. 9

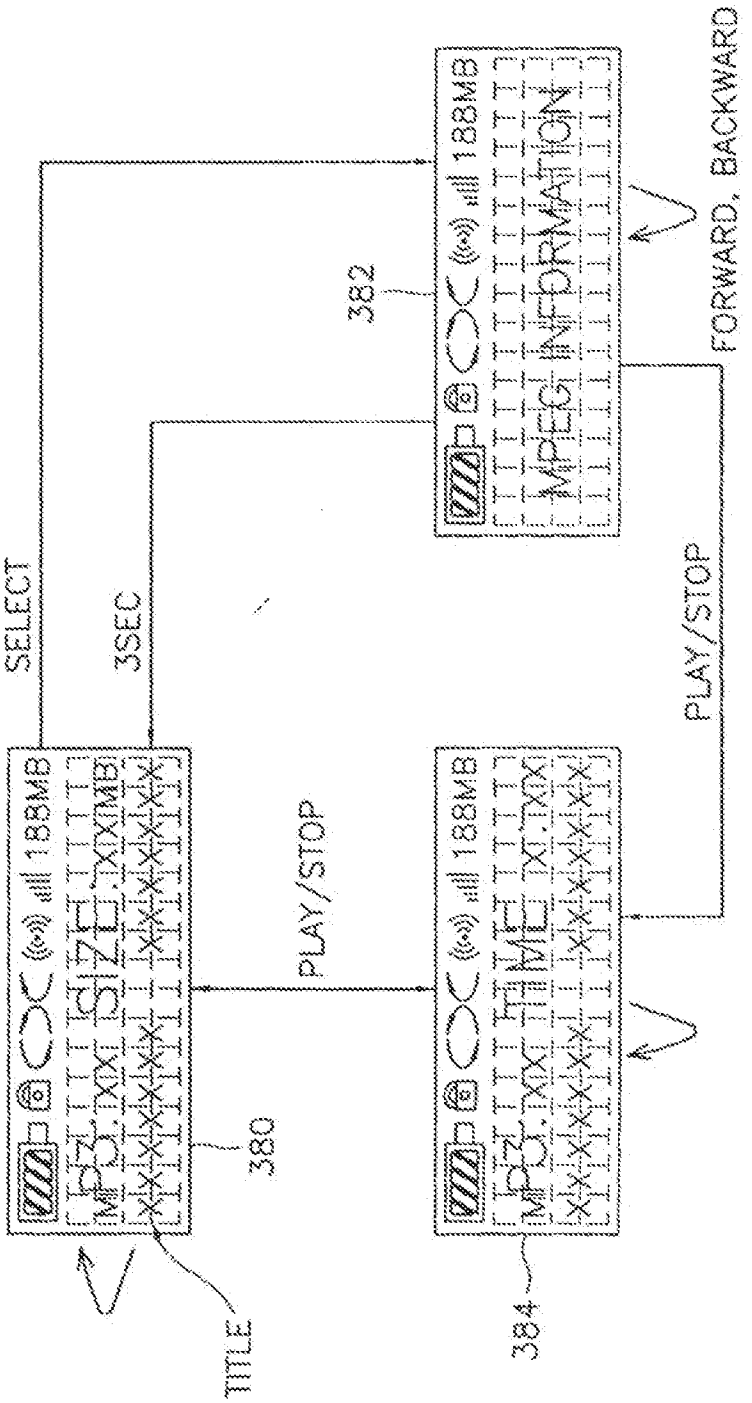
SELECT
3SEC
382
188MB
MPEG INFORMATION
PLAY/STOP
FORWARD, BACKWARD
PLAY/STOP
188MB
380
TITLE
384

FIG. 10

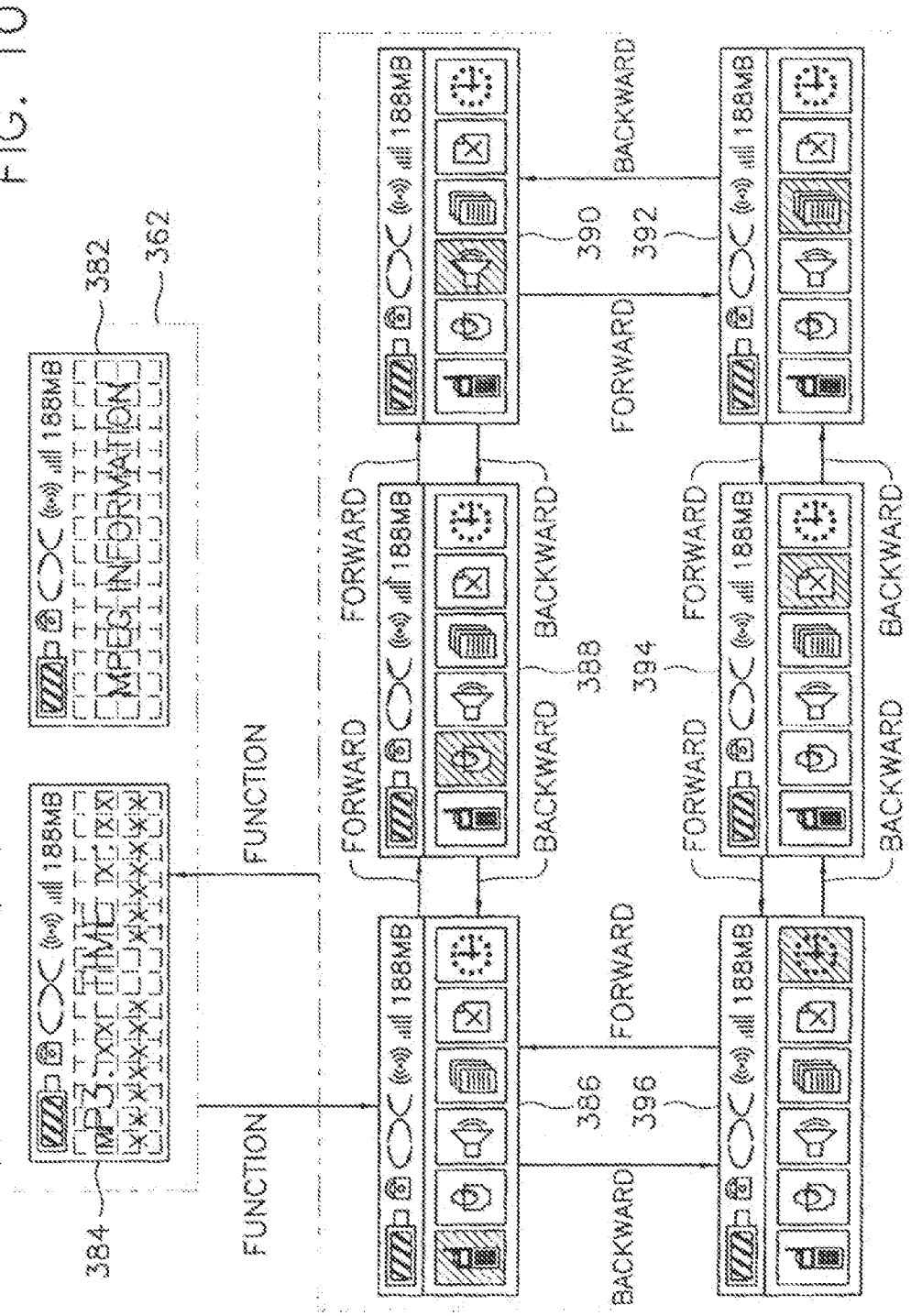

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FIG. 11

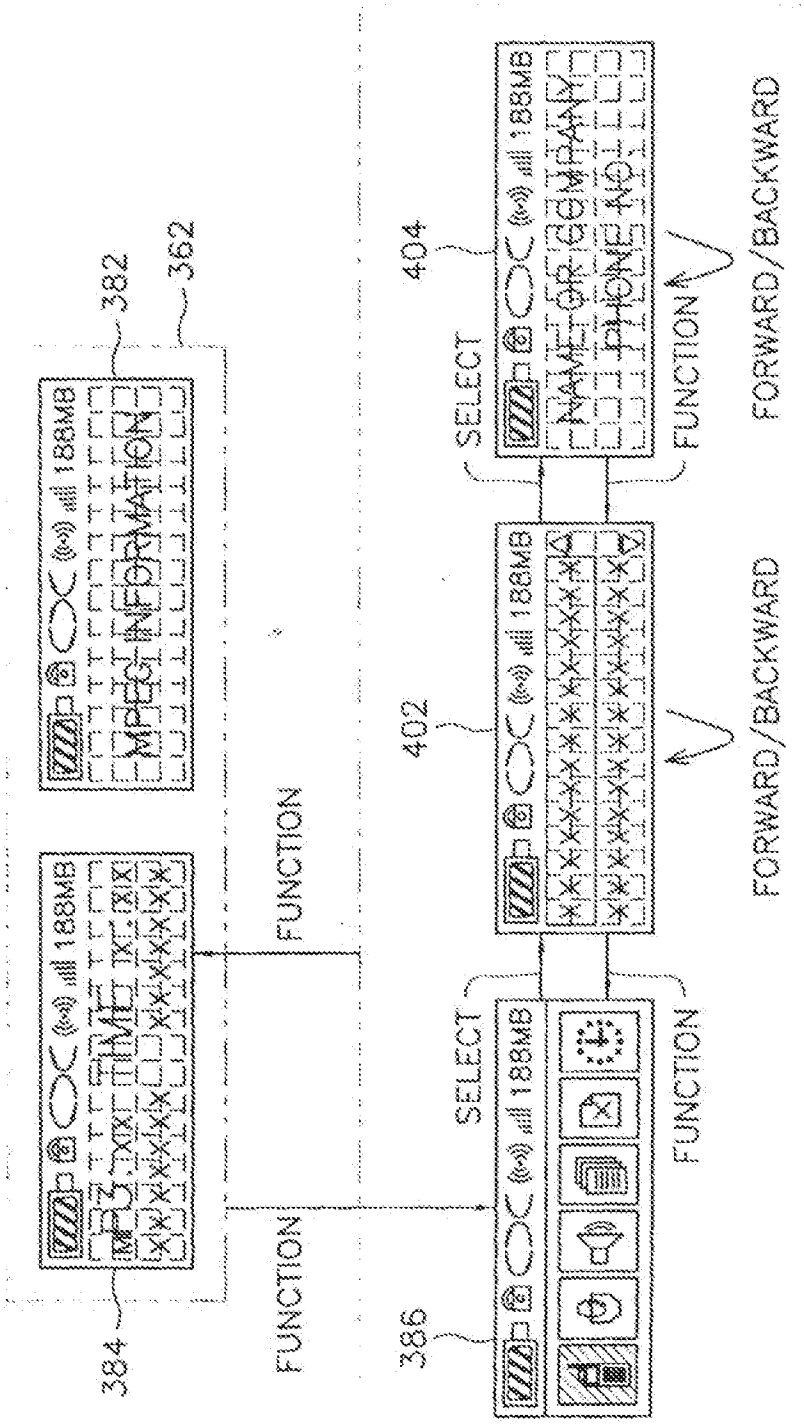

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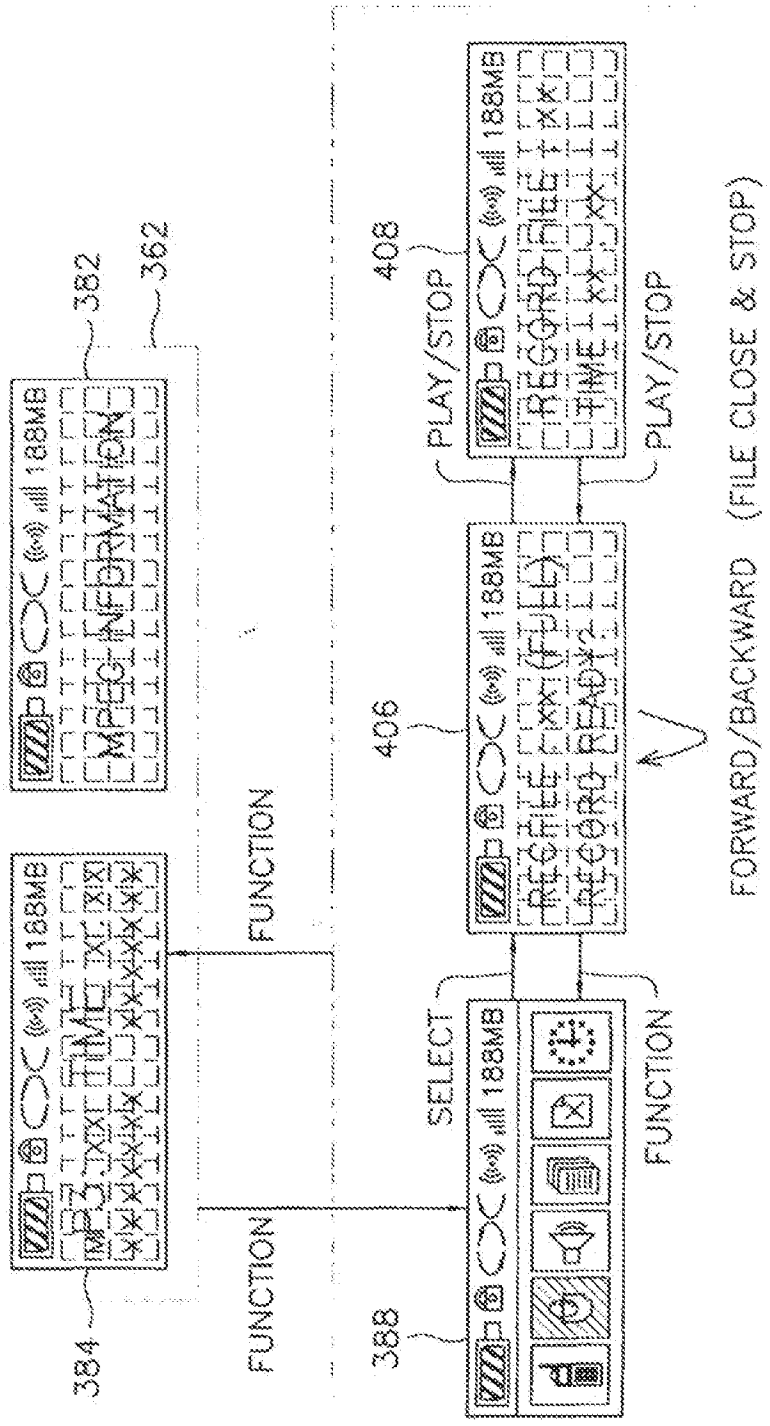
FIG. 12



Samsung Ex. 1320 p. 3378

FIG. 13

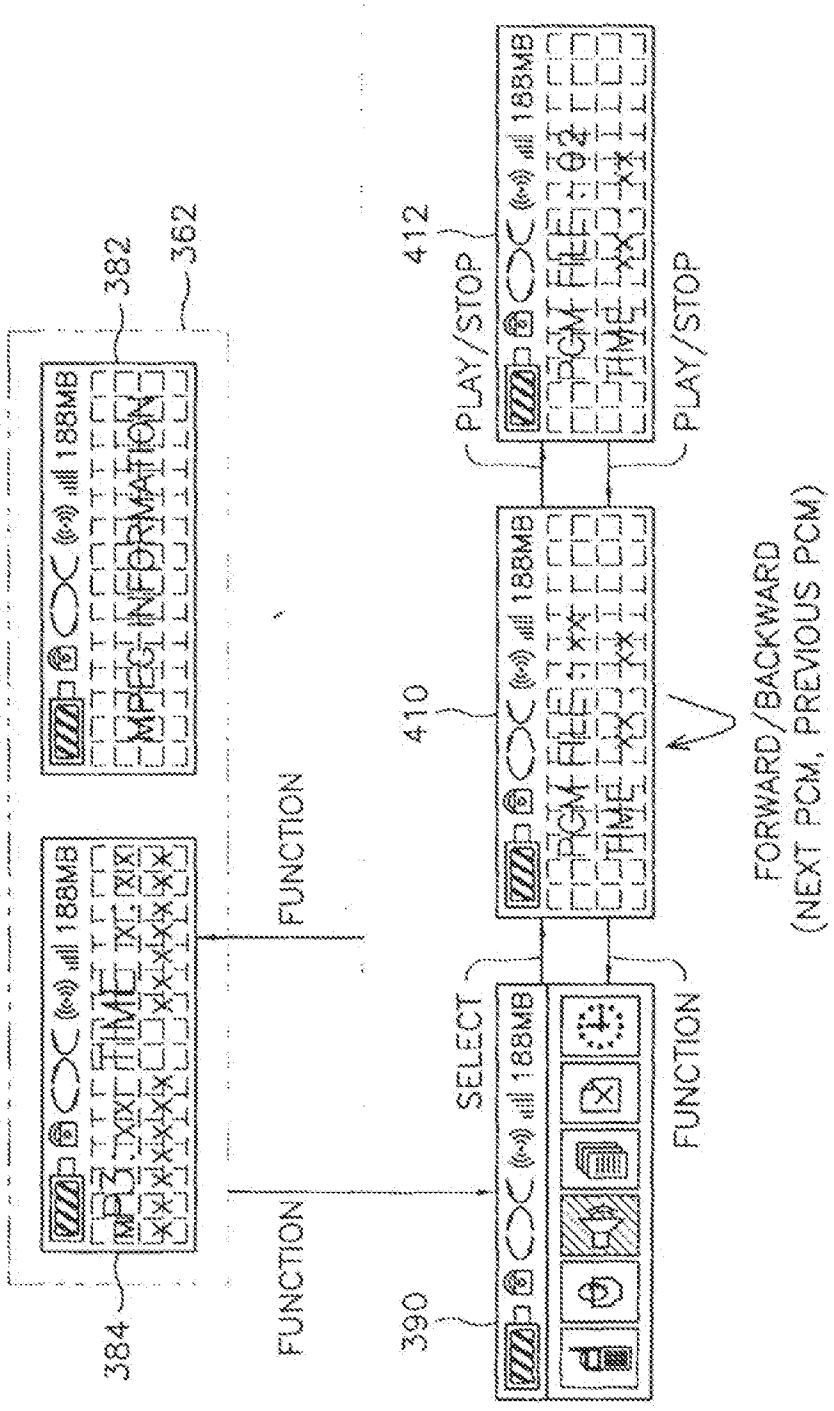


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FIG. 14

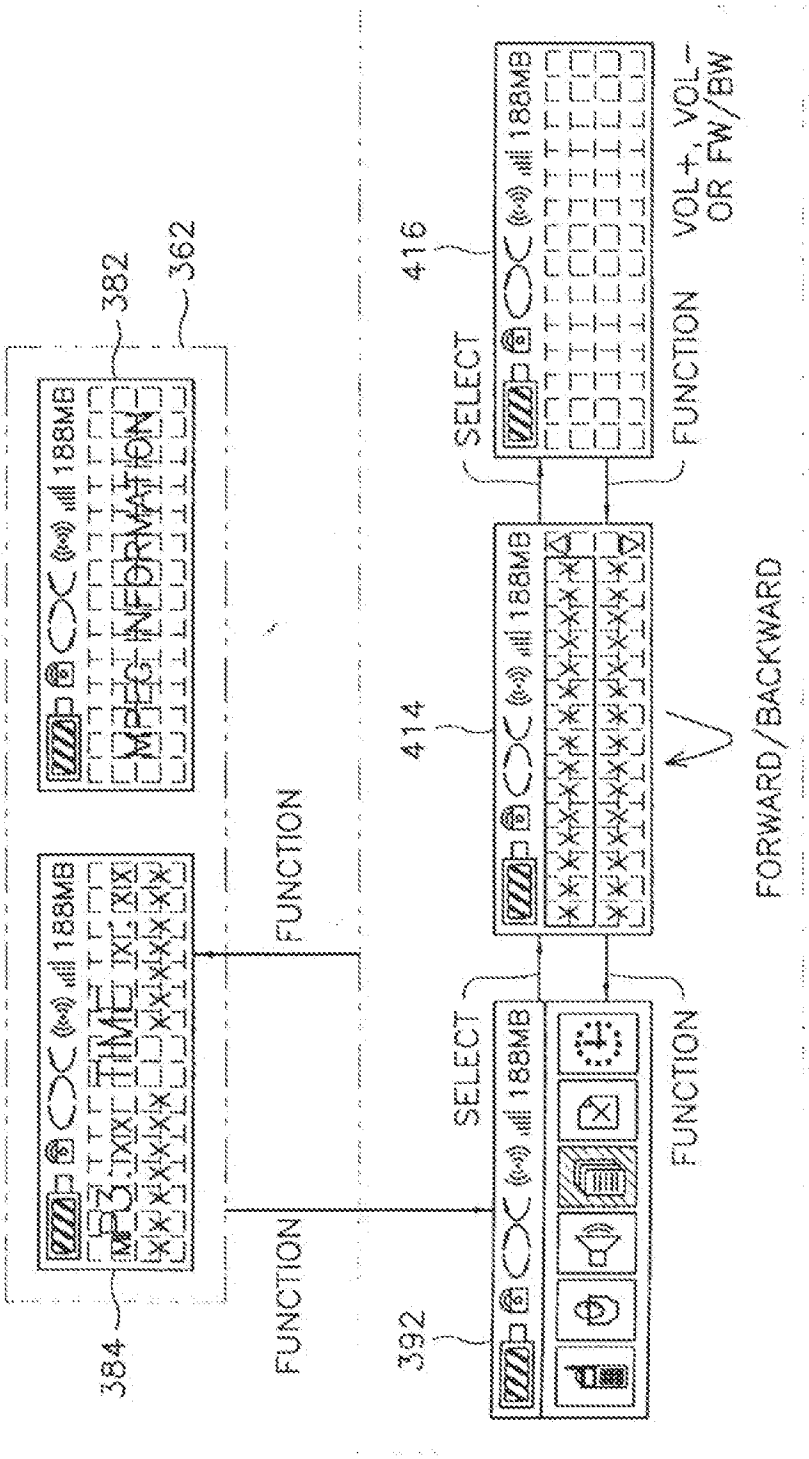

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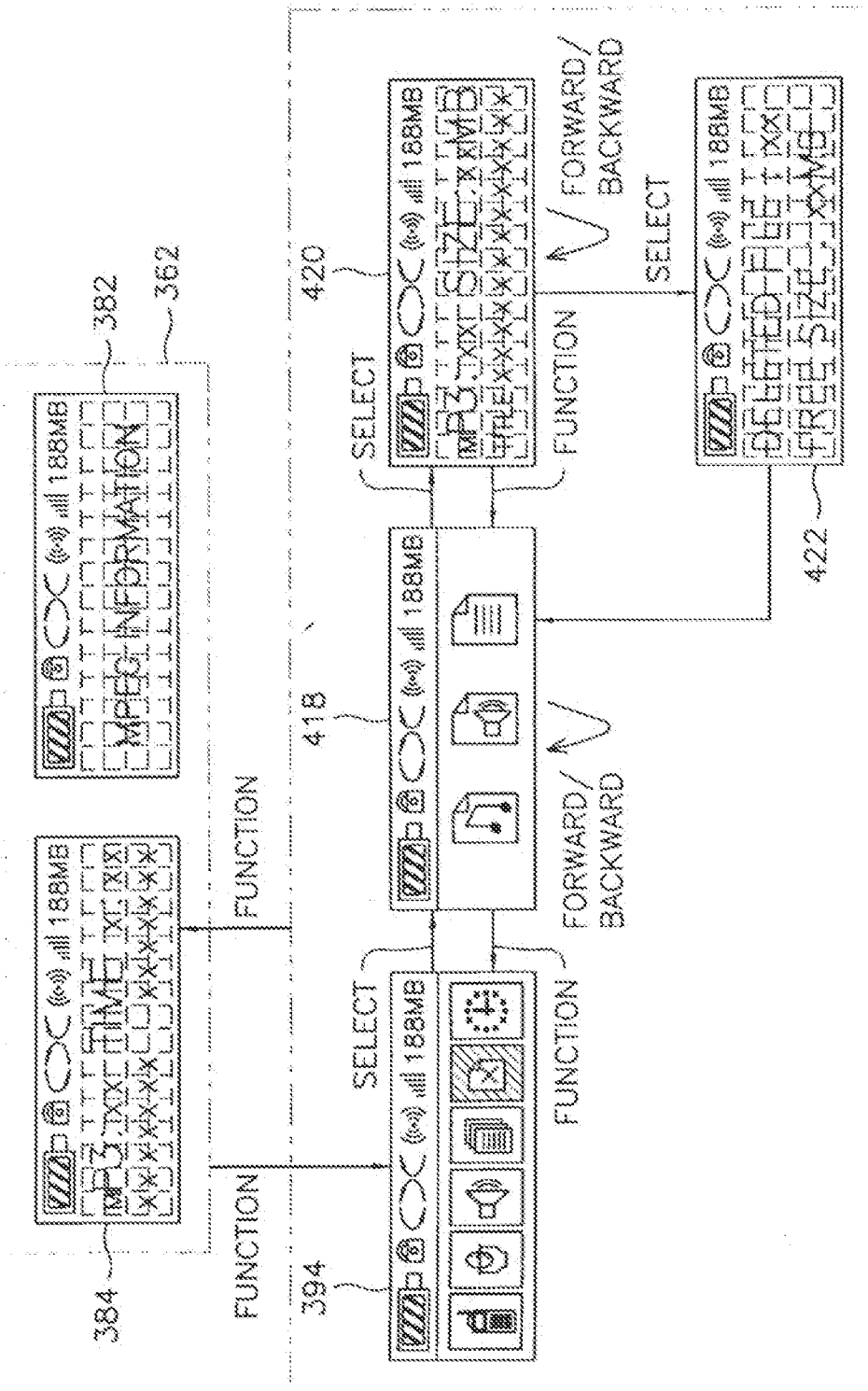
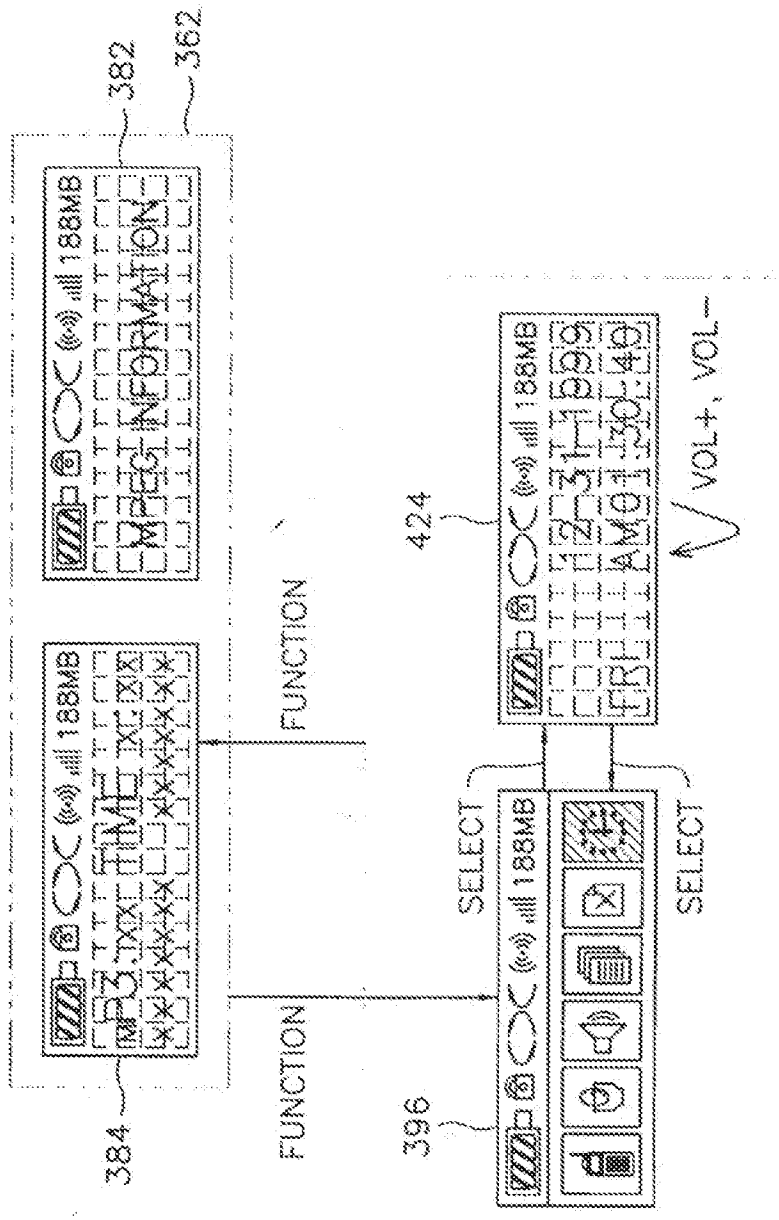
FIG. 15



Samsung Ex. 1320 p. 3381

FIG. 16



Samsung Ex. 1320 p. 3382

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 99 11 6520

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	WO 96 31042 A (MESSENGER GROUP L L C) 3 October 1996 (1996-10-03) * the whole document * ---	1,13,20	G11C7/00
A	WO 96 14615 A (ELONEX TECHNOLOGIES INC) 17 May 1996 (1996-05-17) * page 1-5 * * page 19, line 3-6 * ---	1,13,20	
P,A	EP 0 924 708 A (SAEHAN INFORMATION SYSTEM INC ;DIGITALCAST INC (KR)) 23 June 1999 (1999-06-23) * abstract * & KR 9 800 471 A (MOON KWANG-SU HWANG JUNG-HA) 30 March 1998 (1998-03-30) -----	2,20	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

G11C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	9 December 1999	Czarik, O

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 99 11 6520

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

09-12-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9631042 A	03-10-1996	US 5719920 A	17-02-1998
		AU 700103 B	24-12-1998
		AU 5314096 A	16-10-1996
		CA 2217002 A	03-10-1996
		CN 1191648 A	26-08-1998
		EP 0818102 A	14-01-1998
		JP 11503530 T	26-03-1998
		US 5826235 A	20-10-1998
WO 9614615 A	17-05-1996	US 5812870 A	22-09-1998
EP 0924708 A	23-06-1999	CN 1218258 A	02-06-1999
		JP 11175099 A	02-07-1999

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

Electronic Acknowledgement Receipt

EFS ID:	5455960
Application Number:	12015320
International Application Number:	
Confirmation Number:	2156
Title of Invention:	Method for Managing Media
First Named Inventor/Applicant Name:	Russell W. White
Customer Number:	21906
Filer:	Mark J. Rozman/Stephanie Petreas
Filer Authorized By:	Mark J. Rozman
Attorney Docket Number:	AFF.0004C5US
Receipt Date:	04-JUN-2009
Filing Date:	16-JAN-2008
Time Stamp:	16:12:29
Application Type:	Utility under 35 USC 111(a)

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	Information Disclosure Statement (IDS) Filed (SB/08)	AFF004C5IDS1449Form1.pdf	400126 07f81dee1474c7f054459aaa6fc8c69447e1499f	no	12

Warnings:	
Information:	

This is not an USPTO supplied IDS fillable form					
2	Information Disclosure Statement (IDS) Filed (SB/08)	AFF004C5IDS1449Form2.pdf	406324 42b19ed921c386a3b7ea5778579d47d548f3cb41	no	12
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3	NPL Documents	DEF00002419.pdf	2357751 9310dd01b384124ddc58096a3305624d2bdac17a	no	12
Warnings:					
Information:					
4	NPL Documents	DEF00002431.pdf	1765539 0f797ac0bf4020efd145dd00018f06f6508f019d	no	7
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Information:					
5	NPL Documents	DEF00002444.pdf	746902 6933495c540629386b3dd3549a9eec59bdbb066b	no	4
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6	NPL Documents	DEF00002448.pdf	1137235 8a4b492b84f68c110116801102e9b29c8115108d	no	12
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7	NPL Documents	DEF00002460.pdf	3782439 33df7dca68fbada10638570c7f696b79955c57b9	no	10
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8	NPL Documents	DEF00002470.pdf	2081882 4aa395521996db5c034b0546a537e2b764842c49	no	9
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9	NPL Documents	DEF00002479.pdf	1890162 0d442d5029ed3d78d251079a55e81ca81687c21b	no	8
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Information:					

10	NPL Documents	DEF00002487.pdf	1156697 ca382f2052f16bf6eccb92935960d15d385a2d90	no	5
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11	NPL Documents	DEF00002492.pdf	1027224 32ba608812cd7f5dd6bd530592271ed0389ec995	no	6
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Information:					
12	NPL Documents	DEF00002498.pdf	2070458 9b61b9116f1b60faa6d26d787ea2f8c02f210ba0	no	9
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13	NPL Documents	DEF00002507.pdf	647189 932f5121f2a1008a65acbba0220ca447fcd971d0	no	3
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14	NPL Documents	DEF00002510.pdf	780413 1df34c4459767b390da0b00849f7f313a3236798	no	3
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15	Foreign Reference	DEF00002513.pdf	272834 f9e2aafb3e0731513fccea9a2e99a07493a985be	no	3
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16	NPL Documents	DEF00002516.pdf	4173932 d9b0efb3dae30e2433c55ff1412519646e5228a6	no	21
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17	Foreign Reference	DEF00002537.pdf	2545133 239a75ee34851e108517904787a429734212d388	no	24
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18	NPL Documents	DEF00002561.pdf	4606204 622db00a91a2853ce55ea189bf75426bad0c5b92	no	50
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19	Foreign Reference	DEF00002611.pdf	1452486 bfa795c9e794cd9223e32803d1de0239de801f94	no	9
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20	Foreign Reference	DEF00002620.pdf	4356647 17f7afa60a70f45b0151c6fa7fe90dd516d835a3	no	28
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Information:					
			Total Files Size (in bytes):	37657577	

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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.

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (04-09)
Approved for use through 05/31/2009. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12015320
Filing Date	2008-01-16
First Named Inventor	Russell W. White, et al.
Art Unit	2617
Examiner Name	Erika A. Gary
Attorney Docket Number	AFF.004C5US

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

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FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2000-66974	JP		2000-03-03			☐
	2	11-68685	JP		1999-03-09			☐
	3	CN 1218258A	CN		1999-06-02			☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12015320
	Filing Date	2008-01-16
	First Named Inventor	Russell W. White, et al.
	Art Unit	2617
	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

	4	H11-242686	JP		1999-09-07	Sony Corporation		☐
	5	DE 44 31 070 B4	DE		2004-07-22	DaimlerChrysler AG		☐
	6	0 569 343 A1	EP		1993-10-11	Pioneer Electronic Corporation		☐
	7	0 675 341 A1	EP		1995-04-10	Honda Giken Kogyo		☐
	8	0 771 686 A2	EP		1997-07-05	Toyota Jidosha Kabushiki Kaisha Toyota-shi, Aichi-		☐
	9	H4-261576	JP		1992-09-17	Mitsubishi Electric Corporation		☐
	10	2-301330	JP		1990-12-13			☐
	11	5-294250	JP		1993-11-09			☐
	12	6-187597	JP		1994-07-08			☐
	13	JP6289118	JP		1994-10-18	Sega Enterprises KK		☐
	14	JP6294659	JP		1994-10-21	Dainippon Printing Co. LTD.		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12015320
	Filing Date	2008-01-16
	First Named Inventor	Russell W. White, et al.
	Art Unit	2617
	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

	15	07-129895	JP		1995-05-19	Honda Motor Co Ltd		☐
	16	07-146155	JP		1995-06-06	Honda Motor Co Ltd		☐
	17	7-262493	JP		1995-10-13	CSK Corporation		☐
	18	7-262493	JP		1995-10-13			☐
	19	JP7270171	JP		1995-10-20	Sumitomo Electronic Industries		☐
	20	JP7036382	JP		1995-02-07	Mitsubishi Electric Corp.		☐
	21	8-110231	JP		1996-04-30			☐
	22	9-61514	JP		1997-03-07			☐
	23	10-103966	JP		1998-04-24			☐
	24	10-143349	JP		1998-05-29	Compaq Computer Corporation		☐
	25	JP1018712	JP		1989-01-23	Mazda Motor		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12015320
	Filing Date	2008-01-16
	First Named Inventor	Russell W. White, et al.
	Art Unit	2617
	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

	26	JP5077679	JP		1993-03-30	Nissan Motor		☐
	27	JP59085599	JP		1984-05-17	Nissan Motor		☐
	28	JP63136828	JP		1988-06-09	Pioneer Electronic Corp.		☐
	29	63-136828	JP		1988-06-09			☐
	30	WO 96/04724	WO		1996-02-15	Emerson, Harry		☐
	31	WO 96/07110	WO		1996-03-07	British Telecommunications Public Limited Company		☐
	32	WO 97/13657	WO		1997-04-17	United Technologies Automotive, Inc.		☐
	33	H11-317061	JP		1999-11-16	Victor Company of Japan, LTD.		☒
	34	2901445	JP		1999-03-19	Kenwood Corporation		☒
	35	WO 99/35009	WO		1999-07-15	Microsoft Corporation		☐
	36	11-219580	JP		1999-08-10			☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12015320
	Filing Date	2008-01-16
	First Named Inventor	Russell W. White, et al.
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8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(34) Countries for which the regional or international application was filed: FR et al.

(71) Applicant (for all designated States except US): THOMSON CONSUMER ELECTRONICS S.A. [FR/FR]; 9, place des Vosges, La Défense 5, F-92400 Courbevoie (FR).

(72) Inventor; and
(75) Inventor/Applicant (for US only): GÜTLE, Haben [DE/DE]; Alte Dorfstrasse 5, D-77770 Durbach (DE).

(74) Agent: WÖRDEMANN, Hermes; Deutsche Thomson-Brandt GmbH, Patents and Licensing, Göttinger Chaussee 76, D-30453 Hannover (DE).

(81) Designated States: CN, JP, KR, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

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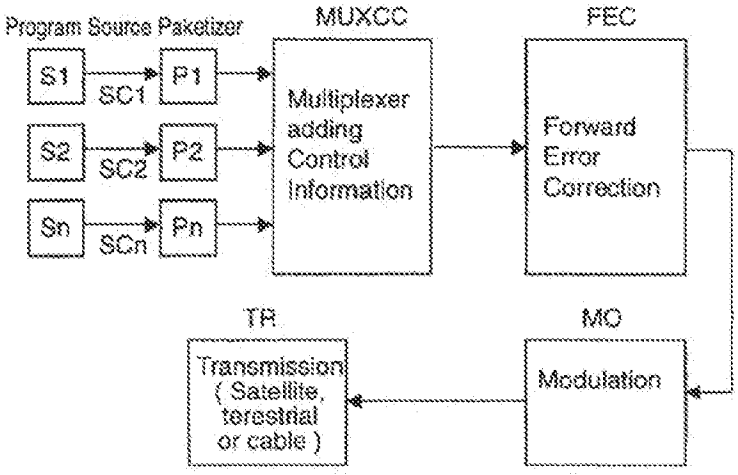
(54) Title: MULTI-MEDIA DISTRIBUTION AND MULTI-MEDIA PLAYER



(57) Abstract

The invention relates to a consumer or professional device, a so called "Multi-Media Player (CDMM)", its application and a method for the distribution of Multi-Media documents. The invention is characterized in that said multi-media documents in form of digital signals are fed into a multiplexer/coder (MUXCC) by several sub-channels (SC1, SC2,...SCn), said sub-channels are multiplexed in time, a control signal is added and this signal is modulated into a transmission signal (TR) on the broadcasting studio side and at the receiving side the transmission signal (TR) is treated up to the output of a tuner like a normal signal for television, said signal is demodulated, digitized, demultiplexed and the control information of the control signal is extracted from the bit stream so that by monitoring said control information signal provided with the transmission a transmission channel decoder (TCD) causes a multi-media player (CDMM) to record a distributed document according to the programming of the user or said signal is directly stored by a multi-media player (CDMM) and said stored signal is demodulated, digitized, demultiplexed and the control information of the control signal is extracted from the bit stream so that by monitoring said control information signal provided with the transmission a transmission channel decoder (TCD) causes a reproduction device for reproducing a distributed document according to the programming of the user.

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GA	Gabon				

MULTI-MEDIA DISTRIBUTION AND MULTI-MEDIA PLAYER

The present invention relates to simultaneous transmission of several different information via a television channel in the manner of multi-media-distribution and the recording and reproduction of multi-media-documents.

So called multi-media-documents are electronic documents which consists of :

- text
- still pictures
- graphics
- digital sound
- digital video
- any combination of the above mentioned kinds of data.

It is already known to use picture-in-picture television receivers and video text for providing different information. But the number of different information which may be transmitted by a normal television channel is restricted by bandwidth of television signal.

Transmission of digital television signals via direct broadcast satelite system (DBS), based on digital compression techniques, is also under development. Such a system can transmit digitally compressed video and audio signals and , optionally, associated control/conditional access data by means of satellite transmission. A large number of transmission channels with a net data rate between 20 to 30 Mbits/sec are provided. To compress video and audio the MPEG I algorithm (motion picture expert group) is used.

Therefore it is the task of this invention to build up a system which enables the distribution, recording and playback of a multiple of multi media documents with low costs.

This problem is solved as described in claims 1 and 7. More details are stated in the subclaims.

The invention is based on the idea of using a television channel or parts of the bandwidth of it to distribute simultaneously a multiple of multi media documents, whereas for recording and playback purpose already known devices with additional functionality are used.

The method is that several multi media documents are read into a digital storage device like Compact Disc or in a digital video tape. These digital storage devices serve as a source of digital signals on the sending side. The digital signals are fed in several sub-channels into the multiplexer.

The number of possible subchannels and therefore the number of multi media documents simultaneously distributed is limited by:
- the number of available transmission channels
- the bandwidth of each channel
- and the bitrate for each subchannel.

For instance the following distribution schemes on one channel are possible: (Assumption channel capacity 23.6 Mbit/sec)
Example 1: 16 subchannels at the single Compact Disc (CD) data rate of around 1.4 Mbit/s
Example 2: 3 tv programs subchannels at 6.8 Mbit/s each plus 2 subchannels with each single CD data rate
Example 3: 2 tv program subchannels at 8 Mbit/s each plus 2 subchannels with double CD data rate plus 1 subchannel with single CD data rate.

To transmit several subchannels containing different multi media documents the subchannels are time-multiplexed in the transmission channel.
This has the following advantages :
- flexible usage of the overall channel capacity is possible
- otherwise unused remaining bandwitdh within a channel can be used to transmit multi media documents

In accordance with the present invention, there are provided on broadcasting studio side several sub-channels with average bit rates ranging from several kilobits/s up to the whole channel capacity, which are fed into a multiplexer. In the multiplexer the sub-channels are time-multiplexed and a control information is added. Afterwards the data is preferred undergone a channel coding to assure error-free transmission. The final step at the sending side is the modulation into an analogic signal and the emission via the different media, e.g. satellite, cable network or terrestrial distribution.

On the receiving side the signal passes the demodulation, error check and concealment and the demultiplexer after reception via satelite, cable or terestrial. The demodulator treats only one out of several channels simultaneously. The task of the demultiplexer is to separate the different subchannels in one transmission channel and to extract the control information from the data stream.

As storing devices are two classes possible :

a) A device which records the whole data stream of one channel - this is a digital VCR. The selection between the different subchannels is done at playback time by using the control information included in the bit stream according to the selection of the user.

b) a device which selects and records only one subchannel out of the n subchannels in one transmission channel - this is a disk-based device and called compact disc multi media player.

By monitoring the control information provided with the transmission the transmission channel decoder causes the compact disc multi-media player to record the distributed documents according to the programming of the user.

The transmission channel decoder can be housed in an external box or can be an integrated part of the compact disc multi-media player.

The distribution can be done during the night when free television transmission channels are available or at all times by means of separate channels.
The compact disc multi-media player is a superset of the known CD-I-Player with additional functions. This additional functions are the possibility to use CD-read-only and CD-writeable such as Magneto-Optical-Disc. Further additions are a remote channel interface which offers the possibility for remote storage of multi-media documents on the Magneto-Optical-Disc.
Optionally the compact disc multi-media player is equipped with a smart card reader for access permission or prohibition to the data in the different sub-channels.
A further option is the computer interface for the connection to a computer system.
There are two groups of application in which a compact disc multi-media player can be used.
The first group of applications relates to a first sub-group identical with CD-I-Applications: CD-Digital Audio, CD-Interactive, CD-Photo and CD-ROM and a second sub-group uses the recordable nature of the Magneto-Optical-Disc: CD erasable and the same format as CD, but erasable and recordable and CD for computer use: general purpose high-capacity storage media for personal or home computer.
The second group of applications can be called Electronic Press Applications. Such as there are Electronic Newspapers and Electronic Magazines, catalogues including product information with still pictures or even video sequences, educational software for correspondence course, remote downloading and updating of Point-of-sales and point -of-information stations and remote downloading and updating of databases. It is also based on the recordable nature of the Magneto-Optical-Disc and uses the mass-distribution of multi-media documents with the method described above.
The compact disc multi-media player will be used in the preferable environments:

CDMM and Television and Stereo Set

or

CDMM and Personal or Home Computer.

With almost the same cost as for a CD-I-only Player the CD-Multi-Media Player opens the door to far more applications than what is known as CD-Interactive and becomes a Multi-Media platform for both professional and consumer applications.

More details of the invention will appear through the description of a non-limiting, preferred embodiment illustrated by the accompanying drawings.
In the drawings:

Figure 1 illustrates the distribution concept at the broadcasting studio side.
Figure 2 ilustrates the concept at the reception side with the two kinds of storing devices CDMM-Player and digital VCR.
Figure 3 shows a block diagram of a CDMM-Player.
Figure 4 illustrates a configuration CD-Interactive/Recordable.
Figure 5 illustrates a configuration Remote Recording.
Figure 6 shows a block diagram of a digital VCR.

With the multi media system it is for example possible to transmit the content of 3 newspapers, 2 concerts (pure audio) and 2 films simultanouesly. Therefore these documents stored in digital form are required at the broadcast studio. For example the newspapers are stored on a computer hard disc, the concerts on digital audio tape and the films on digital video tape.

Embodiment CDMM-Player

According to Figure 1 on the broadcasting studio side there are provided several sub-channels SC1,SC2... SCn with either the single or double CD-data-rate are fed into a multiplexer/coder MUXCC. The CD-data-rate is preferably but not limited to 1.41 Mbit/sec. The whole number of CD-data-rate channels is chosen in respect of the bandwidth of the transmission channel.
In the multiplexer/coder MUXCC the sub-channels SC1, SC2,..SCn are time-multiplexed and control information is added. On the whole, the commands and data of the control channel comprise a

document identification, attention that a program will start in y seconds, start of the announced program, end of the program and the encrypting. Certainly this description of the control data is not complete, but lists up the basic features of the control channel. Afterwards the data is undergone a forward error correction FEC to assure error-free transmission. The final step at the sending side is the modulation by modulator MO into an analogical signal and the emission respectively transmission TR via the different media e.g. satellite S, cable network C or terrestrial T distribution.

