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PATENT APPLICATION
Attorney Docket No. **D/A0A34**

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Signature: Thomas Zell

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Gregory T. Grefenstette et al.)
Appl. No.: 09/683,235)
Filed: December 5, 2001)

Art Unit: 2172
Examiner: Isaac M. Woo

Title: **SYSTEM FOR AUTOMATICALLY GENERATING QUERIES**

Commissioner for Patents
P.O. Box 1450
Alexandira, VA 22313-1450

APPEAL BRIEF

Sir:

Appellant respectfully submits this Appeal Brief in the appeal of the present case to the Board of Appeals and Patent Interferences on the Notice dated February 23, 2004.

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01 FC:1401 330.00 DA

1. Real Party of Interest

The real party of interest in the present application is the assignee of the present application, Xerox Corporation.

2. Related Appeals and Interferences

There is no related appeal or interference other than appeal briefs have been filed for co-pending co-assigned U.S. Patent Application Serial Nos. 09/683,237 entitled "System With User Directed Enrichment And Import/Export Control" and 09/683,242 "Document-Centric System With Auto-Completion And Auto-Correction", which was filed concurrently with the instant Application and similar to the instant Application claims priority to U.S. Provisional Application 60/311,857.

3. Status of the Claims

Claims 1-20 are pending in this application. Of these, claims 1, 14, and 18 are independent claims. An Amendment faxed September 8, 2003 amended claims 1, 8, 14, and 18. Claims 1-8 and 10-20 have been finally rejected in an Office Action mailed November 21, 2003 (hereinafter referred to as the "Office Action") with similar comments with regard thereto in an Advisory Action mailed February 9, 2004, on the grounds further discussed herein. The Office Action indicates that claim 9 is objected to but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

4. Status of Amendments

It is understood that all amendments to the claims made in this application have been entered and are reflected in the claims forming Appendix A hereto.

5. Summary of Invention

Appellant's invention is directed at a method, system, and article of manufacture for automatically formulating a query, which is described in detail in section F.3 of Appellant's specification (see paragraph numbers 397-426). The system, as illustrated in Appellant's Figure 38 reproduced below, includes an entity extractor (3804), a categorizer (3610), and a query generator (3810). The entity extractor identifies a set of entities (3808) in selected document content (3612) for searching information related thereto in, for example, an information retrieval system (206). The categorizer defines an organized classification of content with each class in the organization having an associated classification label that corresponds to a category of information in the information retrieval system.

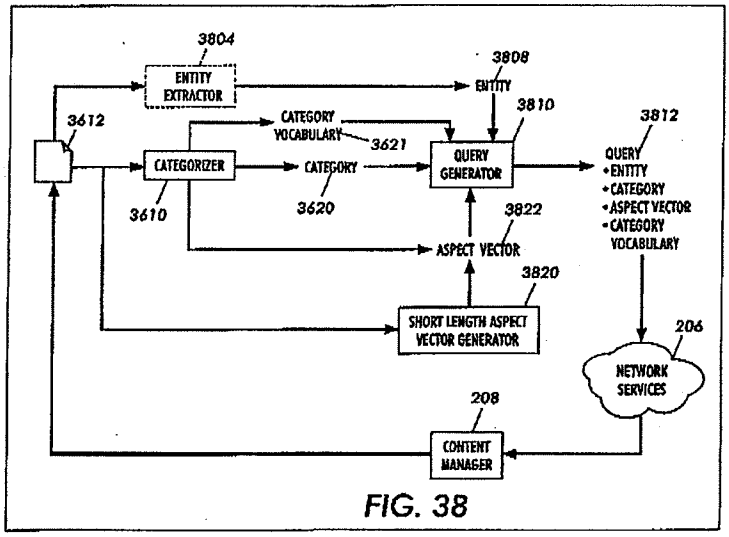

FIG. 38

The categorizer assigns the selected document content a set of classification labels that defines a set of categories (3620) from the organized classification of content. The query generator automatically formulates a query (3812) concerning the set of entities extracted by the entity extractor. In formulating the query, the query generator restricts the search at the information retrieval system to the category of

information in the information retrieval system identified by the assigned classification label.

In addition, the selected document content may be analyzed by a short length aspect generator (3820) to formulate a short run aspect vector (3822). Further, the categorizer may produce classification labels that identify a characteristic or category vocabulary (3621) associated with the corresponding classes. In one embodiment, the query generator coalesces these four elements (i.e., entity 3808, category 3620, aspect vector 3822, and category vocabulary 3621) to automatically formulate a query (3812). Results from the query may then be used by a content manager (208) to enrich the original document content (3612).

6. Issues

The single issue presented herein is whether claims 1-8 and 10-20 are unpatentable under 35 U.S.C. §103(a) over Rennison et al., U.S. Patent No. 6,154,213 (hereinafter referred to as "Rennison").

7. Grouping of Claims

The claims do not stand or fall together as a group and are grouped as follows:

FIRST GROUP: Independent claims 1, 14, and 18 and dependent claims 3, 5-8, and 10-13 define a first group of claims that for reasons discussed below stand or fall together.

SECOND GROUP: Claims 2, 15, and 19, which depend from claims 1, 14, and 18, respectively, define a second group of claims that for reasons discussed below stand or fall together.

THIRD GROUP: Claims 4, 16, and 20, which depend from dependent claims 2, 15, and 19, respectively, define a third group of claims that for reasons discussed below stand or fall together.

Claim 17, which depends from claim 16, stands on its own for reasons discussed below.

8. Argument

Appellant traverses the final rejection of claims 1-8 and 10-20 under 35 U.S.C. §103(a) as being unpatentable over Rennison and submits for the reasons set forth below that Appellant's claimed invention is patentably distinguishable over Rennison.

A. Brief Summary of Rennison

Rennison discloses a method for navigating through large document collections by "maintaining a constant density of visual information presented on a display device to the user at any given moment in time" (see Rennison Abstract). The method disclosed by Rennison segments a large document collection into various units of information and provides "three different types of cues to the user: scale, context and an indication of the types of selected relationships between items of information in the information structure" (see Rennison column 3, lines 55-61).

More specifically, Rennison discloses that "the information structure of an information space is dynamically determined in response to a user's query and is a representation of the relationship between a collection of documents that satisfy the query" (see Rennison column 4, lines 43-47). Further, Rennison discloses that a user "creates queries by navigating through the 3D information space itself, which is dynamically repopulated with 3D graphical objects representing an information structure which is computed in response to the user's movements (query) in the 3D space" (see Rennison column 4, lines 57-61).

B. The First Group Of Claims Is Patentable Over Rennison

For the purpose of discussion presented herein, claim 1 is discussed as a representative claim of the first group, which includes independent claims 14 and 18. In rejecting the claims, the Office Action alleges that subject matter of the claimed invention is made obvious in view of the disclosure in columns 4-6, 8-10, 17-19, 21, and 26 of Rennison. Appellant respectfully disagrees.

Instead, Appellant respectfully submits that Rennison fails to disclose or suggest Appellant's claimed limitations set forth in claim 1 of: *automatically formulating a query to restrict a search at an information retrieval system for information concerning a set of*

entities to a category of information in the information retrieval system identified by a classification label assigned by categorizing the selected document content.

B.1 Rennison Fails to Disclose or Suggest Restricting A Query To A Category Of Information In An Information Retrieval System Using A Classification Label

Rennison discloses a tool for navigating through a large document collection. Given a set of documents, the structuring process creates a "Space" (i.e., a graph as shown in Figure 1 of Rennison) "of Concepts that permits navigation of the set of documents" (see Rennison column 25, lines 11-15). The large document collections are developed during a "structuring process" which involves "recursively finding common Concepts that can group documents to provide coverage over a document set, and finding subtopics of these that provide distinction between these document to yield smaller document sets" (see Rennison column 25, lines 31-35).

In Rennison, the set of documents that is used to define the Space is identified through a user query (alternatively, a set of document is provided directly by the user) (see Rennison column 25, lines 12-13). (See also column 29, lines 14-15 – "the user query indicates what documents to build the graph around".) In contrast, Appellant claims a method for formulating a query using a document, not to use a query to define a set of documents that are used to build a graph.

Furthermore, Rennison expands terms of the user's query using a knowledge base (KB) (see Rennison column 26, lines 19-20). Rennison discloses that "all the KB Concepts which are related to or subsumed by the query term are also included in the search, so that it needs not rely on matching an exact word, but can instead match the general concept of interest" (see Rennison column 26, lines 32-35). (See also Rennison column 29, lines 16-32.)

Further as set forth in Rennison, "information retrieval and query formation are controlled by movement through the information space [] from one graphical node [] to another" (see column 12, lines 36-44). (See also Rennison column 13, lines 1-5 – "Thus, movement in the information space [] defines both the query to the information structure [], and the resulting display of the information space which is updated to reflect

such movement".) That is, movement in the information space has the effect of defining a query.

Unlike either action described in Rennison (a) using user queries to define document making up an information space or (b) defining queries by user movement in the information space, Appellant's claimed invention concerns the automatic formulation of a query in which the automatically formulated query is *restricted* to information concerning a set of entities identified in document content and a category of information in an information retrieval system identified by a classification label assigned by categorizing the document content.

Moreover, Appellant does not dynamically generate an information space in response by expanding terms of a user query using a knowledge base as taught by Rennison, instead Appellant's claimed invention recited in independent claim 1 concerns the automatic formulation of a query from selected document content by, in part, (a) *categorizing* the selected document content, and (b) formulating a query to *restrict* a search to a category of information at an information retrieval system.

B.2 Rennison Fails to Disclose or Suggest Categorizing a Document to Formulate A Query

Besides the operation of identifying a set of documents that match a user's query, Rennison discloses another operation which involves building the information space using the set of identified documents (see Rennison generally from column 26, line 36 to column 28, line 61). The information space is built "by finding the smallest set of Concepts that can categorize all of the documents that match the query, and that represent the content of these documents (i.e. the Concepts and Relations they discuss)" (see Rennison column 26, lines 42-46). In addition, the information space informs "the user about Concepts and Relations between them" (see Rennison column 26, line 62).

Rennison uses "categorization" to automatically categorize documents that match a user's query in its information space. As summarized by Rennison in column 26, lines 63-65, the "problem, therefore, is one of automatic categorization of documents: putting documents in the right categories, and putting subcategories in the

right categories". Further as Rennison explains in column 25, lines 25-27, unlike "fixed category schemes, the resulting Spaces are dynamically constructed to reflect the Concepts discussed by a specified document set".

In contrast, Appellant categorizes document content to identify a classification label to restrict a query to a category of information in an information retrieval system, where each classification label corresponds to a category of information in the information retrieval system. Appellant's invention as recited in independent claim 1 concerns automatic query formulation, where the formulated query *restricts* a search at an information retrieval system to information concerning a *set of entities* (automatically identified in selected document content) to a *category of information* in the information retrieval system identified by a classification label (assigned by categorizing the selected document content using an organized classification of document content).

B.3 In Summary

Accordingly for the reasons set forth above, Appellant submits that claim 1, reprehensive of group 1, is patentably distinguishable over Rennison. In addition, it should be noted that independent claims 14 and 18 contain the same or very similar limitations to those discussed above with respect to claim 1, and therefore the argument presented above with regard to claim 1 applies equally to independent claims 14 and 18.

Also with regard to dependent claims 3, 5-8, and 10-13 of the first group, these claims depend directly or indirectly from one of independent claims 1 or 14 and thus contain all limitations of the claims from which they depend. Accordingly, the argument presented in this section with regard to independent claims 1 and 14 applies equally to those dependent claims.

C. The Second Group Of Claims (Which Depends From The First Group) Is Patentable Over Rennison

For the purpose of discussion presented herein, claim 2, which depends from claim 1, is discussed as a representative claim of the second group, which includes

dependent claims 15 and 19, which depend from independent claims 14 and 18, respectively.

Appellant respectfully submits that claim 2 when read as a whole with independent claim 1 is patentably distinguishable over Rennison which provides in addition to the limitations of claim 1 discussed above, the limitation of further limiting the automatically formulated query by adding terms relating to context information surrounding the set of entities in the selected document (i.e., aspect vector 3822 shown in Appellant's Figure 38).

In rejecting claims 2, the Office Action asserts on page 4, first full paragraph that Rennison discloses this aspect of Appellant's claimed limitation in column 21, lines 26-57 and column 26, lines 17-40. Appellant respectfully disagrees.

In column 21, lines 26-57, Rennison discusses algorithms for using information extracted from a document "to generate further Concepts that are good labels for the document" (see Rennison column 21, lines 5-10). These algorithms include algorithms for "query expansion", "co-referencing and weighing", and "deep parsing and summarization" (see Rennison column 21, lines 26-30, lines 31-48, lines 49-57, respectively).

The purpose Rennison identifies additional terms that refer to extracted concepts in a document concerns "Annotation Enhancing" for developing a "series of weighted ConceptIds that are implied topics of the document" (see Rennison column 21, lines 1-4). As set forth in column 19, line 39 to column 20, line 8, Rennison maps concepts extracted from a document to concepts in a knowledge base. The knowledge base serves to constrain the generation of concepts. In effect, the additional terms remove "the dependency upon word choice or morphological inflection of a word referring to a Concept" (see Rennison column 19, lines 58-59).

In contrast, the purpose Appellant identifies additional terms surrounding the set of entities identified in selected document content is to further limit the query automatically formulated which is restricted to a category of information in an information retrieval system identified by an assigned classification label. That is, while Rennison identifies additional terms to improve (i.e., expands the possible) mappings

between concepts extracted from a document and concepts in a knowledge base, Appellant further constrains the formulation of a query to be applied to a category of information in an information retrieval system.

In column 26, lines 17-40, Rennison discusses two of the three operations in creating an information space (i.e., graph) of concepts that permits navigation of the set of documents identified with the user query, namely "finding documents that match a user's query" and "organizing the results in a structured space". These aspects of Rennison were discussed above with reference to claim 1. To summarize this discussion, Rennison in "finding documents that match a user's query" performs query *expansion* (see Rennison column 26, lines 25-35), and in "organizing the results in a structured space" categorizes all of the documents that match the user query to build the structured space (see Rennison column 26, lines 42-46).

