

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 8,205,237 B2
APPLICATION NO. : 11/977202
DATED : June 19, 2012
INVENTOR(S) : Cox

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims

Column 25, line 64, claim 9, "what" should read --that--.

Column 26, line 14, claim 10, "work one" should read --work is one--.

Column 26, line 27, claim 13, "what" should read --that--.

Column 26, line 44, claim 14, "(8)" should read --(B)--.

Column 26, line 46, claim 15, "claim 13 information" should read --claim 13 wherein information--.

Column 26, line 61, claim 20, "B)" should read --(B)--.

Signed and Sealed this
Sixth Day of May, 2014



Michelle K. Lee
Deputy Director of the United States Patent and Trademark Office

**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**Page 1 of 1

PATENT NO. : 8,205,237

APPLICATION NO.: 11/977,202

ISSUE DATE : June 19, 2012

INVENTOR(S) : Ingemar J. Cox

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 25, line 64, "what" should read --that--.

Column 26, line 14, "work one" should read --work is one--.

Column 26, line 27, "what" should read --that--.

Column 26, line 44, "(8)" should read --(B)--.

Column 26, line 46, "claim 13 information" should read --claim 13 wherein information--.

Column 26, line 61, "B)" should read --(B)--.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Benjamin M. Halpern, Reg. No. 46494
Amster, Rothstein & Ebenstein LLP
New York, NY 10016

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. 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 1.0 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: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

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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.
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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.
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 inspection 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.

Electronic Patent Application Fee Transmittal

Application Number:	11977202			
Filing Date:	23-Oct-2007			
Title of Invention:	IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET			
First Named Inventor/Applicant Name:	Ingemar J. Cox			
Filer:	Benjamin M. Halpern/Vivian Campbell			
Attorney Docket Number:	63121-34			
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Certificate of Correction	1811	1	100	100
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				100

Electronic Acknowledgement Receipt

EFS ID:	18409355
Application Number:	11977202
International Application Number:	
Confirmation Number:	2195
Title of Invention:	IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET
First Named Inventor/Applicant Name:	Ingemar J. Cox
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	63121-34
Receipt Date:	07-MAR-2014
Filing Date:	23-OCT-2007
Time Stamp:	18:12:46
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$100
RAM confirmation Number	5616
Deposit Account	011785
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Certificate of Correction	COC.pdf	164507	no	2
			78d7e65b701faed89c432ba8c37463fc7fdff c3c9		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30885	no	2
			6aa92c6c437a641ed6abac5478271d09f5 bd5fa		
Warnings:					
Information:					
Total Files Size (in bytes):			195392		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/977,202	06/19/2012	8205237	23406-5	2195

1912 7590 05/30/2012
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 594 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Ingemar J. Cox, London, UNITED KINGDOM;

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

1912 7590 03/02/2012
 AMSTER, ROTHSTEIN & EBENSTEIN LLP
 90 PARK AVENUE
 NEW YORK, NY 10016

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/977,202	10/23/2007	Ingemar J. Cox	23406-5	2195

TITLE OF INVENTION: IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$0	\$0	\$870	\$0	06/04/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHEN, CAI Y	2425	725-110000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). <input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. <input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer number is required.	2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
	1. Amster, Rothstein & Ebenstein LLP 2. _____ 3. _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY and STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent) : Individual Corporation or other private group entity Government

4a. The following fee(s) are submitted: <input type="checkbox"/> Issue Fee <input type="checkbox"/> Publication Fee (No small entity discount permitted) <input type="checkbox"/> Advance Order - # of Copies _____	4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) <input type="checkbox"/> A check is enclosed. <input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached. <input checked="" type="checkbox"/> The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number <u>011785</u> (enclose an extra copy of this form).
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5. **Change in Entity Status** (from status indicated above)

a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature /Benjamin M. Halpern/ Date May 21, 2012
 Typed or printed name Benjamin M. Halpern Registration No. 46494

This collection of information is required by 37 CFR 1.311. 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 12 minutes 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Electronic Acknowledgement Receipt

EFS ID:	12823416
Application Number:	11977202
International Application Number:	
Confirmation Number:	2195
Title of Invention:	IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET
First Named Inventor/Applicant Name:	Ingemar J. Cox
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbel
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	23406-5
Receipt Date:	21-MAY-2012
Filing Date:	23-OCT-2007
Time Stamp:	13:57:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	1reqtoeapplyissuefee.pdf	38517 <small>edc15c1890c83bd4f85caf1c3aa0adc477ea94f8</small>	no	2

Warnings:

Information:

2	Issue Fee Payment (PTO-85B)	2IF.pdf	146723	no	1
			92ba96bd9f85756a2e68770cd84dbfda90a1a2ae		

Warnings:

Information:

Total Files Size (in bytes):	185240
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New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 11/977,202 Confirmation No. 2195
Applicant : Ingemar J. Cox
Filed : October 23, 2007
For : IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH
AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR
INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE
INTERNET
TC/A.U. : 2195
Examiner : Chen, Cai Y.
Docket No. : 23406/5
Customer No. : 1912

REQUEST TO APPLY THE ISSUE FEE TO THE NEW NOTICE OF ALLOWANCE

Mail Stop - ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Please re-apply any previously paid issue fee to the application identified above.

In compliance with this request, we submit herewith the Issue Fee Transmittal Form -

Part B.

EFS
Confirmation No.: 2195
Appl. No. 11/977,202
Request to Apply the Issue Fee to the New Notice filed May 21, 2012

Remarks

The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 01-1785.

Respectfully submitted

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicant
90 Park Avenue
New York, NY 10016
(212) 336-8000

Dated: New York, New York
May 21, 2012

By: /Benjamin M. Halpern/
Benjamin M. Halpern
Registration No.: 46,494

PART B - FEE(S) TRANSMITTAL

1 Fee

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
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1912 7590 03/02/2012
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016



Certificate of Mailing or Transmission
 I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/977,202	10/23/2007	Ingemar J. Cox	23406-5	2195

TITLE OF INVENTION: IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$0	\$0	\$870	\$870	05/22/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHEN, CAI Y	2425	725-110000

05/22/2012 ECKUBAY2 00000017 011785 11977202
 06/04/2012
 01 FC:2501 870.00 DA

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
 Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
 "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.
2. For printing on the patent front page, list
 (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
- 1 Amster, Rothstein & Ebenstein LLP
 2 _____
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)
 PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.
 (A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY and STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent): Individual Corporation or other private group entity Government

- 4a. The following fee(s) are submitted:
 Issue Fee
 Publication Fee (No small entity discount permitted)
 Advance Order - # of Copies _____
- 4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)
 A check is enclosed.
 Payment by credit card. Form PTO-2038 is attached.
 The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 011785 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)
 a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature /Benjamin M. Halpern/ Date May 21 2012
 Typed or printed name Benjamin M. Halpern Registration No. 011785
 05/22/2012 ECKUBAY2 11977202
 12/28/2011 INTEFSW 00004135 011785
 870.00 CR

This collection of information is required by 37 CFR 1.311. 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 12 minutes 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Adjustment Date: 05/22/2012 EEKURAY2
12/28/2011 INTEFSW 00004135 011785 11977202
01 FC:2501 870.00 CR



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/977,202	10/23/2007	Ingemar J. Cox	23406-5	2195
1912	7590	04/05/2012	EXAMINER	
AMSTER, ROTHSTEIN & EBENSTEIN LLP			CHEN, CAI Y	
90 PARK AVENUE			ART UNIT	PAPER NUMBER
NEW YORK, NY 10016			2425	
			NOTIFICATION DATE	DELIVERY MODE
			04/05/2012	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTODOCKET@ARELAW.COM

Response to Rule 312 Communication	Application No. 11/977,202	Applicant(s) COX, INGEMAR J.
	Examiner CAI CHEN	Art Unit 2425

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. The amendment filed on 13 March 2012 under 37 CFR 1.312 has been considered, and has been:
- a) entered.
 - b) entered as directed to matters of form not affecting the scope of the invention.
 - c) disapproved because the amendment was filed after the payment of the issue fee.
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.
 - d) disapproved. See explanation below.
 - e) entered in part. See explanation below.

/Brian T Pendleton/
Supervisory Patent Examiner, Art Unit 2425

/CAI CHEN/
Examiner, Art Unit 2425

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 11/977,202 Confirmation No. 2195
Applicant : Ingemar J. Cox
Filed : October 23, 2007
For : IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH
AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR
INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE
INTERNET
TC/A.U. : 2195
Examiner : Chen, Cai Y.
Docket No. : 23406/5
Customer No. : 1912

AMENDMENT AFTER ALLOWANCE UNDER 37 CFR 1.312

Mail Stop - ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

A Notice of Allowance was issued on March 2, 2012 in the above-identified application. Applicant respectfully requests that this application be amended as follows:

Amendments to the claims begin on page 2.

Remarks begin on page 13.

Remarks

Claims 1-16 and 18-41 are pending. By this Amendment, claims 2, 4, 6, 8, 10, 12, 14, 16, 19, 21-25, 27, 35 and 38 are amended.

Entry of this amendment after allowance is respectfully requested. The amendments are needed for proper protection of the invention, and require no substantial amount of additional work on the part of the Office. The amendments correct minor typographical errors and do not alter the scope of the claims, which were previously allowed. The amendments seek to clarify that the following clause as used in claims 2, 6, 10 and 14, means that the features can include at least one of any of the four listed types, more than one listed type, or additional unlisted types in addition to at least one of the listed types of features:

wherein the features extracted from the work comprises at least one selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and

The amendments further seeks to clarify the following clause in the same claim means that the audio work is either a broadcast, a digital file or an MP3 file or a combination of one or more of those items:

wherein the audio work is one of (A) a broadcast, (B) a digital file, or (C) an MP3 file.

The amendments also seek to clarify when the phrase "at least one of" A "or" B is used, it includes (i) at least one of A, (ii) at least one of B, or (iii) at least one of A and at least one of B. It may also include other items.

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Any claim amendment(s), claim(s) added, claim(s) canceled, argument(s), remark(s), and/or any combination(s) thereof made in this response pertain solely to the specific aspects of this specific claimed invention. Further, any claim amendment(s), claim(s) added, claim(s) canceled, argument(s), remark(s), and/or any combination(s) thereof are made without prejudice to or disclaimer of Applicant's right to seek patent protection of any unclaimed subject matter such as, but not limited, to narrower unclaimed subject matter, broader unclaimed subject matter, different unclaimed subject matter, variations of unclaimed subject matter, any combination thereof, and/or any other unclaimed subject matter that may or may not be filed, for example, in any design and/or utility patent application(s) such as, but not limited to, continuation patent application(s), continuation-in-part patent application(s), and/or divisional patent application(s) and/or any other patent application(s).

Applicant's silence as to any assertion(s) by the Examiner in the Office Action and/or to any certain fact(s) or conclusion(s) that may be implied and/or alleged by objections(s) and/or rejection(s) in the Office Action is not in any way a concession by Applicant that such assertion(s), implication(s), and/or allegation(s) are accurate, and that all requirements for any objection(s) and/or a rejection(s) have been met. Accordingly, Applicant reserves the right to analyze and dispute any such assertion(s), implication(s), and/or allegation(s) in the future.

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The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 01-1785.

Respectfully submitted

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicant
90 Park Avenue
New York, NY 10016
(212) 336-8000

Dated: New York, New York
March 13, 2012

By: Benjamin M. Halpern
Benjamin M. Halpern
Registration No.: 46,494

Electronic Acknowledgement Receipt

EFS ID:	12296472
Application Number:	11977202
International Application Number:	
Confirmation Number:	2195
Title of Invention:	IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET
First Named Inventor/Applicant Name:	Ingemar J. Cox
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	23406-5
Receipt Date:	13-MAR-2012
Filing Date:	23-OCT-2007
Time Stamp:	18:33:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1AAAllowance.pdf	66429 <small>c799f1d285db62b851decc1482a3f0d860e82a40</small>	yes	15

Multipart Description/PDF files in .zip description		
Document Description	Start	End
Amendment after Notice of Allowance (Rule 312)	1	1
Claims	2	12
Applicant Arguments/Remarks Made in an Amendment	13	15

Warnings:

Information:

Total Files Size (in bytes):	66429
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

CLAIM AMENDMENTS:

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

Listing of Claims:

Claim 1 (previously presented): A computer-implemented method comprising:

a) receiving, by a computer system including at least one computer, features that were extracted from a media work by a client device;

b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor; and

c) transmitting, by the computer system, information about the identified media work to the client device.

Claim 2 (currently amended): The computer-implemented method of claim 1 wherein the media work is an audio work,

wherein the features extracted from the work ~~are~~ comprise at least one selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and

wherein the audio work is one of (A) a broadcast, (B) a digital file, ~~and~~or (C) an MP3 file.

Claim 3 (previously presented): The computer-implemented method of claim 1 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.

Claim 4 (currently amended): The computer-implemented method of claim 1 further comprising performing an action including at least one of promoting commerce ~~and~~or enhancing interest in the work.

Claim 5 (previously presented): Apparatus comprising:

a) at least one processor; and
b) at least one storage device storing processor-executable instructions which, when executed by the at least one processor, perform a method of

1) receiving features that were extracted from a media work by a client device,

2) determining, by the computer system, an identification of the media work using the features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor, and

3) transmitting information about the identified media work to the client device.

Claim 6 (currently amended): The apparatus of claim 5 wherein the media work is an audio work,

wherein the features extracted from the work ~~are~~ comprise at least one selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and

wherein the audio work is one of (A) a broadcast, (B) a digital file, ~~and~~ or (C) an MP3 file.

Claim 7 (previously presented): The apparatus of claim 5 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.

Claim 8 (currently amended): The apparatus of claim 5 wherein the method further includes performing an action including at least one of promoting commerce ~~and~~ or enhancing interest in the work.

Claim 9 (previously presented): A computer-implemented method comprising:

a) receiving, by a computer system including at least one computer, features what were extracted from media work by a client device;

b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works; and

c) transmitting, by the computer system, information about the identified media work to the client device.

Claim 10 (currently amended): The method of claim 9 wherein the media work is an audio work,

wherein the features extracted from the work ~~are~~ comprise at least one selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and

wherein the audio work one of (A) a broadcast, (B) a digital file, ~~and~~ or (C) an MP3 file.

Claim 11 (previously presented): The method of claim 9 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.

Claim 12 (currently amended): The method of claim 9 further comprising performing an action including at least one of promoting commerce ~~and~~or enhancing interest in the work.

Claim 13 (previously presented): Apparatus comprising:

- a) at least one processor; and
- b) at least one storage device storing processor-executable instructions which, when executed by the at least one processor, perform a method of
 - 1) receiving features what were extracted from a media work by a client device,
 - 2) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works, and
 - 3) transmitting information about the identified media work to the client device.

Claim 14 (currently amended): The apparatus of claim 13 wherein the media work is an audio work,
wherein the features extracted from the work ~~are~~comprise at least one selected from a group consisting of (A) a frequency decomposition of a signal of the audio work,

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(B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and
wherein the audio work is one of (A) a broadcast, (8) a digital file, ~~and~~or (C) an MP3 file.

Claim 15 (previously presented): The apparatus of claim 13 information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.

Claim 16 (currently amended): The apparatus of claim 13 wherein the method further includes performing an action including at least one of promoting commerce ~~and~~or enhancing interest in the work.

Claim 17 (canceled)

Claim 18 (previously presented): The computer-implemented method of claim 1 wherein the media work is a video signal.

Claim 19 (currently amended): The computer-implemented method of claim 18 wherein the video signal is obtained from at least one of (A) a broadcast ~~and~~or (B) a video file format.

Claim 20 (previously presented): The computer-implemented method of claim 9 wherein the media work is a video signal.

Claim 21 (currently amended): The computer-implemented method of claim 20 wherein the video signal is obtained from at least one of (A) a broadcast ~~and~~or (B) a video file format.

Claim 22 (currently amended): The computer-implemented method of claim 1 wherein at least one of the acts of receiving ~~and~~or transmitting is performed via a direct communication between the client device and the computer system.

Claim 23 (currently amended): The computer-implemented method of claim 1 wherein at least one of the acts of receiving ~~and~~or transmitting is performed via an indirect communication between the client device and the computer system.

Claim 24 (currently amended): The computer-implemented method of claim 9 wherein at least one of the acts of receiving ~~and~~or transmitting is performed via a direct communication between the client device and the computer system.

Claim 25 (currently amended): The computer-implemented method of claim 9 wherein at least one of the acts of receiving ~~and or~~ transmitting is performed via an indirect communication between the client device and the computer system.

Claim 26 (previously presented): A computer-implemented method comprising:

a) obtaining, by a computer system including at least one computer, media work extracted features that were extracted from a media work, the media work uploaded from a client device;

b) determining, by the computer system, an identification of the media work using the media work extracted features to perform a nonexhaustive search of reference extracted features of reference media works to identify a near neighbor; and

c) determining, by the computer system, an action based on the determined identification of the media work.

Claim 27 (currently amended): The method of claim 26, wherein the action comprises providing to and/or displaying, ~~additional~~ at another client device, additional information in association with the media work.

Claim 28 (previously presented): The method of claim 27, wherein the additional information is an advertisement.

Claim 29 (previously presented): The method of claim 26, wherein the action comprises providing a coupon.

Claim 30 (previously presented): The method of claim 26, wherein the action comprises providing a link to a Web site.

Claim 31 (previously presented): The method of claim 26, wherein the action comprises initiating an e-commerce transaction.

Claim 32 (previously presented): The method of claim 26, wherein the action comprises initiating a telephone call.

Claim 33 (previously presented): The method of claim 26, wherein the action comprises logging an event relating to competitive market research data.

Claim 34 (previously presented): A computer-implemented method comprising:

a) obtaining, by a computer system including at least one computer, media work extracted features that were extracted from a media work, the media work uploaded from a client device;

b) determining, by the computer system, an identification of the media work using the media work extracted features to perform a sublinear approximate nearest neighbor search of reference extracted features of reference identified media works; and

c) determining, by the computer system, an action based on the determined identification of the media work.

Claim 35 (currently amended): The method of claim 34, wherein the action comprises providing to and/or displaying, at another client device, additional information in association with the media work.

Claim 36 (previously presented): The method of claim 35, wherein the additional information is an advertisement.

Claim 37 (previously presented): The method of claim 34, wherein the action comprises providing a coupon.

Claim 38 (currently amended): The method of claim 34, wherein the action comprises providing a ~~link~~link to a Website.

Claim 39 (previously presented): The method of claim 34, wherein the action comprises initiating an e-commerce transaction.

Claim 40 (previously presented): The method of claim 34, wherein the action comprises initiating a telephone call.

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Claim 41 (previously presented): The method of claim 34, wherein the action comprises logging an event relating to competitive market research data.



UNITED STATES PATENT AND TRADEMARK OFFICE

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NOTICE OF ALLOWANCE AND FEE(S) DUE

1912 7590 03/02/2012
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

EXAMINER

CHEN, CAI Y

ART UNIT PAPER NUMBER

2425

DATE MAILED: 03/02/2012

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

11/977,202 10/23/2007 Ingemar J. Cox 23406-5 2195

TITLE OF INVENTION: IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

Table with 7 columns: APPLN. TYPE, SMALL ENTITY, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE

nonprovisional YES \$0 \$0 \$870 \$0 06/04/2012

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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AMSTER, ROTHSTEIN & EBENSTEIN LLP
 90 PARK AVENUE
 NEW YORK, NY 10016

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_____ (Depositor's name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/977,202	10/23/2007	Ingemar J. Cox	23406-5	2195
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TITLE OF INVENTION: IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$0	\$0	\$870	\$0	06/04/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHEN, CAI Y	2425	725-110000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.</p>	<p>2. For printing on the patent front page, list</p> <p>(1) the names of up to 3 registered patent attorneys or agents OR, alternatively, _____ 1</p> <p>(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. _____ 2</p> <p>_____ 3</p>
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3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY and STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent): Individual Corporation or other private group entity Government

<p>4a. The following fee(s) are submitted:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)</p> <p><input type="checkbox"/> A check is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).</p>
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5. Change in Entity Status (from status indicated above)

a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. 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 12 minutes 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Values: 11/977,202, 10/23/2007, Ingemar J. Cox, 23406-5, 2195

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AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

EXAMINER

CHEN, CAI Y

ART UNIT PAPER NUMBER

2425

DATE MAILED: 03/02/2012

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 456 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 456 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
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.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
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.
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 inspection 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.

Notice of Allowability	Application No.	Applicant(s)	
	11/977,202	COX, INGEMAR J.	
	Examiner	Art Unit	
	CAI CHEN	2425	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to 02/07/2012.
2. An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. The allowed claim(s) is/are 1-16 and 18-41.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>02/07/2012</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

/CAI CHEN/
Examiner, Art Unit 2425

DETAILED ACTION

Response to Arguments

Applicant's remarks, see applicant remarks, filed 02/07/2012, with respect to newly added claims 26-41 have been fully considered. Claims 26-41 are allowed in view of Wang and Yianlos reference because Wang only discloses extracting a feature from an audio signal to identify the audio signal by finding the perfect match, and claims 26 and 34 are claiming extracting the feature from the media work and identify the media work by performing a sub linear or nonexhaustive search to find a neighbor of the extracted feature.

Allowable Subject Matter

Claims 1-16 and 18-41 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1 and its dependents, the art of record either alone or in combination fails to particular disclose or suggest the claim when considered as whole and particularly when a computer-implemented method comprising:

- a) receiving, by a computer system including at least one computer, features that were extracted from a media work by a client device;
- b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor; and

c) transmitting, by the computer system, information about the identified media work to the client device.

As to the art of record, the Wang reference discloses a method of extracting an audio feature from an audio media work and identify the audio media work by finding a perfect match. However, Wang does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor”

As to the art of record, the Yianlos reference discloses a search algorithm to search for dataset point nearest based extracted data. However, Yianlos does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor”

Regarding claim 5 and its dependents, the art of record either alone or in combination fails to particular disclose or suggest the claim when considered as whole and particularly when apparatus comprising: a) at least one processor; and
b) at least one storage device storing processor-executable instructions which, when executed by the at least one processor, perform a method of

- 1) receiving features that were extracted from a media work by a client device,
- 2) determining, by the computer system, an identification of the media work using the features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor, and
- 3) transmitting information about the identified media work to the client device.

As to the art of record, the Wang reference discloses a method of extracting an audio feature from an audio media work and identify the audio media work by finding a perfect match. However, Wang does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor”

As to the art of record, the Yianlos reference discloses a search algorithm to search for dataset point nearest based extracted data. However, Yianlos does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor”

Regarding claim 9 and its dependents, the art of record either alone or in combination fails to particular disclose or suggest the claim when considered as whole and particularly when a computer-implemented method comprising: a) receiving, by a computer system including at least one computer, features what

b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works; and

c) transmitting, by the computer system, information about the identified media work to the client device.

As to the art of record, the Wang reference discloses a method of extracting an audio feature from an audio media work and identify the audio media work by finding a perfect match. However, Wang does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works.”

As to the art of record, the Yianlos reference discloses a search algorithm to search for dataset point nearest based extracted data. However, Yianlos does not teach with respect to the entire claim limitation of “determining, by the

Art Unit: 2425

computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works.”

Regarding claim 13 and its dependents, the art of record either alone or in combination fails to particular disclose or suggest the claim when considered as whole and particularly when a computer-implemented method comprising: a) receiving, by a computer system including at least one computer, features what

b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works; and

c) transmitting, by the computer system, information about the identified media work to the client device.

As to the art of record, the Wang reference discloses a method of extracting an audio feature from an audio media work and identify the audio media work by finding a perfect match. However, Wang does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works”

As to the art of record, the Yianlos reference discloses a search algorithm to search for dataset point nearest based extracted data. However, Yianlos does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works.”

Regarding claim 26 and its dependents, the art of record either alone or in combination fails to particular disclose or suggest the claim when considered as whole and particularly when a computer-implemented method comprising:

a) receiving, by a computer system including at least one computer, features that were extracted from a media work by a client device, the media work uploaded from a client device;

b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a nonexhaustive of reference extracted features of reference media works to identify a neighbor; and

c) determining, by the computer system, an action based on the determined identification of the media work.

As to the art of record, the Wang reference discloses a method of extracting an audio feature from an audio media work and identify the audio media work by finding a perfect match. However, Wang does not teach with

Art Unit: 2425

respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a nonexhaustive of reference extracted features of reference media works to identify a neighbor”

As to the art of record, the Yianlos reference discloses a search algorithm to search for dataset point nearest based extracted data. However, Yianlos does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor”

Regarding claim 34 and its dependents, the art of record either alone or in combination fails to particular disclose or suggest the claim when considered as whole and particularly when a computer-implemented method comprising:

a) receiving, by a computer system including at least one computer, features that were extracted from a media work by a client device, the media work uploaded from a client device;

b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sublinear approximate nearest neighbor search of reference extracted features of reference identified media works; and

c) determining, by the computer system, an action based on the determined identification of the media work.

As to the art of record, the Wang reference discloses a method of extracting an audio feature from an audio media work and identify the audio media work by finding a perfect match. However, Wang does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sublinear approximate nearest neighbor search of reference extracted features of reference identified media works”

As to the art of record, the Yianlos reference discloses a search algorithm to search for dataset point nearest based extracted data. However, Yianlos does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sublinear approximate nearest neighbor search of reference extracted features of reference identified media works”

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAI CHEN whose telephone number is (571)270-5679. The examiner can normally be reached on 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Pendleton can be reached on 571-272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CAI CHEN/
Examiner, Art Unit 2425

/Brian T Pendleton/
Supervisory Patent Examiner, Art Unit 2425

Notice of References Cited	Application/Control No. 11/977,202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.	
	Examiner CAI CHEN	Art Unit 2425	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2004/0199387	10-2004	Wang et al.	704/243
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			


FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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Search Notes 	Application/Control No. 11977202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.
	Examiner CAI CHEN	Art Unit 2425

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Class 725 is text searched	4/14/2010	CC
Inventor searches were performed in East	4/14/2010	CC
Consulted Joe Hirl	6/18/2010	CC
Text search in class 705	6/18/2010	CC
TEXT Search in IEEE Explorer and ACM	6/19/2010	CC
All searches are updated	9/8/2011	CC
Class 725 subclass 110 is text searched	9/8/2011	CC
Consulted with Son Hyuh	06/08/2011	CC
All searches are updated	2/21/2012	CC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
725	110	9/8/2011	CC

/CAI CHEN/ Examiner.Art Unit 2425	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		11977202	
	Filing Date		2007-10-23	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	2425		
	Examiner Name	CHEN, Cai Y.		
	Attorney Docket Number	23406-5		

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
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		11977202
	Filing Date		2007-10-23
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
	Examiner Name	CHEN, Cai Y.	
	Attorney Docket Number	23406-5	

1	ARDIZZONE, Edoardo et al., "Motion and Color-Based Video Indexing and Retrieval," Universita di palermo, Dipartimento di Ingegneria Elettrica, pp. 135-139, Viale delle Scienze, Palermo, Italy, IEEE 1996.	<input type="checkbox"/>
2	DENG, Yining et al., "Content-based Search of Video Using Color, Texture, and Motion," Dept. of Electrical and Computer Engineering, University of California, Santa Barbara, CA, pp. 534-537, IEEE 1997.	<input type="checkbox"/>
3	FANG, Min et al., "Computing Iceberg Queries Efficiently," Dept. of Computer Science, Stanford, CA, Paper Number 234, pp1-25.	<input type="checkbox"/>
4	FLICKNER, Myron et al., "Query by Image and Video Content: The QBIC System," IBM Almaden Research Center, September 1995, pp 23-32, IEEE 1995.	<input type="checkbox"/>
5	GARGI, U et al., "Performance Characterization and Comparison of Video Indexing Algorithms," Dept. of Computer Science & Engineering, The Pennsylvania State University, University Park, PA.	<input type="checkbox"/>
6	GIONIS, Aristides et al., "Similarity Search in High Dimensions via Hashing," Dept. of Computer Science, Stanford University, Stanford, CA, pp. 518-529, Proceeding of the 25th VLDB Conference, Edinburgh, Scotland, 1999.	<input type="checkbox"/>
7	INDYK, Piotr et al., "Approximate Nearest Neighbors: Towards Removing the Curse of Dimensionality" (preliminary version) Dept. of Computer Science, Stanford University, Stanford, CA, pp. 1-13 & i-vii, July 21, 1999.	<input type="checkbox"/>
8	IYENGAR, Giridharan et al., "Models for automatic classification of video sequences," MIT Media Laboratory, Cambridge, MA.	<input type="checkbox"/>
9	JAIN, Anil K., et al., "Image Retrieval using Color and Shape," Dept. of Computer Science, Michigan State University, Eas Lansing, MI, pp. 1-24, May 15, 1995.	<input type="checkbox"/>
10	OGLE, Virginia E., et al., "Chabot: Retrieval from a Relational Database of Images," University of California at Berkeley, Computer pp. 40-48, IEEE 1995.	<input type="checkbox"/>
11	PENTLAND, A. et al., "Photobook: Content-Based Manipulation of Image Databases," Perceptual Computing Section, The Media Laboratory, Massachusetts Institute of Tech., International Journal of Computer Vision 18(3), pp. 233-254 (1996), 1996 Kluwer Academic Publishers. Manuf. in The Netherlands.	<input type="checkbox"/>

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	First Named Inventor	Ingemar J. Cox
	Art Unit	2425
	Examiner Name	CHEN, Cai Y.
	Attorney Docket Number	23406-5

12	SHIVAKUMAR, Narayanan et al., "SCAM: A Copy Detection Mechanism for Digital Documents," Dept. of Computer Science, Stanford University, Stanford, CA, pp.1-13.	<input type="checkbox"/>
13	SHIVAKUMAR, Narayanan et al., "Building a Scalable and Accurate Copy Detection Mechanism," Dept. of Computer Science, Stanford University, Stanford, CA.	<input type="checkbox"/>
14	SRIHARI, Rohini K., "Automatic Indexing and Content-Based Retrieval of Captioned Images," State University of New York, Buffalo, Theme Feature, pp. 49-56, Sept. 1995, IEEE 1995.	<input type="checkbox"/>
15	SWAIN, Michael and BALLARD, Dana H., "Color Indexing," International Journal of Computer Vision 7:1, p. 11-32 (1991), 1991 Kluwer Academic Publishers. Manuf. in The Netherlands.	<input type="checkbox"/>
16	WACTLAR, Howard D. et al., "Intelligent Access to Digital Video: Informedia Project," Carnegie Mellon University, Digital Library Initiative: Carnegie Mellon University, Computer, pp. 46-52, IEEE 1996.	<input type="checkbox"/>
17	YEO, Boon-Lock et al., "Rapid Scene Analysis on Compressed Video," IEEE Transactions on Circuits and Systems for Video Technology, Vol. 5, No. 6, pp. 533-544, December 1995, Dept. of Electrical Engineering, Princeton University, Princeton, NJ, IEEE Log Number 9415901.	<input type="checkbox"/>
18	INDYK, Piotr et al., "Finding pirated video sequences on the Internet," Dept. of Computer Science, Stanford University, Palo Alto, CA, Paper Number 199.	<input type="checkbox"/>

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EXAMINER SIGNATURE

Examiner Signature	/Cai Chen/	Date Considered	02/21/2012
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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.

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	First Named Inventor	Ingemar J. Cox
	Art Unit	2425
	Examiner Name	CHEN, Cai Y.
	Attorney Docket Number	23406-5

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.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

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	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2012-02-07
Name/Print	Benjamin M. Halpern	Registration Number	49494

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.**


Privacy Act Statement

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
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.
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.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.C./

Index of Claims 	Application/Control No. 11977202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.
	Examiner CAI CHEN	Art Unit 2425

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE									
Final	Original	04/14/2010	09/27/2010	09/08/2011	02/21/2012						
1	1	✓	✓	=	=						
2	2	✓	✓	=	=						
3	3	✓	✓	=	=						
4	4	✓	✓	=	=						
5	5	✓	✓	=	=						
6	6	✓	✓	=	=						
7	7	✓	✓	=	=						
8	8	✓	✓	=	=						
9	9	✓	✓	=	=						
10	10	✓	✓	=	=						
11	11	✓	✓	=	=						
12	12	✓	✓	=	=						
13	13	✓	✓	=	=						
14	14	✓	✓	=	=						
15	15	✓	✓	=	=						
16	16	✓	✓	=	=						
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25	26				=						
26	27				=						
27	28				=						
28	29				=						
29	30				=						
30	31				=						
31	32				=						
32	33				=						
33	34				=						
34	35				=						
35	36				=						

<i>Index of Claims</i> 	Application/Control No. 11977202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.
	Examiner CAI CHEN	Art Unit 2425

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	04/14/2010	09/27/2010	09/08/2011	02/21/2012				
36	37				=				
37	38				=				
38	39				=				
39	40				=				
40	41				=				

EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	4	((sublinear search or nonexhaustive search) with neighbor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/02/21 11:33
L2	4	725/110.ccls. and (search with neighbor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2012/02/21 11:34
L3	6773	(search or estimat or approximat) with neighbor	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2012/02/21 11:36
L4	8957	(search or estimat or approximat) with neighbor	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/02/21 11:36
L5	7	(search or estimat or approximat) with neighbor with (sublinear or nonexhaustive)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/02/21 11:42

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L6	2	725/110.ccls. and (search with neighbor)	USPAT; UPAD	ADJ	OFF	2012/02/21 11:45

2/ 21/ 2012 11:46:05 AM

C:\Users\cchen3\Documents\EAST\Workspaces\11977202 ID the media using sublinear search.wsp

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

PATENT WITHDRAWAL NOTICE

DATE WITHDRAWN

2/9/2012

WITHDRAWAL NUMBER

20339

The following application has been **WITHDRAWN** from the
2/14/2012 issue.

SERIAL NO.

11/977,202

PATENT NUMBER

8,117,637

DRAWINGS

010

CLASS

725/110

TITLE

IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE
NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION
ON THE INTERNET

NAME AND ADDRESS

INGEMAR J. COX
LONDON, UNITED KINGDOM

REASON FOR WITHDRAWAL

Office of Petitions granted applicant's request to withdraw patent from issue.

APPROVED

/Kimberly Terrell/, Manager

Patent Publication Branch
Office of Data Management



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

AMSTER ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK NY 10016

MAILED
FEB 09 2012
OFFICE OF PETITIONS

In re Application of :
Ingemar J. Cox :
Application No. 11/977,202 : DECISION GRANTING PETITION
Filed: October 23, 2007 : UNDER 37 CFR 1.313(c)(2)
Attorney Docket No. 23406-5 :

This is a decision on the petition under 37 CFR 1.313(c)(2), filed, February 7, 2012 to withdraw the above-identified application from issue after payment of the issue fee.

The petition is **GRANTED**.

The above-identified application is withdrawn from issue for consideration of a submission under 37 CFR 1.114 (request for continued examination). See 37 CFR 1.313(c)(2).

Petitioner is advised that the issue fee paid on December 27, 2011 in the above-identified application cannot be refunded. If, however, the above-identified application is again allowed, petitioner may request that it be applied towards the issue fee required by the new Notice of Allowance.

Telephone inquiries should be directed to Irvin Dingle at (571) 272-3210.

This matter is being referred to Technology Center AU 2425 for processing of the request for continued examination under 37 CFR 1.114 and for consideration of the concurrently filed Information Disclosure Statement.

/Irvin Dingle/
Irvin Dingle
Petitions Examiner
Office of Petitions

¹ The request to apply the issue fee to the new Notice may be satisfied by completing and returning the new Issue Fee Transmittal Form PTOL-85(b), which includes the following language thereon: Commissioner for Patents is requested to apply the Issue Fee and Publication Fee (if any) or re-apply any previously paid issue fee to the application identified above. Petitioner is advised that, whether a fee is indicated as being due or not, the Issue Fee Transmittal Form **must** be completed and timely submitted to avoid abandonment. Note the language in bold text on the first page of the Notice of Allowance and Fee(s) Due (PTOL-85).



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Date : February 8, 2012.
TO : Director, Office of Patent Publication
FROM : Office of the Deputy Commissioner
for Patent Examination Policy
SUBJECT : Withdrawal from Issue of Application No. 11/977,202
Applicant(s) : Ingemar J. Cox
Application No. : 11/977,202
Filed : October 23, 2007

The above-identified application has been assigned Patent No. 8,117,637 and an issue date of February 14, 2012.

It is hereby directed that this application be withdrawn from issue at the request of the applicant.

Do not refund the issue fee.

The following erratum should be published in the Official Gazette if the above-identified application is published in the OG of: February 14, 2012.

"All reference to Patent No. 8,117,637 to Ingemar J. Cox of United Kingdom for IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET appearing in the Official Gazette of February 14, 2012 should be deleted since no patent was granted."

/Irvin Dingle/
Irvin Dingle
Petitions Examiner
Office of Petitions

cc: Paul Harrison
Deneise Boyd (DMB)
Mary Louise McAskill
Niomi Farmer
Mary E. Johnson (Cookie)
Duane Davis (CDS)
Bradley Harris
Kimberly Terrell
Kay Pinkney
Betty Powell
Lamont Fletcher

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 11/977,202 Confirmation No. 2195
Applicant : Ingemar J. Cox
Filed : October 23, 2007
For : IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH
AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR
INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE
INTERNET
TC/A.U. : 2195
Examiner : Chen, Cai Y.
Docket No. : 23406/5
Customer No. : 1912

PETITION UNDER 37 CFR 1.313(C)

TO WITHDRAW APPLICATION FROM ISSUE

Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant respectfully requests that the above-identified application be withdrawn from issue.

Applicant paid the issue fee for this application on December 27, 2011. In order to request withdrawal of the application from issue, Applicant submits this Petition Under 37 CFR 1.313(C). Withdrawal of the application is requested for consideration of a request for continued examination (RCE) in compliance with § 1.114 submitted

EFS
Confirmation No.: 2195
Appl. No. 11/977,202
Petition Under 37 CFR 1.313(c)

herewith. Submission of the RCE is required for consideration of an Information Disclosure Statement that cites references of some relevance to the application.

Also submitted herewith is payment of the petition fee set forth in 37 CFR 1.17(h).

The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 01-1785.

Respectfully submitted

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicant
90 Park Avenue
New York, NY 10016
(212) 336-8000

Dated: New York, New York
February 7, 2012

By: /Benjamin M. Halpern/
Benjamin M. Halpern
Registration No.: 46,494

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 11/977,202 Confirmation No. 2195
Applicant : Ingemar J. Cox
Filed : October 23, 2007
For : IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH
AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR
INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE
INTERNET
TC/A.U. : 2195
Examiner : Chen, Cai Y.
Docket No. : 23406/5
Customer No. : 1912

AMENDMENT

Mail Stop - RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Further to the Request for Continued Examination filed herewith, please amend
the above-identified application as follows:

Amendments to the Claims begin on page 2.

Remarks begin on page 13.

CLAIM AMENDMENTS:

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

Listing of Claims:

Claim 1 (previously presented): A computer-implemented method comprising:

a) receiving, by a computer system including at least one computer, features that were extracted from a media work by a client device;

b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor; and

c) transmitting, by the computer system, information about the identified media work to the client device.

Claim 2 (previously presented): The computer-implemented method of claim 1 wherein the media work is an audio work,

wherein the features extracted from the work are selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and

wherein the audio work is one of (A) a broadcast, (B) a digital file, and (C) an MP3 file.

Claim 3 (previously presented): The computer-implemented method of claim 1 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.

Claim 4 (previously presented): The computer-implemented method of claim 1 further comprising performing an action including at least one of promoting commerce and enhancing interest in the work.

Claim 5 (previously presented): Apparatus comprising:

a) at least one processor; and
b) at least one storage device storing processor-executable instructions which, when executed by the at least one processor, perform a method of

1) receiving features that were extracted from a media work by a client device,

2) determining, by the computer system, an identification of the media work using the features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor, and

3) transmitting information about the identified media work to the client device.

Claim 6 (original): The apparatus of claim 5 wherein the media work is an audio work,

wherein the features extracted from the work are selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and

wherein the audio work is one of (A) a broadcast, (B) a digital file, and (C) an MP3 file.

Claim 7 (previously presented): The apparatus of claim 5 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.

Claim 8 (previously presented): The apparatus of claim 5 wherein the method further includes performing an action including at least one of promoting commerce and enhancing interest in the work.

Claim 9 (previously presented): A computer-implemented method comprising:

a) receiving, by a computer system including at least one computer, features what were extracted from media work by a client device;

b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works; and

c) transmitting, by the computer system, information about the identified media work to the client device.

Claim 10 (original): The method of claim 9 wherein the media work is an audio work,

wherein the features extracted from the work are selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and

wherein the audio work one of (A) a broadcast, (B) a digital file, and (C) an MP3 file.

Claim 11 (previously presented): The method of claim 9 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.

Claim 12 (previously presented): The method of claim 9 further comprising performing an action including at least one of promoting commerce and enhancing interest in the work.

Claim 13 (previously presented): Apparatus comprising:

- a) at least one processor; and
- b) at least one storage device storing processor-executable instructions which, when executed by the at least one processor, perform a method of
 - 1) receiving features that were extracted from a media work by a client device,
 - 2) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works, and
 - 3) transmitting information about the identified media work to the client device.

Claim 14 (original): The apparatus of claim 13 wherein the media work is an audio work,

wherein the features extracted from the work are selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples

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of the audio work, (C) average intensities of sampled windows of the audio work, and
(D) information from frequencies of the audio work, and
wherein the audio work is one of (A) a broadcast, (8) a digital file, and (C) an
MP3 file.

Claim 15 (previously presented): The apparatus of claim 13 information about the
identified media work transmitted to the client device includes at least one of (A) a title,
or (B) an author.

Claim 16 (previously presented): The apparatus of claim 13 wherein the method
further includes performing an action including at least one of promoting commerce and
enhancing interest in the work.

Claim 17 (canceled)

Claim 18 (previously presented): The computer-implemented method of claim 1
wherein the media work is a video signal.

Claim 19 (previously presented): The computer-implemented method of claim 18
wherein the video signal is obtained from at least one of (A) a broadcast and (B) a video
file format.

Claim 20 (previously presented): The computer-implemented method of claim 9 wherein the media work is a video signal.