At the receiving side the signal is fed after reception into the transmission channel decoder TCD.
In the TCD the signal is demodulated, digitized and demultiplexed. Also a error check and concealment is possible. The control information is extracted from the bit stream.
By monitoring the control information provided with the transmission TR the transmission channel decoder TCD causes the compact disc multi-media player CDMM to record the distributed documents according to the programming of the user. Since the compact disc multi-media player CDMM is in a stand-by mode it is necessary to wake it up. This is done by the transmission channel decoder TCD, when it has found a program identification x which matches with the user programming. The number y takes also into account the usage of juke-box-like multi disk players. In the control data there are also means provided to realize an access permission system by encrypting the data at the studio side and by decrypting it with a key on the receiving side.
The transmission channel decoder TCD can be housed in an external box or can be an integrated part of the compact disc multi-media player CDMM.
The distribution can happen during the night when free television transmission channels are available or in separate channels all around the clock.
The compact disc multi-media player CDMM is as shown in Fig.3 a superset of a known CD-I-Player with additional functions. This additional functions are the possibility to use CD-read-only and CD-writeable such as Magneto-Optical-Disc MOD. Further

additions are the remote channel interface RCI which offers the possibility for remote storage of multi-media documents on the Magneto-Optical-Disc MOD.

Optionally the compact disc multi-media player CDMM is equipped with a smart card reader SMR for access permission or prohibition to the data in the different sub-channels SC1, SC2,...SCn.

A further option is the computer interface for the connection to a computer system.

As shown in Fig.4 and Fig.5 there are two groups of application in which a compact disc multi-media player CDMM can be used.

The first group of applications relates to a first sub-group identical with CD-I-Applications: CD-Digital Audio, CD-Interactive, CD-Photo and CD-ROM and a second sub-group uses the recordable nature of the Magneto-Optical-Disc MOD: CD erasable and the same format as CD, but erasable and recordable and CD for computer use: general purpose high-capacity storage media for personal or home computer.

The second group of applications can be called Electronic Press Applications. Such e.g. are Electronic Newspapers and Electronic Magazines, catalogues including product information with still pictures or even video sequences, educational software for correspondence course, remote downloading and updating of downloading and updating of databases. It is also based on the recordable nature of the Magneto-Optical-Disc MOD and uses the mass-distribution of multi-media documents with the method described above.

Embodiment DVCR

The DVCR uses magnetic tape as storage media and therefore this device is able to store data at a data rate which corresponds to one sub-channel up to the date rate of the whole channel.

Claims

1. Method for distribution of multi-media documents **characterized in that** said multi-media documents in form of digital signals are fed into a multiplexer/coder (MUXCC) by several sub-channels (SC1, SC2,...SCn), said sub-channels are multiplexed in time, a control signal is added and this signal is modulated into a transmission signal (TR) on the broadcasting studio side and at the receiving side the transmission signal (TR) is treated up to the output of a tuner like a normal signal for television,

   - said signal is demodulated, digitized, demultiplexed and the control information of the control signal is extracted from the bit stream so that by monitoring said control information signal provided with the transmission a transmission channel decoder (TCD) causes a multi-media player (CDMM) to record a distributed document according to the programming of the user or

   - said signal is directly stored by a multi-media player (CDMM) and said stored signal is demodulated, digitized, demultiplexed and the control information of the control signal is extracted from the bit stream so that by monitoring said control information signal provided with the transmission a transmission channel decoder (TCD) causes a reproduction device for reproducing a distributed document according to the programming of the user.

2. Method according to claim 1, wherein said several sub-channels (SC1, SC2,...SCn) with a single CD-data-rate are fed into a multiplexer/coder (MUXCC).

3. Method according to claim 1, wherein said several sub-channels (SC1, SC2,...SCn) with a CD-data-rate according to request of multi-media distribution are fed into a multiplexer/coder (MUXCC).

4. Method according to any of the claims 1 to 3 **characterized in that** said multi-media player (CDMM) is used as a CD-I-Player and uses the recordable nature of the Magneto-Optical-Disc (MOD).

5. Method according to any of the claims 1 to 3 **characterized in that** said multi-media player (CDMM) is used for Electronic Press Applications.

6. Method according to any of the claims 1 to 5 **characterized in that** said multi-media player (CDMM) is used in an environment of a television and radio set or in an environment of a personal or home computer.

7. Arrangement to carry out the method according to any of the claims 1 to 6 **characterized in that** said arrangement comprises on the broadcasting studio side a multiplexer/coder (MUXCC) in which the sub-channels (SC1, SC2,...SCn) with digital signals which are represent for multi-media documents are multiplexed in time and a control information is added said multiplexer/coder (MUXCC) is connected with a modulator (MO) for modulation the signal of the multiplexer/coder (MUXCC) into a transmission signal (TR) and said arrangement comprises on the receiving side a tuner (TU) connected with a transmission channel decoder (TCD) for demodulation, digitizing, demultiplexing and extracting control information from the bit stream and said transmission channel decoder (TCD) is coupled to a multi-media player (CDMM) for recording and reproduction the distributed documents according to the programming of the user.

8. Arrangement according to claim 7 **characterized in that** said multi-media player (CDMM) comprises a CD-I-Player with the capability to use CD-read-only and CD-writeable and comprises a remote channel interface(RCI) which offers the possibility for remote storage of multi-media documents.

9. Arrangement according to claim 8 **characterized in that** said CD-I-Player with the possibility to use CD-writeable is a Magneto-Optical-Disc-Player.

10. Arrangement according to claim 7 **characterized in that** said multi-media player (CDMM) comprises a digital VCR.

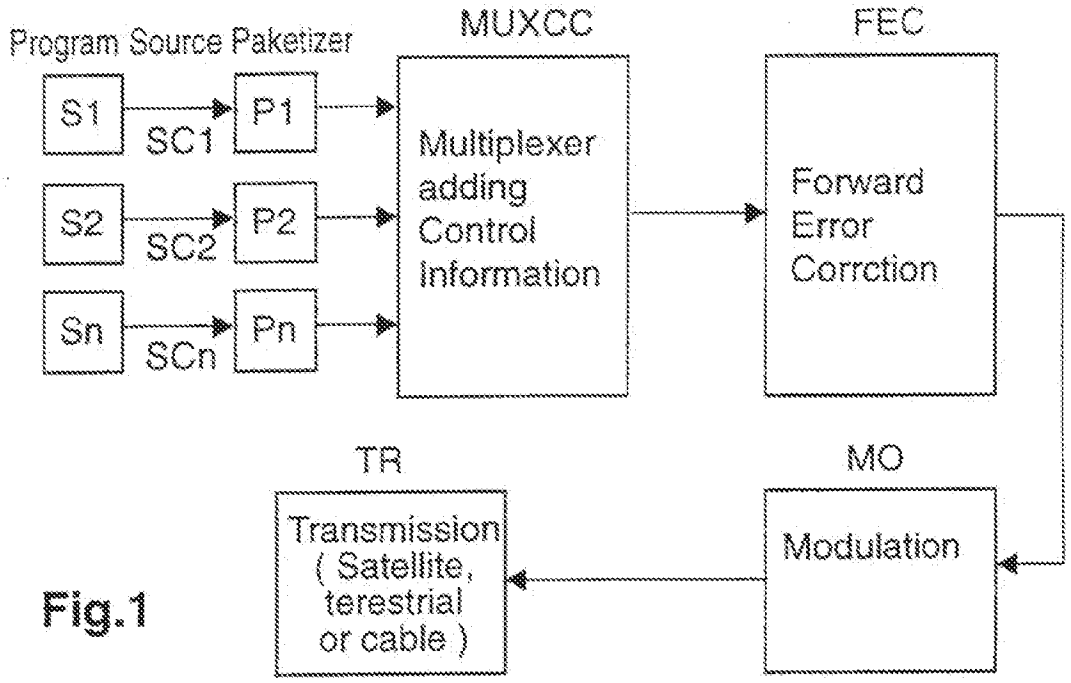
Program Source Paketizer
S1
SC1
P1
S2
SC2
P2
Sn
SCn
Pn
MUXCC
Multiplexer adding Control Information
FEC
Forward Error Corrction
TR
Transmission (Satellite, terestrial or cable)
MO
Modulation

Fig.1

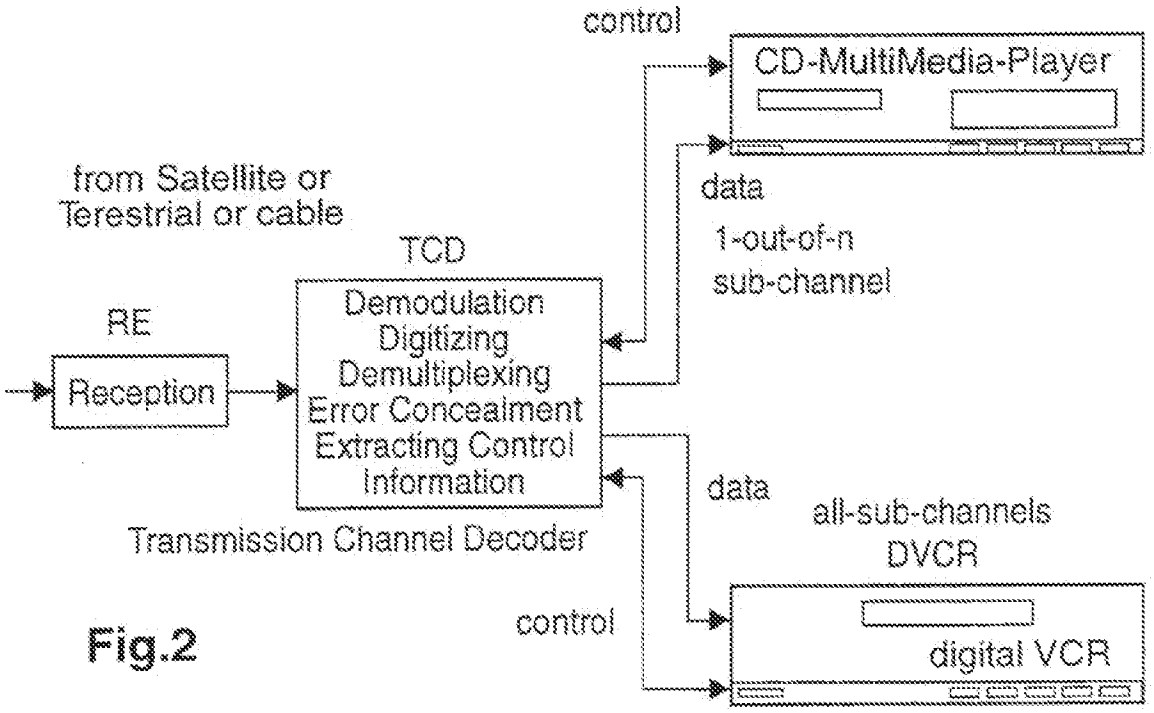
control
CD-MultiMedia-Player
from Satellite or Terestrial or cable
data
1-out-of-n sub-channel
TCD
RE
Reception
Demodulation Digitizing Demultiplexing Error Concealment Extracting Control Information
Transmission Channel Decoder
data
all-sub-channels
DVCR
control
digital VCR

Fig.2

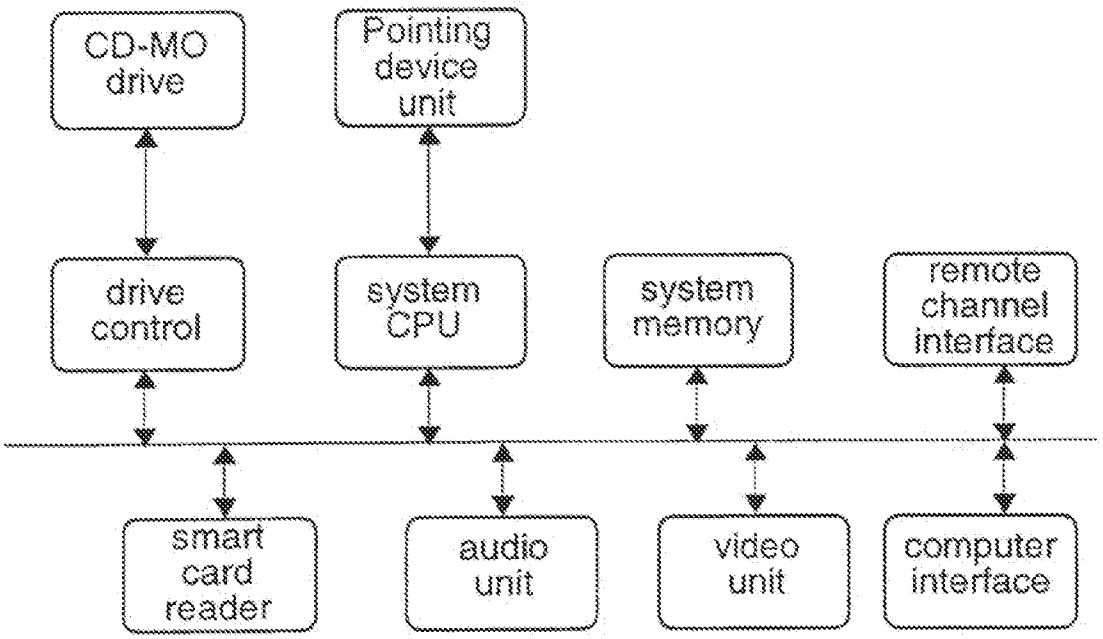
CD-MO drive
Pointing device unit
drive control
system CPU
system memory
remote channel interface
smart card reader
audio unit
video unit
computer interface

Fig.3

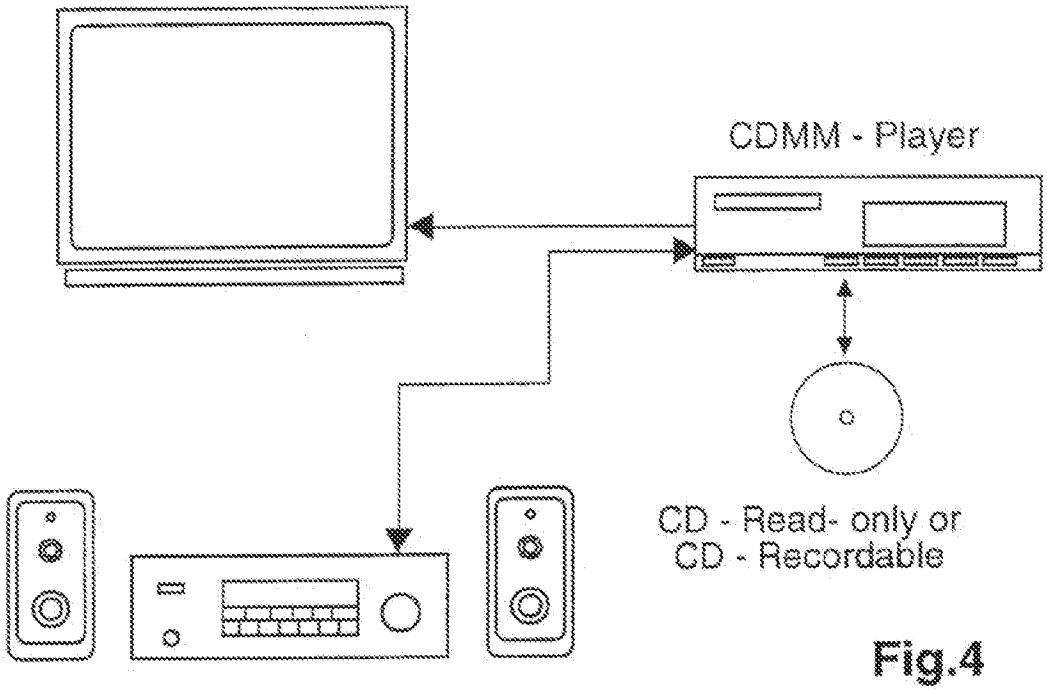
CDMM - Player
CD - Read- only or
CD - Recordable

Fig.4

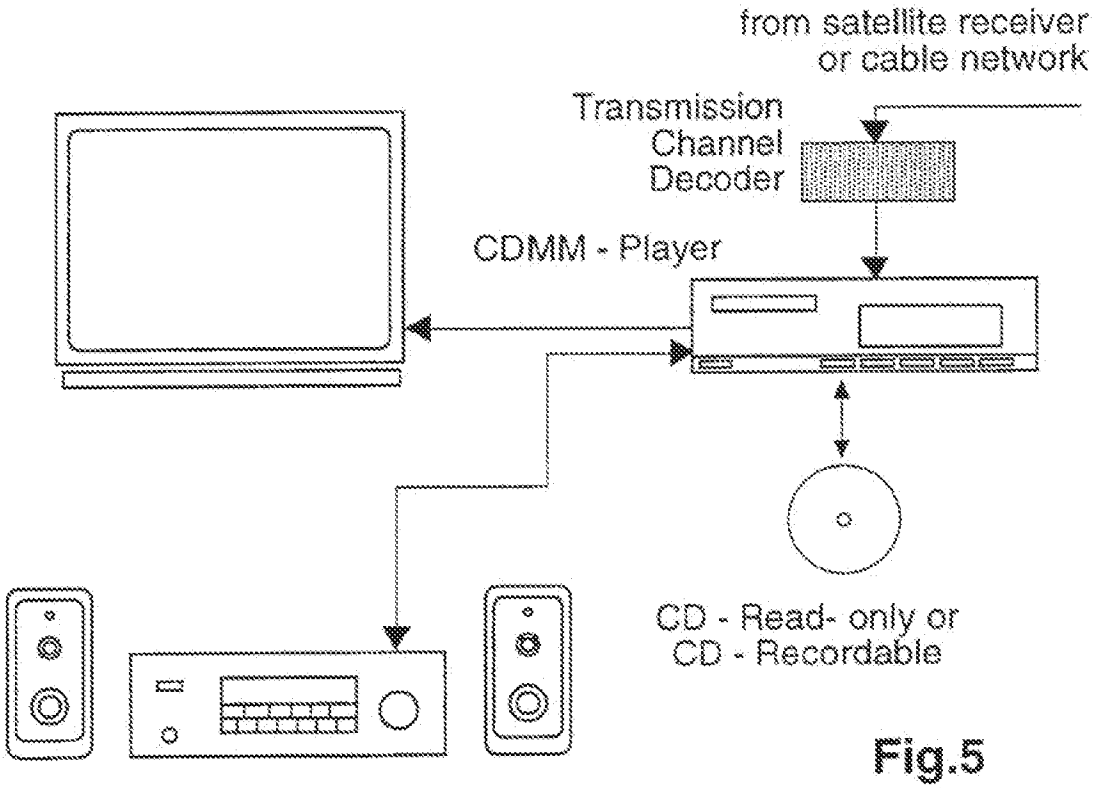
from satellite receiver
or cable network
Transmission
Channel
Decoder
CDMM - Player
CD - Read- only or
CD - Recordable

Fig.5

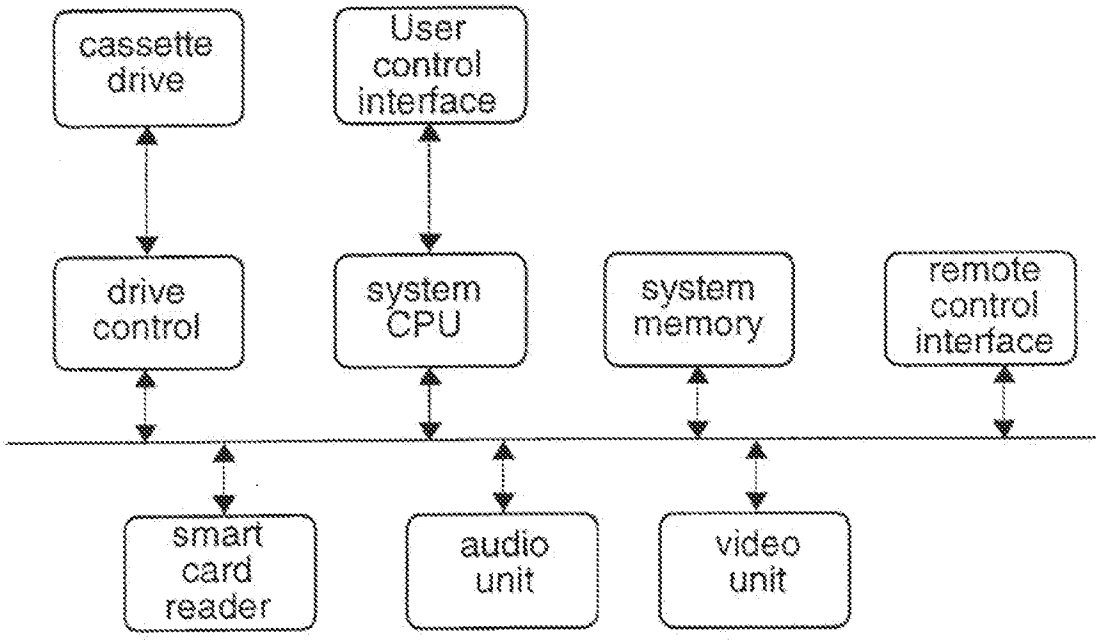
cassette drive
User control interface
drive control
system CPU
system memory
remote control interface
smart card reader
audio unit
video unit

Fig.6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 94/00287

A. CLASSIFICATION OF SUBJECT MATTER
IPC 5 H04H1/00 H04N7/173 G11B20/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 5 H04H H04N G11B H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP,A,0 438 154 (CANON) 24 July 1991 see column 1, line 3-7 see column 4, line 39 - column 6, line 45 see column 13, line 18 - column 15, line 15	1,5-7,10
A	EP,A,0 435 344 (CANON) 3 July 1991 see column 1, line 5-10 see column 3, line 52 - column 9, line 26 see column 10, line 55 - column 11, line 41	1-3,5-8
A	PATENT ABSTRACTS OF JAPAN vol. 16, no. 583 (P-1462) 22 December 1992 & JP,A,42 032 656 (NEC) 20 August 1992 see abstract	1,4-8

-/--

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

* Special categories of cited documents :

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
13 May 1994	20.05.94

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+ 31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+ 31-70) 340-3016	Zanti, P

Form PCT/ISA/210 (second sheet) (July 1992)

Samsung Ex. 1320 p. 3424

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 94/00287

C(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO,A,91 14265 (DEUTSCHE THOMSON BRANDT) 19 September 1991 see page 1, line 1-4 see page 2, line 3-21 see page 3, line 18 - page 4, line 6 see page 5, line 1 - page 8, line 7	1,4,6-9

Form PCT/ISA/210 (continuation of second sheet) (July 1992)

Samsung Ex. 1320 p. 3425

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/EP 94/00287

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
EP-A-0438154	24-07-91	JP-A-	3214834	20-09-91
		US-A-	5159633	27-10-92
EP-A-0435344	03-07-91	JP-A-	3206538	09-09-91
		JP-A-	3201644	03-09-91
WO-A-9114265	19-09-91	DE-A-	4007814	19-09-91
		AU-B-	639762	05-08-93
		AU-A-	7345091	10-10-91
		EP-A-	0573413	15-12-93
		HU-A-	64430	28-12-93
		JP-T-	5505275	05-08-93

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(22) International Filing Date: 14 November 1997 (14.11.97)

(30) Priority Data:

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60/030,996	15 November 1996 (15.11.96)	US
60/038,411	18 February 1997 (18.02.97)	US
60/055,782	15 August 1997 (15.08.97)	US
60/057,256	29 August 1997 (29.08.97)	US
60/060,612	1 October 1997 (01.10.97)	US

(71) Applicant: INERGY ONLINE, INC. [US/US]; Suite 1, 3 Regency Plaza, Providence, RI 02903 (US).

(72) Inventors: BELANGER, Charles, E.; 345 Boston Road, Billerica, MA 01821 (US). WOODLEE, Jason; 155 Rutgers Lane, Parsippany, NJ 07054 (US).

(74) Agents: BLODGETT-FORD, Sayoko, J. et al.; Foley, Hoag & Eliot LLP, One Post Office Square, Boston, MA 02109 (US).

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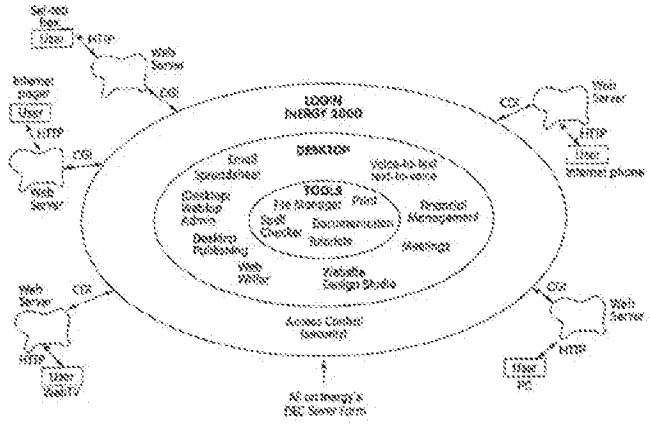

(57) Abstract

The systems and methods described herein provide different types of Web authoring, Web site management, and communication software technology, including but not limited to full multimedia authoring, online libraries, sounds, forms, e-mail, facsimile, voice-mail, pager, telephone, financial management, true document printing (as opposed to screen printing), text-to-voice and voice-to-text conversion, file management, spreadsheets, all accessed and run via the Internet. The system resides entirely on an Internet Web Server site and interacts with users via conventional programming languages written for a universal protocol. As a result, there is no need for client-side messaging software. All software is provided on the server side. The only software the user needs is any form of Web browser and an electronic communications connection. Because the system is platform and operating system independent, a user may author, create, maintain, send and receive messages from any platform, using any conventional operating system. A user may customize their desktop configuration and may run a variety of different applications. Moreover, a user may switch between applications, and transfer text, graphics, or sound files between applications.

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REMOTE COMMUNICATION, INFORMATION MANAGEMENT, AND HOME PAGE AUTHORING SYSTEM

Cross-Reference to Related Applications

This application is related to U.S. provisional patent application serial no. 60/030,994, entitled, "Remote Communication Management System", filed November 15, 1996; U.S. provisional patent application serial no. 60/030,996, entitled, "Remote Home Page Authoring System", filed November 15, 1996; U.S. provisional patent application serial no. 60/038,411, entitled, "Server-Sided Technology for Remote Television Computerization", filed February 18, 1997; U.S. provisional patent application, serial number 60/055,782, entitled, "Server-Sided Internet Based Operating System", filed August 15, 1997; U.S. provisional patent application, serial number 60/057,256, entitled "Server-Sided Web Based Operating System and Desktop Manager," filed August 29, 1997, and U.S. provisional patent application, serial number 60/060,612, entitled "Server-Sided Internet-Based Platform Independent Operating System and Application Suite," filed October 1, 1997, all of which are pending.

Background of The Invention

The evolution of the computer industry has been from mainframes, where all users have to take turns running software programs on a central computer system from "dumb" terminals on their desks, to smart and powerful desktop personal computers (PCs) in which users run all the software either from a removable disk or loaded onto their hard drive. The advantages of mainframes include greater processing power and the ability to centralize software programs, such as graphics programs, financial packages, etc., so that

the programs can easily be maintained and updated. The disadvantages of mainframes include higher cost for installation and maintenance, and the fact that users have to take turns using processing time.

Desktop personal computers are not ideal for all users either. As users have demanded numerous enhanced features from software programs for their personal computers, it has become increasingly impractical to run such programs from removable disks. For example, a typical word processing program fills several disks, even in a compressed format. This large size, combined with distribution challenges and costs, may make it impractical and not cost-effective to upgrade the programs on a frequent basis. Also, the software programs have to be installed by each user on their own PC, which can be challenging for beginning and novice users. Moreover, mass-market programs cannot easily be customized for each user's particular needs. An additional disadvantage of PCs is that they are not very mobile, and powerful laptops carry a hefty price tag.

Another option is a PC network. Networks of PCs, typically in an office setting, have allowed key programs to be run from a central server without requiring users to take turns using the software. However, if a user wishes to be able to run several different programs simultaneously, and to switch between the programs at will, he or she will need to have a powerful operating system installed on their computer, such as the MICROSOFT WINDOWS operating system, which takes up a significant amount of storage space on the hard drive.

One of the most significant developments in the computer industry in the past decade has been the phenomenal growth of the number of users on the Internet and the World Wide Web. Many new computer users now want to view other Web sites, to create and manage their own Web sites, and to review and send electronic mail messages. A user could purchase Web authoring software and learn programming language to create these Web site files. A user also could learn how to send and maintain these Web site files using software such as FTP loaded onto their computer. A user could either maintain an account with one or more on-line service companies, such as AMERICA ON-LINE or COMPUSERVE, or they could maintain an account with an Internet Service Provider ("ISP").

If the Web site account is maintained on-line, then the user typically can only maintain the Web site at a computer terminal on which the proprietary authoring software and FTP configuration for that particular on-line service had been installed ("client side software"). This reduces mobility and accessibility for the user. In addition, if the user decides to switch to a different on-line service, or otherwise to terminate the account with the on-line service, the user usually will no longer own the original Web site (or e-mail) address after the original on-line service account is closed. Moreover, the user has to invest in an expensive desktop PC with power and storage capacity that seems disproportionate in relation to the user's intended purpose, i.e., to view Web pages and send e-mail. Instead of a PC, a user might wish to buy a less-expensive non-computer device, such as an internet telephone, a pager, a beeper or a cell phone, or a hand-held or palm-sized personal information manager such as the PALMPILOT sold by 3COM

(formerly U.S. ROBOTICS). Alternatively, a user might wish to purchase a set-top box, such as WEBTV, which is manufactured by TECHNAMA, BATRA, and COOLOGIC, among others. None of the software on the application programs on the market today, such as WORDPERFECT, MICROSOFT WORD, etc. can run on these noncomputer ("NC") appliances. Yet all of these NC appliances may be configured to allow a user to access the Internet. The problem is the limits on what the user can do when they get there using an NC appliance.

Summary Of The Invention

The systems and methods described herein provide different types of Web authoring, Web site management, and communication software technology, including but not limited to full multimedia authoring, online libraries, sounds, forms, e-mail, facsimile, voice-mail, pager, telephone, financial management, true document printing (as opposed to screen printing), text-to-voice and voice-to-text conversion, file management, spreadsheets, all accessed and run via the Internet. The system resides entirely on an Internet Web Server site and interacts with users via conventional programming languages written for a universal protocol. As a result, there is no need for client-side messaging software. All software is provided on the server side. The only software the user needs is any form of Web browser and a communications connection. Because the system is platform and operating system independent, a user may author, create, maintain, edit, send, copy, receive, save, delete, and respond to messages from any platform, using any conventional operating system. A user also could author, create, maintain, edit, copy, save and delete a Web site or a portion thereof. A user may customize their desktop

configuration and may run a variety of different applications. Moreover, a user may switch between applications, and transfer text, graphics, or sound files between applications.

A remote communication management system according to the systems and methods described herein includes a server computer having memory, wherein the server computer includes a processing mechanism for receiving signals representing a message from a communications network, converting the signals into a data file, and storing the data file in the memory, a client device adapted for transmitting and receiving signals from the communications network, a communications connection between the server computer and the client device, an access control mechanism connected to the server computer for determining access rights to the data file stored in the memory of the server computer, and a server signal mechanism connected to the server computer and responsive to the access control mechanism, for receiving signals from the client device and for sending signals to the client device, via the communications connection, for generating markup language page signals representative of the data file, wherein the processing mechanism, the access control mechanism, and the server signal mechanism permit a user of the client device to view, edit, delete, reproduce, or retransmit, or some combination or variation thereof, certain of the data files via interaction with the markup language page signals.

The client device may be selected from the following group of devices, for example: mainframe computers, desktop personal computers, such as, for example,

IBM, IBM-compatibles, and MACINTOSH, laptop personal computers, network computers, Internet telephones, pagers, mobile phones, hand-held personal information managers, non-computer (NC) appliances, cable television boxes, television sets, and set-top boxes, or some combination or variation thereof. The client device preferably should include a full or a partial Web browser program, such as, for example, NETSCAPE NAVIGATOR or NETSCAPE COMMUNICATOR, MICROSOFT EXPLORER, MOSIAC, or some combination or variation thereof.

The communications network may be the Internet, may be the World Wide Web, may allow communication via wireless transmissions, or may allow communication via transmissions through fiber optic lines, or some combination or variation thereof, such as, for example, electronic transmissions or radio-wave transmissions. The communications connection may be the Internet or the World Wide Web. The communications connection may allow communication via wireless transmissions, through fiber optic lines, through electronic transmissions, or through some combination or variation thereof. The remote communication management system may include a registration mechanism connected to the server computer for storing, accessing, and, optionally, modifying a list of names of registered users, which could include, for example, individuals, corporations, families, members of particular communities, or shared-interest groups.

The signals received by the processing mechanism of the server computer may represent an electronic mail (e-mail) message, which may include an address field. The processing mechanism may then determine whether the address field includes the name of a registered user. The access control mechanism may allow only the registered user to whom the e-mail message is addressed to access the e-mail message. The processing mechanism may reject the e-mail message if the address field does not include the name of a registered user.

A remote information management system according to the systems and methods described herein may include a server computer having memory, wherein the server computer includes a processing mechanism for receiving signals representing information from a communications network, converting the signals into a data file, and storing the data file in the memory, a client device adapted for transmitting and receiving signals from the communications network, a communications connection between the server computer and the client device, an access control mechanism connected to the server computer for determining access rights to the data file stored in the memory of the server computer, and a server signal mechanism connected to the server computer and responsive to the access control mechanism for receiving signals from the client device and for sending signals to the client device, via the communications connection, for generating markup language page signals representative of the data file, wherein the processing mechanism, the access control mechanism, and the server signal mechanism

permit a user of the client device to view certain of the data files via interaction with the markup language page signals.

The client device may be selected from the following group of devices: mainframe computers, desktop personal computers, laptop personal computers, network computers, Internet telephones, pagers, mobile phones, hand-held personal information managers, non-computer (NC) appliances, cable television boxes, television sets, and set-top boxes.

A registration mechanism may be connected to the server computer for storing, accessing, and modifying a list of names of registered users. The information is sent by a third party and addressed to a registered user. The information may be sent by a registered user and addressed to themselves. The information may include information sent by a registered user, such as, for example, contact data, names, addresses, and phone numbers, or some combination or variation thereof, such as, for example, e-mail addresses, company names, Web site addresses, appointment or meeting dates, times, and locations, reminders, task lists, and the like.

The server signal mechanism may include a messaging device for generating markup language page signals for composing a message from the client device via interaction with the markup language page signals and for sending the message to the communications network. The message may be addressed to one or more third parties

who are not registered users, or to one or more registered users, or to some combination thereof.

A method for remote communication management according to the systems and methods described herein may include providing a server computer for receiving signals representing a message from a communications network, converting the signals into a data file, and storing the data file, providing a client device for transmitting and receiving signals from the communications network, connecting the server computer and the client device via a communications connection, receiving signals from the client device, sending signals from the server computer to the client device for generating markup language page signals representative of the data file, and determining access rights to the data file, thereby allowing a user of the client device to view, edit, delete, copy, retransmit, save, or some combination or variation thereof, the data file via interaction with the markup language page signals if the user is allowed access rights to the data file. Such a method may further include providing a registration process for allowing users to request registration on the system and for storing a list of registered users. Receiving signals representing a message may include receiving signals representing an electronic mail (e-mail) message, which may include an address field. A method of remote communications management may further include determining whether the address field includes the name of a registered user, allowing the registered user to whom the e-mail message is addressed to access the e-mail message, and rejecting, i.e., returning, deleting, or both, the e-mail message if the address field does

not include the name of a registered user, further including allowing the user of the client device to compose a message via interaction with the markup language page signals and to direct the server computer to send the message to the communications network.

A remote home page authoring system according to the systems and methods described herein may include a server computer having memory, wherein the server computer includes a processing mechanism for receiving signals representing a home page (also known as a Web site or a Web page) from a communications network, converting the signals into a data file, and storing the data file in the memory, a client device adapted for transmitting and receiving signals from the communications network, a communications connection between the server computer and the client device, an access control mechanism connected to the server computer for determining access rights to the data file stored in the memory of the server computer, and a server signal mechanism connected to the server computer and responsive to the access control mechanism, for receiving signals from the client device and for sending signals to the client device, via the communications connection, for generating markup language page signals representative of the data file, wherein the processing mechanism, the access control mechanism, and the server signal mechanism permit a user of the client device to view, edit, delete, reproduce, or retransmit, or some combination or variation thereof, certain of the data files via interaction with the markup language page signals.

The client device may be selected from the following group of devices, for example: mainframe computers, desktop personal computers, such as, for example, IBM, IBM-compatibles, and MACINTOSH, laptop personal computers, network computers, Internet telephones, pagers, mobile phones, hand-held personal information managers, non-computer (NC) appliances, cable television boxes, television sets, and set-top boxes, or some combination or variation thereof. The client device preferably should include a full or a partial Web browser program, such as, for example, NETSCAPE NAVIGATOR or NETSCAPE COMMUNICATOR, MICROSOFT EXPLORER, MOSIAC, or some combination or variation thereof.

The communications network may be the Internet, may be the World Wide Web, may allow communication via wireless transmissions, or may allow communication via transmissions through fiber optic lines, or some combination or variation thereof, such as, for example, electronic transmissions or radio-wave transmissions. The communications connection may be the Internet or the World Wide Web. The communications connection may allow communication via wireless transmissions, through fiber optic lines, through electronic transmissions, or through some combination or variation thereof. The remote home page authoring system may include a registration mechanism connected to the server computer for storing, accessing, and, optionally, modifying a list of names of registered users, which could include, for example, individuals, corporations, families, members of particular communities, or shared-interest groups.

The access control mechanism may allow a registered user to create their home page, and to modify, save, reproduce and delete at least a portion of their home page. The access control mechanism may allow a registered user to add text, sound, color, and moving images, or some combination or variation thereof, to their home page. The access control mechanism may allow one or more third parties to view the home pages of one or more registered users, via the communications network, even if the third parties are not themselves registered users.

A method of home page management according to the systems and methods described herein may include providing a server computer for receiving signals representing a home page from a communications network, converting the signals into a data file, and storing the data file, providing a client device for transmitting and receiving signals from the communications network, connecting the server computer and the client device via a communications connection, receiving signals from the client device, sending signals from the server computer to the client device for generating markup language page signals representative of the data file, and determining access rights to the data file, thereby allowing a user of the client device to view the data file via interaction with the markup language page signals if the user is allowed access rights to the data file.

A method of remote home page authoring may further include providing a registration process for allowing users to request registration on the system and for storing

a list of registered users, and, optionally, allowing a registered user of the client device to create their home page and to modify, save, reproduce, or delete, or some combination or variation thereof, at least a portion of their home page. A method of remote home page authoring may further include allowing a registered user of the client device to add text, sound, color, graphics, and moving images, or some combination or variation thereof, to their home page.

Brief Description Of Drawings

FIG. 1 is a schematic diagram illustrating an embodiment of a server-sided Internet based operating system according to the systems and methods described herein.

FIG. 2 shows a block outline of the INERGY 2000 operating system. The outline shows the features that may be included in the basic package, as well as add-on functionality that may be added.

FIG. 3 is a schematic illustration of the Website Design Studio, and shows that the application may also be connected to the FILE MANAGER, the WEBWRITER, and the spell checker, for example.

FIG. 4 is a schematic diagram that illustrates the WEBWRITER program, and includes examples of some of the editing features that may be available, as well as optional connections to other applications, such as E-MAIL AMERICA, and to tools such as FILE

MANAGER and File Conversion. Printing, faxing, and connections to other servers also are shown.

FIG.'s 5 through 48 show examples of Web screen shots and the corresponding HTML source code for such screens, according to an embodiment of the systems and methods described herein.

FIG.'s 49 through 66 show examples of Web screen shots according to an embodiment of the systems and methods described herein.

Certain of the attached drawings show examples of program language according to one embodiment of the systems and methods described herein. It will be understood that this is only one embodiment and that the particular implementation of such software code will vary depending on the program language used. Thus, the invention is in no way limited to this particular embodiment.

Detailed Description of the Preferred Embodiments

The systems and methods described herein provide different types of Web authoring, Web site management, and communication software technology, including but not limited to full multimedia authoring, online libraries, sounds, forms, e-mail, facsimile, voice-mail, pager, telephone, financial management, true document printing (as opposed to screen printing), text-to-voice and voice-to-text conversion, file management,

spreadsheets, all accessed and run via the Internet. The system resides entirely on an Internet Web Server site and interacts with users via standard hyper-text markup language ("HTML", which is described in Ian S. Graham, HTML Sourcebook, 3d ed. (1997) and U.S. Patent No. 5,355,472 to Lewis and U.S. Patent No. 5,530,852 to Meske et al.), PERL, CGI, and JAVASCRIPT programs, which are written for a universal protocol, currently HTML Standards Version 3.0. Any markup language or variation thereof may be used. The system also includes code written in UNIX, PERL, JAVA, and C++. General techniques of Internet programming are described in Kris Jamsa, Ph.D. and Ken Cope, Internet Programming (1995).

In the present system, there is no need for client-side messaging software. All software is provided on the server side. The only software the user needs is any form of Web browser, such as NETSCAPE NAVIGATOR, NETSCAPE COMMUNICATOR, MICROSOFT EXPLORER, NETCOM, MOSAIC, or any other partial browser, and an Internet, intra-net bulletin board, or other electronic communications connection or a non-computer communications connection such as one designed for use in connection with a television set, for example WEBTV.

Because the system is platform and operating system independent, a user may author, create, maintain, send and receive messages from any platform, including but not limited to IBM PC and compatible platforms, MACINTOSH platforms, and non-computers NCs or set-top boxes such as WEBTV, using any operating system, including but not limited to MICROSOFT WINDOWS, WINDOWS 95, WINDOWS NT,

WINDOWS CE, DOS, and UNIX. A user may also create, receive, edit, and print documents, run financial packages, pay bills electronically, convert text-to-voice and voice-to-text, manage personal information, schedule appointments, run desktop publishing software, send and receive facsimile messages, etc.

In order to receive an account on the system, a user would register, for example, through their television, mail, telephone, facsimile, or on-line. Preferably, registration would be one time only, although periodic renewals could be required. The user could then access the system using any Internet access and Web browser, including, for example, a set-top box. No special software or particular ISP would be required. Thus, a user could create and edit their Web site, visit other Web sites, send and receive messages, access their personal information manager ("PIM") and schedule, create, edit and send documents, faxes and voice messages, pay bills, prepare a budget, all from anywhere in the world, using any computer or device with full or partial Web browsing capability. The user would continue to receive messages, with no interruption, even if the user switched ISPs, technologies, computer terminals, or televisions, or if the user moved to a different location. The user also could access their Web site, their PIM and their personal schedule residing within their messaging system along with private messages, voice mail, faxes, etc. from any office computer with a Web browser and Internet connection. In addition, the user would not lose messages if the user's laptop or portable computer were stolen, because the messages would reside on the system's server and would be backed-up automatically.

Another advantage for the user would be that, because all system software is provided directly at the system's Web site, all enhancements are provided at a centralized location. Thus, it is not necessary to periodically provide each user with a separate or an individual copy of updated software.

The system includes additional features such as the ability to convert files received from many types of systems to HTML and text (TXT), and may be expanded to allow conversion from and to a full range of word processing or spreadsheet formats, including but not limited to MICROSOFT WORD, WORDPERFECT, RICH TEXT FORMAT, EXCEL, LOTUS, etc. The system may include support for embedded application files that includes automatically executing the corresponding application, an address book that automatically addresses a message to send when an address entry is selected, and general access to a list of registered system users. The PIM or CONTACT MANAGER feature provides the ability to create and store for global retrieval a complete listing of the user's contacts. A "schedule" feature offers the ability to create and maintain a complete 24-hour schedule of the user's activities including comprehensive connectivity to their PIM, for global retrieval. Preferably, a user, including a user with only a set-top box or an Internet phone or pager, may send a document to print. The document would go to a print server, and would then be spooled in a data stream over the Internet to the printer designated by the user, which may optionally be selected from a list of available printers. Thus, true document printing, as opposed to screen capture, may be provided.

Other features of the operating system include the ability to interface e-mail communications with facsimile, voice and multimedia communications. A preferred feature of the operating system would be to connect all of the applications to each other, which would allow users to access all of the other applications from within a particular application, optionally via the FILE MANAGER feature.

The operating system also may have security features, including but not limited to support for digital signatures, encryption, and password protection, as well as a time out feature to prevent access to the user's information if the user has not exited the service or taken any other action for an extended period of time.

The system also may have notification via telephone, facsimile, pager, or other device, when e-mail has been received. The system may have additional gateways built to offer seamless carry-over to existing corporate mail and messaging systems such as CCMAIL or PCANYWHERE.

One of many possible ways to implement they system is to use clustered DEC 64-bit alpha servers (or a server farm) to allow for safe fail-over, distribution of operating load, and scalability. In this embodiment, a UNIX operating system is used. ORACLE database and NETSCAPE Webserver programs run on the servers, and the servers are connected to the Internet through T1 or T3 lines, or other communication channel with wide-band capability.

In FIG. 1, a schematic diagram illustrates a method of implementation of a server-sided Internet based operating system according to the present invention. Users, who may have one of a variety of Internet-enabled devices or connections, including, for example, a desktop PC or a laptop, a WEBTV, an Internet pager, or an Internet phone, use their Web browser to enter INERGY's web site, which is http://www.inergy.com. Once on the web site, a new user registers for access to one or more of the applications in the INERGY 2000 operating system's suite of desktop applications, which may include such programs as WEBWRITER (a word processor), E-MAIL AMERICA, WEB SITE DESIGN STUDIO ("QUICKTOUCH"), CONTACT MANAGER (a "PIM" or Personal Information Manager), spreadsheet software, voice-to-text & text-to-voice software, financial management software (including, for example, electronic checkbook and bill payment), personal and corporate bookkeeping, data management, desktop publishing, desktop (or WEBTOP) administration, meeting manager/scheduler, etc., all of which may reside on one or more of INERGY's servers. These applications may be interlaced with online creative multimedia tools. The new user is then given a password, which they may modify, and is given a standard desktop configuration of the applications, including a standard background screen that is displayed when a user logs onto the system. A database, which may reside on the INERGY 2000 server farm or on some other server, is maintained. The database includes a customer profile for each customer. The customer profile, which may include one or more customized desktop configurations, may be updated by the user either consciously, through selection of an option such as "SETUP", or may be automatically updated as the user rearranges or otherwise modifies their desktop while they are actively connected to the INERGY 2000 operating system. Each user may

customize their desktop arrangement. For example, users may upload graphics, text, or sounds to use as a background. Users may add and remove hypertext links to their favorite Web sites. Users may modify the size, shape or arrangement of the icons or symbols that permit access to each of the applications, etc. A user may have one customized desktop configuration for use in the office and another customized desktop configuration for use at home. In addition, a family may have a common desktop configuration (or set of configurations), with different passwords for e-mail for each of the family members, so that each of the family members can have private e-mail.