In contrast, Appellant's claim 2 recites formulating a query by further adding terms defining an assigned classification label. As set forth above, Rennison fails to describe automatically generating a query from selected document content by, in part, (a) *categorizing* the selected document content, and (b) formulating a query to *restrict* a search to a category of information at an information retrieval system, and (c) adding terms to the query made up of an identified set of entities from context information surrounding the set of entities in the selected document content.

Accordingly, for these reasons and for the reasons set forth above regarding independent claim 1, Rennison fails to disclose the limitations set forth in claim 2, which incorporates all limitations of claim 1. In addition, it should be noted that claims 15 and 19 contain the same or very similar limitations to those discussed above with respect to claim 2, and therefore the argument presented above with regard to claim 2 applies equally to claims 15 and 19.

D. The Third Group Of Claims (Which Depends From The Second Group) Is Patentable Over Rennison

For the purpose of discussion presented herein, claim 4, which depends from claim 2, is discussed as a representative claim of the second group, which includes

dependent claims 16 and 20, which depend from depending claims 15 and 19, respectively.

Appellant respectfully submits that claim 4 when read as a whole with independent claim 1 and dependent claim 2 is patentably distinguishable over Rennison which provides in addition to the limitations of claims 1 and 2 discussed above, the limitation of further limiting the automatically formulated query by adding terms defining an assigned classification label (i.e., category vocabulary 3621 shown in Appellant's Figure 38).

In rejecting claim 4 (and 16 and 20), the Office Action asserts on page 4, third full paragraph that Rennison discloses Appellant's claimed limitation in column 21, lines 26-57 and column 26, lines 17-40. Appellant respectfully disagrees.

The cited section of Rennison have been discussed in detail above regarding claim 2, those same arguments are incorporated herein by reference. To illustrate the difference between Appellant's claimed invention recited in claim 4 and the user-navigatable information space described by Rennison, Appellant refers to an example which is described in Appellant's specification in paragraphs 419-425 with reference to Figure 40 reproduced below.

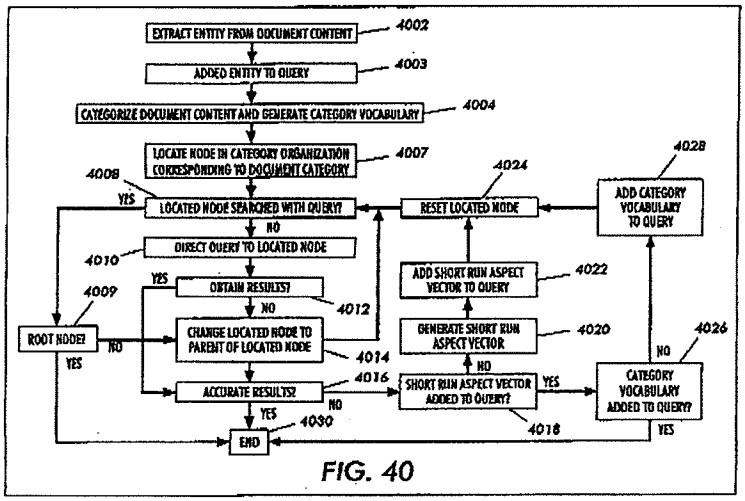

FIG. 40

As illustrated in Appellant's Figure 40, given document content that has been categorized (4004), a node in an ontology is located and searched (4010) with a query (4003) initially defined with an entity extracted from the document content (4002). If accurate results are not identified, first a short run aspect vector is added to the query (4022), and then a category vocabulary is added to the query (4028), before redirecting the search to the located node.

As discussed in detail above with reference to claims 1 and 2, Rennison concerns the creation of a user-navigatable information structure from a large document collection. The user beings by defining a broad query (e.g., "all documents written by Tom Jones from Mar. 1, 1995 to Mar. 1, 1996" – see Rennison column 4, lines 48-50). From the documents collected with the user's query, an information space is created and through which the user may navigate, thereby producing the effect of creating queries and seeing their results (see Rennison column 4, lines 52-61). Rennison in fact differentiates its system by noting that unlike conventional text query systems, information retrieval and query formation are controlled by movement through the information space from one node in the space to another (see Rennison column 12, lines 36-44).

In contrast, Appellant's claim 4 recites formulating a query by further adding terms defining an assigned classification label. As set forth above, Rennison fails to describe either when finding documents that match a user's query or when thereafter organizing the documents in a structure space to automatically generate a query from selected document content by, in part, (a) *categorizing* the selected document content, and (b) formulating a query to *restrict* a search to a category of information at an information retrieval system, (c) adding terms to the query made up of an identified set of entities from context information surrounding the set of entities in the selected document content, and (d) further adding terms to the query defining an assigned classification label identifying the category of information in the information retrieval system.

Accordingly, for these reasons and for the reasons set forth above regarding independent claim 1 and dependent claim 2, Rennison fails to disclose or suggest the

limitations set forth in claim 4, which incorporates all limitations of claims 1 and 2. In addition, it should be noted that claims 16 and 20 contain the same or very similar limitations to those discussed above with respect to claim 4, and therefore the argument presented above with regard to claim 4 applies equally to claims 16 and 20.

E. Claim 17 (Which Depends From Claim 16 in The Third Group) Is Patentable Over Rennison

Claim 17 which depends from claims 16, 15, and 14 stands on its own for the reasons discussed below. The Office Action alleges on page 6, second paragraph, that claim 17 is obvious in view of Rennison's disclosure set forth in column 4, line 1 to column 5, line 56. Appellant respectfully disagrees.

Appellant's claim 17 recites a content manager for enriching selected document content with results provided from the information retrieval system using the formulated query (see content manager 208 in Appellant's Figure 38). Appellant defines the term "enrich" in paragraph 119 of Appellant's specification to concern the annotation of a document in accordance with a predefined personality.

In column 4, line 1 to column 5, line 56 cited in the Office Action, Rennison describes how a large document collection is segmented for a user into an information space, which provides cues to scale, context, and types of relationships to the user concerning the collection of documents (see Rennison column 3, lines 52-61). Further the cited section describes, as discussed above, how the user may interact with the information space (or information structure) to create queries and see the results of the queries by navigating through the information space (see Rennison column 3, lines 52-61).

However, the sections of Rennison cited in the Office Action fail to disclose or suggest, as recited by Appellant in claim 17, the "enrichment" or "annotation" of document content with search results provided from an information retrieval system using an automatically formulated query. Moreover, as discussed above Rennison further fails to describe or suggest, as recited by Appellant in claim 17 which read together with claims 16, 15, and 14, the automatic formulation of a query that is used to

query an information provider for the results that are used to enrich the document content.

Accordingly, Appellant submits that claim 17, which stands on its own, is patentably distinguishable over Rennison for the reasons set forth above and for those reasons set forth above regarding claims 16, 15, and 14.

9. Conclusion

Based on the arguments presented above, claims 1-8 and 10-20 are believed to be in condition for allowance. Appellant therefore respectfully requests that the Board of Patent Appeals and Interferences reconsider this application, reverse in whole the decision of the Examiner, and pass this application for allowance.

Respectfully submitted,

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Date: April 23, 2004

APPENDIX A

Claims

1. A method for automatically generating a query from selected document content, comprising:

defining an organized classification of document content with each class in the organized classification of document content having associated therewith a classification label; each classification label corresponding to a category of information in an information retrieval system;

automatically identifying a set of entities in the selected document content for searching additional information related thereto using the information retrieval system;

automatically categorizing the selected document content using the organized classification of document content for assigning the selected document content a classification label from the organized classification of content; and

automatically formulating the query to restrict a search at the information retrieval system for information concerning the set of entities to the category of information in the information retrieval system identified by the assigned classification label.

2. The method according to claim 1, further comprising limiting the query by adding terms relating to context information surrounding the set of entities in the selected document content.

3. The method according to claim 2, wherein the number of terms added is limited to a predefined number.

4. The method according to claim 2, further comprising limiting the query by adding terms defining the assigned classification label.

5. The method according to claim 1, wherein the organized classification of document content is defined using a hierarchical organization.

6. The method according to claim 1, further comprising using a text categorizer to assign the classification label assigned from the organized classification of content.

7. The method according to claim 6, further comprising:

extracting with the text categorizer a set of terms relating to the document content; and

appending to the query ones of the set of terms extracted by the text categorizer to contextualize the query.

8. The method according to claim 7, further comprising abbreviating the set of terms extracted by the text categorizer to a predefined number of terms.

9. The method according to claim 8, wherein said abbreviating comprises:

extracting noun phrases from the selected document content;

ranking the noun phrases by those that occur most frequently in the document content;

defining a subset of noun phrases by identifying those ranked noun phrases that occur more frequently than a first predefined frequency;

ranking those words in the subset of noun phrases by their frequency of occurrence to define an ordered list of words;

defining a subset of the ordered list of words by identifying those ranked words that occur more frequently than a second predefined frequency;

re-ranking the subset of words in inverse frequency to their use in the category of information in the information retrieval system identified by the assigned classification label;

using only those highest ranked words in the re-ranked subset of words to define the set of terms appended to the query.

10. The method according to claim 1, wherein each class in the organized classification of document content has associated therewith a characteristic vocabulary.

11. The method according to claim 10, further comprising ranking results from the query performed at the information retrieval system in accordance with one of the assigned classification label and the characteristic vocabulary.

12. The method according to claim 11, using the method in a system for enriching selected content of a document with personalities that identify enrichment themes.

13. The method according to claim 1, further comprising automatically identifying the set of entities using a service that recognizes entities of a predefined type.

14. A system for automatically generating a query from selected document content, comprising:

an entity extractor for automatically identifying a set of entities in the selected document content for searching information related thereto using an information retrieval system;

a categorizer for defining an organized classification of document content with each class in the organization of content having associated therewith a classification label; each classification label corresponding to a category of information in the information retrieval system; the categorizer automatically assigning the selected document content a classification label from the organized classification of content; and

a query generator for automatically formulating the query to restrict a search at the information retrieval system for information concerning the set of entities to the category of information in the information retrieval system identified by the assigned classification label.

15. The system according to claim 14, further comprising a short length aspect vector generator for generating terms relating to context information surrounding the set of entities in the selected document content; wherein the query generator adds the terms relating to the context information to limit the query.

16. The system according to claim 15, wherein the query generator further limits the query by adding terms defining the selected classification label provided by the categorizer.

17. The system according to claim 16, further comprising a content manager for enriching the selected document content with results provided from the information retrieval system using the query.

18. An article of manufacture for use in a computer system, comprising:

a memory;

instructions stored in the memory for operating a method for automatically generating a query from selected document content, comprising:

defining an organized classification of document content with each class in the organized classification of document content having associated therewith a classification label; each classification label corresponding to a category of information in an information retrieval system;

automatically identifying a set of entities in the selected document content for searching information related thereto using the information retrieval system;

automatically categorizing the selected document content using the organized classification of document content for assigning the selected document content a classification label from the organized classification of content; and

automatically formulating the query to restrict a search at the information retrieval system for information concerning the set of entities to the category of information in the information retrieval system identified by the assigned classification label.

19. The article of manufacture according to claim 18, wherein the instructions stored in the memory further comprise limiting the query by adding terms relating to context information surrounding the set of entities in the selected document content.

20. The article of manufacture according to claim 19, wherein the instructions stored in the memory further comprise further limiting the query by adding terms defining the assigned classification label.

EXHIBIT F

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Thomas Zell

(Typed or printed name of person signing this certificate)

Thomas Zell (Signature)

Application No.	:	09/683,235
Confirmation No.	:	8303
Filed	:	12/05/2001
Art Unit	:	2172
Examiner	:	Isaac M. Woo
Inventor(s)	:	Gregory T. Grefenstette et al.
Title	:	SYSTEM FOR AUTOMATICALLY GENERATING QUERIES
Docket No.	:	D/A0A34
Customer No.	:	25453

MAIL STOP NON-FEE AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandira, VA 22313-1450

AMENDMENT UNDER 37 C.F.R. 1.111

Sir:

In response to the Office Action of **June 6, 2003**, 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 begin on page **7** of this paper.

B

Amendments to the Claims:

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

Listing of Claims:

B1

Claim 1 (Currently Amended): A method for automatically generating a query from selected document content, comprising:

defining an organized classification of document content with each class in the organized classification of document content having associated therewith a classification label; each classification label corresponding to a category of information in an information retrieval system;

automatically identifying a set of entities in the selected document content for searching additional information related thereto using the information retrieval system;

automatically categorizing the selected document content using the organized classification of document content for assigning the selected document content a classification label from the organized classification of content; and

automatically formulating ~~a~~ the query ~~that restricts~~ to restrict a search at the information retrieval system for information concerning the set of entities to the category of information in the information retrieval system identified by the assigned classification label.

Claim 2 (Original): The method according to claim 1, further comprising limiting the query by adding terms relating to context information surrounding the set of entities in the selected document content.

Claim 3 (Original): The method according to claim 2, wherein the number of terms added is limited to a predefined number.

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Claim 4 (Original): The method according to claim 2, further comprising limiting the query by adding terms defining the assigned classification label.

Claim 5 (Original): The method according to claim 1, wherein the organized classification of document content is defined using a hierarchical organization.

Claim 6 (Original): The method according to claim 1, further comprising using a text categorizer to assign the classification label assigned from the organized classification of content.

Claim 7 (Original): The method according to claim 6, further comprising:

extracting with the text categorizer a set of terms relating to the document content; and

appending to the query ones of the set of terms extracted by the text categorizer to contextualize the query.

Claim 8 (Currently Amended): The method according to claim 7, further comprising abbreviating the set of terms extracted by the text categorizer to a predefined ~~limit of terms~~number of terms.