Claim 21 (original): The computer-implemented method of claim 20 wherein the video signal is obtained from at least one of (A) a broadcast and B) a video file format.

Claim 22 (previously presented): The computer-implemented method of claim 1 wherein at least one of the acts of receiving and transmitting is performed via a direct communication between the client device and the computer system.

Claim 23 (previously presented): The computer-implemented method of claim 1 wherein at least one of the acts of receiving and transmitting is performed via an indirect communication between the client device and the computer system.

Claim 24 (previously presented): The computer-implemented method of claim 9 wherein at least one of the acts of receiving and transmitting is performed via a direct communication between the client device and the computer system.

Claim 25 (previously presented): The computer-implemented method of claim 9 wherein at least one of the acts of receiving and transmitting is performed via an indirect communication between the client device and the computer system.

Claim 26 (new): A computer-implemented method comprising:

a) obtaining, by a computer system including at least one computer, media work extracted features that were extracted from a media work, the media work uploaded from a client device;

b) determining, by the computer system, an identification of the media work using the media work extracted features to perform a nonexhaustive search of reference extracted features of reference media works to identify a near neighbor; and

c) determining, by the computer system, an action based on the determined identification of the media work.

Claim 27 (new): The method of claim 26, wherein the action comprises providing to and/or displaying additional at another client device information in association with the media work.

Claim 28 (new): The method of claim 27, wherein the additional information is an advertisement.

Claim 29 (new): The method of claim 26, wherein the action comprises providing a coupon.

Claim 30 (new): The method of claim 26, wherein the action comprises providing a link to a Web site.

Claim 31 (new): The method of claim 26, wherein the action comprises initiating an e-commerce transaction.

Claim 32 (new): The method of claim 26, wherein the action comprises initiating a telephone call.

Claim 33 (new): The method of claim 26, wherein the action comprises logging an event relating to competitive market research data.

Claim 34 (new): A computer-implemented method comprising:

a) obtaining, by a computer system including at least one computer, media work extracted features that were extracted from a media work, the media work uploaded from a client device;

b) determining, by the computer system, an identification of the media work using the media work extracted features to perform a sublinear approximate nearest neighbor search of reference extracted features of reference identified media works; and

c) determining, by the computer system, an action based on the determined identification of the media work.

Claim 35 (new): The method of claim 34, wherein the action comprises providing to and/or displaying at another client device additional information in association with the media work.

Claim 36 (new): The method of claim 35, wherein the additional information is an advertisement.

Claim 37 (new): The method of claim 34, wherein the action comprises providing a coupon.

Claim 38 (new): The method of claim 34, wherein the action comprises providing a link to a Website.

Claim 39 (new): The method of claim 34, wherein the action comprises initiating an e-commerce transaction.

Claim 40 (new): The method of claim 34, wherein the action comprises initiating a telephone call.

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Claim 41 (new): The method of claim 34, wherein the action comprises logging an event relating to competitive market research data.

Remarks

Claims 1-16 and 18-41 are pending. By this Amendment, claims 26-41 are added.

Claims 1-16 and 18-25 have previously been allowed.

Any claim amendment(s), claim(s) added, claim(s) canceled, argument(s), remark(s), and/or any combination(s) thereof made in this response pertain solely to the specific aspects of this specific claimed invention. Further, any claim amendment(s), claim(s) added, claim(s) canceled, argument(s), remark(s), and/or any combination(s) thereof are made without prejudice to or disclaimer of Applicant's right to seek patent protection of any unclaimed subject matter such as, but not limited, to narrower unclaimed subject matter, broader unclaimed subject matter, different unclaimed subject matter, variations of unclaimed subject matter, any combination thereof, and/or any other unclaimed subject matter that may or may not be filed, for example, in any design and/or utility patent application(s) such as, but not limited to, continuation patent application(s), continuation-in-part patent application(s), and/or divisional patent application(s) and/or any other patent application(s).

Applicant's silence as to any assertion(s) by the Examiner in the Office Action and/or to any certain fact(s) or conclusion(s) that may be implied and/or alleged by objections(s) and/or rejection(s) in the Office Action is not in any way a concession by Applicant that such assertion(s), implication(s), and/or allegation(s) are accurate, and that all requirements for any objection(s) and/or a rejection(s) have been met.

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Accordingly, Applicant reserves the right to analyze and dispute any such assertion(s), implication(s), and/or allegation(s) in the future.

The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 01-1785.

Respectfully submitted

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicant
90 Park Avenue
New York, NY 10016
(212) 336-8000

Dated: New York, New York
February 7, 2012

By: /Benjamin M. Halpern/
Benjamin M. Halpern
Registration No.: 46,494

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		11977202	
	Filing Date		2007-10-23	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	2425		
	Examiner Name	CHEN, Cai Y.		
	Attorney Docket Number	23406-5		

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.

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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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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	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							<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	11977202
	Filing Date	2007-10-23
	First Named Inventor	Ingemar J. Cox
	Art Unit	2425
	Examiner Name	CHEN, Cai Y.
	Attorney Docket Number	23406-5

1	ARDIZZONE, Edoardo et al., "Motion and Color-Based Video Indexing and Retrieval," Universita di palermo, Dipartimento di Ingegneria Elettrica, pp. 135-139, Viale delle Scienze, Palermo, Italy, IEEE 1996.	<input type="checkbox"/>
2	DENG, Yining et al., "Content-based Search of Video Using Color, Texture, and Motion," Dept. of Electrical and Computer Engineering, University of California, Santa Barbara, CA, pp. 534-537, IEEE 1997.	<input type="checkbox"/>
3	FANG, Min et al., "Computing Iceberg Queries Efficiently," Dept. of Computer Science, Stanford, CA, Paper Number 234, pp1-25.	<input type="checkbox"/>
4	FLICKNER, Myron et al., "Query by Image and Video Content: The QBIC System," IBM Almaden Research Center, September 1995, pp 23-32, IEEE 1995.	<input type="checkbox"/>
5	GARGI, U et al., "Performance Characterization and Comparison of Video Indexing Algorithms," Dept. of Computer Science & Engineering, The Pennsylvania State University, University Park, PA.	<input type="checkbox"/>
6	GIONIS, Aristides et al., "Similarity Search in High Dimensions via Hashing," Dept. of Computer Science, Stanford University, Stanford, CA, pp. 518-529, Proceeding of the 25th VLDB Conference, Edinburgh, Scotland, 1999.	<input type="checkbox"/>
7	INDYK, Piotr et al., "Approximate Nearest Neighbors: Towards Removing the Curse of Dimensionality" (preliminary version) Dept. of Computer Science, Stanford University, Stanford, CA, pp. 1-13 & i-vii, July 21, 1999.	<input type="checkbox"/>
8	IYENGAR, Giridharan et al., "Models for automatic classification of video sequences," MIT Media Laboratory, Cambridge, MA.	<input type="checkbox"/>
9	JAIN, Anil K., et al., "Image Retrieval using Color and Shape," Dept. of Computer Science, Michigan State University, Eas Lansing, MI, pp. 1-24, May 15, 1995.	<input type="checkbox"/>
10	OGLE, Virginia E., et al., "Chabot: Retrieval from a Relational Database of Images," University of California at Berkeley, Computer pp. 40-48, IEEE 1995.	<input type="checkbox"/>
11	PENTLAND, A. et al., "Photobook: Content-Based Manipulation of Image Databases," Perceptual Computing Section, The Media Laboratory, Massachusetts Institute of Tech., International Journal of Computer Vision 18(3), pp. 233-254 (1996), 1996 Kluwer Academic Publishers. Manuf. in The Netherlands.	<input type="checkbox"/>

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		11977202
	Filing Date		2007-10-23
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2425	
	Examiner Name	CHEN, Cai Y.	
	Attorney Docket Number	23406-5	

12	SHIVAKUMAR, Narayanan et al., "SCAM: A Copy Detection Mechanism for Digital Documents," Dept. of Computer Science, Stanford University, Stanford, CA, pp.1-13.	<input type="checkbox"/>
13	SHIVAKUMAR, Narayanan et al., "Building a Scalable and Accurate Copy Detection Mechanism," Dept. of Computer Science, Stanford University, Stanford, CA.	<input type="checkbox"/>
14	SRIHARI, Rohini K., "Automatic Indexing and Content-Based Retrieval of Captioned Images," State University of New York, Buffalo, Theme Feature, pp. 49-56, Sept. 1995, IEEE 1995.	<input type="checkbox"/>
15	SWAIN, Michael and BALLARD, Dana H., "Color Indexing," International Journal of Computer Vision 7:1, p. 11-32 (1991), 1991 Kluwer Academic Publishers. Manuf. in The Netherlands.	<input type="checkbox"/>
16	WACTLAR, Howard D. et al., "Intelligent Access to Digital Video: Informedia Project," Carnegie Mellon University, Digital Library Initiative: Carnegie Mellon University, Computer, pp. 46-52, IEEE 1996.	<input type="checkbox"/>
17	YEO, Boon-Lock et al., "Rapid Scene Analysis on Compressed Video," IEEE Transactions on Circuits and Systems for Video Technology, Vol. 5, No. 6, pp. 533-544, December 1995, Dept. of Electrical Engineering, Princeton University, Princeton, NJ, IEEE Log Number 9415901.	<input type="checkbox"/>
18	INDYK, Piotr et al., "Finding pirated video sequences on the Internet," Dept. of Computer Science, Stanford University, Palo Alto, CA, Paper Number 199.	<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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 (Not for submission under 37 CFR 1.99)	Application Number	11977202
	Filing Date	2007-10-23
	First Named Inventor	Ingemar J. Cox
	Art Unit	2425
	Examiner Name	CHEN, Cai Y.
	Attorney Docket Number	23406-5

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.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

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	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2012-02-07
Name/Print	Benjamin M. Halpern	Registration Number	49494

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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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

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1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
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.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
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.
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.

Doc code: RCEX

Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)

Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)**

Application Number	11977202	Filing Date	2007-10-23	Docket Number (if applicable)	23406-5	Art Unit	2195
First Named Inventor	Ingemar J. Cox			Examiner Name	CHEN, Cai Y.		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

Other _____

Enclosed

Amendment/Reply

Information Disclosure Statement (IDS)

Affidavit(s)/ Declaration(s)

Other Petition to Withdraw Application from Issue, payment for 16 new claims and 2 new independent claims

MISCELLANEOUS

Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to
Deposit Account No 011785

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Patent Practitioner Signature

Applicant Signature

Doc code: RCEX

Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Signature of Registered U.S. Patent Practitioner			
Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2012-02-07
Name	Benjamin M. Halpern	Registration Number	46494

This collection of information is required by 37 CFR 1.114. 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 1.11 and 1.14. This collection is estimated to take 12 minutes 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.

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4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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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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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.

Electronic Patent Application Fee Transmittal

Application Number:	11977202			
Filing Date:	23-Oct-2007			
Title of Invention:	IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET			
First Named Inventor/Applicant Name:	Ingemar J. Cox			
Filer:	Benjamin M. Halpern/Vivian Campbell			
Attorney Docket Number:	23406-5			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Claims in excess of 20	2202	16	30	480
Independent claims in excess of 3	2201	2	125	250
Miscellaneous-Filing:				
Petition:				
Petition fee- 37 CFR 1.17(h) (Group III)	1464	1	130	130
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Request for continued examination	2801	1	465	465
Total in USD (\$)				1325

Electronic Acknowledgement Receipt

EFS ID:	12021112
Application Number:	11977202
International Application Number:	
Confirmation Number:	2195
Title of Invention:	IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET
First Named Inventor/Applicant Name:	Ingemar J. Cox
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	23406-5
Receipt Date:	07-FEB-2012
Filing Date:	23-OCT-2007
Time Stamp:	17:07:02
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$1325
RAM confirmation Number	4333
Deposit Account	011785
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Petition to Withdraw from Issue	1PETTOWD.pdf	38634 6c7318f067ddd635f75ad3ba1f6cb81d9909cc5c	no	2
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Information:					
2		3AMDMNTwRCE.pdf	57759 42e95925a44d9fc46e3bd53abc326ef2b5ab343	yes	14
Multipart Description/PDF files in .zip description					
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Amendment Submitted/Entered with Filing of CPA/RCE		1	1		
Claims		2	12		
Applicant Arguments/Remarks Made in an Amendment		13	14		
Warnings:					
Information:					
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Information:					
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Information:					
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Information:					

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Information:					
18	Non Patent Literature	19NPL15.pdf	2764905 fda4f17efaff48481d2da162de64959dd73e7e	no	22
Warnings:					
Information:					
19	Non Patent Literature	20NPL16.PDF	1081361 5f1c442ad3ce0c052dac9c58fd5c3ad99a208ae	no	7
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Information:					
20	Request for Continued Examination (RCE)	2RCE.pdf	697923 dca0bd2bfeef53920574947f5dc73c6ca1208e73	no	3
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21	Non Patent Literature	21NPL17.PDF	1852368 93860ea19008cb926ae4e357aba59a2b1fba092	no	12
Warnings:					
Information:					
22	Non Patent Literature	22NPL18.PDF	1805007 24563eed1e24c4a4cc027eb5a9ddb6c77fa6a5f7	no	24
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Information:					
23	Fee Worksheet (SB06)	fee-info.pdf	37849 3e86b0b0945949b8b31adccbff11f582729d5747	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			31178713		

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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.

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 02/13/2012

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 11/977,202		Filing Date 10/23/2007		<input type="checkbox"/> To be Mailed		
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY <input checked="" type="checkbox"/> OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)		RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =		OR	X \$ =				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =			X \$ =				
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.										
TOTAL			TOTAL			TOTAL		TOTAL		
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)		(Column 3)		SMALL ENTITY OR		OTHER THAN SMALL ENTITY	
AMENDMENT	02/07/2012	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 40	Minus	** 24	= 16	X \$30 =	480	OR	X \$ =	
	Independent (37 CFR 1.16(h))	* 6	Minus	***4	= 2	X \$125 =	250	OR	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE	730	OR	TOTAL ADD'L FEE	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =		OR	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =		OR	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.										
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".										
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".										
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

Legal Instrument Examiner:
/VIOLA ROGERS/

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/977,202	02/14/2012	8117637	23406-5	2195

1912 7590 01/25/2012
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 609 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Ingemar J. Cox, London, UNITED KINGDOM;

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		11977202	
	Filing Date		2007-10-23	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	2195		
	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	23406/5		

Change(s) applied
to document,
/C.L.V./
10/28/2011

	42	7013301	B2	2006-03-14	Frode Holm et al.	
	43	7058223	B2	2006-06-06	Ingemar J. Cox	
	44	7106904	B2	2006-09-12	Hitachi, Ltd. et al. Shima	
	45	7155449	B2	2006-12-26	Jurgen Pingel et al.	
	46	7168083	B2	2007-01-23	Antonius Adrianus Cornelis Maria Kalker et al.	
	47	7302574	B2	2007-11-27	William Y. Conwell et al.	
	48	7366718	B1	2008-04-29	William Pugh et al.	
	49	7421723	B2	2008-09-02	David H. Harkness et al.	
	50	7477739	B2	2009-01-13	Jaap Andre Haitisma et al.	
	51	7523312	B2	2009-04-21	Antonius Adrianus Cornelis Maria Kalker et al.	
	52	5594934		1997-01-14	Daozheng Lu et al.	

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	31	6374225	B1	2002-04-16	Donald J. Hejna, Jr.	
	32	6381601	B1	2002-04-30	Shinji Fujiwara et al.	
	33	6408128	B1	2002-06-18	Max Abecassis	
	34	6505160	B1	2003-01-07	Kenneth L. Levy	
	35	6598228	B2	2003-07-22	Donald J. Hejna, Jr.	
	36	6665661	B1	2003-12-16	Vernon L. Crow et al.	
	37	6873982	B1	2005-03-29	Cary Lee Bates et al.	
Change(s) applied to document, /C.L.V./ 10/28/2011	38	6931451	B1	2005-08-16	James D. Logan et al.	
	39	6978461 6978461	B2	2005-12-20	Ari Shapiro et al.	
	40	6978419	B1	2005-12-20	Mark Kantrowitz	
	41	6990453	B2	2006-01-24	Avery Li-Chun Wang et al.	



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11/977,202	10/23/2007	Ingemar J. Cox	23406-5	2195
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EXAMINER

CHEN, CAI Y

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
11/977,202	23 October 2007	COX, INGEMAR J.	23406-5

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ART UNIT	PAPER
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/Brian T Pendleton/
Supervisory Patent Examiner, Art Unit 2425

/CAI CHEN/
Examiner, Art Unit 2425

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7	J. Uhlmann. Satisfying general proximity / similarity queries with metric trees. Information Processing Letters, 40 (4):175{9, November 1991.	<input type="checkbox"/>
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Examiner Signature	/Cai Chen/	Date Considered	01/03/2012
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Signature	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2011-12-27
Name/Print	Benjamin M. Halpern	Registration Number	49494

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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.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
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.
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.
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	First Named Inventor	Ingemar J. Cox		
	Art Unit	2425		
	Examiner Name	CHEN, Cai Y.		
	Attorney Docket Number	23406-5		

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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.

Electronic Patent Application Fee Transmittal

Application Number:	11977202			
Filing Date:	23-Oct-2007			
Title of Invention:	IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET			
First Named Inventor/Applicant Name:	Ingemar J. Cox			
Filer:	Benjamin M. Halpern/Vivian Campbell			
Attorney Docket Number:	23406-5			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	2501	1	870	870
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				1350

Electronic Acknowledgement Receipt

EFS ID:	11713577
Application Number:	11977202
International Application Number:	
Confirmation Number:	2195
Title of Invention:	IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET
First Named Inventor/Applicant Name:	Ingemar J. Cox
Customer Number:	1912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	23406-5
Receipt Date:	27-DEC-2011
Filing Date:	23-OCT-2007
Time Stamp:	18:01:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$1350
RAM confirmation Number	4135
Deposit Account	011785
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Issue Fee Payment (PTO-85B)	1IF.pdf	673188	no	1
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Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	2IDS.pdf	613498	no	5
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Warnings:					
Information:					
3	Non Patent Literature	5paper03.pdf	1123307	no	10
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Warnings:					
Information:					
4	Non Patent Literature	6paper04.pdf	907056	no	4
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Warnings:					
Information:					
5	Non Patent Literature	7paper05.pdf	251818	no	4
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Warnings:					
Information:					
6	Non Patent Literature	8paper06.pdf	1414453	no	19
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Warnings:					
Information:					
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Warnings:					
Information:					
8	Non Patent Literature	11Huttenlocher.pdf	2984896	no	14
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Warnings:					
Information:					
9	Non Patent Literature	12Seidl.pdf	194695	no	12
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Warnings:					
Information:					

10	Non Patent Literature	13Burkhard.pdf	13303220 38a62991b7bd752d5839c09bd9ca3f8a649c548d	no	7
Warnings:					
Information:					
11	Non Patent Literature	14Kushilevitz.pdf	222263 37e5e91c5600ad41d3eb09d8bbd0f035c95ac6cb	no	18
Warnings:					
Information:					
12	Non Patent Literature	3paper01.pdf	513129 4ad567d2c8ca456c98f60a80dca76419a3c1a73	no	5
Warnings:					
Information:					
13	Non Patent Literature	4paper02.pdf	1780458 c4e33462d733be9e5a7ecc7727e080a1e7dae199	no	15
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Information:					
14	Non Patent Literature	9paper07.pdf	391118 900a27bab6f09e9a68155aba45b72909b415fe6b	no	5
Warnings:					
Information:					
15	Non Patent Literature	15Yianilos.pdf	1447827 c5fd864b2740fee8d7dbeac84c7d31dc363ed5d	no	11
Warnings:					
Information:					
16	Fee Worksheet (SB06)	fee-info.pdf	34117 90b2ffe76b86da72671ca8cc4465c596815fdfd	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			26548946		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

1912 7590 09/27/2011
AMSTER, ROTHSTEIN & EBENSTEIN LLP
 90 PARK AVENUE
 NEW YORK, NY 10016

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
 I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/977,202	10/23/2007	Ingemar J. Cox	23406-5	2195

TITLE OF INVENTION: IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$870	\$300	\$0	\$1170	12/27/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHEN, CAI Y	2425	725-110000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.563).

Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
 "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
 1 Amster, Rothstein &
 2 Ebenstein LLP
 3 _____

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY and STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent): Individual Corporation or other private group entity Government

4a. The following fee(s) are submitted:

Issue Fee
 Publication Fee (No small entity discount permitted)
 Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

A check is enclosed.
 Payment by credit card. Form PTO-2038 is attached.
 The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number (D) 11785 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant, a registered attorney or agent, or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature: /Benjamin M. Halpern/ Date: December 27, 2011
 Typed or printed name: Benjamin M. Halpern Registration No. 46494

This collection of information is required by 37 CFR 1.311. 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 12 minutes 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

1912 7590 09/27/2011
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

EXAMINER

CHEN, CAI Y

ART UNIT PAPER NUMBER

2425

DATE MAILED: 09/27/2011

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

11/977,202 10/23/2007 Ingemar J. Cox 23406-5 2195

TITLE OF INVENTION: IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

Table with 7 columns: APPLN. TYPE, SMALL ENTITY, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE

nonprovisional YES \$870 \$300 \$0 \$1170 12/27/2011

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

1912 7590 09/27/2011
AMSTER, ROTHSTEIN & EBENSTEIN LLP
 90 PARK AVENUE
 NEW YORK, NY 10016

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/977,202	10/23/2007	Ingemar J. Cox	23406-5	2195

TITLE OF INVENTION: IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$870	\$300	\$0	\$1170	12/27/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHEN, CAI Y	2425	725-110000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.</p>	<p>2. For printing on the patent front page, list</p> <p>(1) the names of up to 3 registered patent attorneys or agents OR, alternatively, _____ 1</p> <p>(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. _____ 2</p> <p>_____ 3</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE _____ (B) RESIDENCE: (CITY and STATE OR COUNTRY) _____

Please check the appropriate assignee category or categories (will not be printed on the patent): Individual Corporation or other private group entity Government

<p>4a. The following fee(s) are submitted:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)</p> <p><input type="checkbox"/> A check is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

5. Change in Entity Status (from status indicated above)

a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. 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 12 minutes 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.

1912 7590 09/27/2011
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

EXAMINER

CHEN, CAI Y

ART UNIT PAPER NUMBER

2425

DATE MAILED: 09/27/2011

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 456 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 456 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
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.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
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.
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 inspection 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.

Notice of Allowability	Application No.	Applicant(s)	
	11/977,202	COX, INGEMAR J.	
	Examiner	Art Unit	
	CAI CHEN	2425	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to 04/04/2011.
2. An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
3. The allowed claim(s) is/are 1-16 and 18-25.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____ .
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date ____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>04/04/2011</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____ . 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other ____. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

/CAI CHEN/
Examiner, Art Unit 2425

DETAILED ACTION

Response to Arguments

Applicant's arguments, see applicant remarks, filed 04/04/2011, with respect to claims 1-16 and 18-25 have been fully considered and are persuasive. The rejection with respect to claims 1-16 and 18-25 of previous office has been withdrawn. Claims 1-16 and 18-25 are allowed in view of Wang and Yianlos reference because Wang discloses extracting a feature from an audio signal to identify the audio signal by finding the perfect match, and claims 1, 5, 9, and 13 are claiming extracting the feature from the media work and identify the media work by performing sub linear search to find a neighbor of the extracted feature.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1 and its dependents, the art of record either alone or in combination fails to particular disclose or suggest the claim when considered as whole and particularly when A computer-implemented method comprising:

- a) receiving, by a computer system including at least one computer, features that were extracted from a media work by a client device;
- b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor; and

c) transmitting, by the computer system, information about the identified media work to the client device.

As to the art of record, the Wang reference discloses a method of extracting an audio feature from an audio media work and identify the audio media work by finding a perfect match. However, Wang does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor”

As to the art of record, the Yianlos reference discloses a search algorithm to search for dataset point nearest based extracted data. However, Yianlos does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor”

Regarding claim 5 and its dependents, the art of record either alone or in combination fails to particular disclose or suggest the claim when considered as whole and particularly when apparatus comprising: a) at least one processor; and
b) at least one storage device storing processor-executable instructions which, when executed by the at least one processor, perform a method of

- 1) receiving features that were extracted from a media work by a client device,
- 2) determining, by the computer system, an identification of the media work using the features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor, and
- 3) transmitting information about the identified media work to the client device.

As to the art of record, the Wang reference discloses a method of extracting an audio feature from an audio media work and identify the audio media work by finding a perfect match. However, Wang does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor”

As to the art of record, the Yianlos reference discloses a search algorithm to search for dataset point nearest based extracted data. However, Yianlos does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor”

Regarding claim 9 and its dependents, the art of record either alone or in combination fails to particular disclose or suggest the claim when considered as whole and particularly when a computer-implemented method comprising: a) receiving, by a computer system including at least one computer, features what

b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works; and

c) transmitting, by the computer system, information about the identified media work to the client device.

As to the art of record, the Wang reference discloses a method of extracting an audio feature from an audio media work and identify the audio media work by finding a perfect match. However, Wang does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works.”

As to the art of record, the Yianlos reference discloses a search algorithm to search for dataset point nearest based extracted data. However, Yianlos does not teach with respect to the entire claim limitation of “determining, by the

computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works.”

Regarding claim 13 and its dependents, the art of record either alone or in combination fails to particular disclose or suggest the claim when considered as whole and particularly when a computer-implemented method comprising: a) receiving, by a computer system including at least one computer, features what

- b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works; and
- c) transmitting, by the computer system, information about the identified media work to the client device.

As to the art of record, the Wang reference discloses a method of extracting an audio feature from an audio media work and identify the audio media work by finding a perfect match. However, Wang does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works”

As to the art of record, the Yianlos reference discloses a search algorithm to search for dataset point nearest based extracted data. However, Yianlos does not teach with respect to the entire claim limitation of “determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works.”

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAI CHEN whose telephone number is (571)270-5679. The examiner can normally be reached on 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Pendleton can be reached on 571-272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CAI CHEN/
Examiner, Art Unit 2425

/Brian T Pendleton/
Supervisory Patent Examiner, Art Unit 2425

Notice of References Cited	Application/Control No. 11/977,202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.	
	Examiner CAI CHEN	Art Unit 2425	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2004/0199387	10-2004	Wang et al.	704/243
*	B US-2001/0001160	05-2001	Shoff et al.	725/51
*	C US-6,834,308	12-2004	Ikezoye et al.	709/231
	D US-			
	E US-			
	F US-			
	G US-			
	H US-			
	I US-			
	J US-			
	K US-			
	L US-			
	M US-			


FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	Peter N. Yianlos, Excluded Middle Vantage Point Forest for Nearest Neighbor Search, August 1, 1999, pages 1-12
V	
W	
X	


*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Index of Claims</i> 	Application/Control No. 11977202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.
	Examiner CAI CHEN	Art Unit 2425

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	04/14/2010	09/27/2010	09/08/2011					
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22	23		✓	=					
23	24		✓	=					
24	25		✓	=					


Search Notes 	Application/Control No. 11977202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.
	Examiner CAI CHEN	Art Unit 2425

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Class 725 is text searched	4/14/2010	CC
Inventor searches were performed in East	4/14/2010	CC
Consulted Joe Hirl	6/18/2010	CC
Text search in class 705	6/18/2010	CC
TEXT Search in IEEE Explorer and ACM	6/19/2010	CC
All searches are updated	9/8/2011	CC
Class 725 subclass 110 is text searched	9/8/2011	CC
Consulted with Son Hyuh	06/08/2011	CC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
725	110	9/8/2011	CC

/CAI CHEN/ Examiner.Art Unit 2425	
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Issue Classification 	Application/Control No. 11977202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.
	Examiner CAI CHEN	Art Unit 2425

ORIGINAL						INTERNATIONAL CLASSIFICATION														
CLASS			SUBCLASS			CLAIMED					NON-CLAIMED									
725			110			H	0	4	N	7 / 173 (2011.01.01)										
CROSS REFERENCE(S)																				
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																			

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input type="checkbox"/> T.D. <input type="checkbox"/> R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1		17												
2	2	17	18												
3	3	18	19												
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16	16														

/CAI CHEN/ Examiner, Art Unit 2425 (Assistant Examiner)	09/08/2011 (Date)	Total Claims Allowed: 24	
/BRIAN PENDLETON/ Supervisory Patent Examiner, Art Unit 2425 (Primary Examiner)	09/24/2011 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	381	(subliner search\$3 or kd \$1tree or vantage point trees)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/08 10:17
L2	2	725/110.ccls. and L1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/08 10:17
L3	1199	(text or closed caption\$3) with user profile	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2011/09/08 10:17
L4	5	725/110.ccls. and L3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2011/09/08 10:17
L5	20790	identify\$3 with (near\$4 or neighbor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/08 10:17
L6	12157	(extract\$3 or captur\$3) with (song or media or video) with identif\$7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/08 10:17

L7	411	L6 and L5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/08 10:17
L8	5	725/110.ccls. and L3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2011/09/08 10:17

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L9	3969	(extract\$3 or captur\$3) with (song or media or video) with identif\$7	USPAT; UPAD	ADJ	ON	2011/09/08 10:18
L10	8303	identify\$3 with (near\$4 or neighbor)	USPAT; UPAD	ADJ	ON	2011/09/08 10:18
L11	134	L9 and L10	USPAT; UPAD	ADJ	ON	2011/09/08 10:18
L12	12	725/110.ccls. and L9	USPAT; UPAD	ADJ	ON	2011/09/08 10:19
L13	380	(text or closed caption\$3) with user profile	USPAT; UPAD	ADJ	OFF	2011/09/08 10:19
L14	1	725/110.ccls. and L13	USPAT; UPAD	ADJ	OFF	2011/09/08 10:19

9/ 8/ 2011 10:20:53 AM

**C:\ Documents and Settings\ cchen3\ My Documents\ EAST\ Workspaces\ 11445928
Feature extracted from audio and video.w sp**

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. 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		11977202
	Filing Date		2007-10-23
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2195	
	Examiner Name	Cai Y. Chen	
	Attorney Docket Number	23406/5	



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
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	2	4499601		1985-02-12	Gordon H. Matthews	
	3	4511917		1985-04-16	Hans O. Kohler et al.	
	4	4547804		1985-10-15	Burton L. Greenberg	
	5	4634966		1987-01-06	Tomofumi Nakatani et al.	
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	Examiner Name	Cai Y. Chen
	Attorney Docket Number	23406/5

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	26	6240409	B1	2001-05-29	Alexander Aiken	
	27	6247133	B1	2001-06-12	Michael D. Palage et al.	
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	29	6349296	B1	2002-02-19	Andrei Z. Broder	
	30	6363377	B1	2002-03-26	Dina Kravets et al.	

**INFORMATION DISCLOSURE
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Examiner Name	Cai Y. Chen
Attorney Docket Number	23406/5

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	Art Unit	2195		
	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	23406/5		

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	48	7366718	B1	2008-04-29	William Pugh et al.	
	49	7421723	B2	2008-09-02	David H. Harkness et al.	
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	Attorney Docket Number	23406/5		

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	54	5701452		1997-12-23	David M. Siefert	
	55	6360215	B1	2002-03-19	Douglass R. Judd et al.	
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	58	6675174	B1	2004-01-06	Rudolf Maarten Bolle et al.	
	59	7158929	B2	2007-01-02	Marc-Henri J. M. A. Wouters et al.	
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	61	7647604	B2	2010-01-12	Arun Ramaswamy	
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	63	7757248	B2	2010-07-13	David H. Harkness et al.	

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	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	23406/5		

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	20010001160	A1	2001-05-10	Daniel J. Shoff et al.	
	2	20010003818	B2	2006-12-26	Jurgen Pingel et al.	
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	9	20050160363	A1	2005-07-21	Kulvir Singh Bhogal et al.	

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	First Named Inventor	Ingemar J. Cox
	Art Unit	2195
	Examiner Name	Cai Y. Chen
	Attorney Docket Number	23406/5

	10	20060101069	A1	2006-05-11	James Bell et al.	
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	12	20070083510	A1	2007-04-12	James M. McArdle	
	13	20070118375	A1	2007-05-24	Stephen C. Kenyon et al.	
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	16	20080250241	A1	2008-10-09	Karl L. Ginter et al.	

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

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	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							<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	11977202
	Filing Date	2007-10-23
	First Named Inventor	Ingemar J. Cox
	Art Unit	2195
	Examiner Name	Cai Y. Chen
	Attorney Docket Number	23406/5

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	Nievergelt, J. et al., "The Grid File: An Adaptable, Symmetric Multikey File Structure," ACM Transactions on Database Systems, Vol. 9, No.1, pp. 38-71 (March 1984).	<input type="checkbox"/>
	2	Heintze, N, "Scalable Document Fingerprinting," Proc. USENIX Workshop on Electronic Commerce (1996).	<input type="checkbox"/>
	3	Wold, E, et al., "Content-Based Classification, Search, and Retrieval of Audio," IEEE Multimedia, Vol. 3, Issue 3, pp. 27-63 (1996).	<input type="checkbox"/>
	4	Bhanu, B., et al., "Learning Feature Relevance and Similarity Metrics in Image Databases", Proceedings of the IEEE Workshop on Content - Based Access of Image and Video Libraries, pp. 14-19 (1998).	<input type="checkbox"/>
	5	Del Bimbo, A., et al., "Using Weighted Spatial Relationships in Retrieval by Visual Contents", Image Description and Retrieval, pgs.161-192 (1998).	<input type="checkbox"/>
	6	Indyk, P., and Motwani, R., "Approximate Nearest Neighbors: Towards Removing The Curse of Dimensionality," Proceeding of the Thirtieth Annual ACM Symposium on Theory of Computing, pp. 604-613 (1998).	<input type="checkbox"/>
	7	La Cascia, M., et al., "Combining Textual and Visual Cues for Content-based Image Retrieval on the World Wide Web", Proceedings of the IEEE Workshop on Content - Based Access of Image and Video Libraries, pp., 24-29 (1998).	<input type="checkbox"/>
	8	Yoshitaka, A., et al., "A Survey on Content-Based Retrieval for Multimedia Databases", IEEE Transactions on Knowledge and Data Engineering, Vol. 11, No.1, pgs. 81-93 (January/February 1999).	<input type="checkbox"/>
	9	Lawrence, S., et al., "Digital Libraries and Autonomous Citation Indexing," IEEE Computer, pp, 67-71 (June 1999).	<input type="checkbox"/>
	10	Kimura, A, et al., "Very Quick Audio Searching: Introducing Global Pruning to the Time-Series Active Search," IEEE Conf on Acoustics, Speech and Signal Processing, (ICASSP '01), Vol 3, pp, 1429-1432 (2001).	<input type="checkbox"/>

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	11977202
	Filing Date	2007-10-23
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	Art Unit	2195
	Examiner Name	Cai Y. Chen
	Attorney Docket Number	23406/5

11	Chavez, E., et al., "Searching in Metric Spaces", ACM Computing Surveys, Vol. 33, No. 3, pp. 273-321 (September 2001).	<input type="checkbox"/>
12	Haitsma, J., et al., "Robust Audio Hashing for Content Identification, Int" Workshop on Content Based Multimedia Indexing, Brescia, Italy (September 19-21,2001).	<input type="checkbox"/>
13	Haitsma, J., and Walker, T, "A Highly Robust Audio Fingerprinting System," Journal of New Music Research, 1744-5027, Vol. 32, Issue 2, pp. 211-221 (2003).	<input type="checkbox"/>
14	Schleimer, Saul, et al., "Winnowing: Local Algorithms for Document Fingerprinting ACM SIGMOD" (June 9-12,2003).	<input type="checkbox"/>
15	"Searching Near-Replicas of Images via Clustering" Edward Chang, Chen Li, James Wang, Peter Mork, Gio Wiederhold Proc. SPIE Symposium of Voice, Video, and Data Communications, 1999.	<input type="checkbox"/>
16	"RIME: A Replicated Image Detector for the World-Wide Web" Edward Y. Chang, James Ze Wang, Chen Li, and Gio Wiederhold, SPIE 1998.	<input type="checkbox"/>
17	"Safeguarding and charging for information on the internet," H. Garcia-Molina, S. Ketchpel, and N. Shivakumar, Proceedings of ICDE , 1998.	<input type="checkbox"/>
18	"Copy detection mechanisms for digital documents," S. Brin and H. Garcia-Molina, Proceedings of ACM SIG-MOD , May 1995.	<input type="checkbox"/>
19	"The x-tree: An index structure for high-dimensional data," S. Berchtold, Proceedings of the 22nd VLDB , August 1996.	<input type="checkbox"/>
20	"The sr-tree: An index structure for high-dimensional nearest neighbor queries," N. Katayama and S. Satoh, Proceedings of ACM SIGMOD , May 1997.	<input type="checkbox"/>
21	"The k-d-b-tree: A search structure for large multidimensional dynamic indexes," J. T. Robinson, Proceedings of ACM SIGMOD , April 1981.	<input type="checkbox"/>

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	11977202
	Filing Date	2007-10-23
	First Named Inventor	Ingemar J. Cox
	Art Unit	2195
	Examiner Name	Cai Y. Chen
	Attorney Docket Number	23406/5

22	"Query by image and video content: the QBIC system," M. Flickner, H. Sawhney, W. Niblack, J. Ashley, Q. Huang, and et al, IEEE Computer 28(9), pp. 23{32, 1995.	<input type="checkbox"/>
23	"Visual information retrieval," A. Gupta and R. Jain, Communications of the ACM 40(5), pp. 69-79, 1997.	<input type="checkbox"/>
24	"Visualseek: A fully automated content-based image query system," J. R. Smith and S.-F. Chang, ACM Multimedia Conference , 1996.	<input type="checkbox"/>
25	"Similarity indexing: Algorithms and performance," D. A. White and R. Jain, Proc. SPIE Vol.2670, San Diego, 1996.	<input type="checkbox"/>
26	"The r*-tree: an efficient and robust access method for points and rectangles," N. Beckmann, H.-P. Kriegel, R. Schneider, and B. Seeger, Proceedings of ACM Sigmod , May 1990.	<input type="checkbox"/>
27	"R-trees: a dynamic index structure for spatial searching," A. Guttman, Proceedings of ACM Sigmod , June 1984.	<input type="checkbox"/>
28	"Similarity indexing with the ss-tree," D. A. White and R. Jain, Proceedings of the 12th ICDE , Feb. 1996.	<input type="checkbox"/>
29	"The tv-tree: an index structure for high-dimensional data," K.-L. Lin, H. V. Jagadish, and C. Faloutsos, VLDB Journal 3 (4), 1994.	<input type="checkbox"/>
30	"M-tree: An efficient access method for similarity search in metric spaces," P. Ciaccia, M. Patella, and P. Zezula, Proceedings of the 23rd VLDB , August 1997.	<input type="checkbox"/>
31	"Nearest neighbor queries," N. Roussopoulos, S. Kelley, and F. Vincent, Proceedings of ACM Sigmod , May 1995.	<input type="checkbox"/>
32	"An extensible hashing index for high-dimensional similarity search," C. Li, E. Chang, and J. Z. Wang, Stanford Technical Report , August 1998.	<input type="checkbox"/>

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		11977202
	Filing Date		2007-10-23
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2195	
	Examiner Name	Cai Y. Chen	
	Attorney Docket Number	23406/5	

33	"Two algorithms for nearest-neighbor search in high dimensions" J. M. Kleinberg, Proc 29th STOC, 1997.	<input type="checkbox"/>
34	"A Density-Based Algorithm for Discovering Clusters in Large Spatial Databases with Noise" Martin Ester, Hans-Peter Kriegel, Jörg Sander, Xiaowei Xu Proceedings of 2nd International Conference on Knowledge Discovery and Data Mining (KDD-96), 1996.	<input type="checkbox"/>
35	"Adaptive Color Image Embeddings for Database Navigation" Yossi Rubner, Carlo Tomasi and Leonidas J. Guibas, Proceedings of the 1998 IEEE Asian Conference on Computer Vision.	<input type="checkbox"/>
36	A Quantitative Analysis and Performance Study for Similarity-Search Methods in High-Dimensional Spaces" R. Weber, H-J Schek, S. Blott Proc., 24th VLDB Conf. 1998.	<input type="checkbox"/>


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EXAMINER SIGNATURE

Examiner Signature	/Cai Chen/	Date Considered	09/08/2011
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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.

Application Number 	Application/Control No. 11977202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.
Document Code - DISQ		Internal Document – DO NOT MAIL

TERMINAL DISCLAIMER	<input checked="" type="checkbox"/> APPROVED	<input type="checkbox"/> DISAPPROVED
Date Filed: 04/19/2011	<p style="text-align: center;">This patent is subject to a Terminal Disclaimer</p>	

Approved/Disapproved by:	
TERRI JOHNSON	

U.S. Patent and Trademark Office

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 11/977,202 Confirmation No. 2195
Applicant : Ingemar J. Cox
Filed : October 23, 2007
For : IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH
AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR
INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE
INTERNET
TC/A.U. : 2195
Examiner : Chen, Cai Y.
Docket No. : 23406/5
Customer No. : 1912

SUPPLEMENTAL RESPONSE

Mail Stop - AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated October 6, 2010, and further to the request for reconsideration filed April 4, 2011, Applicant submits herewith a Terminal Disclaimer for the above-identified application. No amendments to the application are being presented by this response.

EFS
Confirmation No.: 2195
Appl. No. 11/977,202
Supplemental Response dated April 19, 2011

Remarks

Claims 1-16 and 18-25 are pending.

During a telephone interview with Applicant's representative, Examiner Chen indicated that the present application is in condition for allowance except for the outstanding double patenting issue. Specifically, the October 6, 2010 Office Action rejects claims 1, 5, 9 and 13 based on obviousness-type double patenting over claim 8 of U.S. Patent Application 12/074,107. A Terminal Disclaimer is filed herewith to obviate this rejection. Withdrawal of the obviousness-type double patenting rejection is respectfully requested.

In view of the above Remarks, allowance of all claims in this application is respectfully requested.

The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 01-1785.