When a previously-registered user logs in to the INERGY 2000 operating system, the user's login ID and password are sent, using HTTP, to a Web server, which may be located anywhere, and then passed, using CGI code, to the INERGY 2000 operating system, which then accesses the user's customer profile from the database of customer profiles. Based on the data in the user's customer profile, a set of scripts are run, which then are sent back to the Web server, which passes the HTML instructions to the user's browser, using HTTP, and the user's browser then displays the user's customized desktop configuration. The user can then access any of the applications for which they have registered, which may include one or more of the applications shown in the "DESKTOP" layer of the diagram in FIG. 1. Each of the desktop applications also may have access to one or more of the tools in the "TOOLS" layer of the diagram in FIG. 1. For example, a user may receive an e-mail message with an attached document in MICROSOFT WORD format. The user may wish to edit the document using the WEBWRITER program. The FILE MANAGER tool will allow the user to convert the MICROSOFT WORD document

into Text format, which the WEBWRITER can read. The user can then edit the document and use FILE MANAGER to convert the revised document back to MICROSOFT WORD format and send it back as an attachment to an e-mail reply message. Or, the user could convert the document for use in the spreadsheet or bookkeeping application. The user also may add the document to their personal or business Web site. A variety of additional options will be apparent. For example, optionally, the spell-check tool may be accessed from the word processing program, as well as from the e-mail program or the Web site creation and management program, etc.

All patents, patent applications, articles, books and other references cited herein are incorporated herein by reference.

While the invention has been disclosed in connection with the preferred embodiments shown and described in detail, various modifications and improvements will be apparent to one of ordinary skill in the art from the above description, including, for example, continuously updating the customer profile, or updating the customer profile at predetermined intervals or points, such as when a user exits the system.

What has been described in detail herein above are methods and apparatus meeting the aforestated objectives. As previously indicated, those skilled in the art will recognize that the foregoing description has been presented for the sake of illustration and description only. It is not intended to be exhaustive or to limit the invention to the

precise form disclosed, and obviously many modifications and variations are possible in light of the above teaching.

The embodiments and examples set forth herein were presented in order to best explain the principles of the instant invention and its practical application to thereby enable others skilled in the are to best utilize the instant invention in various embodiments and with various modifications as are suited to the particular use contemplated.

It is, therefore, to be understood that the claims appended hereto are intended to cover all such modifications and variations which fall within the true scope and spirit of the invention.

I Claim

1. A remote communication management system, comprising:

a server computer having memory, wherein the server computer includes a processing mechanism for receiving signals representing a message from a communications network, converting the signals into a data file, and storing the data file in the memory;

a client device adapted for transmitting and receiving signals from the communications network;

a communications connection between the server computer and the client device;

an access control mechanism connected to the server computer for determining access rights to the data file stored in the memory of the server computer; and

a server signal mechanism connected to the server computer and responsive to the access control mechanism for receiving signals from the client device and for sending signals to the client device, via the communications connection, for generating markup language page signals representative of the data file, wherein the processing mechanism, the access control mechanism, and the server signal mechanism permit a user of the client device to view certain of the data files via interaction with the markup language page signals.

2. A system, according to claim 1, wherein the client device is selected from the group consisting of: mainframe computers, desktop personal computers, laptop personal computers, network computers, Internet telephones, pagers, mobile phones, hand-held personal information managers, non-computer (NC) appliances, cable television boxes, television sets, and set-top boxes.

3. A system, according to claim 1, wherein the client device includes a Web browser program.

4. A system, according to claim 1, wherein the communications network is the Internet.

5. A system, according to claim 1, wherein the communications network is the World Wide Web.

6. A system, according to claim 1, wherein the communications network allows communication via wireless transmissions.

7. A system, according to claim 1, wherein the communications network allows communication via transmissions through fiber optic lines.

8. A system, according to claim 1, wherein the communications connection is the Internet.

9. A system, according to claim 1, wherein the communications connection is the World Wide Web.

10. A system, according to claim 1, wherein the communications connection allows communication via wireless transmissions.

11. A system, according to claim 1, wherein the communications connection allows communication via transmissions through fiber optic lines.

12. A system, according to claim 1, further comprising a registration mechanism connected to the server computer for storing, accessing, and modifying a list of names of registered users.

13. A system, according to claim 1, wherein the signals received by the processing mechanism of the server computer represent an electronic mail (e-mail) message.

14. A system, according to claim 13, wherein the e-mail message includes an address field and wherein the processing mechanism determines whether the address field includes the name of a registered user.

15. A system, according to claim 14, wherein the access control mechanism allows only the registered user to whom the e-mail message is addressed to access the e-mail message.

16. A system, according to claim 14, wherein the processing mechanism rejects the e-mail message if the address field does not include the name of a registered user.

17. A system, according to claim 1, further including a mechanism for permitting the user of the client device to delete certain of the data files.

18. A system, according to claim 1, further including a mechanism for permitting the user of the client device to edit certain of the data files.

19. A system, according to claim 1, wherein the server signal mechanism includes a messaging device for generating markup language page signals for composing a message from the client device via interaction with the markup language page signals and for sending the message to the communications network.

20. A remote information management system, comprising:

a server computer having memory, wherein the server computer includes a processing mechanism for receiving signals representing information from a

communications network, converting the signals into a data file, and storing the data file in the memory;

a client device adapted for transmitting and receiving signals from the communications network;

a communications connection between the server computer and the client device;

an access control mechanism connected to the server computer for determining access rights to the data file stored in the memory of the server computer; and

a server signal mechanism connected to the server computer and responsive to the access control mechanism for receiving signals from the client device and for sending signals to the client device, via the communications connection, for generating markup language page signals representative of the data file, wherein the processing mechanism, the access control mechanism, and the server signal mechanism permit a user of the client device to view certain of the data files via interaction with the markup language page signals.

21. A system, according to claim 20, wherein the client device is selected from the group consisting of: mainframe computers, desktop personal computers, laptop personal computers, network computers, Internet telephones, pagers, mobile phones, hand-held personal information managers, non-computer (NC) appliances, cable television boxes, television sets, and set-top boxes.

22. A system, according to claim 20, wherein the information includes contact data.

23. A system, according to claim 20, wherein the information includes names, addresses, and phone numbers.

24. A system, according to claim 20, wherein the information includes appointment information.

25. A system, according to claim 20, wherein the information includes reminders.

26. A system, according to claim 20, further comprising a registration mechanism connected to the server computer for storing, accessing, and modifying a list of names of registered users.

27. A system, according to claim 26, wherein the information is sent by a third party and addressed to a registered user.

28. A system, according to claim 26, wherein the information is sent by a registered user and addressed to themselves.

29. A method for remote communication management, comprising:

providing a server computer for receiving signals representing a message from a communications network, converting the signals into a data file, and storing the data file;

providing a client device for transmitting and receiving signals from the communications network;

connecting the server computer and the client device via a communications connection;

receiving signals from the client device;

sending signals from the server computer to the client device for generating markup language page signals representative of the data file; and

determining access rights to the data file, thereby allowing a user of the client device to view the data file via interaction with the markup language page signals if the user is allowed access rights to the data file.

30. A method, according to claim 29, further comprising:

providing a registration process for allowing users to request registration on the system and for storing a list of registered users.

31. A method, according to claim 29, wherein receiving signals representing a message includes receiving signals representing an electronic mail (e-mail) message.

32. A method, according to claim 29, wherein receiving signals representing a message includes receiving signals representing an electronic mail (e-mail) message including an address field.

33. A method, according to claim 30, further including determining whether the address field includes the name of a registered user.

34. A method, according to claim 30, further including allowing the registered user to whom the e-mail message is addressed to access the e-mail message.

35. A method, according to claim 30, further including rejecting the e-mail message if the address field does not include the name of a registered user.

36. A method, according to claim 29, further including allowing the user of the client device to delete certain of the data files.

37. A method, according to claim 29, further including allowing the user of the client device to edit certain of the data files.

38. A method, according to claim 29, further including allowing the user of the client device to compose a message via interaction with the markup language page signals.

39. A method, according to claim 38, further including sending the message composed by the user to the communications network.

40. A remote communication management system, comprising:

a server computer for receiving signals representing a message from a communications network, converting the signals into a data file, and storing the data file;

a client device for transmitting and receiving signals from the communications network;

means for connecting the server computer and the client device via a communications connection;

means for receiving signals from the client device;

means for sending signals from the server computer to the client device for generating markup language page signals representative of the data file;

means for determining access rights to the data file; and

means for allowing a user of the client device to view the data file via interaction with the markup language page signals if the user is allowed access rights to the data file.

41. A remote home page authoring system, comprising:

a server computer having memory, wherein the server computer includes a processing mechanism for receiving signals representing at least a portion of a home page from a communications network, converting the signals into a data file, and storing the data file in the memory;

a client device adapted for transmitting and receiving signals from the communications network;

a communications connection between the server computer and the client device;

an access control mechanism connected to the server computer for determining access rights to the data file stored in the memory of the server computer; and

a server signal mechanism connected to the server computer and responsive to the access control mechanism for receiving signals from the client device and for sending signals to the client device, via the communications connection, for generating markup language page signals representative of the data file, wherein the processing mechanism, the access control mechanism, and the server signal mechanism permit a user of the client device to view certain of the data files via interaction with the markup language page signals.

42. A system, according to claim 41, wherein the client device is selected from the group consisting of: mainframe computers, desktop personal computers, laptop personal computers, network computers, Internet telephones, pagers, mobile

phones, hand-held personal information managers, non-computer (NC) appliances, cable television boxes, television sets, and set-top boxes.

43. A system, according to claim 41, wherein the client device includes a Web browser program.

44. A system, according to claim 41, wherein the communications network is the Internet.

45. A system, according to claim 41, wherein the communications network is the World Wide Web.

46. A system, according to claim 41, wherein the communications network allows communication via wireless transmissions.

47. A system, according to claim 41, wherein the communications network allows communication via transmissions through fiber optic lines.

48. A system, according to claim 41, wherein the communications connection is the Internet.

49. A system, according to claim 41, wherein the communications connection is the World Wide Web.

50. A system, according to claim 41, wherein the communications connection allows communication via wireless transmissions.

51. A system, according to claim 41, wherein the communications connection allows communication via transmissions through fiber optic lines.

52. A system, according to claim 41, further comprising a registration mechanism connected to the server computer for storing, accessing, and modifying a list of names of registered users.

53. A system, according to claim 52, wherein the access control mechanism allows a registered user to create their home page.

54. A system, according to claim 52, wherein the access control mechanism allows a registered user to modify at least a portion of their home page.

55. A system, according to claim 52, wherein the access control mechanism allows a registered user to save at least a portion of their home page.

56. A system, according to claim 52, wherein the access control mechanism allows a registered user to reproduce at least a portion of their home page.

57. A system, according to claim 52, wherein the access control mechanism allows a registered user to delete at least a portion of their home page.

58. A system, according to claim 52, wherein the access control mechanism allows a registered user to add text to their home page.

59. A system, according to claim 52, wherein the access control mechanism allows a registered user to add sound to their home page.

60. A system, according to claim 52, wherein the access control mechanism allows a registered user to add color to their home page.

61. A system, according to claim 52, wherein the access control mechanism allows a registered user to add graphics to their home page.

62. A system, according to claim 52, wherein the access control mechanism allows a registered user to add moving images to their home page.

63. A system, according to claim 52, wherein the access control mechanism allows one or more third parties to view the home pages of registered users even if the third parties are not themselves registered users.

64. A method for remote home page authoring, comprising:

providing a server computer for receiving signals representing a home page from a communications network, converting the signals into a data file, and storing the data file;

providing a client device for transmitting and receiving signals from the communications network;

connecting the server computer and the client device via a communications connection;

receiving signals from the client device;

sending signals from the server computer to the client device for generating markup language page signals representative of the data file; and

determining access rights to the data file, thereby allowing a user of the client device to view the data file via interaction with the markup language page signals if the user is allowed access rights to the data file.

65. A method, according to claim 64, further comprising:

providing a registration process for allowing users to request registration on the system and for storing, accessing, and modifying a list of registered users.

66. A method, according to claim 65, further including allowing a registered user of the client device to create their home page.

67. A method, according to claim 65, further including allowing a registered user of the client device to modify at least a portion of their home page.

68. A method, according to claim 65, further including allowing a registered user of the client device to save at least a portion of their home page.

69. A method, according to claim 65, further including allowing a registered user of the client device to reproduce at least a portion of their home page.

70. A method, according to claim 65, further including allowing a registered user of the client device to delete at least a portion of their home page.

71. A method, according to claim 65, further including allowing a registered user of the client device to add text to their home page.

72. A method, according to claim 65, further including allowing a registered user of the client device to add sound to their home page.

73. A method, according to claim 65, further including allowing a registered user of the client device to add color to their home page.

74. A method, according to claim 65, further including allowing a registered user of the client device to add graphics to their home page.

75. A method, according to claim 65, further including allowing a registered user of the client device to add moving images to their home page.

76. A remote home page authoring system, comprising:

a server computer for receiving signals representing a home page from a communications network, converting the signals into a data file, and storing the data file;

a client device for transmitting and receiving signals from the communications network;

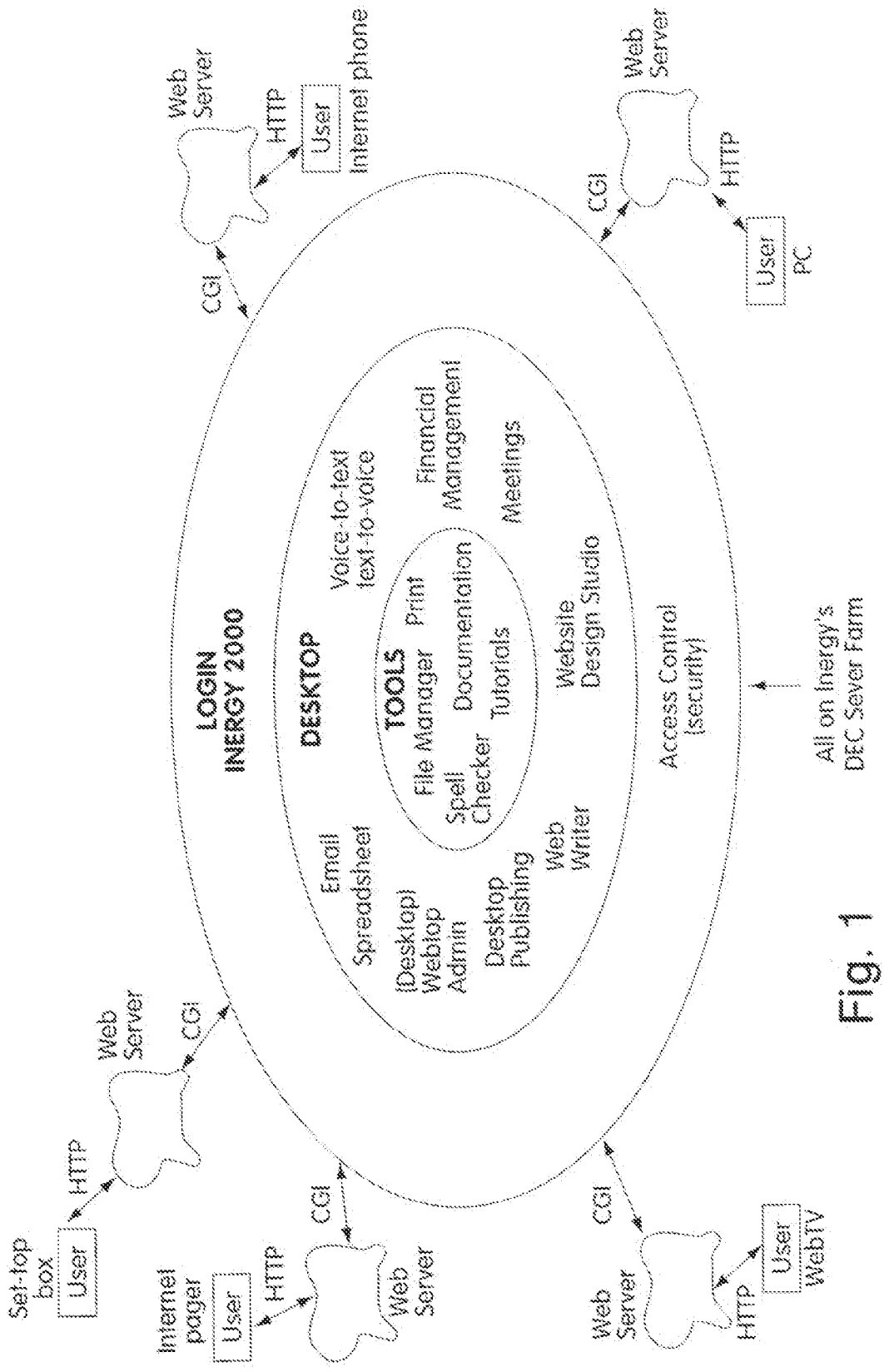
means for connecting the server computer and the client device via a communications connection;

means for receiving signals from the client device;

means for sending signals from the server computer to the client device for generating markup language page signals representative of the data file;

means for determining access rights to the data file; and

means for allowing a user of the client device to view the data file via interaction with the markup language page signals if the user is allowed access rights to the data file.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Financial Management
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Print
File Manager
Documentation
Spell Checker
Tutorials
Email
Spreadsheet
[Desktop]
Webtop
Admin
Desktop Publishing
Web Writer
Website Design Studio
Access Control (security)
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User PC
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Internet pager
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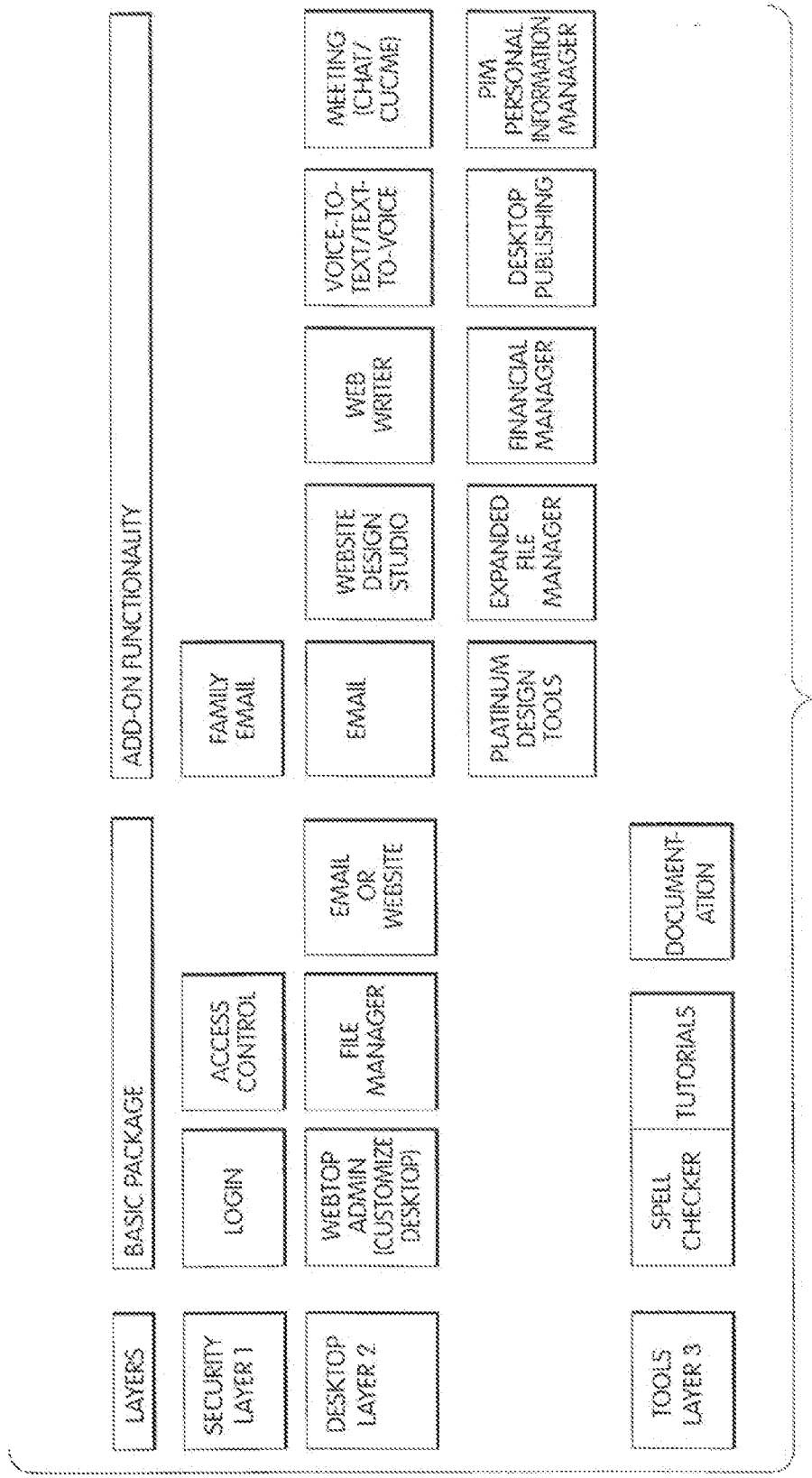
Fig. 1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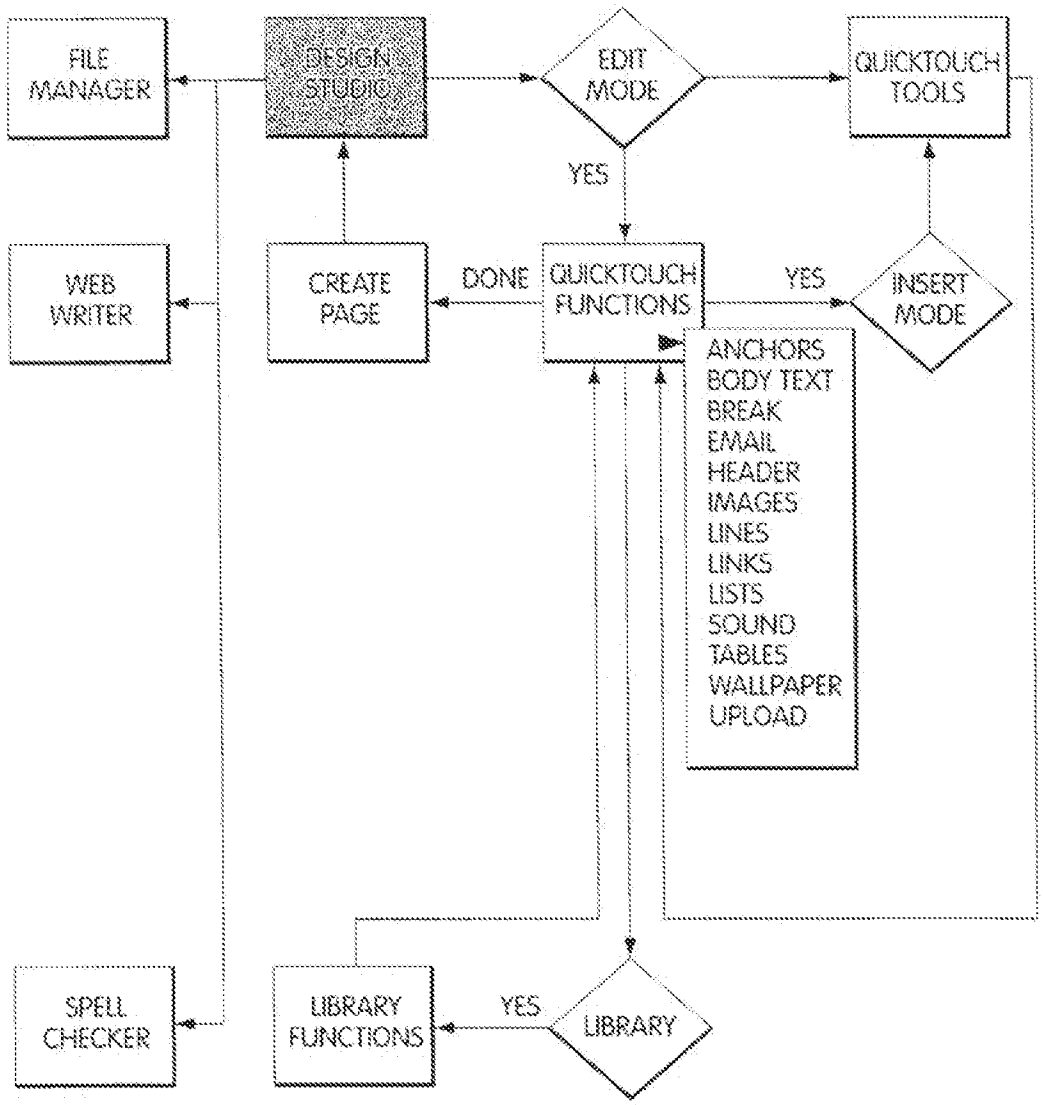
ACCESS CONTROL
FAMILY EMAIL
DESKTOP LAYER 2
WEBTOP ADMIN (CUSTOMIZE DESKTOP)
FILE MANAGER
EMAIL OR WEBSITE
EMAIL
WEBSITE DESIGN STUDIO
WEB WRITER
VOICE-TO-TEXT/TEXT-TO-VOICE
MEETING (CHAT/ CUCME)
PLATINUM DESIGN TOOLS
EXPANDED FILE MANAGER
FINANCIAL MANAGER
DESKTOP PUBLISHING
PIM PERSONAL INFORMATION MANAGER
TOOLS LAYER 3
SPELL CHECKER
TUTORIALS
DOCUMENT-ATION

Fig. 2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CREATE PAGE
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BREAK
EMAIL
HEADER
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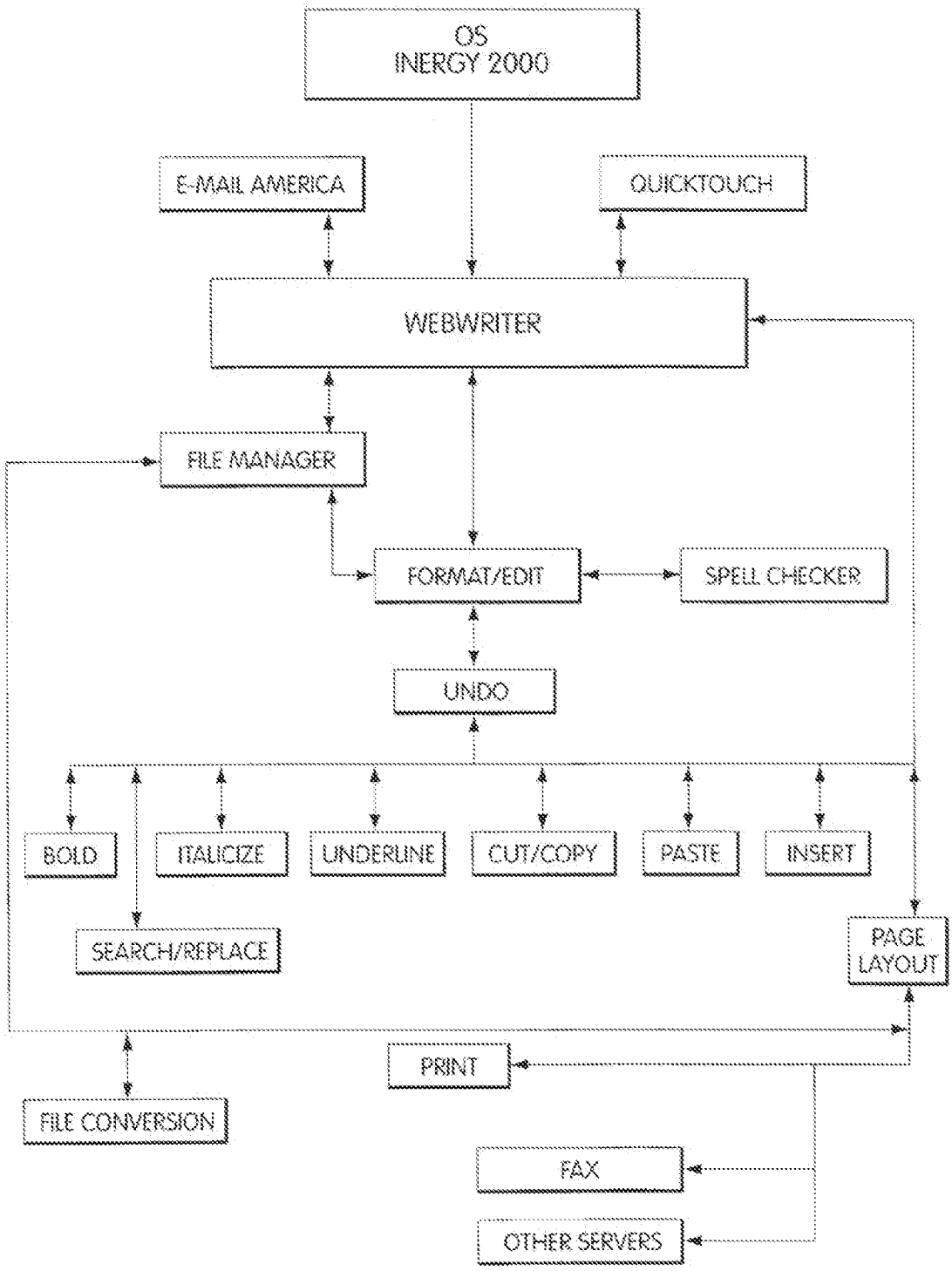
LIBRARY

Fig. 3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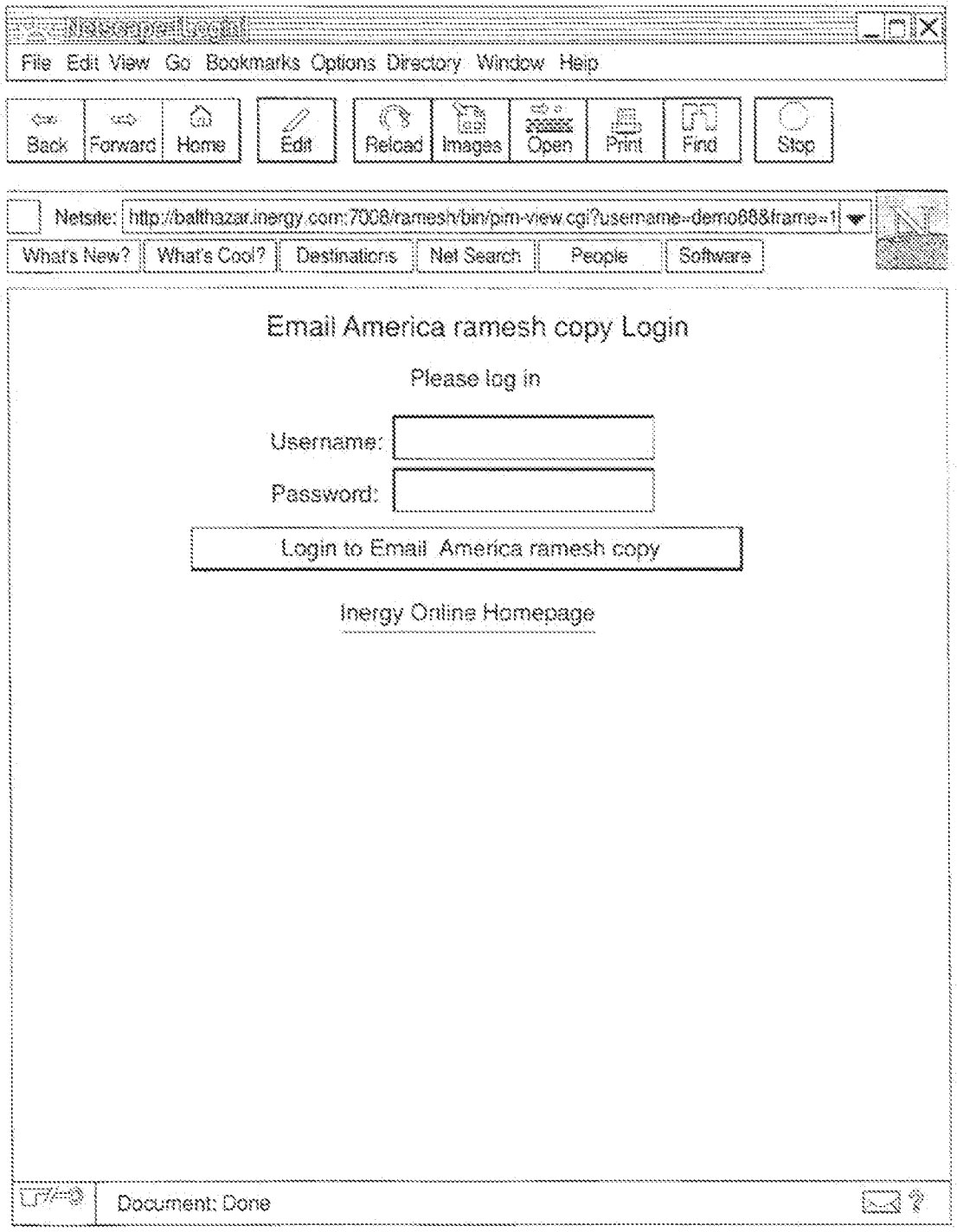
PRINT
FILE CONVERSION
FAX
OTHER SERVERS

Fig. 4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File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
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What's New? What's Cool? Destinations Net Search People Software
Email America ramesh copy Login
Please log in
Username:
Password:
Login to Email America ramesh copy
Inergy Online Homepage
Document: Done

Fig. 5

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function userfocus () {
self.document.loginform. username.focus()
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// -->
</SCRIPT>
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Please log in.
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Username: <input name=username><br>
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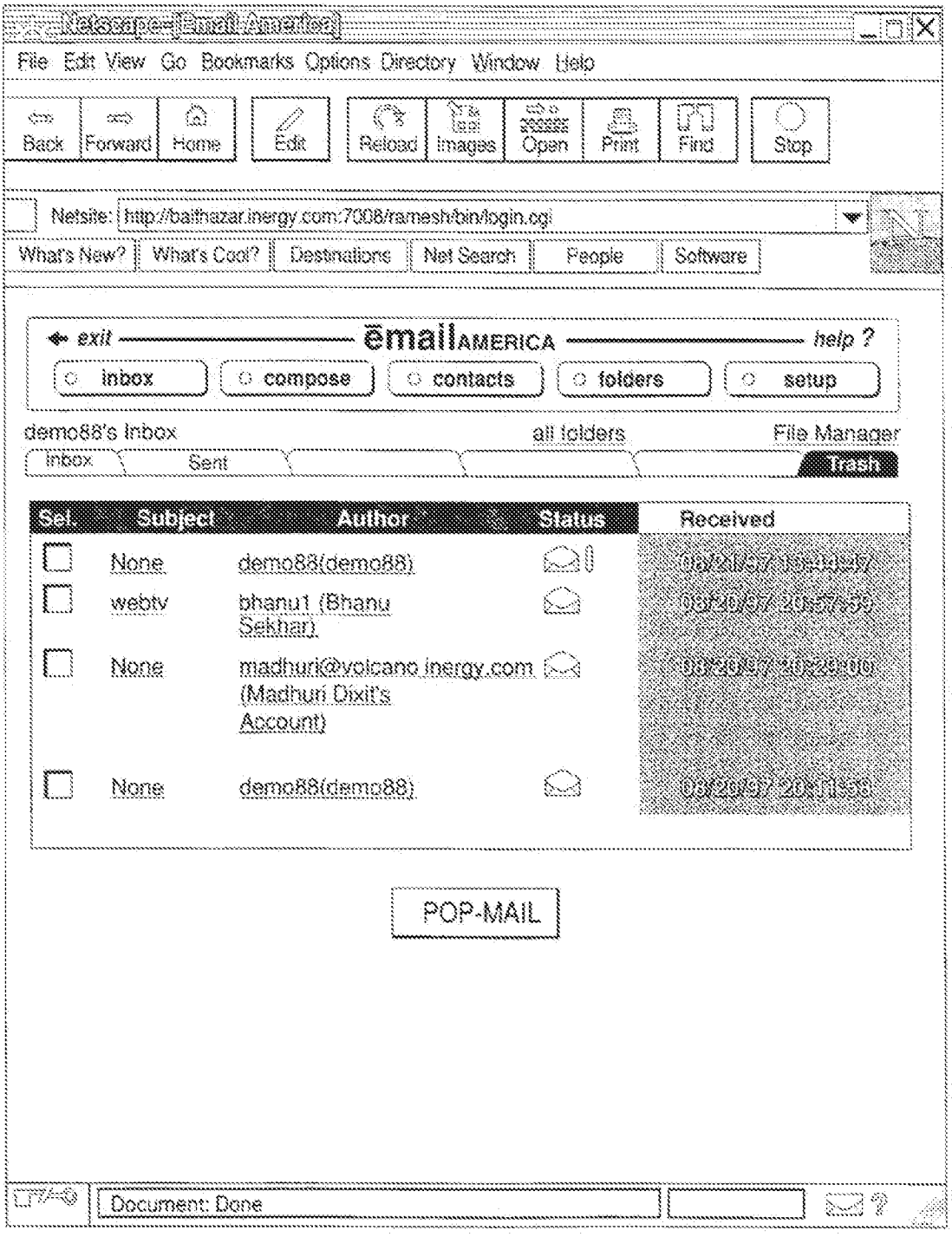
Fig. 6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What's New? What's Cool? Destinations Net Search People Software
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emailAMERICA
help ?
inbox compose contacts folders setup
demo88's Inbox
all folders
File Manager
Inbox Sent Trash
Sel. Subject Author Status Received
None demo88(demo88)
webtv bhanu1 (Bhanu Sekhar)
None madhuri@volcano.inergy.com (Madhuri Dixit's Account)
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Document: Done

Fig. 7

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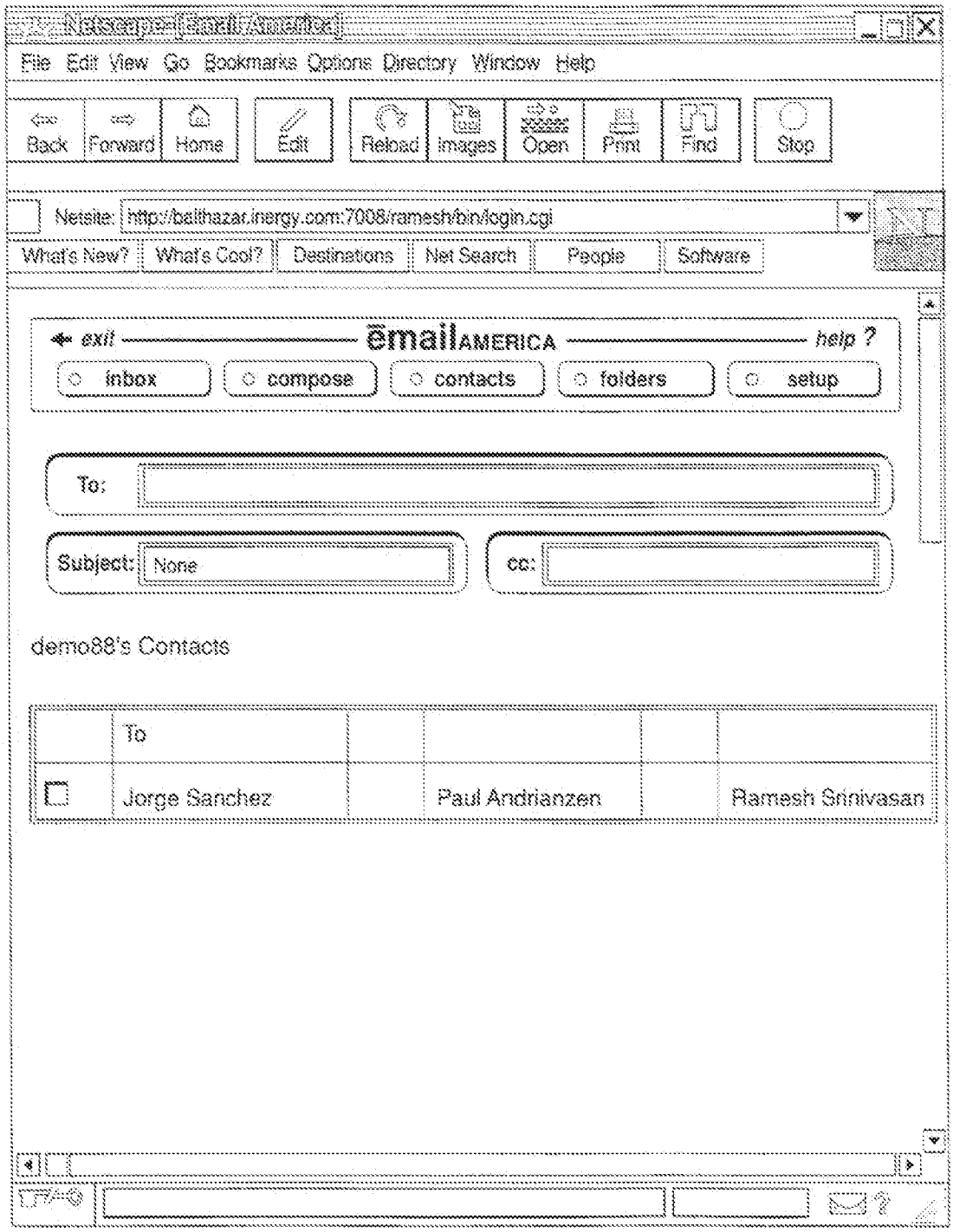
Fig. 8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File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
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exit
emailAMERICA
help ?
inbox compose contacts folders setup
To:
Subject: None
cc:
demo88's Contacts
To
Jorge Sanchez
Paul Andrianzen
Ramesh Srinivasan

Fig. 9

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        }
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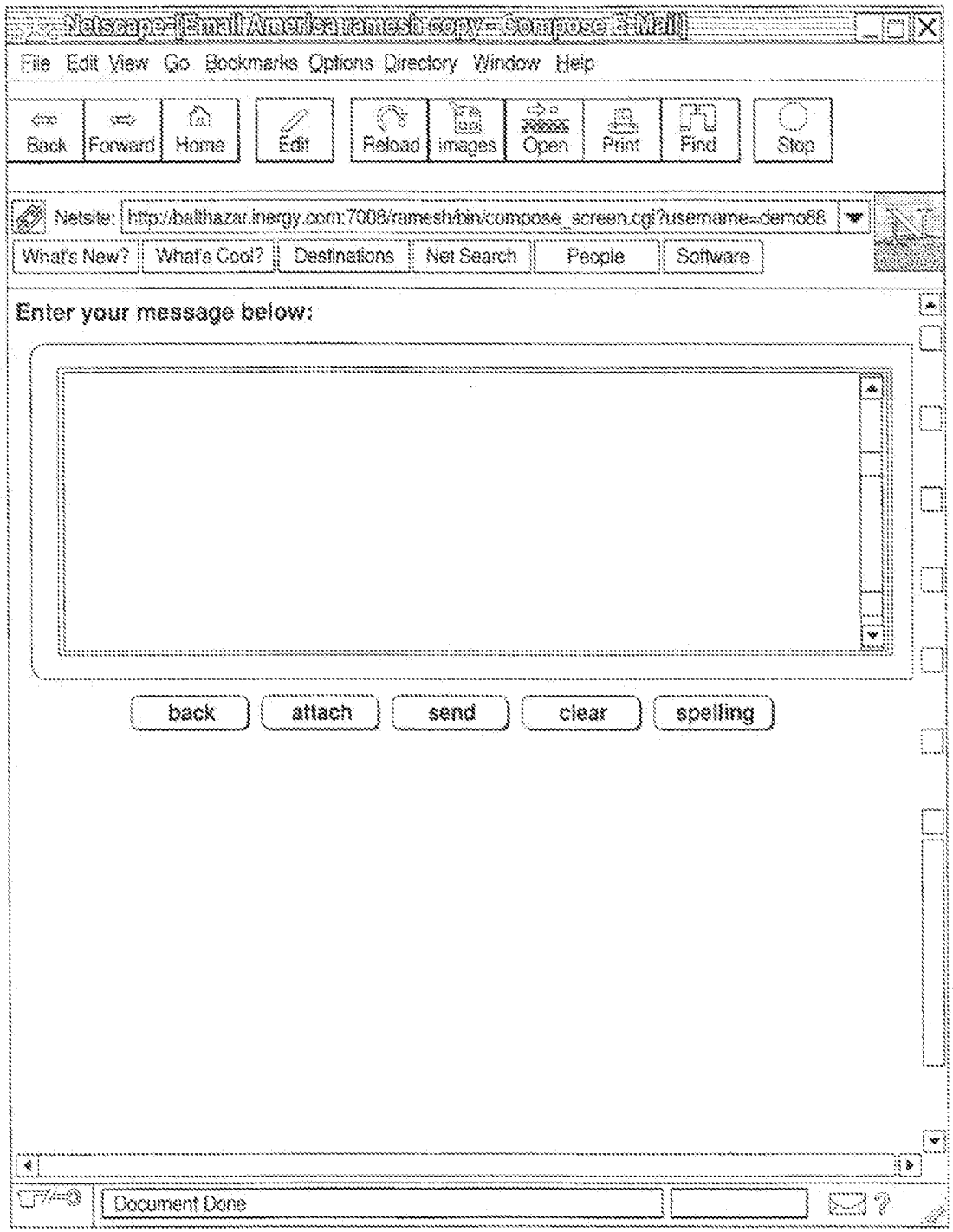
Fig. 10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Forward
Home
Edit
Reload
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Print
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Software
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back
attach
send
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Fig. 11

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<TD ROWSPAN=2><ING SRC="/ramesh/images/rightbar.gif" WIDTH=6 HEIGHT=
<TD><A HREF="/ramesh/bin/mailbottom.cgi?username=demo88&frame=1&t=87
<TD><A HREF="/ramesh/bin/compose_screen.cgi?username=demo88&frame=1&
<TD><A HREF="/ramesh/bin/contacts.cgi?username=demo88&frame=1" ><IMG
<TD><A HREF="/ramesh/bin/folder_manage.cgi?username=demo88&frame=1"
<TD><A HREF="/ramesh/bin/setup.cgi?username=demo88&frame=1" ><IMG SR
<TD COLSPAN=7><IMG SRC="/ramesh/images/bottonbar.gif" WIDTH=542 HEIG
<form name=emailform action="http://balthazar.inergy.com:7008/ramesh
<input type=hidden name=username value="demo88">
<input type=hidden name=frame value="1">
<input type=hidden name=folder value="">
<input type=hidden name=fromuser value="demo88@balthazar.inergy.com"
<input type=hidden name=replyto value="">
<input type=hidden name=c value="">
<input type=hidden name=commentrow value="6">
<input type=hidden name=AttachList value="">
<input type=hidden name=filterreply value="">
<center>