Claim 9 (Original): The method according to claim 8, wherein said abbreviating comprises:

extracting noun phrases from the selected document content;

ranking the noun phrases by those that occur most frequently in the document content;

defining a subset of noun phrases by identifying those ranked noun phrases that occur more frequently than a first predefined frequency;

ranking those words in the subset of noun phrases by their frequency of occurrence to define an ordered list of words;

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B1

defining a subset of the ordered list of words by identifying those ranked words that occur more frequently than a second predefined frequency;

re-ranking the subset of words in inverse frequency to their use in the category of information in the information retrieval system identified by the assigned classification label;

using only those highest ranked words in the re-ranked subset of words to define the set of terms appended to the query.

Claim 10 (Original): The method according to claim 1, wherein each class in the organized classification of document content has associated therewith a characteristic vocabulary.

Claim 11 (Original): The method according to claim 10, further comprising ranking results from the query performed at the information retrieval system in accordance with one of the assigned classification label and the characteristic vocabulary.

Claim 12 (Original): The method according to claim 11, using the method in a system for enriching selected content of a document with personalities that identify enrichment themes.

Claim 13 (Original): The method according to claim 1, further comprising automatically identifying the set of entities using a service that recognizes entities of a predefined type.

Claim 14 (Currently Amended): A system for automatically generating a query from selected document content, comprising:

an entity extractor for automatically identifying a set of entities in the selected document content for searching information related thereto using an information retrieval system;

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a categorizer for defining an organized classification of document content with each class in the organization of content having associated therewith a classification label; each classification label corresponding to a category of information in the information retrieval system; the categorizer automatically assigning the selected document content a classification label from the organized classification of content; and

a query generator for automatically formulating ~~a~~ the query ~~that restricts~~ to restrict a search at the information retrieval system for information concerning the set of entities to the category of information in the information retrieval system identified by the assigned classification label.

Claim 15 (Original): The system according to claim 14, further comprising a short length aspect vector generator for generating terms relating to context information surrounding the set of entities in the selected document content; wherein the query generator adds the terms relating to the context information to limit the query.

Claim 16 (Original): The system according to claim 15, wherein the query generator further limits the query by adding terms defining the selected classification label provided by the categorizer.

Claim 17 (Original): The system according to claim 16, further comprising a content manager for enriching the selected document content with results provided from the information retrieval system using the query.

Claim 18 (Currently Amended): An article of manufacture for use in a computer system, comprising:

a memory;

instructions stored in the memory for operating a method for automatically generating a query from selected document content, comprising:

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defining an organized classification of document content with each class in the organized classification of document content having associated therewith a classification label; each classification label corresponding to a category of information in an information retrieval system;

automatically identifying a set of entities in the selected document content for searching information related thereto using the information retrieval system;

automatically categorizing the selected document content using the organized classification of document content for assigning the selected document content a classification label from the organized classification of content; and

automatically formulating ~~a~~ the query ~~that restricts~~to restrict a search at the information retrieval system for information concerning the set of entities to the category of information in the information retrieval system identified by the assigned classification label.

Claim 19 (Original): The article of manufacture according to claim 18, wherein the instructions stored in the memory further comprise limiting the query by adding terms relating to context information surrounding the set of entities in the selected document content.

Claim 20 (Original): The article of manufacture according to claim 19, wherein the instructions stored in the memory further comprise further limiting the query by adding terms defining the assigned classification label.

REMARKS

The Office Action of June 6, 2003 has been carefully considered. Reconsideration of this application, as amended, is respectfully requested. Claims 1-20 are pending in this application. Of these, claims 1, 14, and 18 are independent claims. An Amendment faxed March 24, 2003 amended the specification.

This Amendment amends claims 1, 14, and 18 similarly, and amends claim 8 to clarify its language. Support for the amendments to claims 1, 14, and 18 are set forth in claims 6 and 13. Claims 1, 14, and 18 were amended for reasons discussed in more detail below.

1. Response to Rejection Under 35 USC 103

The Office Action on page 2 rejects claims 1-20 under 35 U.S.C. 103(a) as being unpatentable over Vu et al. (U.S. Patent No. 6,393,427, hereinafter referred to as Vu) in view of Myers et al. (U.S. Patent No. 6,374,274, hereinafter referred to as Myers) and further in view of Delano (U.S. Patent No. 6,430,558). In response thereto, Applicant Amends independent claims 1, 14, and 18 to more clearly set forth and claim Applicant's invention, and for the reasons discussed below clearly distingulshes over Vu, Myers, and Delano taken singly or in combination.

As set forth in the Amendment faxed 3/24/03, Applicant's claimed invention is directed at a method, system, and article of manufacture for automatically generating a query, as described in detail in Applicant's specification in section F.3 (paragraph numbers 397-426). The system includes an entity extractor, a categorizer, and a query generator. The entity extractor identifies a set of entities in selected document content for searching information related thereto in an information retrieval system. The categorizer defines an organized classification of content with each class in the organization having an associated classification label that corresponds to a category of information in the information retrieval system.

Further in accordance with Applicant's invention, the categorizer assigns the selected document content a classification label from the organized classification of content. The query generator automatically formulates a query concerning the set of entities extracted by the entity extractor. In formulating the query, the query generator restricts the search at the information retrieval system to the category of information in the information retrieval system identified by the assigned

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classification label.

In contrast with Applicant's claimed invention, Vu discloses a method (operating on the client side) for constructing and maintaining (e.g., inserting and deleting documents from), a navigation tree based on existing document classifiers (see Col. 4, lines 19-21). The navigation tree is constructed adaptively to the size of the user's document collection on the client side from a classification tree returned from the existing document classifiers (see Col. 4, lines 29-31).

In further contrast with Applicant's claimed invention, Myers discloses a network database system with subscribing entities (e.g., user computers) that are authorized access to reliable sources of information. "Features that can be included in the system are customization of the documents to reflect sourcing by particular subscribers, automated formatting of the documents for storing in a network database, client access facilitated by subscriber-maintained databases, and the avoidance of cookies remaining on clients' computer hard drives following document access." (see Abstract)

Yet in further contrast with Applicant's claimed invention, Delano discloses a system for collaboratively searching knowledge databases. The system includes a query searcher for conducting search queries of content of the knowledge databases, a search results ranker responsive to the query searcher for providing ranked content search results, and a search result updater for updating the search results responsive to input from other users. (see Abstract)

In particular, the Office Action in rejecting independent claims 1, 14, and 18, cites col. 4, lines 55-67 to col. 5, lines 1-37, of Vu, which discloses a method for determining classification categories of a document that is introduced into a navigation tree. More specifically, col. 5, lines 6-14 of Vu discloses that keywords extracted from documents are used to query a classifier that determines what categories the documents belong to. However, as set forth in Office Action on page 3, lines 12-14 submits "Vu does not explicitly disclose [] identifying a set of entities in selected document content for searching additional information related to using the information retrieval system."

In addition, the sections of Myers (col. 2, lines 28-43, abstract) fail to teach the assertion made in the Office Action at page 3, lines 15-16, that an "entity" as

recited in Myers is an "entity as defined by Applicant in paragraph 120 of Applicant's specification. Instead, Applicant respectfully submits that "each entity" referred to in the cited section (col. 2, line 30) refers to persons of subscribed client computers (or subscription computers 14, i.e., persons identify documents that are of interest and these documents are made available to clients of that person), whereas in paragraph 120 of Applicant's specification, Applicant defines an entity to mean something recognized in a document. Applicant therefore respectfully submits that Myers fails to disclose or suggest singly or in combination with Vu identifying a set of entities in selected document content for searching additional information related thereto using an information retrieval system.

Furthermore, the cited sections of Delano (col. 6, lines 26-49) fails to disclose or suggest in combination with Myers or Vu the use of a set of entities identified in selected document content to formulate a query that restricts a search to a category of information in an information retrieval system identified using a classification label assigned by categorizing the selected document content. More specifically, in col. 6, lines 26-49 of Delano cited by the Office Action (on page 4, line 4), Delano discloses that a search begins with submission and acceptance of a search topic from a user (see col. 6, line 8) that "consists of any information by which the content in the knowledge base 26 has been indexed, and is typically a text search string with additional text or category filters that may restrict the search to a particular sub-domain and index" (see col. 6, 30-34). However, this section of Delano fails to disclose or suggest singly or in combination with Myers or Vu Applicant's invention in which a query is automatically formulated that is formulated to restrict a search at an information retrieval system for information concerning a set of entities (automatically identified from selected document content) to a category of information in the information retrieval system identified by the assigned classification label (assigned by automatically categorizing the selected document content according to the organized classification of document content).

In summary, Applicant respectfully submits that Vu taken singly or in combination with Myers or Delano fail singly or in combination to disclose Applicant's invention recited in independent claims 1, 14, and 18 that set forth a method, system and article of manufacture therefore for generating a query from selected document content. That is, Vu discloses at col. 5, lines 6-14 that keywords extracted from a

document are used to determine how to introduce it into a navigation tree, Delano discloses at col. 6, lines 25-49, that a user specifies a search topic for a search with a text search string and text or category filters, and Myers discloses the sharing of documents with clients of subscribing users at col. 2, lines 27-43. In contrast, Applicant's claims *recite automatically generating a query from selected document content, from which both a set of entities and a classification label are automatically identified and assigned*, respectively. The query is formulated to restrict a search at the information retrieval system for information concerning the set of entities to the category of information in the information retrieval system identified by the assigned classification label.

Accordingly, Applicant respectfully submits that independent claims 1, 14, and 18 are patentably distinguishable over Vu taken singly or in combination with Myers and/or Delano. Insofar as claims 2-13, 15-17, and 19-20 are concerned, these claims depend from one of now presumably allowable independent claims 1, 14, and 18 and are also believed to be in allowable condition.

2. Response to Point 11 On Office Action Summary

Point 11 in the Office Action Summary set forth that the proposed drawing corrections filed April 7, 2003 are approved by the Examiner, and that if approved, corrected drawings are required in reply to the Office Action. In response thereto, Applicant submits that the drawings filed on April 7, 2003 are substitute drawings for those already on file. Applicant did not propose corrections to or make any changes in the drawings filed April 7, 2003 when compared to the drawings originally filed with the instant application. Instead, the drawings filed on April 7, 2003 were submitted because Applicant anticipated problems with the quality of the published drawings in US 2003/0069877 A1 because similar quality issues arose in earlier published concurrently filed patent applications. Applicant therefore respectfully believes no new copy of the drawings is required by the Office Action and that Applicant is being responsive thereto.

3. Fee Authorization And Extension Of Time

No additional fee is believed to be required for this amendment or response, however, the undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation

Deposit Account No. 24-0025. This also constitutes a request for any needed extension of time and authorization to charge all fees therefor to Xerox Corporation Deposit Account No. 24-0025.

4. Conclusion

In view of the foregoing remarks, reconsideration of this application and allowance thereof are earnestly solicited. In the event the Examiner considers a personal contact advantageous to the disposition of this case, the Examiner is hereby requested to call Attorney for Applicant(s), Thomas Zell.

Respectfully submitted,

Thomas Zell

Thomas Zell
Attorney for Applicant(s)
Registration No. 37,481
Telephone: 650-812-4282
Date: 9/8/03

OFFICIAL

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EXHIBIT G

Independent Claims of U.S. Patent No. 6,778,979 with Step Reference Letters

Claim 1

A method for automatically generating a query from selected document content, comprising:

[a] defining an organized classification of document content with each class in the organized classification of document content having associated therewith a classification label; each classification label corresponding to a category of information in an information retrieval system;

[b] automatically identifying a set of entities in the selected document content for searching additional information related thereto using the information retrieval system;

[c] automatically categorizing the selected document content using the organized classification of document content for assigning the selected document content a classification label from the organized classification of content; and

[d] automatically formulating the query to restrict a search at the information retrieval system for information concerning the set of entities to the category of information in the information retrieval system identified by the assigned classification label.

Claim 18

An article of manufacture for use in a computer system, comprising:

[a] a memory;

[b] instructions stored in the memory for operating a method for automatically generating a query from selected document content, comprising:

[c] defining an organized classification of document content with each class in the organized classification of document content having associated therewith a classification label; each classification label corresponding to a category of information in an information retrieval system;

[d] automatically identifying a set of entities in the selected document content for searching additional information related thereto using the information retrieval system;

[e] automatically categorizing the selected document content using the organized classification of document content for assigning the selected document content a classification label from the organized classification of content; and

[f] automatically formulating the query to restrict a search at the information retrieval system for information concerning the set of entities to the category of information in the information retrieval system identified by the assigned classification label.

EXHIBIT H

RE: Xerox v. Google, et al. - Claim Terms and Constructions

David Perlson <davidperlson@quinnemanuel.com> to: Scott Leslie 03/10/2011 07:26 PM

Cc: '"ahale@cravath.com"', '"aharasymiak@cravath.com"', '"AMayo@ashby-geddes.com"', Andrea P Roberts, '"angela.quach@davispolk.com"', '"Fenwick, Anthony I."', '"Lisson, David"', '"Moore, David E."', '"felicia.yu@davispolk.com"', Google-Xerox, '"jblumenfeld@mnat.com"', '"jday@ashby-geddes.com"', '"Brodsky, Jeremy"', '"lmaguire@ashby-geddes.com"', '"mnoreika@mnat.com"', '"rhorwitz@Potteranderson.com"', 'Richard Stark'

History: This message has been forwarded.

Scott, responses below.

One question I have, will Xerox be sticking to its construction of “organized classification of document content” with the “may be” language in it? Thanks

David

From: Scott Leslie [mailto:SLeslie@cravath.com]
Sent: Thursday, March 10, 2011 3:38 PM
To: David Perlson
Cc: 'ahale@cravath.com'; 'aharasymiak@cravath.com'; 'AMayo@ashby-geddes.com'; Andrea P Roberts; 'angela.quach@davispolk.com'; 'Fenwick, Anthony I.'; 'Lisson, David'; 'Moore, David E.'; 'felicia.yu@davispolk.com'; Google-Xerox; 'jblumenfeld@mnat.com'; 'jday@ashby-geddes.com'; 'Brodsky, Jeremy'; 'lmaguire@ashby-geddes.com'; 'mnoreika@mnat.com'; 'rhorwitz@Potteranderson.com'; 'Richard Stark'
Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

David -

Thank you for promptly getting us Defendants' revised chart.