Respectfully submitted

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicant
90 Park Avenue
New York, NY 10016
(212) 336-8000

Dated: New York, New York
April 19, 2011

By: /Benjamin M. Halpern/
Benjamin M. Halpern
Registration No.: 46,494

TERMINAL DISCLAIMER TO OBTAIN A PROVISIONAL DOUBLE PATENTING REJECTION OVER A PENDING "REFERENCE" APPLICATION

Docket Number (Optional)

23406-5

In re Application of: Ingemar J. Cox

Application No.: 11/977,202

Filed: October 23, 2007

For: IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

The owner*, Ingemar J. Cox, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending **reference** Application Number 12/704,107, filed on April 13, 2011, as such term is defined in 35 U.S.C. 154 and 173, and as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of any patent granted on said **reference** application, "as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application," in the event that: any such patent: granted on the pending **reference** application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

Check either box 1 or 2 below, if appropriate.

1. For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. The undersigned is an attorney or agent of record. Reg. No. 46494

/Benjamin M. Halpern/
Signature

April 19, 2011
Date

Benjamin M. Halpern
Typed or printed name

212-336-8000
Telephone Number

- Terminal disclaimer fee under 37 CFR 1.20(d) is included.

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*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this statement. See MPEP § 324.

This collection of information is required by 37 CFR 1.321. 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 1.11 and 1.14. This collection is estimated to take 12 minutes 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.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Patent Application Fee Transmittal

Application Number:	11977202			
Filing Date:	23-Oct-2007			
Title of Invention:	Identifying works, using a sub-linear time search, such as an approximate nearest neighbor search, for initiating a work-based action, such as an action on the internet			
First Named Inventor/Applicant Name:	Ingemar J. Cox			
Filer:	Benjamin M. Halpern/Vivian Campbell			
Attorney Docket Number:	23406-5			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Statutory or terminal disclaimer	2814	1	70	70
Total in USD (\$)				70

Electronic Acknowledgement Receipt

EFS ID:	9911357
Application Number:	11977202
International Application Number:	
Confirmation Number:	2195
Title of Invention:	Identifying works, using a sub-linear time search, such as an approximate nearest neighbor search, for initiating a work-based action, such as an action on the internet
First Named Inventor/Applicant Name:	Ingemar J. Cox
Customer Number:	01912
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	23406-5
Receipt Date:	19-APR-2011
Filing Date:	23-OCT-2007
Time Stamp:	15:45:56
Application Type:	Utility under 35 USC 111(a)

Payment information:

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Payment Type	Deposit Account
Payment was successfully received in RAM	\$70
RAM confirmation Number	2262
Deposit Account	011785
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1	Supplemental Response or Supplemental Amendment	1Suppresponse.pdf	38340 48b10a56d11ec4168833fc501496333ce8a f25a	no	2
Warnings:					
Information:					
2	Terminal Disclaimer Filed	2TD.pdf	37086 7d48e87b7e540f0a439f3d14d4349170fad ba8b0	no	1
Warnings:					
Information:					
3	Fee Worksheet (PTO-875)	fee-info.pdf	30348 5046d15850f5a7e3c1653f3b64e73907fe7f 9ac3	no	2
Warnings:					
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<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					



4-5-11

RCB/IFW

PTO/SB/30 (07-09) Approved for use through 07/31/2012. OMB 0651-0031 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Request for Continued Examination (RCE) Transmittal Address to: Mail Stop RCE Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Application Number	11/977,202
	Filing Date	October 23, 2007
	First Named Inventor	Ingemar J. Cox
	Art Unit	2195
	Examiner Name	CHEN, Cai Y.
	Attorney Docket Number	23406-5

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application. Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. **Submission required under 37 CFR 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

a. Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

i. Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

ii. Other _____

b. Enclosed

i. Amendment/Reply

ii. Affidavit(s)/ Declaration(s)

iii. Information Disclosure Statement (IDS)

iv. Other _____

2. **Miscellaneous**

a. Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

b. Other _____

3. **Fees** The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed. The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to _____

a. Deposit Account No. 01-1785 **04/06/2011 HBLANCO 00000024 011785 11977202**

i. RCE fee required under 37 CFR 1.17(e) **01 FC:2001 405.00 DA**

ii. Extension of time fee (37 CFR 1.136 and 1.17)

iii. Other _____

b. Check in the amount of \$ _____ enclosed

c. Payment by credit card (Form PTO-2038 enclosed)

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature	<i>Ben Halpern</i>	Date	April 4, 2011
Name (Print/Type)	Benjamin M. Halpern	Registration No.	46494

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature	<i>Vivian Campbell</i>	Date	April 4, 2011
Name (Print/Type)	Vivian Campbell		

This collection of information is required by 37 CFR 1.114. 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 1.11 and 1.14. This collection is estimated to take 12 minutes 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: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PTO/SB/22 (07-09)

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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) FY 2009 <i>(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)</i>		Docket Number (Optional) 23406-5	
Application Number 11/977,202		Filed October 23, 2007	
For Identifying works, using a sub-linear time search, such as an approximate nearest neighbor search, ...			
Art Unit 2195		Examiner CHEN, Cai Y.	
This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.			
The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):			
		<u>Fee</u>	<u>Small Entity Fee</u>
<input type="checkbox"/>	One month (37 CFR 1.17(a)(1))	\$130	\$65 \$ _____
<input type="checkbox"/>	Two months (37 CFR 1.17(a)(2))	\$490	\$245 \$ _____
<input checked="" type="checkbox"/>	Three months (37 CFR 1.17(a)(3))	\$1110	\$555 \$ <u>555</u>
<input type="checkbox"/>	Four months (37 CFR 1.17(a)(4))	\$1730	\$865 \$ _____
<input type="checkbox"/>	Five months (37 CFR 1.17(a)(5))	\$2350	\$1175 \$ _____
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.			
<input type="checkbox"/> A check in the amount of the fee is enclosed.			
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.			
<input type="checkbox"/> The Director has already been authorized to charge fees in this application to a Deposit Account.			
<input checked="" type="checkbox"/> The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>01-1785</u> .			
WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.			
		04/06/2011 MBLANCO 00000024 011785	11977202
I am the		02 FC:2253	555.00 DA
<input type="checkbox"/>	applicant/inventor.		
<input type="checkbox"/>	assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).		
<input checked="" type="checkbox"/>	attorney or agent of record. Registration Number <u>46494</u>		
<input type="checkbox"/>	attorney or agent under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____		
_____ /Benjamin M. Halpern/ Signature		_____ April 4, 2011 Date	
_____ Benjamin M. Halpern Typed or printed name		_____ (212) 336-8000 Telephone Number	
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.			
<input checked="" type="checkbox"/> Total of <u>1</u> forms are submitted.			

This collection of information is required by 37 CFR 1.136(a). 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 1.11 and 1.14. This collection is estimated to take 6 minutes 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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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional)																								
FY 2009		23406-5																								
<i>(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)</i>																										
Application Number 11/977,202		Filed October 23, 2007																								
For Identifying works, using a sub-linear time search, such as an approximate nearest neighbor search, ...																										
Art Unit 2195		Examiner CHEN, Cai Y.																								
<p>This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.</p> <p>The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: center; border-bottom: 1px solid black;">Fee</th> <th style="text-align: center; border-bottom: 1px solid black;">Small Entity Fee</th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> One month (37 CFR 1.17(a)(1))</td> <td style="text-align: center;">\$130</td> <td style="text-align: center;">\$65</td> <td style="text-align: center;">\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Two months (37 CFR 1.17(a)(2))</td> <td style="text-align: center;">\$490</td> <td style="text-align: center;">\$245</td> <td style="text-align: center;">\$ _____</td> </tr> <tr> <td><input checked="" type="checkbox"/> Three months (37 CFR 1.17(a)(3))</td> <td style="text-align: center;">\$1110</td> <td style="text-align: center;">\$555</td> <td style="text-align: center;">\$ <u>555</u></td> </tr> <tr> <td><input type="checkbox"/> Four months (37 CFR 1.17(a)(4))</td> <td style="text-align: center;">\$1730</td> <td style="text-align: center;">\$865</td> <td style="text-align: center;">\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Five months (37 CFR 1.17(a)(5))</td> <td style="text-align: center;">\$2350</td> <td style="text-align: center;">\$1175</td> <td style="text-align: center;">\$ _____</td> </tr> </tbody> </table> <p><input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.</p> <p><input type="checkbox"/> A check in the amount of the fee is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The Director has already been authorized to charge fees in this application to a Deposit Account.</p> <p><input checked="" type="checkbox"/> The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>01-1785</u>.</p> <p>WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</p> <p>I am the <input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration Number <u>46494</u></p> <p><input type="checkbox"/> attorney or agent under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</p> <p style="text-align: center;">_____ /Benjamin M. Halpern/ Signature</p> <p style="text-align: center;">_____ April 4, 2011 Date</p> <p style="text-align: center;">_____ Benjamin M. Halpern Typed or printed name</p> <p style="text-align: center;">_____ (212) 336-8000 Telephone Number</p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.</p> <p><input checked="" type="checkbox"/> Total of <u>1</u> forms are submitted.</p>				Fee	Small Entity Fee		<input type="checkbox"/> One month (37 CFR 1.17(a)(1))	\$130	\$65	\$ _____	<input type="checkbox"/> Two months (37 CFR 1.17(a)(2))	\$490	\$245	\$ _____	<input checked="" type="checkbox"/> Three months (37 CFR 1.17(a)(3))	\$1110	\$555	\$ <u>555</u>	<input type="checkbox"/> Four months (37 CFR 1.17(a)(4))	\$1730	\$865	\$ _____	<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$2350	\$1175	\$ _____
	Fee	Small Entity Fee																								
<input type="checkbox"/> One month (37 CFR 1.17(a)(1))	\$130	\$65	\$ _____																							
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<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$2350	\$1175	\$ _____																							

This collection of information is required by 37 CFR 1.136(a). 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 1.11 and 1.14. This collection is estimated to take 6 minutes 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.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 11/977,202 Confirmation No. 2195
Applicant : Ingemar J. Cox
Filed : October 23, 2007
For : IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH
AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR
INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE
INTERNET
TC/A.U. : 2195
Examiner : Chen, Cai Y.
Docket No. : 23406/5
Customer No. : 1912

REQUEST FOR RECONSIDERATION

Mail Stop - RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated October 6, 2010, reconsideration of the above-identified application is respectfully requested. No amendments to the application are being presented by this response.

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filed in response to Office Action mailed October 6, 2010

Listing of Claims:

Claim 1 (previously presented): A computer-implemented method comprising:

a) receiving, by a computer system including at least one computer, features that were extracted from a media work by a client device;

b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor; and

c) transmitting, by the computer system, information about the identified media work to the client device.

Claim 2 (previously presented): The computer-implemented method of claim 1 wherein the media work is an audio work,

wherein the features extracted from the work are selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and

wherein the audio work is one of (A) a broadcast, (B) a digital file, and (C) an MP3 file.

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Claim 3 (previously presented): The computer-implemented method of claim 1 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.

Claim 4 (previously presented): The computer-implemented method of claim 1 further comprising performing an action including at least one of promoting commerce and enhancing interest in the work.

Claim 5 (previously presented): Apparatus comprising:

- a) at least one processor; and
- b) at least one storage device storing processor-executable instructions which, when executed by the at least one processor, perform a method of
 - 1) receiving features that were extracted from a media work by a client device,
 - 2) determining, by the computer system, an identification of the media work using the features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor, and
 - 3) transmitting information about the identified media work to the client device.

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Claim 6 (original): The apparatus of claim 5 wherein the media work is an audio work,

wherein the features extracted from the work are selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and

wherein the audio work is one of (A) a broadcast, (B) a digital file, and (C) an MP3 file.

Claim 7 (previously presented): The apparatus of claim 5 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.

Claim 8 (previously presented): The apparatus of claim 5 wherein the method further includes performing an action including at least one of promoting commerce and enhancing interest in the work.

Claim 9 (previously presented): A computer-implemented method comprising:
a) receiving, by a computer system including at least one computer, features what were extracted from media work by a client device;

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b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works; and

c) transmitting, by the computer system, information about the identified media work to the client device.

Claim 10 (original): The method of claim 9 wherein the media work is an audio work,

wherein the features extracted from the work are selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and

wherein the audio work one of (A) a broadcast, (B) a digital file, and (C) an MP3 file.

Claim 11 (previously presented): The method of claim 9 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.

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Claim 12 (previously presented): The method of claim 9 further comprising performing an action including at least one of promoting commerce and enhancing interest in the work.

Claim 13 (previously presented): Apparatus comprising:

- a) at least one processor; and
- b) at least one storage device storing processor-executable instructions which, when executed by the at least one processor, perform a method of
 - 1) receiving features what were extracted from a media work by a client device,
 - 2) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works, and
 - 3) transmitting information about the identified media work to the client device.

Claim 14 (original): The apparatus of claim 13 wherein the media work is an audio work,

wherein the features extracted from the work are selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples

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of the audio work, (C) average intensities of sampled windows of the audio work, and
(D) information from frequencies of the audio work, and

wherein the audio work is one of (A) a broadcast, (8) a digital file, and (C) an
MP3 file.

Claim 15 (previously presented): The apparatus of claim 13 information about the
identified media work transmitted to the client device includes at least one of (A) a title,
or (B) an author.

Claim 16 (previously presented): The apparatus of claim 13 wherein the method
further includes performing an action including at least one of promoting commerce and
enhancing interest in the work.

Claim 17 (canceled)

Claim 18 (previously presented): The computer-implemented method of claim 1
wherein the media work is a video signal.

Claim 19 (previously presented): The computer-implemented method of claim 18
wherein the video signal is obtained from at least one of (A) a broadcast and (B) a video
file format.

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Claim 20 (previously presented): The computer-implemented method of claim 9 wherein the media work is a video signal.

Claim 21 (original): The computer-implemented method of claim 20 wherein the video signal is obtained from at least one of (A) a broadcast and B) a video file format.

Claim 22 (previously presented): The computer-implemented method of claim 1 wherein at least one of the acts of receiving and transmitting is performed via a direct communication between the client device and the computer system.

Claim 23 (previously presented): The computer-implemented method of claim 1 wherein at least one of the acts of receiving and transmitting is performed via an indirect communication between the client device and the computer system.

Claim 24 (previously presented): The computer-implemented method of claim 9 wherein at least one of the acts of receiving and transmitting is performed via a direct communication between the client device and the computer system.

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Claim 25 (previously presented): The computer-implemented method of claim 9 wherein at least one of the acts of receiving and transmitting is performed via an indirect communication between the client device and the computer system.

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Remarks

Claims 1-16 and 18-25 are pending.

Applicant appreciates the courtesies extended to Applicant's representative by Examiner Chen and SPE Pendleton during the October 12, 2010 telephone interview. Applicant also acknowledges receipt of Examiner's Interview Summary issued December 8, 2010. The Interview Summary indicates that Applicant has agreed to amend the claims to recite that the electronic work is "at least text". **However, Applicant respectfully notes that no such agreement to amend the claims was made during the interview.** On the contrary, during the interview, Applicant's representative presented arguments against the rejections over the cited references, and such arguments were appreciated by Examiner Chen and SPE Pendleton as possibly being effective in overcoming the rejections without requiring any further claim amendments.

The arguments presented during the telephone interview are incorporated into the following remarks. Reconsideration of the present application based on these remarks is respectfully requested.

Further, in view of, amongst other things, the following remarks, Applicant respectfully submits that the pending claims are in condition for allowance.

If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, Applicant respectfully requests that the Examiner contact the undersigned to schedule a telephonic Examiner Interview before any further Actions on the merits.

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The Office Action rejects claims 1, 5, 9 and 13 based on obviousness-type double patenting over claim 8 of U.S. Patent Application 12/074,107. A Terminal Disclaimer is filed herewith to obviate this rejection. Withdrawal of the obviousness-type double patenting rejection is respectfully requested.

The Office Action rejects claims 1-16 and 18-25 under 35 U.S.C. § 103(a) over Wang (U.S. Patent Application Publication No. 2004/0199387) in view of Yianilos (“Excluded Middle Vantage Point Forests for Nearest Neighbor Search”). This rejection is respectfully traversed:

Wang, alone or in combination with Yianilos, does not disclose or even suggest a computer-implemented method including, *inter alia*, receiving, by a computer system including at least one computer, features that were extracted from a media work by a client device; determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor; and transmitting, by the computer system, information about the identified media work to the client device, as recited in claim 1, and as similarly recited in claims 5, 9 and 13.

As discussed during the telephone interview, it would not have been obvious to combine Yianilos with Wang to arrive at the claimed invention. Specifically, Wang discloses a system that identifies a feature of an audio signal despite background noise and other interferences, and perfectly matches the signal very quickly by referring to a large database in a time proportional to $\log N$, where N is the number of entries in the

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database. See paragraph [0103] of Wang. As explained at paragraph [0059] of Wang, an object of the Wang system is to identify a recording in “nearly real time” so that music buyers are susceptible to impulse purchases at the height of their interest in a particular song. Thus, Wang prefers to use audio pattern technology that is as fast as possible, and in particular uses an algorithm “that can search a very large database in a very short period of time” to find an exact match. See, for example, paragraph [0063] of Wang.

Yianilos teaches a search method that requires on the order of $N^{1-p}\log N$ time (or $\log N$ time using N^{1-p} processors), where p depends on a radius of interest and the dataset. Thus, by definition, Yianilos discloses a slower and less accurate search than that taught by Wang. Thus, there would have been no motivation to use the search method of Yianilos with the system of Wang, since doing so would actually degrade the performance of the search algorithm of Wang and result in an inferior search technique. In fact, using the Yianilos search method would counter the objective of Wang in providing a “near real time” music purchasing system (“If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)).

For at least these reasons, it is respectfully submitted that independent claims 1, 5, 9 and 13 are in condition for allowance. The dependent claims are also in condition for allowance for the reasons discussed as well as for the additional features they recite.

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Any claim amendment(s), claim(s) added, claim(s) canceled, argument(s), remark(s), and/or any combination(s) thereof made in this response pertain solely to the specific aspects of this specific claimed invention. Further, any claim amendment(s), claim(s) added, claim(s) canceled, argument(s), remark(s), and/or any combination(s) thereof are made without prejudice to or disclaimer of Applicant's right to seek patent protection of any unclaimed subject matter such as, but not limited, to narrower unclaimed subject matter, broader unclaimed subject matter, different unclaimed subject matter, variations of unclaimed subject matter, any combination thereof, and/or any other unclaimed subject matter that may or may not be filed, for example, in any design and/or utility patent application(s) such as, but not limited to, continuation patent application(s), continuation-in-part patent application(s), and/or divisional patent application(s) and/or any other patent application(s).

Applicant's silence as to any assertion(s) by the Examiner in the Office Action and/or to any certain fact(s) or conclusion(s) that may be implied and/or alleged by objections(s) and/or rejection(s) in the Office Action is not in any way a concession by Applicant that such assertion(s), implication(s), and/or allegation(s) are accurate, and that all requirements for any objection(s) and/or a rejection(s) have been met. Accordingly, Applicant reserves the right to analyze and dispute any such assertion(s), implication(s), and/or allegation(s) in the future.

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In view of the above Amendments and Remarks, withdrawal of the rejections and allowance of all claims is respectfully requested.

The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 01-1785.

Respectfully submitted

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicant
90 Park Avenue
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(212) 336-8000

Dated: New York, New York
April 4, 2011

By: /Benjamin M. Halpern/
Benjamin M. Halpern
Registration No.: 46,494

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

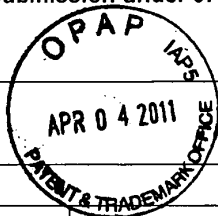
PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		11977202
	Filing Date		2007-10-23
	First Named Inventor	Ingemar J. Cox	
	Art Unit	2195	
	Examiner Name	Cai Y. Chen	
	Attorney Docket Number	23406/5	



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	4495526		1985-01-22	Dimitri Baranoff-Rossine	
	2	4499601		1985-02-12	Gordon H. Matthews	
	3	4511917		1985-04-16	Hans O. Kohler et al.	
	4	4547804		1985-10-15	Burton L. Greenberg	
	5	4634966		1987-01-06	Tomofumi Nakatani et al.	
	6	4639779		1987-01-27	Burton L. Greenberg	
	7	4682370		1987-07-21	Gordon H. Matthews	
	8	4697209		1987-09-29	David A. Kiewit	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	11977202
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	First Named Inventor	Ingemar J. Cox
	Art Unit	2195
	Examiner Name	Cai Y. Chen
	Attorney Docket Number	23406/5

	9	4776017		1988-10-04	Junichiroh Fujimoto	
	10	4805020		1989-02-14	Burton L. Greenberg	
	11	4843526		1989-06-27	George T. Prince, III	
	12	5481294		1996-01-02	William L. Thomas et al.	
	13	5692213		1997-11-25	David Goldberg et al.	
	14	5701542		1997-12-23	Hiroyuki Sasayama	
	15	5724605		1998-03-03	Michael J. Wissner	
	16	5745900		1998-04-28	Michael Burrows	
	17	5798785		1998-08-25	John S. Hendricks et al.	
	18	5850490		1998-12-15	Walter A. L. Johnson	
	19	5953415		1999-09-14	Jakob Nielsen	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	11977202
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	First Named Inventor	Ingemar J. Cox
	Art Unit	2195
	Examiner Name	Cai Y. Chen
	Attorney Docket Number	23406/5

	20	6052693		2000-04-18	Michael J. Smith et al.	
	21	6088455		2000-07-11	James D. Logan et al.	
	22	6088707		2000-07-11	Cary L. Bates et al.	
	23	6119124		2000-09-12	Andrei Z. Broader et al.	
	24	6169986		2001-01-02	Dwayne E. Bowman et al.	
	25	6173406	B1	2001-01-09	Edward Yan-Bing Wang	
	26	6240409	B1	2001-05-29	Alexander Aiken	
	27	6247133	B1	2001-06-12	Michael D. Palage et al.	
	28	6263348	B1	2001-07-17	Bodie Kathrow et al.	
	29	6349296	B1	2002-02-19	Andrei Z. Broder	
	30	6363377	B1	2002-03-26	Dina Kravets et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		11977202	
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	First Named Inventor	Ingemar J. Cox		
	Art Unit	2195		
	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	23406/5		

	31	6374225	B1	2002-04-16	Donald J. Hejna, Jr.	
	32	6381601	B1	2002-04-30	Shinji Fujiwara et al.	
	33	6408128	B1	2002-06-18	Max Abecassis	
	34	6505160	B1	2003-01-07	Kenneth L. Levy	
	35	6598228	B2	2003-07-22	Donald J. Hejna, Jr.	
	36	6665661	B1	2003-12-16	Vernon L. Crow et al.	
	37	6873982	B1	2005-03-29	Cary Lee Bates et al.	
	38	6931451	B1	2005-08-16	James D. Logan et al.	
	39	6973461	B2	2005-12-20	Ari Shapiro et al.	
	40	6978419	B1	2005-12-20	Mark Kantrowitz	
	41	6990453	B2	2006-01-24	Avery Li-Chun Wang et al.	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		11977202
Filing Date		2007-10-23
First Named Inventor	Ingemar J. Cox	
Art Unit	2195	
Examiner Name	Cai Y. Chen	
Attorney Docket Number	23406/5	

	42	7013301	B2	2006-03-14	Frode Holm et al.	
	43	7058223	B2	2006-06-06	Ingemar J. Cox	
	44	7106904	B2	2006-09-12	Hitachi, Ltd. et al.	
	45	7155449	B2	2006-12-26	Jurgen Pingel et al.	
	46	7168083	B2	2007-01-23	Antonius Adrianus Cornelis Maria Kalker et al.	
	47	7302574	B2	2007-11-27	William Y. Conwell et al.	
	48	7366718	B1	2008-04-29	William Pugh et al.	
	49	7421723	B2	2008-09-02	David H. Harkness et al.	
	50	7477739	B2	2009-01-13	Jaap Andre Haitsma et al.	
	51	7523312	B2	2009-04-21	Antonius Adrianus Cornelis Maria Kalker et al.	
	52	5594934		1997-01-14	Daozheng Lu et al.	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	11977202
Filing Date	2007-10-23
First Named Inventor	Ingemar J. Cox
Art Unit	2195
Examiner Name	Cai Y. Chen
Attorney Docket Number	23406/5

53	5629739		1997-05-13	Robert A. Dougherty	
54	5701452		1997-12-23	David M. Siefert	
55	6360215	B1	2002-03-19	Douglass R. Judd et al.	
56	6550001	B1	2003-04-15	Michael P. Corwin et al.	
57	6577746	B1	2003-06-10	Douglas B. Evans et al.	
58	6675174	B1	2004-01-06	Rudolf Maarten Bolle et al.	
59	7158929	B2	2007-01-02	Marc-Henri J. M. A. Wouters et al.	
60	7587728	B2	2009-09-08	Henry B. Wheeler et al.	
61	7647604	B2	2010-01-12	Arun Ramaswamy	
62	7650616	B2	2010-01-19	Morris Lee	
63	7757248	B2	2010-07-13	David H. Harkness et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		11977202	
	Filing Date		2007-10-23	
	First Named Inventor	Ingemar J. Cox		
	Art Unit	2195		
	Examiner Name	Cai Y. Chen		
	Attorney Docket Number	23406/5		

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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	20010001160	A1	2001-05-10	Daniel J. Shoff et al.	
	2	20010003818	B2	2006-12-26	Jurgen Pingel et al.	
	3	20020023020	A1	2002-02-21	Stephen C. Kenyon et al.	
	4	20020032698	B1	2002-03-14	Ingemar J. Cox	
	5	20020120925	A1	2002-08-29	James D. Logan	
	6	20020156760	A1	2002-10-24	Stephen R. Lawrence et al.	
	7	20030106017	A1	2003-06-05	Virupaksha N. Kanchirayappa	
	8	20030146940	A1	2003-08-07	Michael D. Ellis	
	9	20050160363	A1	2005-07-21	Kulvir Singh Bhogal et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	11977202
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	Art Unit	2195
	Examiner Name	Cai Y. Chen
	Attorney Docket Number	23406/5

	10	20060101069	A1	2006-05-11	James Bell et al.	
	11	20060206462	A1	2006-09-14	Jimmy N. Barber	
	12	20070083510	A1	2007-04-12	James M. McArdle	
	13	20070118375	A1	2007-05-24	Stephen C. Kenyon et al.	
	14	20080091684	A1	2008-04-17	Jeffrey Ellis et al.	
	15	20070041667	A1	2007-02-22	Ingemar J. Cox	
	16	20080250241	A1	2008-10-09	Karl L. Ginter et al.	

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FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	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							<input type="checkbox"/>

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NON-PATENT LITERATURE DOCUMENTS

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	11977202
	Filing Date	2007-10-23
	First Named Inventor	Ingemar J. Cox
	Art Unit	2195
	Examiner Name	Cai Y. Chen
	Attorney Docket Number	23406/5

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	Nievergelt, J. et al., "The Grid File: An Adaptable, Symmetric Multikey File Structure," ACM Transactions on Database Systems, Vol. 9, No.1, pp. 38-71 (March 1984).	<input type="checkbox"/>
	2	Heintze, N, "Scalable Document Fingerprinting," Proc. USENIX Workshop on Electronic Commerce (1996).	<input type="checkbox"/>
	3	Wold, E, et al., "Content-Based Classification, Search, and Retrieval of Audio," IEEE Multimedia, Vol. 3, Issue 3, pp. 27-63 (1996).	<input type="checkbox"/>
	4	Bhanu, B., et al., "Learning Feature Relevance and Similarity Metrics in Image Databases", Proceedings of the IEEE Workshop on Content - Based Access of Image and Video Libraries, pp. 14-19 (1998).	<input type="checkbox"/>
	5	Del Bimbo, A., et al., "Using Weighted Spatial Relationships in Retrieval by Visual Contents", Image Description and Retrieval, pgs.161-192 (1998).	<input type="checkbox"/>
	6	Indyk, P., and Motwani, R., "Approximate Nearest Neighbors: Towards Removing The Curse of Dimensionality," Proceeding of the Thirtieth Annual ACM Symposium on Theory of Computing, pp. 604-613 (1998).	<input type="checkbox"/>
	7	La Cascia, M., et al., "Combining Textual and Visual Cues for Content-based Image Retrieval on the World Wide Web", Proceedings of the IEEE Workshop on Content - Based Access of Image and Video Libraries, pp., 24-29 (1998).	<input type="checkbox"/>
	8	Yoshitaka, A., et al., "A Survey on Content-Based Retrieval for Multimedia Databases", IEEE Transactions on Knowledge and Data Engineering, Vol. 11, No.1, pgs. 81-93 (January/February 1999).	<input type="checkbox"/>
	9	Lawrence, S., et al., "Digital Libraries and Autonomous Citation Indexing," IEEE Computer, pp, 67-71 (June 1999).	<input type="checkbox"/>
	10	Kimura, A, et al., "Very Quick Audio Searching: Introducing Global Pruning to the Time-Series Active Search," IEEE Conf on Acoustics, Speech and Signal Processing, (ICASSP '01), VoL 3, pp, 1429-1432 (2001).	<input type="checkbox"/>

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	Attorney Docket Number	23406/5

11	Chavez, E., et al., "Searching in Metric Spaces", ACM Computing Surveys, Vol. 33, No. 3, pp. 273-321 (September 2001).	<input type="checkbox"/>
12	Haitsma, J., et al., "Robust Audio Hashing for Content Identification, Int" Workshop on Content Based Multimedia Indexing, Brescia, Italy (September 19-21,2001).	<input type="checkbox"/>
13	Haitsma, J., and Walker, T, "A Highly Robust Audio Fingerprinting System," Journal of New Music Research, 1744-5027, Vol. 32, Issue 2, pp. 211-221 (2003).	<input type="checkbox"/>
14	Schleimer, Saul, et al., "Winnowing: Local Algorithms for Document Fingerprinting ACM SIGMOD" (June 9-12,2003).	<input type="checkbox"/>
15	"Searching Near-Replicas of Images via Clustering" Edward Chang, Chen Li, James Wang, Peter Mork, Gio Wiederhold Proc. SPIE Symposium of Voice, Video, and Data Communications, 1999.	<input type="checkbox"/>
16	"RIME: A Replicated Image Detector for the World-Wide Web" Edward Y. Chang, James Ze Wang, Chen Li, and Gio Wiederhold, SPIE 1998.	<input type="checkbox"/>
17	"Safeguarding and charging for information on the internet," H. Garcia-Molina, S. Ketchpel, and N. Shivakumar, Proceedings of ICDE , 1998.	<input type="checkbox"/>
18	"Copy detection mechanisms for digital documents," S. Brin and H. Garcia-Molina, Proceedings of ACM SIG-MOD , May 1995.	<input type="checkbox"/>
19	"The x-tree: An index structure for high-dimensional data," S. Berchtold, Proceedings of the 22nd VLDB , August 1996.	<input type="checkbox"/>
20	"The sr-tree: An index structure for high-dimensional nearest neighbor queries," N. Katayama and S. Satoh, Proceedings of ACM SIGMOD , May 1997.	<input type="checkbox"/>
21	"The k-d-b-tree: A search structure for large multidimensional dynamic indexes," J. T. Robinson, Proceedings of ACM SIGMOD , April 1981.	<input type="checkbox"/>

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	Examiner Name	Cai Y. Chen
	Attorney Docket Number	23406/5

22	"Query by image and video content: the QBIC system," M. Flickner, H. Sawhney, W. Niblack, J. Ashley, Q. Huang, and et al, IEEE Computer 28(9), pp. 23{32, 1995.	<input type="checkbox"/>
23	"Visual information retrieval," A. Gupta and R. Jain, Communications of the ACM 40(5), pp. 69-79, 1997.	<input type="checkbox"/>
24	"Visualseek: A fully automated content-based image query system," J. R. Smith and S.-F. Chang, ACM Multimedia Conference , 1996.	<input type="checkbox"/>
25	"Similarity indexing: Algorithms and performance," D. A. White and R. Jain, Proc. SPIE Vol.2670, San Diego, 1996.	<input type="checkbox"/>
26	"The r*-tree: an efficient and robust access method for points and rectangles," N. Beckmann, H.-P. Kriegel, R. Schneider, and B. Seeger, Proceedings of ACM Sigmod , May 1990.	<input type="checkbox"/>
27	"R-trees: a dynamic index structure for spatial searching," A. Guttman, Proceedings of ACM Sigmod , June 1984.	<input type="checkbox"/>
28	"Similarity indexing with the ss-tree," D. A. White and R. Jain, Proceedings of the 12th ICDE , Feb. 1996.	<input type="checkbox"/>
29	"The tv-tree: an index structure for high-dimensional data," K.-L. Lin, H. V. Jagadish, and C. Faloutsos, VLDB Journal 3 (4), 1994.	<input type="checkbox"/>
30	"M-tree: An efficient access method for similarity search in metric spaces," P. Ciaccia, M. Patella, and P. Zezula, Proceedings of the 23rd VLDB , August 1997.	<input type="checkbox"/>
31	"Nearest neighbor queries," N. Roussopoulos, S. Kelley, and F. Vincent, Proceedings of ACM Sigmod , May 1995.	<input type="checkbox"/>
32	"An extensible hashing index for high-dimensional similarity search," C. Li, E. Chang, and J. Z. Wang, Stanford Technical Report , August 1998.	<input type="checkbox"/>

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		11977202
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	First Named Inventor	Ingemar J. Cox	
	Art Unit	2195	
	Examiner Name	Cai Y. Chen	
	Attorney Docket Number	23406/5	

33	"Two algorithms for nearest-neighbor search in high dimensions" J. M. Kleinberg, Proc 29th STOC, 1997.	<input type="checkbox"/>
34	"A Density-Based Algorithm for Discovering Clusters in Large Spatial Databases with Noise" Martin Ester, Hans-Peter Kriegel, Jörg Sander, Xiaowei Xu Proceedings of 2nd International Conference on Knowledge Discovery and Data Mining (KDD-96), 1996.	<input type="checkbox"/>
35	"Adaptive Color Image Embeddings for Database Navigation" Yossi Rubner, Carlo Tomasi and Leonidas J. Guibas, Proceedings of the 1998 IEEE Asian Conference on Computer Vision.	<input type="checkbox"/>
36	A Quantitative Analysis and Performance Study for Similarity-Search Methods in High-Dimensional Spaces" R. Weber, H-J Schek, S. Blott Proc., 24th VLDB Conf. 1998.	<input type="checkbox"/>

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EXAMINER SIGNATURE

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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.

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	Filing Date	2007-10-23
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	Examiner Name	Cai Y. Chen
	Attorney Docket Number	23406/5

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.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

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	/Benjamin M. Halpern/	Date (YYYY-MM-DD)	2011-04-04
Name/Print	Benjamin M. Halpern	Registration Number	46494

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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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 11/977,202		Filing Date 10/23/2007		<input type="checkbox"/> To be Mailed		
APPLICATION AS FILED – PART I											
(Column 1)			(Column 2)		SMALL ENTITY <input checked="" type="checkbox"/> OR			OTHER THAN SMALL ENTITY			
FOR		NUMBER FILED	NUMBER EXTRA		RATE (\$)	FEE (\$)	OR		RATE (\$)	FEE (\$)	
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A		N/A				N/A		
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A	N/A		N/A				N/A		
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A		N/A				N/A		
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =	*		X \$ =		OR		X \$ =		
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =	*		X \$ =				X \$ =		
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.											
APPLICATION AS AMENDED – PART II											
(Column 1)			(Column 2)		SMALL ENTITY			OR		OTHER THAN SMALL ENTITY	
AMENDMENT	04/04/2011	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 24	Minus	** 24	= 0	X \$26 =	0			X \$ =	
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X \$110 =	0			X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
						TOTAL ADD'L FEE	0		OR		TOTAL ADD'L FEE
(Column 1)			(Column 2)		SMALL ENTITY			OR		OTHER THAN SMALL ENTITY	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =				X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =				X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
						TOTAL ADD'L FEE			OR		TOTAL ADD'L FEE
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.											
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".											
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".											
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.											
Legal Instrument Examiner: /PARTHENIA MERRILL/											

This collection of information is required by 37 CFR 1.16. 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 12 minutes 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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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/977,202	10/23/2007	Ingemar J. Cox	23406-5	2195
1912	7590	12/08/2010	EXAMINER	
AMSTER, ROTHSTEIN & EBENSTEIN LLP			CHEN, CAI Y	
90 PARK AVENUE			ART UNIT	PAPER NUMBER
NEW YORK, NY 10016			2425	
			MAIL DATE	DELIVERY MODE
			12/08/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Interview Summary	Application No. 11/977,202	Applicant(s) COX, INGEMAR J.	
	Examiner CAI CHEN	Art Unit 2425	

All participants (applicant, applicant's representative, PTO personnel):

- (1) CAI CHEN. (3) Charlie Marsedo.
(2) Brian Pendleton. (4) _____.

Date of Interview: 10/12/2010.

Type: a) Telephonic b) Video Conference
c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.
If Yes, brief description: _____.

Claim(s) discussed: 1.

Identification of prior art discussed: Wang.

Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicant agrees to amend the current claim limitation to define the electronic work to be at least text, this appears to overcome the Wang reference.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/CAI CHEN/
Examiner, Art Unit 2425

/Brian T Pendleton/
Supervisory Patent Examiner, Art Unit 2425

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.



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1912	7590	10/06/2010	EXAMINER	
AMSTER, ROTHSTEIN & EBENSTEIN LLP			CHEN, CAI Y	
90 PARK AVENUE			ART UNIT	PAPER NUMBER
NEW YORK, NY 10016			2425	
			MAIL DATE	DELIVERY MODE
			10/06/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-16, and 18-25 have been considered but are moot in view of the new ground(s) of rejection.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an

invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 5, 9, and 13 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 8 of U.S. application 12/074,107. Although the conflicting claims are not identical, they are not patentably distinct from each other because these claims differ only in that application claim 1 broadly reads over by the features of claim 8 of U.S. application 12/074,107. Those two set of claims are compared as followed:

Pending application	U.S. application 12/074,107
Claim 1, A computer-implemented method comprising: a) receiving, by a computer system including at least one computer, features that were extracted from media work by a client device; b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time	Claim 8, A method for associating an electronic document work with an action, the document work comprising at least one of an image and text, the method comprising: a) electronically extracting within a portable client device features from the electronic document work; b) transmitting the extracted features from the portable client

<p>search of extracted features of identified media works to identify a neighbor; and</p> <p>c) transmitting, by the computer system, information about the identified media work to the client device.</p>	<p>device to one or more servers;</p> <p>c) receiving at the portable client device from the one or more servers an identification of the electronic document work based on the extracted features, wherein the identification is based on a non-exhaustive search identifying a neighbor;</p> <p>d) electronically determining an action based on the identification of the electronic document work; and</p> <p>e) electronically performing the action on the portable client device.</p>
<p>Claim 5, Apparatus comprising:</p> <p>a) at least one processor; and</p> <p>b) at least one storage device storing processor-executable instructions which, when executed by the at least one processor, perform a method of</p> <p>l) receiving features that were extracted from a media work by a client device,</p>	<p>Claim 8, A method for associating an electronic document work with an action, the document work comprising at least one of an image and text, the method comprising:</p> <p>a) electronically extracting within a portable client device features from the electronic document work;</p>

<p>2) determining, by the computer system, an identification of the media work using the features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor, and</p> <p>3) transmitting information about the identified media work to the client device</p>	<p>b) transmitting the extracted features from the portable client device to one or more servers;</p> <p>c) receiving at the portable client device from the one or more servers an identification of the electronic document work based on the extracted features, wherein the identification is based on a non-exhaustive search identifying a neighbor;</p> <p>d) electronically determining an action based on the identification of the electronic document work; and</p> <p>e) electronically performing the action on the portable client device.</p>
<p>Claim 9, A computer-implemented method comprising:</p> <p>a) receiving, by a computer system including at least one computer, features what were extracted from a media work by a client device; b) determining! by the</p>	<p>Claim 8, A method for associating an electronic document work with an action, the document work comprising at least one of an image and text, the method comprising:</p> <p>a) electronically extracting within a</p>

<p>computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works;</p> <p>and c) transmitting, by the computer system, information about the identified media work to the client device.</p>	<p>portable client device features from the electronic document work;</p> <p>b) transmitting the extracted features from the portable client device to one or more servers;</p> <p>c) receiving at the portable client device from the one or more servers an identification of the electronic document work based on the extracted features, wherein the identification is based on a non-exhaustive search identifying a neighbor;</p> <p>d) electronically determining an action based on the identification of the electronic document work; and</p> <p>e) electronically performing the action on the portable client device.</p>
<p>Apparatus comprising:</p> <p>a) at least one processor; and</p> <p>b) at least one storage device storing processor-executable instructions which,</p>	<p>Claim 8, A method for associating an electronic document work with an action, the document work comprising at least one of an image</p>

<p>when executed by the at least one processor, perform a method of</p> <ol style="list-style-type: none">1) receiving features what were extracted from a media work by a client device,2) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works, and3) transmitting information about the identified media work to the client device	<p>and text, the method comprising:</p> <ol style="list-style-type: none">a) electronically extracting within a portable client device features from the electronic document work;b) transmitting the extracted features from the portable client device to one or more servers;c) receiving at the portable client device from the one or more servers an identification of the electronic document work based on the extracted features, wherein the identification is based on a non-exhaustive search identifying a neighbor;d) electronically determining an action based on the identification of the electronic document work; ande) electronically performing the action on the portable client device.
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Allowance of the pending application claim 1 would result in an unjustified time-wise extension of the monopoly granted for the invention defined by claim 8 of U.S. application 12/074,107.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-16, and 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US 2004/0199387 A1) in view of Peter Yianilos (NPL publication, Excluded Middle Vantage Point Forests for Nearest Neighbor Search, hereinafter refers as Yianilos).

Regarding claim 1, Wang discloses a computer-implemented method comprising:

a) receiving, by a computer system including at least one computer, features that were extracted from media work by a client device (para. 20, a mobile phone device capture a sample of the audio of a electronic program, i.e. TV program, or music song, para. 48-51);

b) determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a search of extracted features of identified media works to identify a media work (Fig. 4, para. 12, para. 22-24, para. 77-78, the music song is identified to the user or a broadcast TV presentation of a product being identified (para. 48) from the captured sample data); and

c) transmitting, by the computer system, information about the identified media work to the client device (para. 20-21, Fig. 4, el. 450).