<TABLE WIDTH=554 CELLPADDING=3 CELLSPACING=0 BORDER=0><TR><TD>
<TABLE WIDTH=545 CELLPADDING=3 CELLSPACING=0 BORDER=0>
<br><a name=TOP></a><center><TABLE BORDER=0 CELLPADDING=0 CELLSPACIN

//<!-- hide from other browsers
   function Array() {this.length = 200;}
   var W=new Array(),ccold,replace,ccreplace,old,ccold,x=0, w2=new A
   function S(w) {
        W[N++] = w;
        W2[M++] = w;
        }
```

Fig. 12

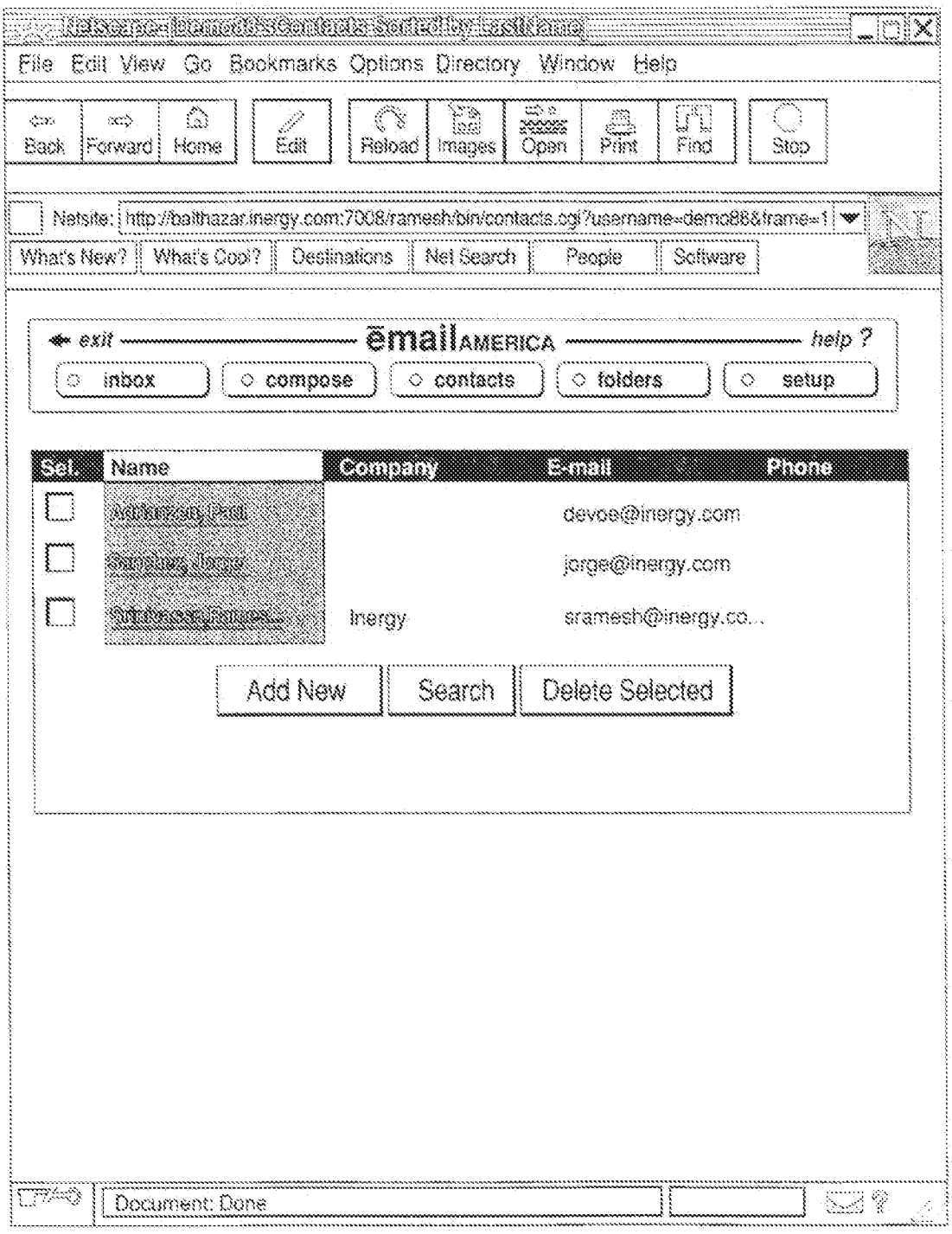

File Edit View Go Bookmarks Options Directory Window Help
Back
Forward
Home
Edit
Reload
Images
Open
Print
Find
Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/contacts.cgi?username=demo88&frame=1
What's New?
What's Cool?
Destinations
Net Search
People
Software
exit
emailAMERICA
help ?
inbox
compose
contacts
folders
setup
Sel.
Name
Company
E-mail
Phone
devoe@inergy.com
jorge@inergy.com
Inergy
sramesh@inergy.co...
Add New
Search
Delete Selected
Document: Done

Fig. 13

```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. --
<!-- $Header: /proj/email-2/CGI/contacts.xcgi,v 1.10 1997/08/12 21:3
<body bgcolor="#d5d1c0">
<CENTER>
>BGCOLOR=d5d1c0">
<TABLE CELLSPACING=0 CELLPADDING=0 BORDER=0>
<TR><TD COLSPAN=7><img src="/ramesh/images/topbar.gif" WIDTH=542 HEI
<TR><TD ROWSPAN=2><img src="/ramesh/imaGES/leftbar.gif" WIDTH=8 HEIG
<TD COLSPAN=5><A HREF="/ramesh/bin/logout.cgi" tatget="_top"><IMG SR
<TD ROWSPAN=2><IMG SRC="/ramesh/images/rightbar.gif" WIDTH=6 HEIGHT=
<TD><A HREF="/ramesh/bin/mailbottom.cgi?username=demo88&frame=1&t=87
<TD><A HREF="/ramesh/bin/compose_screen.cgi?username=demo88&frame=1&
<TD><A HREF="/ramesh/bin/contacts.cgi?username=demo88&frame=1" ><IMG
<TD><A HREF="/ramesh/bin/folder_manage.cgi?username=demo88&frame=1"
<TD><A HREF="/ramesh/bin/setup.cgi?username=demo88&frame=1" ><IMG SR
<TD COLSPAN=7><IMG SRC="/ramesh/images/bottonbar.gif" WIDTH=542 HEIG
<html><head><title>Demo88's Contacts Sorted by LastName </title></he
<center><form action= "/ramesh/bin/pim-edit.cgi" method=post>
<TABLE BORDER=1 CELLSPACING=0 CELLPADDING=0 WIDTH=546>
        <TR><TD BGCOLOR="#F1EDE7" HEIGHT=200 VALIGN=TOP WIDTH=544>
        <TABLE BORDER=0 CELLPADDING=5 CELLSPACING=0 WIDTH=543><tr><
<TD BGCOLOR="#F1EDE7" WIDTH=135><a href="/ramesh/bin/contacts.cgi?us
<TD BGCOLOR="#000000" WIDTH=130><a href="/ramesh/bin/contacts.cgi?us
<TD BGCOLOR="#000000" WIDTH=80><a href="/ramesh/bin/contacts.cgi?use
<TD BGCOLOR="#000000" WIDTH=80><a href="/ramesh/bin/contacts.cgi?use
</tr><tr><td><input type="checkbox" name="checkbox" value="820770263
<td bgcolor=#000000><a href="/ramesh/bin/pim-view.cgi?username=demo8
<td bgcolor=#F1EDE7><font face=arial size=2 face=arial color=> </fon
<td bgcolor=#F1EDE7><font face=arial size=2 color=>  devoe@inergy.co
<td bgcolor=#F1EDE7><font face=arial size=2 color=> </font></td>
</tr><tr><td><input type="checkbox" name="checkbox" value="867004394
<td bgcolor=#000000><a href="/ramesh/bin/pim-view.cgi?username=demo8
<td bgcolor=#F1EDE7><font face=arial size=2 face=arial color=> </fon
<td bgcolor=#F1EDE7><font face=arial size=2 color=>  jorge@inergy.co
<td bgcolor=#F1EDE7><font face=arial size=2 color=> </font></td>
</tr><tr><td><input type="checkbox" name="checkbox" value="782165527
<td bgcolor=#000000><a href="/ramesh/bin/pim-view.cgi?username=demo8
<td bgcolor=#F1EDE7><font face=arial size=2 face=arial color=> Inerg
<td bgcolor=#F1EDE7><font face=arial size=2 color=>  srameshginergy.
<td bgcolor=#F1EDE7><font face=arial size=2 color=>  </font><td>
```

Fig. 14

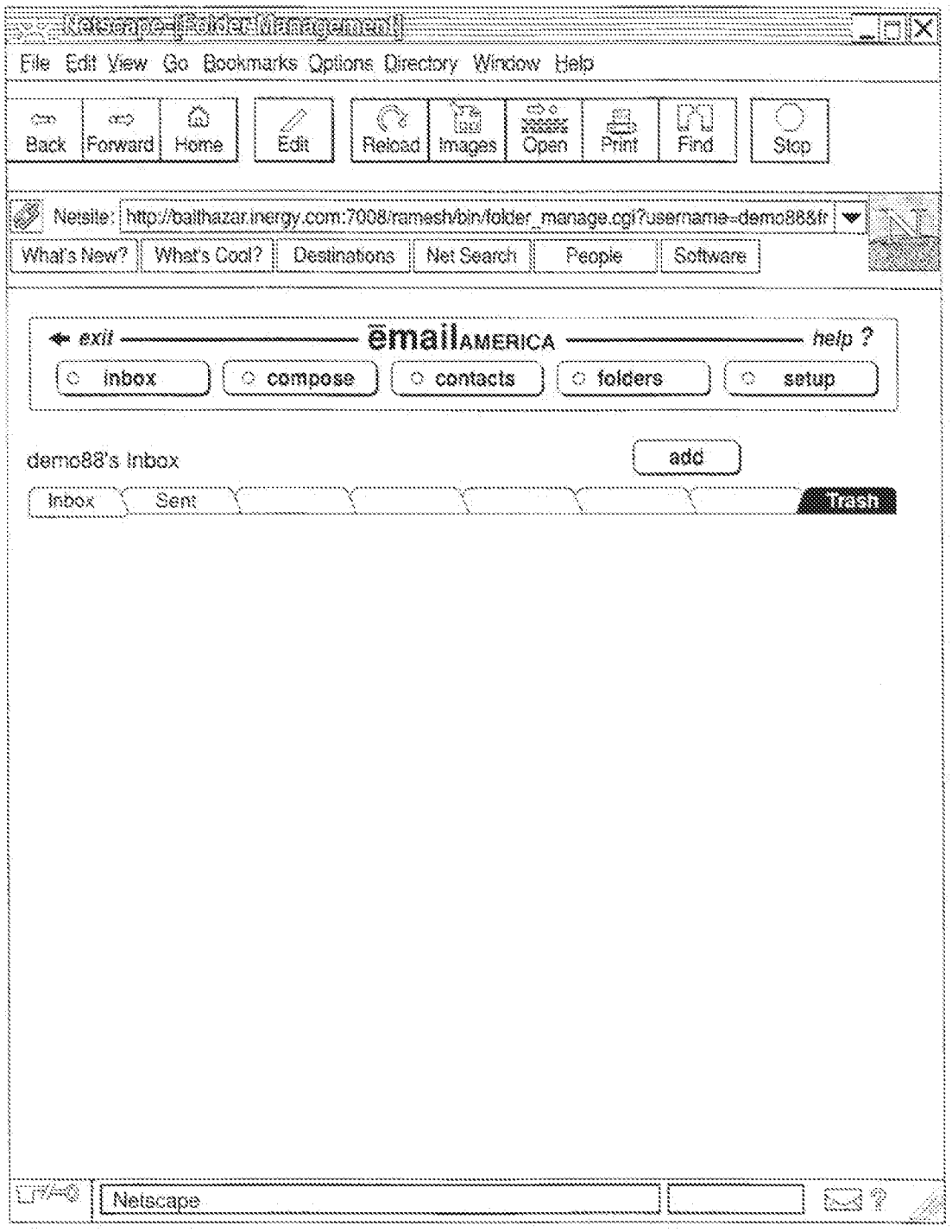

Netscape - [Folder Management]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/folder_manage.cgi?username=demo88&fr
What's New? What's Cool? Destinations Net Search People Software
exit
emailAMERICA
help ?
inbox compose contacts folders setup
demo88's Inbox
add
Inbox Sent Trash
Netscape

Fig. 15

```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. -->
<!-- $Header: /proj/email-2/CGI/folder_manage.xcgi,v 1.14 1997/08/18 2
<head><title>Folder Management</title></head>
<body bgcolor="#d5d1c0">
<input type=hidden name=username value="demo88">
<input type=hidden name=frame value="1">
<CENTER>
<BGCOLOR=d5d1c0">
<TABLE CELLSPACING=0 CELLPADDING=0 BORDER=0>
<TR><TD COLSPAN=7><img src="/ramesh/images/tophar.gif" WIDTH=542 HEIGH
<TR><TD ROWSPAN=2><img src="/ramesh/images/leftbar.gif" WIDTH=8 HEIGHT
<TD COLSPAN=5><A HREF="/ramesh/bin/logout.cgi" target="_top"><IMG SRC=
<TD ROWSPAN=2><IMG SRC="/ramesh/images/rightbar.gif" WIDTH=6 HEIGHT=59
<TD><A HREF="/ramesh/bin/mailbottom.cgi?username=demo88&frame=1&t=8722
<TD><A HREF="/ramesh/bin/compose_screen.cgi?username=demo88&frame=1&ch
<TD><A HREF="/ramesh/bin/contacts.cgi?username=demo88&frame=1" ><IMG S
<TD><A HREF="/ramesh/bin/folder_manage.cgi?username=demo88&frame=1" ><
<TD><A HREF="/ramesh/bin/setup.cgi?username=demo88&frame=1" ><IMG SRC=
<TD COLSPAN=7><IMG SRC="/ramesh/images/bottonbar.gif" WIDTH=542 HEIGHT
<form method=post action="/ramesh/bin/folder_manage.cgi"><input type=h
```

Fig. 16

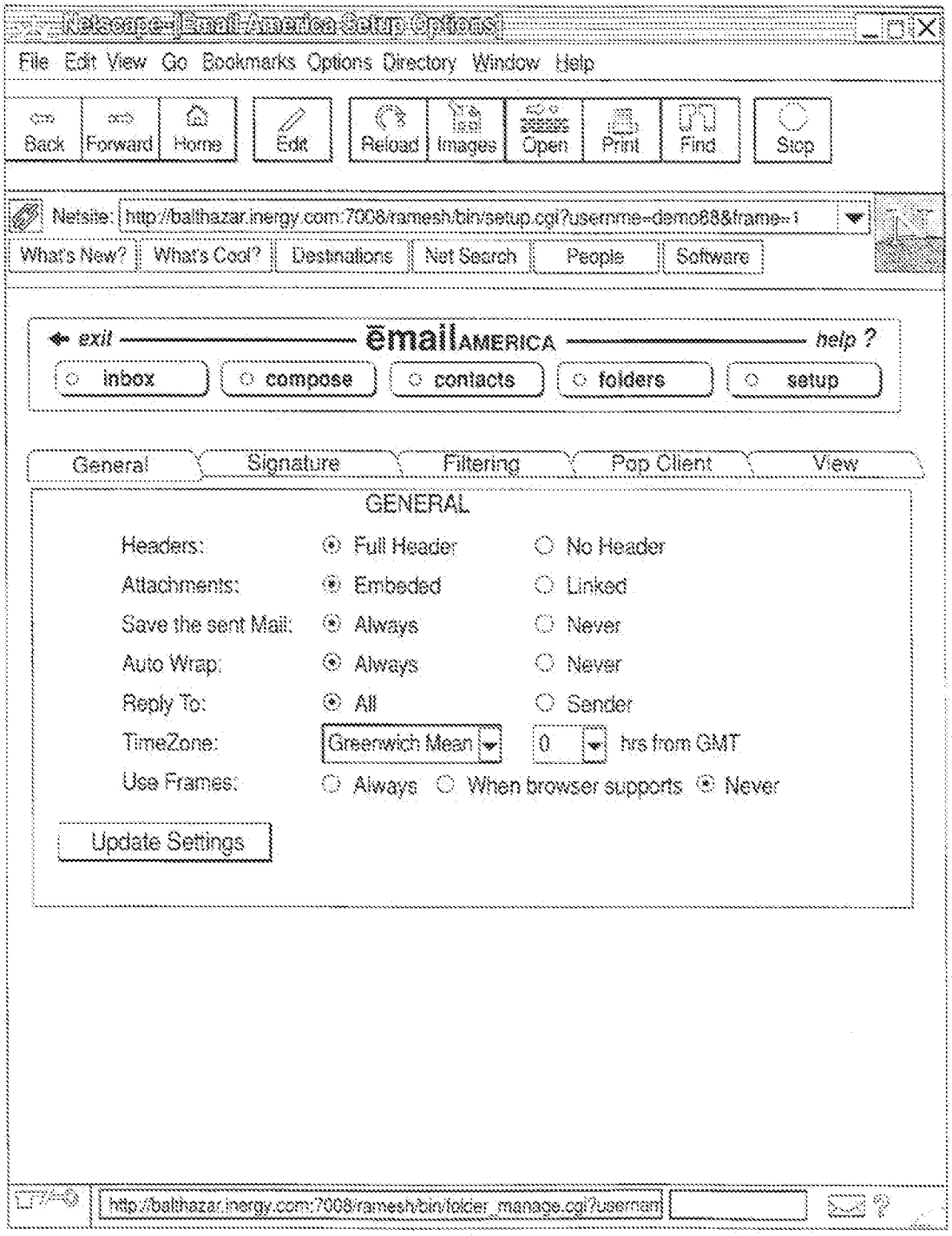

Netscape: Email America Setup Options
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/setup.cgi?username=demo88&frame=1
What's New? What's Cool? Destinations Net Search People Software
exit
emailAMERICA
help ?
inbox compose contacts folders setup
General Signature Filtering Pop Client View
GENERAL
Headers: Full Header No Header
Attachments: Embeded Linked
Save the sent Mail: Always Never
Auto Wrap: Always Never
Reply To: All Sender
TimeZone: Greenwich Mean 0 hrs from GMT
Use Frames: Always When browser supports Never
Update Settings
http://balthazar.inergy.com:7008/ramesh/bin/folder_manage.cgi?username

Fig. 17

```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. -->
<!-- $Header: /proj/email-2/CGI/setup.kcgi,v 1.25 1997/08/14 22:12:50
<HEAD><TITLE>Email America Setup Options</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<CENTER>
<BGCOLOR=d5d1c0">
<TABLE CELLSPACING=0 CELLPADDING=0 BORDER=0>
<TR><TD COLSPAN=7><img src="/ramesh/images/topbar.gif" WIDTH=542 HEIGH
<TR><TD ROWSPAN=2><img src="/ramesh/images/leftbar.gif" WIDTH=8 HEIGHT
<TD COLSPAN=5><A HREF="/ramesh/bin/logout.cgi" target="_top"><IMG SRC=
<TD ROWSPAN=2><IMG SRC="/ramesh/images/rightbar.gif" WIDTH=6 HEIGHT=59
<TD><A HREF="/ramesh/bin/mailbottom.cgi?username=demo88&frame=1&t=8722
<TD><A HREF="/ramesh/bin/compose_screen.cgi?username=demo88&frame=1&ch
<TD><A HREF="/ramesh/bin/contacts.cgi?username=demo88&frame=1" ><IMG S
<TD><A HREF="/ramesh/bin/folder_manage.cgi?username=demo88&frame=1" ><
<TD><A HREF="/ramesh.bin.setup.cgi?username=demo88&frame=1" ><IMG SRC=
<TD COLSPAN=7><IMG SRC="/ramesh/images/bottonbar.gif" WIDTH=542 HEIGHT
<p><center><TABLE CELLPADDING=0 CELLSPACING=0 WIDTH=540 BORDER=0><TR><
<TR><TD>Attachments:</TD><TD><input type=radio name=attachment value=0
<TR><TD>Save the sent Mail:</TD><TD><input type=radio name="small" val
<TR><TD>Auto Wrap:</TD><TD><input type=radio name="awrap" value=1 chec
<TR><TD>Reply To:</TD><TD><input type=radio name="reply" value=1 check
<TR><TD>Time Zone:</TD><TD colspan=2><select size=1 name="time"><optio
<TR><TD>Use Frames:</TD><TD colspan=2><input type=radio name=fram valu
</form>
</body>
</html>
```

Fig. 18

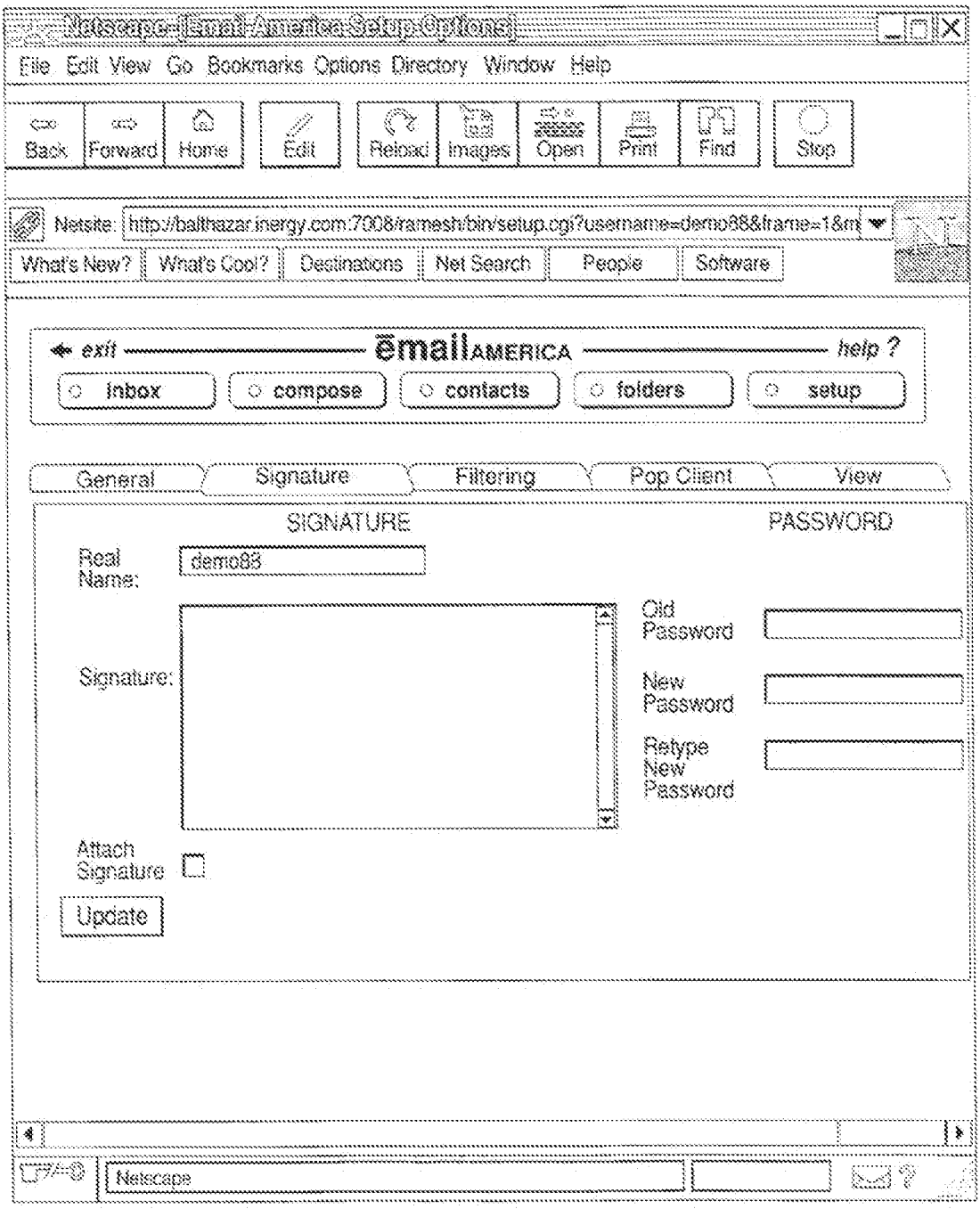

Netscape - [email America Setup Options]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/setup.cgi?username=demo88&frame=1&m
What's New? What's Cool? Destinations Net Search People Software
exit
email AMERICA
help ?
inbox compose contacts folders setup
General Signature Filtering Pop Client View
SIGNATURE
PASSWORD
Real Name:
demo88
Signature:
Old Password
New Password
Retype New Password
Attach Signature
Update
Netscape

Fig. 19

```
<html>
<!-- Copyright (c) 1997 Inergy Online, Inc.  All rights reserved. --
<!-- $Header: /proj/email-2/CGI/setup.xcgi,v 1.25 1997/08/14 22:12:5
<HEAD><TITLE>Email America Setup Options</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<CENTER>
<BGCOLOR=d5d1c0">
<TABLE CELLSPACING=0 CELLPADDING=0 BORDER=0>
<TR><TD COLSPAN=7><img src="/ramesh/images/topbar.gif" WIDTH=542 HEI
<TR><TD ROWSPAN=2><img src="/ramesh/images/leftbar.gif" WIDTH=8 HEIG
<TD COLSPAN=5><A HREF="/ramesh/bin/logout.cgi" target="_top"><IMG SR
<TD ROWSPAN=2><IMG SRC="/ramesh/images/rightbar.gif" WIDTH=6 HEIGHT=
<TD><A HREF="/ramesh/bin/mailbottom.cgi?username=demo88&frame=1&t=87
<TD><A HREF="/ramesh/bin/compose_screen.cgi?username"demo88&frame=1&
<TD><A HREF="/ramesh/bin/contacts.cgi?username=demo88&frame=1" ><IMG
<TD><A HREF="/ramesh/bin/folder_manage.cgi?username=demo88&frame=1"
<TD><A HREF="/ramesh/bin/setup.cgi?username=demo88&frame=1" ><IMG SR
<TD COLSPAN=7><IMG SRC="/ramesh/images/bottonbar.gif" WIDTH=542 HEIG
<p><center><TABLE CELLPADDING=0 CELLSPACING=0 WIDTH=540 BORDER=0><TR
<form action="/ramesh/bin/setup.cgi" method=post name=setupform>
<TABLE><TR><TD><CENTER><b>SIGNATURE</b></CENTER></TD>
           <TD><CENTER><b>PASSWORD</b></CENTER></TD></TR>
<TR><TD><TABLE valign=top> <TR><TD valign=middle>Real Name: </TD>
    <TD><input type=text name=fullname value="demo88"></TD></TR>
<TD><TD valign=middle>Signature:</TD>
    <TD> <textarea name=signe rows=7 cols=30 wrap=hard></textarea></
<TR><TD valign=middle>Attach Signature </TD>

<td><input type=checkbox name="signature" value="on" ></td></tr></ta
</TD><TD>
<Table valign=cop> <TR><TD valign=middle>Old Password </TD>
    <TD><input type=password name=oldpass></TD></TR>
<TR><TD valign=middle>New Password </TD>
    <TD><input type=password name=newpass></TD></TR>
<TR><TD valign=middle>Retype New Password </TD>
    <TD><input type=password name=repass></TD></TR></TABLE></TD></TR
<input type=hidden name=mode value=signature>
<input type=hidden name=frame value=1>
<input type=submit name=submit value="Update"><p>

</table>
```

Fig. 20

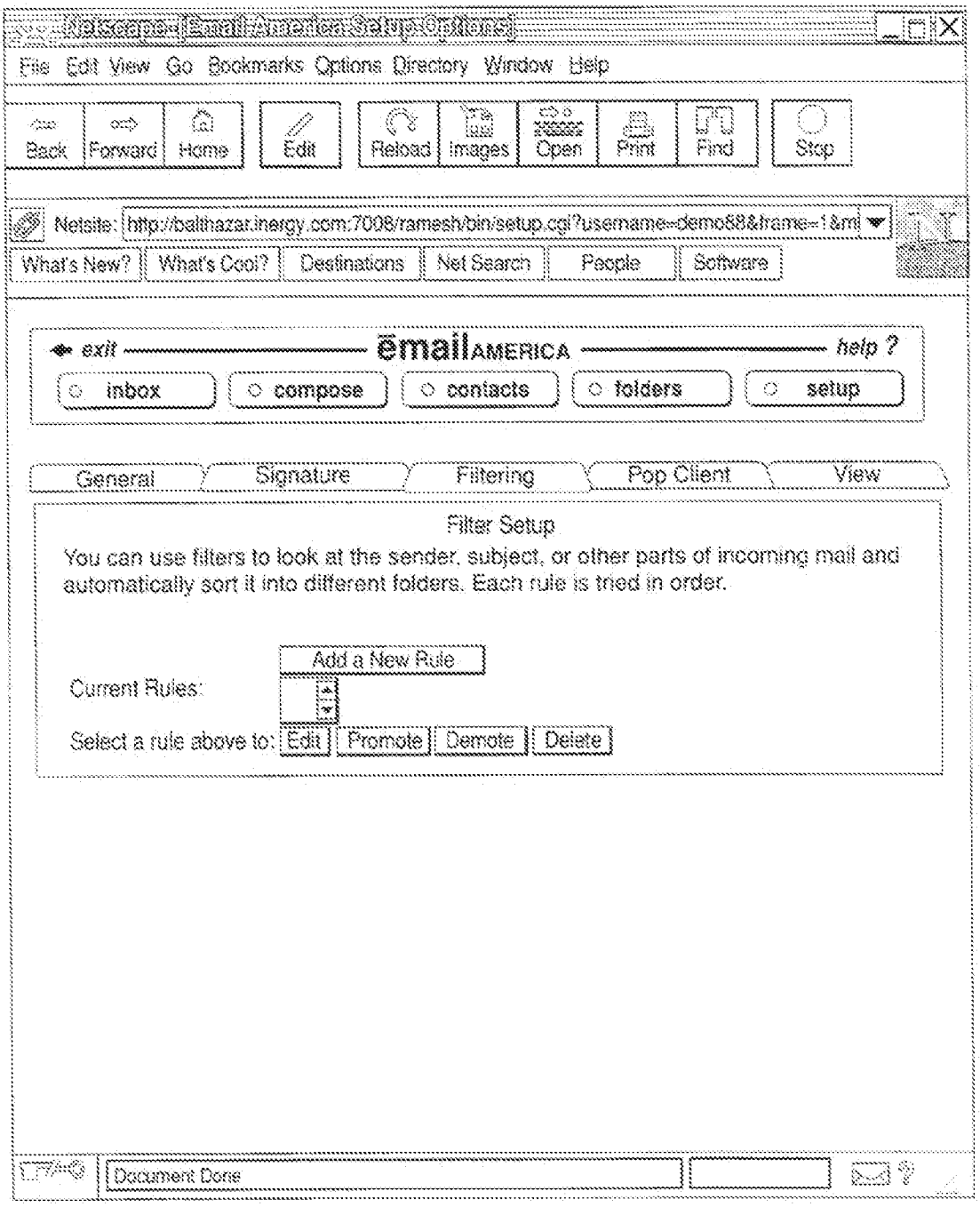

Netscape - [Email America Setup Options]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/setup.cgi?username=demo68&frame=1&mi
What's New? What's Cool? Destinations Net Search People Software
exit
emailAMERICA
help ?
inbox compose contacts folders setup
General Signature Filtering Pop Client View
Filter Setup
You can use filters to look at the sender, subject, or other parts of incoming mail and automatically sort it into different folders. Each rule is tried in order.
Add a New Rule
Current Rules:
Select a rule above to: Edit Promote Demote Delete
Document Done

Fig. 21

```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. -->
<!-- $Header: /proj/email-2/CGI/setup.xcgi,v 1.25 1997/08/14 22:12:50
<HEAD><TITLE>Email America Setup Options</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<CENTER>
<BGCOLOR=d5d1c0">
<TABLE CELLSPACING=0 CELLPADDING=0 BORDER=0>
<TR><TD COLSPAN=7><img src="/ramesh/images/topbar.gif" WIDTH=542 HEIGH
<TR><TD ROWSPAN=2><img src="/ramesh/images/leftbar.gif" WIDTH=8 HEIGHT
<TD COLSPAN=5><A HREF="/ramesh/bin/logout.cgi" target="_top"><IMG SRC=
<TD ROWSPAN=2><IMG SRC="/ramesh/images/rightbar.gif" WIDTH=6 HEIGHT=59
<TD><A HREF="/ramesh/bin/mailbottom.cgi?username=demo88&frame=1&t=8722
<TD><A HREF="/ramesh/bin/compose_screen.cgi?username"demo88&frame=1&ch
<TD><A HREF="/ramesh/bin/contacts.cgi?username=demo88&frame=1" ><IMG S
<TD><A HREF="/ramesh/bin/folder_manage.cgi?username=demo88&frame=1" ><
<TD><A HREF="/ramesh/bin/setup.cgi?username=demo88&frame=1" ><IMG SRC=
<TD COLSPAN=7><IMG SRC="/ramesh/images/bottonbar.gif" WIDTH=542 HEIGHT
<p><center><TABLE CELLPADDING=0 CELLSPACING=0 WIDTH=540 BORDER=0><TR><
<input type=hidden name=username value="demo88">
<input type=hidden name=frame value="1">
<center><b>Filter Setup</b></center>
You can use filters to look at the sender, subject, or other parts of
<TABLE CELLPADDING=0 CELLSPACING=0 BORDER=0>
<tr><td></td><td><input type=submit name=command value="Add a New Rule
<tr><td valign=top><b>Current Rules</b>:</td>
<td valign=cop><select size=2 name=rulename>
</select></td></tr>
<tr><td>Select a rule above to:</td><td>
<input type=submit name=command value="edit">
<input type=submit name=command value="promote">
<input type=submit name=command value="Demote">
<input type=submit name=command value="Delete">
</td></tr></table></form></body></html>
</table>
</form>
</body>
</html>
```

Fig. 22

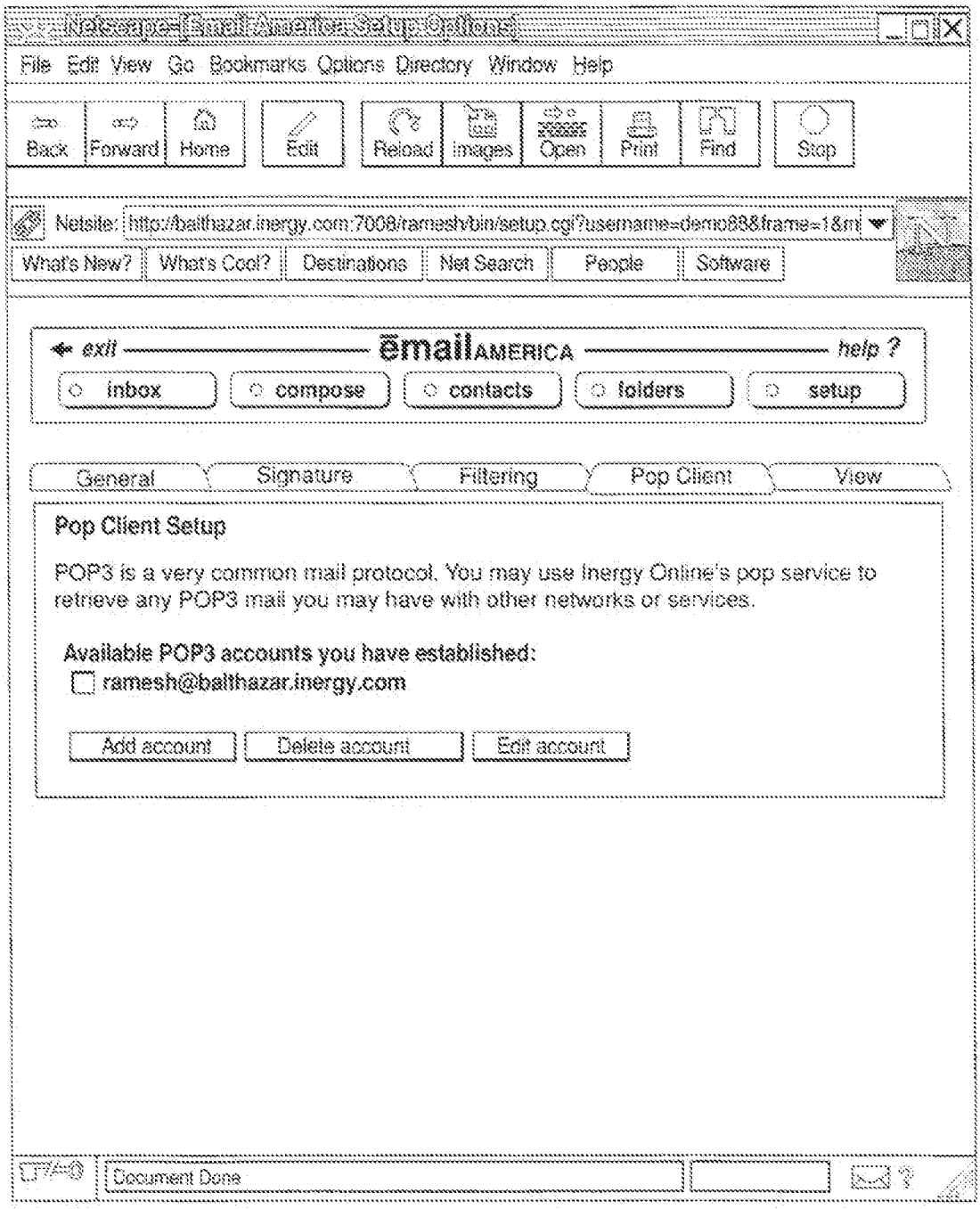

Netscape: Email America Setup Options
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7008/rameshvbin/setup.cgi?username=demo88&frame=1&mi
What's New? What's Cool? Destinations Net Search People Software
exit emailAMERICA help ?
inbox compose contacts folders setup
General Signature Filtering Pop Client View
Pop Client Setup
POP3 is a very common mail protocol. You may use Inergy Online's pop service to retrieve any POP3 mail you may have with other networks or services.
Available POP3 accounts you have established:
ramesh@balthazar.inergy.com
Add account Delete account Edit account
Document Done

Fig. 23

```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. -->
<!-- $Header: /proj/email-2/CGI/setup.xcgi,v 1.25 1997/08/14 22:12:50
<HEAD><TITLE>Email America Setup Options</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<CENTER>
<BGCOLOR=d5d1c0">
<TABLE CELLSPACING=0 CELLPADDING=0 BORDER=0>
<TR><TD COLSPAN=7><img src="/ramesh/images/topbar.gif" WIDTH=543 HEIGH
<TR><TD ROWSPAN=2><img src="/ramesh/images/leftbar.gif" WIDTH=8 HEIGHT
<TD COLSPAN=5><A HREF="/ramesh/bin/logout.cgi" target="_top"><IMG SRC=
<TD ROWSPAN=2><IMG SRC="/ramesh/images/rightbar.gif" WIDTH=6 HEIGHT=59
<TD><A HREF="/ramesh/bin/mailbottom.cgi?username=demo88&frame=1&t=8722
<TD><A HREF="/ramesh/bin/compose_screen.cgi?username"demo88&frame=1&ch
<TD><A HREF="/ramesh/bin/contacts.cgi?username=demo88&frame=1" ><IMG S
<TD><A HREF="/ramesh/bin/folder_manage.cgi?username=demo88&frame=1" ><
<TD><A HREF="/ramesh/bin/setup.cgi?username=demo88&frame=1" ><IMG SRC=
<TD COLSPAN=7><IMG SRC="/ramesh/images/bottonbar.gif" WIDTH=542 HEIGHT
<p><center><TABLE CELLPADDING=0 CELLSPACING=0 WIDTH=540 BORDER=0><TR><
<form action="/ramesh/bin/setup.cgi" method=post name=setupform>
<input type=hidden name=mode value=pop>
<input type=hidden name=frame value=1>
<h>Pop Client Setup</b><br><br>

POP3 is a very common mail protocol, You may use Inergy Online
's pop service to retrieve any POP3 mail you may have with other netwo
<hr>
<br>
<b>Available POP3 accounts you have established:</b><br>
<input name=active type=checkbox value="ramesh@balthazar.inergy.com" >
<input type=submit name=submit value="Add account">
<input type=submit name=submit value="Delete account">
<input type=submit name=submit value="Edit account">
<br>

</TD></TR></TABLE></table>
</form>
</body>
</html>
```

Fig. 24

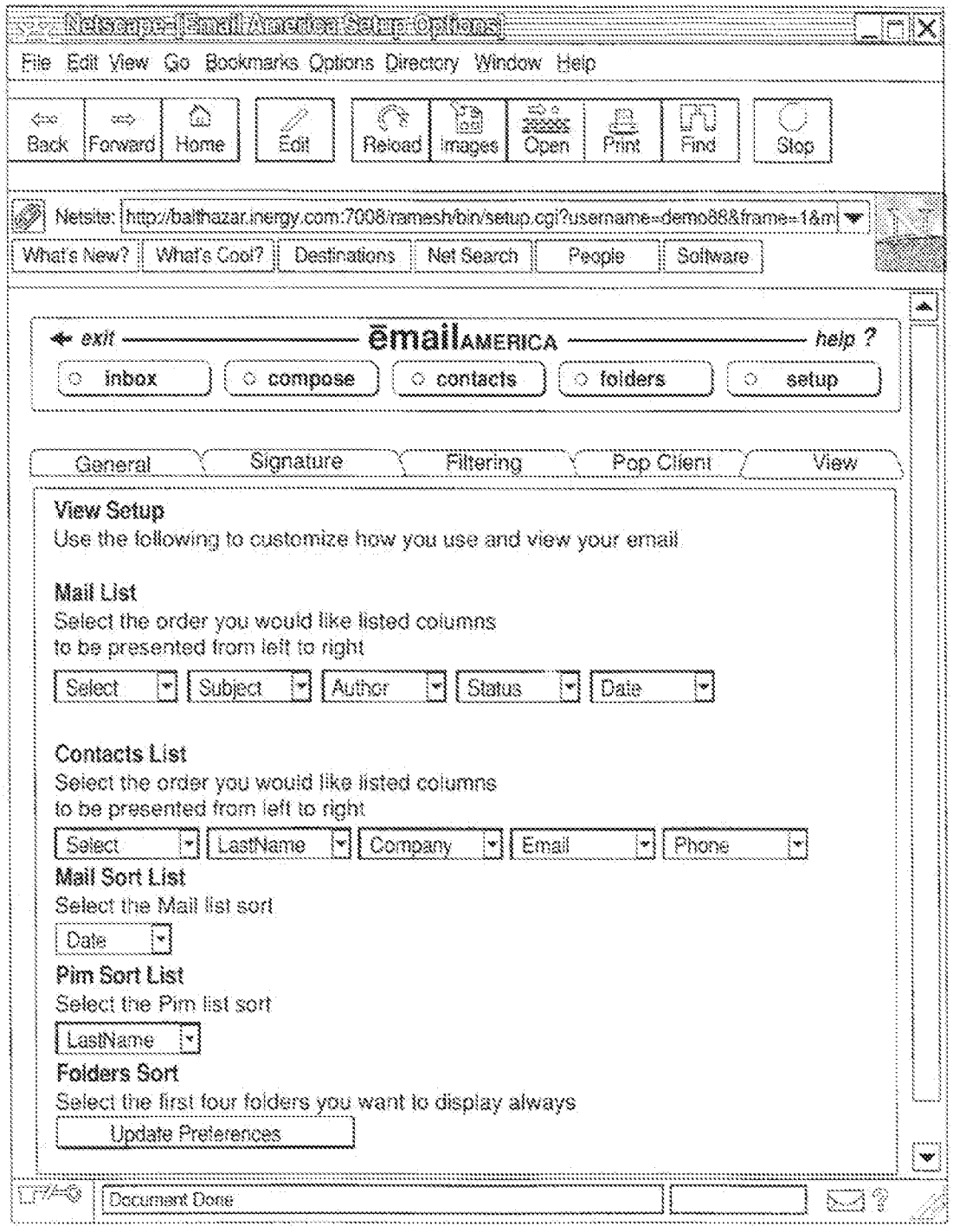

Netscape - [Email America Setup Options]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/setup.cgi?username=demo88&frame=1&m
What's New? What's Cool? Destinations Net Search People Software
exit emailAMERICA help ?
inbox compose contacts folders setup
General Signature Filtering Pop Client View
View Setup
Use the following to customize how you use and view your email
Mail List
Select the order you would like listed columns
to be presented from left to right
Select Subject Author Status Date
Contacts List
Select the order you would like listed columns
to be presented from left to right
Select LastName Company Email Phone
Mail Sort List
Select the Mail list sort
Date
Pim Sort List
Select the Pim list sort
LastName
Folders Sort
Select the first four folders you want to display always
Update Preferences
Document Done

Fig. 25

```
<html>
<!-- Copyright (c) 1997 Inergy Online, Inc.  All rights reserved. --
<!-- $Header: /proj/email-2/CGI/setup.xcgi,v 1.25 1997/08/14 22:12:5
<HEAD><TITLE>Email America Setup Options</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<CENTER>
<BGCOLOR=d5d1c0">
<TABLE CELLSPACING=0 CELLPADDING=0 BORDER=0>
<TR><TD COLSPAN=7><img src="/ramesh/images/topbar.gif" WIDTH=542 HEI
<TR><TD ROWSPAN=2><img src="/ramesh/images/leftbar.gif" WIDTH=8 HEIG
<TD COLSPAN=5><A HREF="/ramesh/bin/logout.cgi" target="_top"><IMG SR
<TD ROWSPAN=2><IMG SRC="/ramesh/images/rightbar.gif" WIDTH=6 HEIGHT=
<TD><A HREF="/ramesh/bin/mailbottom.cgi?username=demo88&frame=1&t=87
<TD><A HREF="/ramesh/bin/compose_screen.cgi?username"demo88&frame=1&
<TD><A HREF="/ramesh/bin/contacts.cgi?username=demo88&frame=1" ><IMG
<TD><A HREF="/ramesh/bin/folder_manage.cgi?username=demo88&frame=1"
<TD><A HREF="/ramesh/bin/setup.cgi?username=demo88&frame=1" ><IMG SR
<TD COLSPAN=7><IMG SRC="/ramesh/images/bottonbar.gif" WIDTH=542 HEIG
<p><center><TABLE CELLPADDING=0 CELLSPACING=0 WIDTH=540 BORDER=0><TR
<form action="/ramesh/bin/setup.cgi" method=post name=setupform>
<b>View Setup</b><br>
Use the following to customize how you use and view your email.
<br><br>
<b>Mail List</b> <br>
Select the order you would like listed columns<br>to be presented fr
<select size=1 name=mail_list_format><option value="2" >Author<optio
<select size=1 name=mail_list_format><option value="2" >Author<optio
<select size=1 name=mail_list_format><option value="2" selected>Auth
<select size=1 name=mail_list_format><option value="2" >Author<optio
<select size=1 name=mail_list_format><option value="2" >Author<optio
<br>
<br>