First, regarding the limitation in Claim 5 that "the organized classification of document content is defined using a hierarchical organization", we cannot tell from Defendants' proposed construction whether, in order to be hierarchical, every single category in the organized classification must be a parent or a child of another category. We do not believe that a hierarchical organization precludes the presence of some categories that are neither parents nor children of other categories, and that is simply what our proposed construction reflects. Please let us know whether you think we have a substantive disagreement concerning this construction.

--We do not think so.

Second, we notice that Defendants have retained their construction for the "characteristic vocabulary" limitation of Claim 10 (namely, "one or more words or phrases that describe the category of information corresponding to the class"). We are still unsure whether there is a dispute between the parties concerning this claim term because we are unsure what "category of information" Defendants are

referring to in their proposed construction. Are you referring to the "category of information" in the information retrieval system, as referenced in steps (a) and (d) of Claim 1?

--Yes

Finally, regarding the "defining an organized classification of document content" limitation, we want to be absolutely sure that we are in substantive agreement. Defendants have proposed "setting an organized classification of document content", i.e., setting the particular organized classification of document content that is to be used in performing the steps of the claimed method. We thought all parties agreed that, for purposes of whether this construction is satisfied, it is immaterial whether the particular organized classification of document set for use in the claimed method is (1) created by the performer of the method, (2) selected from existing classifications by the performer of the method or (3) modified by the performer of the method from an existing classification. Is that correct, or do Defendants have a different understanding?

--Correct

Thank you.

Best,

Scott

Scott A. Leslie
Cravath, Swaine & Moore LLP
825 Eighth Avenue
New York, NY 10019
(212) 474-1778 (phone)
(212) 474-3700 (fax)

From: David Perlson <davidperlson@quinnemanuel.com>

To: Scott Leslie <SLeslie@cravath.com>
Cc: '"ahale@cravath.com"' <ahale@cravath.com>, '"aharasymiak@cravath.com"' <aharasymiak@cravath.com>, '"AMayo@ashby-geddes.com"' <AMayo@ashby-geddes.com>, Andrea P Roberts <andreaproberts@quinnemanuel.com>, '"angela.quach@davispolk.com"' <angela.quach@davispolk.com>, '"Fenwick, Anthony I."' <anthony.fenwick@davispolk.com>, '"Lisson, David"' <david.lisson@davispolk.com>, '"Moore, David E."' <dmoore@potteranderson.com>, '"felicia.yu@davispolk.com"' <felicia.yu@davispolk.com>, Google-Xerox <Google-Xerox@quinnemanuel.com>, '"jblumenfeld@mnat.com"' <jblumenfeld@mnat.com>, '"jday@ashby-geddes.com"' <jday@ashby-geddes.com>, '"Brodsky, Jeremy"' <jeremy.brodsky@davispolk.com>, '"lmaguire@ashby-geddes.com"' <lmaguire@ashby-geddes.com>, '"mnoreika@mnat.com"' <mnoreika@mnat.com>, '"rhorwitz@Potteranderson.com"' <rhorwitz@Potteranderson.com>, 'Richard Stark'
<RStark@cravath.com>

Date: 03/10/2011 03:26 PM

Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

Scott,

Attached is a revised chart.

We have moved the order of steps to be a disputed term.

Also, for “organized classification of document content,” we have included the following construction “the organized classification of document content is defined using categories that are “parents” or “children” of other categories.” This is the construction that you had proposed on the call and then emailed to us. We cannot agree to your revised construction of “the categories in the organized classification of document content may be “parents” or “children” of other categories.” In particular, the “may be” language renders what follows an essentially meaningless addition. Please advise promptly if you will agree to what you previously proposed.

We confirm as you request regarding “memory.”

As to your confirmation regarding the “defining an organized classification of document content" limitation, we will confirm as follows: Defendants will not argue that this construction ("setting an organized classification of document content") of this limitation ("defining an organized classification of document content") distinguishes among classifications on the basis of whether they were (1) created by the performer of the method, vs. (2) selected by the performer of the method, vs. (3) modified by the performer of the method from an existing classification."

David

From: Scott Leslie [mailto:SLeslie@cravath.com]
Sent: Thursday, March 10, 2011 10:46 AM
To: David Perlson
Cc: 'ahale@cravath.com'; 'aharasymiak@cravath.com'; 'AMayo@ashby-geddes.com'; Andrea P Roberts; 'angela.quach@davispolk.com'; 'Fenwick, Anthony I.'; 'Lisson, David'; 'Moore, David E.'; Eugene Novikov; 'felicia.yu@davispolk.com'; Google-Xerox; 'jblumenfeld@mnat.com'; 'jday@ashby-geddes.com'; 'Brodsky, Jeremy'; 'lmaguire@ashby-geddes.com'; 'mnoreika@mnat.com'; 'rhorwitz@Potteranderson.com'; 'Richard Stark'
Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

David -

I'm not sure what rhetoric you're referring to. But in any event, Xerox will consent to seek an extension for the chart until Tuesday if Defendants will provide their edits to the chart, and the confirmation requested in my prior email, by close of business today.

Best,

Scott

Scott A. Leslie
Cravath, Swaine & Moore LLP
825 Eighth Avenue
New York, NY 10019
(212) 474-1778 (phone)
(212) 474-3700 (fax)

From: David Perlson <davidperlson@quinnemanuel.com>

To: Scott Leslie <SLeslie@cravath.com>, "'Fenwick, Anthony I.'" <anthony.fenwick@davispolk.com>
Cc: "'ahale@cravath.com'" <ahale@cravath.com>, "'aharasymiak@cravath.com'" <aharasymiak@cravath.com>, "'AMayo@ashby-geddes.com'" <AMayo@ashby-geddes.com>, Andrea P Roberts <andreaproberts@quinnemanuel.com>, "'angela.quach@davispolk.com'" <angela.quach@davispolk.com>, "'Lisson, David'" <david.lisson@davispolk.com>, "'Moore, David E.'" <dmoore@potteranderson.com>, Eugene Novikov <eugenenovikov@quinnemanuel.com>, "'felicia.yu@davispolk.com'" <felicia.yu@davispolk.com>, Google-Xerox <Google-Xerox@quinnemanuel.com>, "'jblumenfeld@mnat.com'" <jblumenfeld@mnat.com>, "'jday@ashby-geddes.com'" <jday@ashby-geddes.com>, "'Brodsky, Jeremy'" <jeremy.brodsky@davispolk.com>, "'lmaguire@ashby-geddes.com'" <lmaguire@ashby-geddes.com>, "'mnoreika@mnat.com'" <mnoreika@mnat.com>, "'rhorwitz@Potteranderson.com'" <rhorwitz@Potteranderson.com>, 'Richard Stark' <RStark@cravath.com>

Date: 03/10/2011 01:30 PM

Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

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Scott, I won't respond to you rhetoric.

Lets do an extension to Tuesday.

We will respond with our edits to your chart in the next few hours or so.

David

From: Scott Leslie [mailto:SLeslie@cravath.com]
Sent: Thursday, March 10, 2011 10:28 AM
To: David Perlson; 'Fenwick, Anthony I.'
Cc: 'ahale@cravath.com'; 'aharasymiak@cravath.com'; 'AMayo@ashby-geddes.com'; Andrea P Roberts; 'angela.quach@davispolk.com'; 'Lisson, David'; 'Moore, David E.'; Eugene Novikov; 'felicia.yu@davispolk.com'; Google-Xerox; 'jblumenfeld@mnat.com'; 'jday@ashby-geddes.com'; 'Brodsky, Jeremy'; 'lmaguire@ashby-geddes.com'; 'mnoreika@mnat.com'; 'rhorwitz@Potteranderson.com'; 'Richard Stark'
Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

David and Tony -

We have not received any response to my email below, and we do not even know whether Defendants still want to request an extension for the Joint Claim Construction Chart, which is due today. If not, please immediately provide any comments on the draft chart as well as the confirmation requested in my email, and please let us know when we can expect to receive Defendants' intrinsic evidence citations.

Best,

Scott

Scott A. Leslie
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825 Eighth Avenue
New York, NY 10019
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From: Scott Leslie/NYC/Cravath

To: David Perlson <davidperlson@quinnemanuel.com>, "'Fenwick, Anthony I.'" <anthony.fenwick@davispolk.com>
Cc: "'ahale@cravath.com'" <ahale@cravath.com>, "'aharasymiak@cravath.com'" <aharasymiak@cravath.com>, "'AMayo@ashby-geddes.com'" <AMayo@ashby-geddes.com>, Andrea P Roberts <andreaproberts@quinnemanuel.com>, "'angela.quach@davispolk.com'" <angela.quach@davispolk.com>, "'Lisson, David'" <david.lisson@davispolk.com>, "'Moore, David E.'" <dmoore@potteranderson.com>, Eugene Novikov <eugenenovikov@quinnemanuel.com>, "'felicia.yu@davispolk.com'" <felicia.yu@davispolk.com>, Google-Xerox <Google-Xerox@quinnemanuel.com>, "'jblumenfeld@mnat.com'" <jblumenfeld@mnat.com>, "'jday@ashby-geddes.com'" <jday@ashby-geddes.com>, "'Brodsky, Jeremy'" <jeremy.brodsky@davispolk.com>, "'lmaguire@ashby-geddes.com'" <lmaguire@ashby-geddes.com>, "'mnoreika@mnat.com'" <mnoreika@mnat.com>, "'rhorwitz@Potteranderson.com'" <rhorwitz@Potteranderson.com>, 'Richard Stark' <RStark@cravath.com>

Date: 03/09/2011 07:52 PM

Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

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David and Tony -

Please use the joint claim chart and accompanying comparison that are attached to this email, as opposed to the files attached to my earlier email. The files I previously sent were not the most updated versions.

Apologies for any confusion.

Best,

Scott

Scott A. Leslie
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(212) 474-3700 (fax)

[attachment "Joint Claim Construction Chart (Xerox rev. 3-9-11).doc" deleted by Scott Leslie/NYC/Cravath] [attachment "Joint Claim Chart Comparison.pdf" deleted by Scott Leslie/NYC/Cravath]

From: Scott Leslie/NYC/Cravath

To: David Perlson <davidperlson@quinnemanuel.com>
Cc: '"ahale@cravath.com"' <ahale@cravath.com>, '"aharasymiak@cravath.com"' <aharasymiak@cravath.com>, '"AMayo@ashby-geddes.com"' <AMayo@ashby-geddes.com>, Andrea P Roberts <andreaproberts@quinnemanuel.com>, '"angela.quach@davispolk.com"' <angela.quach@davispolk.com>, '"Fenwick, Anthony I."' <anthony.fenwick@davispolk.com>, '"Lisson, David"' <david.lisson@davispolk.com>, '"Moore, David E."' <dmoore@potteranderson.com>, Eugene Novikov <eugenenovikov@quinnemanuel.com>, '"felicia.yu@davispolk.com"' <felicia.yu@davispolk.com>, Google-Xerox <Google-Xerox@quinnemanuel.com>, '"jblumenfeld@mnat.com"' <jblumenfeld@mnat.com>, '"jday@ashby-geddes.com"' <jday@ashby-geddes.com>, '"Brodsky, Jeremy"' <jeremy.brodsky@davispolk.com>, '"lmaguire@ashby-geddes.com"' <lmaguire@ashby-geddes.com>, '"mnoreika@mnat.com"' <mnoreika@mnat.com>, '"rhorwitz@Potteranderson.com"' <rhorwitz@Potteranderson.com>, 'Richard Stark' <RStark@cravath.com>

Date: 03/09/2011 07:18 PM

Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

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David and Tony -

As discussed on our call today, attached is a revised version of the joint claim construction chart and a comparison showing changes from the version David circulated last night. Please note that, as we indicated during the call, we have modified the first row in the "order of steps" section, which is currently in the "Agreed Constructions" section. If Defendants do not agree with these modifications, please let us know what language Defendants wish to use, and we will move this element into the "Disputed Constructions" section.

As discussed during the call, Xerox agrees with Defendants' proposal that "memory" (Claim 18) does not require construction based on Defendants' representation that they will not contend that "memory" excludes any of the categories of memory devices (e.g., disk drives, floppy disks (or diskettes), optical disks, magnetic tape, semiconductor memories such as RAM, ROM, PROMs, etc.) expressly enumerated in the specification of the '979 Patent. If Defendants do not agree with this understanding, please let us know.

Similarly, Xerox accepts Defendants' proposed construction for "defining an organized classification of document content" (Claims 1 and 18) given Defendants' representation that they will not argue that this construction precludes either creating an organized classification of document content or

selecting/modifying an existing organized classification of document content in performing the claimed method. Please confirm Defendants' agreement on this issue.

Defendants indicated on the call that they may wish to get an extension to complete their citations to intrinsic evidence. Please let us know if that is the case and, if so, what time frame Defendants are proposing. Otherwise, if the parties will be filing the joint claim construction chart tomorrow, we would appreciate receiving Defendants' responses to the attached as soon as possible, and no later than tomorrow morning.

Thank you.