Wang does not explicitly disclose wherein the identification is based on a sub-linear search;

Yianlos teaches to perform a sub-linear search of extracted features of identified media works to identify a neighbor (abstract, page 1-2, the nearest neighbor is approximate by sublinear time search);

It would be obvious to one of ordinary in the art at the time of invention to modify Wang to include to perform a sub-linear search of extracted features of identified media works to identify a neighbor, as taught by Yianlos, in order for a system to applying the statistical analysis of Vantage point trees and kd-trees to obtain the better performance result (abstract).

Regarding claim 2, Wang in view of Yianlos discloses wherein the media work is an audio work,

wherein the features extracted from the work are selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B)

Art Unit: 2425

information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work (Wang, para. 48-51), and

wherein the audio work is one of (A) a broadcast, (B) a digital file, and (C) an MP3 file (Wang, para. 20, para. 48-51).

Regarding claim 3, Wang in view of Yianlos discloses wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author (Wang, para. 3-4, para. 6, para. 98).

Regarding claim 4, Wang in view of Yianlos discloses performing an action including at least one of promoting commerce and enhancing interest in the work (Wang, para. 59-60).

Regarding claim 5, Wang discloses an apparatus comprising:

at least one processor; and at least one storage device storing processor-executable instruction which, when executed by the at least one processor (Fig. 3a, 4, the server has the processor to perform the search, para. 20-21), perform a method of,

receiving, by a computer system including at least one computer, features that were extracted from media work by a client device (para. 20, a mobile phone

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device capture a sample of the audio of a electronic program, i.e. TV program, or music song, para. 48-51);

determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a search of extracted features of identified media works to identify a media work (Fig. 4, para. 12, para. 22-24, para. 77-78, the music song is identified to the user or a broadcast TV presentation of a product being identified (para. 48) from the captured sample data); and

transmitting, by the computer system, information about the identified media work to the client device (para. 20-21, Fig. 4, el. 450).

Wang does not explicitly disclose wherein the identification is based on a sub-linear search;

Yianlos teaches to perform a sub-linear search of extracted features of identified media works to identify a neighbor (abstract, page 1-2, the nearest neighbor is approximate by sublinear time search);

It would be obvious to one of ordinary in the art at the time of invention to modify Wang to include to perform a sub-linear search of extracted features of identified media works to identify a neighbor, as taught by Yianlos, in order for a system to applying the statistical analysis of Vantage point trees and kd-trees to obtain the better performance result (abstract).

Regarding claim 6, the instant claim is analyzed with respect to claim 2.

Regarding claim 7, the instant claim is analyzed with respect to claim 3.

Regarding claim 8, the instant claim is analyzed with respect to claim 4.

Regarding claim 9, the instant claim is analyzed with respect to claim 1.

Regarding claim 10, the instant claim is analyzed with respect to claim 2.

Regarding claim 11, the instant claim is analyzed with respect to claim 3.

Regarding claim 12, the instant claim is analyzed with respect to claim 4.

Regarding claim 13, the instant claim is analyzed with respect to claim 5.

Regarding claim 14, the instant claim is analyzed with respect to claim 6.

Regarding claim 15, the instant claim is analyzed with respect to claim 7.

Regarding claim 16, the instant claim is analyzed with respect to claim 8.

Regarding claim 18, Wang in view of Yianlos discloses wherein the media work is a video signal (Wang, para. 48).

Regarding claim 19, Wang in view of Yianlos discloses wherein the media the video signal is obtained from at least one of a broadcast and a video file format (para. 48).

Regarding claim 20, the method claim is analyzed with respect to claim 18.

Regarding claim 21, the method claim is analyzed with respect to claim 19.

Regarding claim 22, Wang in view of Yianlos discloses wherein at least one of the acts of receiving and transmitting is performed via a direct

communication between the client device and the computer system (Fig. 3a, Fig. 4, para. 20-21, para. 72-73, there is a direct communication link between the mobile phone and the server provider/server).

Regarding claim 23, Wang in view of Yianlos discloses wherein at least one of the acts of receiving and transmitting is performed via an indirect communication (i.e., a liver operator) between the client device and the computer system (Wang, para. 24-25).

Regarding claim 24, the method claim is analyzed with respect to claim 22.

Regarding claim 25, the method claim is analyzed with respect to claim 23.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

Art Unit: 2425

calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAI CHEN whose telephone number is (571)270-5679. The examiner can normally be reached on 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Pendleton can be reached on 571-272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CAI CHEN/
Examiner, Art Unit 2425

Application/Control Number: 11/977,202
Art Unit: 2425

Page 15

/Brian T Pendleton/
Supervisory Patent Examiner, Art Unit 2425

Notice of References Cited	Application/Control No. 11/977,202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.	
	Examiner CAI CHEN	Art Unit 2425	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2004/0199387	10-2004	Wang et al.	704/243
	B US-			
	C US-			
	D US-			
	E US-			
	F US-			
	G US-			
	H US-			
	I US-			
	J US-			
	K US-			
	L US-			
	M US-			


FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U
	V
	W
	X

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims 	Application/Control No. 11977202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.
	Examiner CAI CHEN	Art Unit 2425

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	04/14/2010	09/27/2010						
	1	✓	✓						
	2	✓	✓						
	3	✓	✓						
	4	✓	✓						
	5	✓	✓						
	6	✓	✓						
	7	✓	✓						
	8	✓	✓						
	9	✓	✓						
	10	✓	✓						
	11	✓	✓						
	12	✓	✓						
	13	✓	✓						
	14	✓	✓						
	15	✓	✓						
	16	✓	✓						
	17	✓	✓						
	18	✓	✓						
	19	✓	✓						
	20	✓	✓						
	21	✓	✓						
	22		✓						
	23		✓						
	24		✓						
	25		✓						

Search Notes 	Application/Control No. 11977202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.
	Examiner CAI CHEN	Art Unit 2425

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Class 725 is text searched	4/14/2010	CC
Inventor searches were performed in East	4/14/2010	CC
Consulted Joe Hirl	6/18/2010	CC
Text search in class 705	6/18/2010	CC
TEXT Search in IEEE Explorer and ACM	6/19/2010	CC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/977,202	10/23/2007	Ingemar J. Cox	23406-5

1912
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

CONFIRMATION NO. 2195
POA ACCEPTANCE LETTER



Date Mailed: 09/20/2010

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 09/10/2010.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/gbien-aime/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/977,202	10/23/2007	Ingemar J. Cox	COX-1CIP/CON

26479
STRAUB & POKOTYLO
788 Shrewsbury Avenue
TINTON FALLS, NJ 07724

CONFIRMATION NO. 2195
POWER OF ATTORNEY NOTICE



Date Mailed: 09/20/2010

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 09/10/2010.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/gbien-aime/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY OR REVOCAION OF POWER OF ATTORNEY WITH A NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS	Application Number	11/977,202
	Filing Date	October 23, 2007
	First Named Inventor	Ingemar J. COX
	Title	Identifying Works, Using A Sub Linear...
	Art Unit	2425
	Examiner Name	CHEN, Cai Y.
	Attorney Docket Number	23406-5

I hereby revoke all previous powers of attorney given in the above-identified application.

A Power of Attorney is submitted herewith.

OR

I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

01912

OR

I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified application to:

The address associated with the above-mentioned Customer Number.

OR

The address associated with Customer Number:

Firm or Individual Name

Address

City _____ State _____ Zip _____

Country _____

Telephone _____ Email: _____

I am the:

Applicant/Inventor.

OR

Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) (Form PTO/SB/06) submitted herewith or filed on _____.

SIGNATURE of Applicant or Assignee of Record

Signature	<i>Ingemar J. Cox</i>	Date	9 Sept 2010
Name	Ingemar J. Cox	Telephone	414 775 66 00 313
Title and Company			

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

*Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 minutes 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.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	8396953
Application Number:	11977202
International Application Number:	
Confirmation Number:	2195
Title of Invention:	Identifying works, using a sub-linear time search, such as an approximate nearest neighbor search, for initiating a work-based action, such as an action on the internet
First Named Inventor/Applicant Name:	Ingemar J. Cox
Customer Number:	26479
Filer:	Benjamin M. Halpern/Vivian Campbell
Filer Authorized By:	Benjamin M. Halpern
Attorney Docket Number:	COX-1CIP/CON
Receipt Date:	10-SEP-2010
Filing Date:	23-OCT-2007
Time Stamp:	16:54:44
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	1REVPOA.pdf	72057 <small>347dfbb3a34abfe551ae7cd2d49268f0ce846c53</small>	no	1

Warnings:

Information:

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

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IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Attorney Docket No.: COX-1CIP/CON

Appl. No.: 11/977,202

Confirmation No.: 2195

Applicant: Ingemar J. COX

Filed: October 23, 2007

Title: IDENTIFYING WORKS, USING A SUB LINEAR TIME SEARCH, SUCH
AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING
A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

TC/A.U.: 2625

Examiner: Cai Y. Chen

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

Sir:

In response to the Office Action mailed on April 27, 2010 (Paper No. 20100413), which set a period for response to expire on July 27, 2010, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 9 of this paper.

07/28/2010 JVONG1 00000026 501049 11977202
01 FC:2202 78.00 DA

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

1 Claim 1 (currently amended): A computer-implemented method
2 ~~[[for associating a media work with an action, the method]]~~
3 comprising:
4 a) ~~[[extracting]]~~ receiving, by a computer system
5 including at least one computer, features that were
6 extracted from a ~~[[the]]~~ media work by a client
7 device;
8 b) determining, by the computer system, an
9 identification of the media work ~~[[based on the~~
10 ~~features extracted from the media work with extracted~~
11 ~~features of identified media works]] using the
12 received features extracted from the media work to
13 perform a sub-linear time search of extracted features
14 of identified media works to identify a neighbor; and
15 c) ~~[[determining]]~~ transmitting, by the computer
16 system, information about the identified ~~[[an action~~
17 ~~based on the identification of the]] media work
18 [[determined]] to the client device.~~~~

1 Claim 2 (currently amended): The computer-implemented
2 method of claim 1 wherein the media work is an audio work,
3 wherein the features extracted from the work are
4 selected from a group consisting of (A) a frequency
5 decomposition of a signal of the audio work, (B)
6 information samples of the audio work, (C) average
7 intensities of sampled windows of the audio work, and (D)
8 information from frequencies of the audio work, and
9 wherein the audio work is one of (A) a broadcast, (B)
10 a digital file, and (C) an MP3 file.

1 Claim 3 (currently amended): The computer-implemented
 2 method of claim 1 wherein the information about the
 3 identified media work transmitted to the client device
 4 includes at least one of (A) a title, or (B) an author[[act
 5 ~~of extracting features is performed locally by a user~~
 6 ~~device, and wherein the act of determining an~~
 7 ~~identification is performed remotely, by a device other~~
 8 ~~than the user device]]].~~

1 Claim 4 (currently amended): The computer-implemented
 2 method of claim 1 [[~~wherein the~~]] further comprising
 3 performing an action including [[~~includes~~]] at least one of
 4 promoting commerce and enhancing interest in the work.

1 Claim 5 (currently amended): Apparatus [[~~for associating a~~
 2 ~~media work with an action, the apparatus]] comprising:
 3 a) at least one processor; and
 4 b) at least one storage device storing
 5 processor-executable instructions which, when executed
 6 by the at least one processor, perform a method of
 7 1) receiving features that were extracted from a
 8 media work by a client device,
 9 2) determining, by the computer system, an
 10 identification of the media work using the
 11 features extracted from the media work to perform
 12 a sub-linear time search of extracted features of
 13 identified media works to identify a neighbor,
 14 and
 15 3) transmitting information about the identified
 16 media work to the client device
 17 [[~~means for extracting features from the media work,~~~~

18 ~~b) means for determining an identification of the~~
19 ~~media work based on the features extracted from the~~
20 ~~media work with extracted features of identified media~~
21 ~~works using a sub-linear time search; and~~
22 ~~e) means for determining an action based on the~~
23 ~~identification of the media work determined]].~~

1 Claim 6 (original): The apparatus of claim 5 wherein the
2 media work is an audio work,
3 wherein the features extracted from the work are
4 selected from a group consisting of (A) a frequency
5 decomposition of a signal of the audio work, (B)
6 information samples of the audio work, (C) average
7 intensities of sampled windows of the audio work, and (D)
8 information from frequencies of the audio work, and
9 wherein the audio work is one of (A) a broadcast, (B)
10 a digital file, and (C) an MP3 file.

1 Claim 7 (currently amended): The apparatus of claim 5
2 wherein the information about the identified media work
3 transmitted to the client device includes at least one of
4 (A) a title, or (B) an author ~~[[means for extracting~~
5 ~~features is provided on a user device, and wherein the~~
6 ~~means for determining an identification is provided on a~~
7 ~~device other than the user device]]].~~

1 Claim 8 (currently amended): The apparatus of claim 5
2 wherein the method further includes performing an action
3 ~~[[includes]]~~ including at least one of promoting commerce
4 and enhancing interest in the work.

1 Claim 9 (currently amended): A computer-implemented method
2 ~~[[for associating a media work with an action, the method]]~~
3 comprising:
4 a) ~~[[extracting]]~~receiving, by a computer system
5 including at least one computer, features what were
6 extracted from a [[the]] media work by a client
7 device;
8 b) determining, by the computer system, an
9 identification of the media work ~~[[based on the~~
10 ~~features extracted from the media work with extracted~~
11 ~~features of identified media works]]~~ using the
12 received features extracted from the media work to
13 perform an approximate nearest neighbor search of
14 extracted features of identified media works; and
15 c) ~~[[determining]]~~transmitting, by the computer
16 system, information about the identified [[an action
17 ~~based on the identification of the]] media work~~
18 [[determined]] to the client device.

1 Claim 10 (original): The method of claim 9 wherein the
2 media work is an audio work,
3 wherein the features extracted from the work are
4 selected from a group consisting of (A) a frequency
5 decomposition of a signal of the audio work, (B)
6 information samples of the audio work, (C) average
7 intensities of sampled windows of the audio work, and (D)
8 information from frequencies of the audio work, and
9 wherein the audio work one of (A) a broadcast, (B) a
10 digital file, and (C) an MP3 file.

1 Claim 11 (currently amended): The method of claim 9
2 wherein the information about the identified media work

3 transmitted to the client device includes at least one of
 4 (A) a title, or (B) an author ~~[[act of extracting features~~
 5 ~~is performed locally by a user device, and wherein the act~~
 6 ~~of determining an identification is performed remotely, by~~
 7 ~~a device other than the user device]]~~.

1 Claim 12 (currently amended): The method of claim 9
 2 ~~[[wherein the]]~~ further comprising performing an action
 3 including ~~[[includes]]~~ at least one of promoting commerce
 4 and enhancing interest in the work.

1 Claim 13 (currently amended): Apparatus ~~[[for associating~~
 2 ~~a media work with an action, the apparatus]]~~ comprising:
 3 a) at least one processor; and
 4 b) at least one storage device storing
 5 processor-executable instructions which, when executed
 6 by the at least one processor, perform a method of
 7 1) receiving features what were extracted from a
 8 media work by a client device,
 9 2) determining, by the computer system, an
 10 identification of the media work using the
 11 received features extracted from the media work
 12 to perform an approximate nearest neighbor search
 13 of extracted features of identified media works,
 14 and
 15 3) transmitting information about the identified
 16 media work to the client device
 17 ~~[[means for extracting features from the media work,~~
 18 ~~b) means for determining an identification of the~~
 19 ~~media work based on the features extracted from the~~
 20 ~~media work with extracted features of identified~~

21 ~~media works using an approximate nearest neighbor~~
 22 ~~search; and~~
 23 ~~e) means for determining an action based on the~~
 24 ~~identification of the media work determined]].~~

1 Claim 14 (original): The apparatus of claim 13 wherein the
 2 media work is an audio work,
 3 wherein the features extracted from the work are
 4 selected from a group consisting of (A) a frequency
 5 decomposition of a signal of the audio work, (B)
 6 information samples of the audio work, (C) average
 7 intensities of sampled windows of the audio work, and (D)
 8 information from frequencies of the audio work, and
 9 wherein the audio work is one of (A) a broadcast, (B)
 10 a digital file, and (C) an MP3 file.

1 Claim 15 (currently amended): The apparatus of claim 13
 2 information about the identified media work transmitted to
 3 the client device includes at least one of (A) a title, or
 4 (B) an author ~~[[the means for extracting features is~~
 5 ~~provided on a user device, and wherein the means for~~
 6 ~~determining an identification is provided on a device other~~
 7 ~~than the user device]]].~~

1 Claim 16 (currently amended): The apparatus of claim 13
 2 wherein the method further includes performing an action
 3 ~~[[includes]]~~ including at least one of promoting commerce
 4 and enhancing interest in the work.

Claim 17 (canceled)

1 Claim 18 (currently amended): The computer-implemented
2 method of claim 1 ~~[[17]]~~ wherein the media work is a video
3 ~~[[an audio]]~~ signal.

1 Claim 19 (currently amended): The computer-implemented
2 method of claim 18 wherein the video ~~[[audio]]~~ signal is
3 obtained from at least one of (A) a broadcast and (B) a
4 video ~~[[an audio]]~~ file format.

1 Claim 20 (currently amended): The computer-implemented
2 method of claim 9 ~~[[17]]~~ wherein the media work is a video
3 signal.

1 Claim 21 (original): The computer-implemented method of
2 claim 20 wherein the video signal is obtained from at least
3 one of (A) a broadcast and (B) a video file format.

1 Claim 22 (new): The computer-implemented method of claim 1
2 wherein at least one of the acts of receiving and
3 transmitting is performed via a direct communication
4 between the client device and the computer system.

1 Claim 23 (new): The computer-implemented method of claim 1
2 wherein at least one of the acts of receiving and
3 transmitting is performed via an indirect communication
4 between the client device and the computer system.

1 Claim 24 (new): The computer-implemented method of claim 9
2 wherein at least one of the acts of receiving and
3 transmitting is performed via a direct communication
4 between the client device and the computer system.

1 Claim 25 (new): The computer-implemented method of claim 9
2 wherein at least one of the acts of receiving and
3 transmitting is performed via an indirect communication
4 between the client device and the computer system.

JUL 27 2010

REMARKS/ARGUMENTS

In view of the foregoing amendments and the following remarks, the applicant respectfully submits that the pending claims comply with 35 U.S.C. § 101, are not anticipated under 35 U.S.C. § 102 and are not rendered obvious under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. **If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, the applicant respectfully requests that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits.**

The applicant will now address each of the issues raised in the outstanding Office Action.

Double Patenting Rejection

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 28 of U.S. Application No. 11/445,928. The applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection in view of the following.

The applicant respectfully notes that the claim identified by the Examiner as claim 1 of the pending application in the left column of the table on page 3 of Paper No. 20100413 is different from claim 1. Therefore, this ground of rejection is apparently based on mistaken

understanding of the scope and content of claim 1. The applicant respectfully requests that the Examiner reconsider this rejection in view of the actual recitations in claim 1.

Rejections under 35 U.S.C. § 101

Claims 1-4, 9-12, and 17-21 are rejected under 35 U.S.C. § 101 because the Examiner contends that claims 1, 9, and 17 are method claims which are not tied to a machine. The applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection in view of the following.

First, since claim 17 has been canceled, this ground of rejection is rendered moot with respect to this claim.

Second, independent claims 1 and 9 have been amended to recite that the various acts of the methods are performed by a computer system including at least one computer. The claims, as amended, are not drawn to an abstract idea, but rather to a practical application and complies with *Flook*, *Benson*, *Diehr* and *Bilski*, as well as current guidelines of the PTO. These amendments are supported, for example, by Figures 2-8 and the corresponding description of the present application. Independent claims 1 and 9, as amended, recite a statutory process. Since each of claims 2-4, 10-12 and 18-21 (as amended) directly or indirectly depend from either claim 1 or claim 9, these claims similarly recite a statutory process.

Rejections under 35 U.S.C. § 102

Claims 1-8 and 17-21 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,061,056 ("the Menard patent"). The applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection in view of the following.

First, since claim 17 has been canceled, this ground of rejection is rendered moot with respect to this claim.

Second, independent claims 1 and 5 (as amended, but even without amendment), are not anticipated by the Menard patent because the Menard patent does not teach **determining an identification of a media work using the received features extracted from the media work** to perform a sub-linear time search of extracted features of identified media works to identify a neighbor. More specifically, the Menard patent concerns:

A system for monitoring standard broadcast signals, comprises a device for receiving the broadcast signals, **a user-operable selection device for inputting criteria identifying program content of interest to the user, a database for storing data representing the criteria,** and a recognition device for generating from the broadcast signals a program data stream representative of the program content. A comparator for **compares the program data with the stored data,** and an output device carries out a predetermined action, such recording a segment of the program, when the program data matches the stored data. [Emphasis added.]

(Abstract) So in the Menard patent, **one or more users that might be interested in a program are identified**, but **the program is not identified**. See, also, for example, elements 113-115 of Figure 3, elements 213-215 of Figure 4, and elements 313-315 of Figure 5. For example, the Menard patent states:

In operation, the user enters data either through, for example, a LAN-connected PC 8 or the workstation 3. For example, **the user might enter a series of key words representing topics of interest**. These key words are then entered into a profile database in mass storage device 20 along with the **identity of the user**. When the selected key words appear in the closed caption data stream, the system generates an alert signal to alert the user. [Emphasis added.]

(Column 5, lines 23-30 of the Menard patent) In addition to "closed caption" data, video or audio streams without closed captioning may be analyzed "by extracting text from the audio stream using voice recognition techniques." (Column 7, lines 9 and 10)

Stated differently, the Menard patent is not concerned with identifying content. Although it discusses **extracting** information "being representative of program content" (column 2, lines 8 and 9 of the Menard patent), this is different from **identification** (and such extracted information is not used for identification).

Further, one embodiment of the Menard patent concerns identifying dialog in a program by comparing a query to closed caption data. In this embodiment, the computer does not receive features extracted from the media work as a query input. Rather, it receives information that the user is looking for in the program.

Thus, independent claims 1 and 5 are not anticipated by the Menard patent for at least the foregoing reasons.

Furthermore, claims 1 and 5, as amended, recite that the identification of the media work is determined using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works **to identify a neighbor**. On the other hand, in the Menard patent, the matching is done with SQL queries, which presumably generate an exact match, and do not identify a neighbor as claimed. Thus, independent claims 1 and 5 are not anticipated by the Menard patent for at least this additional reason.

Since claims 2-4, 18 and 19 directly or indirectly depend from claim 1, and since claims 6-8 depend from claim 5, these claims are similarly not anticipated by the Menard patent.

Rejections under 35 U.S.C. § 103

Claims 9-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Menard patent in view of the article: Peter N. Yianilos, "Excluded Middle Vantage

Point Forests for Nearest Neighbor Search," ("the Yianilos article"). The applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection in view of the following.

First, independent claims 9 and 13 are not rendered obvious by the proposed combination of these references because the proposed combination does not teach or render obvious **determining an identification of a media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor.** The Examiner relies on the Menard patent as teaching this feature. (See page 8 of Paper No. 20100413.) The applicant respectfully disagrees for the reasons discussed above with respect to claims 1 and 5.

Second, one skilled in the art would not have been motivated to combine these references as proposed. The Examiner concludes:

It would be obvious to one of ordinary in the art at the time of invention to modify Menard to include wherein the identification is based on a non-exhaustive search identifying a neighbor, as taught by Yianilos, in order for a system to applying the statistical analysis of Vantage point trees and kd-trees to obtain the better performance result (abstract).

(Paper No. 20100413, page 8.) The applicant respectfully disagrees.

In the Menard patent, the matching is done with SQL queries, which presumably generate an exact match. The applicant respectfully submits that one skilled in the art would not have been motivated to modify the search technique in the Menard patent with the search method discussed in the Yianilos article. In any event, the Examiner has not demonstrated that the techniques described in the Yianilos article are **applicable to** the base method of the Menard patent, nor has the Examiner demonstrated that one of ordinary skill in the art would have recognized that applying the known technique **would have yielded predictable results and resulted in an improved system**. Such factual findings are required to support the obviousness rationale alleged.

Thus, independent claims 9 and 13 are not rendered obvious by the proposed combination of Menard patent and the Yianilos article for at least the foregoing reasons. Since claims 10-12, 20 and 21 directly or indirectly depend from claim 9, and since claims 14-16 depend from claim 13, these claims are similarly not rendered obvious.

New claims

New claims 22 and 23 depend from claim 1, and further recite whether the acts of transmitting and/or receiving are performed directly or indirectly. Similarly, new claims 24 and 25 depend from claim 9, and

further recite whether the acts of transmitting and/or receiving are performed directly or indirectly.

Status of Related Applications

The following includes bibliographic information for related applications that may be of interest to the Examiner.

Bibliographic Data

Application Number:	09/950,972	Customer Number:	26479
Filing or 371 (c) Date:	09-13-2001	Status:	Patented Case
Application Type:	Utility	Status Date:	05-17-2006
Examiner Name:	<u>DESIRE, GREGORY M</u>	Location:	ELECTRONIC
Group Art Unit:	2624	Location Date:	-
Confirmation Number:	2043	Earliest Publication No:	US 2002-0032698 A1
Attorney Docket Number:	COX-1	Earliest Publication Date:	03-14-2002
Class / Subclass:	382/190	Patent Number:	7,058,223
First Named Inventor:	Ingemar J. Cox , West Windsor, NJ (US)	Issue Date of Patent:	06-06-2006

Title of Invention: IDENTIFYING WORKS FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

IDENTIFYING WORKS FOR INITIATING A WORK-
 09/950,972 BASED ACTION, SUCH AS AN ACTION ON THE INTERNET 07-27-2010::15:08:35

Transaction History

Date	Transaction Description
06-06-2006	Recordation of Patent Grant Mailed
05-17-2006	Issue Notification Mailed
06-06-2006	Patent Issue Date Used in PTA Calculation
04-19-2006	Dispatch to FDC

04-19-2006 Application Is Considered Ready for Issue
04-13-2006 Applicant Has Filed a Verified Statement of Small Entity Status in Compliance with 37 CFR 1.27
04-13-2006 Issue Fee Payment Verified
04-13-2006 Issue Fee Payment Received
03-17-2006 TC Return to Pubs
03-21-2006 Case Docketed to Examiner in GAU
02-24-2006 Pubs Case Remand to TC
01-12-2006 Mail Notice of Allowance
01-12-2006 Mail Examiner's Amendment
01-09-2006 Notice of Allowance Data Verification Completed
12-27-2005 Examiner's Amendment Communication
12-27-2005 Case Docketed to Examiner in GAU
12-22-2005 Examiner Interview Summary Record (PTOL - 413)
12-15-2005 Date Forwarded to Examiner
12-12-2005 Amendment after Final Rejection
12-12-2005 Request for Extension of Time - Granted
08-08-2005 Mail Final Rejection (PTOL - 326)
08-04-2005 Final Rejection
05-24-2005 Date Forwarded to Examiner
05-19-2005 Response after Non-Final Action
05-19-2005 Request for Extension of Time - Granted
12-14-2004 Mail Non-Final Rejection
12-10-2004 Non-Final Rejection
11-11-2004 Correspondence Address Change
08-26-2004 IFW TSS Processing by Tech Center Complete
08-24-2004 Case Docketed to Examiner in GAU
01-29-2002 Case Docketed to Examiner in GAU
10-11-2001 Application Dispatched from OIPE
10-10-2001 Correspondence Address Change
09-19-2001 IFW Scan & PACR Auto Security Review
09-13-2001 Initial Exam Team nn

Bibliographic Data

Application Number:	11/445,928	Customer Number:	26479
Filing or 371 (c) Date:	06-02-2006	Status:	Final Rejection Mailed
Application Type:	Utility	Status Date:	04-26-2010
Examiner Name:	<u>CHEN, CAI Y</u>	Location:	ELECTRONIC
Group Art Unit:	2425	Location Date:	-
Confirmation Number:	8119	Earliest Publication No:	US 2007-0041667 A1
Attorney Docket Number:	Cox-1CIP	Earliest Publication Date:	02-22-2007
Class / Subclass:	725/110	Patent Number:	-
First Named Inventor:	Ingemar J. Cox , London, (GB)	Issue Date of Patent:	-

Title of Invention: Using features extracted from an audio and/or video work to obtain information about the work

11/445,928 Using features extracted from an audio and/or video work 07-27-2010::15:09:44
to obtain information about the work

Transaction History

Date	Transaction Description
04-27-2010	Mail Final Rejection (PTOL - 326)
04-26-2010	Final Rejection
06-02-2009	Information Disclosure Statement considered
10-14-2009	Information Disclosure Statement considered
10-19-2009	Information Disclosure Statement considered
03-26-2010	Date Forwarded to Examiner
02-08-2010	Response after Non-Final Action
02-08-2010	Request for Extension of Time - Granted
02-18-2010	Mail Examiner Interview Summary (PTOL - 413)
02-03-2010	Examiner Interview Summary Record (PTOL - 413)
11-17-2009	Mail Notice of Informal or Non-Responsive Amendment
10-19-2009	Reference capture on IDS
10-19-2009	Information Disclosure Statement (IDS) Filed
10-14-2009	Reference capture on IDS
10-14-2009	Information Disclosure Statement (IDS) Filed

10-25-2009 Date Forwarded to Examiner
10-14-2009 Informal or Non-Responsive Amendment after Examiner Action
10-14-2009 Response after Non-Final Action
10-14-2009 Request for Extension of Time - Granted
10-19-2009 Information Disclosure Statement (IDS) Filed
10-14-2009 Information Disclosure Statement (IDS) Filed
06-02-2009 Reference capture on IDS
06-02-2009 Information Disclosure Statement (IDS) Filed
06-02-2009 Information Disclosure Statement (IDS) Filed
04-15-2009 Mail Non-Final Rejection
04-12-2009 Non-Final Rejection
04-16-2007 Information Disclosure Statement considered
11-19-2007 Information Disclosure Statement considered
03-27-2009 Case Docketed to Examiner in GAU
03-03-2009 Case Docketed to Examiner in GAU
11-19-2007 Information Disclosure Statement (IDS) Filed
10-23-2007 Preliminary Amendment
11-19-2007 Information Disclosure Statement (IDS) Filed
11-07-2007 Case Docketed to Examiner in GAU
11-07-2007 Case Docketed to Examiner in GAU
10-17-2007 Withdraw Flagged for 5/25
10-15-2007 Flagged for 5/25
09-07-2007 Transfer Inquiry to GAU
08-29-2007 Transfer Inquiry to GAU
04-16-2007 Reference capture on IDS
04-16-2007 Information Disclosure Statement (IDS) Filed
04-16-2007 Information Disclosure Statement (IDS) Filed
04-06-2007 Transfer Inquiry to GAU
04-06-2007 Transfer Inquiry to GAU
02-26-2007 Transfer Inquiry to GAU
02-22-2007 PG-Pub Issue Notification
12-02-2006 IFW TSS Processing by Tech Center Complete
11-13-2006 Application Dispatched from OIPE
11-13-2006 Application Is Now Complete
11-03-2006 Payment of additional filing fee/Preexam
11-03-2006 A statement by one or more inventors satisfying the requirement under
35 USC 115, Oath of the Applic

06-28-2006 Notice Mailed--Application Incomplete--Filing Date Assigned
06-14-2006 Cleared by OIPE CSR
06-08-2006 IFW Scan & PACR Auto Security Review
06-02-2006 Initial Exam Team nn

Bibliographic Data

Application Number:	12/704,107	Customer Number:	26479
Filing or 371 (c) Date:	02-11-2010	Status:	Non Final Action Mailed
Application Type:	Utility	Status Date:	06-28-2010
Examiner Name:	CHEN, CAI Y	Location:	ELECTRONIC
Group Art Unit:	2425	Location Date:	-
Confirmation Number:	5466	Earliest Publication No:	US 2010-0145989 A1
Attorney Docket Number:	Cox-1cip_div	Earliest Publication Date:	06-10-2010
Class / Subclass:	725/110	Patent Number:	-
First Named Inventor:	Ingemar J. COX , London, (GB)	Issue Date of Patent:	-

Title of Invention: IDENTIFYING WORKS, USING A SUB LINEAR TIME SEARCH OR A NON EXHAUSTIVE SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

Transaction History

Date	Transaction Description
06-28-2010	Mail Non-Final Rejection
06-26-2010	Non-Final Rejection
06-10-2010	PG-Pub Issue Notification
05-18-2010	Case Docketed to Examiner in GAU
02-26-2010	Application Dispatched from OIPE
02-26-2010	Filing Receipt
02-17-2010	Cleared by OIPE CSR
02-11-2010	IFW Scan & PACR Auto Security Review
02-11-2010	Initial Exam Team nn

Conclusion

In view of the foregoing amendments and remarks, the applicant respectfully submits that the pending claims are in condition for allowance. Accordingly, the applicant requests that the Examiner pass this application to issue.

Any arguments made in this amendment pertain *only* to the specific aspects of the invention *claimed*. Any claim amendments or cancellations, and any arguments, are made *without prejudice to, or disclaimer of*, the applicant's right to seek patent protection of any unclaimed (e.g., narrower, broader, different) subject matter, such as by way of a continuation or divisional patent application for example.

Since the applicant's remarks, amendments, and/or filings with respect to the Examiner's objections and/or rejections are sufficient to overcome these objections and/or rejections, the applicant's silence as to assertions by the Examiner in the Office Action and/or to certain facts or conclusions that may be implied by objections and/or rejections in the Office Action (such as, for example, whether a reference constitutes prior art, whether references have been properly combined or modified, whether dependent claims are separately patentable, etc.) is not a concession by the applicant that such assertions and/or implications are accurate, and that all requirements for an objection and/or a rejection have been met. Thus, the applicant reserves

the right to analyze and dispute any such assertions and implications in the future.

Respectfully submitted,

July 27, 2010

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Facsimile No.: (571) 273-8300

From: John C. Pokotylo, Esq.

Date: July 27, 2010

Number of Pages Including Cover: 27

MESSAGE: FORMAL SUBMISSION OF:
1) Transmittal (1 pg.);
2) Fee transmittal (1 pg.); and
3) Amendment (24 pgs.).

Attorney Docket No.: COX-1CIP/CON
Appl. No.: 11/977,202
Applicant: Ingemar J. COX
Filed: October 23, 2007
Title: IDENTIFYING WORKS, USING A SUB LINEAR TIME SEARCH, SUCH AS AN
APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED
ACTION, SUCH AS AN ACTION ON THE INTERNET
TC/A.U.: 2625
Examiner: Cai Y. Chen

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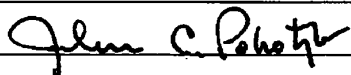
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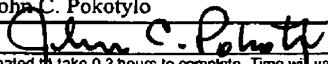
Modified PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0551-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	11/977,202
	Filing Date	October 23, 2007
	First Named Inventor	Ingemar J. COX
	Group Art Unit	2625
	Examiner Name	Cai Y. Chen
Total Number of Pages in This Submission	Attorney Docket Number	COX-1CIP/CON

ENCLOSURES <i>(check all that apply)</i>				
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers <i>(for an Application)</i> <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s)	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group <i>(Appeal Notice, Brief, Reply Brief)</i> <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Postcard Receipt <input type="checkbox"/> Other Enclosure(s) <i>(please identify below):</i>		
<table border="1" style="width: 100%;"> <tr> <td style="width: 150px;">Remarks</td> <td></td> </tr> </table>			Remarks	
Remarks				

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	John C. Pokotylo (Reg. No. 36,242)
Signature	
Date	July 27, 2010

CERTIFICATE OF FACSIMILE	
I hereby certify that this correspondence is being facsimile transmitted to the United States Patents and Trademark Office on this date:	
	July 27, 2010
Typed or printed name	John C. Pokotylo
Signature	
Date	July 27, 2010

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. 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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JUL 27 2010

Modified PTO/SB/17 (01-03)
Approved for use through 04/30/2003. OMB 0851-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<h2 style="margin: 0;">FEE TRANSMITTAL</h2> <h3 style="margin: 0;">for FY 2010</h3> <p style="font-size: small; margin: 0;">Effective 09/30/2007. Patent fees are subject to annual revision.</p>		Complete if Known	
		Application Number	11/977,202
		Filing Date	October 23, 2007
		First Named Inventor	Ingemar J. COX
		Examiner Name	Cai Y. Chen
		Art Unit	2625
		Attorney Docket No.	COX-ICIP/CON
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27			
TOTAL AMOUNT OF PAYMENT	(\$) 78.00		

METHOD OF PAYMENT (check all that apply)

Check
 Credit card
 Money Order
 Other
 None

Deposit Account:

Deposit Account Number: 50-1049

Deposit Account Name: Straub & Pokotylo

The Commissioner is authorized to: (check all that apply)

Charge any underpayment of fee(s) indicated below
 Credit any overpayments

Charge any additional fee(s) due in connection with the filing submitted herewith

Charge fee(s) indicated below, except for the filing fee in the to the above-identified deposit account.

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	130	2251	65	Extension for reply within first month	
1252	490	2252	245	Extension for reply within second month	
1253	1,110	2253	555	Extension for reply within third month	
1254	1,730	2254	865	Extension for reply within fourth month	
1255	2,350	2255	1,175	Extension for reply within fifth month	
1401	540	2401	270	Notice of Appeal	
1402	540	2402	270	Filing a brief in support of an appeal	
1403	1,080	2403	540	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	540	2452	270	Petition to revive - unavoidable	
1453	1,820	2453	810	Petition to revive - unintentional	
1501	1,510	2501	755	Utility issue fee (or reissue)	
1502	860	2502	430	Design issue fee	
1503	1,190	2503	595	Plant issue fee	
Petitions to the Commissioner - check fee sheet					
1807	50	1807	50	Processing fee under 37 CFR 1.17(c)	
1808	180	1808	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	810	2809	405	Filing a submission after final rejection (37 CFR 1.129(e))	
1810	810	2810	405	For each additional invention to be examined (37 CFR 1.129(b))	
1801	810	2801	405	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

* Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 0.00

FEE CALCULATION

1. BASIC FILING, SEARCH & EXAMINATION FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee (\$)	Fee (\$)	Fee (\$)	Fee (\$)		
1080	545			Utility fee	
460	230			Design fee	
720	380			Plant fee	
1520	760			Reissue fee	
220	110			Provisional fee	
SUBTOTAL (1)					(\$) 0.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	24	-21** =	3	X	26.00	=	78.00
Independent Claims	4	-4** =	0	X	110.00	=	0.00
Multiple Dependent							

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	52	2202	26	Claims in excess of 20	
1201	220	2201	110	Independent claims in excess of 3	
1203	390	2203	195	Multiple dependent claim, if not paid	
1204	220	2204	110	**Reissue independent claims over original patent	
1205	52	2205	26	**Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					(\$) 78.00

**or number previously paid, if greater, For Reissues, see above

SUBMITTED BY		(Complete if applicable)	
Name (Print/Type)	John C. Pokotylo	Registration No. (Attorney/Agent)	36,242
Signature		Telephone	(732) 936-1400
		Date	July 27, 2010

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. 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 12 minutes 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, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 11/977,202		Filing Date 10/23/2007		<input type="checkbox"/> To be Mailed						
APPLICATION AS FILED – PART I														
(Column 1)			(Column 2)			SMALL ENTITY <input checked="" type="checkbox"/>		OR		OTHER THAN SMALL ENTITY				
FOR		NUMBER FILED	NUMBER EXTRA		RATE (\$)	FEE (\$)	OR		RATE (\$)	FEE (\$)				
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>		N/A	N/A		N/A				N/A					
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>		N/A	N/A		N/A		N/A							
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>		N/A	N/A		N/A		N/A							
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>		minus 20 =	*		X \$ =		OR		X \$ =					
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>		minus 3 =	*		X \$ =		OR		X \$ =					
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).												
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>														
* If the difference in column 1 is less than zero, enter "0" in column 2.														
APPLICATION AS AMENDED – PART II														
(Column 1)			(Column 2)			(Column 3)			SMALL ENTITY		OR		OTHER THAN SMALL ENTITY	
AMENDMENT	07/27/2010		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR		RATE (\$)	ADDITIONAL FEE (\$)		
	Total <small>(37 CFR 1.16(o))</small>		* 24	Minus	** 21	= 3	X \$26 =	78	OR		X \$ =			
	Independent <small>(37 CFR 1.16(h))</small>		* 4	Minus	***4	= 0	X \$110 =	0	OR		X \$ =			
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>													
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>													
TOTAL ADD'L FEE							78		OR		TOTAL ADD'L FEE			
AMENDMENT			CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR		RATE (\$)	ADDITIONAL FEE (\$)		
	Total <small>(37 CFR 1.16(o))</small>		*	Minus	**	=	X \$ =		OR		X \$ =			
	Independent <small>(37 CFR 1.16(h))</small>		*	Minus	***	=	X \$ =		OR		X \$ =			
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>													
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>													
TOTAL ADD'L FEE							OR		TOTAL ADD'L FEE					
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.														
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".														
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".														
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.														
Legal Instrument Examiner: /STANLEY JORDAN/														

This collection of information is required by 37 CFR 1.16. 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 12 minutes 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/977,202	10/23/2007	Ingemar J. Cox	COX-1CIP/CON	2195
26479	7590	04/27/2010	EXAMINER	
STRAUB & POKOTYLO 788 Shrewsbury Avenue TINTON FALLS, NJ 07724			CHEN, CAI Y	
			ART UNIT	PAPER NUMBER
			2425	
			MAIL DATE	DELIVERY MODE
			04/27/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 11/977,202	Applicant(s) COX, INGEMAR J.	
	Examiner CAI CHEN	Art Unit 2425	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 10/23/2007, 11/30/2007, and 06/01/2009.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Priority

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an

invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 1 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 28 of U.S. application 11/445,928. Although the conflicting claims are not identical, they are not patentably distinct from each other because these claims differ only in that application claim 1 broadly reads over the features of claim 28 of U.S. application 11/445,928. Those two set of claims are compared as followed:

Pending application	U.S. application 11/445,928
Claim 1, a) accepting a work and extra-work information associated with the work; b) identifying the work as one of a predetermined number of known works, each of the predetermined number of known works having an identifier; and c) associating the identifier of the one of the predetermined number of known works with the extra-work information.	a) electronically extracting within a portable client device features from the electronic work; b) transmitting the extracted features from the portable client device to one or more servers; c) receiving at the portable client device from the one or more servers an identification of the electronic work based on the

	<p>extracted features, wherein the identification is based on a non-exhaustive search identifying a neighbor;</p> <p>d) electronically determining an action based on the identification of the electronic work; and</p> <p>e) electronically performing the action on the portable client device.</p>
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Allowance of the pending application claim 1 would result in an unjustified time-wise extension of the monopoly granted for the invention defined by claim 28 of U.S. application 11/445,928.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-4, 9-12, and 17-21 are rejected under 35 U.S.C. 101 because claims 1, 9, and 17 are method claims does not tie to a machine. Thus they are non-statutory

Claim Rejections - 35 USC § 102

1 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2 Claims 1-8 and 17-21 are rejected under 35 U.S.C.102 (e) as being anticipated by Menard (Us 6,061,056).