<b>Contacts List</b> <br>
Select the order you would like listed columns<br>to be presented fr

<select size=1 name=pim_list_format><option value="1" >FirstName<opt
<select size=1 name=pim_list_format><option value="1" >FirstName<opt
<select size=1 name=pim_list_format><option value="1" >FirstName<opt
<select size=1 name=pim_list_format><option value="1" >FirstName<opt
<select size=1 name=pim_list_format><option value="1" >FirstName<opt
```

Fig. 26

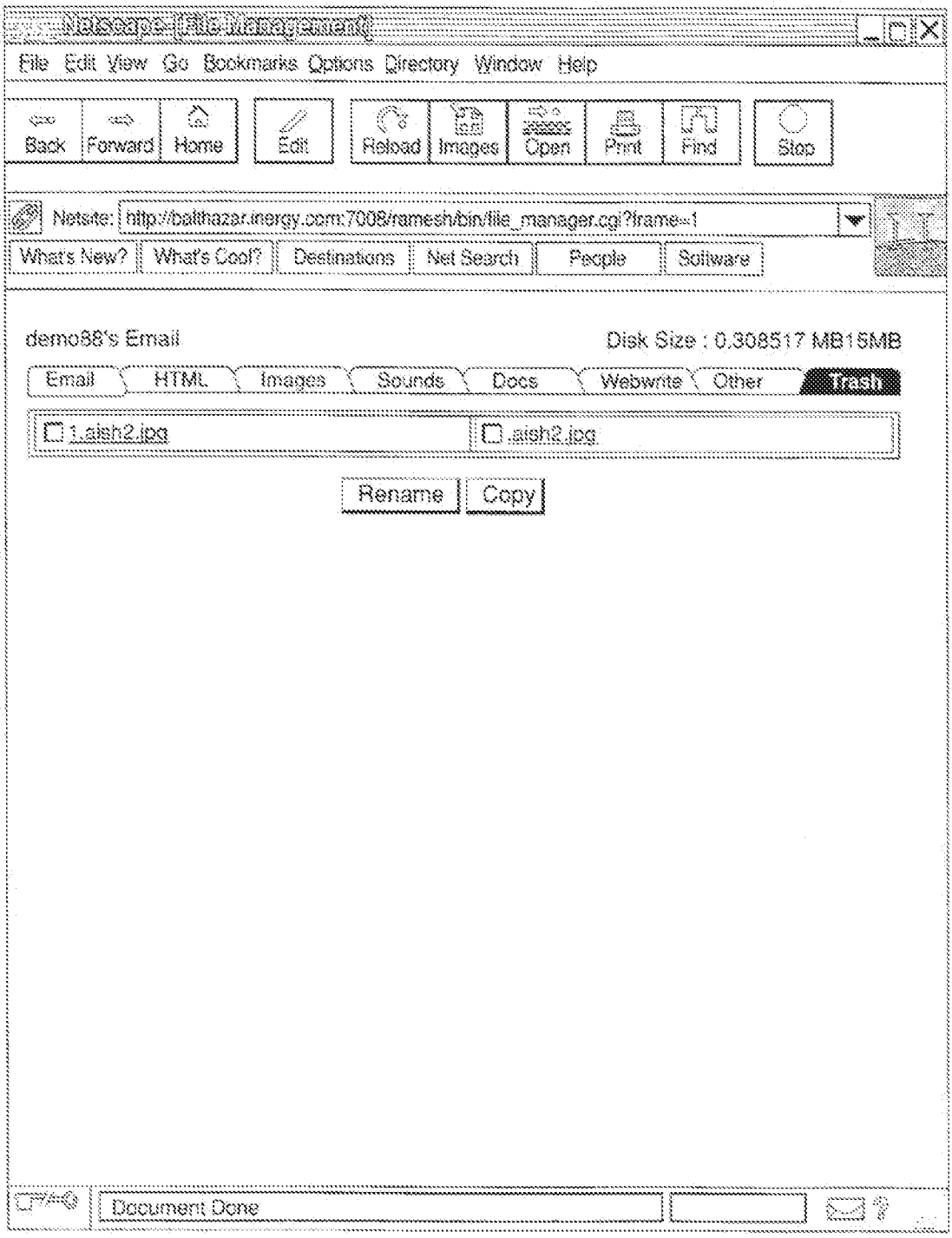

Netscape - [File Management]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/file_manager.cgi?frame=1
What's New? What's Cool? Destinations Net Search People Software
demo88's Email
Disk Size : 0.308517 MB15MB
Email HTML Images Sounds Docs Webwrite Other Trash
1.aish2.jpg
aish2.jpg
Rename Copy
Document Done

Fig. 27

```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. -->
<!-- $Header: /proj/file_manager/CGI/file_manager.xcgi,v 1.1 1997/08/1
<HEAD><TITLE>file Manager</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<center><table border=0 cellpadding cellspacing=2><tr><td align=left>
<h><font face=arial size=2>demo88 's Email</font></1></td><td align=ri
<font face=arial size=2> Disk Size :  0.398517 MB/15MB</font></td></tr
<form method=POST action="/ramesh/bin/file_manager.cgi">
<input type=hidden name=username value="demo88">
<input type=hidden name=frame value="1">
</td></tr><tr><td colspan=2><input type=image src="/ramesh/images/flef
<tr><td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="1.aish2.jpg"><A HREF="/accou
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="aish2.jpg"><A HREF="/account
</table></center>
        <center>
        <table width=544 cellpadding=0 cellspacing=0 border=0>
        <tr><td align=center>
<INPUT TYPE = "SUBMIT" NAME="SUBMIT" VALUE ="Rename">
<INPUT TYPE = "HIDDEN" NAME="current" VALUE ="">
        <INPUT TYPE = "SUBMIT" NAME="SUBMIT" VALUE ="Copy">
        <INPUT TYPR = "HIDDEN" NAME="current" VALUE ="">
        </td></tr></table>
        </center>
</form></BODY>
</HTML>
```

Fig. 28

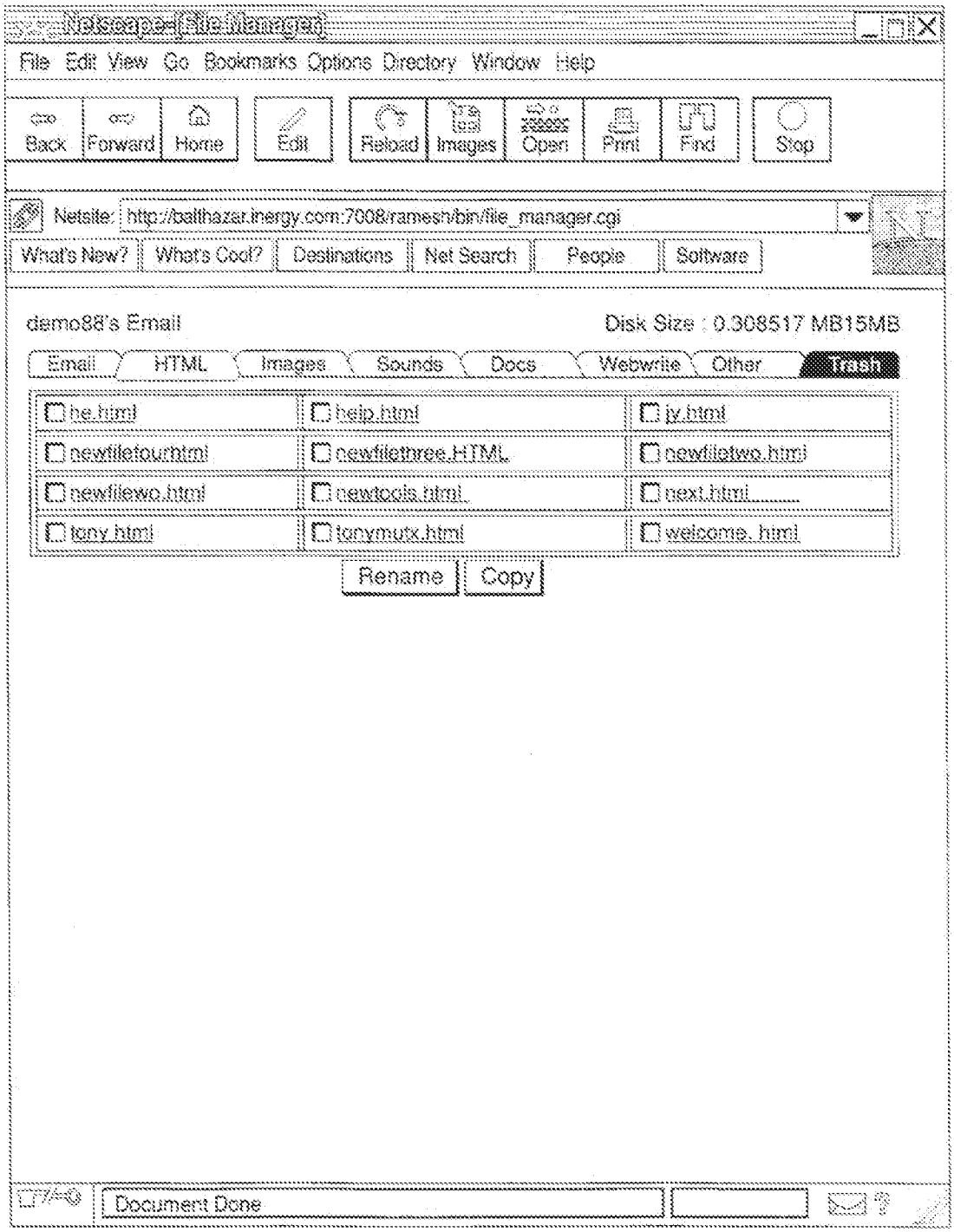
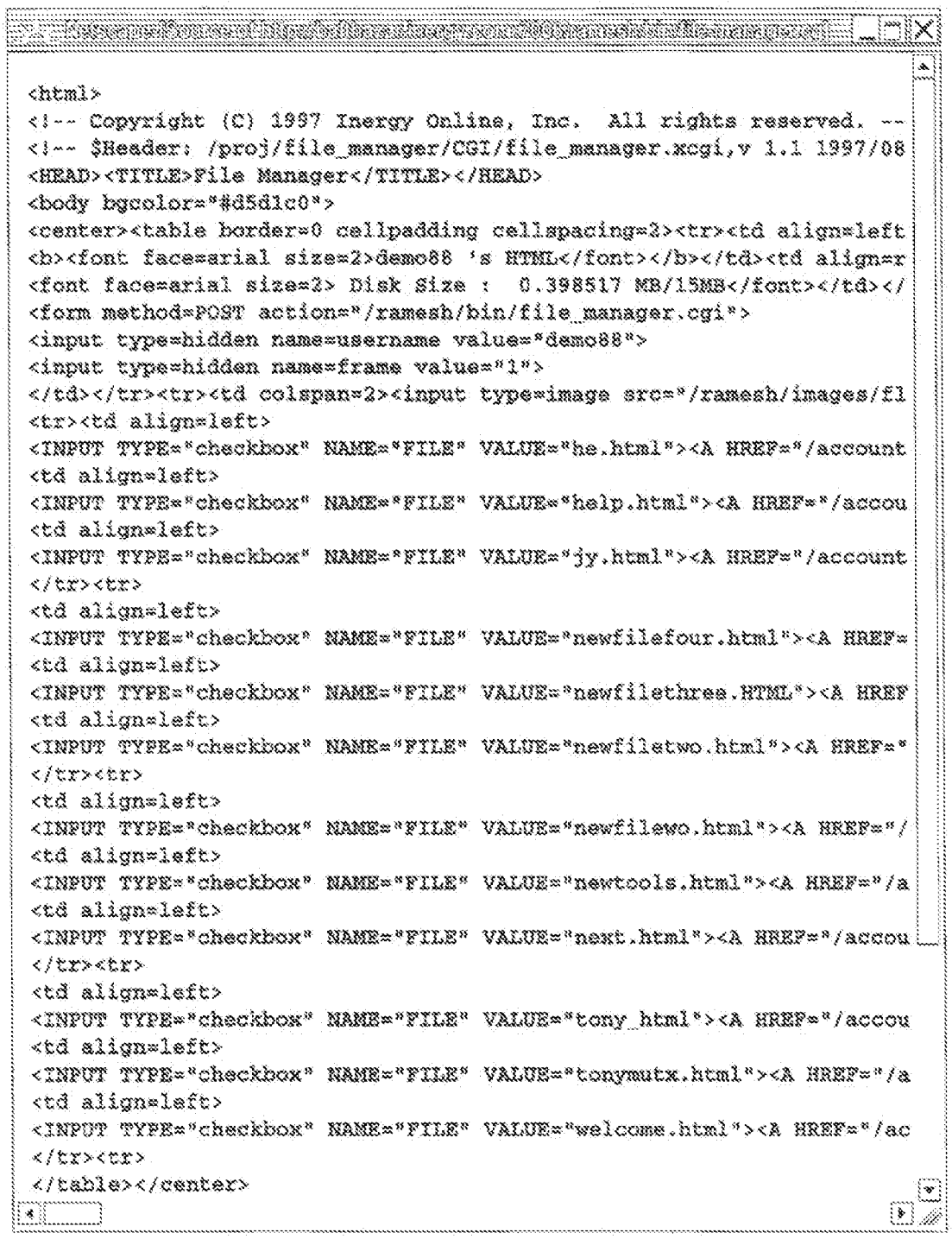

Netscape [file manager]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/file_manager.cgi
What's New? What's Cool? Destinations Net Search People Software
demo88's Email
Disk Size : 0.308517 MB15MB
Email HTML Images Sounds Docs Webwrite Other Trash
he.html
help.html
jv.html
newfilefour.html
newfilethree.HTML
newfiletwo.html
newfilewo.html
newtools.html
next.html
tony.html
tonymutx.html
welcome. html
Rename
Copy
Document Done

Fig. 29



```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. --
<!-- $Header: /proj/file_manager/CGI/file_manager.xcgi,v 1.1 1997/08
<HEAD><TITLE>File Manager</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<center><table border=0 cellpadding cellspacing=3><tr><td align=left
<b><font face=arial size=2>demo88 's HTML</font></b></td><td align=r
<font face=arial size=2> Disk Size :  0.398517 MB/15MB</font></td></
<form method=POST action="/ramesh/bin/file_manager.cgi">
<input type=hidden name=username value="demo88">
<input type=hidden name=frame value="1">
</td></tr><tr><td colspan=2><input type=image src="/ramesh/images/fl
<tr><td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="he.html"><A HREF="/account
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="help.html"><A HREF="/accou
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="jy.html"><A HREF="/account
</tr><tr>
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="newfilefour.html"><A HREF=
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="newfilethree.HTML"><A HREF
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="newfiletwo.html"><A HREF="
</tr><tr>
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="newfilewo.html"><A HREF="/
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="newtools.html"><A HREF="/a
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="next.html"><A HREF="/accou
</tr><tr>
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="tony_html"><A HREF="/accou
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="tonymutx.html"><A HREF="/a
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="welcome.html"><A HREF="/ac
</tr><tr>
</table></center>
```

Fig. 30

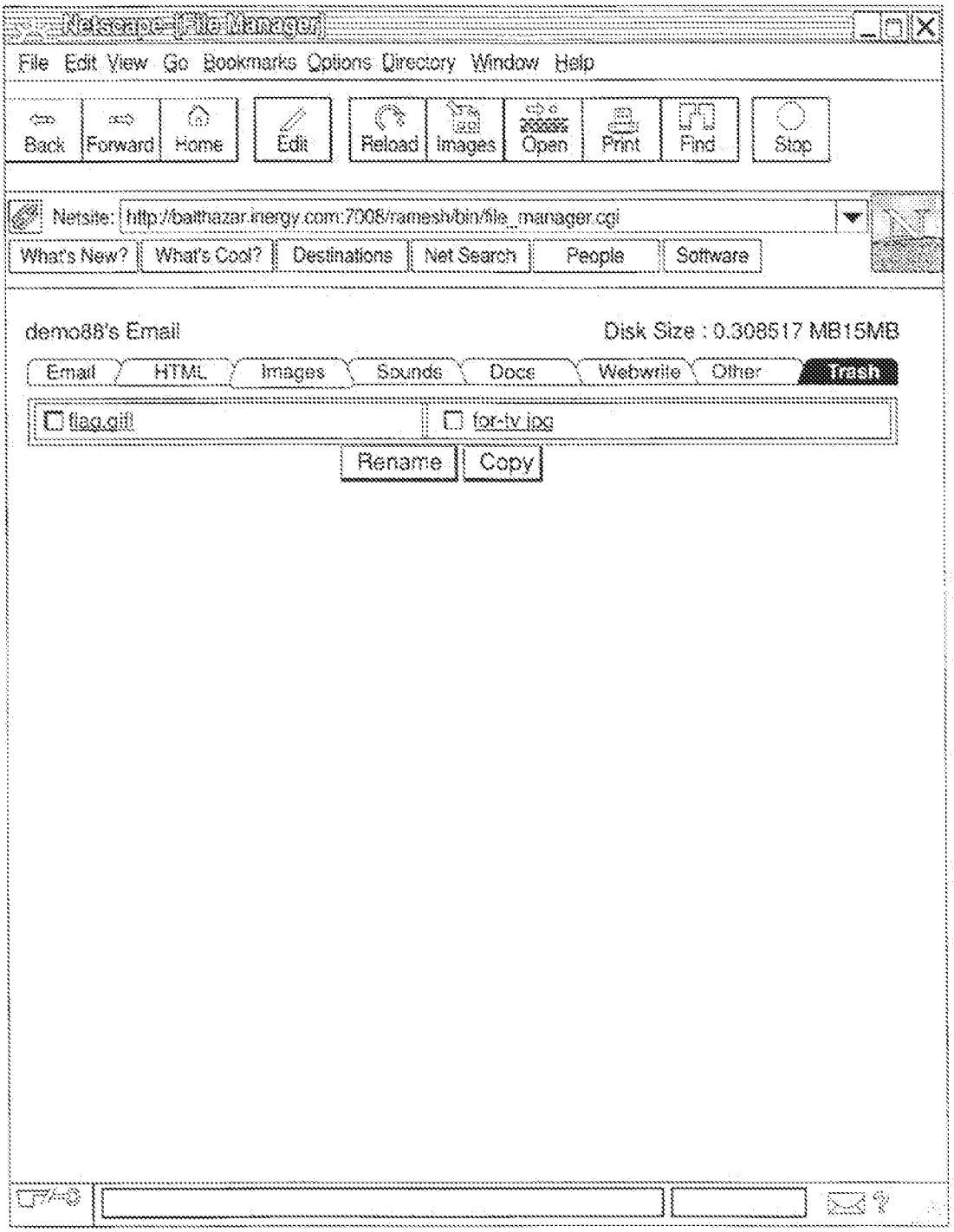

Netscape - [File Manager]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/file_manager.cgi
What's New? What's Cool? Destinations Net Search People Software
demo88's Email
Disk Size : 0.308517 MB15MB
Email HTML Images Sounds Docs Webwrite Other Trash
flag.gif
for-tv.jpg
Rename Copy

Fig. 31

```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. -->
<!-- $Header: /proj/file_manager/CGI/file_manager.xcgi,v 1.1 1997/08/1
<HEAD><TITLE>File Manager</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<center><table border=0 cellpadding cellspacing=2><tr><td align=left
<b><font face=arial size=2>demo88 's Images</font></b></td><td align=r
<font face=arial size=2> Disk Size :  0.398517 MB/15MB</font></td></tr
<font method=POST action="/ramesh/bin/file_manager.cgi">
<input type=hidden name=username value="demo88">
<input type=hidden name=frame value="1">
</td></tr><tr><td colspan=2><input type=image src="/ramesh/images/flef
<tr><td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="flag.gif"><A HREF="/accounts
<td align=left>
<INPUT TYPE="checkbox" NAME="FILE" VALUE="for-tv.jpg"><A HREF="/accoun
</table></center>
        <center>
        <table width=544 cellspacing=0 cellspacing=0 border=0>
        <tr><td align=center>
<INPUT TYPE = "SUBMIT" NAME="SUBMIT" VALUE ="Rename">
<INPUT TYPE = "HIDDEN" NAME="CURRENT" VALUE ="Images">
        <INPUT TYPE = "SUBMIT" NAME="SUBMIT" VALUE ="Copy">
        <INPUT TYPE = "HIDDEN" NAME="current" VALUE ="Images">
        </td></tr></table>
        </center>
</form></BODY>
</HTML>
```

Fig. 32

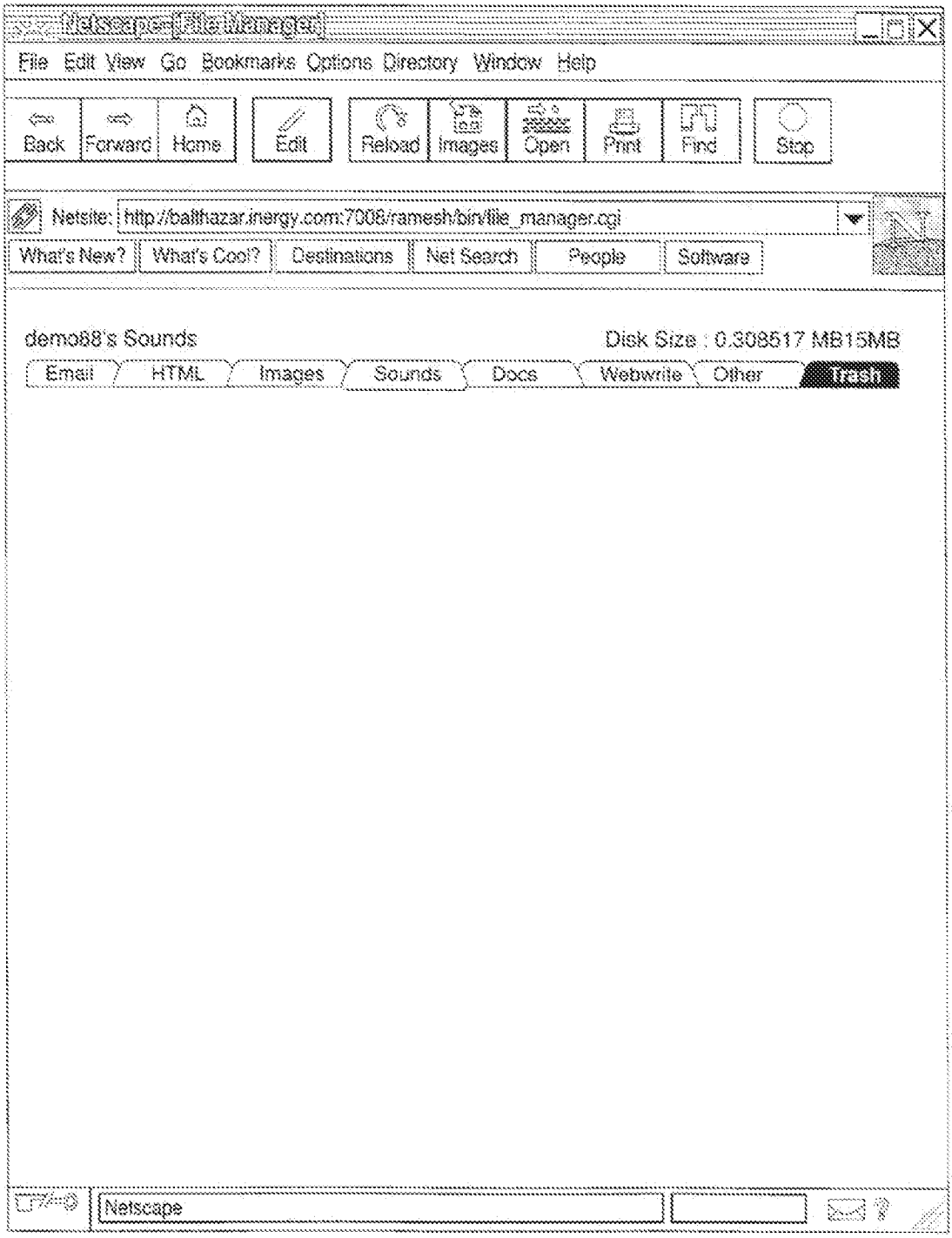

Netscape - [File Manager]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/file_manager.cgi
What's New? What's Cool? Destinations Net Search People Software
demo68's Sounds
Disk Size : 0.308517 MB15MB
Email HTML Images Sounds Docs Webwrite Other Trash
Netscape

Fig. 33

```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. -->
<!-- $Header: /proj/file_manager/CGI/file_manager.xcgi,v 1.1 1997/08/1
<HEAD><TITLE>File Manager</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<center><table border=0 cellpadding cellspacing=2><tr><td align=left>-
<b><font face=arial size=2>demo88 's Images</font></b></td><td align=r
<font face=arial size=2> Disk Size :  0.398517 MB/15MB</font></td></tr
<font method=POST action="/ramesh/bin/file_manager.cgi">
<input type=hidden name=username value="demo88">
<input type=hidden name=frame value="1">
</td></tr><tr><td colspan=2><input type=image src="/ramesh/images/flef
<tr></table></center>
</form></BODY>
</HTML>
```

Fig. 34

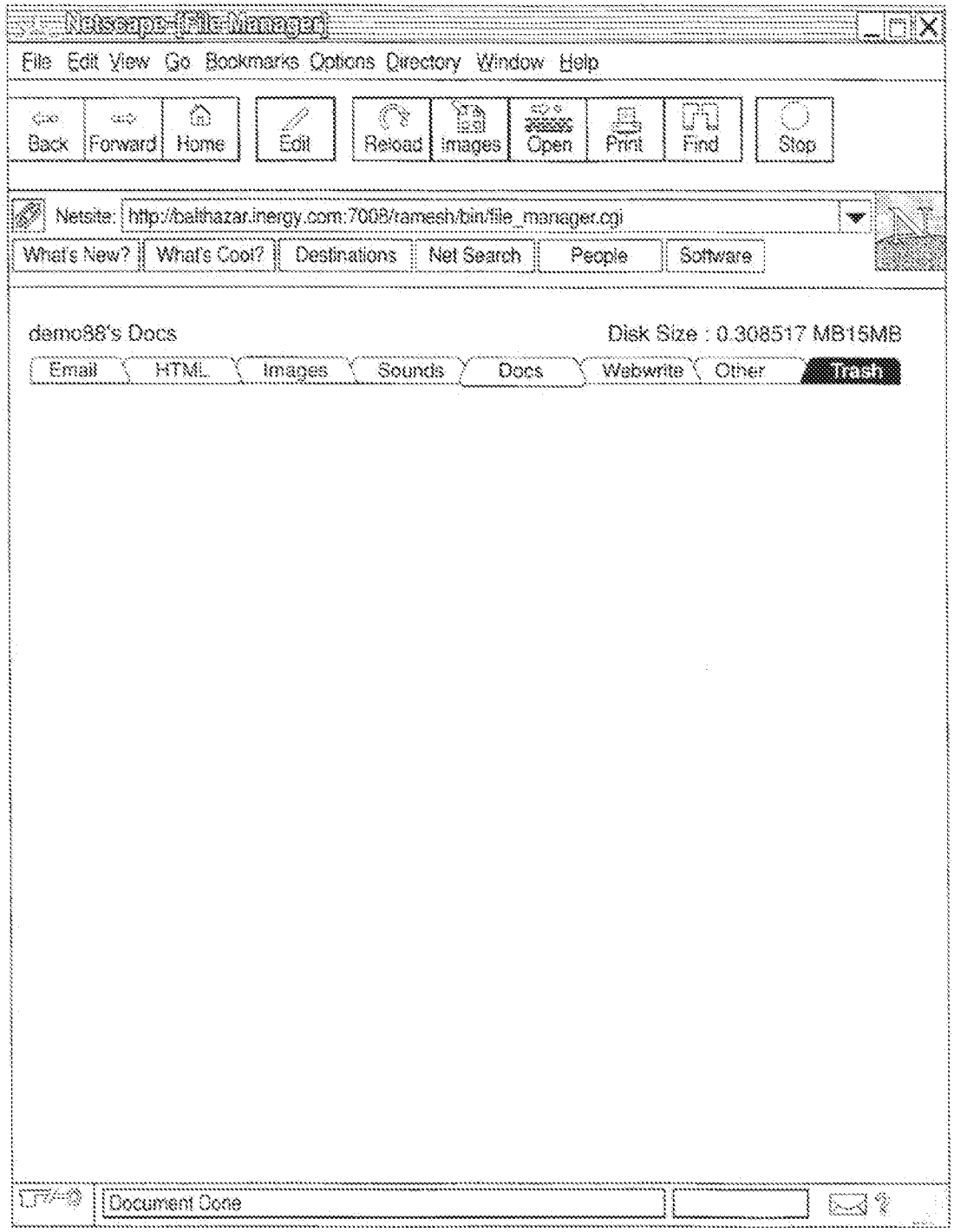

Netscape - [File Manager]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7009/ramesh/bin/file_manager.cgi
What's New? What's Cool? Destinations Net Search People Software
demo88's Docs
Disk Size : 0.308517 MB15MB
Email HTML Images Sounds Docs Webwrite Other Trash
Document Done

Fig. 35

```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. -->
<!-- $Header: /proj/file_manager/CGI/file_manager.xcgi,v 1.1 1997/08/1
<HEAD><TITLE>File Manager</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<center><table border=0 cellpadding cellspacing=2><tr><td align=left>-
<b><font face=arial size=2>demo88 's Docs</font></b></td><td align=rig
<font face=arial size=2> Disk Size :  0.398517 MB/15MB</font></td></tr
<font method=POST action="/ramesh/bin/file_manager.cgi">
<input type=hidden name=username value="demo88">
<input type=hidden name=frame value="1">
</td></tr><tr><td colspan=2><input type=image src="/ramesh/images/flef
<tr></table></center>
</form></BODY>
</HTML>
```

Fig. 36

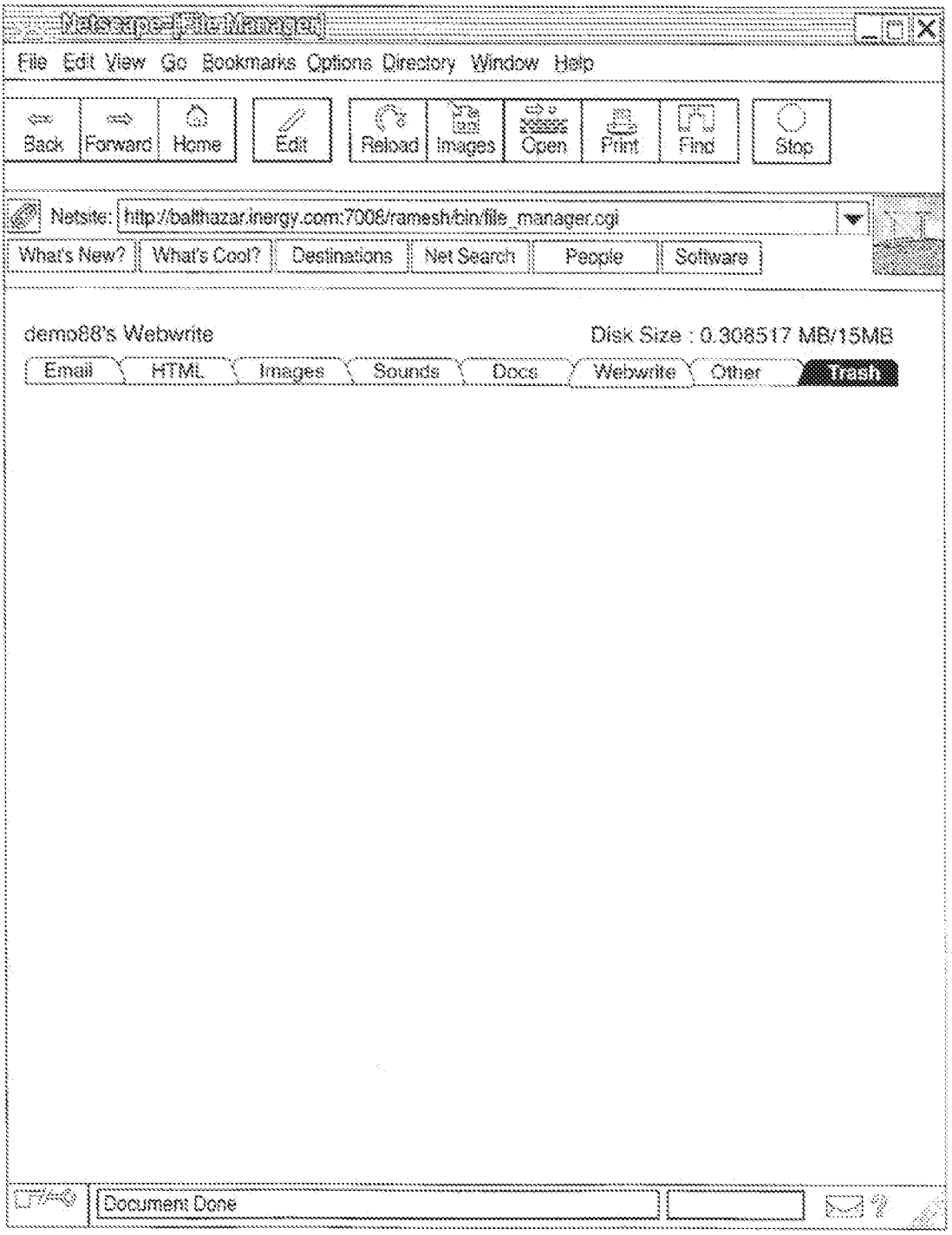

Netscape - [File Manager]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/file_manager.cgi
What's New? What's Cool? Destinations Net Search People Software
demo88's Webwrite
Disk Size : 0.308517 MB/15MB
Email HTML Images Sounds Docs Webwrite Other Trash
Document Done

Fig. 37

```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. -->
<!-- $Header: /proj/file_manager/CGI/file_manager.xcgi,v 1.1 1997/08/1
<HEAD><TITLE>File Manager</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<center><table border=0 cellpadding cellspacing=2><tr><td align=left>-
<b><font face=arial size=2>demo88 's Docs</font></b></td><td align=rig
<font face=arial size=2> Disk Size :  0.398517 MB/15MB</font></td></tr
<font method=POST action="/ramesh/bin/file_manager.cgi">
<input type=hidden name=username value="demo88">
<input type=hidden name=frame value="1">
</td></tr><tr><td colspan=2><input type=image src="/ramesh/images/flef
<tr></table></center>
</form></BODY>
</HTML>
```

Fig. 38

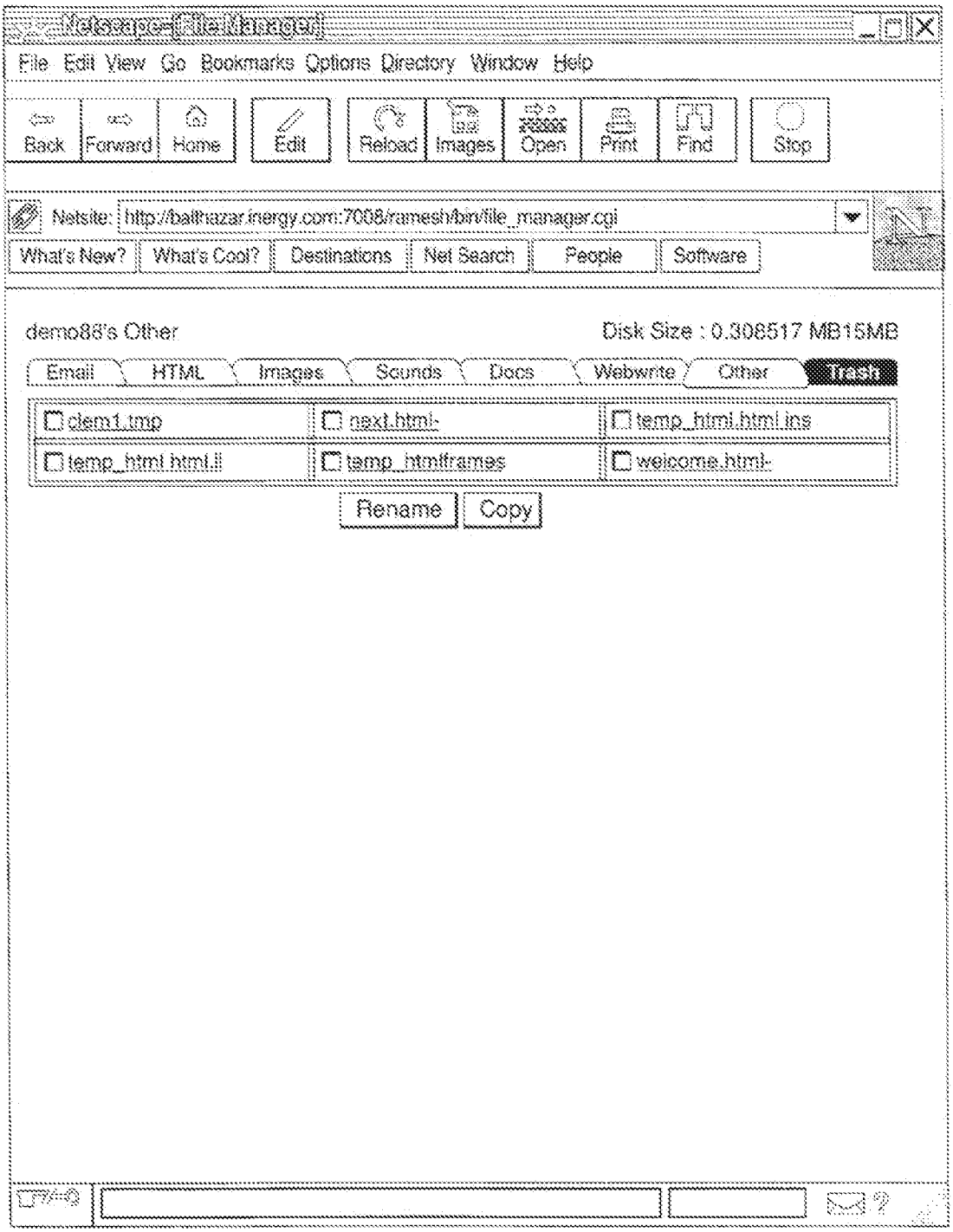

File Edit View Go Bookmarks Options Directory Window Help
Back
Forward
Home
Edit
Reload
Images
Open
Print
Find
Stop
Netsite: http://balthazar.inergy.com:7008/ramesh/bin/file_manager.cgi
What's New?
What's Cool?
Destinations
Net Search
People
Software
demo88's Other
Disk Size : 0.308517 MB15MB
Email
HTML
Images
Sounds
Docs
Webwrite
Other
Trash
clem1.tmp
next.html~
temp_html.html.ins
temp_html.html.il
temp_html/frames
welcome.html~
Rename
Copy

Fig. 39

```
<html>
<!-- Copyright (C) 1997 Inergy Online, Inc.  All rights reserved. -->
<!-- $Header: /proj/file_manager/CGI/file_manager.xcgi,v 1.1 1997/08/1
<HEAD><TITLE>File Manager</TITLE></HEAD>
<body bgcolor="#d5d1c0">
<center><table border=0 cellpadding cellspacing=2><tr><td align=left>
<b><font face=arial size=2>demo88 's Webwrite</font></b></td><td align
<font face=arial size=2> Disk Size :  0.398517 MB/15MB</font></td></tr
<font method=POST action="/ramesh/bin/file_manager.cgi">
<input type=hidden name=username value="demo88">
<input type=hidden name=frame value="1">
</td></tr><tr><td colspan=2><input type=image src="/ramesh/images/flef
<tr></table></center>
</form></BODY>
</HTML>
```

Fig. 40

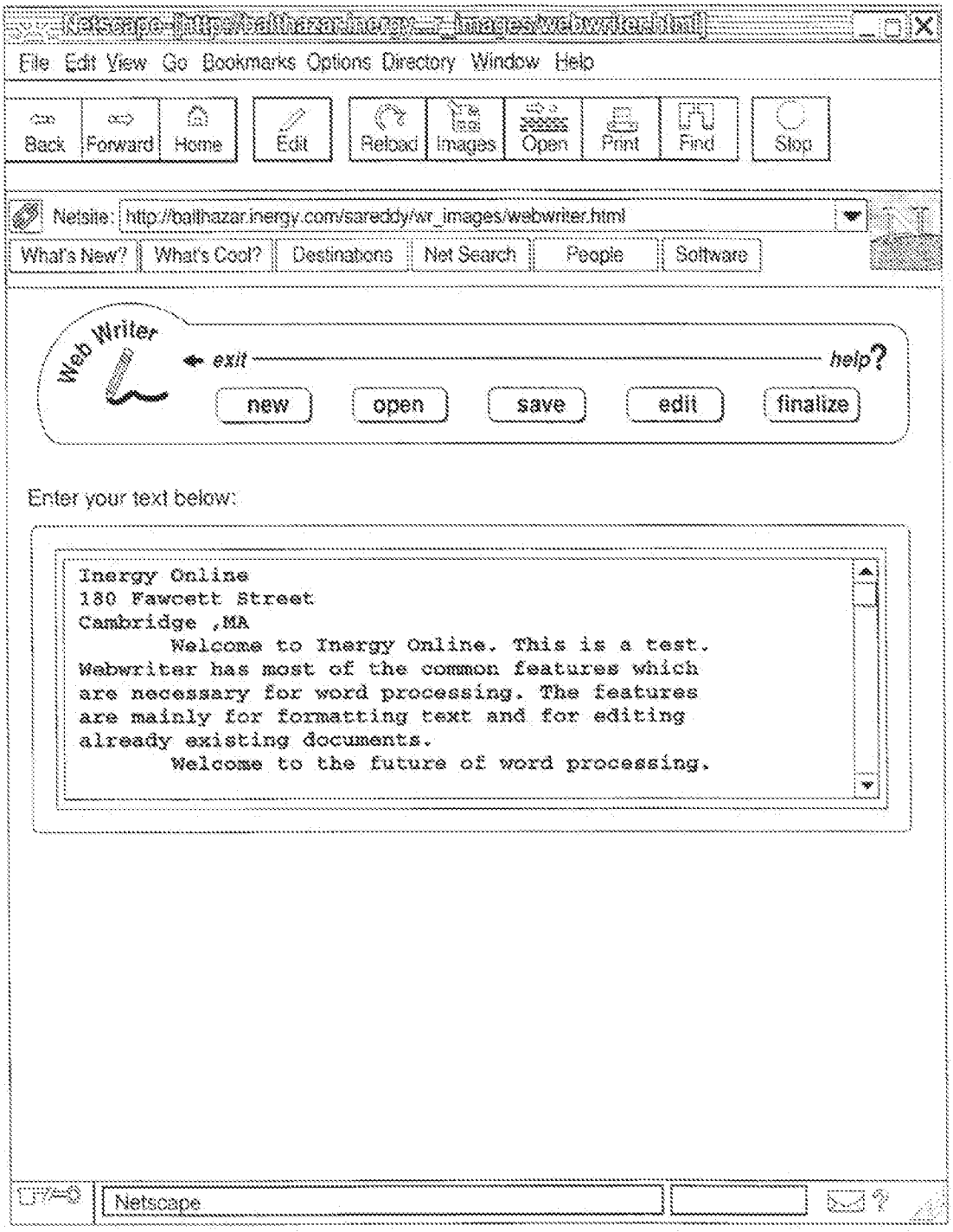
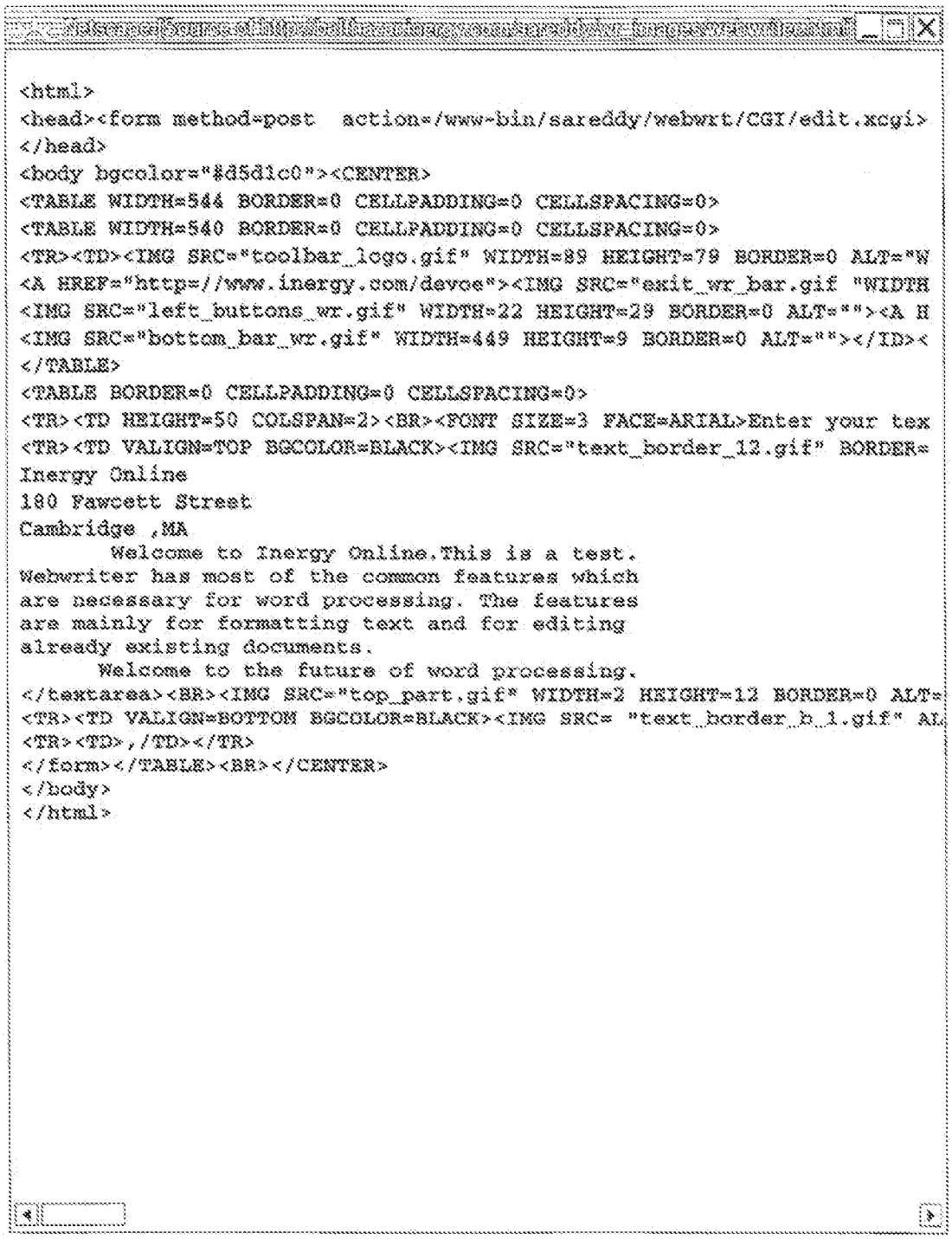

File Edit View Go Bookmarks Options Directory Window Help
Back
Forward
Home
Edit
Reload
Images
Open
Print
Find
Stop
Netsite: http://balthazar.inergy.com/sareddy/wr_images/webwriter.html
What's New?
What's Cool?
Destinations
Net Search
People
Software
Web Writer
exit
help?
new
open
save
edit
finalize
Enter your text below:
Inergy Online
180 Fawcett Street
Cambridge ,MA
Welcome to Inergy Online. This is a test.
Webwriter has most of the common features which
are necessary for word processing. The features
are mainly for formatting text and for editing
already existing documents.
Welcome to the future of word processing.
Netscape

Fig. 41