Best,

Scott

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New York, NY 10019
(212) 474-1778 (phone)
(212) 474-3700 (fax)

[attachment "Joint Claim Construction Chart (Xerox rev. 3-9-11).doc" deleted by Scott Leslie/NYC/Cravath] [attachment "Joint Claim Chart Comparison.pdf" deleted by Scott Leslie/NYC/Cravath]

From: David Perlson <davidperlson@quinnemanuel.com>

To: Scott Leslie <SLeslie@cravath.com>
Cc: '"ahale@cravath.com"' <ahale@cravath.com>, '"aharasymiak@cravath.com"' <aharasymiak@cravath.com>, '"AMayo@ashby-geddes.com"' <AMayo@ashby-geddes.com>, Andrea P Roberts <andreaproberts@quinnemanuel.com>, '"angela.quach@davispolk.com"' <angela.quach@davispolk.com>, '"Fenwick, Anthony I."' <anthony.fenwick@davispolk.com>, '"Lisson, David"' <david.lisson@davispolk.com>, '"Moore, David E."' <dmoore@potteranderson.com>, Eugene Novikov <eugenenovikov@quinnemanuel.com>, '"felicia.yu@davispolk.com"' <felicia.yu@davispolk.com>, Google-Xerox <Google-Xerox@quinnemanuel.com>, '"jblumenfeld@mnat.com"' <jblumenfeld@mnat.com>, '"jday@ashby-geddes.com"' <jday@ashby-geddes.com>, '"Brodsky, Jeremy"' <jeremy.brodsky@davispolk.com>, '"lmaguire@ashby-geddes.com"' <lmaguire@ashby-geddes.com>, '"mnoreika@mnat.com"' <mnoreika@mnat.com>, '"rhorwitz@Potteranderson.com"' <rhorwitz@Potteranderson.com>, 'Richard Stark' <RStark@cravath.com>

Date: 03/09/2011 04:00 PM

Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

---

866-939-8416

Part. Passcode: 518165

From: Scott Leslie [mailto:SLeslie@cravath.com]
Sent: Wednesday, March 09, 2011 12:56 PM
To: David Perlson
Cc: 'ahale@cravath.com'; 'aharasymiak@cravath.com'; 'AMayo@ashby-geddes.com'; Andrea P Roberts; 'angela.quach@davispolk.com'; 'Fenwick, Anthony I.'; 'Lisson, David'; 'Moore, David E.'; Eugene Novikov; 'felicia.yu@davispolk.com'; Google-Xerox; 'jblumenfeld@mnat.com'; 'jday@ashby-geddes.com'; 'Brodsky, Jeremy'; 'lmaguire@ashby-geddes.com'; 'mnoreika@mnat.com'; 'rhorwitz@Potteranderson.com'; 'Richard Stark'
Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

David -

Do you have a dial-in number that we should use for the call?

Thanks.

Scott A. Leslie
Cravath, Swaine & Moore LLP
825 Eighth Avenue
New York, NY 10019
(212) 474-1778 (phone)
(212) 474-3700 (fax)

From: David Perlson <davidperlson@quinnemanuel.com>

To: Scott Leslie <SLeslie@cravath.com>
Cc: '"ahale@cravath.com"' <ahale@cravath.com>, '"aharasymiak@cravath.com"' <aharasymiak@cravath.com>, '"AMayo@ashby-geddes.com"' <AMayo@ashby-geddes.com>, Andrea P Roberts <andreaproberts@quinnemanuel.com>, '"angela.quach@davispolk.com"' <angela.quach@davispolk.com>, '"Fenwick, Anthony I."' <anthony.fenwick@davispolk.com>, '"Lisson, David"' <david.lisson@davispolk.com>, '"Moore, David E."' <dmoore@potteranderson.com>, Eugene Novikov <eugenenovikov@quinnemanuel.com>, '"felicia.yu@davispolk.com"' <felicia.yu@davispolk.com>, Google-Xerox <Google-Xerox@quinnemanuel.com>, '"jblumenfeld@mnat.com"' <jblumenfeld@mnat.com>, '"jday@ashby-geddes.com"' <jday@ashby-geddes.com>, '"Brodsky, Jeremy"' <jeremy.brodsky@davispolk.com>, '"lmaguire@ashby-geddes.com"' <lmaguire@ashby-geddes.com>, '"mnoreika@mnat.com"' <mnoreika@mnat.com>, '"rhorwitz@Potteranderson.com"' <rhorwitz@Potteranderson.com>, 'Richard Stark' <RStark@cravath.com>

Date: 03/09/2011 12:39 PM

Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

---

1 pm pacific would work for Google.

From: Scott Leslie [mailto:SLeslie@cravath.com]
Sent: Tuesday, March 08, 2011 7:42 PM
To: David Perlson
Cc: 'ahale@cravath.com'; 'aharasymiak@cravath.com'; 'AMayo@ashby-geddes.com'; Andrea P Roberts; 'angela.quach@davispolk.com'; 'Fenwick, Anthony I.'; 'Lisson, David'; 'Moore, David E.'; Eugene Novikov; 'felicia.yu@davispolk.com'; Google-Xerox; 'jblumenfeld@mnat.com'; 'jday@ashby-geddes.com'; 'Brodsky, Jeremy'; 'lmaguire@ashby-geddes.com'; 'mnoreika@mnat.com'; 'rhorwitz@Potteranderson.com'; 'Richard Stark'
Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

David -

A call tomorrow in the early afternoon Pacific time would work for Xerox.

Best,

Scott

Scott A. Leslie
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825 Eighth Avenue
New York, NY 10019
(212) 474-1778 (phone)
(212) 474-3700 (fax)

From: David Perlson <davidperlson@quinnemanuel.com>

To: David Perlson <davidperlson@quinnemanuel.com>, Scott Leslie <SLeslie@cravath.com>
Cc: '"ahale@cravath.com"' <ahale@cravath.com>, '"aharasymiak@cravath.com"' <aharasymiak@cravath.com>, '"AMayo@ashby-geddes.com"' <AMayo@ashby-geddes.com>, Andrea P Roberts <andreaproberts@quinnemanuel.com>, '"angela.quach@davispolk.com"' <angela.quach@davispolk.com>, '"Fenwick, Anthony I."' <anthony.fenwick@davispolk.com>, '"Lisson, David"' <david.lisson@davispolk.com>, '"Moore, David E."' <dmoore@potteranderson.com>, Eugene Novikov <eugenenovikov@quinnemanuel.com>, '"felicia.yu@davispolk.com"' <felicia.yu@davispolk.com>, Google-Xerox <Google-Xerox@quinnemanuel.com>, '"jblumenfeld@mnat.com"' <jblumenfeld@mnat.com>, '"jday@ashby-geddes.com"' <jday@ashby-geddes.com>, '"Brodsky, Jeremy"' <jeremy.brodsky@davispolk.com>, '"lmaguire@ashby-geddes.com"' <lmaguire@ashby-geddes.com>, '"mnoreika@mnat.com"' <mnoreika@mnat.com>, '"rhorwitz@Potteranderson.com"' <rhorwitz@Potteranderson.com>, 'Richard Stark' <RStark@cravath.com>

Date: 03/08/2011 10:04 PM

Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

Scott, attached is a clean version and redline from your prior document.

One thing to note, you see that for ""organized classification of document content" we have noted to be discussed. We have been trying to come up with a compromise using your construction, which uses ontology—a term that the jury may need help with. Perhaps if we can discuss the claim term on a meet and confer we can reach agreement. Would tomorrow afternoon pacific time work for Xerox?

David

From: David Perlson
Sent: Monday, March 07, 2011 5:27 PM
To: Scott Leslie
Cc: 'ahale@cravath.com'; 'aharasymiak@cravath.com'; 'AMayo@ashby-geddes.com'; Andrea P Roberts; 'angela.quach@davispolk.com'; 'Fenwick, Anthony I.'; 'Lisson, David'; 'Moore, David E.'; Eugene Novikov; 'felicia.yu@davispolk.com'; Google-Xerox; 'jblumenfeld@mnat.com'; 'jday@ashby-geddes.com'; 'Brodsky, Jeremy'; 'lmaguire@ashby-geddes.com'; 'mnoreika@mnat.com'; 'rhorwitz@Potteranderson.com'; 'Richard Stark'
Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

Thanks Scott. We will be looking to get you a revised chart tomorrow.

David

From: Scott Leslie [mailto:SLeslie@cravath.com]
Sent: Monday, March 07, 2011 1:14 PM
To: David Perlson
Cc: 'ahale@cravath.com'; 'aharasymiak@cravath.com'; 'AMayo@ashby-geddes.com'; Andrea P Roberts; 'angela.quach@davispolk.com'; 'Fenwick, Anthony I.'; 'Lisson, David'; 'Moore, David E.'; Eugene Novikov; 'felicia.yu@davispolk.com'; Google-Xerox; 'jblumenfeld@mnat.com'; 'jday@ashby-geddes.com'; 'Brodsky, Jeremy'; 'lmaguire@ashby-geddes.com'; 'mnoreika@mnat.com'; 'rhorwitz@Potteranderson.com'; 'Richard Stark'
Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

David -

Regarding "memory", if there is nothing about Xerox's definition (which simply tracks the examples of "memory" set forth in the specification) that Defendants disagree with, Xerox would agree to remove this term from the chart.

Regarding Claim 10, an "organized classification of document content" consists of categories (i.e., classes). Claim 10 simply requires that each category/class be associated with a "characteristic vocabulary." It seems to us that "vocabulary" is self-explanatory, and a "characteristic vocabulary" would, self-evidently, be a vocabulary that is characteristic of the category. If Defendants believe this term requires construction, please let us know what construction defendants would propose.

As you know, the parties must file the joint claim construction chart on Thursday. Defendants have now had Xerox's draft claim chart for over 10 days, since February 24, and have raised only the two issues addressed above. Please let us know Defendants' positions on those two issues no later than tomorrow. With respect to all other issues, please send us Defendants' response to the February 24 chart today.

Best,

Scott

Scott A. Leslie
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(212) 474-1778 (phone)
(212) 474-3700 (fax)

From: David Perlson <davidperlson@quinnemanuel.com>

To: 'Scott Leslie' <SLeslie@cravath.com>

Cc: '"ahale@cravath.com"' <ahale@cravath.com>, '"aharasymiak@cravath.com"' <aharasymiak@cravath.com>, '"AMayo@ashby-geddes.com"' <AMayo@ashby-geddes.com>, Andrea P Roberts <andreaproberts@quinnemanuel.com>, '"angela.quach@davispolk.com"' <angela.quach@davispolk.com>, '"Fenwick, Anthony I."' <anthony.fenwick@davispolk.com>, '"Lisson, David"' <david.lisson@davispolk.com>, '"Moore, David E."' <dmoore@potteranderson.com>, Eugene Novikov <eugenenovikov@quinnemanuel.com>, '"felicia.yu@davispolk.com"' <felicia.yu@davispolk.com>, Google-Xerox <Google-Xerox@quinnemanuel.com>, '"jblumenfeld@mnat.com"' <jblumenfeld@mnat.com>, '"jday@ashby-geddes.com"' <jday@ashby-geddes.com>, '"Brodsky, Jeremy"' <jeremy.brodsky@davispolk.com>, '"lmaguire@ashby-geddes.com"' <lmaguire@ashby-geddes.com>, '"mnoreika@mnat.com"' <mnoreika@mnat.com>, '"rhorwitz@Potteranderson.com"' <rhorwitz@Potteranderson.com>, 'Richard Stark' <RStark@cravath.com>

Date: 03/06/2011 11:13 PM

Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

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Scott,

As we continue to consider Xerox's proposals we have a few questions.

Xerox has sought to construe "memory." Our initial reaction is that this is not a term that should need construction. Is there some reason why Xerox feels this is needed to be explained to the jury?

Xerox did not identify “characteristic vocabulary” in claim 10 as a term for construction. Can you explain what Xerox believes this phrase intends to convey? This term seems to be one that would warrant a construction, but we have not yet formulated one. Perhaps Xerox’s explanation of this term could assist in this process given the short time we have to provide constructions.

Thanks,

David

From: Scott Leslie [mailto:SLeslie@cravath.com]
Sent: Thursday, February 24, 2011 1:01 PM
To: David Perlson
Cc: ahale@cravath.com; aharasymiak@cravath.com; AMayo@ashby-geddes.com; Andrea P Roberts; angela.quach@davispolk.com; Fenwick, Anthony I.; Lisson, David; Moore, David E.; Eugene Novikov; felicia.yu@davispolk.com; Google-Xerox; jblumenfeld@mnat.com; jday@ashby-geddes.com; Brodsky, Jeremy; lmaguire@ashby-geddes.com; mnoreika@mnat.com; rhorwitz@Potteranderson.com; Richard Stark
Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

Counsel -

Attached is an updated Joint Claim Construction Chart with Xerox's additions. As you will see, we have reformatted the document for filing and have updated various sections of the charts themselves. To the extent we have altered anything in the charts beyond Xerox's own proposed constructions and mere formatting, we have shaded those changes in gray.

Please let us know if you have any questions.

Best,

Scott

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825 Eighth Avenue
New York, NY 10019
(212) 474-1778 (phone)
(212) 474-3700 (fax)

From: David Perlson <davidperlson@quinnemanuel.com>

To: Scott Leslie <SLeslie@cravath.com>, Andrea P Roberts <andreaproberts@quinnemanuel.com>
Cc: "ahale@cravath.com" <ahale@cravath.com>, "aharasymiak@cravath.com" <aharasymiak@cravath.com>, "AMayo@ashby-geddes.com" <AMayo@ashby-geddes.com>, "angela.quach@davispolk.com" <angela.quach@davispolk.com>, "Fenwick, Anthony I." <anthony.fenwick@davispolk.com>, "Lisson, David" <david.lisson@davispolk.com>, "Moore, David E." <dmoore@potteranderson.com>, Eugene Novikov <eugenenovikov@quinnemanuel.com>, "felicia.yu@davispolk.com" <felicia.yu@davispolk.com>, Google-Xerox <Google-Xerox@quinnemanuel.com>, "jblumenfeld@mnat.com" <jblumenfeld@mnat.com>, "jday@ashby-geddes.com" <jday@ashby-geddes.com>, "Brodsky, Jeremy" <jeremy.brodsky@davispolk.com>, "lmaguire@ashby-geddes.com" <lmaguire@ashby-geddes.com>, "mnoreika@mnat.com"

<mnoreika@mnat.com>, "rhorwitz@Potteranderson.com" <rhorwitz@Potteranderson.com>, Richard Stark <RStark@cravath.com>

Date: 02/17/2011 02:10 PM

Subject: RE: Xerox v. Google, et al. - Claim Terms and Constructions

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Scott, here is the chart we discussed on call yesterday.