Regarding claim 1, Menard discloses a method for associating a media work with an action (Fig. 4-5), the method comprising:

a) extracting features from the media work (col. 7, lines 10-20, the texts extracted from audio and video stream);

b) determining an identification of the media work based on the features extracted from the media work with extracted features of identified media works using a sub-linear time search (Fig. 4-5, col. 7, lines 10-15, col. 8, lines 15-29, the media stream segment is identified based on detection of matching pattern by comparing extracted text from the media stream using pattern recognition, sub-linear time search interprets as to the search to detect the matching segment of the media stream in a user defined time of the delay buffer, col. 6, lines 56-65, col. 8, lines 18-28); and

c) determining an action based on the identification of the media work determined (Fig. 4-5, once the detection of matching pattern, the user is alerted and the media stream is to be recorded, el. 216, el. 316, col. 7, lines 20-28).

Regarding claim 2, Menard discloses wherein the media work is an audio work,

wherein the features extracted from the work are selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) **information samples of the audio work**, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work (col. 7, lines 10-20, the texts extracted from audio stream), and

wherein the audio work is one of (A) a broadcast, (B) a digital file, and (C) an MP3 file (col. 7, lines 10-20).

Regarding claim 3, Menard discloses wherein the act of extracting features is performed locally by a user device (fig. 1, el. 1, the user monitor system 1 is to extracted/capture), and wherein the act of determining an identification is performed remotely, by a device other than the user device (Fig. 1, el. 8, the pc is used to identify the matching media stream, col. 5, lines 25-67, col. 7, lines 30-51).

Regarding claim 4, Menard discloses wherein the action includes at least one of promoting commerce and **enhancing interest in the work** (to find a segment of the movie a user want to watch, col. 6, lines 27-37).

Regarding claim 5, the method claim is analyzed with respect to claim 1.

Regarding claim 6, the method claim is analyzed with respect to claim 2.

Regarding claim 7, the method claim is analyzed with respect to claim 3.

Regarding claim 8, the method claim is analyzed with respect to claim 4.

Regarding claim 17, the method claim is analyzed with respect to claim 1.

Regarding claim 18, the method claim is analyzed with respect to claim 2.

Regarding claim 19, Menard discloses wherein the media work is a video signal (abstract).

Regarding claim 20, the method claim is analyzed with respect to claim 3.

Regarding claim 21, the method claim is analyzed with respect to claim 4.

3. Claims 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Menard in view of Peter Yianilos (NPL publication, Excluded Midle Vantage Point Forests for Nearest Neighbor Search, hereinafter refers as Yianilos).

Regarding claim 9, Menard discloses a method for associating a media work with an action (Fig. 4-5), the method comprising:

a) extracting features from the media work (col. 7, lines 10-20, the texts extracted from audio and video stream);

b) determining an identification of the media work based on the features extracted from the media work with extracted features of identified media works using a sub-linear time search (Fig. 4-5, col. 7, lines 10-15, col. 8, lines 15-29, the media stream segment is identified based on detection of matching pattern by comparing extracted text from the media stream using pattern recognition, sub-linear time search interprets as to the search to detect the matching segment of the media stream in a user defined time of the delay buffer, col. 6, lines 56-65, col. 8, lines 18-28); and

c) determining an action based on the identification of the media work determined (Fig. 4-5, once the detection of matching pattern, the user is alerted and the media stream is to be recorded, el. 216, el. 316, col. 7, lines 20-28).

Menard does not explicitly disclose wherein the identification is based on using an approximate nearest neighbor search;

Yianlos teaches wherein the identification is based on a non-exhaustive search identifying a neighbor (abstract, page 1-2, the nearest neighbor is approximate by sublinear time search);

It would be obvious to one of ordinary in the art at the time of invention to modify Menard to include wherein the identification is based on a non-exhaustive search identifying a neighbor, as taught by Yianlos, in order for a system to applying the statistical analysis of Vantage point trees and kd-trees to obtain the better performance result (abstract).

Regarding claim 10, the method claim is analyzed with respect to Menard section of claim 2.

Regarding claim 11, the method claim is analyzed with respect to Menard section of claim 3.

Regarding claim 12, the method claim is analyzed with respect to Menard section of claim 4.

Regarding claim 13, the method claim is analyzed with respect to claim 9.

Regarding claim 14, the method claim is analyzed with respect to claim 10.

Regarding claim 15, the method claim is analyzed with respect to claim 11.

Regarding claim 16, the method claim is analyzed with respect to claim 12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAI CHEN whose telephone number is (571)270-5679. The examiner can normally be reached on 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Pendleton can be reached on 571-272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CAI CHEN/
Examiner, Art Unit 2425

/Brian T. Pendleton/
Supervisory Patent Examiner, Art Unit 2425

Notice of References Cited	Application/Control No. 11/977,202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.	
	Examiner CAI CHEN	Art Unit 2425	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-6,061,056	05-2000	Menard et al.	715/704
	B US-			
	C US-			
	D US-			
	E US-			
	F US-			
	G US-			
	H US-			
	I US-			
	J US-			
	K US-			
	L US-			
	M US-			


FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	Peter N. Yianilos, Excluded Middle Vantage Point Forest for Nearest Neighbor Search, August 1, 1999, pages 1-12
V	
W	
X	


*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Index of Claims</i> 	Application/Control No. 11977202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.
	Examiner CAI CHEN	Art Unit 2425

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	04/14/2010							
	1	✓							
	2	✓							
	3	✓							
	4	✓							
	5	✓							
	6	✓							
	7	✓							
	8	✓							
	9	✓							
	10	✓							
	11	✓							
	12	✓							
	13	✓							
	14	✓							
	15	✓							
	16	✓							
	17	✓							
	18	✓							
	19	✓							
	20	✓							
	21	✓							

Search Notes 	Application/Control No. 11977202	Applicant(s)/Patent Under Reexamination COX, INGEMAR J.
	Examiner CAI CHEN	Art Unit 2425

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Class 725 is text searched	4/14/2010	CC
Inventor searches were performed in East	4/14/2010	CC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

/CAI CHEN/ Examiner.Art Unit 2425	
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	"7254454".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/04/14 13:15
L2	7	("6006005" "6061056" "6125259" "6163508" "6400652" "6570080" "6587404").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2010/04/14 13:15
L3	531774	sub\$1linear search	US-PGPUB; USPAT; USOCR	OR	OFF	2010/04/14 13:31
L4	6	sub\$1linear search	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2010/04/14 13:31
L9	120	"725"/\$.cls. and (extract\$3 with (text or metadata) with identif\$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2010/04/14 14:30
L10	22572142	(@ad<="20000914" or @rlad<="20000914")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2010/04/14 14:31
L11	19	10 and 9	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2010/04/14 14:31
L12	46	"6941275"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2010/04/14 14:42
L13	2	"6941275".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2010/04/14 14:42

L14	3	"6834308".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2010/04/14 14:44
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EAST Search History (Interference)

<This search history is empty>

4/ 14/ 2010 2:50:55 PM

**C:\ Documents and Settings\ cchen3\ My Documents\ EAST\ Workspaces\ 11977202 ID the media
using sublinear search.wsp**

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(modified PTO/SB/08A)

<p style="text-align: center;">U.S. Department of Commerce Patent and Trademark Office</p> <p>INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i></p>	<p style="text-align: right;"><i>Complete if Known</i></p> <p>Application Number: 11/977,202 Filing Date: October 23, 2007 First Named Inventor: Ingemar J. COX Group Art Unit: 2623 Examiner Name: Not yet assigned</p>
Sheet 1 of 1	Attorney Docket No.: COX-1CIP/CON

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines where relevant Passages or Figures appear
	BL	6,941,275	9-6-2005	SWIERCZEK	

Examiner Initials*	Cite No. ¹	Foreign Patent Document Office ² Number ¹	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T ³

OTHER REFERENCES - NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume, issue number(s), publisher, country, when published, source	T ²

Examiner Signature	/Cai Chen/	Date Considered	04/14/2010
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¹ Unique citation designation number. ² Applicant is to place a check mark here if English language translation is attached.

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(modified PTO/SB/08A)

U.S. Department of Commerce Patent and Trademark Office INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Application Number: Not yet assigned	
		Filing Date: Herewith	
First Named Inventor: Ingemar J. COX		Examiner Name: Not yet assigned	
Group Art Unit: Not yet assigned		Attorney Docket No.: COX-1CIP/CON	
Sheet	1	of	1

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines where relevant Passages or Figures appear
	AA	6,834,308	12-21-2004	IKEZOYE, et al.	

Examiner Initials*	Cite No. ¹	Foreign Patent Document Office ³ Number ⁴	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶

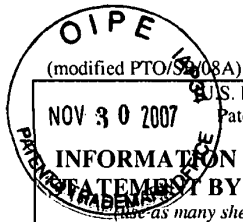
OTHER REFERENCES - NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume, issue number(s), publisher, country, where published, source	T ²
	AB	P.N. Yianilos, "Locally Lifting the Curse of Dimensionality for Nearest Neighbor Search" <i>SODA 2000</i> , pp. 361-370	

Examiner Signature	/Cai Chen/	Date Considered	04/14/2010
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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(modified PTO/5908A)		<i>Complete if Known</i>	
U.S. Department of Commerce Patent and Trademark Office			
NOV 30 2007			
INFORMATION DISCLOSURE		Application Number: 11/977,202	
PATENTED BY APPLICANT		Filing Date: October 23, 2007	
<i>(use as many sheets as necessary)</i>		First Named Inventor: Ingemar J. COX	
		Group Art Unit: 2624	
		Examiner Name: Not yet assigned	
Sheet	1	of	2
		Attorney Docket No.: COX-1CIP/CON	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines where relevant Passages or Figures appear
	AC	3,919,479	11-11-1975	MOON et al.	
	AD	4,230,990	10-28-1980	LERT, Jr. et al.	
	AE	4,450,531	05-22-1984	KENYON et al.	
	AF	4,677,455	06-30-1987	OKAJIMA	
	AG	4,677,466	06-30-1987	LERT, Jr. et al.	
	AH	4,739,398	04-19-1988	THOMAS et al.	
	AI	4,843,562	06-27-1989	KENYON et al.	
	AJ	4,918,730	04-17-1990	SCHULZE	
	AK	5,210,820	05-11-1993	KENYON	
	AL	5,283,819	02-01-1994	GLICK et al.	
	AM	5,437,050	07-25-1995	LAMB et al.	
	AN	5,581,658	12-03-1996	O'HAGAN et al.	
	AO	5,918,223	06-29-1999	BLUM et al.	
	AP	6,006,256	12-21-1999	ZDEPSKI et al.	
	AQ	6,011,758	01-04-2000	DOCKES et al.	
	AR	6,026,439	02-15-2000	CHOWDHURY et al.	
	AS	6,044,402	03-28-2000	JACOBSON et al.	
	AT	6,118,450	09-12-2000	PROEHL et al.	
	AU	6,243,725	06-05-2001	HEMPLEMAN et al.	
	AV	6,253,193	06-26-2001	GINTER et al.	
	AW	6,330,593	12-11-2001	ROBERTS et al.	
	AX	6,345,256	02-05-2002	MILSTED et al.	
	AY	6,385,596	05-07-2002	WISER et al.	
	AZ	6,418,421	07-09-2002	HURTADO et al.	
	BA	6,449,226	09-10-2002	KUMAGAI	
	BB	6,452,874	09-17-2002	OTSUKA et al.	
	BC	6,477,704	11-05-2002	CREMIA	
	BD	6,496,802	12-17-2002	VAN ZOEST et al.	
	BE	6,550,011	04-15-2003	SIMS, III	
	BF	6,591,245	07-08-2003	KLUG	
	BG	6,609,105	08-19-2003	VAN ZOEST et al.	
	BH	6,654,757	11-25-2003	STERN	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.C./

U.S. Department of Commerce Patent and Trademark Office		<i>Complete if Known</i>	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Application Number: 11/977,202	
		Filing Date: October 23, 2007	
		First Named Inventor: Ingemar J. COX	
		Group Art Unit: 2624	
		Examiner Name: Not yet assigned	
Sheet	2	of	2
		Attorney Docket No.: COX-1CIP/CON	

OTHER REFERENCES - NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume, issue number(s), publisher, country, where published, source	T ²
	BI	BAUM, L., et al., "A Maximation Technique Occurring in the Statistical Analysis of Probabilistic Functions of Markov Chains", <u>The Annals of Mathematical Statistics</u> , Vol. 41, No. 1, pp. 164-171 (1970)	
	BJ	DEMPSTER, A. P., et al., "Maximum Likelihood from Incomplete Data via the EM Algorithm", <u>Journal of the Royal Statistical Society, Series B (Methodological)</u> , Vol. 39, Issue 1, pp. 1-38 (1977)	
	BK	REYNOLDS, D., et al., "Robust Text-Independent Speaker Identification Using Gaussian Mixture Speaker Models", <u>IEEE Transactions on Speech and Audio Processing</u> , Vol. 3, No. 1, pp. 72-83 (January 1995)	

Examiner Signature	/Cai Chen/	Date Considered	04/14/2010
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Sheet 1 of 1	Attorney Docket No.: COX-1CIP/CON

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines where relevant Passages or Figures appear
	BL	6,941,275	9-6-2005	SWIERCZEK	

Examiner Initials*	Cite No. ¹	Foreign Patent Document Office ³ Number ²	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁴

OTHER REFERENCES - NON-PATENT LITERATURE DOCUMENTS

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Examiner Signature	Date Considered
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FACSIMILE COVER SHEET

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To: U.S. Patent and Trademark Office

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From: John C. Pokotylo, Esq.

Date: June 1, 2009

Number of Pages Including Cover: 7

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- 1) Transmittal (1 pg.);
- 2) Fee transmittal (1 pg.);
- 3) Information Disclosure Statement (3 pgs.); and
- 4) PTO/SB/08A (1 pg.).

Attorney Docket No.: COX-1CIP/CON

Appl. No.: 11/977,202

Applicant: Ingemar J. COX

Filed: October 23, 2007

Title: IDENTIFYING WORKS, USING A SUB LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

TC/A.U.: 2623

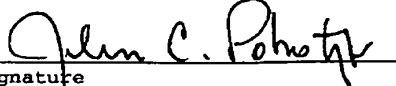
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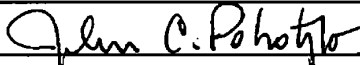
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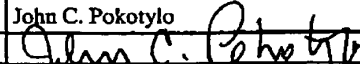
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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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<h2>TRANSMITTAL FORM</h2> <p><i>(to be used for all correspondence after initial filing)</i></p>	Application Number	11/977,200
	Filing Date	October 2, 2007
	First Named Inventor	Ingemar J. COX
	Group Art Unit	2623
	Examiner Name	Not yet assigned
Total Number of Pages in This Submission	Attorney Docket Number	COX-1CII/CON

ENCLOSURES <i>(check all that apply)</i>		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers <i>(for an Application)</i> <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s)	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group <i>(Appeal Notice, Brief, Reply Brief)</i> <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Postcard Receipt <input type="checkbox"/> Other Enclosure(s) <i>(please identify below):</i>
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	John C. Pokotylo (Reg. No. 36,242)
Signature	
Date	June 1, 2009

CERTIFICATE OF FACSIMILE	
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FEE TRANSMITTAL for FY 2008 <i>Effective 09/30/2007. Patent fees are subject to annual revision.</i>	Complete If Known	
	Application Number	11/977,202
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27	Filing Date	October 23, 2007
	First Named Inventor	Ingemar J. COX
	Examiner Name	Not yet assigned
	Art Unit	2623
	Attorney Docket No.	COX-1CIP/CON
TOTAL AMOUNT OF PAYMENT	(\$) 0.00	

METHOD OF PAYMENT (check all that apply)

Check Credit card Money Order Other None

Deposit Account:
Deposit Account Number: 50-1049
Deposit Account Name: Straub & Pokotylo

The Commissioner is authorized to: (check all that apply)
 Charge any underpayment of fee(s) indicated below
 Charge any fee(s) due in connection with the filing submitted herewith
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FEE CALCULATION

1. BASIC FILING, SEARCH & EXAMINATION FEES

Large Entity Fee (\$)	Small Entity Fee (\$)	Fee Description	Fee Paid
1090	545	Utility fee	
460	230	Design fee	
720	360	Plant fee	
1520	760	Reissue fee	
220	110	Provisional fee	
SUBTOTAL (1)			(\$)0.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
	-20** =	X	=
	-3** =	X	=

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1202 52	2202 26	Claims in excess of 20	
1201 220	2201 110	Independent claims in excess of 3	
1203 390	2203 195	Multiple dependent claim, if not paid	
1204 220	2204 110	**Reissue independent claims over original patent	
1205 52	2205 26	**Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)			(\$)0.00

** or number previously paid, if greater, For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	2053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 130	2251 65	Extension for reply within first month	
1252 490	2252 245	Extension for reply within second month	
1253 1,110	2253 555	Extension for reply within third month	
1254 1,730	2254 865	Extension for reply within fourth month	
1255 2,350	2255 1,175	Extension for reply within fifth month	
1401 540	2401 270	Notice of Appeal	
1402 540	2402 270	Filing a brief in support of an appeal	
1403 1,080	2403 540	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 540	2452 270	Petition to revive - unavoidable	
1453 1,620	2453 810	Petition to revive - unintentional	
1501 1,510	2501 755	Utility issue fee (or reissue)	
1502 860	2502 430	Design issue fee	
1503 1,190	2503 595	Plant issue fee	
		Petitions to the Commissioner - check fee sheet	
1807 50	1807 50	Processing fee under 37 CFR 1.17(c)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 810	2809 405	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 810	2810 405	For each additional invention to be examined (37 CFR 1.121(b))	
1801 810	2801 405	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	
Other fee (specify)			
* Reduced by Basic Filing Fee Paid			
SUBTOTAL (3)			(\$)0.00

SUBMITTED BY (Complete if applicable)

Name (Print/Type)	John C. Pokotylo	Registration No. (Attorney/Agent)	36,242	Telephone	(732) 936-1400
Signature	<i>John C. Pokotylo</i>	Date	June 1, 2009		

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This collection of information is required by 37 CFR 1.17 and 1.27. 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 12 minutes 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, Washington, DC 20231.

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IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Attorney Docket No.: **COX-1CIP/CON**

Applicant: **Ingemar J. COX**

Serial No.: **11/977,202**

Filing Date: **October 23, 2007**

Title: **IDENTIFYING WORKS, USING A SUB LINEAR TIME SEARCH, SUCH
AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING
A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET**

Examiner: **Not yet assigned**

Group Art Unit: **2623**

Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

S I R:

Information Disclosure Statement

The applicant respectfully request that the reference listed on the attached PTO/SB/08A be considered in the examination of the above-identified application. Since the reference is a U.S. patent, no copy is enclosed. (See the notice, "Information Disclosure Statements May Be Filed Without Copies of U.S. Patents and Published Applications in Patent Applications Filed After June 30, 2003," Pre-OG Notices (July 11, 2003).)

The applicant reserves the right to establish that the reference listed on the attached PTO/SB/08A is not prior art to the above-captioned application.

Since a first Office Action on the merits has not yet been received, the applicant assumes that this Information Disclosure Statement should be considered under 37 C.F.R. § 1.97(b)(3).

Accordingly, it is believed that no fee is due. If, however, an Office Action on the merits has been mailed before the filing date of this Information Disclosure Statement, then this Information Disclosure Statement should be considered under 37 C.F.R. § 1.97(c)(1). A statement under 37 C.F.R. § 1.97(e)(2) is provided.

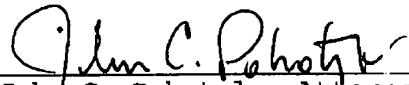
Certification Under 37 CFR 1.97(e)(2):

I hereby certify 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 § 1.56(c) more than three months prior to the filing of the information disclosure statement.

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Respectfully submitted,

Dated: June 1, 2009



 John C. Pokotylo, Attorney
 Reg. No. 36,242
 Customer No. 26479
 (732) 936-1400

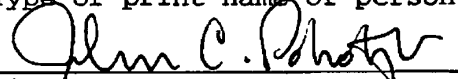
STRAUB & POKOTYLO
788 Shrewsbury Ave.
Tinton Falls, NJ 07724

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APPLICATION NUMBER	FILING OR 371(c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/977,202	10/23/2007	Ingemar J. Cox	COX-1CIP/CON

CONFIRMATION NO. 2195

26479
STRAUB & POKOTYLO
620 TINTON AVENUE
BLDG. B, 2ND FLOOR
TINTON FALLS, NJ07724

Title: Identifying works, using a sub-linear time search, such as an approximate nearest neighbor search, for initiating a work-based action, such as an action on the internet

Publication No. US-2008-0060036-A1

Publication Date: 03/06/2008

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

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Pre-Grant Publication Division, 703-605-4283



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Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY DOCKET NO, TOT CLAIMS, IND CLAIMS. Row 1: 11/977,202, 10/23/2007, 2623, 750, COX-1CIP/CON, 21, 5

CONFIRMATION NO. 2195

CORRECTED FILING RECEIPT



26479
STRAUB & POKOTYLO
620 TINTON AVENUE
BLDG. B, 2ND FLOOR
TINTON FALLS, NJ 07724

Date Mailed: 01/15/2008

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Applicant(s)

Ingemar J. Cox, London, UNITED KINGDOM;

Power of Attorney:

John Pokotylo--36242
Michael Straub--36941
Ronald Straub--48941

Domestic Priority data as claimed by applicant

This application is a CON of 11/445,928 06/02/2006
which is a CIP of 09/950,972 09/13/2001 PAT 7,058,223
which claims benefit of 60/232,618 09/14/2000

Foreign Applications

If Required, Foreign Filing License Granted: 11/28/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 11/977,202

Projected Publication Date: 03/06/2008

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

Identifying works, using a sub-linear time search, such as an approximate nearest neighbor search, for initiating a work-based action, such as an action on the internet

Preliminary Class

725

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FACSIMILE COVER SHEET

The Law Offices of
STRAUB & POKOTYLO

620 Tinton Avenue
Bldg. B, 2nd Floor
Tinton Falls, NJ 07724-3260

Telephone: 732-542-9070
Facsimile: 732-542-9071

To: U.S. Patent and Trademark Office

Facsimile No.: (571) 273-8300

From: John C. Pokotylo

Date: January 10, 2008

Number of Pages Including Cover: 9

Message: **FORMAL SUBMISSION OF:**
1) Transmittal (1 pg.);
2) Fee transmittal (1 pg., in duplicate);
3) Request for Corrected Filing Receipt (2
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Showing Correction (3 pgs.).

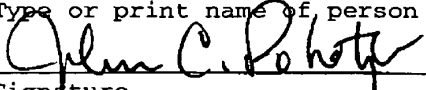
Attorney Docket No.: COX-1CIP/CON
Applicant: Ingemar J. Cox
Serial No.: 11/977,202
Filing Date: October 23, 2007
Title: **IDENTIFYING WORKS, USING A SUB LINEAR TIME SEARCH, SUCH AS AN
APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A
WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET**
Group Art Unit: 2624
Examiner: Not yet assigned

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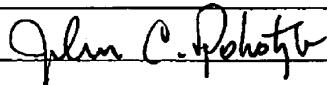
Please type a plus sign (+) inside this box -->

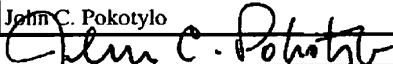
Modified PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0851-0031
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<h2>TRANSMITTAL FORM</h2> <p><i>(to be used for all correspondence after initial filing)</i></p>	Application Number	11/977,202
	Filing Date	October 23, 2007
	First Named Inventor	Ingemar J. COX
	Group Art Unit	2624
	Examiner Name	Not yet assigned
	Attorney Docket Number	COX-1CIP/CON
Total Number of Pages in This Submission		

ENCLOSURES <i>(check all that apply)</i>		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> Alter Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers <i>(for an Application)</i> <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group <i>(Appeal Notice, Brief, Reply Brief)</i> <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Postcard Receipt <input checked="" type="checkbox"/> Other Enclosure(s) <i>(please identify below):</i> - Request for Corrected Filing Receipt - Annotated Copy of the Corrected Filing Receipt Showing Correction
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	John C. Pokotylo (Reg. No. 36,242)
Signature	
Date	January 10, 2008

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Typed or printed name	John C. Pokotylo
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Date	January 10, 2008

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		Application Number	11/977,202
		Filing Date	October 23, 2007
		First Named Inventor	Ingemar J. COX
		Examiner Name	Not yet assigned
		Art Unit	2624
		Attorney Docket No.	COX-1CIP/CON
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27			
TOTAL AMOUNT OF PAYMENT	(\$) 0.00		

METHOD OF PAYMENT (check all that apply)

Check
 Credit card
 Money Order
 Other
 None

Deposit Account:

Deposit Account Number: 50-1049
 Deposit Account Name: Straub & Pokotylo

The Commissioner is authorized to: (check all that apply)

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FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	120	2251	60	Extension for reply within first month	
1252	460	2252	230	Extension for reply within second month	
1253	1,050	2253	525	Extension for reply within third month	
1254	1,640	2254	820	Extension for reply within fourth month	
1255	2,230	2255	1,115	Extension for reply within fifth month	
1401	510	2401	255	Notice of Appeal	
1402	510	2402	255	Filing a brief in support of an appeal	
1403	1,030	2403	515	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	510	2452	255	Petition to revive - unavoidable	
1453	1,540	2453	770	Petition to revive - unintentional	
1501	1,440	2501	720	Utility issue fee (or reissue)	
1502	820	2502	410	Design issue fee	
1503	1,130	2503	565	Plant issue fee	
Petitions to the Commissioner - check fee sheet					
1807	50	1807	50	Processing fee under 37 CFR 1.17(c)	
1808	180	1808	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	810	2809	405	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	810	2610	405	For each additional invention to be examined (37 CFR 1.129(b))	
1801	810	2801	405	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	
Other fee (specify)					
* Reduced by Basic Filing Fee Paid					SUBTOTAL (3) (\$) 0.00

FEE CALCULATION

1. BASIC FILING, SEARCH & EXAMINATION FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1030	515			Utility fee	
440	220			Design fee	
680	340			Plant fee	
1440	720			Reissue fee	
210	105			Provisional fee	
SUBTOTAL (1)					(\$) 0.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims: -20** = X =
 Independent Claims: -3** = X =
 Multiple Dependent: =

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	50	2202	25	Claims in excess of 20	
1201	210	2201	105	Independent claims in excess of 3	
1203	370	2203	185	Multiple dependent claim, if not paid	
1204	210	2204	105	**Reissue independent claims over original patent	
1205	50	2205	25	**Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					(\$) 0.00

** or number previously paid, if greater. For Reissues, see above

SUBMITTED BY		(Complete if applicable)	
Name (Print/Type)	John C. Pokotylo	Registration No. (Attorney/Agent)	36,242
Signature		Telephone	(732) 542-9070
		Date	January 10, 2008

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Modified PTO/SB/17 (01-03)
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<h1 style="text-align: center;">FEE TRANSMITTAL</h1> <h2 style="text-align: center;">for FY 2007</h2> <p style="text-align: center; font-size: small;">Effective 09/30/2007. Patent fees are subject to annual revision.</p>		Complete if Known		
		Application Number	11/977,202	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Filing Date	October 23, 2007	
		First Named Inventor	Ingemar J. COX	
		Examiner Name	Not yet assigned	
		Art Unit	2624	
TOTAL AMOUNT OF PAYMENT	(\$)	0.00	Attorney Docket No.	COX-1CIP/CON

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METHOD OF PAYMENT (check all that apply)		FEE CALCULATION (continued)																																																																																																																																																																																																																																			
<input type="checkbox"/> Check <input type="checkbox"/> Credit card <input type="checkbox"/> Money Order <input type="checkbox"/> Other <input type="checkbox"/> None <input checked="" type="checkbox"/> Deposit Account: Deposit Account Number: 50-1049 Deposit Account Name: Straub & Pokotylo The Commissioner is authorized to: (check all that apply) <input checked="" type="checkbox"/> Charge any underpayment of fee(s) indicated below <input checked="" type="checkbox"/> Credit any overpayments <input checked="" type="checkbox"/> Charge any fee(s) due in connection with the filing submitted herewith <input checked="" type="checkbox"/> Charge fee(s) indicated below, except for the filing fee in the to the above-identified deposit account.		3. ADDITIONAL FEES Large Entity / Small Entity																																																																																																																																																																																																																																			
1. 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SUBMITTED BY		(Complete if applicable)	
Name (Print/Type)	John C. Pokotylo	Registration No. (Attorney/Agent)	36,242
Signature	<i>John C. Pokotylo</i>	Telephone	(732) 542-9070
		Date	January 10, 2008

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. 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 12 minutes 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, Washington, DC 20231.

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PATENT AND TRADEMARK OFFICE

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PATENT APPLICATION

Attorney Docket No.: COX-1CIP/CON

Applicant: Ingemar J. COX

Serial No.: 11/977,202 Filed: October 23, 2007

Title: IDENTIFYING WORKS, USING A SUB LINEAR TIME SEARCH,
SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR
INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON
THE INTERNET

Examiner: Not yet assigned

Group Art Unit: 2624

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

S I R:

REQUEST FOR CORRECTED FILING RECEIPT

Applicant encloses herewith a copy of the filing receipt received in the above-captioned application with requested changes indicated thereon. Applicant requests that a new filing receipt be issued to indicate the correct domestic priority data application as follow:

This application is a CON ...

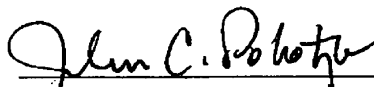
This information was correctly listed in paragraph [0001] of the application, though the Utility Patent Application Transmittal form had the incorrect box checked in part 18.

An early issuance of a corrected filing receipt is respectfully requested.

The applicant believes that NO fee is due for the corrected filing receipt. However, if a fee is due, kindly charge the entire cost, as appropriate, to deposit account number 50-1049. To facilitate that charge, a fee transmittal, in duplicate is filed herewith.

Respectfully submitted,

January 10, 2008



John C. Pokotylo, Attorney
Reg. No. 36,242
Customer No. 26479
(732) 542-9070

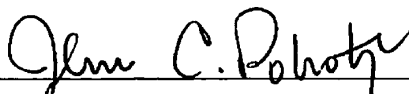
STRAUB & POKOTYLO
620 Tinton Avenue
Bldg. B, 2nd Floor
Tinton Falls, NJ 07724-3260

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper (and any accompanying paper(s)) is being facsimile transmitted to the United States Patents and Trademark Office on the date shown below.

John C. Pokotylo

Type or print name of person signing certification



Signature

January 10, 2008

Date



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	PIL FEE RECD	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
11/977,202	10/23/2007	2624	750	COX-1CIP/CON	21	5

CONFIRMATION NO. 2195

FILING RECEIPT



26479
STRAUB & POKOTYLO
620 TINTON AVENUE
BLDG. B, 2ND FLOOR
TINTON FALLS, NJ 07724

Date Mailed: 12/03/2007

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Applicant(s)

Ingemar J. Cox, London, UNITED KINGDOM;

Power of Attorney:

John Pokotylo--36242
Michael Straub--36941
Ronald Straub--48941

Domestic Priority data as claimed by applicant

This application is a **CON** of 11/445,928 06/02/2006
which is a CIP of 09/950,972 09/13/2001 PAT 7,058,223
which claims benefit of 60/232,618 09/14/2000

Foreign Applications

If Required, Foreign Filing License Granted: 11/28/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 11/977,202**

Projected Publication Date: 03/06/2008

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

Identifying works, using a sub-linear time search, such as an approximate nearest neighbor search, for initiating a work-based action, such as an action on the internet

Preliminary Class

382

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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page 2 of 3

the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
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Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY DOCKET NO, TOT CLAIMS, IND CLAIMS. Row 1: 11/977,202, 10/23/2007, 2624, 750, COX-1CIP/CON, 21, 5

CONFIRMATION NO. 2195

FILING RECEIPT



26479
STRAUB & POKOTYLO
620 TINTON AVENUE
BLDG. B, 2ND FLOOR
TINTON FALLS, NJ 07724

Date Mailed: 12/03/2007

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Applicant(s)

Ingemar J. Cox, London, UNITED KINGDOM;

Power of Attorney:

John Pokotylo--36242
Michael Straub--36941
Ronald Straub--48941

Domestic Priority data as claimed by applicant

This application is a CIP of 11/445,928 06/02/2006
which is a CIP of 09/950,972 09/13/2001 PAT 7,058,223
which claims benefit of 60/232,618 09/14/2000

Foreign Applications

If Required, Foreign Filing License Granted: 11/28/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 11/977,202

Projected Publication Date: 03/06/2008

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

Identifying works, using a sub-linear time search, such as an approximate nearest neighbor search, for initiating a work-based action, such as an action on the internet

Preliminary Class

382

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER**Title 35, United States Code, Section 184****Title 37, Code of Federal Regulations, 5.11 & 5.15****GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where

the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

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NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).



PKW

Please type a plus sign (+) inside this box ---->

Modified PTO/SB/21 (08-00)
 Approved for use through 10/31/2002. OMB 0651-0031
 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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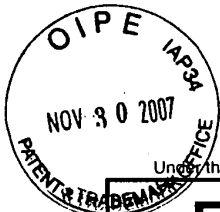
<h1>TRANSMITTAL FORM</h1> <p><i>(to be used for all correspondence after initial filing)</i></p>	Application Number	11/977,202
	Filing Date	October 23, 2007
	First Named Inventor	Ingemar J. COX
	Group Art Unit	2624
	Examiner Name	
Total Number of Pages in This Submission		Attorney Docket Number COX-1CIP/CON

ENCLOSURES <i>(check all that apply)</i>		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers <i>(for an Application)</i> <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group <i>(Appeal Notice, Brief, Reply Brief)</i> <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Postcard Receipt <input type="checkbox"/> Other Enclosure(s) <i>(please identify below):</i>
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	John C. Pokotylo (Reg. No. 36,242)
Signature	
Date	November 27, 2007

CERTIFICATE OF MAILING	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this date: November 27, 2007	
Typed or printed name	John C. Pokotylo
Signature	
Date	November 27, 2007

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



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FEE TRANSMITTAL for FY 2007		Complete if Known	
<i>Effective 09/30/2007. Patent fees are subject to annual revision.</i>		Application Number	11/977,202
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Filing Date	October 23, 2007
		First Named Inventor	Ingemar J. COX
TOTAL AMOUNT OF PAYMENT		Examiner Name	
		Art Unit	2624
(\$) 0.00		Attorney Docket No.	COX-1CIP/CON

METHOD OF PAYMENT (check all that apply)

Check
 Credit card
 Money Order
 Other
 None

Deposit Account:

Deposit Account Number: 50-1049

Deposit Account Name: Straub & Pokotylo

The Commissioner is authorized to: (check all that apply)

Charge any underpayment of fee(s) indicated below
 Credit any overpayments

Charge any additional fee(s) due in connection with the filing submitted herewith

Charge fee(s) indicated below, except for the filing fee in the to the above-identified deposit account.

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	120	2251	60	Extension for reply within first month	
1252	460	2252	230	Extension for reply within second month	
1253	1,050	2253	525	Extension for reply within third month	
1254	1,640	2254	820	Extension for reply within fourth month	
1255	2,230	2255	1,115	Extension for reply within fifth month	
1401	510	2401	255	Notice of Appeal	
1402	510	2402	255	Filing a brief in support of an appeal	
1403	1,030	2403	515	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	510	2452	255	Petition to revive - unavoidable	
1453	1,540	2453	770	Petition to revive - unintentional	
1501	1,440	2501	720	Utility issue fee (or reissue)	
1502	820	2502	410	Design issue fee	
1503	1,130	2503	565	Plant issue fee	
Petitions to the Commissioner - check fee sheet					
1807	50	1807	50	Processing fee under 37 CFR 1.17(c)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	810	2809	405	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	810	2810	405	For each additional invention to be examined (37 CFR 1.129(b))	
1801	810	2801	405	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	
Other fee (specify) _____					
* Reduced by Basic Filing Fee Paid				SUBTOTAL (3)	(\$) 0.00

FEE CALCULATION

1. BASIC FILING, SEARCH & EXAMINATION FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee (\$)	Fee (\$)	Fee (\$)	Fee (\$)		
1030	515			Utility fee	
440	220			Design fee	
680	340			Plant fee	
1440	720			Reissue fee	
210	105			Provisional fee	
SUBTOTAL (1)					(\$) 0.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Extra Claims Fee from below Fee Paid

Total Claims -20** = X =

Independent Claims -3** = X =

Multiple Dependent =

Large Entity		Small Entity		Fee Description	
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	50	2202	25	Claims in excess of 20	
1201	210	2201	105	Independent claims in excess of 3	
1203	370	2203	185	Multiple dependent claim, if not paid	
1204	210	2204	105	**Reissue independent claims over original patent	
1205	50	2205	25	**Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					(\$) 0.00

**or number previously paid, if greater, For Reissues, see above

SUBMITTED BY		(Complete if applicable)	
Name (Print/Type)	John C. Pokotylo	Registration No. (Attorney/Agent)	36,242
Signature	<i>John C. Pokotylo</i>	Telephone	(732) 542-9070
		Date	November 27, 2007

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. 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 12 minutes 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, Washington, DC 20231.



IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Attorney Docket No.: **COX-1CIP/CON**

Applicant: **Ingemar J. COX**

Serial No.: **11/977,202**

Filing Date: **October 23, 2007**

Title: **IDENTIFYING WORKS, USING A SUB LINEAR TIME SEARCH, SUCH
AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING
A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET**

Examiner: **Not yet assigned**

Group Art Unit: **2624**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

S I R:

Information Disclosure Statement Transmittal

The applicant respectfully requests that the references listed on the attached PTO/SB/08A be considered in the examination of the above-identified application. A copy of each of these references, except for U.S. patents and patent application publications, is enclosed. (See the notice, "Information Disclosure Statements May Be Filed Without Copies of U.S. Patents and Published Applications in Patent Applications Filed After June 30, 2003," Pre-OG Notices (July 11, 2003).)

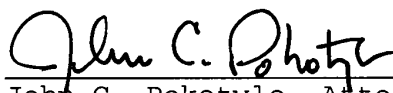
The applicant reserves the right to establish that any of the references listed on the attached PTO/SB/08A are not prior art to the above-captioned application.

Since this Information Disclosure Statement is being filed within three (3) months of the October 23, 2007 filing date, it should be considered under 37 C.F.R. §§ 1.97(b)(1).

Accordingly, it is believed that no fee is due. If, however, an Office Action on the merits has been mailed before the filing date of this Information Disclosure Statement, the Office is authorized to charge any fee required to have the Information Disclosure Statement considered to the deposit account of Straub & Pokotylo, deposit account number 50-1049.

Respectfully submitted,

Dated: November 27, 2007

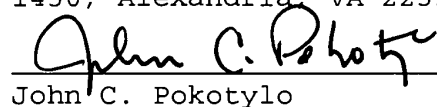


John C. Pokotylo, Attorney
Reg. No. 36,242
Customer No. 26479
(732) 542-9070

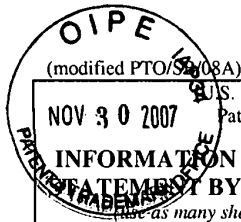
STRAUB & POKOTYLO
620 Tinton Avenue
Bldg. B, 2nd Floor
Tinton Falls, NJ 07724-3260

CERTIFICATE OF MAILING under 37 C.F.R. 1.8(a)

I hereby certify that this correspondence is being deposited on **November 27, 2007** with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.


John C. Pokotylo

36,242
Reg. No.