```
<html>
<head><form method=post  action=/www-bin/sareddy/webwrt/CGI/edit.xcgi>
</head>
<body bgcolor="#d5d1c0"><CENTER>
<TABLE WIDTH=544 BORDER=0 CELLPADDING=0 CELLSPACING=0>
<TABLE WIDTH=540 BORDER=0 CELLPADDING=0 CELLSPACING=0>
<TR><TD><IMG SRC="toolbar_logo.gif" WIDTH=89 HEIGHT=79 BORDER=0 ALT="W
<A HREF="http=//www.inergy.com/devce"><IMG SRC="exit_wr_bar.gif "WIDTH
<IMG SRC="left_buttons_wr.gif" WIDTH=22 HEIGHT=29 BORDER=0 ALT=""><A H
<IMG SRC="bottom_bar_wr.gif" WIDTH=449 HEIGHT=9 BORDER=0 ALT=""></ID><
</TABLE>
<TABLE BORDER=0 CELLPADDING=0 CELLSPACING=0>
<TR><TD HEIGHT=50 COLSPAN=2><BR><FONT SIZE=3 FACE=ARIAL>Enter your tex
<TR><TD VALIGN=TOP BGCOLOR=BLACK><IMG SRC="text_border_12.gif" BORDER=
Inergy Online
180 Fawcett Street
Cambridge ,MA
       Welcome to Inergy Online.This is a test.
Webwriter has most of the common features which
are necessary for word processing. The features
are mainly for formatting text and for editing
already existing documents.
      Welcome to the future of word processing.
</textarea><BR><IMG SRC="top_part.gif" WIDTH=2 HEIGHT=12 BORDER=0 ALT=
<TR><TD VALIGN=BOTTOM BGCOLOR=BLACK><IMG SRC= "text_border_b_1.gif" AL
<TR><TD>,/TD></TR>
</form></TABLE><BR></CENTER>
</body>
</html>
```

Fig. 42

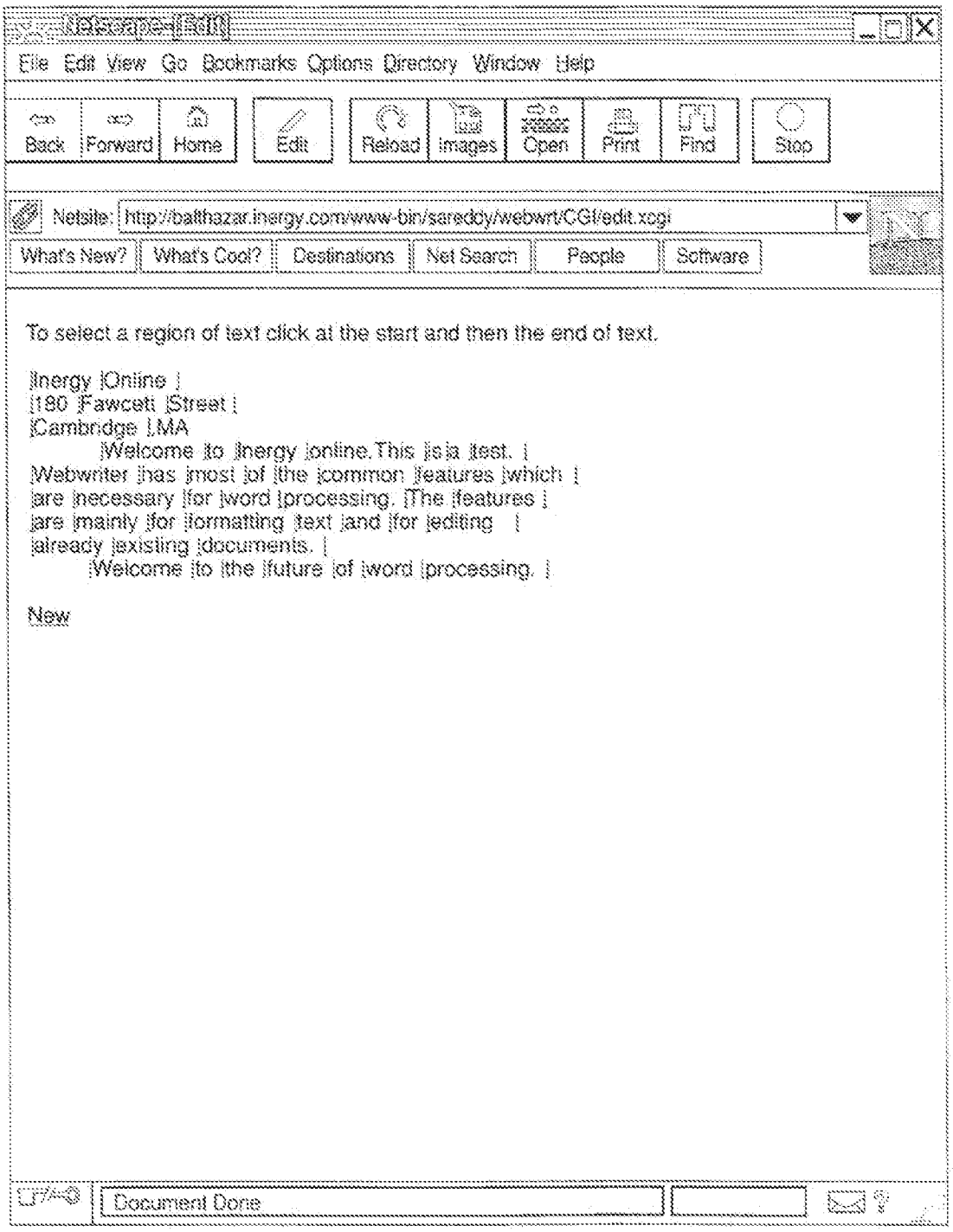
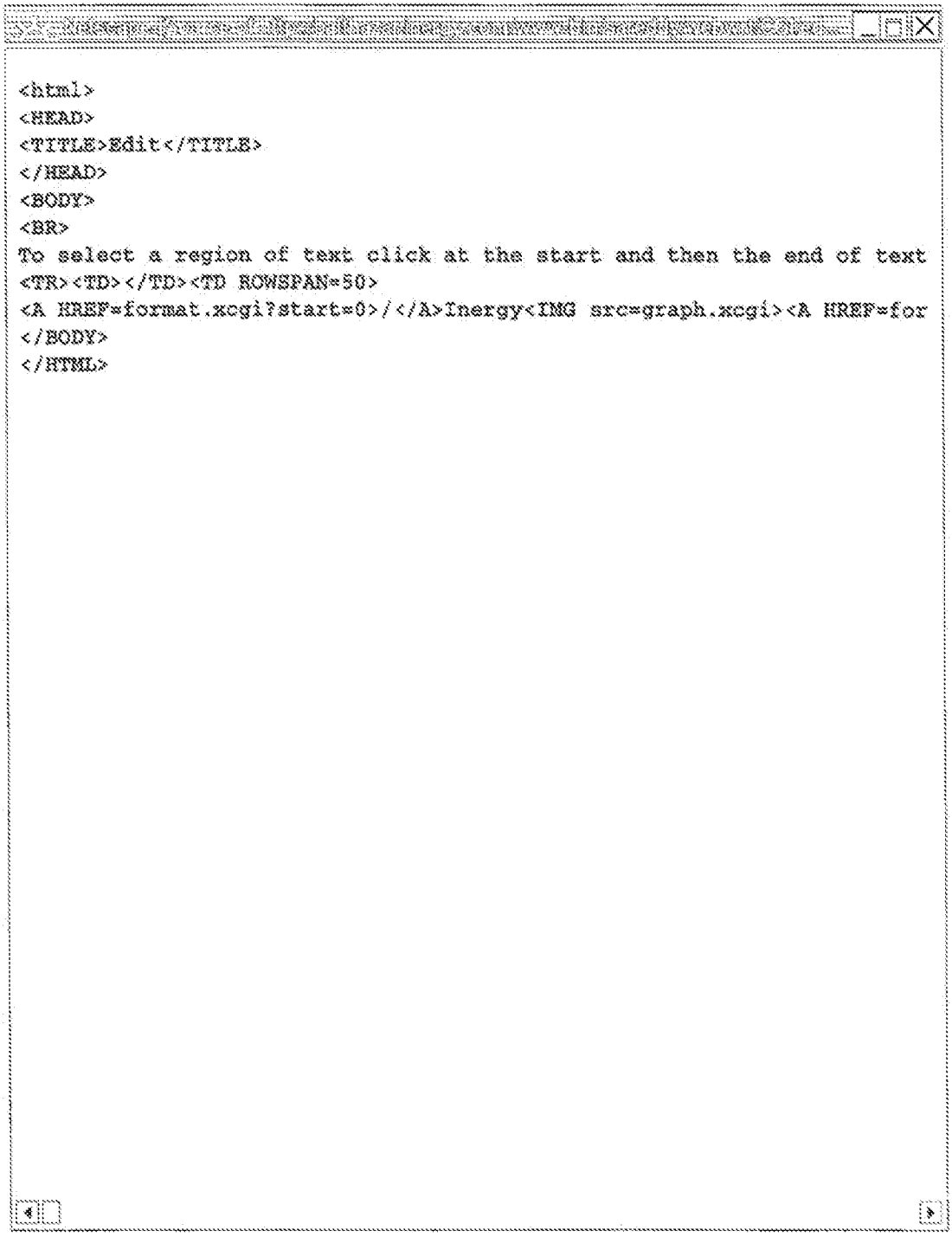

Netscape - [Edit]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com/www-bin/sareddy/webwrt/CGI/edit.xcgi
What's New? What's Cool? Destinations Net Search People Software
To select a region of text click at the start and then the end of text.
Inergy Online
180 Fawcett Street
Cambridge MA
Welcome to Inergy online.This is a test.
Webwriter has most of the common features which
are necessary for word processing. The features
are mainly for formatting text and for editing
already existing documents.
Welcome to the future of word processing.
New
Document Done

Fig. 43


<html>
<HEAD>
<TITLE>Edit</TITLE>
</HEAD>
<BODY>

To select a region of text click at the start and then the end of text
<TR><TD></TD><TD ROWSPAN=50>
<A HREF=format.xcgi?start=0>/</A>Inergy<ING src=graph.xcgi><A HREF=for
</BODY>
</HTML>

Fig. 44

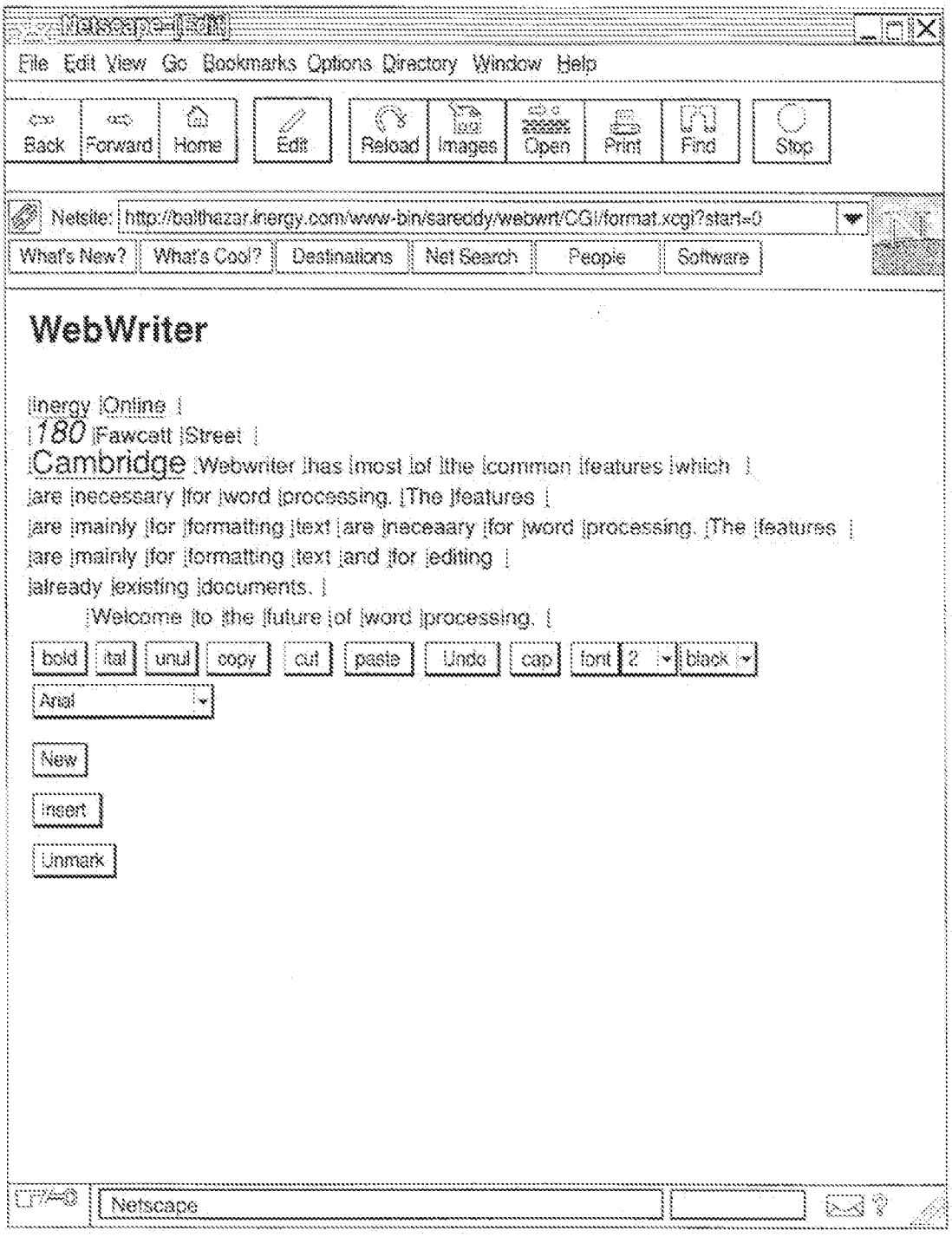

Netscape - [Edit]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://balthazar.inergy.com/www-bin/sareddy/webwrt/CGI/format.xcgi?start=0
What's New? What's Cool? Destinations Net Search People Software
WebWriter
Inergy	Online
180 |Fawcatt |Street
Cambridge |Webwriter |has |most |of |the |common |features |which
are |necessary |for |word |processing. |The |features
are |mainly |for |formatting |text |are |neceaary |for |word |processing. |The |features
are |mainly |for |formatting |text |and |for |editing
already |existing |documents.
Welcome |to |the |future |of |word |processing.
bold ital unul copy cut paste Undo cap font 2 black
Arial
New
Insert
Unmark
Netscape

Fig. 45

```
<html>
<HEAD>
<TITLE>Edit</TITLE>
</HEAD>
<BODY>
<TR><TD></TD ROWSPAN=50>
<TR><TD ALIGN =center><H1>WebWriter</H1></TD></TR>
<form METHOD=POST action=test_bold.xcgi>
<TR><TD></TD>
        <TD ROWSPAN=60 >
<font color=red><A HREF=format_reg.xcgi?start=0&end=0>/</A><u><font si
<option value=3>3</option>
<option value=4>4</option>
<option value=5>5</option>
<option value=6>6</option>
<option value=7>7</option>
</select><select name=color><option selected value=black>black</option
<option value=blue>blue</option>
<option value=yellow>yellow</option>
,option value=red>red</option>
<option value=green>green</option>
</select><select name=face><option selected value=Arial>Arial</option>
<option value=Times-Roman>Times-Roman</option>
<option value=Times>Times</option>
<option value=Courier>Courier</option>
<option value=Helvetica>Helvetica</option>
</select></FORM><FORM Action=clean.xcgi><INPUT Type=submit name=new va
</TD></TR>
<FORM action=select.xcgi><input type=submit value=Unmark></FORM>
</BODY>
</HTML>
```

Fig. 46

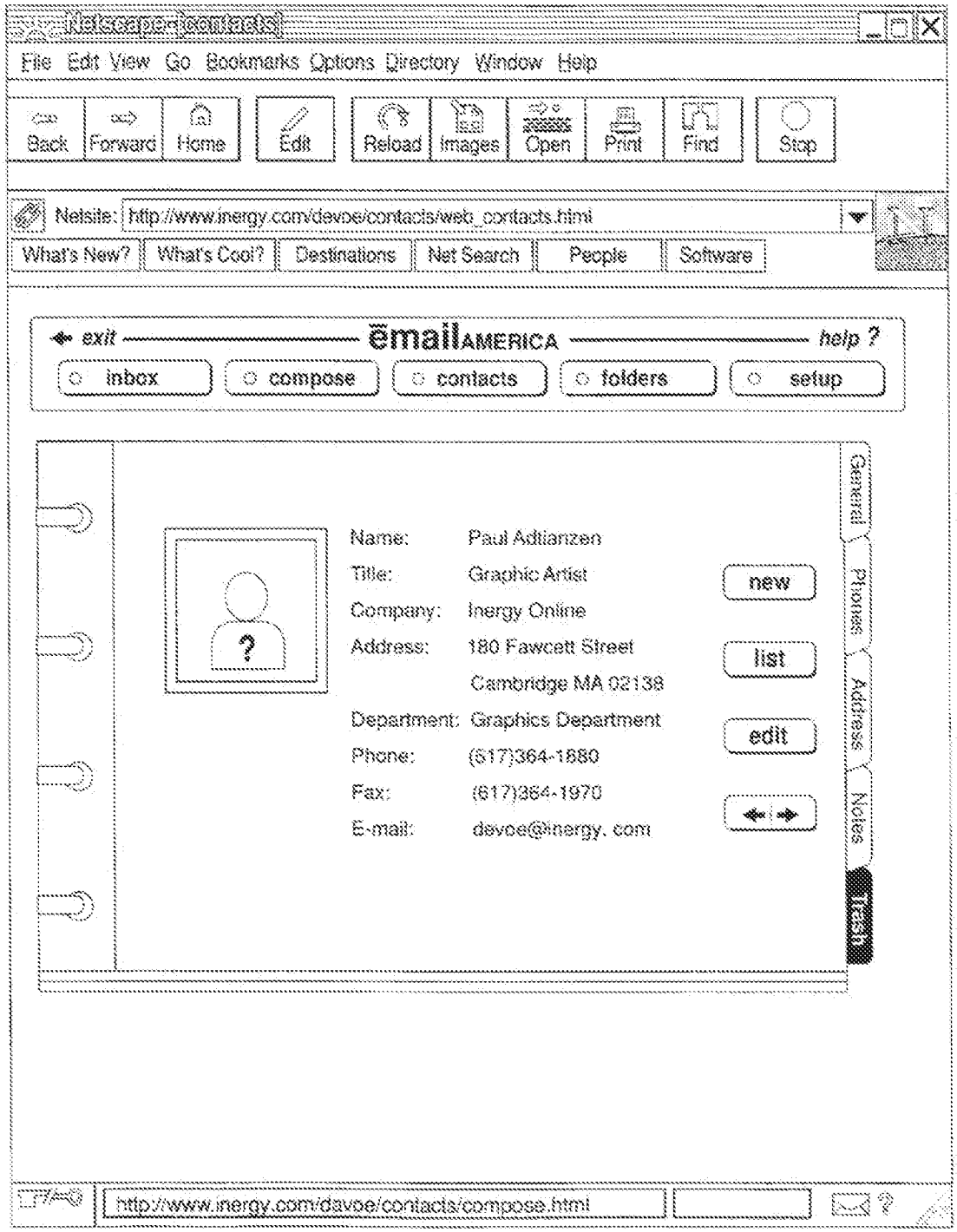

Netscape-[contacts]
File Edit View Go Bookmarks Options Directory Window Help
Back Forward Home Edit Reload Images Open Print Find Stop
Netsite: http://www.inergy.com/davoe/contacts/web_contacts.html
What's New? What's Cool? Destinations Net Search People Software
exit emailAMERICA help ?
inbox compose contacts folders setup
General Phones Address Notes Tech
Name: Paul Adlianzen
Title: Graphic Artist
Company: Inergy Online
Address: 180 Fawcett Street
Cambridge MA 02138
Department: Graphics Department
Phone: (617)364-1880
Fax: (617)364-1970
E-mail: davoe@inergy.com
new
list
edit
http://www.inergy.com/davoe/contacts/compose.html

Fig. 47

```
<html>
<HEAD>
        <TITLE>Edit</TITLE>
</HEAD>

<BODY BGCOLOR="#D5CECO">
<CENTER>
<TABLE BORDER=0 WIDTH=544 CELLPADDING=0 CELLSPACING=0>

<TABLE BORDER=0 CELLSPACING=0 CELLPADDING=0>
<TR>
        <TD COLSPAN=7><IMG SRC="topbar.gif" WIDTH=542 HEIGHT=0 BORDE
</TR>
<TR>
        <TD ROWSPAN=2><IMG SRC="leftbar.gif" WIDTH=0 HEIGHT=59 BORDE
        <TD CULSPAN=5><A HREF="http://www.inergy.com/devoe"><IMG SRC
        <TD ROWSPAN=2><IMG SRC="rightbar.gif" WIDTH=6 HEIGHT=59 BORD
</TR>
<TR>
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Fig. 48

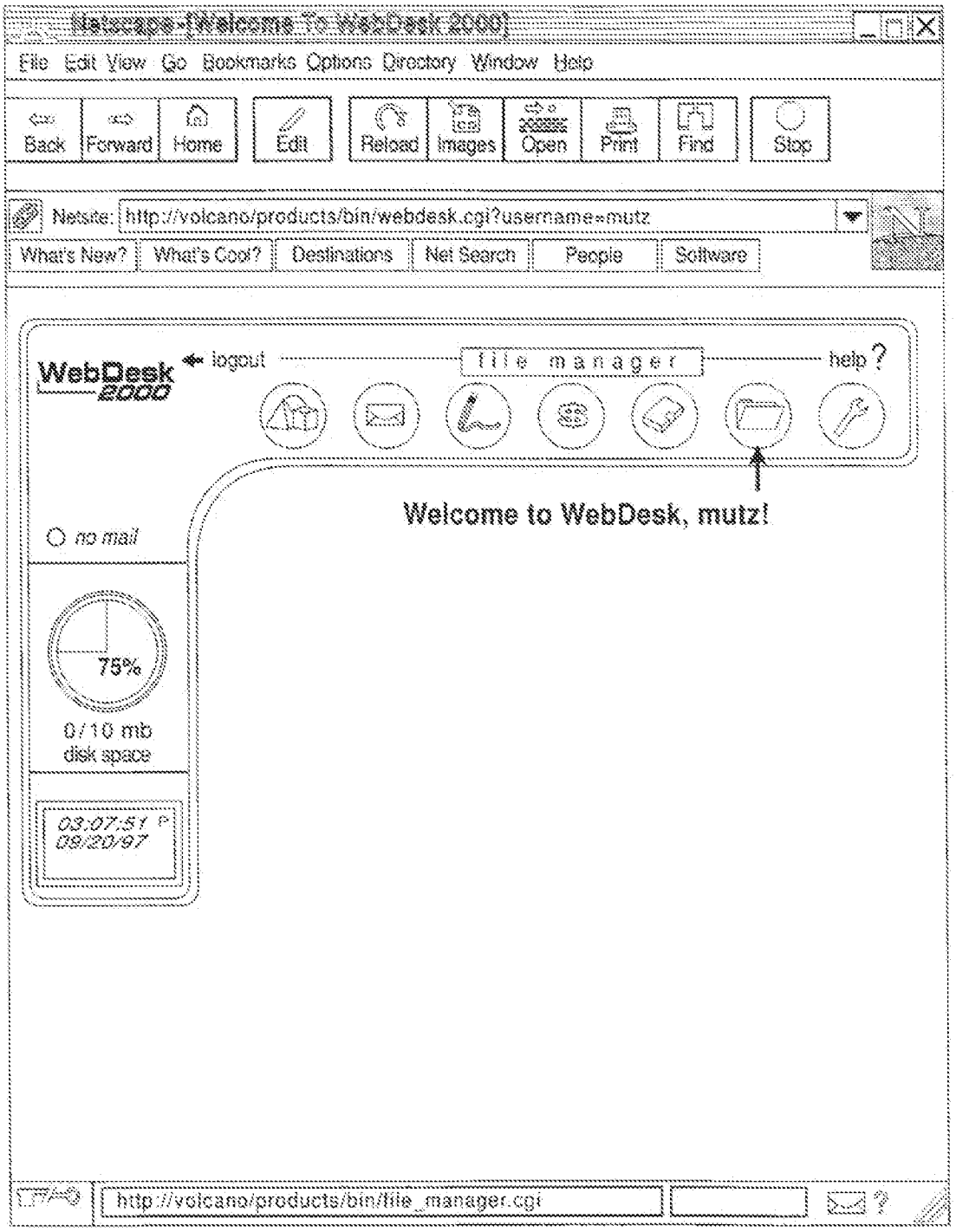

Fig. 49

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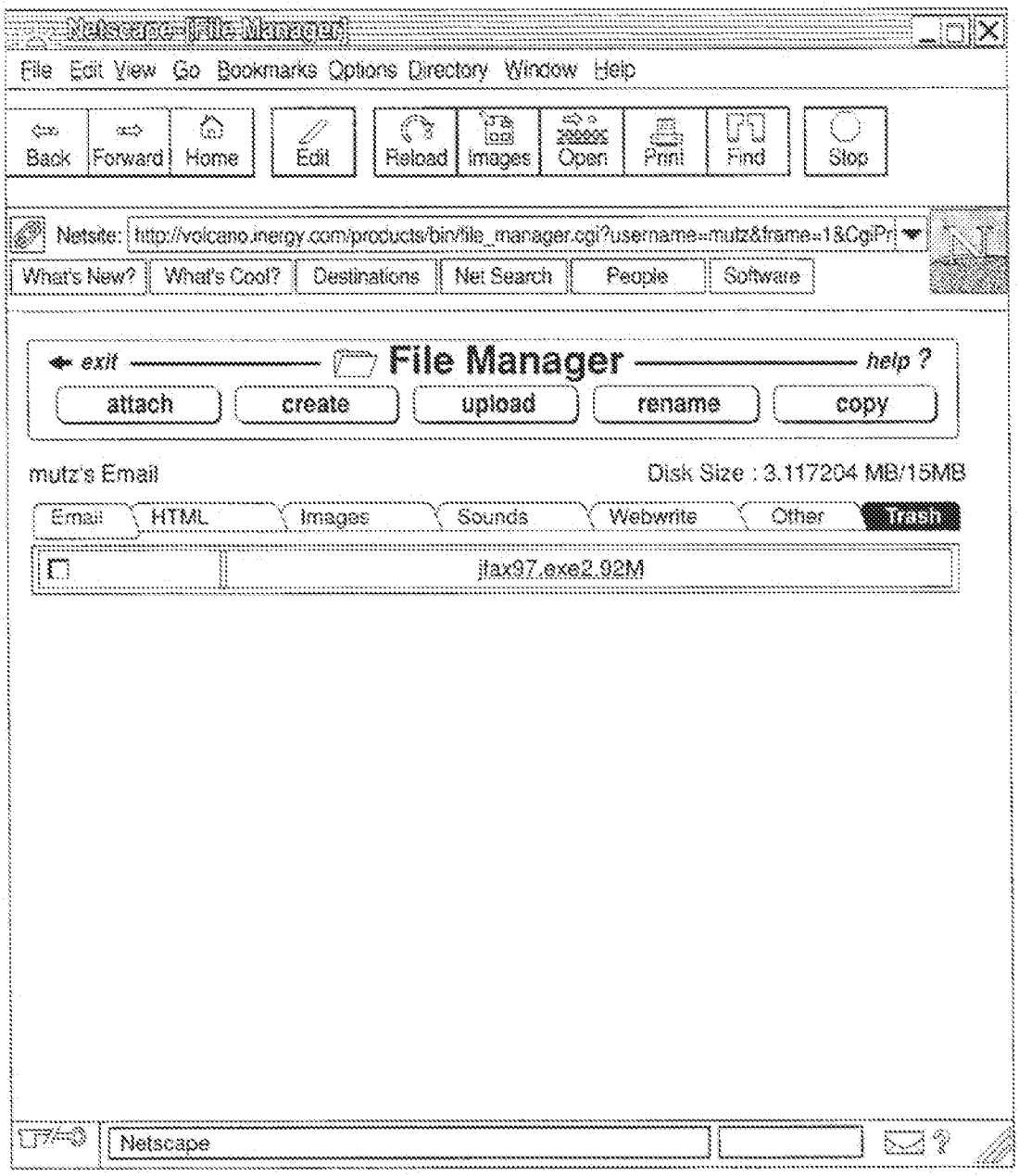
Netscape - File Manager
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exit File Manager help ?
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Email HTML Images Sounds Webwrite Other Trash
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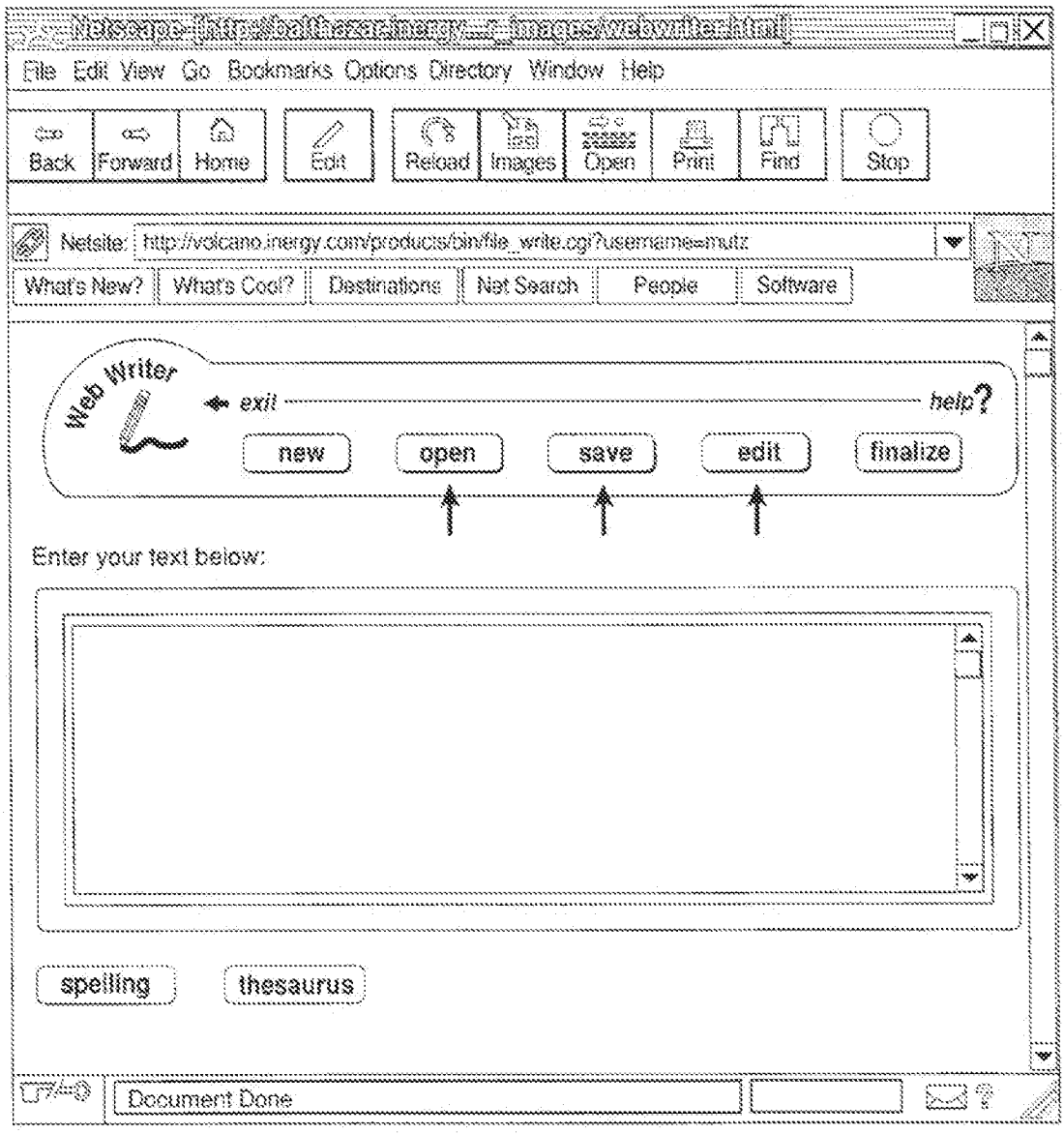
Fig. 50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spelling
thesaurus
Document Done

Fig. 51

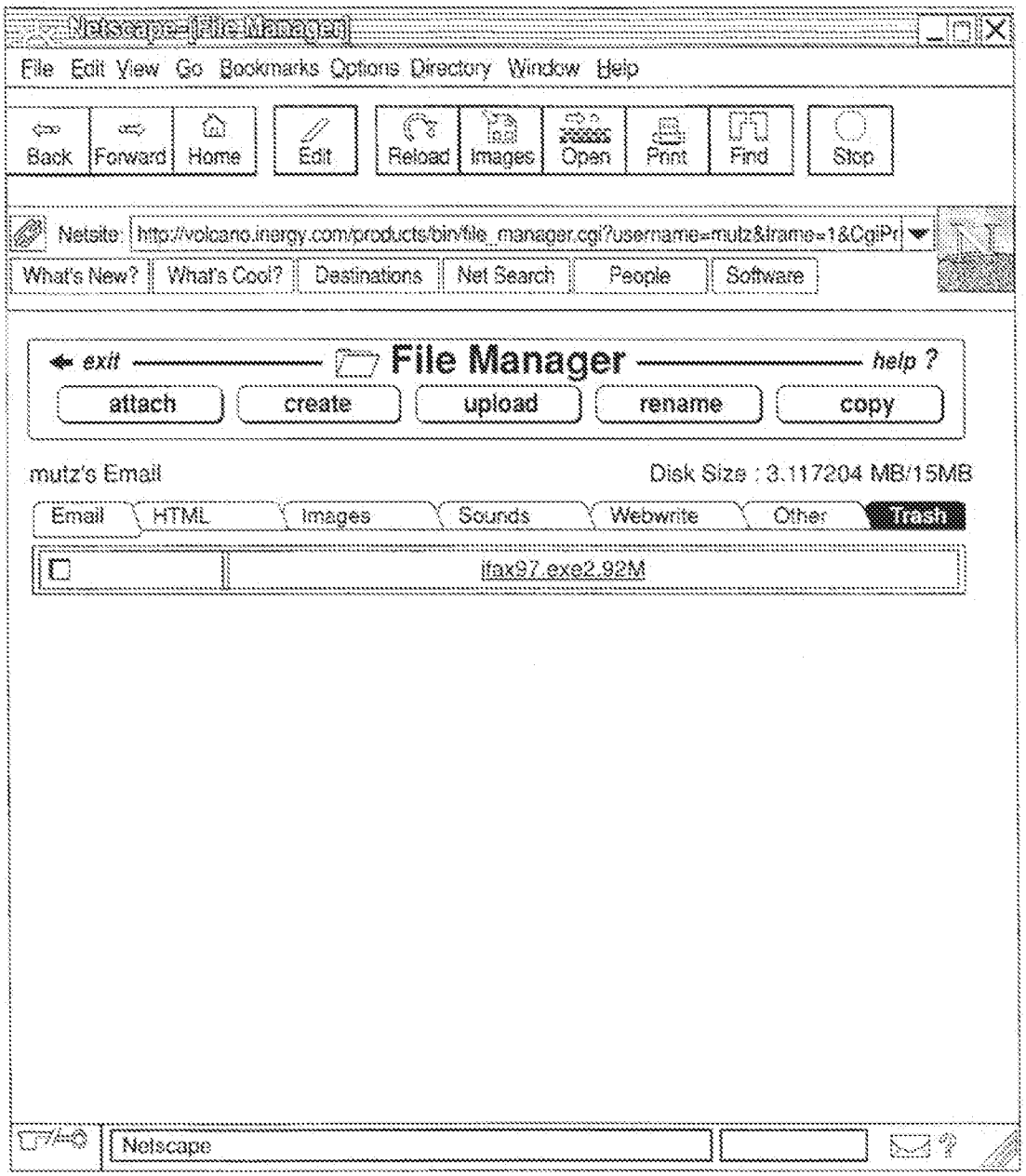
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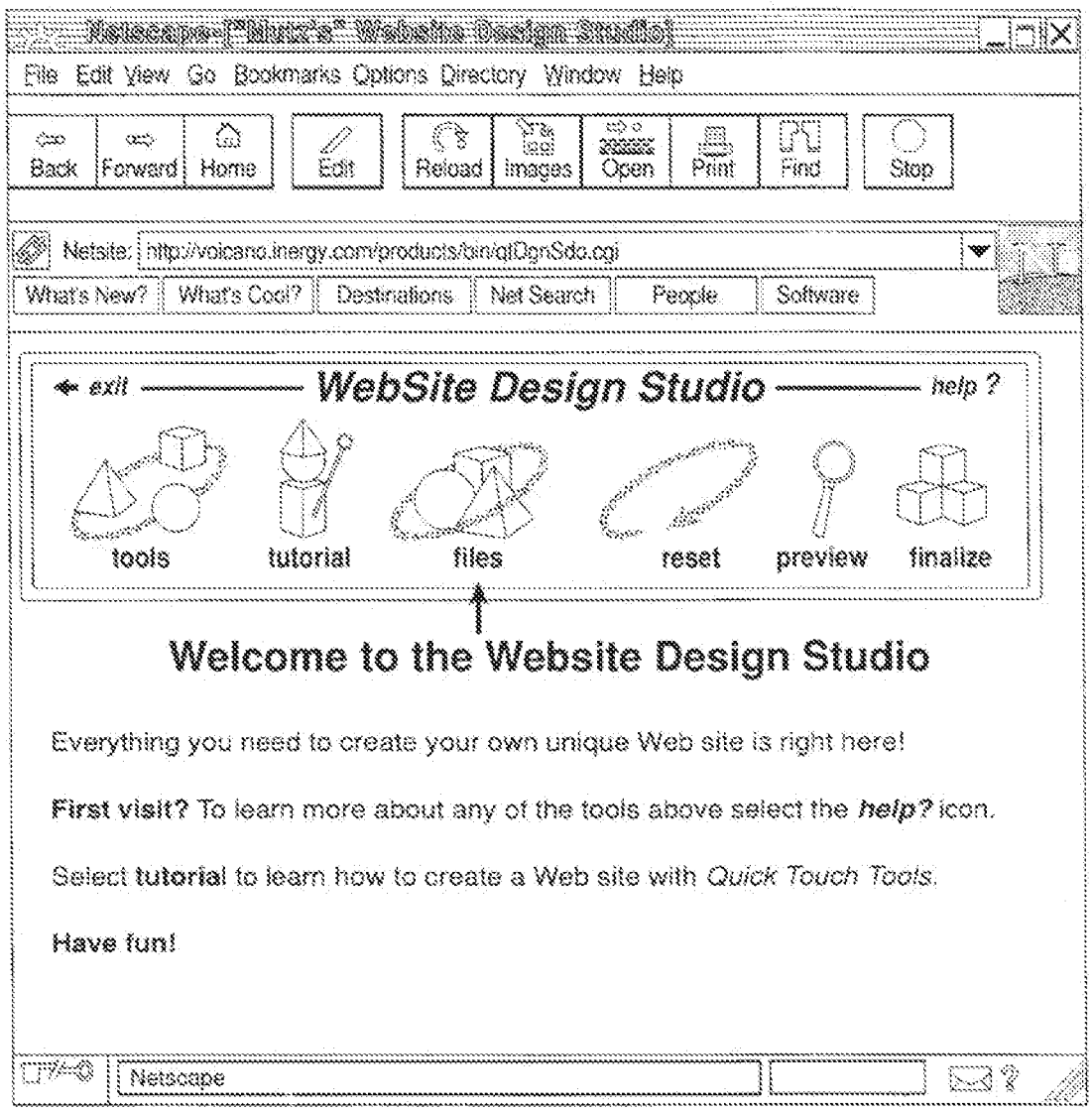
Fig. 52


File Edit View Go Bookmarks Options Directory Window Help
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What's New?
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Destinations
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Everything you need to create your own unique Web site is right here!
First visit? To learn more about any of the tools above select the help? icon.
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Have fun!
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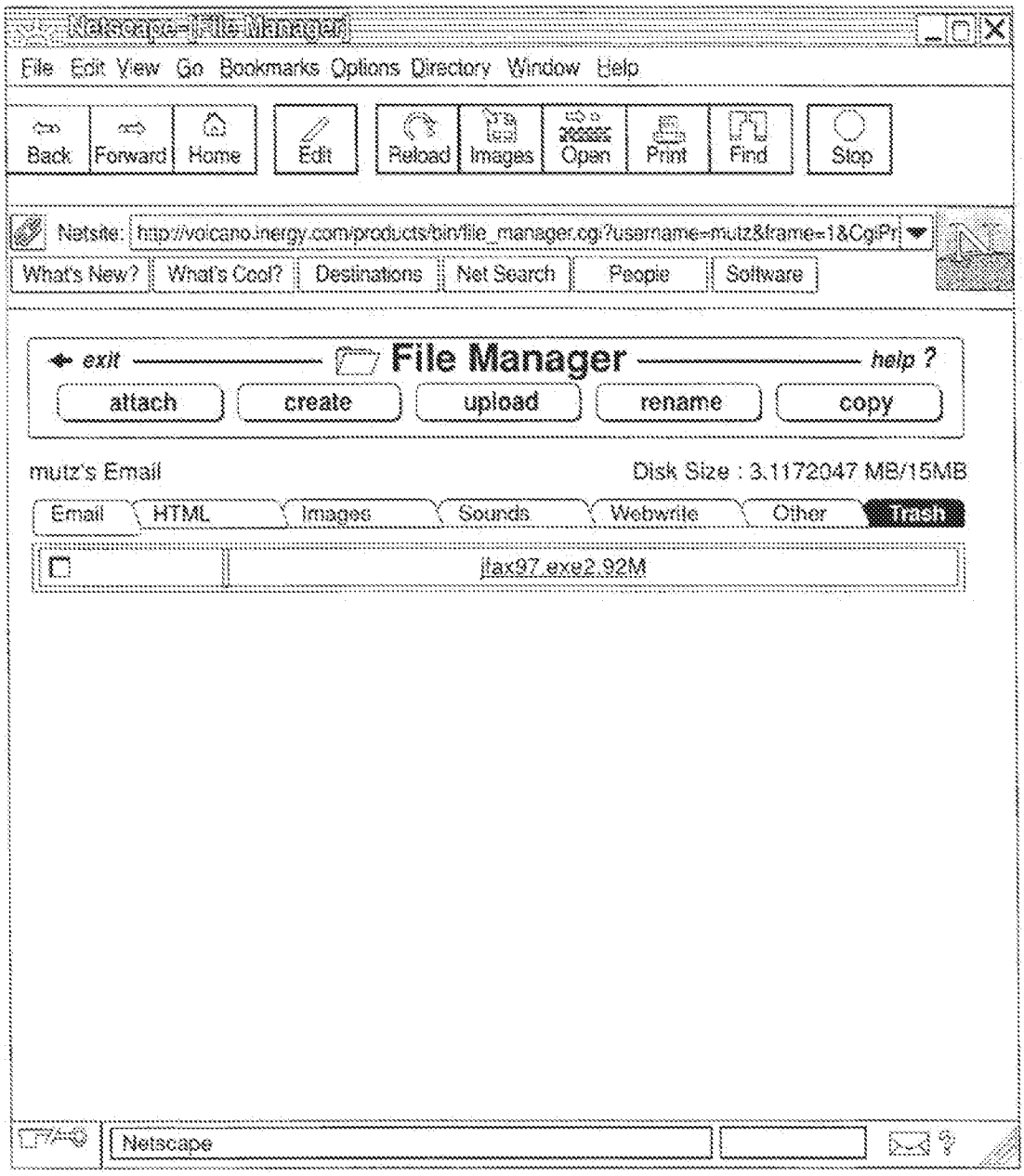
Fig. 53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Email HTML Images Sounds Webwrite Other Trash
jfax97.exe2.92M
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Fig. 54


WebDesk
2000
3:16 AM 9/16/97
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New Mail
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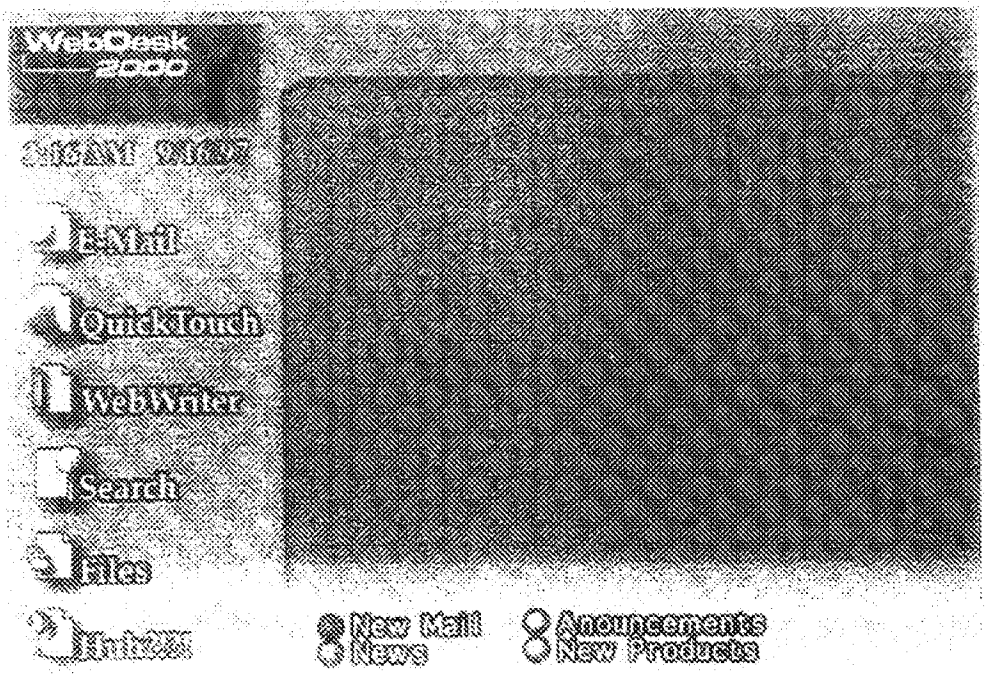
Announcements
New Products