David

[attachment "3972040_Joint Claim Construction Chart (2).doc" deleted by Scott Leslie/NYC/Cravath]

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[attachment "Redline.pdf" deleted by Scott Leslie/NYC/Cravath] [attachment "Joint Claim Construction Chart (with Xerox additions) (2-24-11) (2).doc.doc" deleted by Scott Leslie/NYC/Cravath]

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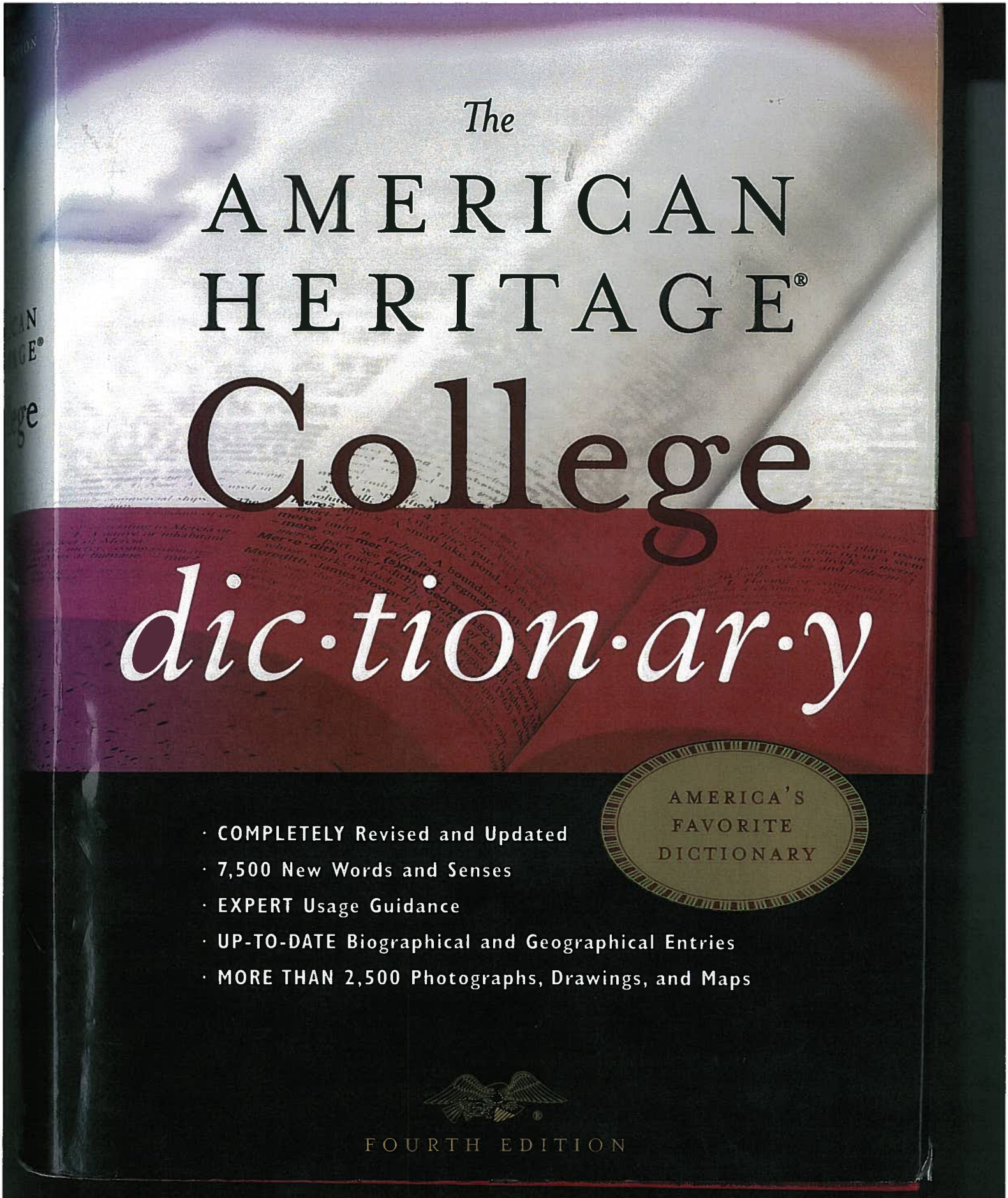
EXHIBIT I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Manufactured in the United States of America

t

y of several West African languages belonging to
al Niger-Congo language family, including Ewe
ople.]

hə) *n., pl.* **kwacha** See table at **currency.** [Bemba
n : *kw-*, infinitive pref. + *-acha*, to dawn.]

ä′jə-lən, -lān′) An atoll in the Marshall Is. of the
ı; used as a Japanese air and naval base during

ä′kē-ōōt′l) *n., pl.* **Kwakiutl** or **-tls** 1. A member
rican people inhabiting parts of coastal British
orthern Vancouver Island. 2. The Wakashan lan-
ıkiutl.

′dō) See **Cuando.**

wäng′chō′) See **Guangzhou.**

g′jōō′, gwäng′-) A city of SW South Korea SSE
214,347.

ang (kwäng′sē′ chwäng′) See **Guangxi**

väng′tōōng′, gwäng′dōōng′) See **Guangdong.**

za) *n., pl.* **kwanza** or **-zas** See table at **currency.**

ıza.

wan•za (kwän′zə) *n.* An African-American cul-
ebrated from December 26 to January 1. [Pan-
a, first fruit of the harvest < *kwanza*, first.]

(kwä′shē-ôr′kôr′) *n.* Severe protein malnutri-
ldren, marked by anemia, edema, potbelly, skin
and hair loss or change in hair color. [Ga
guage of Ghana) *kwashiɔkɔ.*]

(kväsh-nyĕf′skē), **Aleksander** b. 1954, Polish
itician who was elected president in 1995.

′chō′) See **Guizhou.**

′) See **Guilin.**

yäng′) See **Guiyang.**

r. kilowatt-hour

ntucky

A packsack that hangs on either side of a pack-
AYAK.]

ĭt′) also **cy•a•nite** (sī′ə-) *n.* A bluish-green to
Al_2SiO_5, used as a refractory. [Gk. *kuanos*, dark
B¹.]

able at **currency.** [Burmese *ca²*.]

Thomas 1558–94. English dramatist who wrote
dy (c. 1584).

ĭks) *n., pl.* **ky•li•kes** (kī′lĭ-kēz′, kĭl′ĭ-) A shal-
-handled drinking cup of ancient Greece. [Gk.

mə-grăm′) *n.* A graph or record made by a ky-
ma, something swollen; see CYMA + -GRAM.]

′mə-grăf′) *n.* An instrument for recording
ure or tension by means of a pen or stylus that
rum. [Gk. *kūma*, something swollen; see CYMA

no•graph′ic *adj.*

, **Lake** See Lake **Kioga.**

ō′-) A city of W-central Honshu, Japan, NNE
d in the 8th cent. and former cap. of Japan
,452,240.

′sĭs) *n.* Abnormal rearward curvature of the
protuberance of the upper back; hunchback.
hos, bent.] —**ky•phot′ic** (-fŏt′ĭk) *adj.*

iz or **Kir•giz** (kĭr-gēz′) *n., pl.* **Kyrgyz** or **-gyz•**
hiz•es or **Kirgiz** or **-giz•es** 1. A member of a
dic people living principally in Kyrgyzstan. 2.
ge of the Kyrgyz.

′gē-stän′, kĭr′gē-stän′) Formerly **Kir•ghi•zia**
, -zē-ə) A region and republic of W-central
NW China. Probably inhabited before the 13th
eaking Mongolian people, it was a constituent
USSR from 1936–91. Cap. Bishkek. Pop.

. 1. A brief petition and response used in vari-
ies, beginning with or composed of the words
" 2. A musical setting for this prayer. [LLat.
Kūrie eleēson, Lord, have mercy : *Kūrie*, voca-
, master + *eleēson*, aorist imper. of *elein*, to
s, mercy).]

-lā′ĭ-sŏn′, -sən) *n.* The Kyrie. [LLat. *Kyrie ele-*

ō, kyōō′-) An island of SW Japan on the East
Pacific Ocean.

Kiev.

′ kōōm′) A desert of N-central Uzbekistan
chstan SE of the Aral Sea between the Amu
Darya.

L l

L¹ or **l** (ĕl) *n., pl.* **L's** or **L's** also **ls** or **Ls** 1. The 12th letter of the modern English alphabet. 2. Any of the speech sounds represented by the letter *l*. 3. The 12th in a series. 4. Something shaped like the letter L.

l² *abbr.* 1. length 2. liter

L¹ also **l** The symbol for the Roman numeral 50.

L² *abbr.* 1. lambert 2. large 3. left 4. low

l. *abbr.* 1. line 2. lira

L. *abbr.* 1. lake 2. Latin

la¹ (lä) *n. Music* The sixth tone of the diatonic scale in solfeggio. [ME < Med.Lat. See GAMUT.]

la² (lä) *interj.* Used to express emphasis or indicate surprise.

La The symbol for the element **lanthanum.**

LA *abbr.* 1. Latin America 2. Legislative Assembly 3. local agent 4. Los Angeles 5. also **La.** Louisiana

laa•ger (lä′gər) *n.* A defensive encampment encircled by armored vehicles or wagons. ❖ *intr.v.* **-gered, -ger•ing, -gers** To camp in a defensive encirclement. [Alteration of obsolete Afr. *lager*, prob. < Ger. *Lager*, camp, lair. See LAGER.]

lab (lăb) *n.* A laboratory.

Lab. *abbr.* Labrador

lab•a•rum (lăb′ər-əm) *n., pl.* **-a•ra** (-ər-ə) 1. An ecclesiastical banner, esp. one carried in processions. 2. The banner adopted by Constantine I after his conversion to Christianity. [LLat., prob. < alteration of Gk. *labrāton*, laurel-leaf standard < Lat. *laureātum*, neut. of *laureātus*, adorned with laurel. See LAUREATE.]

lab•da•num (lăb′də-nəm) also **lad•a•num** (lăd′n-əm) *n.* A resin of certain Old World plants of the genus *Cistus*, yielding a fragrant essential oil used in flavorings and perfumes. [ME < Med.Lat. *lapdanum*, *labdanum*, alteration of Lat. *ladanum* < Gk. *lēdanon*, *lādanon* < *lēdon*, **lādon*, rockrose, of Semitic orig.; akin to Akkadian *ladinnu*, *ladunu*, an aromatic.]

la•bel (lā′bəl) *n.* 1. An item used to identify something or someone, as a small piece of paper or cloth attached to an article to designate its origin, owner, contents, use, or destination. 2. A descriptive term; an epithet. 3. A distinctive name or trademark identifying a product or manufacturer, esp. a recording company. 4. *Architecture* A molding over a door or window; a dripstone. 5. *Heraldry* A figure in a field consisting of a narrow horizontal bar with several pendants. 6. *Chemistry* See **tracer** 4. ❖ *tr.v.* **-beled, -bel•ing, -bels** or **-belled, -bel•ling, -bels** 1. To attach a label to. 2. To identify or designate with a label; describe or classify. 3. *Chemistry* To add a tracer to (a compound). [ME, ornamental strip of cloth < OFr., prob. of Gmc. orig.] —**la′bel•er, la′bel•ler** *n.*

la•bel•lum (lə-bĕl′əm) *n., pl.* **-bel•la** (-bĕl′ə) 1. The often enlarged petal of an orchid flower. 2. A liplike part, as certain insect proboscis tips, used for lapping up liquids. [Lat., dim. of *labrum*, lip.] —**la•bel′late** (-ĭt) *adj.*

la•bi•a (lā′bē-ə) *n.* Plural of **labium.**

la•bi•al (lā′bē-əl) *adj.* 1. Of or relating to the lips or labia. 2. *Linguistics* Articulated mainly by closing or partly closing the lips, as the sounds (b), (m), or (w). ❖ *n.* 1. *Linguistics* A labial consonant. 2. *Music* See **flue**¹ 2a. [Med.Lat. *labiālis* < Lat. *labium*, lip.] —**la′bi•al•ly** *adv.*

la•bi•al•ize (lā′bē-ə-līz′) *tr.v.* **-ized, -iz•ing, -iz•es** To round (a speech sound); make labial. —**la′bi•al•i•za′tion** (-lĭ-zā′shən) *n.*

labia ma•jo•ra (mə-jôr′ə, -jōr′ə) *pl.n.* The two outer rounded folds of adipose tissue on either side of the vaginal opening that form the external lateral boundaries of the vulva. [NLat. *labia māiōra* : Lat. *labia*, pl. of *labium*, lip + Lat. *māiōra*, neut. pl. of *māior*, larger.]

labia mi•no•ra (mə-nôr′ə, -nōr′ə) *pl.n.* The two thin inner folds of skin within the vestibule of the vagina enclosed within the cleft of the labia majora; nymphae. [NLat. *labia minōra* : Lat. *labia*, lips + Lat. *minōra*, smaller.]

la•bi•ate (lā′bē-ĭt, -āt′) *adj.* 1. Having lips or liplike parts. 2. *Botany* a. Having or being flowers with the corolla divided into two liplike parts, as in the snapdragon. b. Of or belonging to the mint family Labiatae. ❖ *n.* A plant belonging to the Labiatae. [Lat. *labium*, lip; see LABIUM + -ATE¹.]

la•bile (lā′bĭl′, -bəl) *adj.* 1. Open to change; adaptable. 2. *Chemistry* Constantly undergoing or likely to undergo change; unstable. [ME *labil*, wandering < OFr. *labile* < LLat. *labilis*, apt to slip < *labī*, to slip.] —**la•bil′i•ty** (-bĭl′ĭ-tē) *n.*

labio- *pref.* Labial: *labiovelar.* [< Lat. *labium*, lip. See LABIUM.]