(modified PTO/SB 08A)

U.S. Department of Commerce
Patent and Trademark Office

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use as many sheets as necessary)

Complete if Known

Application Number: **11/977,202**
 Filing Date: **October 23, 2007**
 First Named Inventor: **Ingemar J. COX**
 Group Art Unit: **2624**
 Examiner Name: **Not yet assigned**

Sheet **1** of **2**

Attorney Docket No.: **COX-1CIP/CON**

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines where relevant Passages or Figures appear
	AC	3,919,479	11-11-1975	MOON et al.	
	AD	4,230,990	10-28-1980	LERT, Jr. et al.	
	AE	4,450,531	05-22-1984	KENYON et al.	
	AF	4,677,455	06-30-1987	OKAJIMA	
	AG	4,677,466	06-30-1987	LERT, Jr. et al.	
	AH	4,739,398	04-19-1988	THOMAS et al.	
	AI	4,843,562	06-27-1989	KENYON et al.	
	AJ	4,918,730	04-17-1990	SCHULZE	
	AK	5,210,820	05-11-1993	KENYON	
	AL	5,283,819	02-01-1994	GLICK et al.	
	AM	5,437,050	07-25-1995	LAMB et al.	
	AN	5,581,658	12-03-1996	O'HAGAN et al.	
	AO	5,918,223	06-29-1999	BLUM et al.	
	AP	6,006,256	12-21-1999	ZDEPSKI et al.	
	AQ	6,011,758	01-04-2000	DOCKES et al.	
	AR	6,026,439	02-15-2000	CHOWDHURY et al.	
	AS	6,044,402	03-28-2000	JACOBSON et al.	
	AT	6,118,450	09-12-2000	PROEHL et al.	
	AU	6,243,725	06-05-2001	HEMPLEMAN et al.	
	AV	6,253,193	06-26-2001	GINTER et al.	
	AW	6,330,593	12-11-2001	ROBERTS et al.	
	AX	6,345,256	02-05-2002	MILSTED et al.	
	AY	6,385,596	05-07-2002	WISER et al.	
	AZ	6,418,421	07-09-2002	HURTADO et al.	
	BA	6,449,226	09-10-2002	KUMAGAI	
	BB	6,452,874	09-17-2002	OTSUKA et al.	
	BC	6,477,704	11-05-2002	CREMIA	
	BD	6,496,802	12-17-2002	VAN ZOEST et al.	
	BE	6,550,011	04-15-2003	SIMS, III	
	BF	6,591,245	07-08-2003	KLUG	
	BG	6,609,105	08-19-2003	VAN ZOEST et al.	
	BH	6,654,757	11-25-2003	STERN	

U.S. Department of Commerce Patent and Trademark Office		<i>Complete if Known</i>	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Application Number: 11/977,202	
		Filing Date: October 23, 2007	
		First Named Inventor: Ingemar J. COX	
		Group Art Unit: 2624	
		Examiner Name: Not yet assigned	
Sheet	2	of	2
		Attorney Docket No.: COX-1CIP/CON	

OTHER REFERENCES - NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume, issue number(s), publisher, country, where published, source	T ²
	BI	BAUM, L., et al., "A Maximation Technique Occurring in the Statistical Analysis of Probabilistic Functions of Markov Chains", <u>The Annals of Mathematical Statistics</u> , Vol. 41, No. 1, pp. 164-171 (1970)	
	BJ	DEMPSTER, A. P., et al., "Maximum Likelihood from Incomplete Data via the \$EM\$ Algorithm", <u>Journal of the Royal Statistical Society, Series B (Methodological)</u> , Vol. 39, Issue 1, pp. 1-38 (1977)	
	BK	REYNOLDS, D., et al., "Robust Text-Independent Speaker Identification Using Gaussian Mixture Speaker Models", <u>IEEE Transactions on Speech and Audio Processing</u> , Vol. 3, No. 1, pp. 72-83 (January 1995)	

Examiner Signature	Date Considered
-----------------------	--------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Unique citation designation number. 2 Applicant is to place a check mark here if English language translation is attached.



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United States Patent and Trademark Office
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APPLICATION NUMBER	FILING OR 371(c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/977,202	10/23/2007	Ingemar J. Cox	COX-1CIP/CON

CONFIRMATION NO. 2195

26479
STRAUB & POKOTYLO
620 TINTON AVENUE
BLDG. B, 2ND FLOOR
TINTON FALLS, NJ07724

Date Mailed. 11/29/2007

NOTICE OF NEW OR REVISED PROJECTED PUBLICATION DATE

The above-identified application has a new or revised projected publication date. The current projected publication date for this application is 03/06/2008. If this is a new projected publication date (there was no previous projected publication date), the application has been cleared by Licensing & Review or a secrecy order has been rescinded and the application is now in the publication queue.

If this is a revised projected publication date (one that is different from a previously communicated projected publication date), the publication date has been revised due to processing delays in the USPTO or the abandonment and subsequent revival of an application. The application is anticipated to be published on a date that is more than six weeks different from the originally-projected publication date.

More detailed publication information is available through the private side of Patent Application Information Retrieval (PAIR) System. The direct link to access PAIR is currently <http://pair.uspto.gov>. Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

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PART 1 - ATTORNEY/APPLICANT COPY

01576 U.S. PTO
102307

Please type a plus sign (+) inside this box →
 Modified PTO/SB/05 (03-01)
 Approved for use through 10/31/2002. OMB 0651-0032
 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
 Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UTILITY PATENT APPLICATION TRANSMITTAL		Attorney Docket No. COX-1CIP/CON
		First Inventor Ingemar J. COX
		Title IDENTIFYING WORKS, USING A SUB LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING ...
(Only for new nonprovisional applications under 37 CFR 1.53(b))		Express Mail Label No. EM073245494US

APPLICATION ELEMENTS	ADDRESS TO:
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 - Cross Reference to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to sequence listing, a table, or a computer program listing appendix
 - Background of the Invention
 - Brief Summary of the Invention
 - Brief Description of the Drawings *(if filed)*
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
4. Drawing(s) (35 U.S.C. 113) [Total Sheets]
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6. Application Data Sheet. See 37 CFR 1.76

7. CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
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Continuation Divisional Continuation-in-part (CIP) of prior application No.: 11/445,928

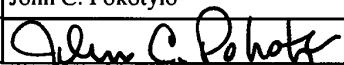
Prior application information: Examiner _____ Group Art Unit: 2624

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Name		Straub & Pokotylo			
Address		620 Tinton Avenue Bldg. B, 2 nd Floor			
City	Tinton Falls	State	N.J.	Zip Code	07724-3260
Country	USA	Telephone	(732) 542-9070	Fax	(732) 542-9071

Name (Print/Type)	John C. Pokotylo	Registration No. (Attorney/Agent)	36,242
Signature		Date	October 23, 2007

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Respectfully submitted,

Dated: October 23, 2007



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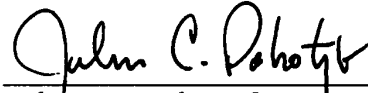
John C. Pokotylo

36,242
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UTILITY PATENT APPLICATION TRANSMITTAL	Attorney Docket No. COX-1CIP/CON
	First Inventor Ingemar J. COX
	Title IDENTIFYING WORKS, USING A SUB LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING
(Only for new nonprovisional applications under 37 CFR 1.53(b))	Express Mail Label No. EM073245494US

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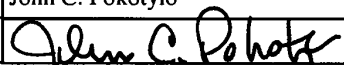
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Address 620 Tinton Avenue Bldg. B, 2 nd Floor	
City Tinton Falls	State N.J. Zip Code 07724-3260
Country USA	Telephone (732) 542-9070 Fax (732) 542-9071

Name (Print/Type) John C. Pokotylo	Registration No. (Attorney/Agent) 36,242
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Respectfully submitted,

Dated: October 23, 2007



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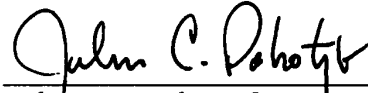
John C. Pokotylo

36,242
Reg. No.

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36,242
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IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET

§ 0. RELATED APPLICATIONS

[0001] The present application is a continuation of U.S. Patent Application Serial No. 11/445,928 (incorporated herein by reference), titled "USING FEATURES EXTRACTED FROM AN AUDIO AND/OR VIDEO WORK TO OBTAIN INFORMATION ABOUT THE WORK," filed on June 2, 2006, and listing Ingemar J. Cox as the inventor, which is a continuation-in-part of U.S. Patent Application Serial No. 09/950,972 (incorporated herein by reference, issued as United States Patent No. 7,058,223 on June 6, 2006), titled "IDENTIFYING WORKS FOR INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET," filed on September 13, 2001, and listing Ingemar J. Cox as the inventor, which application claims benefit to the filing date of provisional patent application serial number 60/232,618 (incorporated herein by reference), titled "Identifying and linking television, audio, print and other media to the Internet", filed on September 14, 2000 and listing Ingemar J. Cox as the inventor.

§ 1. BACKGROUND OF THE INVENTION

§ 1.1 FIELD OF THE INVENTION

[0002] The present invention concerns linking traditional media to new interactive media, such as that provided over the Internet for example. In particular, the present invention concerns identifying a work (e.g., content or an advertisement delivered via print media, or Express Mail No. EM073245494US

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via a radio or television broadcast) without the need to modify the work.

§ 1.2 RELATED ART

§1.2.1 OPPORTUNITIES ARISING FROM LINKING WORKS DELIVERED VIA SOME TRADITIONAL MEDIA CHANNEL OR CONDUIT TO A MORE INTERACTIVE SYSTEM

[0003] The rapid adoption of the Internet and associated World Wide Web has recently spurred interest in linking works, delivered via traditional media channels or conduits, to a more interactive system, such as the Internet for example. Basically, such linking can be used to (a) promote commerce, such as e-commerce, and/or (b) enhance interest in the work itself by facilitating audience interaction or participation. Commerce opportunities include, for example, facilitating the placement of direct orders for products, providing product coupons, providing further information related to a product, product placement, etc.

[0004] In the context of e-commerce, viewers could request discount vouchers or coupons for viewed products that are redeemable at the point of purchase. E-commerce applications also extend beyond advertisements. It is now common for television shows to include product placements. For example, an actor might drink a Coke rather than a Pepsi brand of soda, actors and actresses might wear designer-labeled clothing such as Calvin Klein, etc. Viewers may wish to purchase similar clothing but may not necessarily be able to identify the designer or the

particular style directly from the show. However, with an interactive capability, viewers would be able to discover this and other information by going to an associated Web site. The link to this Web site can be automatically enabled using the invention described herein.

[0005] In the context of facilitating audience interaction or participation, there is much interest in the convergence of television and computers. Convergence encompasses a very wide range of capabilities. Although a significant effort is being directed to video-on-demand applications, in which there is a unique video stream for each user of the service, as well as to transmitting video signals over the Internet, there is also interest in enhancing the television viewing experience. To this end, there have been a number of experiments with interactive television in which viewers can participate in a live broadcast. There are a variety of ways in which viewers can participate. For example, during game shows, users can answer the questions and their scores can be tabulated. In recent reality-based programming such as the ABC television game show, "Big Brother", viewers can vote on contestants who must leave the show, and be eliminated from the competition.

§ 1.2.2 EMBEDDING WORK IDENTIFYING CODE OR SIGNALS WITHIN WORKS

[0006] Known techniques of linking works delivered via traditional media channels to a more interactive system typically require some type of code, used to identify the work, to be inserted into the work before it is delivered

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via such traditional media channels. Some examples of such inserted code include (i) signals inserted into the vertical blanking interval ("VBI") lines of a (e.g., NTSC) television signal, (ii) watermarks embedded into images, (iii) bar codes imposed on images, and (iv) tones embedded into music.

[0007] The common technical theme of these proposed implementations is the insertion of visible or invisible signals into the media that can be decoded by a computer. These signals can contain a variety of information. In its most direct form, the signal may directly encode the URL of the associated Web site. However, since the alphanumeric string has variable length and is not a particularly efficient coding, it is more common to encode a unique ID. The computer then accesses a database, which is usually proprietary, and matches the ID with the associated web address. This database can be considered a form of domain name server, similar to those already deployed for network addresses. However, in this case, the domain name server is proprietary and the addresses are unique ID's.

[0008] There are two principal advantages to encoding a proprietary identifier into content. First, as previously mentioned, it is a more efficient use of the available bandwidth and second, by directing all traffic to a single Web site that contains the database, a company can maintain control over the technology and gather useful statistics that may then be sold to advertisers and publishers.

[0009] As an example of inserting signals into the vertical blanking interval lines of a television signal,

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RespondTV of San Francisco, CA embeds identification information into the vertical blanking interval of the television signal. The VBI is part of the analog video broadcast that is not visible to television viewers. For digital television, it may be possible to encode the information in, for example, the motion picture experts group ("MPEG") header. In the USA, the vertical blanking interval is currently used to transmit close-captioning information as well as other information, while in the UK, the VBI is used to transmit teletext information. Although the close captioning information is guaranteed to be transmitted into the home in America, unfortunately, other information is not. This is because ownership of the vertical blanking interval is disputed by content owners, broadcasters and local television operators.

[0010] As an example of embedding watermarks into images, Digimarc of Tualatin, OR embeds watermarks in print media. Invisible watermarks are newer than VBI insertion, and have the advantage of being independent of the method of broadcast. Thus, once the information is embedded, it should remain readable whether the video is transmitted in NTSC, PAL or SECAM analog formats or newer digital formats. It should be more reliable than using the vertical blanking interval in television applications. Unfortunately, however, watermarks still require modification of the broadcast signal which is problematic for a number of economic, logistical, legal (permission to alter the content is needed) and quality control (the content may be degraded by the addition of a watermark) reasons.

[0011] As an example of imposing bar codes on images, print advertisers are currently testing a technology that allows an advertisement to be shown to a camera, scanner or bar code reader that is connected to a personal computer ("PC"). The captured image is then analyzed to determine an associated Web site that the PC's browser then accesses. For example, GoCode of Draper, UT embeds small two-dimensional bar codes for print advertisements. The latter signal is read by inexpensive barcode readers that can be connected to a PC. AirClic of Blue Bell, PA provides a combination of barcode and wireless communication to enable wireless shopping through print media. A so-called "CueCat" reads bar codes printed in conjunction with advertisements and articles in Forbes magazine. Similar capabilities are being tested for television and audio media.

[0012] Machine-readable bar codes are one example of a visible signal. The advantage of this technology is that it is very mature. However, the fact that the signal is visible is often considered a disadvantage since it may detract from the aesthetic of the work delivered via a traditional media channel or conduit.

[0013] As an example of embedding tones into music, Digital Convergence of Dallas, TX proposes to embed identification codes into audible music tones broadcast with television signals.

[0014] All the foregoing techniques of inserting code into a work can be categorized as active techniques in that they must alter the existing signal, whether it is music,

print, television or other media, such that an identification code is also present. There are several disadvantages that active systems share. First, there are aesthetic or fidelity issues associated with bar codes, audible tones and watermarks. More importantly, all media must be processed, before it is delivered to the end user, to contain these active signals. Even if a system is enthusiastically adopted, the logistics involved with inserting bar codes or watermarks into, say every printed advertisement, are formidable.

[0015] Further, even if the rate of adoption is very rapid, it nevertheless remains true that during the early deployment of the system, most works will not be tagged. Thus, consumers that are early-adopters will find that most media is not identified. At best, this is frustrating. At worst, the naïve user may conclude that the system is not reliable or does not work at all. This erroneous conclusion might have a very adverse effect on the adoption rate.

[0016] Further, not only must there be modification to the production process, but modifications must also be made to the equipment in a user's home. Again, using the example of watermarking of print media, a PC must be fitted with a camera and watermark detection software must be installed. In the case of television, the detection of the identification signal is likely to occur at the set-top-box -- this is the equipment provided by the local cable television or satellite broadcasting company. In many cases, this may require modifications to the hardware, which is likely to be prohibitively expensive. For

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example, the audible tone used by Digital Convergence to recognize television content, must be fed directly into a sound card in a PC. This requires a physical connection between the television and the PC, which may be expensive or at least inconvenient, and a sound card may have to be purchased.

§ 1.2.3 UNMET NEEDS

[0017] In view of the foregoing disadvantages of inserting an identification code into a work, thereby altering the existing signal, there is a need for techniques of identifying a work without the need of inserting an identification code into a work. Such an identification code can then be used to invoke a work-related action, such as work-related commerce methods and/or to increase audience interest by facilitating audience interaction and/or participation.

§ 2. SUMMARY OF THE INVENTION

[0018] Some embodiments consistent with the present invention provide a computer-implemented method, apparatus, or computer-executable programs for linking a media work to an action. Such embodiments might (a) extract features from the media work, (b) determine an identification of the media work based on the features extracted using a sub-linear time search, such as an approximate nearest neighbor search for example, and (c) determine an action based on the identification of the media work determined. In some embodiments consistent with the present invention, the media work is an audio signal. The audio signal might

be obtained from a broadcast, or an audio file format. In other embodiments consistent with the present invention, the media work is a video signal. The video signal might be obtained from a broadcast, or a video file format.

[0019] In some of the embodiments pertaining to audio files, the audio file might be an mp3 file or some other digital representation of an audio signal. The information might include a song title, an album title, and/or a performer name.

[0020] In some of the embodiments pertaining to video files, the video file might be an MPEG file or some other digital representation of a video signal. The video file might be a video work, and the information might include a title of the video work, a director of the video work, and names of performers in the video work.

§ 3. BRIEF DESCRIPTION OF THE DRAWINGS

[0021] Figure 1 is a process bubble diagram of operations that may be performed in accordance with one version of the present invention, in which intra-work information is used to identify the work.

[0022] Figure 2 is a block diagram illustrating a first embodiment of the present invention, in which intra-work information is used to identify the work.

[0023] Figure 3 is a block diagram illustrating a second embodiment of the present invention, in which intra-work information is used to identify the work.

[0024] Figure 4 is a block diagram illustrating a third embodiment of the present invention, in which intra-work information is used to identify the work.

[0025] Figure 5 is a process bubble diagram of operations that may be performed in accordance with another version of the present invention, in which extra-work information is used to identify the work.

[0026] Figure 6 is a block diagram illustrating a fourth embodiment of the present invention, in which extra-work information is used to identify the work.

[0027] Figure 7 is a block diagram illustrating a fifth embodiment of the present invention, in which extra-work information is used to identify the work.

[0028] Figure 8 is a block diagram illustrating an environment in which the present invention may operate.

[0029] Figure 9 is an exemplary data structure in which extra-work information is associated with a work identifier.

[0030] Figure 10 is an exemplary data structure including work-related actions.

§ 4. DETAILED DESCRIPTION

[0031] The present invention may involve novel methods, apparatus and data structures for identifying works without

the need of embedding signals therein. Once identified, such information can be used to determine a work-related action. The following description is presented to enable one skilled in the art to make and use the invention, and is provided in the context of particular embodiments and methods. Various modifications to the disclosed embodiments and methods will be apparent to those skilled in the art, and the general principles set forth below may be applied to other embodiments, methods and applications. Thus, the present invention is not intended to be limited to the embodiments and methods shown and the inventors regard their invention as the following disclosed methods, apparatus, data structures and any other patentable subject matter to the extent that they are patentable.

§ 4.1 FUNCTIONS

[0032] The present invention functions to identify a work without the need of inserting an identification code into a work. The present invention may do so by (i) extracting features from the work to define a feature vector, and (ii) comparing the feature vector to feature vectors associated with identified works. Alternatively, or in addition, the present invention may do so by (i) accepting extra-work information, such as the time of a query or of a rendering of the work, the geographic location at which the work is rendered, and the station that the audience member has selected, and (ii) use such extra-work information to lookup an identification of the work. In either case, an identification code may be used to identify the work.

[0033] The present invention may then function to use such an identification code to initiate a work-related action, such as for work-related commerce methods and/or to increase audience interest by facilitating audience interaction and/or participation.

§ 4.2 EMBODIMENTS

[0034] As just introduced in § 4.1 above, the present invention may use intra-work information and/or extra-work information to identify a work. Once identified, such identification can be used to initiate an action, such as an action related to commerce, or facilitating audience participation or interaction. Exemplary embodiments of the present invention, in which work is recognized or identified based on intra-work information, are described in § 4.2.1. Then, exemplary embodiments of the present invention, in which work is recognized or identified based on extra-work information, are described in § 4.2.2.

**§ 4.2.1 EMBODIMENTS IN WHICH WORK IS RECOGNIZED
BASED ON INTRA-WORK INFORMATION, SUCH
AS A FEATURE VECTOR**

[0035] Operations related to this embodiment are described in § 4.2.1.1 below. Then, various architectures which may be used to effect such operations are described in § 4.2.1.2.

**§ 4.2.1.1 OPERATIONS AND EXEMPLARY METHODS
AND TECHNIQUES FOR EFFECTING SUCH
OPERATIONS**

[0036] Figure 1 is a process bubble diagram of operations that may be performed in accordance with one version of the present invention, in which intra-work information is used to identify the work. As shown, a work-identification information storage 110 may include a number of items or records 112. Each item or record 112 may associate a feature vector of a work 114 with a, preferably unique, work identifier 116. The work-identification information storage 110 may be generated by a database generation operation(s) 120 which may, in turn, use a feature extraction operation(s) 122 to extract features from a work at a first time ($WORK_{et1}$), as well as a feature-to-work identification tagging operation(s) 124.

[0037] Further, work identifier-action information storage 130 may include a number of items or records 132. Each item or record 132 may associate a, preferably unique, work identifier 134 with associated information 136, such as an action for example. The work identifier-action information storage 130 may be generated by a database generation operation(s) 138 which may, for example, accept manual entries.

[0038] As can be appreciated from the foregoing, the work-information storage 110 records 112 and the work identification-action 130 records 132 can be combined into a single record. That is, there need not be two databases. A single database is also possible in which the work

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identifier, or a feature vector extracted from the work, serves as a key and the associated field contains work-related information, such as a URL for example.

[0039] The feature extraction operation(s) 140 can accept a work, such as that being rendered by a user, at a second time ($WORK_{t2}$), and extract features from that work. The extracted features may be used to define a so-called feature vector.

[0040] The extracted features, e.g., as a feature vector, can be used by a feature (vector) lookup operation(s) 150 to search for a matching feature vector 114. If a match, or a match within a predetermined threshold is determined, then the associated work identifier 116 is read.

[0041] The read work identifier can then be used by a work-associated information lookup operation(s) 160 to retrieve associated information, such as an action, 136 associated with the work identifier. Such information 136 can then be passed to action initiation operation(s) 170 which can perform some action based on the associated information 136.

**§ 4.2.1.1.1 EXEMPLARY TECHNIQUES FOR
FEATURE EXTRACTION**

[0042] When the user initiates a request, the specific television or radio broadcast or printed commercial, each of which is referred to as a work, is first passed to the feature extraction operation. The work may be an image, an

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audio file or some portion of an audio signal or may be one or more frames or fields of a video signal, or a multimedia signal. The purpose of the feature extraction operation is to derive a compact representation of the work that can subsequently be used for the purpose of recognition. In the case of images and video, this feature vector might be a pseudo-random sample of pixels from the frame or a low-resolution copy of the frame or the average intensities of $n \times n$ blocks of pixels. It might also be a frequency-based decomposition of the signal, such as produced by the Fourier, wavelet and or discrete cosine transforms. It might involve principal component analysis. It might also be a combination of these. For television and audio signals, recognition might also rely on a temporal sequence of feature vectors. The recognition literature contains many different representations. For block-based methods, blocks may be accessed at pseudo-random locations in each frame or might have a specific structure. For audio, common feature vectors are based on Fourier frequency decompositions, but other representations are possible. See, e.g., R. O. Duda and P. E. Hart, Pattern Classification and Scene Analysis (Wiley-Interscience, New York, 1973). See also K. Fukunaga, Introduction to Statistical Pattern Recognition, 2nd Ed. (Academic Press, New York, 1990). (These references are incorporated herein by reference.)

[0043] As previously stated, one object of the vector extraction stage is to obtain a more concise representation of the frame. For example, each video frame is initially composed of 480×720 pixels which is equivalent to 345,600

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pixels or 691,200 bytes. In comparison, an exemplary feature vector might only consist of 1Kbyte of data.

[0044] A second purpose of the feature extraction process is to acquire a representation that is robust or invariant to possible noise or distortions that a signal might experience. For example, frames of a television broadcast may experience a small amount of jitter, i.e., horizontal and or vertical translation, or may undergo lossy compression such as by MPEG-2. It is advantageous that these and other processes do not adversely affect the extracted vectors. For still images there has been considerable work on determining image properties that are invariant to affine and other geometric distortions. For example, the use of Radon and Fourier-Mellin transforms have been proposed for robustness against rotation, scale and translation, since these transforms are either invariant or bare a simple relation to the geometric distortions. See, e.g., C. Lin, M. Wu, Y. M. Lui, J. A. Bloom, M. L. Miller, I. J. Cox, "Rotation, Scale, and Translation Resilient Public Watermarking for Images," IEEE Transactions on Image Processing (2001). See also, U.S. Patent Nos. 5,436,653, 5,504,518, 5,582,246, 5,612,729, and 5,621,454. (Each of these references is incorporated herein by reference.)

**§ 4.2.1.1.2 EXEMPLARY TECHNIQUES FOR
DATABASE GENERATION AND
MAINTENANCE**

[0045] A number of possibilities exist for generating and maintaining work identification (WID) and identification-action translation (WIDAT) databases.

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However, in all cases, works of interest are processed to extract a representative feature vector and this feature vector is assigned a unique identifier. This unique identifier is then entered into the work identification (WID) database 110 as well as into the WIDAT database 130 together with all the necessary associated data. This process is referred to as tagging. For example, in the case of an advertisement, the WIDAT database 130 might include the manufacturer (Ford), the product name (Taurus), a product category (automotive) and the URL associated with the Ford Taurus car together with the instruction to translate the query into the associated URL.

[0046] The determination of all works of interest and subsequent feature vector extraction and tagging depends on whether content owners are actively collaborating with the entity responsible for creating and maintaining the database. If there is no collaboration, then the database entity must collect all works of interest and process and tag them. While this is a significant effort, it is not overwhelming and is certainly commercially feasible. For example, competitive market research firms routinely tabulate all advertisements appearing in a very wide variety of print media. Newspapers and magazines can be scanned in and software algorithms can be applied to the images to identify likely advertisements. These possible advertisements can then be compared with advertisements already in the WID database 110. If there is a match, nothing further need be done. If there is not a match, the image can be sent to a human to determine if the page does indeed contain an advertisement. If so, the operator can instruct the computer to extract the representative feature

vector and assign it a unique identifier. Then, the operator can insert this information into the content identification database and as well as update the corresponding WIDAT database 130 with all the necessary associated data. This is continually performed as new magazines and papers include new advertisements to maintain the databases. This is a cost to the database entity. Television and radio broadcasts can also be monitored and, in fact, broadcast monitoring is currently performed by companies such as Nielsen Media research and Competitive Media Reporting. Television and radio broadcasts differ from print media in the real-time nature of the signals and the consequent desire for real-time recognition.

[0047] In many cases, advertisers, publishers and broadcasters may wish to collaborate with the database provider. In this case, feature extraction and annotation and/or extra-work information may be performed by the advertiser, advertisement agency, network and/or broadcaster and this information sent to the database provider to update the database. Clearly, this arrangement is preferable from the database provider's perspective. However, it is not essential.

**§ 4.2.1.1.3 . EXEMPLARY TECHNIQUES FOR
MATCHING EXTRACTED
FEATURES WITH DATABASE
ENTRIES**

[0048] The extracted feature vector is then passed to a recognition (e.g., feature look-up) operation, during which, the vector is compared to entries of known vectors 114 in a content identification (WID) database 110. It is

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important to realize that the matching of extracted and known vectors is not equivalent to looking up a word in an electronic dictionary. Since the extracted vectors contain noise or distortions, binary search might not be possible. Instead, a statistical comparison is often made between an extracted vector and each stored vector. Common statistical measures include linear correlation and related measures such as correlation coefficient, but other methods can also be used including mutual information, Euclidean distance and L_p -norms. These measures provide a statistical measure of the confidence of the match. A threshold can be established, usually based on the required false positive and false negative rates, such that if the correlation output exceeds this threshold, then the extracted and known vectors are said to match. See, e.g., R. O. Duda and P. E. Hart, Pattern Classification and Scene Analysis (Wiley-Interscience, New York, 1973). See also, U.S. Patent No. 3,919,474 by W. D. Moon, R. J. Weiner, R. A. Hansen and R. N. Linde, entitled "Broadcast Signal Identification System". (Each of these references is incorporated herein by reference.)

[0049] If binary search was possible, then a database containing N vectors would require at most $\log(N)$ comparisons. Unfortunately, binary search is not possible when taking a noisy signal and trying to find the most similar reference signal. This problem is one of nearest neighbor search in a (high-dimensional) feature space. In previous work, it was not uncommon to perform a linear search of all N entries, perhaps halting the search when the first match is found. On average, this will require

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$N/2$ comparisons. If N is large, this search can be computationally very expensive.

[0050] Other forms of matching include those based on clustering, kd-trees, vantage point trees and excluded middle vantage point forests are possible and will be discussed in more detail later. See, e.g., P.N. Yianilos "Excluded Middle Vantage Point Forests for nearest Neighbor Search", Presented at the Sixth DIMACS Implementation Challenge: Near Neighbor Searches workshop, (January 15, 1999). See also, P.N. Yianilos, "Locally lifting the curse of Dimensionality for nearest Neighbor Search" SODA 2000: 361-370. (Each of these references is incorporated herein by reference.) Thus, for example, a sub-linear search time can be achieved. Unlike the kd-tree method which finds the nearest neighbor with certainty, randomized constructions, like the one described in P.N. Yianilos, "Locally lifting the curse of Dimensionality for nearest Neighbor Search" SODA 2000: 361-370, that succeed with some specified probability may be used. One example of a sub-linear time search is an approximate nearest neighbor search. A nearest neighbor search always finds the closest point to the query. An approximate nearest neighbor search does not always find the closest point to the query. For example, it might do so with some probability, or it might provide any point within some small distance of the closest point.

[0051] If the extracted vector "matches" a known vector in the content identification database, then the work has been identified. Of course, there is the risk that the match is incorrect. This type of error is known as a false positive. The false positive rate can be reduced to any

desired value, but at the expense of the false negative rate. A false negative occurs when the vector extracted from a work is not matched to the database even though the work is present in the database. There are several reasons why a work's feature vector may fail to match a feature vector database entry. First, the recognition system may not be capable of 100% accuracy. Second, the extracted vector will often contain noise as a result of the transmission process. This noise may alter the values of a feature vector to the extent that a match is no longer possible.

[0052] Finally, there is the case where the observed work is not present in the database. In this case, the work can be sent to an operator for identification and insertion in the database.

**§ 4.2.1.1.4 EXEMPLARY WORK BASED
ACTIONS**

[0053] Assuming that the work is correctly identified, then the identifier can be used to retrieve associated information from the second work identification-action translation (WIDAT) database 130 that contains information 136 associated with the particular work 134. This information may simply be a corresponding URL address, in which case, the action can be considered to be a form of network address translation. However, in general, any information about the work could be stored therein, together with possible actions to be taken such as initiating an e-commerce transaction. After looking up the work identifier 134 in the WIDAT database 130, an action is

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performed on behalf of the user, examples of which has been previously described.

[0054] In addition to using the system to allow audience members of a work to connect to associated sites on the Internet, a number of other uses are possible. First, the work identification database 130 allows competitive market research data to be collected (e.g., the action may include logging an event). For example, it is possible to determine how many commercials the Coca Cola Company in the Chicago market aired in the month of June. This information is valuable to competitors such as Pepsi. Thus, any company that developed a system as described above could also expect to generate revenue from competitive market research data that it gathers.

[0055] Advertisers often wish to ensure that they receive the advertising time that was purchased. To do so, they often hire commercial verification services to verify that the advertisement or commercial did indeed run at the expected time. To do so, currently deployed systems by Nielsen and CMR embedded active signals in the advertisement prior to the broadcast. These signals are then detected by remote monitoring facilities that then report back to a central system which commercials were positively identified. See for example U.S. Patent Nos. 5,629,739 by R.A. Dougherty entitled "Apparatus and method for injecting an ancillary signal into a low energy density portion of a color television frequency spectrum", 4,025,851 by D. E. Haselwood and C. M. Solar entitled "Automatic monitor for programs broadcast", 5,243,423 by J.P. DeJean, D. Lu and R. Weissman, entitled "Spread

spectrum digital data transmission over TV video", and 5,450,122 by L. D. Keene entitled "In-station television program encoding and monitoring system and method". (Each of these patents is incorporated herein by reference.) Active systems are usually preferred for advertisement verification because the required recognition accuracy is difficult to achieve with passive systems. The passive monitoring system described herein supports commercial verification.

§ 4.2.1.2 EXEMPLARY ARCHITECTURES

[0056] Three alternative architectural embodiments in which the first technique may be employed are now described with reference to Figures 2, 3, and 4.

[0057] Figure 2 is a block diagram illustrating a first embodiment of the present invention, in which intra-work information is used to identify the work and in which an audience member device 210, such as a PC for example, receives and renders a work that is consumed by an audience member (user). At some point, the user may wish to perform a work-specific action such as traversing to an associated Web site. Upon initiation of this request, the computer 210 performs the operations 140a, 150a, 160a and 170a, such as those shown in Figure 1. To reiterate, these operations include a feature extraction operation(s) 140a, feature vector lookup or matching operation(s) 150a in connection with items or records 112a in a work-identification (WID) database 110a. If a matching feature vector 114a is found, the work-associated information lookup operation(s) 160a can use the associated work identifier 116a to accessing a

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work identification-action translation (WIDAT) database 130a to retrieve associated information 136a, possibly including determining what action should be performed.

[0058] As described above, the two databases might be integrated into a single database. However, conceptually, they are described here as separate.

[0059] An example illustrating operations that can occur in the first embodiment of Figure 1, is now described. Consider a print application, in which say 10,000 advertisements are to be recognized that appear in national newspapers and magazines. If 1 Kbyte is required to store each feature vector then approximately 10Mbytes of storage will be required for the work identification database 110a. Such a size does not represent a serious problem, in either memory or disk space, to present personal computers.

[0060] An important issue then becomes recognition rate. While this may be problematic, all the images are two-dimensional -- three-dimensional object recognition is not required. Of course, since a low cost camera captures the printed advertisement, there may be a number of geometric distortions that might be introduced together with noise. Nevertheless, the application is sufficiently constrained that adequate recognition rates should be achievable with current state-of-the-art computer vision algorithms. See, e.g., P.N. Yianilos "Excluded Middle Vantage Point Forests for nearest Neighbor Search", Presented at the Sixth DIMACS Implementation Challenge: Near Neighbor Searches workshop, January 15, 1999. See also, P.N. Yianilos "Locally lifting the curse of

Dimensionality for nearest Neighbor Search" SODA 2000: 361-370. (Each of these references is incorporated herein by reference.) Thus, for example, a sub-linear search time can be achieved. Unlike the kd-tree method which finds the nearest neighbor with certainty, randomized constructions, like the one described in P.N. Yianilos, "Locally lifting the curse of Dimensionality for nearest Neighbor Search" SODA 2000: 361-370, that succeed with some specified probability may be used. One example of a sub-linear time search is an approximate nearest neighbor search.

Estimates of the size of the WIDAT database 130a depend on what associated information (recall fields 136) is stored. If, for example, only a URL address is needed, about 20 characters can typically represent most URLs. Thus, the size of the WIDAT database 130a would be less than 1Mbyte.

[0061] The configuration just described with reference to Figure 2 places all of the processing and data on each user's local machine 210. A number of alternative embodiments, in which some or all of the storage and processing requirements are performed remotely, will be described shortly.

[0062] As new works are created and made publicly available, the databases residing on a user's local computer become obsolete. Just as the database provider 240 must continually update the databases in order to remain current, there is also a need to update local databases on devices at audience member premises. This update process can be performed over the Internet 230 in a manner very similar to how software is currently upgraded. It is not necessary to download an entirely new database

although this is an option. Rather, only the changes need to be transmitted. During this update process, the user's computer 210 might also transmit information to a central monitoring center 240 informing it of which advertisements the computer user has queried. This type of information is valuable to both advertisers and publishers. Of course, care must be taken to ensure the privacy of individual users of the system. However, it is not necessary to know the identity of individual users for the system to work.

[0063] Figure 3 is a block diagram illustrating a second embodiment of the present invention, in which intra-work information is used to identify the work. Although the WIDAT database can be quite small, as illustrated in the exemplary embodiment described above with respect to Figure 2, there is still the problem of keeping this database current. While periodic updates of the local databases may be acceptable, they become unnecessary if the WIDAT database 130b is at a remote location 340. In this arrangement, illustrated in Figure 3, after the local computer 310 identifies the work, it sends a query to the remote WIDAT database 130b. The query may contain the work identifier. The remote site 340 may then return the associated information 136. Although the remote WIDAT database 130b needs to be updated by the database provider, this can be done very frequently without the need for communicating the updates to the local computers 310.

[0064] The second embodiment is most similar to active systems in which an embedded signal is extracted and decoded and the identifier is used to interrogate a central database. Consequently it has many of the advantages of

such systems, while avoiding the need to insert signals into all works. One such advantage, is that the database provider receives real-time information relating to users' access patterns.

[0065] The WIDAT database 130b might physically reside at more than one location. In such a case, some requests will go to one site, and other requests will go to another. In this way, overloading of a single site by too many users can be avoided. Other load balancing techniques are also applicable.

[0066] Figure 4 is a block diagram illustrating a third embodiment of the present invention, in which intra-work information is used to identify the work. Recall that the WIDAT database may be small relative to that work identification database (WID). As the size of the work recognition (WID) database increases, the foregoing embodiments may become impractical. Consider, for example, a music application in which it is desired to identify 100,000 song titles. If it is again assumed that a 1 Kbyte vector can uniquely represent each song, then on the order of 100 Mbytes is now needed. This size is comparable to large application programs such as Microsoft's Office 2000 suite. Although this still does not represent an inordinate amount of disk space, if this data needs to reside in memory at all times, then very few present machines will have adequate resources. Clearly, at some point, the proposed architectures scales to a point where requirements become impractical. In this case, a further modification to the architecture is possible.

[0067] Since the storage and searching of the work-identifier (WID) database require the most computation and storage, it may be more economical to perform these actions remotely. Thus, for example, if a user is playing an MP3 music file and wants to go to a corresponding website, the MP3 file is passed to an operation that determines one or more feature vectors. In the third embodiment, instead of performing the matching locally 410, the one or more vectors are transmitted to a central site 440 at which is stored the WID and WIDAT databases 110c and 130c together with sufficiently powerful computers to resolve this request and those of other computer users. This configuration is illustrated in Figure 4. Similarly, if a user is playing an MPEG or other video file and wants to initiate a work-related action, the video file is passed to an operation 140c that extracts one or more feature vectors. The entire video file need not be processed. Rather, it may be sufficient to process only those frames in the temporal vicinity to the users request, i.e., to process the current frame and or some number of frames before and after the current frame, e.g. perhaps 100 frames in all. The extracted feature vector or feature vectors can then be transmitted to a central site 440 which can resolve the request.

[0068] After successfully matching the feature vector, the central site 440 can provide the user with information directly, or can direct the user to another Web site that contains the information the user wants. In cases where the recognition is ambiguous, the central site 440 might return information identifying one of several possible matches and allow the user to select the intended one.

[0069] The third embodiment is particularly attractive if the cost of extracting the feature vector is small. In this case, it becomes economical to have feature vector extraction 140c in digital set-top-boxes and in video recorders 410. The latter may be especially useful for the new generation of consumer digital video recorders such as those manufactured by TIVO and Replay TV. These devices already have access to the Internet via a phone line. Thus, when someone watching a recorded movie from television reacts to an advertisement, the video recorder would extract one or more feature vectors and transmit them to a central site 440. This site 440 would determine if a match existed between the query vector and the database of pre-stored vectors 110c. If a match is found, the central server 440 would transmit the associated information, which might include a Web site address or an 800 number for more traditional ordering, back to the audience user device 410. Of course, a consumer device 410 such as a digital video recorder might also store personal information of the owner to facilitate online e-commerce. Such a device 410 could store the owner's name, address, and credit card information and automatically transmit them to an on-line store to complete a purchase. Very little user interaction other than to authorize the purchase might be needed. This type of purchasing may be very convenient to consumers.

[0070] Another advantage of the third embodiment is that it obviates the need to update local databases while, at the same time, the centrally maintained databases can be kept current with very frequent updating.

**§ 4.2.2 EMBODIMENTS IN WHICH WORK IS RECOGNIZED
BASED ON EXTRA-WORK INFORMATION**

[0071] Operations related to this embodiment are described in § 4.2.2.1 below. Then, various architectures which may be used to effect such operations are described in § 4.2.2.2.

[0072] If the cost of extracting a feature vector is too large, then the cost of deploying any of the embodiments described in § 4.2.1 above may be prohibitive. This is particularly likely in very cost sensitive consumer products, including set-top-boxes and next generation digital VCR's. Acknowledging this fact, a different technique, one that is particularly well suited for broadcasted media such as television and radio as well as to content published in magazines and newspapers, is now described. This technique relies on the fact that a work need not be identified by a feature vector extracted from the work (which is an example of "intra-work information"), but can also be identified by when and where it is published or broadcast (which are examples of "extra-work information").

[0073] An example serves to illustrate this point. Consider the scenario in which a viewer sees a television commercial and responds to it. The embodiments described in § 4.2.1 above required the user device (e.g., a computer or set-top-box) 210/310/410 to extract a feature vector. Such an extracted vector was attempted to be matched to another feature vector(s), either locally, or at a remote

site. In the embodiments using a remote site, if the central site is monitoring all television broadcasts, then the user's query does not need to include the feature vector. Instead, the query simply needs to identify the time, geographic location and the station that the viewer is watching. A central site can then determine which advertisement was airing at that moment and, once again, return the associated information. The same is true for radio broadcasts. Moreover, magazines and newspapers can also be handled in this manner. Here the query might include the name of the magazine, the month of publication and the page number.

**§ 4.2.2.1 OPERATIONS AND EXEMPLARY METHODS
AND TECHNIQUES FOR EFFECTING SUCH
OPERATIONS**

[0074] Figure 5 is a process bubble diagram of operations that may be performed in accordance with another version of the present invention, in which extra-work information is used to identify the work. As shown, a query work-identification (QWID) information storage 510 may include a number of items or records 512. Each item or record 512 may associate extra-work information 514, related to the work, with a, preferably unique, work identifier 516. The query work-identification (QWID) information storage 510 may be generated by a database generation operation(s) 520.

[0075] Further, work identifier-action information (WIDAT) storage 530 may include a number of items or records 532. Each item or record 532 may associate a, preferably unique, work identifier 534 with associated

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information 536, such as an action for example. The work identifier-action (WIDAT) information storage 530 may be generated by a database generation operation(s) 538 which may, for example, accept manual entries.

[0076] As can be appreciated from the foregoing, the query work-information (QWID) storage 510 records 512 and the work identification-action (WIDAT) storage 530 records 532 can be combined into a single record.

[0077] The extra-work information aggregation (e.g., query generation) operation(s) 540 can accept a information related to a work, such as the time of a user request or of a rendering of the work, the geographic location at which the work is rendered, and the station that the audience member has selected, and generate a query from such extra-work information.

[0078] The query including the extra-work information can be used by a lookup operation(s) 550 to search for a "matching" set of information 514. If a match, or a match within a predetermined threshold is determined, then the associated work identifier 516 is read.

[0079] The read work identifier can then be used by a work-associated information lookup operation(s) 560 to retrieve associated information, such as an action, 536 associated with the work identifier. Such information 536 can then be passed to action initiation operation(s) 570 which can perform some action based on the associated information 536.

[0080] If the extra-work information of a work is known (in advance), generating the query work identifier (QWID) information 510 is straight-forward. If this were always the case, an intra-work information-based recognition operation would not be needed. However, very often this is not the case. For example, local television broadcasts typically have discretion to insert local advertising, as well as national advertising. Thus, it often is not possible to know in advance when, on what station, and where a particular advertisement will play.