Fig. 55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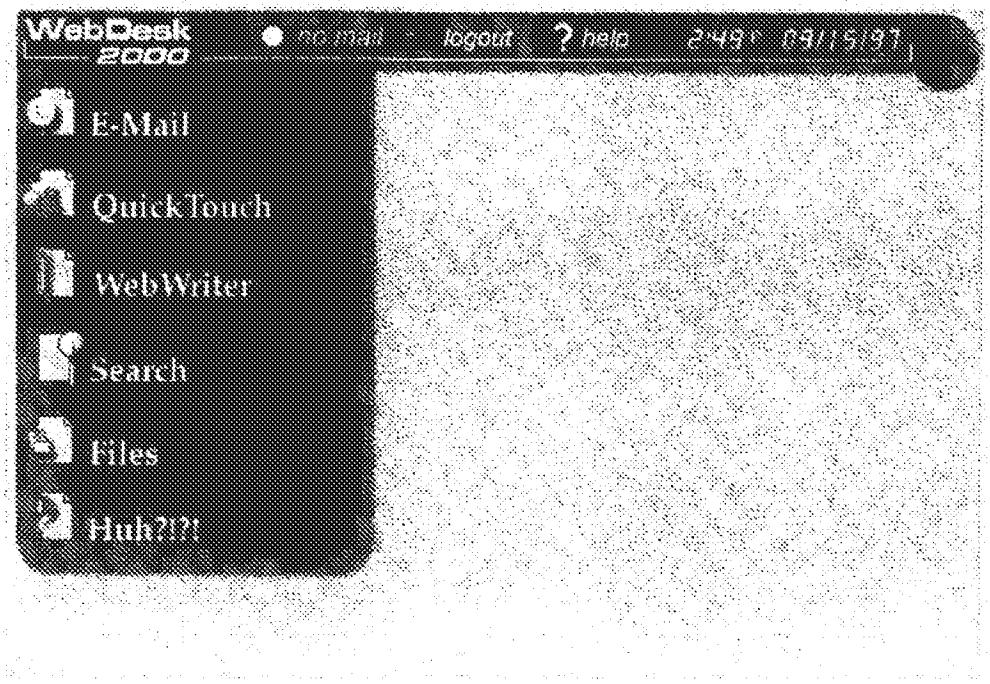
New Products

Fig. 56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Files
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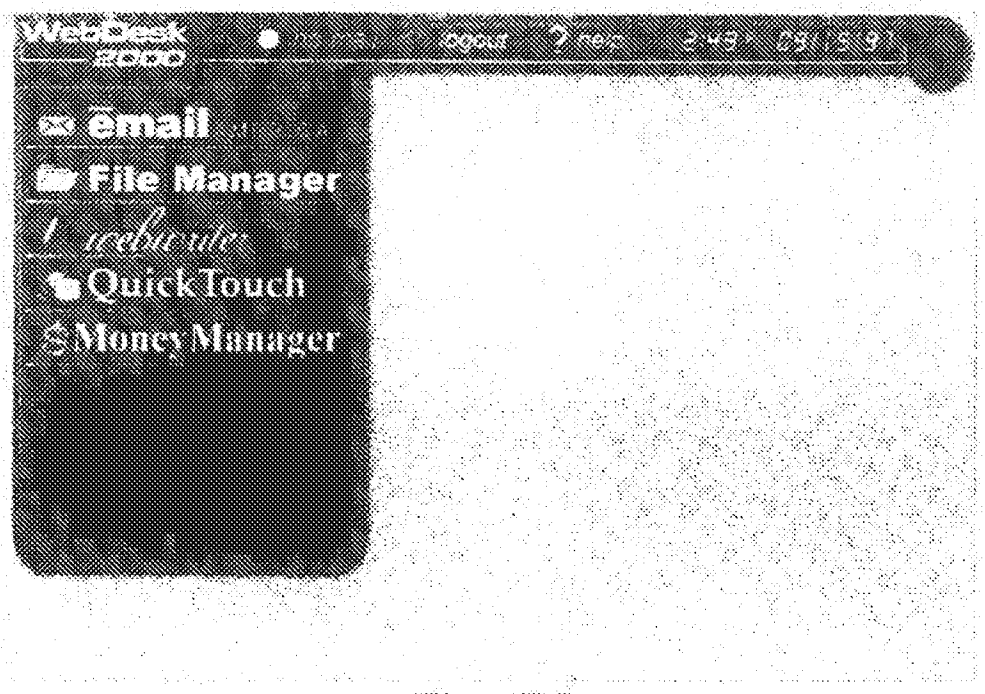
Fig. 57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QuickTouch
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Fig. 58

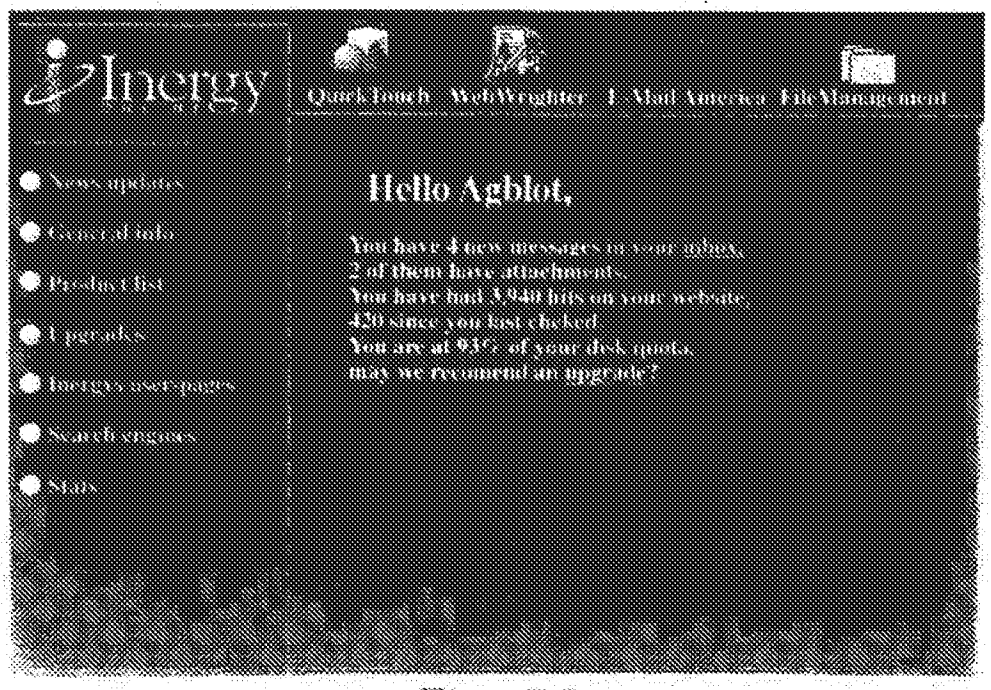

Fig. 59

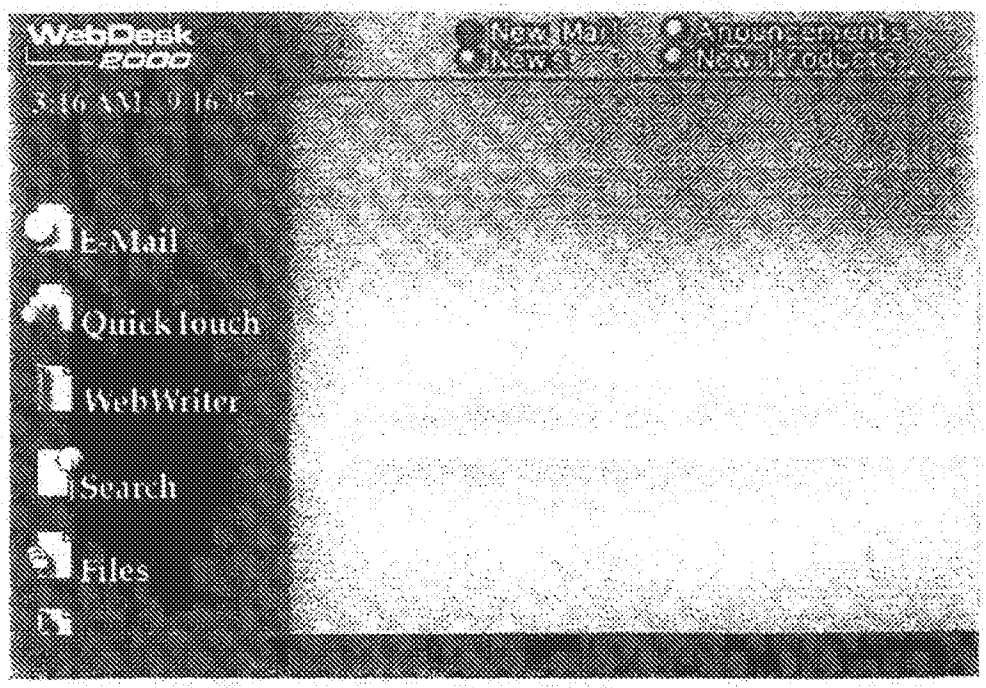

Fig. 60

Samsung Ex. 1320 p. 3524

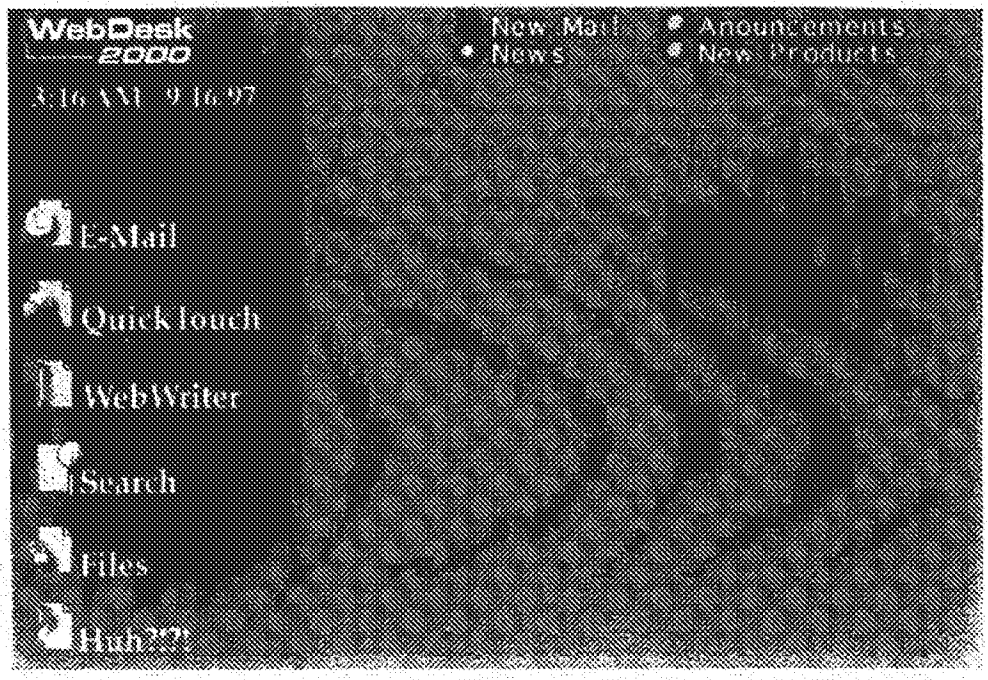
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Fig. 61

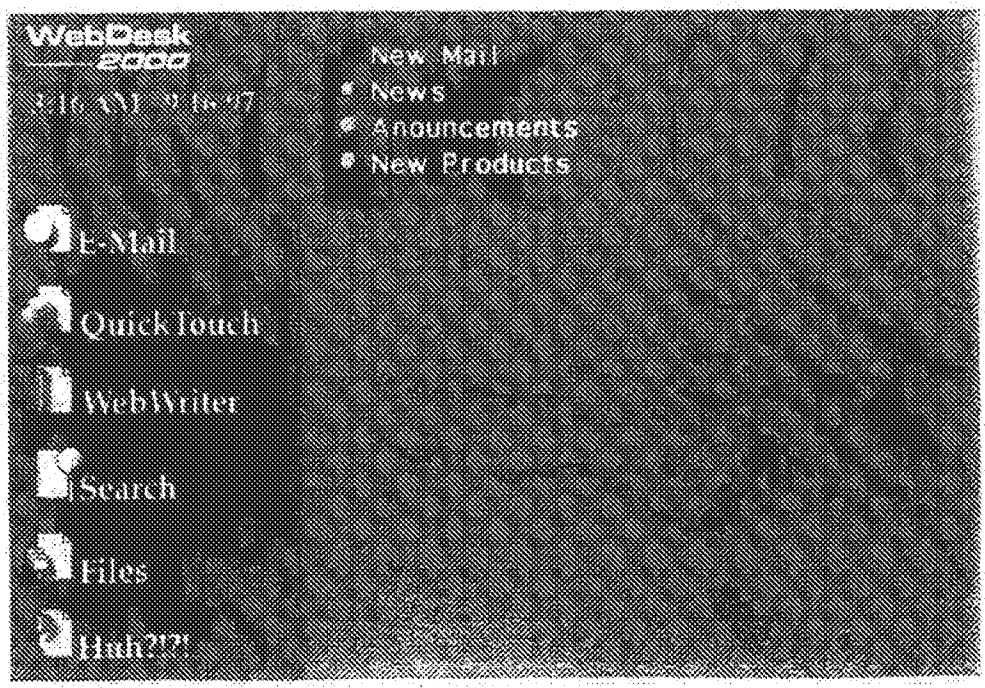
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Fig. 62

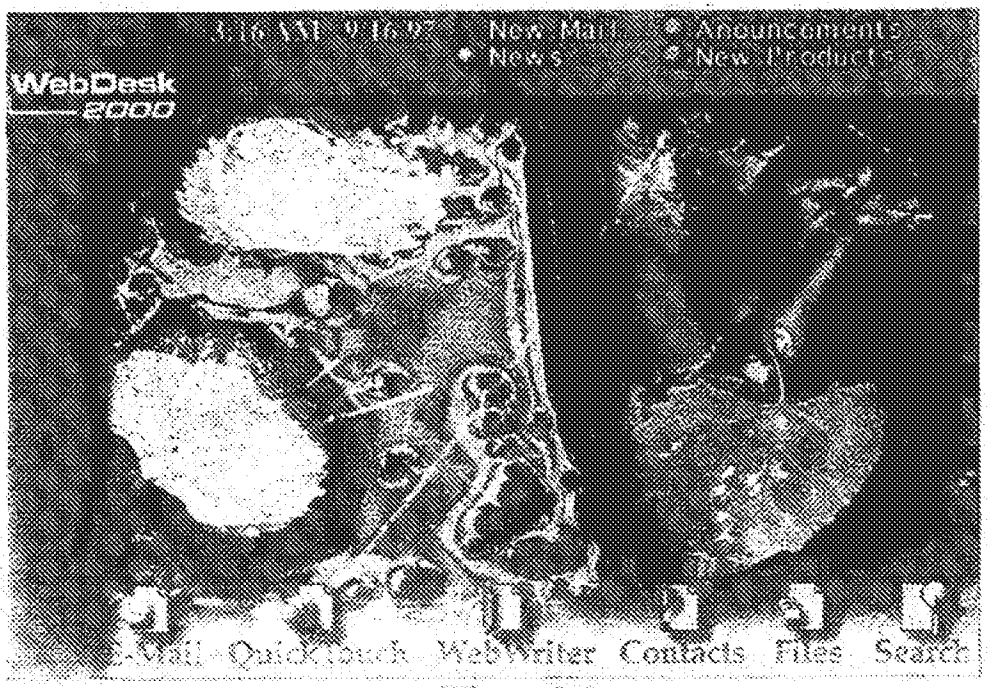
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Fig. 63

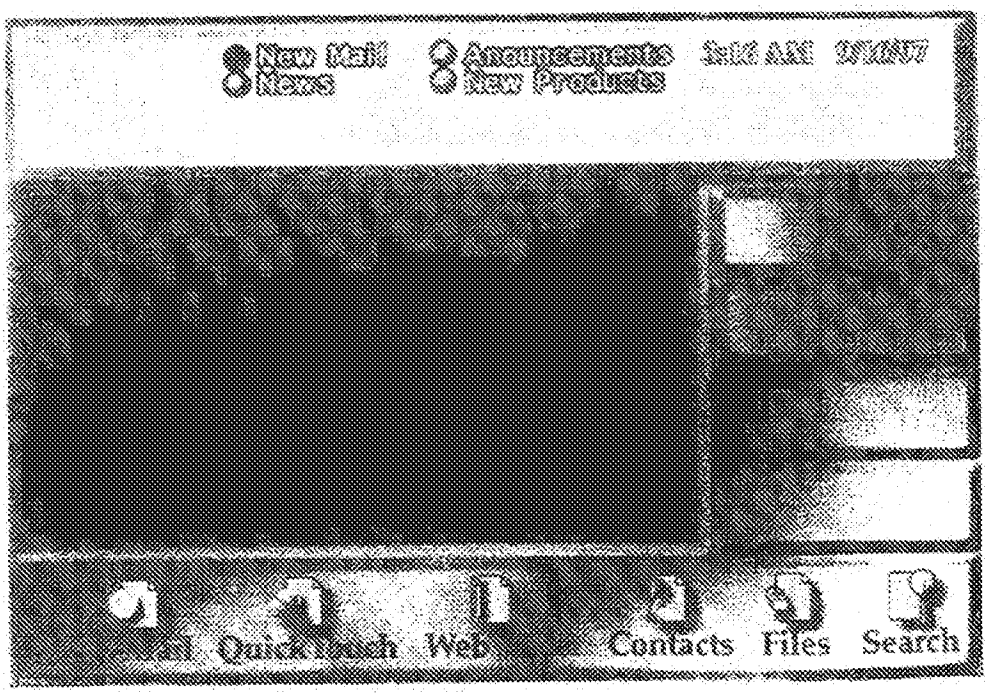
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Fig. 64

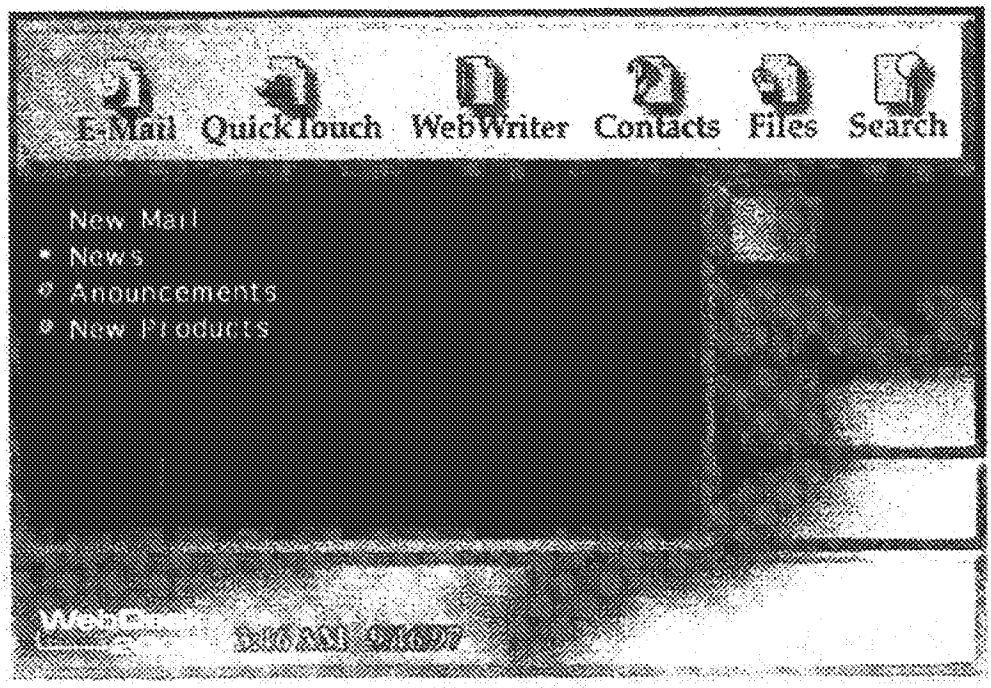
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Fig. 65

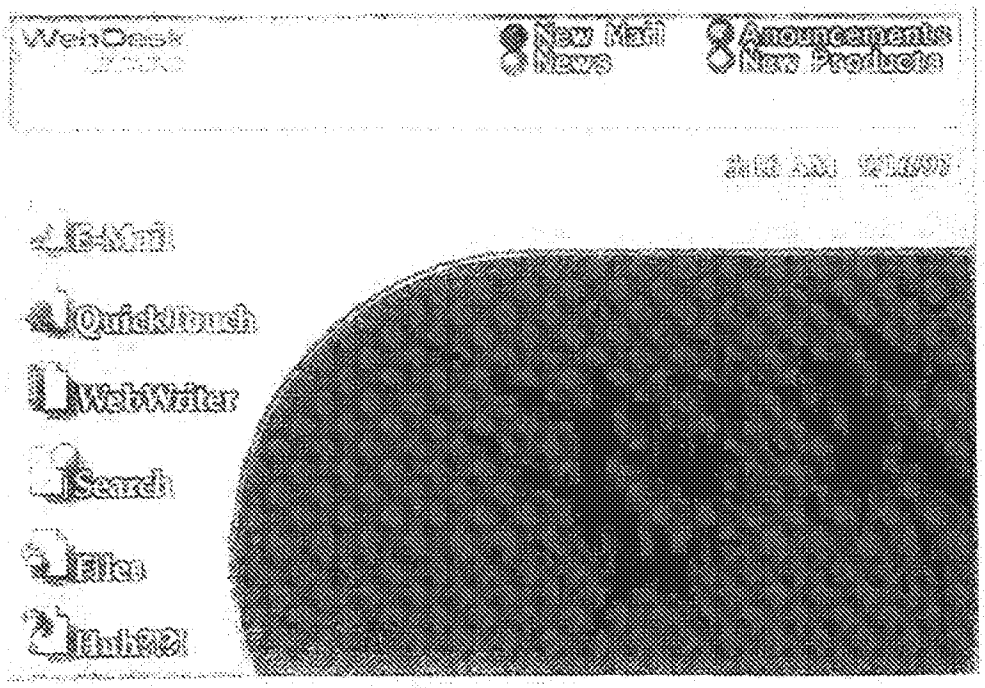
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Fig. 66

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A3

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60/030,996	15 November 1996 (15.11.96)	US
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60/057,256	29 August 1997 (29.08.97)	US
60/060,612	1 October 1997 (01.10.97)	US

(71) Applicant: INERGY ONLINE, INC. [US/US]; Suite 1, 3 Regency Plaza, Providence, RI 02903 (US).

(72) Inventors: BELANGER, Charles, E.; 345 Boston Road, Billerica, MA 01821 (US). WOODLEE, Jason; 155 Rutgers Lane, Parsippany, NJ 07054 (US).

(74) Agents: BLODGETT-FORD, Sayoko, J. et al.; Foley, Hoag & Eliot LLP, One Post Office Square, Boston, MA 02109 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

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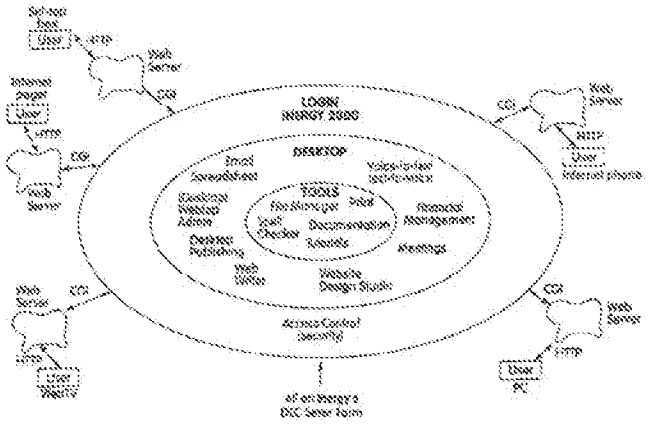
With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(88) Date of publication of the international search report: 9 July 1998 (09.07.98)

(54) Title: REMOTE COMMUNICATION, INFORMATION MANAGEMENT, AND HOME PAGE AUTHORING SYSTEM



(57) Abstract

The systems and methods described herein provide different types of Web authoring, Web site management, and communication software technology, including but not limited to full multimedia authoring, online libraries, sounds, forms, e-mail, facsimile, voice-mail, pager, telephone, financial management, true document printing (as opposed to screen printing), text-to-voice and voice-to-text conversion, file management, spreadsheets, all accessed and run via the Internet. The system resides entirely on an Internet Web Server site and interacts with users via conventional programming languages written for a universal protocol. As a result, there is no need for client-side messaging software. All software is provided on the server side. The only software the user needs is any form of Web browser and an electronic communications connection. Because the system is platform and operating system independent, a user may author, create, maintain, send and receive messages from any platform, using any conventional operating system. A user may customize their desktop configuration and may run a variety of different applications. Moreover, a user may switch between applications, and transfer text, graphics, or sound files between applications.

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INTERNATIONAL SEARCH REPORT

Interna al Application No
PCT/US 97/20822

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 H04L29/06 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 H04L G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 96 29664 A (MICROSOFT CORP) 26 September 1996	1,3-5,8, 9,13,14, 16, 18-20, 22,23, 29,31, 32,37, 40,41, 43-45, 48,49, 64,76
A	see page 1-19 - page 29-33; figures 1,9,10	15,17, 25,27, 33-36, 53-59, 61,63, 66-72,74

-/--

[X] Further documents are listed in the continuation of box C. [X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
14 May 1998	22/05/1998

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Dupuis, H

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INTERNATIONAL SEARCH REPORT

Interna... al Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
X	WO 96 29663 A (MICROSOFT CORP) 26 September 1996 see page 1, line 21-26; claim 19 see page 2, line 27 - page 3, line 20 see page 5, line 13 - page 8, line 20 see page 11, line 9 - page 12, line 8 see page 13, line 14 - page 23, line 22	1,3-5,8, 9,13,20, 22,29, 31,37, 40,41, 43-45, 48,49, 64,76
A	WO 96 30846 A (NAVISOFT INC) 3 October 1996 see page 1, line 9 - page 2, line 24 see page 7, line 29 - page 8, line 2 see page 10, line 31-32 see page 15, line 1-16 see page 17, line 1-17	58-62, 71-75
X	ABALG R ET AL: "THE HYPERTEXT INTERNET CONNECTION: E-MAIL, ONLINE SEARCH, GOPHER" ONLINE INFORMATION 13TH INTERNATIONAL ONLINE INFORMATION MEETING, 7 December 1993, pages 453-464, XP000613558 see paragraph 1.1 - paragraph 1.2 see paragraph 2.1 - paragraph 2.4 see paragraph 4.2 - paragraph 4.3.1	1,3-5,9, 13,19, 20,29, 31,32, 38-40
X	WO 96 34341 A (BOBO CHARLES II) 31 October 1996 see page 1, line 3-7 see page 10, line 9 - page 11, line 8 see page 15, line 8 - page 18, line 18 see page 32, line 19 - page 33, line 11 see page 37, line 14-29 see page 45, line 10-13	1-3, 8-10, 12-16, 20,21, 23,26,27
A	WO 96 31826 A (HIGLEY THOMAS K) 10 October 1996 see page 1, line 1-20 see page 6, line 19 - page 7, line 9 see page 8, line 23-24 see page 9, line 24 - page 11, line 13	1,20

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INTERNATIONAL SEARCH REPORT

Information on patent family members

Interna al Application No
PCT/US 97/20822

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9629664 A	26-09-96	US 5732219 A	24-03-98
		EP 0815518 A	07-01-98
		EP 0815519 A	07-01-98
		WO 9629663 A	26-09-96
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		EP 0818013 A	14-01-98
WO 9634341 A	31-10-96	US 5675507 A	07-10-97
WO 9631826 A	10-10-96	NONE	

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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(11) International Publication Number: **WO 98/33102**

(43) International Publication Date: 30 July 1998 (30.07.98)

(21) International Application Number: PCT/EP97/00506

(22) International Filing Date: 23 January 1997 (23.01.97)

(71) Applicant *(for all designated States except US)*: ALCATEL ALSTHOM COMPAGNIE GENERALE D'ELECTRICITE [FR/FR]; 54, rue La Boétie, F-75008 Paris (FR).

(72) Inventors; and

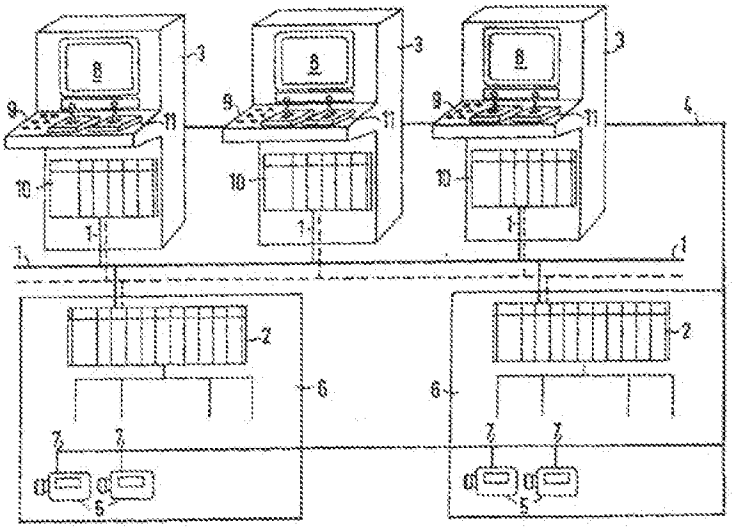
(75) Inventors/Applicants *(for US only)*: GUIMARAES TEIXEIRA, Antonio Celso [CL/CL]; Mardoqueo Fernández 201, Depto. 210 Providencia, Santiago de Chile (CL). JORQUERA SOLIS, Juan Carlos [CL/CL]; Santa Sara 3606-I – Macul, Santiago de Chile (CL). OYANEDER SANDOVAL, Cristian [CL/CL]; Apoquindo 7910 Torre 1, Depto 2001 Las Condes, Santiago de Chile (CL).

(74) Agents: KNECHT, Ulrich, Karl et al.; Alcatel Alsthom, Intellectual Property Dept., Postfach 300 929, D-70449 Stuttgart (DE).

(81) Designated States: AU, BR, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.

(54) Title: MULTIMEDIA REMOTE CONTROL



(57) Abstract

The objective of this invention is to provide an alternative system which offers simpler and safer operation, at a lower cost, integrating the video, automatic control and monitoring functions in the same equipment. The main components used are: PC hardware and Windows-based software, one or more cameras located on site, a video cable and a multipoint data communication network. This enables the operator to monitor and control equipment and its video cameras by means of a PC compatible computer via a multi-media integrated Window-based monitoring system. The operator simply has to select the equipment to be operated using the Trackball to click on the monitor via a video cable and the communications network with the image originating at that moment from the equipment selected, with its respective signals and commands, avoiding operational errors and thus enabling the digitised video images and sound to be integrated in real time with the monitoring functions.

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MULTIMEDIA REMOTE CONTROL

DESCRIPTIVE STATEMENT

FIELD OF APPLICATION:

This invention refers to a multimedia control system to provide a latest generation technical solution for remote control of site equipment used in different industrial areas, resolving the difficulties posed by monitoring in matters of safety and operational errors.

BACKGROUND TO THE SUBJECT

One of the most important problems to be resolved by industry is posed by the monitoring and control of machinery and equipment in various areas of work, whether for the risks associated with the terrain, geographical location, movement of heavy machinery, discharge of toxic gasses, cave-ins, etc.

In reality, to carry out control and supervision in different industrial fields, the traditional technical solution for remote control of equipment, is to link a closed circuit television (CCTV) system to a control system based on computers and/or programmable controllers (PLCs). This system, however, presents problems from an operational and safety point of view, since the fact of having separate control and video circuits (NOT LINKED) means that the system cannot ensure that the current image and sound correspond to the equipment being controlled, which is a basic requirement of a good monitoring system. The risks can be enormous when it is considered that this system is in daily use for the control of underground trains, mining work, oil production, machinery control, etc., activities which necessarily require a solution which supplies information ensuring coherence between the image and the control function, thereby giving the maximum degree of safety. The solution used up to now was created for operational control of minor equipment, since in supplying information dissociated

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from what is occurring on site it is impossible to react rapidly to operational situations; therefore it is imperative to have a control and monitoring system which is simple to operate and which possesses the ability to generate reliable and timely information.

For this reason, the objective of this invention is to provide an alternative system which offers simpler and safer operation, at a lower cost, integrating the video, automatic control and monitoring functions in the same equipment. The main components used are: PC hardware and Windows-based software, one or more cameras located on site, a video cable and a multipoint data communication network. This enables the operator to monitor and control equipment and its video cameras by means of a PC compatible computer via a multi-media integrated Windows-based monitoring system. The operator simply has to select the equipment to be operated using the Trackball to click on the corresponding icon on screen. The system then updates each monitor via a video cable and the communications network with the image originating at that moment from the equipment selected, with its respective signals and commands, avoiding operational errors and thus enabling the digitised video images and sound to be integrated in real time with the monitoring functions.

DESCRIPTION OF DRAWINGS:

FIG. No. 1. Block diagrams and flow charts which constitute the remote control multimedia system.

DESCRIPTION OF THE INVENTION

As can be seen from Fig. No. 1, the invention enables equipment to be controlled remotely by means of an operating console which displays the image and information from site integrated in a multimedia environment.

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It is possible to have more than one operating console and more than one item of equipment to be controlled remotely connected to the system.

All commands which the operator is required to carry out, are effected by means of the Trackball which is connected to the computer, and which is used to click on the user-configured icons. This enables the following, amongst other things:

- Activation/deactivation of the equipment preselection display.
- Activation/deactivation of the equipment selection display.
- Activation/deactivation of the data window.
- Activation/deactivation of the alarm summary window.
- Pre-selection of the equipment which the operator has to use.
- Selection of the equipment to be remotely controlled.
- Switching between the cameras of the equipment being remotely controlled, each item of equipment having at least one video camera.
- Zooming in and out of the image on screen.
- Horizontal and vertical (pan and tilt) movement of the video image displayed at that moment.

In addition to the Trackball, the operator has joysticks with which he controls the movement of the remotely controlled equipment.

The user interface is based on a monitoring system for Windows, which allows signal acquisition, sending of commands, historical management of data among other things, which is integrated with the video image to complete the multimedia interface available to the user.

The following are installed in the equipment which is to be controlled remotely: a PLC, designated the local PLC, to which the signals originating from the equipment are connected, a video switch which is controlled by the local PLC and which

enables selection of the desired video camera, and one or more video cameras which permit observation of the equipment from different angles.

The interconnection of items of equipment which are to be controlled remotely (local PLCs and associated video cameras) and the operating consoles is carried out via two independent networks, the first a data communications network and the second a video network, the details of which are as follows:

Data network: The data network interconnects the local PLCs with the operating consoles, allowing bi-directional data transfer to take place. This network is a multipoint network which may be of mixed topology, bus and star, and, in addition may be implemented on a fibre-optic basis.

Video network: This network, one per operating console, connects to all items of equipment to be remotely controlled, is of mixed topology, i.e. star topology with each branch being a bus. The connection of the desired camera to the network is effected by means of the video switches installed in each item of equipment, which are controlled by the local PLC which is controlled in turn by the console.

Operation: When the operator selects, by means of the user interface 8, the site equipment (6) which is to be operated, by means of the Trackball (9) connected to the PC computer (10), the following actions are initiated:

The operating console (3) establishes communication through the data network (1) with the local PLC (2) associated with the equipment (6), verifying the communication and the status of the equipment; if the equipment is being remotely controlled by another console, the connection request is aborted, otherwise the connection process continues. This process ensures the reliability of the remote control, since it guarantees the link between console and equipment (3-6).

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Once communication between the local PLC (2) and the console (3) is established, the corresponding video (7) switch is closed in order to connect the video camera (5) to the network (4); this guarantees that the image displayed at the interface (8) is that of the selected equipment (6).

The console (3) now initiates a continuous local PLC (2) read/write process, obtaining the required status information, writing the operator commands and checking the state of communication. At this point, the operator can start the remote control of the equipment, monitoring its start up (9), stopping (9), its movements (11), camera movements (8), image close-up (8), etc.

If the operator wishes to control another item of equipment remotely, he must request a connection to it, at which time the system will proceed to disconnect itself from the preceding item of equipment, leaving it in a safe condition and subsequently proceeding with the connection to the new equipment following the steps previously described.

CLAIMS

1. A multimedia control system which takes into account a combination of physical means which fulfil known functions and a computerised application which allows the integration of video images, control and monitoring in the operation of machinery and equipment used in the field of industry, OF A DISTINCT NATURE because this combination has been configured in order to provide instantaneously the required information about what is happening with the equipment on site being controlled, ensuring with this process that the remote controlled operation is one hundred percent reliable.

2. A multimedia control system in accordance with claim No. 1, OF A DISTINCT NATURE because this system, properly adapted and others created for the said purpose, integrate video, automatic control and monitoring functions in the same equipment.

3. A multimedia control system in accordance with claim No. 2, OF A DISTINCT NATURE because it takes up a single channel or video cable per operating console for several television cameras.

4. A multimedia control system in accordance with claim No. 3, OF A DISTINCT NATURE because it controls the physical movements of the cameras by means of arrows displayed on the edges of the screen.

5. A multimedia control system in accordance with claim No. 4, OF A DISTINCT NATURE because it utilises a digitised video image on screen and embedded graphic images originating from the selected equipment.

6. A multimedia control system in accordance with claim No. 5, OF A DISTINCT NATURE because it allows remote control of industrial equipment and its video cameras via a single PC-compatible computer screen.

7. A multimedia control system in accordance with claim No. 6, OF A DISTINCT NATURE because the user interface is based on a monitoring system running under Windows, which allows the acquisition of signals, sending of commands, historical management of data, which is integrated into the video image to complete the multimedia interface for the operator.

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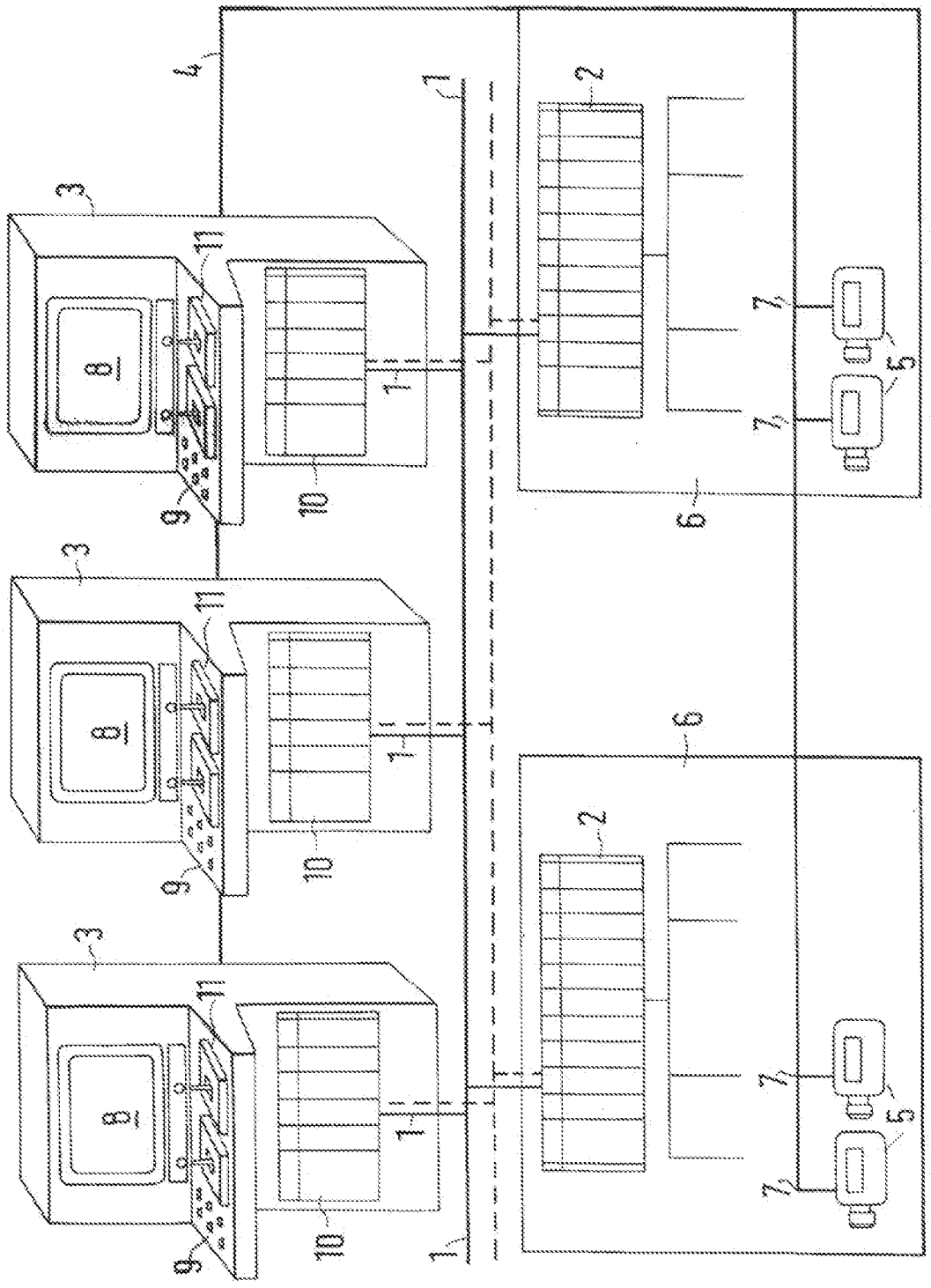

INTERNATIONAL SEARCH REPORT

Internat. Application No
PCT/EP 97/00506

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G05B19/418

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 G05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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[X] Further documents are listed in the continuation of box C.

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Date of the actual completion of the international search	Date of mailing of the international search report
8 September 1997	24.09.97

Name and mailing address of the ISA	Authorized officer
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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 97/00506

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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(71)(72) Applicant and Inventor: POLASH, Peter [US/US]; 20 Foxhill Road, Woodside, CA 94062 (US).

(74) Agents: CELLA, Charles, H. et al.; Foley, Hoag & Eliot, LLP, One Post Office Square, Boston, MA 02109 (US).

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(54) Title: INTERNET BASED MUSICAL INDEXING SYSTEM FOR RADIO

(57) Abstract

The invention includes systems and methods for viewing musical selections broadcast from a radio-station. To this end the system can include a web server that generates HTML pages that contain information representative of the play list of a radio station. In one embodiment, the list is displayed in real time and the selection currently being played is highlighted on the web page. Selections that have already been played can be shown with a text field that contains the time the selection was broadcast. The web server can further comprise an interface or connection to a database that indexes music selections to a table of recordings, such as an album, CD or Video, and that further indexes the recording to an audio sample that can be downloaded over the Internet or other computer network to allow a consumer to listen and determine if the downloaded sample relates to the preferred selection of the consumer. Optionally, the web server can include a transaction server for allowing the consumer to purchase the selection or associated CD. In a further optional embodiment, the web server can allow a consumer to provide comments on the musical selections purchased broadcast.

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INTERNET BASED MUSICAL INDEXING SYSTEM FOR RADIO

Field of the Invention

This invention relates to a software program for viewing musical selections, and more particularly to a software program that can enable radio stations to post listings of musical selections for perusal by listeners and enable listeners to provide comments on the musical selections.

Background of the Invention

Consumers commonly get their exposure to new music from the airplay provided by radio stations. Accordingly, recording companies support radio stations with free selections of new music being produced by the recording company, incentives and advertising.

Although, radio stations are quite good at providing consumers with exposure to new music, the ephemeral nature of the music broadcast makes it difficult for consumers to get the information they need to purchase a preferred recording. For example, consumers are often frustrated that the title of the music they are interested in is unknown to them, and that the radio stations fails to identify the title, artist or album associated with the recording. Moreover, radio broadcasts, by their nature fail to provide any way for a consumer to communicate back to the station its interest in learning about a selection, or purchasing the selection.

Accordingly, there is a need in the art for a system that provides a consumer with the information necessary to identify and purchase preferred music selections.

Summary of the Invention

The invention includes systems and methods for viewing musical selections broadcast from a radio-station. To this end the system can include a web server that generated HTML pages that contain information representative of the play list of a radio station. In one embodiment, the list is displayed in real time and the selection currently

being played in highlighted on the web page. Selections that have already been played can be shown with a text field that contains the time the selection was broadcast. The web server can further comprise an interface or connection to a database that indexes music selections to a table of recordings, such as an album, CD or Video, and that further indexes the recording to an audio sample that can be downloaded over the Internet or other computer network to allow a consumer to listen and determine if the downloaded sample relates to the preferred selection of the consumer. Optionally, the web server can include a transaction server for allowing the consumer to purchase the selection or associated CD. In a further optional embodiment, the web server can allow a consumer to provide comments on the musical selections purchased or broadcast.

More specifically, the systems can include a host HTTP server that supports various HTML pages, each page being configured for an individual radio station and each page appearing from an external source as an independent Web site.

The host HTTP server is connected to a database that may be located on the same or different computer. The host HTTP server interfaces with the database using a standard interface programming language such as Common Gateway Interface (CGI).

Each HTML page contains a list of songs played by that radio station. The list may contain songs that have been played by the station in the past, that are currently being played, or that will be played in the future. The list of songs may be contained in the database and the database may create the HTML page and provide the HTML page or a pointer indicating the location of the HTML page to the HTTP server. By providing a HTML page with a list of songs played by the radio station or which will be played by the radio station, the radio station can easily provide access to its listeners of its set lists.

The list of songs should be scrollable and able to be sorted by date and time. Further, the list should indicate for each song the time and date the song was played, the title of the song, the name of the Artist who recorded the song, and the name of the Compact Disc on which the song is recorded. Maintaining the list of songs in the database facilitates sorting the songs by date and time and will also facilitate other functionality of the system to be described later.

The HTML page containing the list of songs may optionally contain one or more additional features enabling the viewer to search for particular songs, comment on the

songs played by the radio station, or actually purchase music in the form of CDs or Cassettes.

One option available to the Radio station is to enable the user to click on a particular selection and submit a purchase order for the underlying CD or cassette. This order form could be generated using a standard JAVA applet or any other type of form generating program which can generate the necessary form. It is currently envisioned that the order form would require at least basic information such as the user's name, address, credit card number, the expiration date of the user's credit card, and any other information required to process a sales order. It is possible to make this a secure order form by offering the user the option of encrypting communications regarding submission of an order for music.