la•bi•o•den•tal (lā′bē-ō-dĕn′tl) *adj.* Articulated with the lower lip and upper teeth, as the sounds (f) and (v). ❖ *n.* A labiodental sound.

la•bi•o•ve•lar (lā′bē-ō-vē′lər) *adj.* Simultaneously labial and velar, as (kw) in *quick*. ❖ *n.* A labiovelar sound.

la•bi•um (lā′bē-əm) *n., pl.* **-bi•a** (-bē-ə) 1. *Anatomy* Any of four folds of tissue of the female external genitalia. 2. *Zoology* a. A liplike structure, such as that forming the floor of the mouth of certain invertebrates, esp. insects. b. The inner margin of the opening of a gastropod shell. 3. *Botany* One of the liplike divisions of a labiate corolla. [Lat., lip.]

la•bor (lā′bər) *n.* 1a. Physical or mental exertion, esp. when difficult or exhausting; work. b. Something produced by work. 2. A specific task. 3. A particular form of work or method of working: *manual labor*. 4. Work for wages. 5a. Workers considered as a group. b. The trade union movement, esp. its officials. 6. **Labor** A political party representing workers' interests, esp. in Great Britain. 7. The process by which childbirth occurs, beginning with contractions of the uterus and ending with the expulsion of the fetus or infant and the placenta. ❖ *v.* **-bored, -bor•ing, -bors** —*intr.* 1. To work; toil. 2. To strive painstakingly. 3a. To proceed with great effort; plod. b. *Nautical* To pitch and roll. 4. To suffer from distress or a disadvantage. 5. To undergo the efforts of childbirth. —*tr.* 1. To deal with in exhaustive or excessive detail; belabor: *labor a point in the argument*. 2. To distress; burden. ❖ *adj.* 1. Of or relating to labor. 2. **Labor** Of or relating to a Labor Party. [ME < OFr. *labour* < Lat. *labor*.] —**la′bor•er** *n.*

lab•o•ra•to•ry (lăb′rə-tôr′ē, -tōr′ē) *n., pl.* **-ries** 1a. A room or building equipped for scientific experimentation or research. b. An academic period devoted to work or study in such a place. 2. A place where drugs and chemicals are manufactured. 3. A place for practice, observation, or testing. [Med.Lat. *labōrātōrium* < Lat. *labōrāre*, to labor < *labor*, labor.]

Labor Day *n.* The first Monday in September, observed as a holiday in some countries in honor of working people.

la•bored (lā′bərd) *adj.* 1. Produced or done with effort: *labored breathing*. 2. Lacking natural ease; strained.

la•bor-in•ten•sive (lā′bər-ĭn-tĕn′sĭv) *adj.* Requiring or having a large expenditure of labor in comparison to capital.

la•bo•ri•ous (lə-bôr′ē-əs, -bōr′-) *adj.* 1. Marked by or requiring long, hard work. 2. Hard-working; industrious. —**la•bo′ri•ous•ly** *adv.* —**la•bo′ri•ous•ness** *n.*

la•bor•ite (lā′bə-rīt′) *n.* 1. A member or supporter of a labor movement or union. 2. **Laborite** A member of a political party representing labor.

la•bor•sav•ing (lā′bər-sā′vĭng) *adj.* Designed to conserve human energy in performing work or decrease the amount of human labor needed.

labor union *n.* An organization of wage earners formed for the purpose of serving the members' interests with respect to wages and working conditions.

la•bour (lā′bər) *n., v., & adj. Chiefly British* Variant of **labor.**

La•bov (lə-bōv′), **William** b. 1927. Amer. linguist and author of *The Social Stratification of English in New York City* (1966).

Lab•ra•dor (lăb′rə-dôr′) The mainland territory of Newfoundland, Canada, on the NE portion of the Labrador Peninsula; visited by Norse seamen as early as the 10th cent. —**Lab′ra•dor′e•an, Lab′ra•dor′i•an** *adj. & n.*

Labrador Current *n.* A cold ocean current flowing southward along the coast of Labrador and turning east.

lab•ra•dor•ite (lăb′rə-dôr′īt′, -dō-rīt′) *n.* A variety of plagioclase feldspar found in igneous rocks and characterized by brilliant colors. [After the LABRADOR (PENINSULA).]

Labrador Peninsula A peninsula of E Canada between Hudson Bay and the Atlantic Ocean.

Labrador retriever *n.* Any of a breed of dog originating in Newfoundland, having a short yellow, black, or brown coat and a tapering tail and used in hunting. [After LABRADOR.]

la•bret (lā′brĭt) *n.* An ornament inserted into a perforation in the lip. [Lat. *labrum*, lip + -ET.]

la•brum (lā′brəm) *n., pl.* **-bra** (-brə) 1. A lip or liplike structure. 2. The outer margin of the opening of a gastropod shell. [Lat., lip.]

La•bu•an (lə-bōō′ən, lä′bōō-än′) An island of Malaysia off the N coast of Borneo; became part of Malaysia in 1963.

la•bur•num (lə-bûr′nəm) *n.* Any of several trees or shrubs of the genus *Laburnum*, esp. *L. anagyroides*, having drooping clusters of yellow flowers. [NLat. *Laburnum*, genus name < Lat. *laburnum*, broad-leaved bean trefoil, perh. of Etruscan orig.]

lab•y•rinth (lăb′ə-rĭnth′) *n.* 1a. An intricate structure of interconnecting passages through which it is difficult to find one's way; a maze. b. **Labyrinth** *Greek Mythology* The maze in which

Labrador retriever
black and yellow Labrador retrievers

ă	pat	oi	boy
ā	pay	ou	out
âr	care	o͝o	took
ä	father	o͞o	boot
ĕ	pet	ŭ	cut
ē	be	ûr	urge
ĭ	pit	th	thin
ī	pie	*th*	this
îr	pier	hw	which
ŏ	pot	zh	vision
ō	toe	ə	about, item
ô	paw		

Stress marks:
ˈ (primary);
ˌ (secondary), as in **lexicon** (lĕkˈsĭ-kŏnˌ)

u•tile (yōōt′l, yōō′tīl′) *adj.* Useful. [ME < OFr. < Lat. *ūtilis*. See UTILITY.]

u•til•i•tar•i•an (yōō-til′i-târ′ē-ən) *adj.* **1.** Of, relating to, or in the interests of utility. **2.** Exhibiting or stressing utility over other values; practical. **3.** Of, characterized by, or advocating utilitarianism. ❖ *n.* One who advocates or practices utilitarianism. [UTILIT(Y) + -ARIAN.]

u•til•i•tar•i•an•ism (yōō-til′i-târ′ē-ə-nĭz′əm) *n.* **1.** The belief that the value of a thing or an action is determined by its utility. **2.** The ethical theory that all action should be directed toward achieving the greatest happiness for the greatest number of people. **3.** The quality of being utilitarian: *housing of bleak utilitarianism.*

u•til•i•ty (yōō-til′i-tē) *n., pl.* **-ties 1.** The quality or condition of being useful; usefulness. **2.** A useful article or device. **3a.** A public utility. **b.** A commodity or service, such as electricity or water, provided by a public utility. **4.** *Computer Science* A utility program. ❖ *adj.* **1.** Used, serving, or working in several capacities as needed, esp.: **a.** Prepared to play any of the smaller theatrical roles on short notice: *a utility cast member.* **b.** Capable of playing as a substitute in any of several positions: *a utility infielder.* **2.** Designed for various often heavy-duty practical uses: *a utility knife.* **3.** Raised or kept for the production of a farm product rather than for show or as pets: *utility livestock.* **4.** Of the lowest US Government grade: *utility beef.* [ME *utilite* < OFr. < Lat. *ūtilitās* < *ūtilis*, useful < *ūtī*, to use.]

utility program *n.* A program that performs a specific task related to the management of computer functions, resources, or files, as password protection or file compression.

utility room *n.* A room used for the placement of large appliances, such as a washing machine, or for the storage of cleaning items, such as a mop and pail.

utilization review *n.* A process for monitoring the use and delivery of services, esp. one used by a managed care provider to control health care costs.

u•til•ize (yōōt′l-īz′) *tr.v.* **-ized, -iz•ing, -iz•es** To put to use, esp. to find a profitable or practical use for. [Fr. *utiliser* < Ital. *utilizzare* < *utile*, useful < Lat. *ūtilis* < *ūtī*, to use.] **—u′til•iz′a•ble** *adj.* **—u′til•i•za′tion** (-ĭ-zā′shən) *n.* **—u′til•iz′er** *n.*

USAGE NOTE Many critics regard *utilize* as an unnecessary and pretentious substitute for *use*. But this is not true in all cases. *Utilize* can mean "to find a profitable or practical use for." Thus the sentence *The teachers were unable to use the new computers* might mean only that the teachers were unable to operate the computers, whereas *The teachers were unable to utilize the new computers* suggests that the teachers could not find ways to employ the computers in instruction.

ut•most (ŭt′mōst′) *adj.* **1.** Being or situated at the most distant limit or point; farthest: *the utmost tip of the peninsula.* **2.** Of the highest or greatest degree, amount, or intensity; most extreme: *of the utmost importance.* ❖ *n.* The greatest possible amount, degree, or extent; the maximum: *worked to the utmost of her abilities.* [ME < OE *ūtmest* : *ūt*, out; see **ud-** in App. + *-mest*, -most.]

U•to-Az•tec•an (yōō′tō-ăz′tĕk′ən) *n.* **1.** A language phylum of North and Central America that includes Ute, Hopi, Nahuatl, and Shoshone. **2.** A member of a tribe speaking a Uto-Aztecan language. ❖ *adj.* Of or relating to the Uto-Aztecans or to the languages spoken by them. [< UTE + AZTEC.]

u•to•pi•a (yōō-tō′pē-ə) *n.* **1a.** often **Utopia** An ideally perfect place, esp. in its social, political, and moral aspects. **b.** A work of fiction describing a utopia. **2.** An impractical idealistic scheme for reform. [NLat. *Ūtopia*, imaginary island in *Utopia* (1516) by Sir Thomas More : Gk. *ou*, not, no; see **aiw-** in App. + Gk. *topos*, place.]

u•to•pi•an (yōō-tō′pē-ən) *adj.* **1.** often **Utopian** Of, relating to, describing or having the characteristics of a Utopia: *a Utopian island.* **2a.** Excellent or ideal but impracticable; visionary. **b.** Proposing impracticably ideal schemes. ❖ *n.* A zealous but impractical reformer of human society.

u•to•pi•an•ism also **U•to•pi•an•ism** (yōō-tō′pē-ə-nĭz′əm) *n.* The ideals or principles of a utopian; idealistic and impractical social theory.

U•trecht (yōō′trĕkt′, ŭ′trĕkht) A city of central Netherlands SSE of Amsterdam. The Treaty of Utrecht ended the War of the Spanish Succession (1701–13). Pop. 234,139.

u•tri•cle[1] (yōō′trĭ-kəl) *n.* **1.** A membranous sac contained within the labyrinth of the inner ear and connected with the semicircular canals. **2.** *Botany* A small bladderlike one-seeded indehiscent fruit, as in the amaranth. [Lat. *utriculus*, dim. of *uter*, *utr-*, leather bottle, poss. < Gk. *hudriā*, water vessel < *hudōr*, water. See **wed-** in App.]

u•tri•cle[2] (yōō′trĭ-kəl) *n.* A small vestigial blind pouch of the prostate gland. [Lat. *utriculus*, sac, dim. of *uterus*, uterus.]

u•tric•u•lar[1] (yōō-trĭk′yə-lər) *adj.* **1.** Of, relating to, or resembling a utricle. **2.** Having one or more utricles.

u•tric•u•lar[2] (yōō-trĭk′yə-lər) *adj.* Relating to the uterus.

u•tric•u•lus (yōō-trĭk′yə-ləs) *n., pl.* **-li** (-lī′) A utricular sac.

U•tril•lo (yōō-trĭl′ō, ü-trē-ō′), **Maurice** 1883–1955. French painter known esp. for his street scenes of Paris.

U•tsu•no•mi•ya (ōōt′sə-nō′mē-ə, ōō-tsōō′nô-mē′yä) A city of central Honshu, Japan, N of Tokyo. Pop. 434,029.

ut•ter[1] (ŭt′ər) *tr.v.* **-tered, -ter•ing, -ters 1.** To send forth with the voice: *uttered a cry.* **2.** To articulate (words); pronounce or speak. See Syns at **vent**[1]. **3.** *Law* To circulate (counterfeit money, for example). **4.** To publish (a book, for example). **5.** *Obsolete* To sell or deliver (merchandise) in trading. [ME *utteren*, partly < MLGer. *uteren* (< *uter*, outer, comp. of *ūt*, out; see **ud-** in App.), and partly alteration (influenced by *utter*, outer) of ME *outen*, to disclose (< *out*, out; see OUT).] **—ut′ter•a•ble** *adj.* **—ut′ter•er** *n.*

ut•ter[2] (ŭt′ər) *adj.* Complete; absolute; entire: *utter darkness.* [ME < OE *ūtera*, outer. See **ud-** in App.]

ut•ter•ance[1] (ŭt′ər-əns) *n.* **1a.** The act of uttering; vocal expression. **b.** The power of speaking; speech. **c.** A manner of speaking. **2.** Something uttered or expressed; a statement.

ut•ter•ance[2] (ŭt′ər-əns) *n.* The uttermost end or extremity; the bitter end. [ME < OFr. *outrance* < *outrer*, to go beyond limits < VLat. **ultrāre* < Lat. *ultrā*, beyond. See **al-** in App.]

ut•ter•ly (ŭt′ər-lē) *adv.* Completely; absolutely; entirely.

ut•ter•most (ŭt′ər-mōst′) *adj.* **1.** Utmost. **2.** Outermost. ❖ *n.* The greatest amount or degree possible; the utmost. [ME : *utter*, outer; see UTTER[2] + *-most*, -most.]

U-turn (yōō′tûrn′) *n.* A turn, as by a vehicle, completely reversing the direction of travel.