[0081] In such instances, a real-time (e.g., centralized) monitoring facility 580 may be used to (i) extract feature vectors from a work, (ii) determine a work identifier 116 from the extracted features, and (iii) communicate one or more messages 590 in which extra-work information (e.g., time, channel, geographic market) 592 is associated with a work identifier 594, to operation(s) 520 for generating query work identification (QWID) information 510.

**§ 4.2.2.1.1 EXEMPLARY EXTRA-WORK
INFORMATION**

[0082] In the context of national broadcasts, geographic information may be needed to distinguish between, for example, the ABC television broadcast in Los Angeles and that in New York. While both locations broadcast ABC's programming, this programming airs at different times on the East and West coasts of America. More importantly, the local network affiliates that air ABC's shows have discretion to sell local advertising as well as a

responsibility to broadcast the national commercials that ABC sells. In short, the works broadcast by ABC in Los Angeles can be different from that in other geographic locations. Geographic information is therefore useful to distinguish between the different television markets. In some circumstances, geographic information may not be necessary, especially in parts of the world with highly regulated and centralized broadcasting in which there are not regional differences.

**§ 4.2.2.1.2 EXEMPLARY TECHNIQUES FOR
GENERATING DATABASES**

[0083] Figure 5 illustrates a third database 510 referred to as the query to work identification (QWID) database. This database 510 maps the query (e.g., in the form of time, location and channel information) into a unique ID that identifies the perceived work. The QWID 510 and WIDAT 530 databases might not be separate, but for clarity will be considered so. After retrieving the unique work identifier 512 from the QWID database 510, the identifier can be used to access the WIDAT database 530. This is discussed in more detail later.

[0084] As introduced above, although it appears that this architecture does not require a recognition facility, such a facility may be needed. The feature extraction operation(s) 140d, as well as the work identification operation(s) 150d and other databases 110d, may be moved to one or more remote sites 580.

[0085] Although TV Guide and other companies provide detailed information regarding what will be broadcast when, these scheduling guides do not have any information regarding what advertisements will air when. In many cases, this information is unknown until a day or so before the broadcast. Even then, the time slots that a broadcaster sells to an advertiser only provide a time range, e.g. 12pm to 3pm. Thus it is unlikely that all commercials and aired programming can be determined from TV schedules and other sources prior to transmission. Further, occasionally programming schedules are altered unexpectedly due to live broadcasts that overrun their time slots. This is common in sports events and awards shows. Another example of interrupts to scheduled programming occurs when a particularly important news event occurs.

[0086] During transmission, it may therefore be necessary for a central site 580 to determine what work is being broadcast and to update its and/or other's database 520 accordingly based on the work identified 594 and relevant extra-work information 592. There are a variety of ways that this can be accomplished.

[0087] First, it may be economically feasible to manually monitor all television stations that are of interest, and manually update the database with information regarding the work being monitored. In fact, Nielsen used such procedures in the early 1960's for the company to tabulate competitive market data. More than one person can be employed to watch the same channel in order to reduce the error rate. It should be noted that the recent ruling by the FCC that satellite broadcasters such as DirecTV,

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DishTV and EchoStar can carry local stations significantly reduces the cost of monitoring many geographic markets. Currently, DirecTV, for example, carries the four main local stations in each of the 35 largest markets. Thus, these $4 \times 35 = 140$ channels can all be monitored from a single site 580. This site would be provided with satellite receivers to obtain the television channels.

[0088] Unfortunately, however, humans are error prone and the monitoring of many different stations from many different geographic locations can be expensive. In order to automate the recognition process, a central site 580 could employ a computer-based system to perform automatic recognition. Because the recognition is centralized, only one or a few sites are needed. This is in comparison with the first architecture we described in which a complete recognition system was required in every user's home or premise. This centralization makes it more economic to employ more expensive computers, perhaps even special purpose hardware, and more sophisticated software algorithms. When video frames or clips cannot be identified or are considered ambiguous, this video can be quickly passed to human viewers to identify. Further, it should be possible for the automated recognition system to use additional information such as television schedules, time of day, etc in order to improve its recognition rate.

**§ 4.2.2.1.2 EXEMPLARY TECHNIQUES FOR
GENERATING QUERIES BASED
ON EXTRA-WORK
INFORMATION**

[0089] At the audience member (user) premises, all that is needed is for the device to send a query to a database-server with information that includes extra-work information, such as geographic location, time and channel. Usually, this extra-work information would be transmitted in real-time, while the work (e.g., an advertisement) is being broadcast. However, this is not necessary. If the television does not have access to the Internet, and most TV's do not yet, then an audience member (user) may simply remember or record which channel he or she was viewing at what time. In fact, the user device could store this information for later retrieval by the user. At a convenient later time, the user might access the Internet using a home PC. At this time, he or she can query the database by entering this extra-work information (e.g., together with geographic information) into an application program or a web browser plug-in.

[0090] Another possibility is allowing an audience member (user), at the time he or she is consuming (e.g., viewing, reading, listening to, etc.) the work, to enter query information into a handheld personal digital assistant ("PDA") such as a Palm Pilot, so as not to forget it. This information can then be manually transferred to a device connected to a network, or the information can be transferred automatically using, for example, infrared communications or via a physical link such as a cradle. Recently, PDAs also have some wireless networking

capabilities built in, and thus might support direct access to the information desired. Further, software is available that allows a Palm Pilot or other PDA to function as a TV remote control device. As such, the PDA already knows the time of day and channel being viewed. It also probably knows the location of the audience member, since most PDA users include their own name and address in the PDA's phonebook and identify it as their own. Thus, with one or a few clicks, an audience member PDA user could bookmark the television content he or she is viewing. If the PDA is networked, then the PDA can, itself, retrieve the associated information immediately. Otherwise, the PDA can transfer this bookmarked data to a networked device, which can then provide access to the central database.

§ 4.2.2.2 EXEMPLARY ARCHITECTURES

[0091] Figure 6 is a block diagram illustrating a fourth embodiment of the present invention, in which extra-work information is used to identify the work. As shown, an extra-work information aggregation operation 540a may be effected on a device 610, such as a PC, at the audience member (user) premises. The various databases 510a, 530a, and 110e, as well as the database generation operation(s) 520a/538a, the lookup operation(s) 550a and the work-associated information lookup operation(s) 560a may be provided at one or more centralized monitoring and query resolution centers 640.

[0092] Figure 7 is a block diagram illustrating a fifth embodiment of the present invention, in which extra-work information is used to identify the work. This fifth

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embodiment is similar to the fourth embodiment illustrated in Figure 6 but here, the monitoring center 740a and query resolution center 740b are separate.

[0093] These embodiments have many advantages for television and radio broadcasters who desire to provide Internet links or other action. First, the audience member (user) equipment, whether it is a computer, set-top-box, television, radio, remote control, personal digital assistant (pda), cell phone or other device, does not need to perform any processing of the received signal. As such, there is almost no cost involved to equipment manufacturers.

[0094] These last embodiments have some similarity with services such as those provided by the companies Real Names of Redwood City, CA, America Online ("AOL") and especially iTag from Xenote. The popular press has reported on the difficulties associated with assigning domain names. The simplest of these problems is that almost all the one-word names in the ".com" category have been used. Consequently, domain names can often be difficult to remember. To alleviate this problem, RealNames and AOL provide alternative, proprietary name spaces (AOL calls these keywords). For a fee, a company may register a name with these companies. Thus, rather than type the URL <http://www.bell-labs.com>, the simple keyword "bell" might be sufficient to access the same Web site. These capabilities are convenient to users. However, these systems are very different from the fourth and fifth embodiments described. First, and foremost, these systems are not designed to identify content. Rather, they are

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simply alternative network address translation systems based on easily remembered mnemonics which are sold to interested companies. As such, the user is still expected to type in an address, but this address is easier to remember than the equivalent URL. In contrast, while a user may manually enter the information describing the work, the preferred embodiment is for the computer, set-top-box or other device to automatically generate this information. Further, the mapping of keywords to network addresses is an arbitrary mapping maintained by AOL or Real Names. For example, the keyword "bell" might just as reasonably point to the Web site for Philadelphia's Liberty Bell as to Lucent's Bell Labs. In contrast, the query used in the fourth and fifth embodiments is designed to contain all the necessary data to identify the work, e.g. the time, place and television channel during which the work was broadcast. There is nothing arbitrary about this mapping. It should also be pointed out that the proposed system is dynamic -- the same work, e.g. a commercial, potentially has an infinite number of addresses depending on when and where it is broadcast. If an advertisement airs 100,000 unique times, then there are 100,000 different queries that uniquely identify it. Moreover, the exemplary query includes naturally occurring information such as time, place, channel or page number. This is not the case for AOL or RealNames, which typically assigns one or more static keywords to the address of a Web site.

[0095] Xenote's iTag system is designed to identify radio broadcasts and uses a query similar to that which may be used in the fourth and fifth embodiments, i.e. time and station information. However, the work identification

information is not dynamically constructed but is instead based on detailed program scheduling that radio stations must provide it. As such, it suffers from potential errors in scheduling and requires the detailed cooperation of broadcasters. While the fourth and fifth embodiments might choose to use program scheduling information and other ancillary information to aid in the recognition process, they do not exclusively rely on this. The concept of resolving a site name by recognizing the content is absent from the above systems.

§ 4.2.3 EXEMPLARY APPARATUS FOR AUDIENCE MEMBER (USER) PREMISE DEVICE

[0096] While personal computers may be the primary computational device at a user's location, it is not essential to use a PC. This is especially true of the embodiments depicted in Figures 6 and 7, which do not require the content, e.g. video signal, to be processed. Instead, only a unique set of identification parameters such as time, location and channel are provided to identify the perceived Work. Many forms of devices can therefore take advantage of this configuration.

[0097] As previously noted, personal digital assistants (PDAs) can be used to record the identification information. This information can then be transferred to a device with a network communication such as a PC. However, increasingly, PDAs will already have wireless network communication capabilities built-in, as with the Palm VII PDA. These devices will allow immediate communication with the query resolution center and all information will be

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downloaded to them or they can participate in facilitating an e-commerce transaction. Similarly, wireless telephones are increasingly offering web-enabled capabilities. Consequently, wireless phones could be programmed to act as a user interface.

[0098] New devices can also be envisaged, including a universal remote control for home entertainment systems with a LCD or other graphical display and a network connection. This connection may be wireless or the remote control might have a phone jack that allows it to be plugged directly into an existing phone line. As home networks begin to be deployed, such devices can be expected to communicate via an inexpensive interface to the home network and from there to access the Internet.

[0099] In many homes, it is not uncommon for a computer and television to be used simultaneously, perhaps in the same room. A person watching television could install a web browser plug-in or applet that would ask the user to identify his location and the station being watched. Then, periodically, every 20 seconds for example, the plug-in would update a list of web addresses that are relevant to the television programs being watched, including the commercials. The audience member would then simply click on the web address of interest to obtain further information. This has the advantage that the viewer does not have to guess the relevant address associated with a commercial and, in fact, can be directed to a more specialized address, such as www.fordvehicles.com/ibv/tausrus2kflash/flash.html, rather than the generic www.ford.com site. Of course, this applet

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or plug-in could also provide the database entity with information regarding what is being accessed from where and at what time. This information, as noted earlier, is valuable to advertisers and broadcasters. For PC's that have infra-red communication capabilities, it is straightforward to either control the home entertainment center from the PC or for the PC to decode the signals from a conventional remote control. Thus, as a user changes channels, the PC is able to automatically track the channel changes.

[00100] Recording devices such as analog VCR's and newer digital recording devices can also be exploited in the embodiments depicted in Figures 6 and 7, especially if device also record the channel and time information for the recorded content. When a user initiates a query, the recorded time and channel, rather than the current time and channel, then form part of the identification information.

[00101] Digital set-top-boxes are also expected to exploit the capabilities described herein. In particular, such devices will have two-way communication capabilities and may even include cable modem capabilities. Of course, the two-way communication need not be over a television cable. For example, satellite set-top-boxes provide up-link communications via a telephone connection. Clearly, such devices provide a convenient location to enable the services described herein. Moreover, such services can be provided as part of the OpenCable and DOCSIS (data over cable service interface specification) initiatives.

**§ 4.2.4 INFORMATION RETRIEVAL USING FEATURES
EXTRACTED FROM AUDIO AND/OR VIDEO WORKS**

[00104] Some embodiments consistent with the present invention provide a computer-implemented method, apparatus, or computer-executable program for providing information about an audio file or (a video file) played on a device. Such embodiments might (a) extract features from the audio (or video) file, (b) communicate the features to a database, and (c) receive the information about the audio (or video) file from the database. In some embodiments consistent with the present invention, the act of extracting the features is performed by a microprocessor of the device, and/or a digital signal processor of the device. The received information might be rendered on an output (e.g., a monitor, a speaker, etc.) of the device. The received information might be stored (e.g., persistently) locally on the device. The information might be stored on a disk, or non-volatile memory.

[00105] In some of the embodiments pertaining to audio files, the audio file might be an mp3 file or some other digital representation of an audio signal. The information might include a song title, an album title, and/or a performer name.

[00106] In some of the embodiments pertaining to video files, the video file might be an MPEG file or some other digital representation of a video signal. The video file might be a video work, and the information might include a title of the video work, a director of the video work, and names of performers in the video work.

§ 4.3 OPERATIONAL EXAMPLES

[00107] An example illustrating operations of an exemplary embodiment of the present invention, that uses intra-work information to identify the work, is provided in § 4.3.1. Then, an example illustrating operations of an exemplary embodiment of the present invention, that uses extra-work information to identify the work, is provided in § 4.3.2.

§ 4.3.1 OPERATIONAL EXAMPLE WHERE INTRA-WORK INFORMATION IS USED TO IDENTIFY THE WORK

[00108] A generic system for monitoring television commercials is now described. Obviously, the basic ideas extend beyond this specific application.

[00109] The process of recognition usually begins by recognizing the start of a commercial. This can be accomplished by looking for black video frames before and after a commercial. If a number of black frames are detected and subsequently a similar number are detected 30 seconds later, then there is a good chance that a commercial has aired and that others will follow. It is also well known that the average sound volume during commercials is higher than that for television shows and this too can be used as an indicator of a commercial. Other methods can also be used. The need to recognize the beginning of a commercial is not essential. However,

without this stage, all television programming must be assumed to be commercials. As such, all video frames must be analyzed. The advantage of determining the presence of a commercial is that less video content must be processed. Since the percentage of advertising time is relatively small, this can lead to considerable savings. For example, commercials can be buffered and then subsequently processed while the television show is being broadcast. This reduces the real-time requirements of a system at the expense of buffering, which requires memory or disk space. Of course, for the applications envisioned herein, a real-time response to a user requires real-time processing.

[00110] Once it is determined that an advertisement is being broadcast, it is necessary to analyze the video frames. Typically, a compact representation of each frame is extracted. This vector might be a pseudo-random sample of pixels from the frame or a low-resolution copy of the frame or the average intensities of $n \times n$ blocks of pixels. It might also be a frequency-based decomposition of the signal, such as produced by the Fourier, Fourier-Mellin, wavelet and or discrete cosine transforms. It might involve principal component analysis or any combination thereof. The recognition literature contains many different representations. For block-based methods, the $n \times n$ blocks may be located at pseudo-random locations in each frame or might have a specific structure, e.g. a complete tiling of the frame. The feature vector might then be composed of the pixels in each block or some property of each block, e.g. the average intensity or a Fourier or other decomposition of the block. The object of the vector

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extraction stage is to obtain a more concise representation of the frame. Each frame is initially composed of 480x720 pixels which is equivalent to 345,600 bytes, assuming one byte per pixel. In comparison, the feature vector might only consist of 1 Kbyte of data. For example, if each frame is completely tiled with 16x16 blocks, then the number of blocks per frame is $345,600/256=1350$. If the average intensity of each block constitutes the feature vector, then the feature vector consists of 1350 bytes, assuming 8-bit precision for the average intensity values.

Alternatively, 100 16x16 blocks can be pseudo-randomly located on each frame of the video. For each of these 100 blocks, the first 10 DCT coefficients can be determined. The feature vector then consists of the $100 \times 10 = 1000$ DCT coefficients. Many other variations are also possible. In many media applications, the content possesses strong temporal and spatial correlations. If necessary, these correlations can be eliminated or substantially reduced by pre-processing the content with a whitening filter.

[00111] A second purpose of the feature extraction process is to acquire a representation that is robust or invariant to possible noise or distortions that a signal might experience. For example, frames of a television broadcast may experience a small amount of jitter, i.e. horizontal and or vertical translation, or may undergo lossy compression such as MPEG-2. It is advantageous, though not essential, that these and other processes do not adversely affect the extracted vectors.

[00112] Each frame's feature vector is then compared with a database of known feature vectors. These known vectors have previously been entered into a content recognition database together with a unique identifier. If a frame's vector matches a known vector, then the commercial is recognized. Of course, there is the risk that the match is incorrect. This type of error is known as a false positive. The false positive rate can be reduced to any desired value, but at the expense of the false negative rate. A false negative occurs when a frame's vector is not matched to the database even though the advertisement is present in the database. There are several reasons why a frame's feature vector may fail to match. First, the recognition system may not be capable of 100% accuracy. Second, the extracted vector will contain noise as a result of the transmission process. This noise may alter the values of a feature vector to the extent that a match is no longer possible. Finally, there is the case where the observed commercial is not yet present in the database. In this case, it is necessary to store the commercial and pass it (e.g., to a person) for identification and subsequent entry in the database.

[00113] It is important to realize that the matching of extracted and known vectors is not equivalent to looking up a word in an electronic dictionary. Since the extracted vectors contain noise or distortions, binary search is often not possible. Instead, a statistical comparison is often made between an extracted vector and each stored vector. Common statistical measures include linear correlation and related measures such as correlation coefficient, but other methods can also be used, including

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clustering techniques. See, e.g., the Duda and Hart reference. These measures provide a statistical measure of the confidence of the match. A threshold can be established, usually based on the required false positive and negative rates, such that if the correlation output exceeds this threshold, then the extracted and known vectors are said to match.

[00114] If binary search was possible, then a database containing N vectors would require at most $\log(N)$ comparisons. However, in current advertisement monitoring applications there is no discussion of efficient search methods. Thus, a linear search of all N entries may be performed, perhaps halting the search when the first match is found. On average, this will require $N/2$ comparisons. If N is large, this can be computationally expensive. Consider a situation in which one out of 100,000 possible commercials is to be identified. Each 30-second commercial consists of 900 video frames. If all 900 frames are stored in the database, then $N=90,000,000$. Even if only every 10^{th} video frame is stored in the database, its size is still nine million. While databases of this size are now common, they rely on efficient search to access entries, i.e., they do not perform a linear search. A binary search of a 90,000,000-item database requires less than 20 comparisons. In contrast, a linear search will require an average of 45,000,000!

[00115] With 9 million entries, if each vector is 1 Kbyte, then the storage requirement is 9 Gigabytes. Disk drives with this capacity are extremely cheap at this time. However, if the database must reside in memory due to

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real-time requirements, then this still represents a substantial memory requirement by today's standards. One reason that the data may need to be stored in memory is because of the real-time requirements of the database. If 10 channels are being simultaneously monitored within each of 50 geographic areas, then there will be 15,000 queries per second to the content recognition database, assuming each and every frame is analyzed. This query rate is low. However, if a linear search is performed then 675 billion comparisons per second will be required. This is an extremely high computational rate by today's standards. Even if only key frames are analyzed, this is unlikely to reduce the computational rate by more than an order of magnitude.

[00116] If an advertisement is not recognized, then typically, the remote monitoring system will compress the video and transmit it back to a central office. Here, the clip is identified and added to the database and the remote recognition sites are subsequently updated. Identification and annotation may be performed manually. However, automatic annotation is also possible using optical character recognition software on each frame of video, speech recognition software, close captioning information and other information sources. As these methods improve in accuracy, it is expected that they will replace manual identification and annotation.

[00117] The recognition system described can be considered to be a form of nearest neighbor search in a high dimensional feature space. This problem has been very well studied and is known to be very difficult as the

dimensionality of the vectors increases. A number of possible data structures are applicable including kd-trees and vantage point trees. These data structures and associated search algorithms organize a N-point dataset (N=90,000,000 in our previous example) so that sub-linear time searches can be performed on average. However, worst-case search times can be considerably longer. Recently, Yianilos proposed an excluded middle vantage point forest for nearest neighbor search. See, e.g., the Yianilos reference. This data structure guarantees sub-linear worst-case search times, but where the search is now for a nearest neighbor within a fixed radius, τ . The fixed radius search means that if the database contains a vector that is within τ of the query, then there is a match. Otherwise, no match is found. In contrast, traditional vantage point trees will always return a nearest neighbor, even if the distance between the neighbor and the query is very large. In these cases, if the distance between the query and the nearest neighbor exceeds a threshold, then they are considered not to match. This is precisely what the excluded middle vantage point forest implicitly does.

[00118] Using an excluded middle vantage point forest, will allow accurate real-time recognition of 100,000 broadcasted advertisements. This entails constructing an excluded middle vantage point forest based on feature vectors extracted from say 90,000,000 frames of video. Of course, using some form of pre-filtering that eliminates a large number of redundant frames or frames that are not considered to be good unique identifiers can reduce this number. One such pre-filter would be to only examine the

I-frames used when applying MPEG compression. However, this is unlikely to reduce the work identification database (WID) size by more than one order of magnitude. Assuming 10 channels are monitored in each of 50 geographic regions, then the query rate is $15,000=10 \times 50 \times 30$ queries per second.

§ 4.3.2 OPERATIONAL EXAMPLE WHERE EXTRA-WORK INFORMATION IS USED TO IDENTIFY THE WORK

[00119] Figure 8 depicts a satellite television broadcast system 800, though cable and traditional broadcast modes are also applicable. Block 810 represents audience members (users) watching a TV channel in their home, which also has a connection 812 to the Internet 820. Other networks are also possible. The satellite broadcasts are also being monitored by one or more television monitoring centers 840a. These centers 840a may monitor all or a subset of the television channels being broadcast. They are not restricted to monitoring satellite TV broadcasts but may also monitor cable and traditional terrestrial broadcasts. The primary purpose of these monitoring centers 840a is to identify the works being broadcast. Of particular interest are television advertisements. However, other works, or portions thereof, may also be identified. Each time a new segment of a work is identified, the monitoring system or systems 840a update one or more database centers 840b, informing them of the time, place, channel and identity of the identified segment. The segment may be a complete thirty second commercial or, more likely, updates will occur more frequently, perhaps at a rate of 1 update per second per channel per geographic location. The

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database center 840b updates its database so that queries can be efficiently responded to in sub-linear time.

[00120] The database centers 840b can use traditional database technology. In general, the query search initiated by an audience member is not a nearest neighbor search but can be a classical textual search procedure such as a binary search. The nearest neighbor search is appropriate for the monitoring sub-system 840a. The database centers 840b are continually updated as each new advertisement, television show or portion thereof is recognized. Standard updating algorithms can be used. However, random new entries to the database are unlikely. Rather, each new entry, or set of entries, denotes a new time segment that is later than all previously inserted items. As such, each new entry can be appended to the end of the database while still maintaining an ordered data structure that is amenable to binary and other efficient search techniques. If two entries have the same time in their time field, items can be sorted based on secondary fields such as the channel and geographic location, as depicted in Figure 9. Since the number of such entries will be relatively small compared with the entire database, it may be sufficient to simply create a linear linked list of such entries, as depicted in Figure 9. Of course, the size of the database is constantly increasing. As such, it may become necessary to have several levels of storage and caching. Given the envisaged application, most user queries will be for recent entries. Thus, the database may keep the last hours worth of entries in memory. If there is one entry per second for each of 100 channels in 100 geographic locations, this would correspond to

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3600x100x100=36,000,000 entries which is easily accommodated in main memory. Entries that are older than one hour may be stored on disk and entries older than one week may be archived (e.g., backed up on tape) for example. The entries to this database can include time, location and channel information together with a unique identifier that is provided by the monitoring system. Of course, additional fields for each entry are also possible.

[00121] When a user query is received, the time, channel and geographic information are used to retrieve the corresponding unique identifier that is then used to access a second database that contains information associated with the identified work.

[00122] An entry 1000 in this second database is depicted in Figure 10, which shows that associated with the unique identifier 1010, the name of a product 1020, a product category 1030, the manufacturer 1040 and the commercial's associated web site 1050. Many other data fields 1060 are also possible. Such additional fields may include fields that indicate what action should be taken on behalf of the requesting user. Example actions include simply redirecting a request to an associated Web site, or initiating an e-commerce transaction or providing an associated telephone number that may be automatically dialed if the querying device is a cell phone or displaying additional information to the user. This database is likely to be updated much less frequently, perhaps only as often as once or twice a day, as batches of new advertisements are added to the system. Alternatively, it

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might be updated as each new advertisement is added to the system.

[00123] An audience member (user) 810 watching a television commercial for example may react to the advertisement by initiating a query to the database center 840b. The device whereby the user initiates the query might be a television or set-top-box remote control, or a computer or a wireless PDA or a (WAP-enabled) cell phone or a specialized device. Typically, the query will occur during the airing of the commercial or a shortly thereafter. However, the time between the broadcasting of the advertisement and the time of the associated query is not critical and can, in some instances be much longer. For example, the audience member might bookmark the query information in a device such as a PDA or a specialized device similar to those developed by Xenote for their Itag radio linking. Later, the audience member may transmit the query to the database center 840b. This might happen hours or even days later.

[00124] The query contains information that the database center 840b uses to identify the work being viewed. This information might include the time and place where the audience member was, together with the channel being viewed. Other identifying information is also possible. The query may also contain additional information that may be used to facilitate the user's transaction and will include the return address of the user. For example, if the user is intending to order a pizza after seeing a Pizza Hut advertisement, the query may also contain personal

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information including his or her identity, street address and credit card information.

[00125] When the database center 840b receives a query, data in the query is used to identify the work and associated information. A number of possible actions are possible at this point. First, the database center 840b may simply function as a form of proxy server, mapping the audience member's initial query into a web address associated with the advertisement. In this case, the audience member will be sent to the corresponding Web site. The database center 840b may also send additional data included in the initial query to this Web site 850 in order to facilitate an e-commerce transaction between the audience member and the advertiser. In some cases, this transaction will not be direct, but may be indirect via a dealer or third party application service provider. Thus, for example, though an advertisement by Ford Motor Company may air nationally, viewers may be directed to different Web sites for Ford dealerships depending on both the audience member's and the dealerships' geographic locations. In other cases, advertisers may have contracted with the database center 840b to provide e-commerce capabilities. This latter arrangement has the potential to reduce the amount of traffic directed over the public Internet, restricting it, instead to a private network associated with the owner of the database center.

[00126] If the audience member (user) is not watching live television but is instead watching a taped and therefore time-shifted copy, then additional processes are needed. For the new generation of digital video recorders,

irrespective of the recording media (tape or disk), it is likely to be very easy to include information identifying the location of the recorder, as well as the time and channel recorded. Location information can be provided to the recorder during the setup and installation process, for example. Digital video recorders, such as those currently manufactured by TIVO of Alviso, CA or Replay TV of Santa Clara, CA have a network connection via telephone, which can then send the query of an audience member to the database center 840b using the recorded rather than the current information.

[00127] In cases where query information has not been recorded, it is still possible to initiate a successful query. However, in this case, it may be necessary to extract the feature vector from the work of interest and send this information to the monitoring center 840a where the feature vector can be identified. This form of query is computationally more expensive but the relative number of such queries compared to those sent to the database centers 840b is expected to be small. It should also be noted that the physical separation of the monitoring and database centers, depicted in Figures 6 and 7, is not crucial to operation of the system and simply serves to more clearly separate the different functionality present in the overall system configuration.

[00128] Although the implementation architectures described above focus on the television media, it is apparent that the present invention is applicable to audio, print and other media.

§ 4.4 CONCLUSIONS

[00129] None of the embodiments of the invention require modification to the work or content, i.e., no active signal is embedded. Consequently, there is no change to the production processes. More importantly, from a user perspective, deployment of this system need not suffer from poor initial coverage. Provided the database is sufficiently comprehensive, early adopters will have comprehensive coverage immediately. Thus, there is less risk that the consumer will perceive that the initial performance of the deployed system is poor. Further, the present invention permits statistics to be gathered that measure users' responses to content. This information is expected to be very useful to advertisers and publishers and broadcasters.

WHAT IS CLAIMED IS:

1 1. A method for associating a media work with an action,
2 the method comprising:
3 a) extracting features from the media work;
4 b) determining an identification of the media work
5 based on the features extracted from the media work
6 with extracted features of identified media works
7 using a sub-linear time search; and
8 c) determining an action based on the identification
9 of the media work determined.

1 2. The method of claim 1 wherein the media work is an audio
2 work,
3 wherein the features extracted from the work are
4 selected from a group consisting of (A) a frequency
5 decomposition of a signal of the audio work, (B)
6 information samples of the audio work, (C) average
7 intensities of sampled windows of the audio work, and (D)
8 information from frequencies of the audio work, and
9 wherein the audio work is one of (A) a broadcast, (B)
10 a digital file, and (C) an MP3 file.

1 3. The method of claim 1 wherein the act of extracting
2 features is performed locally by a user device, and wherein
3 the act of determining an identification is performed
4 remotely, by a device other than the user device.

1 4. The method of claim 1 wherein the action includes at
2 least one of promoting commerce and enhancing interest in
3 the work.

1 5. Apparatus for associating a media work with an action,
2 the apparatus comprising:
3 a) means for extracting features from the media work;
4 b) means for determining an identification of the
5 media work based on the features extracted from the
6 media work with extracted features of identified media
7 works using a sub-linear time search; and
8 c) means for determining an action based on the
9 identification of the media work determined.

1 6. The apparatus of claim 5 wherein the media work is an
2 audio work,
3 wherein the features extracted from the work are
4 selected from a group consisting of (A) a frequency
5 decomposition of a signal of the audio work, (B)
6 information samples of the audio work, (C) average
7 intensities of sampled windows of the audio work, and (D)
8 information from frequencies of the audio work, and
9 wherein the audio work is one of (A) a broadcast, (B)
10 a digital file, and (C) an MP3 file.

1 7. The apparatus of claim 5 wherein the means for
2 extracting features is provided on a user device, and
3 wherein the means for determining an identification is
4 provided on a device other than the user device.

1 8. The apparatus of claim 5 wherein the action includes at
2 least one of promoting commerce and enhancing interest in
3 the work.

1 9. A method for associating a media work with an action,
2 the method comprising:

- 3 a) extracting features from the media work;
4 b) determining an identification of the media work
5 based on the features extracted from the media work
6 with extracted features of identified media works
7 using an approximate nearest neighbor search; and
8 c) determining an action based on the identification
9 of the media work determined.

1 10. The method of claim 9 wherein the media work is an
2 audio work,
3 wherein the features extracted from the work are
4 selected from a group consisting of (A) a frequency
5 decomposition of a signal of the audio work, (B)
6 information samples of the audio work, (C) average
7 intensities of sampled windows of the audio work, and (D)
8 information from frequencies of the audio work, and
9 wherein the audio work one of (A) a broadcast, (B) a
10 digital file, and (C) an MP3 file.

1 11. The method of claim 9 wherein the act of extracting
2 features is performed locally by a user device, and wherein
3 the act of determining an identification is performed
4 remotely, by a device other than the user device.

1 12. The method of claim 9 wherein the action includes at
2 least one of promoting commerce and enhancing interest in
3 the work.

1 13. Apparatus for associating a media work with an action,
2 the apparatus comprising:
3 a) means for extracting features from the media work;

- 4 b) means for determining an identification of the
5 media work based on the features extracted from the
6 media work with extracted features of identified media
7 works using an approximate nearest neighbor search;
8 and
9 c) means for determining an action based on the
10 identification of the media work determined.

- 1 14. The apparatus of claim 13 wherein the media work is an
2 audio work,
3 wherein the features extracted from the work are
4 selected from a group consisting of (A) a frequency
5 decomposition of a signal of the audio work, (B)
6 information samples of the audio work, (C) average
7 intensities of sampled windows of the audio work, and (D)
8 information from frequencies of the audio work, and
9 wherein the audio work is one of (A) a broadcast, (B)
10 a digital file, and (C) an MP3 file.

- 1 15. The apparatus of claim 13 wherein the means for
2 extracting features is provided on a user device, and
3 wherein the means for determining an identification is
4 provided on a device other than the user device.

- 1 16. The apparatus of claim 13 wherein the action includes
2 at least one of promoting commerce and enhancing interest
3 in the work.

- 1 17. A computer-implemented method for linking a media work
2 to an action, the method comprising:
3 a) extracting features from the media work;

4 b) determining an identification of the media work
5 based on the features extracted; and
6 c) determining an action based on the identification
7 of the media work determined.

1 18. The computer-implemented method of claim 17 wherein
2 the media work is an audio signal

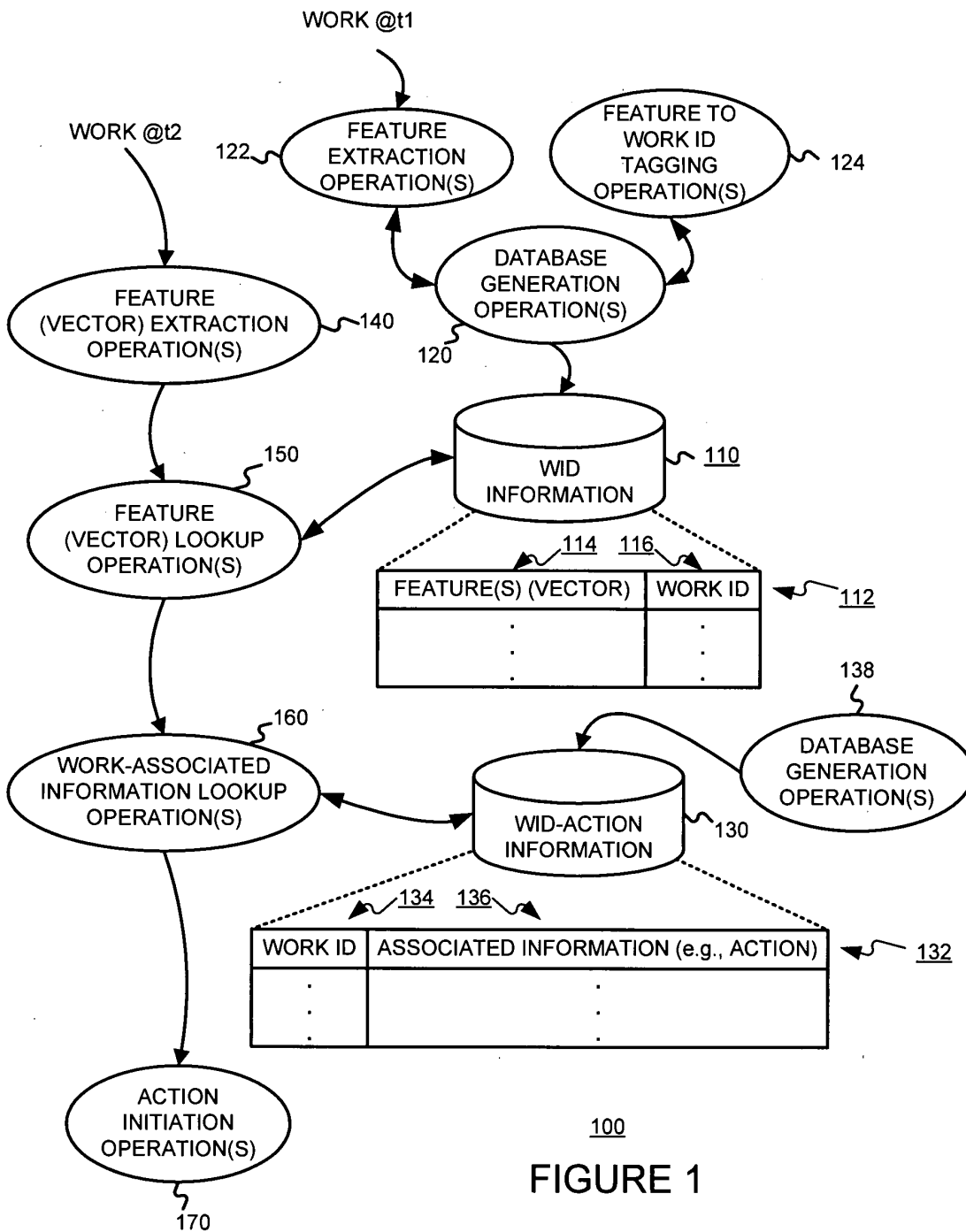
1 19. The computer-implemented method of claim 18 wherein
2 the audio signal is obtained from at least one of (A) a
3 broadcast and (B) an audio file format.

1 20. The computer-implemented method of claim 17 wherein
2 the media work is a video signal.

1 21. The computer-implemented method of claim 20 wherein
2 the video signal is obtained from at least one of (A) a
3 broadcast and (B) a video file format.

Abstract

A media work may be associated with an action by (a) extracting features from the media work, (b) determining an identification of the media work, based on the features
5 extracted, using a sub-linear time search, such as an approximate nearest neighbor search for example, and (c) determining an action based on the identification of the media work determined. The media work may be an audio
10 work. The features extracted from the work may include (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and/or (D) information from frequencies of the audio work.