The user of the system may wish to purchase several CDs at once, and should not be prompted for the same information each time the user desires to purchase a CD. Accordingly, the system may optionally allow the user to select multiple tracks by clicking once on each desired track in the song list, and then requesting the user to click on a button labeled "submit order" or in a similar fashion. This button may be, as described above, a JAVA applet, or a hot link to another HTML page designed to provide the user with a list of selected Cds, the price for each CD, the availability of the CD, and which is designed to receive input from the user as to the user's confidential information necessary to complete the sale, as described above.

To facilitate locating a particular song in the song list, a search function may be provided on the HTML page. Storing the song list in a database which creates the HTML page in the first instance is beneficial to facilitate this functionality since database programs are typically adept at searching, retrieving and organizing information from a large volume of data. Alternatively, other search functions could be performed on the content of the HTML page itself without querying the database.

Another option which may be available is to enable the user to give a satisfaction rating of any number of tracks by simply clicking on the track as it appears in the list of songs. These ratings can be organized and used as concise, instantaneous feedback by the radio station. Additionally, the user may be allowed to enter comments for use by the radio station. One way of allowing the user to provide comments would be to enable the

user to select a particular song by clicking on the song in the list of songs, and then clicking on a hot button labeled "comment" or in a similar manner. This button could cause a JAVA applet to run, or could be a link to another HTML page in which the user could submit comments on the selection. The type of comment entered by the user could be tailored by the radio station to a great degree by prompting the user to enter particular types of information and optionally requesting the user to answer particular questions about the selection. Optionally, the radio station could enable the user to simply provide narrative comments on the selection.

Other embodiments of the invention will be understood from the following description of certain illustrated embodiments.

Brief Description of the Figures

The following figures depict certain illustrative embodiments of the invention in which like reference numerals refer to like elements. These depicted embodiments are to be understood as illustrative of the invention and not as limiting in any way.

Figure 1 depicts one system according to the invention;

Figure 2 depicts one screen according to the invention that displays a play list for a radio station; and

Figure 3 is a flow chart diagram of one system according to the invention.

Detailed Description of the Illustrated Embodiments

To provide an overall understanding of the invention, certain methods, systems and devices of the invention will be discussed in the context of applications for providing consumers with access to radio play lists and for using the play list information to make purchases over the Internet. However, it will be understood by persons of ordinary skill in the art that the methods, systems and devices described herein are equally applicable to all cases in which a user accesses data from a computer network, and other applications and uses of the invention can be made without departing from the scope thereof. For

example, systems and methods as described herein can be employed for identifying information and purchasing movies from a television station. Other applications will, in part be described and, in part, be obvious from the following descriptions of the illustrated embodiments.

Figure 1 depicts a computer network that includes an server computer program running on a server 12. In this embodiment, the server 12 can be operated by a radio station and provide a user with information representative of the play list for that radio station. Figure 1 illustrates the flow of data that can incur during the operation of computer network which is allowing a user at the terminal 14 to employ the program on the server 12 to access information stored at the server site. It will be understood that Figure 1 is a logical representation of the data flow that occurs during operations of the network 10. It is not to be understood as describing or limiting the network 10 to any particular type of configuration. For example, the network 10 can be a LAN, WAN, Intranet or any other type of network. Moreover, the network 10 is not limited to any configuration or topology, nor will Figure 1 be understood to limit the network 10 to any particular type of protocol. However, for purposes of illustrating the system, the network 10 will be described as a TCP/IP network, and in particular the Internet and the World Wide Web service provided by the Internet.

The data exchanges depicted in Figure 1 illustrate generally that a user at the terminal 14 can issue a page request to the server 12, directing the server 12 to process the request and generate a page signal, such as an HTML page. In one embodiment this is done by processing information stored in the database 16 to generate a page signal for the user, and sending the page signal to the terminal 14 for viewing by the user. Typically, a browser program operating on the terminal 14 can be employed by the user for issuing the request signals and viewing the page signals.

In the embodiment depicted in Figure 1 the various elements, such as the terminal 14, the server 12, and the data storage devices 20 can be conventional network computer devices. For example, the terminal 14 depicted in Figure 1 can be any terminal suitable for operating a browser program for viewing information stored on the computer network, such as the Internet. For example, the terminal 14 can be an IBM PC compatible computer system running the NETSCAPE browser program. Similarly, the

server 12 can be any computer system capable of operating a computer program for accessing information stored on a data network, and for performing data processing functions. The memory devices 20 can be any suitable memory device for storing a computer readable database, and optionally can be a persistent or volatile memory device. In one example, each device 20 is one or more hard disk drive units coupled to and operated under the control of the server 12. The server 16 can be any computer systems suitable for operating as file servers for delivering information over a network system. Continuing with the above example, the server 16 can be an Internet file server capable of transferring data according to the HTTP transfer protocol. It will be understood however that any suitable transfer protocol can be practiced with the systems described herein, including extensions and developments to HTTP. In one example, the server can be a PC clone running the WINDOWS NT operating system.

The computer program operating on the server 12 will detect the page requests generated by the user and process the page requests to generate pages, such as HTML pages, that contain information representative of the play list of the radio station. The program can be written in any high level computer language, such as the C, C++, or JAVA program languages. Moreover, it will be understood that the invention is not limited to any one implementation of the program, and that the program follows from principles of software engineering well known in the art, including those discussed in Jamsa *et al., Internet Programming*, Jamsa Press, Las Vegas, Nevada, ISBN1-884133-12-6 (1995); and Graham, *HTML Sourcebook*, Wiley Computer Publishing, third edition (1997), which are incorporated by reference herein.

In one embodiment, the program provides to a user accessing a radio stations web site a page, such as that depicted in Figure 2. As depicted in Figure 2, the page includes a play list 42, a playback control button 44, an order control button 46, a search button 48, a keyword field 50 and a message board field 52.

The play back list 42 lists all the selections played by the radio-station, and in one embodiment, the web server updates the user's web page in real time so that the song currently being played is highlighted for the user. Optionally, the play list shows the title and the time that the selection was played or will be playing. The play list can give the schedule of radio content indicating every track played, the time/day, the CD, and the

artist, and put the information in a scrollable list sorted by time/date. The information can be available for past, present and future and playback can be available of CD samples played in the past and future. However, the system is not required to display schedules but the system can use schedules internally within the databases to help users search for and locate particular selections. Play lists for different days can be provided to the user on the user's request.

The display 40 can also include a playback control 44. A user can activate the play back button to request a sample of a selected song to be downloaded to the terminal 14. The playback control will cause the web server 12 to access the database 16 to get an audio sample of the selection. The database 16 can include a set of data tables 24, such as tables 28 and 30, that are referenced to each other so that the database can select for a given track, such as track 1, the CD that is associated with that track. The database can also store for a selected CD, a set of audio samples that can be downloaded to the user. In one embodiment, when a user selects a track to playback, the server can download a set of audio samples for the CD that has the selected track. In this way, the user can hear the sample for the selected track, as well as the sample for the other tracks on the CD. Other database structures can be employed without departing from the scope of the invention. Preferably, the database is indexed on many different fields so that a user may quickly retrieve information based on a wide variety of criteria.

The page 40 can also include the order control 46 that allows the user to order a selection, or a CD that has the selection. In one embodiment, the order control 46 causes the server 12 to activate a commerce server, such as the Microsoft transaction server. The transaction server can operate to provide the necessary forms to the consumer and to implement the commercial transaction that allows the consumer to purchase the selection over the network 10. Optionally, the server can allow for user personalization so that a use can set up an account to store information such as credit card data, address data and other information, thereby allowing easier purchases. The system can be compatible with MS Wallet, or a similar product. The user therefore has the ability to click and buy CD's based on finding them from either the radios schedule displays, or clicking on the records found by searches related to scheduling. Optionally, users may buy individual selections

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via download. The system also provides a service to radio stations allowing cataloging and user purchasing of promotional items.

Figure 2 further depicts that the display 40 can include a search button 48. The search button 48 can be associated with a keyword field 50, into which the consumer can enter a key word to be searched through the database 16 operated by server 12. By storing multiple information fields that are indexed widely, searching can be performed for particular CD by any of time, artist, track name, or CD name, "sounds like" searches; search for future play times across multiple radio stations; search for radio station within geographic areas and all above criteria. In this way, the user can search for words and a song title, the name of an artist, or any other type of information that can be searched on to collect information of interest to the consumer. The use of such search engines and their development are well known in the art of software engineering, and any suitable techniques can be employed herein.

Figure 2 further depicts a message board 52 wherein a user can enter information that can be stored in the database 16 by the server. For example, the user can enter information through field 52 that includes comments regarding a selection heard over the radio. These comments can be sent to the server 12 by the user and can be stored within the database to build a database of comments associated with a particular track. Other applications can be employed for the message board 52 without departing from the scope of the invention, such as allowing listeners to give satisfaction rating for any number of tracks by simply clicking on item as it appears on schedule page; comments can be left for any track; and ratings can be organized to give cohesive concise, instantaneous feedback to stations. This also allows Listener Community Development in that Users can leave comments for given tracks; Users can choose to see all messages left for a given track by clicking on schedule; Threaded messages and responses available; there is an ability to send messages to any individuals leaving messages; an ability to see more or all messages left by any author or any message and On line chat rooms associated with each radio station.

Figure 3 depicts one process 60 according to the invention for providing a consumer information representative of the play list, or other information on the radio station. Particularly, the process 60 depicted in Figure 3 includes a step 62 wherein the

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Web server, such as the server 12 depicted in Figure 1, receives a request from a user, such as a consumer operating the terminal 14 while listening to the radio 16 depicted in Figure 1. The user, upon hearing a song of interest can log on through the Internet to the server 12 associated with the radio station. At that time the server 12 will receive a request from the user, and therefore the process 60 precedes step 62. Upon receiving the request the process 60 precedes the step 64 wherein the server 12 processes the request to generate a database access instruction. The database access instruction can be a standard SQL instruction for accessing a SQL database, such as the database 16 depicted in Figure 1. In step 66 the process causes a database access to occur and collects information from the database. In step 68 the process 60 employs the returned information to build an HTML page with the returned information. In one example, the user can click on one of the track selections shown in the play list 42. This can cause a page request to be sent to the server 12. Server 12 can process the page request to interpret it as an instruction to get information regarding the track. Such information can include the full title, the CD associated with the track, the artist associated with the track, the price of the CD, other CDs by the artist, Web links associated with the artist, or any other suitable information. With the returned information the process builds a HTML page that can be delivered to the user in step 70. Accordingly, in step 70 the page is delivered to the user who receives the information requested in step 62.

The invention is not to be limited to the above illustrated embodiments, but can include many additions and modifications, including being employed forWorldwide Internet Broadcasting wherein the system is available for any radio station. By hooking into these services to broadcast a station's air play across the Internet, stations may have the ability to preserve samples of every selection played automatically. This would allow sample playback associated with searches to help users identify the desired track. In other systems, there can be Mail Alert of future play times of favored items based on listener ratings of scheduled items, and of new releases of artists of favored items based on listener ratings of scheduled items. The system can provide Web Hosting Services for radio stations without web pages.

Moreover, the systems and processes described herein can be formed of conventional components and systems include conventional database servers, such as Microsoft SQL server, a web server, such as Microsoft Internet Information Server, that can send a query to the database based on listener input from a web browser connected to the web server. The systems may cause additional information to be stored in the database, in the user's cookie file, or in hidden fields in the resulting HTML page. The system can format the resulting information from the database into HTML that the user can view in their web browser. Some records in the database may be linked to other internal and external database, for example. Track names are matched against a table of song titles and CDs/CDs are matched against a table of SKUs so that they may be easily purchased. Artist names can be matched against a list of special promotions such as upcoming concert tours. Based on this additional information, links are generated in the HTML that lead the user to other pages where they may see additional information or purchase related products, such as: The URL in a link for a CD encodes the CDs SKU and the station information so that the user can easily purchase it, and the store can assign a commission to the referring entity or entities. Other modifications can be made.

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I Claim:

1. A system for allowing a consumer to collect information on a portion of a broadcast, comprising

a server program capable of receiving requests from a user representative of a request to identify a portion of a broadcast,

a database for storing information representative of the play list of radio station associated with the broadcast, and

a server capable of generating a page signal representative of the play list and for delivering the page signal to the user.

2. A system according to claim 1, wherein the page signal includes information representative of a time of day associated with the portion of the broadcast.

3. A system according to claim 1, wherein the page signal includes information representative of an author associated with the portion of the broadcast.

4. A system according to claim 1, wherein the portion of the broadcast is representative of a song.

5. A system according to claim 4, further comprising a transaction server for allowing the user to purchase a recording associated with the song.

6. A system according to claim 1, further comprising a sample database for storing audio samples associated with the broadcast.

7. A system according to claim 1, wherein said server comprises a server capable of providing an indication of the portion of the broadcast currently being provided by the radiostation.

8. A system according to claim 1, further comprising a server capable of receiving information from a user representative of input text and for string the information in a database for subsequent access.

9. A process for allowing a consumer to collect information on a portion of a broadcast, comprising the steps of

providing a server program capable of receiving requests from a user representative of a request to identify a portion of a broadcast,

storing information in a database representative of the play list of radio station associated with the broadcast, and

providing a server capable of generating a page signal representative of the play list and for delivering the page signal to the user.

10. A process according to claim 9, further comprising

providing a database having audio samples associated with said broadcast.

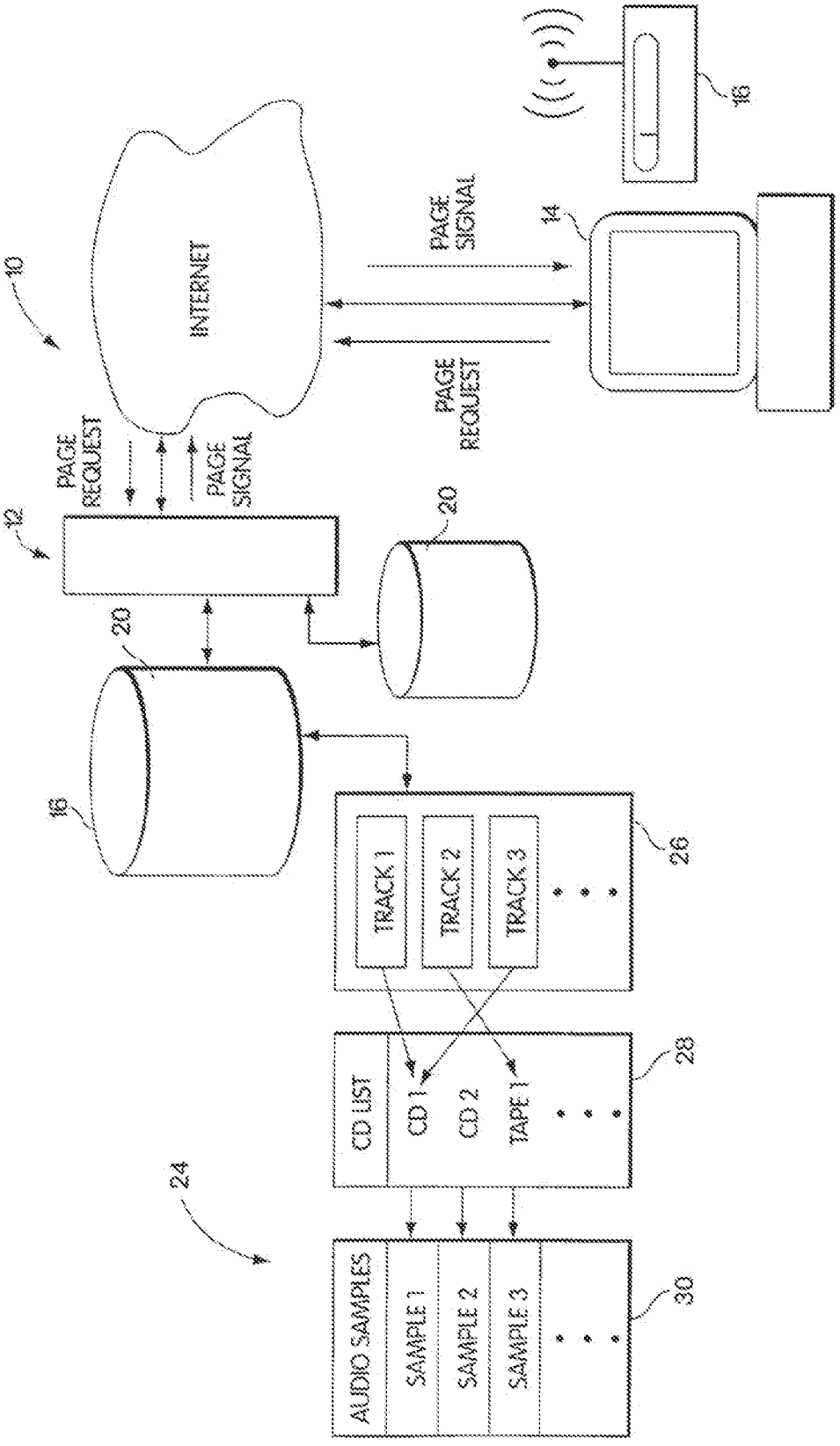
10
INTERNET
PAGE REQUEST
PAGE SIGNAL
PAGE SIGNAL
PAGE REQUEST
14
16
12
20
20
16
TRACK 1
TRACK 2
TRACK 3
26
CD LIST
CD 1
CD 2
TAPE 1
28
24
AUDIO SAMPLES
SAMPLE 1
SAMPLE 2
SAMPLE 3
30

Fig. 1

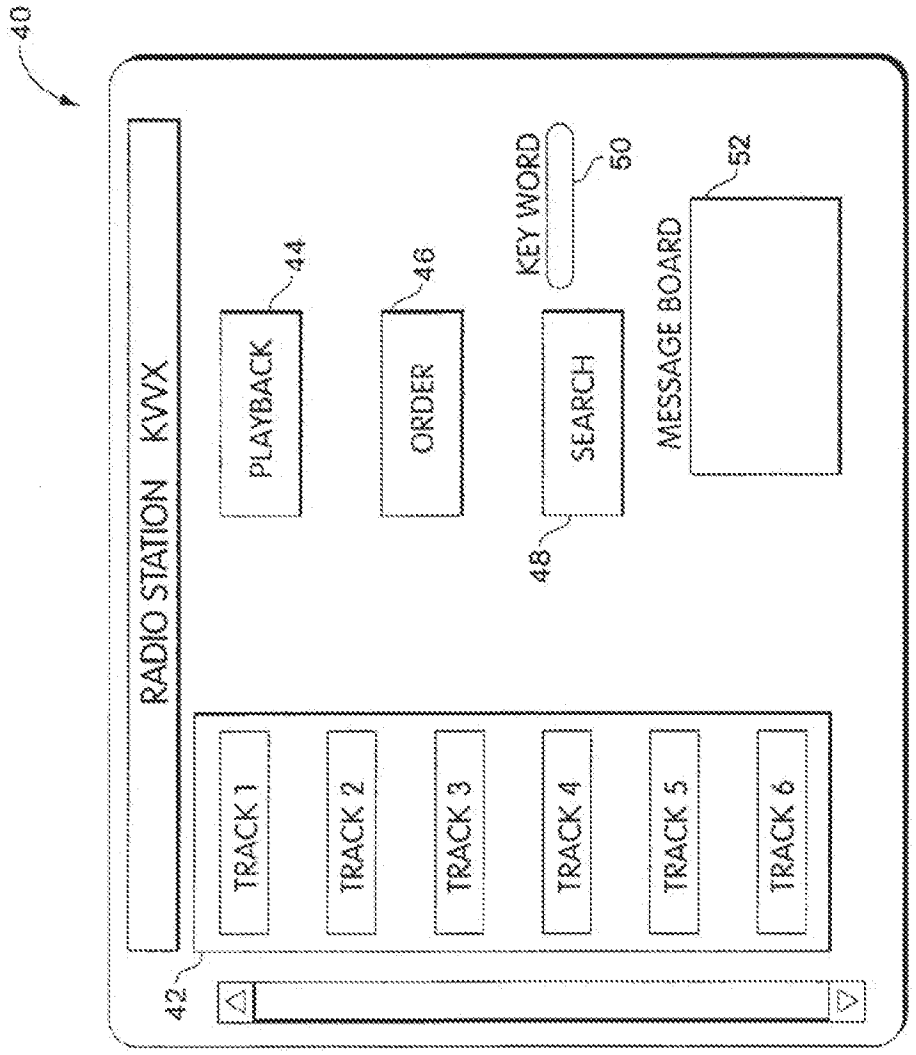
40
RADIO STATION KVVX
PLAYBACK
44
ORDER
46
KEY WORD
50
SEARCH
48
MESSAGE BOARD
52
TRACK 1
TRACK 2
TRACK 3
TRACK 4
TRACK 5
TRACK 6
42

Fig. 2

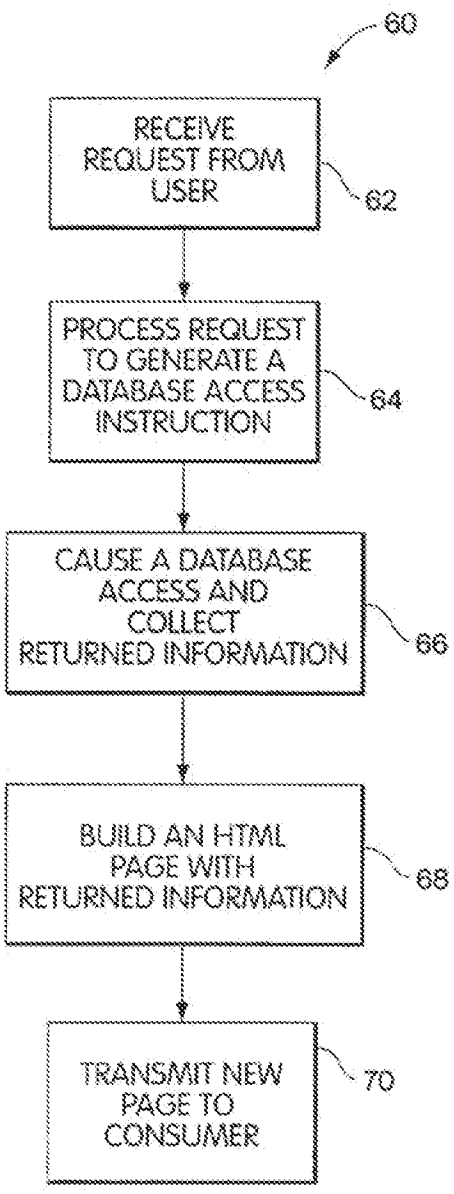
60
RECEIVE REQUEST FROM USER
62
PROCESS REQUEST TO GENERATE A DATABASE ACCESS INSTRUCTION
64
CAUSE A DATABASE ACCESS AND COLLECT RETURNED INFORMATION
66
BUILD AN HTML PAGE WITH RETURNED INFORMATION
68
TRANSMIT NEW PAGE TO CONSUMER
70

Fig. 3

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(71/72) Applicant and Inventor: POLASH, Peter [US/US]; 20 Foxhill Road, Woodside, CA 94062 (US).

(74) Agents: CELLA, Charles, H. et al.; Foley, Hoag & Eliot, LLP, One Post Office Square, Boston, MA 02109 (US).

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(57) Abstract

The invention includes systems and methods for viewing musical selections broadcast from a radio-station. To this end the system can include a web server that generates HTML pages that contain information representative of the play list of a radio station. In one embodiment, the list is displayed in real time and the selection currently being played is highlighted on the web page. Selections that have already been played can be shown with a text field that contains the time the selection was broadcast. The web server can further comprise an interface or connection to a database that indexes music selections to a table of recordings, such as an album, CD or Video, and that further indexes the recording to an audio sample that can be downloaded over the Internet or other computer network to allow a consumer to listen and determine if the downloaded sample relates to the preferred selection of the consumer. Optionally, the web server can include a transaction server for allowing the consumer to purchase the selection or associated CD. In a further optional embodiment, the web server can allow a consumer to provide comments on the musical selections purchased broadcast.

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Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 21291 A (POCOCK MICHAEL) 12 June 1997 see the whole document	1-10
A	US 5 629 867 A (GOLDMAN ROBERT J) 13 May 1997 see abstract see column 1, line 32 - column 4, line 12	1-10
A	US 5 539 635 A (LARSON JR ERNEST J) 23 July 1996	1-10

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[X] Further documents are listed in the continuation of box C. [X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BOGEN M ET AL: "Deutsche Welle: On the air" COMPUTER NETWORKS AND ISDN SYSTEMS, vol. 28, no. 11, May 1996, page 1187-1196 XP004018219 see page 1188, column 1, line 18 - page 1188, column 2, line 41	1-10

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INTERNATIONAL SEARCH REPORT

Information on patent family members

Int. ..ational Application No
PCT/US 98/20725

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 5629867 A	13-05-1997	US 5809246 A	15-09-1998
US 5539635 A	23-07-1996	NONE	

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Time Stamp:	17:57:22
Application Type:	Utility under 35 USC 111(a)

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	Information Disclosure Statement (IDS) Filed (SB/08)	AFF004C5IDS1449Form2.pdf	406324 42b19ed921c386a3b7ea5778579d47d548f3cb41	no	12

Warnings:	
Information:	

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2	Information Disclosure Statement (IDS) Filed (SB/08)	AFF004C5IDS1449Form3.pdf	307057 fc8193f8a09b8a5b2a8443a3454e81c5ee4bc5ca	no	7
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3	NPL Documents	DEF00003300.pdf	2478707 93b557ae6e38b7913a708fb40cd8db4ddbfb54bd	no	8
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4	NPL Documents	DEF00003932.pdf	2563813 5eb6ca492cf7f626976fcff3db654684f445956b	no	27
Warnings:					
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5	NPL Documents	DEF00003959.pdf	4034993 881d4b590781201bef4d6cc0a8707df8aacc356a	no	42
Warnings:					
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6	NPL Documents	DEF00004001.pdf	2436067 fff4a2154aceb253e2f3ce0b8fc0ee7933cbaf17	no	8
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7	NPL Documents	DEF00004009.pdf	3434643 e7daa66e39a8eb358e79827751334d4b8ddcf191	no	20
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9	NPL Documents	DEF00005124.pdf	2893955 74bf893097c7d7f48c87a95065625805c7b72132	no	10
Warnings:					
Information:					

10	Foreign Reference	DEF00005134.pdf	2575500 97f751546de51ab3f9e002053e2f37a1df263457	no	19
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11	Foreign Reference	DEF00005153.pdf	13780103 16c71ed5e90281350294dd3334fc7aec79335969	no	106
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13	Foreign Reference	DEF00005273.pdf	2956651 29ac5255250c5bf1409714307fd6f9d6388d1503	no	22
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14	NPL Documents	DEF00005295.pdf	1768724 e9b950873423d6c20101a5159147fdec27ac66c1	no	18
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15	NPL Documents	DEF00005313.pdf	6471600 c1fe0094a9f25c31721b554eb706788ec46b3e2b	no	77
Warnings:					
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16	NPL Documents	DEF00005495.pdf	2422530 7bf38762ba22bab0853a658f02eb7af113c3b005	no	5
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(Not for submission under 37 CFR 1.99)

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First Named Inventor	Russell W. White, et al.
Art Unit	2617
Examiner Name	Erika A. Gary
Attorney Docket Number	AFF.004C5US

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5969283		1999-10-19	Looney , et al.	
	2	6147938		2000-11-14	Ogawa , et al.	
	3	6157725		2000-12-05	Becker	
	4	6425018		2002-07-23	Kaganas , et al.	
	5	5812870		1998-09-22	Kikinis , et al.	
	6	6862357		2005-03-01	Albus , et al.	
	7	6493546		2002-12-10	Patsiokas	
	8	6721489		2004-04-13	Benyamin , et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12015320
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	First Named Inventor	Russell W. White, et al.
	Art Unit	2617
	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

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	26	6163711		2000-12-19	Juntunen , et al.	
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	32	6121282		2000-09-19	Dominianni , et al.	
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	1	20050282600		2005-12-22	Paradice	
	2	20060094349		2006-05-04	Slesak; Christian H. ; et al.	
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	4	20020026442		2002-02-28	Lipscomb, Kenneth O. ; et al.	
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☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

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Signature	/Mark J. Rozman/	Date (YYYY-MM-DD)	2009-05-27
Name/Print	Mark J. Rozman	Registration Number	42117

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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Examiner Name	Erika A. Gary
Attorney Docket Number	AFF.004C5US

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	21	4876594		1989-10-24	Schiffman	
	22	4914705		1990-04-03	Nigawara	
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	1	5666102		1997-09-09	Lahiff	
	2	5670953		1997-09-23	Satoh , et al.	
	3	5677837		1997-10-14	Reynolds	
	4	5682525		1997-10-28	Bouve , et al.	
	5	5684490		1997-11-04	Young , et al.	
	6	5691695		1997-11-25	Lahiff	
	7	5699056		1997-12-16	Yoshida	
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	9	5702165		1997-12-30	Koibuchi	
	10	5712640		1998-01-27	Andou , et al.	
	11	5734973		1998-03-31	Honda	
	12	5752754		1998-05-19	Amitani , et al.	
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	Art Unit	2617
	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

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	1	20020144271		2002-10-03	BEHAGEN, MICHAEL ; et al.	

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☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

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A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mark J. Rozman/	Date (YYYY-MM-DD)	2009-05-27
Name/Print	Mark J. Rozman	Registration Number	42117

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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Art Unit	2617
Examiner Name	Erika A. Gary
Attorney Docket Number	AFF.0004C5US

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5819160		1998-10-06	Foladare , et al.	
	2	5926624		1999-07-20	Katz , et al.	
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	9	6246935		2001-06-12	Buckley	
	10	6262724		2001-07-17	Crow , et al.	
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	16	6618039		2003-09-09	Grant , et al.	
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	20	6697944		2004-02-24	Jones , et al.	
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	29	7219123		2007-05-15	Fiechter , et al.	
	30	7379541		2008-05-27	Iggulden , et al.	

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	31	7437485		2008-10-14	Kruglikov , et al.	
	32	6150925		2000-11-21	Casazza	
	33	6292743		2001-09-18	Pu , et al.	
	34	6671745		2003-12-30	Mathur , et al.	
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	36	5657221		1997-08-12	Warman , et al.	
	37	5798759		1998-08-25	Dahl	
	38	5956029		1999-09-21	Okada , et al.	
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	42	6456892		2002-09-24	Dara-Abrams , et al.	
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	1	20020060701		2002-05-23	Naughton, Patrick J. ; et al.	
	2	20020026442		2002-02-28	Lipscomb, Kenneth O. ; et al.	

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Name/Print	Mark J. Rozman	Registration Number	42117

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	1	5400246		1995-03-21	Wilson , et al.	
	2	5404443		1995-04-04	Hirata	
	3	5408686		1995-04-18	Mankovitz	
	4	5414439		1995-05-09	Groves , et al.	
	5	5416318		1995-05-16	Hegyi	
	6	5422565		1995-06-06	Swanson	
	7	5432904		1995-07-11	Wong	
	8	5440428		1995-08-08	Hegg , et al.	

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	9	5442553		1995-08-15	Parrillo	
	10	5442557		1995-08-15	Kaneko	
	11	5450321		1995-09-12	Crane	
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	13	5475399		1995-12-12	Borsuk	
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	15	5483632		1996-01-09	Kuwamoto , et al.	
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	17	5493658		1996-02-20	Chiang , et al.	
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	Art Unit	2617
	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

	20	5504622		1996-04-02	Oikawa , et al.	
	21	5506595		1996-04-09	Fukano , et al.	
	22	5511724		1996-04-30	Freiberger , et al.	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12015320
	Filing Date	2008-01-16
	First Named Inventor	Russell W. White, et al.
	Art Unit	2617
	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

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	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number	12015320
Filing Date	2008-01-16
First Named Inventor	Russell W. White, et al.
Art Unit	2617
Examiner Name	Erika A. Gary
Attorney Docket Number	AFF.004C5US

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OR

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☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mark J. Rozman/	Date (YYYY-MM-DD)	2009-05-27
Name/Print	Mark J. Rozman	Registration Number	42117

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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(Not for submission under 37 CFR 1.99)

Application Number	12015320
Filing Date	2008-01-16
First Named Inventor	Russell W. White, et al.
Art Unit	2617
Examiner Name	Erika A. Gary
Attorney Docket Number	AFF.004C5US

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6144358		2000-11-07	Narayanaswamy , et al.	
	2	70132151		2006-03-14	Hirokawa	
	3	6175789		2001-01-16	Beckert , et al.	
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	Art Unit	2617
	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

	9	6594723		2003-07-15	Chapman , et al.	
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	First Named Inventor	Russell W. White, et al.
	Art Unit	2617
	Examiner Name	Erika A. Gary
	Attorney Docket Number	AFF.004C5US

	20	6278676		2001-08-21	Anderson , et al.	
	21	6301116		2001-10-09	Tamura	
	22	6278531		2001-08-21	Tesavis	
	23	7120462		2006-10-10	Kumar	

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☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

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Signature	/Mark J. Rozman/	Date (YYYY-MM-DD)	2009-05-27
Name/Print	Mark J. Rozman	Registration Number	42117

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Electronic Acknowledgement Receipt

EFS ID:	5406276
Application Number:	12015320
International Application Number:	
Confirmation Number:	2156
Title of Invention:	Method for Managing Media
First Named Inventor/Applicant Name:	Russell W. White
Customer Number:	21906
Filer:	Mark J. Rozman/Stephanie Petreas
Filer Authorized By:	Mark J. Rozman
Attorney Docket Number:	AFF.0004C5US
Receipt Date:	27-MAY-2009
Filing Date:	16-JAN-2008
Time Stamp:	16:04:04
Application Type:	Utility under 35 USC 111(a)

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	Information Disclosure Statement (IDS) Filed (SB/08)	AFF004C5USIDS1.pdf	610135 ed598febfb5c7d13c66bc61984586d4f1955e7d2	no	8

Warnings:	
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2	Information Disclosure Statement (IDS) Filed (SB/08)	AFF004C5USIDS2.pdf	610003 9fc4b9348e2721f097115461996649 0ff66b4242	no	8
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Filed (SB/08)	AFF004C5USIDS3.pdf	609962 3aa4b0e10d9b0c6354e993d8695174966b595b73	no	8
Warnings:					
Information:					
4	Information Disclosure Statement (IDS) Filed (SB/08)	AFF004C5USIDS4.pdf	609854 0e04b3bc3e7ae07f154ba95b96305cc537ca43f2	no	8
Warnings:					
Information:					
5	Information Disclosure Statement (IDS) Filed (SB/08)	AFF004C5USIDS5.pdf	609921 aa858180ea72de9a1adb0e5daada9dcd83035393	no	8
Warnings:					
Information:					
6	Information Disclosure Statement (IDS) Filed (SB/08)	AFF004C5USIDS6.pdf	609170 ffe517257d732c0ad6204430b354d5a14c8fb0f5	no	6
Warnings:					
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		Total Files Size (in bytes):	3659045		

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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.

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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

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Russell W. White, et al.	§	Group Art Unit:	2617
		§		
Serial No.:	12/015,320	§		
		§	Examiner:	Erika A. Gary
Filed:	January 16, 2008	§		
		§		
For:	Method For Managing Media	§	Atty. Dkt. No.:	AFF.004C5US

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P.O. Box 1450
Alexandria, VA 22313-1450

REPLY TO OFFICE ACTION MAILED FEBRUARY 3, 2009

Sir:

In response to the Office Action mailed February 3, 2009, please amend the above-referenced patent application as follows:

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims begin on page 3 of this paper.

Remarks/Arguments begin on page 9 of this paper.

Date of Deposit: April 30, 2009
I hereby certify under 37 CFR § 1.8 this correspondence is being deposited **via EFS** on the date indicated above.

/Stephanie Petreas/
Stephanie Petreas

Amendments to the Specification:

Please replace the Abstract on page 38, with the following amended Abstract:

An audio system and method are disclosed. A system incorporating teachings of the present disclosure may include, for example, an electronic device having a display, a ~~digital satellite~~ wireless receiver, and a housing component at least partially defining a cavity in which the ~~digital satellite~~ wireless receiver is secured. The system may also include a device interface system that has a sound system connector and a mounting region. The sound system connector may communicatively coupled the device interface system to an existing sound system, and the mounting region may be capable of releasably engaging the electronic device such that a contact portion of the device interface system contacts a conductive element of the electronic device to form at least a portion of a communication path interconnecting the sound system and the electronic device.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 – 20 (canceled)

Claim 21 (currently amended): An audio system comprising:

an electronic device including a display, a device interface system, a ~~digital satellite~~ wireless receiver, and a housing component at least partially forming a cavity in which the ~~digital satellite~~ wireless receiver is secured;

the [[a]] device interface system comprising a physical ~~that comprises a sound system~~ connector configured to engage ~~and~~ a device mount;

the ~~sound system~~ physical connector operable to communicatively couple the device interface system to a sound system such that data output by the electronic device can be communicated to the sound system via the device interface system; and

the ~~device mount~~ physical connector further operable to ~~releasably engage the electronic device such that a contact portion of the device interface system contacts a conductive element of the electronic device to form at least a portion of a communication path operable to interconnect the sound system and the electronic device~~ conductively couple a recharging circuit of the electronic device to a power source associated with the sound system.

Claim 22 (currently amended): The audio system of claim 21, ~~wherein~~ further comprising the device mount, wherein the device mount comprises a cradle.

Claim 23 (currently amended): The audio system of claim 21, wherein the wireless receiver is configured to receive a signal from a digital satellite communications ~~receiver is operable to receive a streaming audio signal that comprises a piece of information about a selection of audio content included in the streaming audio signal~~ network.

Claim 24 (currently amended): The audio system of claim 23, wherein the signal

comprises a piece of information about a selection of audio content included in the signal, the piece of information ~~comprises~~ comprising text representing a title of an ~~the selection of~~ audio ~~content~~ file.

Claim 25 (currently amended): The audio system of claim [[23]] 21, ~~wherein the piece of information comprises a genre of the selection of audio content~~ further comprising:

a cable assembly that comprises a cable having multiple conductive paths extending between a first terminal end and a second terminal end;

an interface at the first terminal end configured to couple with the sound system; and

the device mount affixed at the second terminal end.

Claim 26 (currently amended): The audio system of claim [[23]] 24, wherein the piece of information comprises an artist name.

Claim 27 (currently amended): The audio system of claim 21, further comprising the sound system; and

an automobile ~~having an installed~~ within which the sound system~~, wherein the installed sound system is the sound system and is communicatively coupled to the device interface system via the sound system connector~~ is installed.

Claim 28 (currently amended): The audio system of claim 21, further comprising a home stereo system, wherein the home stereo system is the sound system and is communicatively coupled to the device interface system via the ~~sound system~~ physical connector.

Claim 29 (currently amended): The audio system of claim 21, wherein the sound system ~~connector comprises~~ is communicatively coupled to the electronic device using a local area wireless transmitter.

Claim 30 (currently amended): The audio system of claim 21, further comprising:

an automobile having an installed sound system, wherein the installed sound system is the

sound system and is communicatively coupled to the device interface system via the ~~sound system~~ physical connector;

a second device interface system comprising another ~~sound system~~ physical connector and a second mount; and

the second ~~sound system~~ physical connector operable to communicatively couple the second device interface system to a second sound system, wherein the second sound system is a portable radio.

Claim 31 (currently amended): A method for providing audio content, comprising:

~~setting up an account~~ maintaining a system configured to deliver ~~a streaming~~ an audio signal to ~~a modular~~ an electronic device comprising a display, a ~~digital satellite~~ wireless receiver, and a housing component at least partially defining a cavity in which the ~~digital satellite~~ wireless receiver is secured, the ~~modular~~ electronic device further comprising an interface mechanism operable to form at least a portion of a link communicatively coupling the ~~modular~~ electronic device to an external speaker assembly; ~~and~~

providing an application to the electronic device that allows the electronic device to request a streaming media signal representing a local broadcast signal for a channel located remote from a then current location of the electronic device; and

communicating the ~~streaming~~ audio signal receivable by the ~~digital satellite~~ wireless receiver.

Claim 32 (currently amended): The method of claim 31, wherein the interface mechanism ~~comprise~~ comprises an FM modulator.

Claim 33 (previously presented): The method of claim 31, wherein the interface mechanism comprises a short range wireless transmitter operable to communicate at about 2.4 GHz.

Claim 34 (previously presented): The method of claim 31, wherein the interface mechanism comprises a conductive contact portion.

Claim 35 (currently amended): The method of claim 31, wherein the ~~streaming~~ audio signal comprises the streaming media signal and information about a song included in the streaming ~~audio~~ media signal, further wherein the display is operable to present a graphical representation of the information.

Claim 36 (previously presented): The method of claim 35, wherein the information is selected from a group consisting of a song title, a song artist, a song decade, and a song genre.

Claim 37 (currently amended): The method of claim 31, wherein the ~~modular~~ electronic device does not include an integrated speaker assembly.

Claim 38 (currently amended): The method of claim 31, wherein the ~~modular~~ electronic device comprises a satellite antenna within the cavity.

Claim 39 (currently amended): An audio system comprising:

a portable device having a physical interface configured to releasably engage a contacting portion of an interconnection system to form at least a portion of a communication path between the portable device and a separate electronic device, wherein the physical interface has a generally rectangular shape and is configured to couple a first conductive element of the interconnection system with a component of the portable device that outputs data and couple a second conductive element of the interconnection system with a recharging circuit of the portable device;

a wireless communication module operable to receive an incoming telephone call; and

an audio output engine configured to output information representing a played audio file to the separate electronic device via the physical interface and to alter an outputting of the played audio file in connection with a receipt of the incoming telephone call

~~an electronic device including a display, a digital satellite receiver, a conductive interface element, and a housing in which the digital satellite receiver is secured; and~~

~~the housing formed to engage a first mount such that the conductive interface element~~

~~contacts a portion of the first mount to communicatively couple the electronic device to an automobile sound system~~.

Claim 40 (currently amended): The system of claim 39, ~~wherein the housing is further formed to engage a second mount to communicatively couple the electronic device to a home audio system~~ further comprising an engine configured to communicate data from the portable device to the separate electronic device to allow the separate electronic device to present an icon on a display of the separate electronic device such that the icon: (a) is a soft button that is linked to a particular audio file saved at the portable device; (b) is selectable by a user via the separate electronic device; and (c) is configured to respond to a user selection by causing the separate electronic device to request the portable device to begin playing the particular audio file.

Claim 41 (currently amended): The system of claim 39, further comprising the ~~first mount~~ interconnection system, wherein the ~~first mount~~ interconnection system is operable to couple the ~~electronic~~ portable device to a power supply of an automobile.

Claim 42 (currently amended): The system of claim 39, ~~further comprising an FM modulator secured within the housing~~ wherein the interconnection system further comprises an FM modulator.

Claim 43 (currently amended): The system of claim 39, ~~wherein the~~ further comprising the separate electronic device, wherein the separate electronic device ~~further comprises a display operable to present information about a selection of audio content receivable by the~~ comprises a ~~digital satellite~~ wireless receiver.

Claim 44 (currently amended): The system of claim 43, ~~wherein the information is selected from a group consisting of a song title, a performing artist, a genre, and a decade indicator~~ further comprising a housing component of the portable device that at least partially defines an enclosure, wherein the wireless communication module and the audio output engine are secured within the enclosure.

Claim 45 (currently amended): The system of claim 39, wherein the ~~electronic~~ portable device ~~further comprises a rechargeable power supply~~ is configured to accept an over the air download of an application that allows the portable device to request an audio stream representing a local broadcast signal for a channel located remote from a then current location of the portable device and a different over the air download of a media, further wherein the media is selected from a group consisting of an audio file, a video file, a piece of software, a book, and a message.

Claim 46 (new): The audio system of claim 21, wherein the device interface system comprises: (1) an auxiliary interface for the sound system that is configured to communicatively couple a component of the sound system with the device mount that is operable to releasably engage the electronic device such that a contacting portion of the device mount engages with the electronic device to form at least a portion of a communication path between the electronic device and the sound system, wherein the contacting portion has a generally rectangular shape; and (2) a menu engine configured to receive data from the electronic device and to initiate presentation of a selectable representation of an icon on a display of the sound system such that the icon: (a) is a soft button that is linked to a particular audio file saved at the electronic device; (b) is selectable by a user via the sound system; and (c) is configured such that the sound system responds to a user selection of the icon by initiating a sending of a request for the electronic device to begin playing the particular audio file.

Claim 47 (new): The method of claim 31, wherein providing the application to the electronic device comprises communicating the application via an over the air download.

REMARKS/ARGUMENTS

The undersigned gratefully acknowledges and appreciates the Examiner's time and courtesy extended during the telephonic interview which occurred on April 27, 2009. The interview discussion was with regard to the §112, first paragraph rejections. Claims in accordance with the above amendments were discussed, and it was agreed that the above amendments with regard to independent claims 21, 31 and 39 would overcome the pending written description rejections.

Further the interview was focused on various proposed amendments to the claims. In an effort to assist examination of the now-pending claims, Applicants have provided a partial listing of written description support in the Specification for amendments of certain pending claims.

Provided below are references to the Specification for the claim elements of various claims. While the identified Specification portions provide exemplary support for the recited subject matter, it is noted that this identified Specification support is not exhaustive and additional Specification support for the various claims may be present.

As to independent claim 21, support for its subject matter can be found, for example, in paragraphs 44-47 and 64-66 and corresponding FIG. 5B.

Support for dependent claim 22 can be found, for example, in paragraph 67.

Support for dependent claim 23 can be found, for example, in paragraph 29.

Support for dependent claim 25 can be found, for example, in paragraphs 91 and 92.

Written description support for independent claim 31 can be found, for example, in paragraphs 39, 44-47 and 56-62 and corresponding FIG. 4.

Support for independent claim 39 can be found, for example, in paragraphs 54-55 and 66 and corresponding FIG. 5B.

Support for dependent claim 40 can be found, for example, in paragraphs 56-62 and corresponding FIG. 4.

Support for dependent claim 44 can be found, for example, in paragraph 66.

Support for dependent claim 45 can be found, for example, in paragraphs 24-26.

Support for new dependent claim 46 can be found, for example, in paragraphs 56-62 and corresponding FIG. 4, and paragraphs 91-92 and corresponding FIG. 9.

Support for new dependent claim 47 can be found, for example, in paragraph 62.

In view of these remarks, the application is now in condition for allowance and the Examiner's prompt action in accordance therewith is respectfully requested. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504.

Respectfully submitted,

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/Mark J. Rozman/

Mark J. Rozman
Registration No. 42,117
TROP, PRUNER & HU, P.C.
1616 S. Voss Road, Suite 750
Houston, Texas 77057-2631
(512) 418-9944 [Phone]
(713) 468-8883 [Fax]
Customer No: 21906