UV *abbr.* ultraviolet

u•va•rov•ite (yōō-vär′ə-vīt′, ōō-) *n.* An emerald-green variety of garnet, $Ca_3Cr_2(SiO_4)_3$, found in chromium deposits. [After Count Sergei Semenovitch *Uvarov* (1785–1855), president of the St. Petersburg Academy.]

u•ve•a (yōō′vē-ə) *n.* The vascular middle layer of the eye constituting the iris, ciliary body, and choroid. [Med.Lat. *ūvea* < Lat. *ūva*, grape.] **—u′ve•al** *adj.*

u•ve•i•tis (yōō′vē-ī′tĭs) *n.* Inflammation of the uvea.

UV index (yōō′vē′) *n.* A scale ranging from zero to ten, used to estimate the risk for sunburn in midday sunlight under conditions that account for cloud cover, ozone, and location.

u•vu•la (yōō′vyə-lə) *n.* A small conical fleshy mass of tissue suspended from the center of the soft palate. [ME < Med.Lat. *ūvula*, swollen uvula, dim. of Lat. *ūva*, grape, swollen uvula.]

u•vu•lar (yōō′vyə-lər) *adj.* **1.** Of, relating to, or associated with the uvula. **2.** *Linguistics* Articulated by vibration of the uvula or with the back of the tongue near or touching the uvula.

UW *abbr.* underwriter

ux. *abbr. Latin* uxor (wife)

Ux•mal (ōōs-mäl′) An ancient ruined Mayan city of Yucatán in SE Mexico; flourished from 600 to 900.

ux•o•ri•al (ŭk-sôr′ē-əl, -sōr′-, ŭg-zôr′-, -zōr′-) *adj.* Of a wife; regarded as befitting a wife. [< Lat. *uxōrius*. See UXORIOUS.] **—ux•o′ri•al•ly** *adv.*

ux•o•ri•cide (ŭk-sôr′ĭ-sīd′, -sōr′-, ŭg-zôr′-, -zōr′-) *n.* **1.** The killing of a wife by her husband. **2.** A man who kills his wife. [Med.Lat. *uxōricīdium* : Lat. *uxor*, wife + Lat. *-cīdium*, -cide.]

ux•o•ri•ous (ŭk-sôr′ē-əs, -sōr′-, ŭg-zôr′-, -zōr′-) *adj.* Excessively submissive or devoted to one's wife. [< Lat. *uxōrius* < *uxor*, wife.] **—ux•o′ri•ous•ly** *adv.* **—ux•o′ri•ous•ness** *n.*

Uz•bek (ōōz′bĕk′, ŭz′-) *n., pl.* **Uzbek** or **-beks 1.** A member of a Turkic people inhabiting Uzbekistan and neighboring areas. **2.** The Turkic language of the Uzbeks. [Russ. < Uzbek *ŭzbek*.]

Uz•bek•i•stan (ōōz-bĕk′ĭ-stän′, -stăn′, ŭz-) A region and republic of W-central Asia; conquered by Alexander the Great, Genghis Khan, and Tamerlane and finally overrun by Uzbek peoples in the early 16th cent. It was a constituent republic of the USSR from 1924 to 1991. Cap. Tashkent. Pop. 22,349,000.

U•zi or **U•ZI** (ōō′zē) *n., pl.* **U•zis** or **U•ZIs** Any of various compact submachine guns having a caliber of 9 millimeters, originally designed in Israel in the 1950s. [After *Uzi* el-Gal, 20th-cent. Israeli army officer and weapons designer.]

Maurice Utrillo
c. 1921 portrait by his mother, Suzanne Valadon (1865–1938)

Uzbekistan

ă	pat	oi	boy
ā	pay	ou	out
âr	care	o͝o	took
ä	father	o͞o	boot
ĕ	pet	ŭ	cut
ē	be	ûr	urge
ĭ	pit	th	thin
ī	pie	*th*	this
îr	pier	hw	which
ŏ	pot	zh	vision
ō	toe	ə	about,
ô	paw		item

Stress marks:
ˈ (primary);
ˌ (secondary), as in **lexicon** (lĕkˈsĭ-kŏnˌ)

App.

EXHIBIT J

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computer science The branch of science and technology that is concerned with methods and techniques relating to data processing performed by automatic means. (T) (A)

computer security (**COMPUSEC**) (1) Concepts, techniques, technical measures, and administrative measures used to protect the hardware,software, and data of an information processing system from deliberate or inadvertent unauthorized acquisition, damage, destruction, disclosure, manipulation, modification, or use, or loss. (2) Protection resulting from the application of computer security *(1)*.

Note: Technical measures include system mechanisms for protecting programs and data such as access control, information flow control, encryption, and privileged states. Administrative measures include controls outside the system for involving personnel and the physical security of the computing system such as authorization, clearances, privacy protection, and auditing controls. Computer security also involves networks and telecommunication facilities to which computer systems are connected.

computer security incident An adverse event associated with a computer system that: (a) is a failure to comply with security regulations or directives, or (b) results in suspected or actual compromise of information, or (c) results in the misuse, loss, or damage of property or information.

computer security model A mathematical description of the subjects, objects and other entities of a system for the purpose of analyzing the security of the system.

Note: Computer security models include Bell-LaPadula, Biba, Clark-Wilson, lattice, and take-grant.

computer simulator A computer program that translates computer programs prepared for a computer of one model for execution on a computer of a different model. (I) (A)

computer system (1) A functional unit, consisting of one or more computers and associated software, that uses common storage for all or part of a program and also for all or part of the data necessary for the execution of the program; executes user-written or user-designated programs; performs user-designated data manipulation, including arithmetic operations and logic operations; and that can execute programs that modify themselves during their execution. A computer system may be a stand-alone unit or may consist of several interconnected units. Synonymous with ADP system, computing system. (A) (2) Synonym for data processing system.

computer-system audit An examination of the procedures used in a computer system to evaluate their effectiveness and correctness, and to recommend improvements. (T)

computer system fault tolerance The ability of a computer system to continue to operate correctly even though one or more of its component parts are malfunctioning. The speed of performance, the throughput, or both, may be diminished from normal until the faults are corrected. Synonymous with computer system resilience. (I) (A)

computer system resilience Synonym for computer system fault tolerance. (I) (A)

computer system security Synonym for data processing system security.

computer time In simulation, the time required to process the data that represent a process or that represent a part of a process. (A)

computer word (1) A word suitable for processing by a given computer, usually treated as a unit. (T) (2) Synonymous with machine word. (3) See also halfword.

computing system Synonym for data processing system. (T) (A)

computing system catalog In the Data Facility Hierarchical Storage Manager, the master catalog and any associated user catalogs used as sources during the audit process.

computing system RPQ A customer request for a price quotation on alterations or additions to the functional capabilities of a computing system, hardware product, or device. The RPQ may be used in conjunction with programming RPQs to solve unique data processing problems. See also programming RPQ, RPQ.

COMSEC Communications security.

COMWRITE The subtask of the TCAM initiator that formats and writes trace records to the COMWRITE data set.

COMWRITE data set A TCAM data set on a sequential storage device in which trace information is written.

concatenate (1) To link together. (2) To join two character strings.

concatenated data sets A group of logically connected data sets that are treated as one data set for the duration of a job step.

concatenated field
ical file record fc
make one field in a

concatenated key
access a particular
fields, including th
sive child segmen
accessed segment.

concatenation (1)
ters or strings in
string whose length
of the two characte
combining a series
as rotations, transl
of transformations
cation.

concatenation ope
characters or string

concentrated mes
group of terminals
combines them intc
warding to the pr
single physical mes
sages for a group o
essing unit to a rem

concentration (1)
messages into a
Contrast with dec
blocking. (3) See l

concentrator (1) li
unit that permits a
serve more data so
rently available
medium. (T) (2
incoming messages
tration) or extracts
sent in a single t
tration). (3) See
blocking, deblockin

concentrator dat
ACF/TCAM data
messages for outpu
the ACF/TCAM sy
element chain, a li
STCB chain.

concentrator dev
ACF/TCAM work a
each terminal atta
defined in the ACF
device ID table, wh
taining information

L

label (1) In programming languages, a language construction naming a statement and including an identifier. (I) (2) An identifier within or attached to a set of data elements. (T) (3) A record that identifies a volume on tape, disk, or diskette or that identifies a file on the volume. (4) An identifier of a command generally used for branching. (5) In BASIC, a name that identifies a BASIC program line. (6) In PL/I, an identifier that names a statement so that it can be referred to at some other point in the program. (7) In RPG, a symbolic name that represents a specific location in a program. A label can serve as the destination point for one or more branching operations. (8) In SQL, a way of describing columns instead of, or in addition to, the table or column name. (9) See beginning-of-volume label, end-of-file label, end-of-volume label, external label, header label, internal label. (10) See also entry name, file name, magnetic tape label, name, symbol. (11) See sensitivity label. (12) Synonymous with tag.

label area Synonym for label information area.

label constant In PL/I, a name written as the label of any statement other than PROCEDURE. Contrast with label variable.

label format record In PSS, a record that defines the size of a shelf label, position and length of each field on the label, and font of each character to be printed in each field.

label information area In VSE, an area on a direct access storage device that stores label information read from job control statements or commands. Synonymous with label area.

label prefix See label.

label variable In PL/I, an identifier that contains the label of a statement so that the statement can be referred to at some other point in the program.

laced card A card punched accidentally or intentionally with holes in excess of the hole patterns of the character set used. (A)

LADN Library-assigned document name.

lag Synonym for image retention.

lag (1) The delay between two events. (A) (2) Synonym for image retention.

LAN Local area network.

LAN broadcast Sending of a transmission frame that is intended to be accepted by all other data stations on the same local area network. (T)

LAN broadcast address An address that identifies the set of data stations on a local area network. Synonymous with LAN global address. (T)

land In optical recording, an area between two pits, typically not touched by the recording laser beam during mastering. See also pit.

landing pad In videodisc systems, a range of frames within which a player can locate a frame or frame sequence from other parts of the disc.

landing zone An area on a disk where the read/write head comes to rest when the disk stops rotating. Synonymous with takeoff zone. See also loading zone. Winchester.

Note: The landing zone is used to prevent damage to the magnetizable surface of the disk and loss of data that could result from contact between the head and an area of the disk where data is recorded (a head crash).

landline facilities Facilities of communication common carriers that are within the continental United States.

landscape (1) The arrangement of text on a page so that it is oriented for normal reading when its width is greater than its length. Synonym for landscape format, horizontal format. (T) (2) Pertaining to a display or hard copy with greater width than height. Contrast with portrait.

landscape format Synonymous with landscape. (T)

landscape left A page orientation such that the left side of the printed image is at the trailing edge of the paper as it emerges from the printer.

landscape page In desktop publishing, a page that is designed and printed in such a way that it must be turned 90 degrees in order to be read. Contrast with portrait page. Synonymous with turn page.

connected. The network may include switching facilities.

multiprocessing (1) A mode of operation for parallel processing by two or more processors of a multiprocessor. (I) (A) (2) Pertaining to the simultaneous execution of two or more computer programs or sequences of instructions by a computer. (A) (3) Loosely, parallel processing. (A) (4) Simultaneous execution of two or more sequences of instructions by a multiprocessor.

multiprocessing system (MPS) A computing system employing two or more connected processing units to execute programs simultaneously.

multiprocessor (1) A computer including two or more processors that have common access to a main storage. (2) A system of two or more processing units, ALUs, or processors that can communicate without manual intervention.

multiprogramming (1) A mode of operation that provides for interleaved execution of two or more computer programs by a single processor. (I) (A) (2) Pertaining to concurrent execution of two or more computer programs by a computer. (A) (3) The processing of two or more programs at the same time.

multiprogramming system A system that can process two or more programs concurrently by interleaving their execution.

multirange amplifier An amplifier that has a switchable, programmable, or automatically set amplification factor in order to adapt different analog signal ranges to a specified output range. (T)

multiregion operation (MRO) Communication between CICS systems in the same processor without the use of SNA network facilities.

multispecification source map In SDF/CICS, a source map associated with more than one specification.

multispeed clock feature In the IBM 8100 Information System, a speed-variable feature that allows up to 16 telecommunication lines to be connected to the 8100 system.

multistation access unit In the IBM Token-Ring Network, a wiring concentrator that can connect up to eight lobes to a ring.

multistreaming Concurrent transmission of parts of several files so that small files are not held up waiting for transmission of large files.

multistroke character entry A text entry method for languages that require multiple keystrokes for certain characters. (T)

multisystem environment The environment in which two or more IMS/VS systems run on any supported combination of OS/VS1 and OS/VS2 systems in one or more System/370 processing units; the environment in which the Multiple Systems Coupling feature runs.

multisystem mode An operating mode of the Model 65 Multiprocessing System in which all of main storage and most auxiliary storage devices are shared by both processing units. See also partitioned mode.

Multisystem Networking Facility (MSNF) An optional feature of TCAM and VTAM Version 1 that permits these access methods, together with NCP, to control a multiple-domain network.

multitail connection Multiple simultaneous connections to the subarea network through one or more boundary nodes using independent LU protocols.

multitailed Pertaining to a communication controller with an NCP attached to more than one host processor. See fanout, tailing, twin-tailed.

multitasking A mode of operation that provides for concurrent performance, or interleaved execution of two or more tasks. (I) (A)

multitask operation Multiprogramming with concurrent execution of a reenterable program used by many tasks.

multithread application program A VTAM application program that processes requests for more than one session concurrently. Contrast with single-thread application program.

multithreading Pertaining to concurrent operation of more than one path of execution within a computer.

multiuser Pertaining to two or more people who use the services of a processor within a given period of time; usage is normally serial unless otherwise specified.

multivolume file (1) A file contained on more than one storage medium. (2) A diskette file that occupies more than one diskette.

MUMPS Massachusetts General Hospital Utility Multiprogramming System. A high-level interactive computer programming language for use in the development and implementation of interactive information systems with shared databases. (A)