100
FIGURE 1

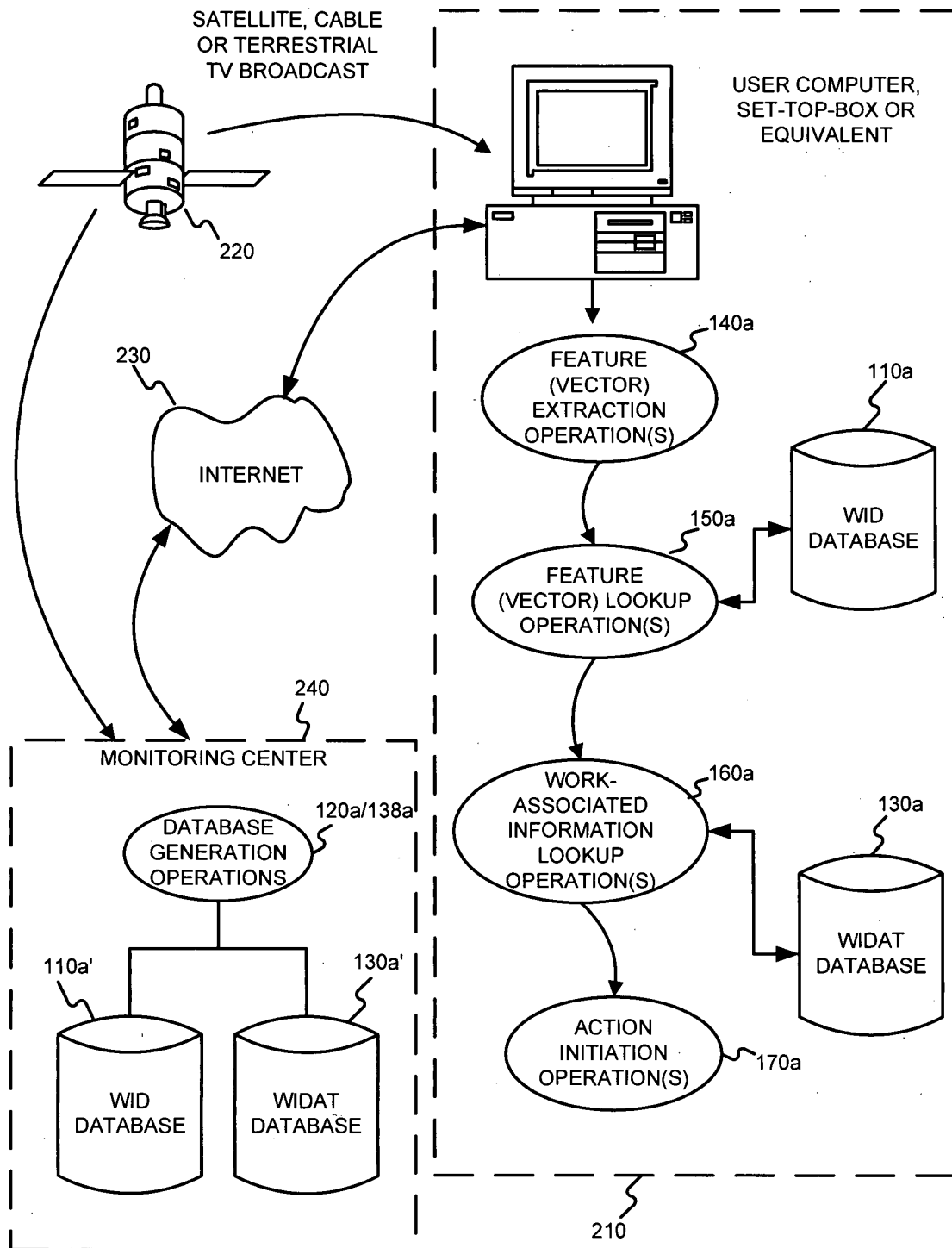


FIGURE 2

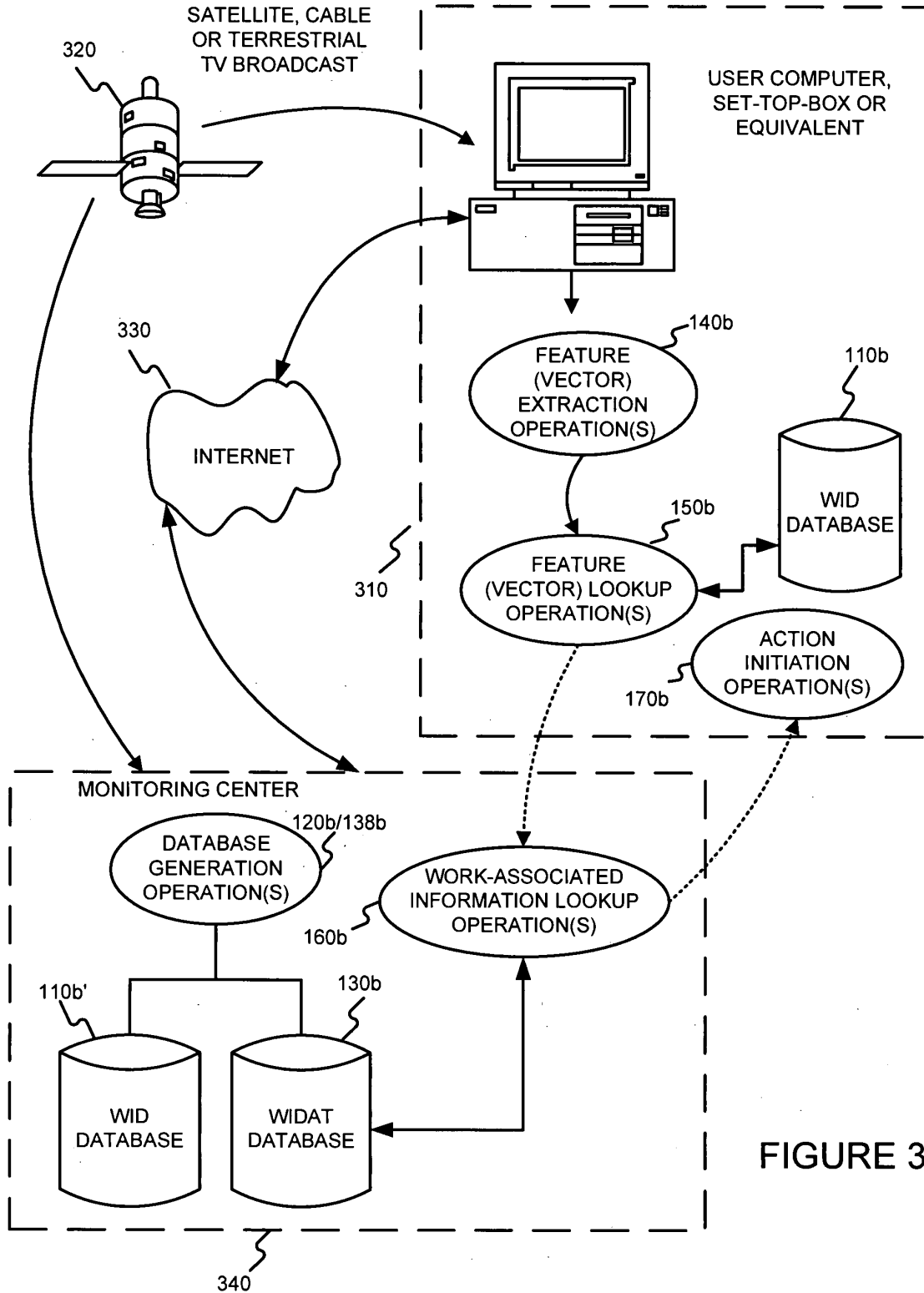


FIGURE 3

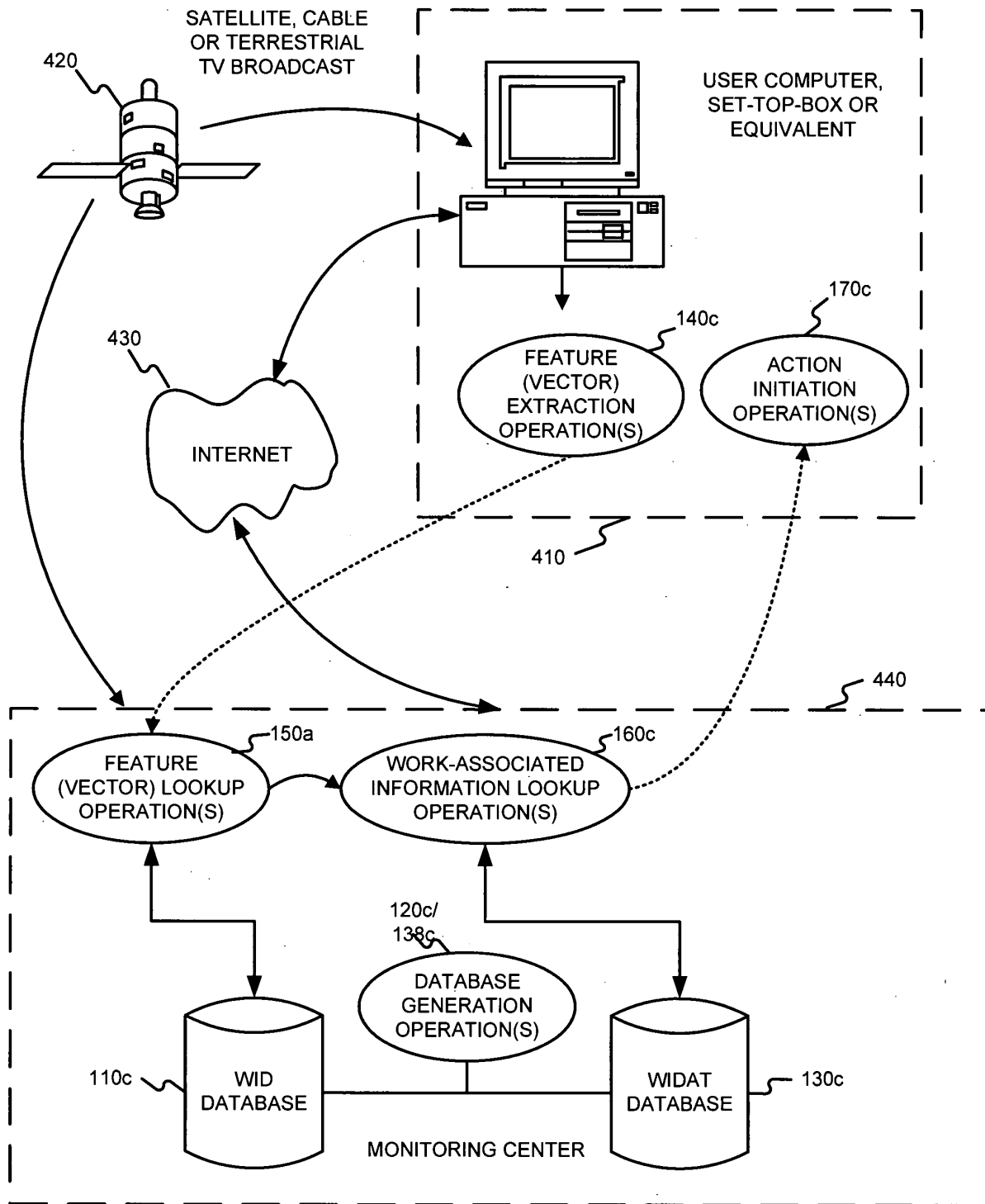


FIGURE 4

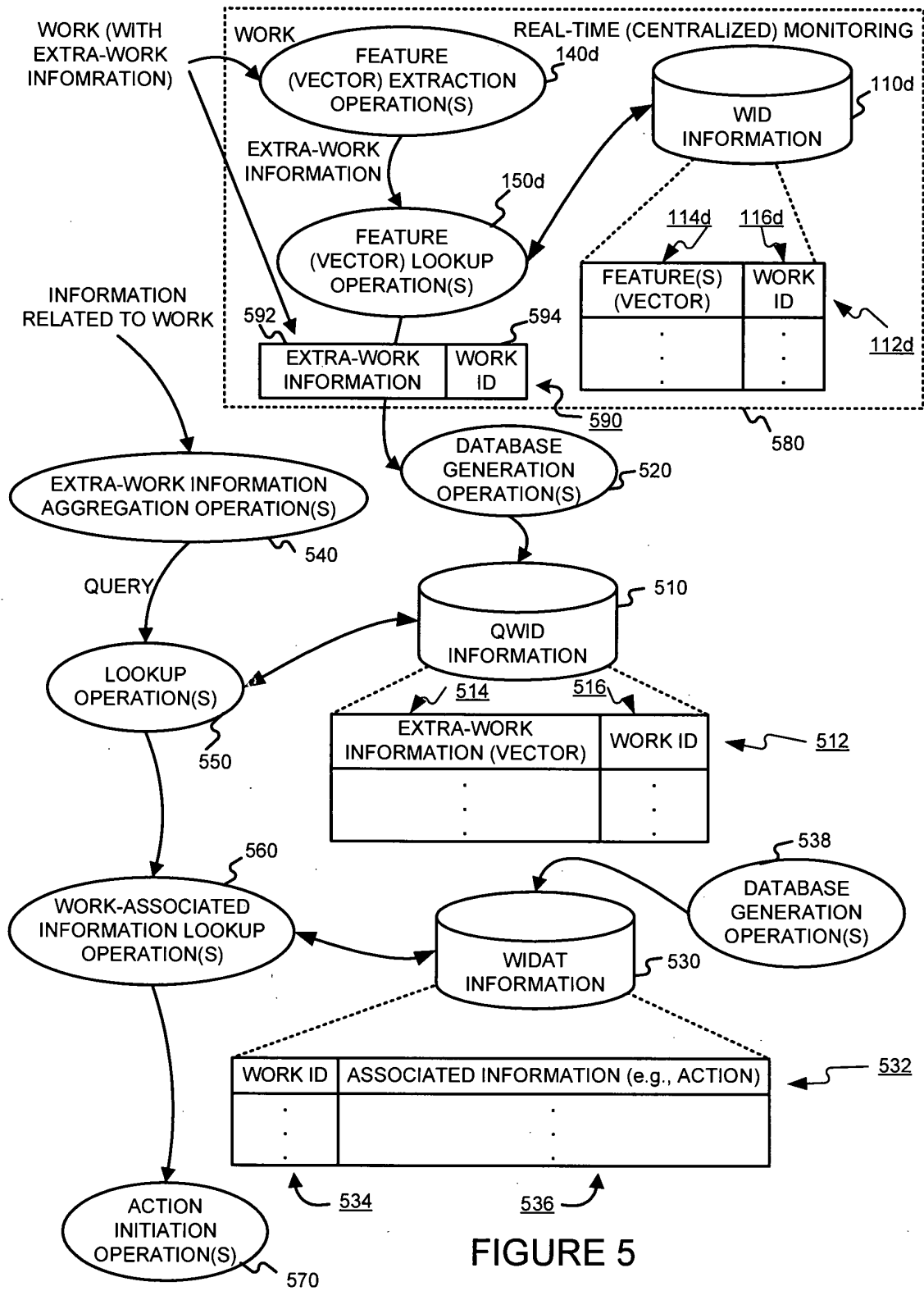


FIGURE 5

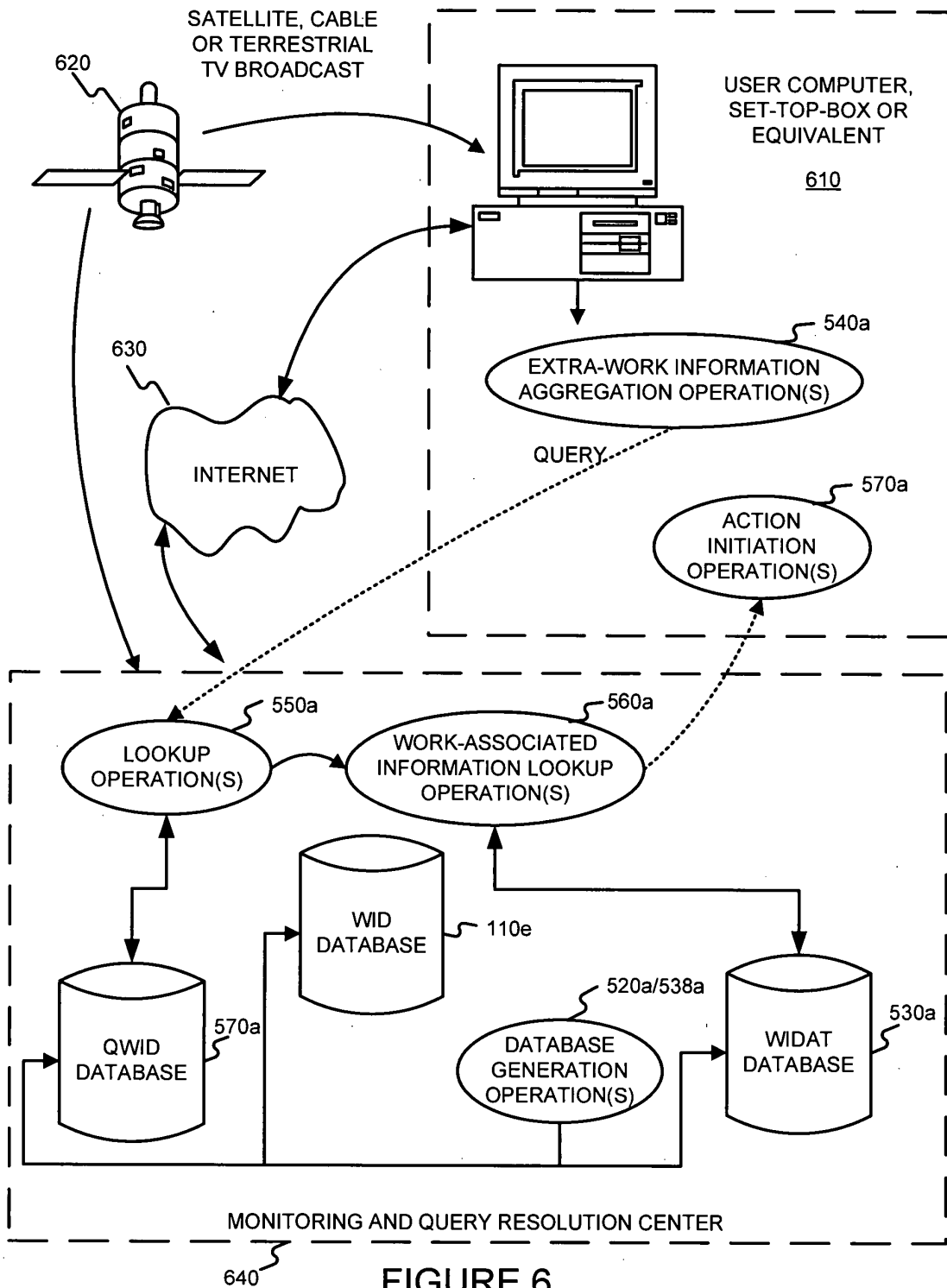


FIGURE 6

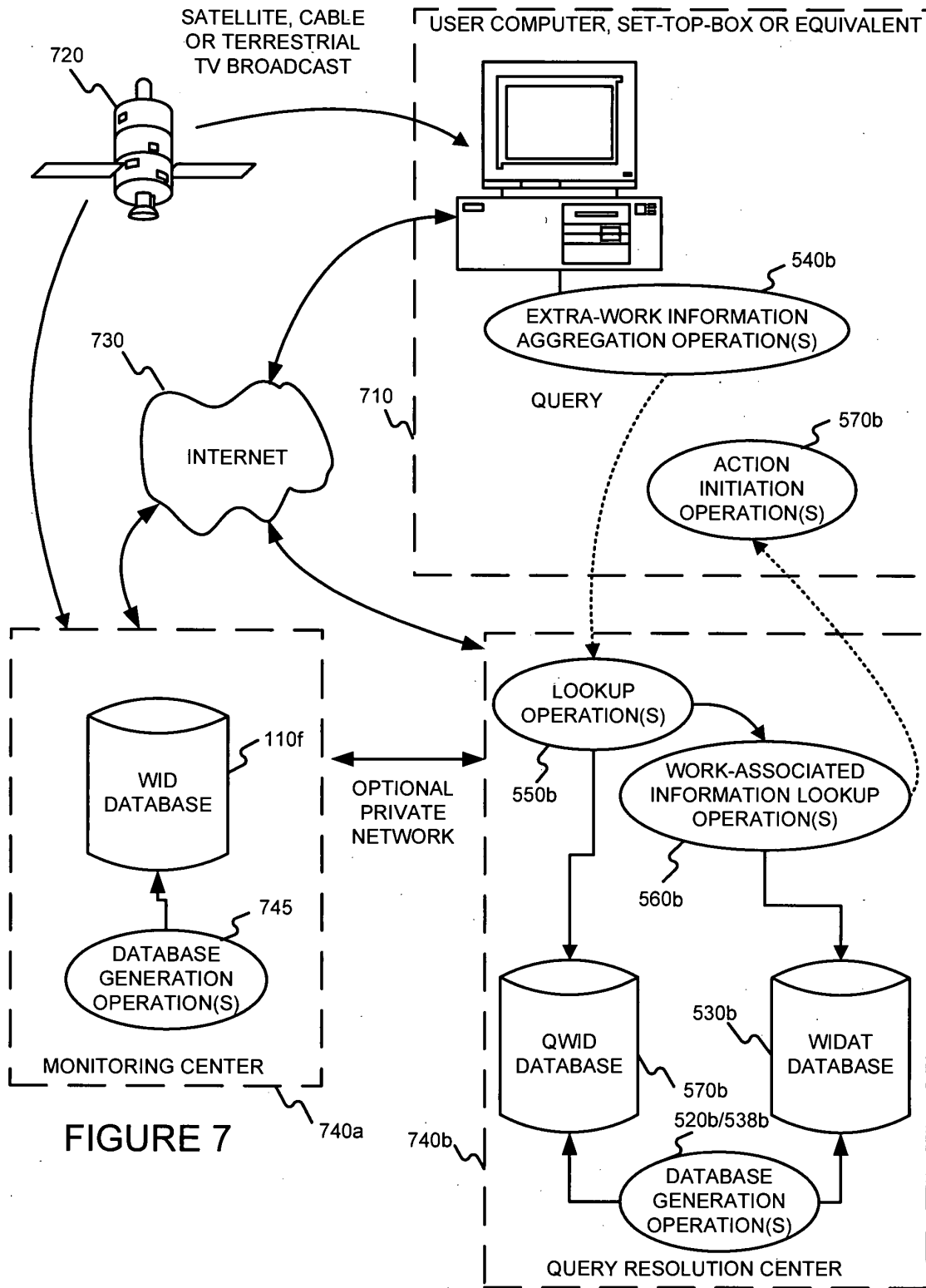


FIGURE 7

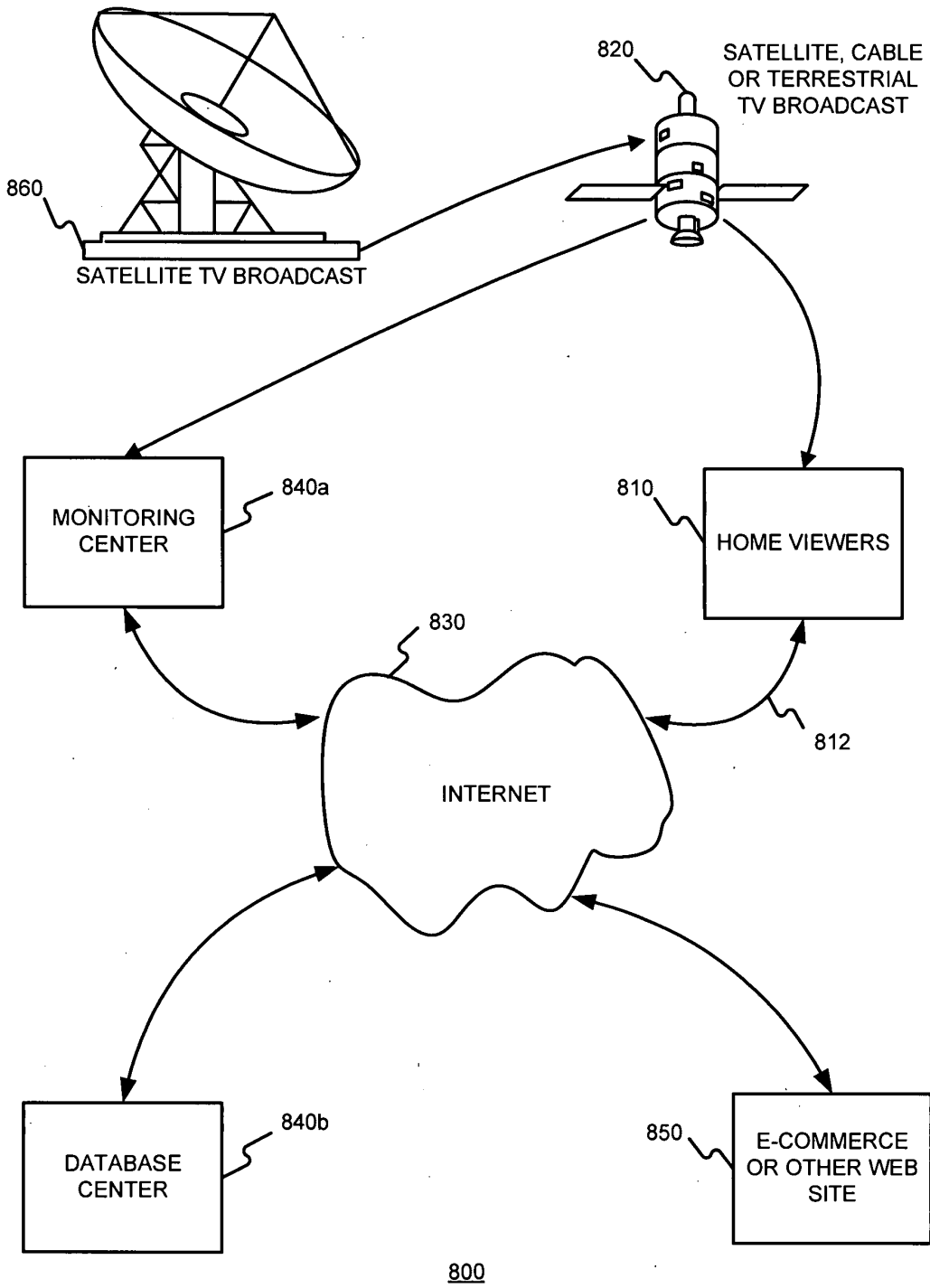


FIGURE 8

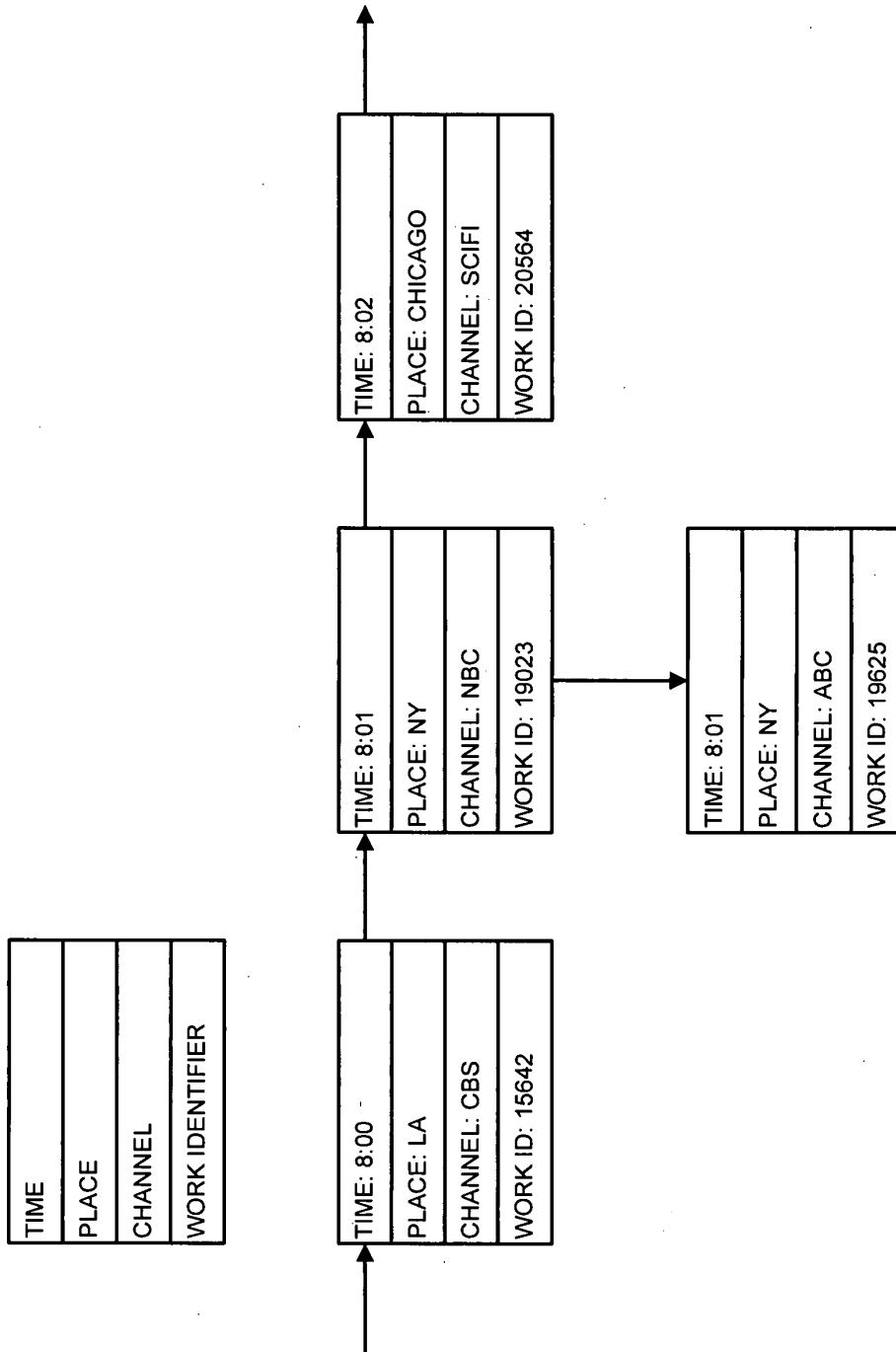
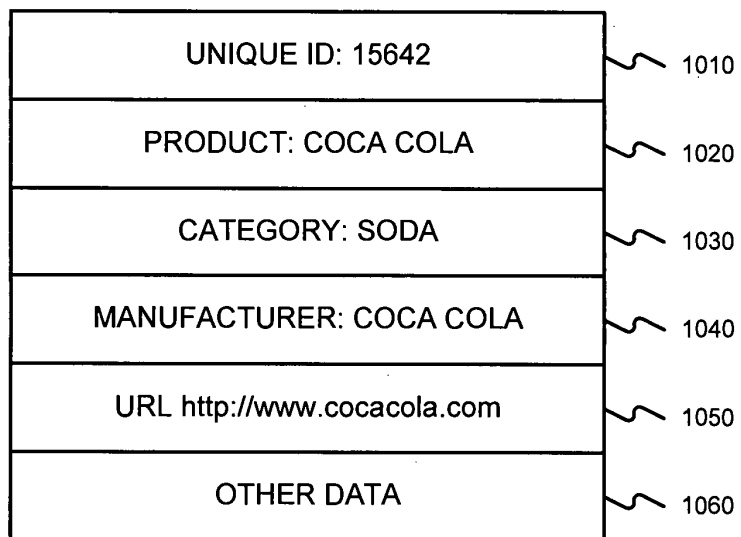


FIGURE 9



1000

FIGURE 10

DECLARATION AND POWER OF ATTORNEY FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63) <input type="checkbox"/> Declaration Submitted with Initial Filing OR <input checked="" type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)	Attorney Docket Number	Cox-ICIP
	First Named Inventor	Ingemar J. COX
	<i>COMPLETE IF KNOWN</i>	
	Application Number	11/445,928
	Filing Date	June 2, 2006
	Art Unit	2624
Examiner Name	Not yet assigned	

As the below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original and first inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

USING FEATURES EXTRACTED FROM AN AUDIO AND/OR VIDEO WORK TO OBTAIN INFORMATION ABOUT THE WORK

(Title of the invention)

the specification of which

is attached hereto

OR

was filed on (MM/DD/YYYY) June 2, 2006 as United States Application Number or PCT International Application Number: 11/445,928 and was amended on (MM/DD/YYYY) (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(e) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed		Certified Copy Attached?	
			YES	NO	YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

Burden Hour Statement: This form is estimated to take 21 minutes to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

DECLARATION AND POWER OF ATTORNEY
Utility or Design Patent Application

Power of Attorney:

As a named inventor, I hereby appoint:

John C. Pokotylo (Reg. No. 36,242)
Michael P. Straub (Reg. No. 36,941)
Ronald P. Straub (Reg. No. 48,941)

as my attorneys to prosecute this application and to transact all business in the United States Patent and Trademark Office in connection therewith.

DECLARATION AND POWER OF ATTORNEY
 Utility or Design Patent Application

Direct all correspondence to: Customer Number OR Correspondence address below
 or Bar Code Label

Name Straub & Pokotylo

Address 620 Tinton Avenue, Bldg. B, 2nd Floor.

City Tinton Falls State NJ ZIP 07724-3260

Country USA Telephone (732) 542-9070 Fax (732) 542-9071

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR: A petition has been filed for this unsigned inventor

Given Name (first and middle [if any]) Ingemar J. Family Name or Surname COX

Inventor's Signature [Signature] Date 18 Oct, 2001

Residence: City London State _____ Country UK Citizenship USA and UK

Mailing Address Fiat 7 The Gallery, 38 Ludgate Hill.

City London EC4M 7DE State _____ ZIP _____ Country UK

NAME OF SECOND INVENTOR: A petition has been filed for this unsigned inventor

Given Name (first and middle [if any]) _____ Family Name or Surname _____

Inventor's Signature _____ Date _____

Residence: City _____ State _____ Country _____ Citizenship _____

Mailing Address _____

City _____ State _____ ZIP _____ Country _____

Additional inventors are being named on the _____ supplemental Additional Inventor(s) sheet(s) PTO/SS/02A attached hereto.

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Attorney Docket No.: **COX-1CIP/CON**

Appl. No.: **Not yet assigned**

Applicant: **Ingemar J. COX**

Filed: **Herewith**

Title: **IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH
AS AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR
INITIATING A WORK-BASED ACTION, SUCH AS AN ACTION ON
THE INTERNET**

TC/A.U.: **Not yet assigned**

Examiner: **Not yet assigned**

Mail Stop Utility Patent Application
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P.O. Box 1450
Alexandria, VA 22313-1450

MODIFIED STATEMENT UNDER 37 C.F.R. § 1.78

Although this application is a continuation of U.S. Patent Application Serial No. 11/445,928 ("the '928 application"), paragraphs [0018], [0050] and [0060] have been revised to expressly recite disclosure formerly incorporated by reference. Specifically, paragraph [0018] was amended to read:

Some embodiments consistent with the present invention provide a computer-implemented method, apparatus, or computer-executable programs for linking a media work to an action.

Such embodiments might (a) extract features from the media work, (b) determine an identification of the media work based on the features extracted using a sub-linear time search, such as an approximate nearest neighbor search for example, and (c) determine an action based on the identification of the media work determined. In some embodiments consistent with the present invention, the media work is an audio signal. The audio signal might be obtained from a broadcast, or an audio file format. In other embodiments consistent with the present invention, the media work is a video signal. The video signal might be obtained from a broadcast, or a video file format.

Paragraph [0050] was amended to read:

Other forms of matching include those based on clustering, kd-trees, vantage point trees and excluded middle vantage point forests are possible and will be discussed in more detail later. See, e.g., P.N. Yianilos "Excluded Middle Vantage Point Forests for nearest Neighbor Search", *Presented at the Sixth DIMACS Implementation Challenge: Near Neighbor Searches workshop*, (January 15, 1999). See also, P.N. Yianilos, "Locally lifting the curse of Dimensionality for nearest Neighbor Search" *SODA 2000*: 361-370. (Each of these references is incorporated herein by reference.) Thus, for example, a sub-linear search time can be achieved. Unlike the kd-tree method which finds the nearest neighbor with certainty, randomized constructions, like the one described in P.N. Yianilos, "Locally lifting the curse of Dimensionality for nearest Neighbor Search" SODA 2000: 361-370,

that succeed with some specified probability may be used. One example of a sub-linear time search is an approximate nearest neighbor search. A nearest neighbor search always finds the closest point to the query. An approximate nearest neighbor search does not always find the closest point to the query. For example, it might do so with some probability, or it might provide any point within some small distance of the closest point.

Paragraph [0060] was amended to read:

An important issue then becomes recognition rate. While this may be problematic, all the images are two-dimensional -- three-dimensional object recognition is not required. Of course, since a low cost camera captures the printed advertisement, there may be a number of geometric distortions that might be introduced together with noise. Nevertheless, the application is sufficiently constrained that adequate recognition rates should be achievable with current state-of-the-art computer vision algorithms. See, e.g., P.N. Yianilos "Excluded Middle Vantage Point Forests for nearest Neighbor Search", Presented at the Sixth DIMACS Implementation Challenge: Near Neighbor Searches workshop, January 15, 1999. See also, P.N. Yianilos "Locally lifting the curse of Dimensionality for nearest Neighbor Search" SODA 2000: 361-370. (Each of these references is incorporated herein by reference.) Thus, for example, a sub-linear search time can be achieved. Unlike the kd-tree method which finds the nearest neighbor with certainty, randomized

constructions, like the one described in P.N. Yianilos, "Locally lifting the curse of Dimensionality for nearest Neighbor Search" SODA 2000: 361-370, that succeed with some specified probability may be used. One example of a sub-linear time search is an approximate nearest neighbor search. Estimates of the size of the WIDAT database 130a depend on what associated information (recall fields 136) is stored. If, for example, only a URL address is needed, about 20 characters can typically represent most URLs. Thus, the size of the WIDAT database 130a would be less than 1Mbyte.

The support for the underlined portions of these paragraphs was taken from the paper, P.N. Yianilos, "Locally lifting the curse of Dimensionality for nearest Neighbor Search" SODA 2000: 361-370 ("the Yianilos SODA paper"), which was incorporated by reference in the '928 application, as well as in U.S. Patent Application Serial No. 09/950,972 ("the '972 application"), which was issued as U.S. Patent No. 7,058,223 ("the '223 patent"). (See, e.g., the paragraphs starting at page 19, line 18, page 23, line 21 and page 48, line 18 of the '972 application.)

The Abstract has also been amended.

Further, although this application is a continuation of the '928 application, since the '928 application is a continuation-in-part of the '972 application (which issued as the '223 patent), the applicant will identify the claims in this application for which subject matter is disclosed in the manner provided by the first paragraph of 35 U.S.C.

§ 112 in the '972 application (which issued as the '223 patent).

Claim 1 corresponds to a portion of claim 30 of the '223 patent (as well as originally filed claim 19 of the '972 application), but specifies that the act of determining an identification of the media work based on the features extracted from the media work, is done "with extracted features of identified media works using a sub-linear time search." Thus claim 1 is supported by claim 30 of the '223 patent (as well as originally filed claim 19 of the '972 application) and the Yianilos SODA paper which was incorporated by reference in the '972 application (which issued as the '223 patent). Claim 5 recites a corresponding apparatus.

Claim 2 depends from claim 1 and recites features corresponding to claims 30 and 31 of the '223 patent. Claim 6 recites corresponding apparatus.

Claim 3 depends from claim 1 and corresponds to claim 32 of the '223 patent. Claim 7 recites corresponding apparatus.

Claim 4 depends from claim 1 and corresponds to claim 33 of the '223 patent. Claim 8 recites corresponding apparatus.

Claim 9 corresponds to a portion of claim 30 of the '223 patent (as well as originally filed claim 19 of the '972 application), but specifies that the act of determining an identification of the media work based on the features extracted from the media work, is done "with extracted features of identified media works using an approximate nearest neighbor search." Thus claim 9 is supported by claim 30 of the '223 patent (as well as originally filed claim 19 of the '972 application) and the

Yianilos SODA paper which was incorporated by reference in the '972 application (which issued as the '223 patent). Claim 13 recites corresponding apparatus.

Claim 10 depends from claim 9 and recites features corresponding to claims 30 and 31 of the '223 patent. Claim 14 recites corresponding apparatus.

Claim 11 depends from claim 9 and corresponds to claim 32 of the '223 patent. Claim 15 recites corresponding apparatus.

Claim 12 depends from claim 9 and corresponds to claim 33 of the '223 patent. Claim 16 recites corresponding apparatus.

Claim 17 corresponds to originally filed claim 19 of the '972 application (which issued as the '223 patent).

Claim 18 depends from claim 17 and is supported, for example, by the paragraph starting at page 14, line 12 of the '972 application (which issued as the '223 patent).

Claim 19 depends from claim 17 and was copied from originally filed claim 17 (now cancelled) of the '928 application.

Claim 20 depends from claim 17 and is supported, for example, by the paragraph starting at page 14, line 12 of the '972 application (which issued as the '223 patent).

Claim 21 depends from claim 17 and was copied from originally filed claim 19 (now cancelled) of the '928 application.

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Attorney Docket No.: **COX-1CIP/CON**

Appl. No.: **Not yet assigned**

Applicant: **Ingemar J. COX**

Filed: **Herewith**

Title: **IDENTIFYING WORKS, USING A SUB-LINEAR TIME SEARCH, SUCH AS
AN APPROXIMATE NEAREST NEIGHBOR SEARCH, FOR INITIATING A
WORK-BASED ACTION, SUCH AS AN ACTION ON THE INTERNET**

TC/A.U.: **Not yet assigned**

Examiner: **Not yet assigned**

Mail Stop Utility Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

S I R:

Information Disclosure Statement Transmittal

The applicant respectfully requests that the references listed on the attached PTO/SB/08A be considered in the examination of the above-identified application. A copy of each of these references, except for U.S. patents and patent application publications is enclosed. (See the notice, "Information Disclosure Statements May Be Filed Without Copies of U.S. Patents and Published Applications in Patent Applications Filed After June 30, 2003," Pre-OG Notices (July 11, 2003).)

(modified PTO/SB/08A)

U.S. Department of Commerce Patent and Trademark Office INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Application Number: Not yet assigned	
		Filing Date: Herewith	
First Named Inventor: Ingemar J. COX		Examiner Name: Not yet assigned	
Group Art Unit: Not yet assigned		Attorney Docket No.: COX-1CIP/CON	
Sheet	1	of	1

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines where relevant Passages or Figures appear
	AA	6,834,308	12-21-2004	IKEZOYE, et al.	

Examiner Initials*	Cite No. ¹	Foreign Patent Document Office ³ Number ⁴	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶

OTHER REFERENCES - NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume, issue number(s), publisher, country, where published, source	T ²
	AB	P.N. Yianilos, "Locally Lifting the Curse of Dimensionality for Nearest Neighbor Search" <i>SODA 2000</i> , pp. 361-370	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Unique citation designation number. 2 Applicant is to place a check mark here if English language translation is attached.

PATENT APPLICATION SERIAL NO. _____

**U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET**

10/26/2007 HDEMESS1 00000002 11977202

01 FC:2011	155.00	OP
02 FC:2111	255.00	OP
03 FC:2311	105.00	OP
04 FC:2202	25.00	OP
05 FC:2201	105.00	OP

PTO-1556
(5/87)

*U.S. Government Printing Office: 2002- 489-267/69033

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PATENT APPLICATION FEE DETERMINATION RECORD					Application or Docket Number 11977202		
Substitute for Form PTO-875							
APPLICATION AS FILED – PART I			(Column 1)		(Column 2)		
FOR	NUMBER FILED	NUMBER EXTRA	SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	\$155	N/A	\$310	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	\$255	N/A	\$510	
TOTAL CLAIMS (37 CFR 1.16(l))	21	minus 20 =	N/A	\$105	N/A	\$210	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4	minus 3 =	X \$25 =	25 - 0	X \$50 =		
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$260 (\$130 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).		X \$105 =	105 - 2	X \$210 =		
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))			\$130		\$260		
			\$185		\$370		
			TOTAL	645	TOTAL		
* If the difference in column 1 is less than zero, enter "0" in column 2.							
APPLICATION AS AMENDED – PART II							
(Column 1)		(Column 2)		(Column 3)			
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
	Total (37 CFR 1.16(f))	Minus	**	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)
	Independent (37 CFR 1.16(h))	Minus	***	X \$25 =		X \$50 =	
	Application Size Fee (37 CFR 1.16(s))			X \$105 =		X \$210 =	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			\$185		\$370	
			TOTAL ADD'L FEE		TOTAL ADD'L FEE		
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
	Total (37 CFR 1.16(f))	Minus	**	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)
	Independent (37 CFR 1.16(h))	Minus	***	X \$25 =		X \$50 =	
	Application Size Fee (37 CFR 1.16(s))			X \$105 =		X \$210 =	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			\$185		\$370	
			TOTAL ADD'L FEE		TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.							

This collection of information is required by 37 CFR 1.16. 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 12 minutes 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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PATENT APPLICATION FEE DETERMINATION RECORD					Application or Docket Number						
Substitute for Form PTO-875					11/977,202						
APPLICATION AS FILED – PART I											
(Column 1)			(Column 2)		SMALL ENTITY						
OR			OTHER THAN SMALL ENTITY								
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)					
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	155	N/A						
SEARCH FEE (37 CFR 1.16(k), (j), or (m))	N/A	N/A	N/A	255	N/A						
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	105	N/A						
TOTAL CLAIMS (37 CFR 1.16(i))	21	minus 20 = * 1	X\$ 25=	25	X\$50=						
INDEPENDENT CLAIMS (37 CFR 1.16(h))	5	minus 3 = * 2	X\$105=	210	X\$210=						
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR		N/A		N/A						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.											
APPLICATION AS AMENDED – PART II											
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY					
OR		OTHER THAN SMALL ENTITY									
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=		X =		X =		
	Independent (37 CFR 1.16(h))	*	Minus	***	=		X =		X =		
	Application Size Fee (37 CFR 1.16(s))							N/A		N/A	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							N/A		N/A	
TOTAL ADD'T FEE											
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OTHER THAN SMALL ENTITY			
OR		OTHER THAN SMALL ENTITY									
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=		X =		X =		
	Independent (37 CFR 1.16(h))	*	Minus	***	=		X =		X =		
	Application Size Fee (37 CFR 1.16(s))							N/A		N/A	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							N/A		N/A	
TOTAL ADD'T FEE											

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
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PATENT APPLICATION SERIAL NO. 11977202

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FEE RECORD SHEET**

10/26/2007 HDENESS1 00000002 11977202

01 FC:2011	155.00 OP
02 FC:2111	255.00 OP
03 FC:2311	105.00 OP
04 FC:2202	25.00 OP
05 FC:2201	105.00 OP

11/28/2007 AGDITOM 00000028 501049 11977202

01 FC:2201 105.00 DA

PTO-1556
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*U.S. Government Printing Office: 2002-489-267/69033