UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

EUREKA DATABASE SOLUTIONS, LLC, Plaintiff, vs. NEXIDIA, INC., Defendant.	**CIV. ACTION NO.** 6:20-CV-197 **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Eureka Database Solutions, LLC ("Eureka") files this Complaint for Patent Infringement against Nexidia, Inc. ("Nexidia") for infringement of U.S. Patent Nos. 6,173,287, 6,311,189, and 6,332,144 (collectively "the Asserted Patents").

PARTIES

1.   Eureka Database Solutions, LLC ("EDS") is a Texas limited liability company with its headquarters and principal place of business at 1400 Preston Road, Suite 475, Plano, Texas 75093.

2.   Nexidia is a Delaware corporation having an office located at 3001 Bee Caves Road, Suite 100, Austin, Texas 78746, and headquarters at 3565 Piedmont Road NE, Building 2 Suite 400, Atlanta, Georgia 30305. Nexidia may be served

through its registered agent, The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801.

3.   Nexidia offers infringing products and services for sale and use throughout the United States, including in this district.

4.   Nexidia advertises its infringing products and services throughout the district and has financially benefited from conducting business in Texas.

5.   Nexidia offers products and services that provide, among other things, multimedia search, filtering, and indexing capabilities to users.

JURISDICTION AND VENUE

6.   Eureka brings this action for patent infringement under the patent laws of the United States, namely 35 U.S.C. §§ 271, 281, and 284-285, among others. This Court has subject-matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

7.   Nexidia is subject to general and specific personal jurisdiction of this Court based upon its regularly conducted business in Texas and in this judicial district giving rise to this action. Nexidia has established minimum contacts with this forum such that the exercise of jurisdiction over Nexidia comports with traditional notions of fair play and substantial justice.

8.   Nexidia directly and through subsidiaries and intermediaries (including distributors, retailers, and others) has committed acts of infringement in this district

by making, using, testing, selling, importing into the United States, and/or offering for sale products that infringe the Asserted Patents.

9.   Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1400(b) and 28 U.S.C. § 1391.

10.   Nexidia has committed acts of infringement in the Western District of Texas and maintains a regular and established place of business in the district located at 3001 Bee Caves Rd Suite 100, Austin, TX 78746, according to Nexidia's website:

https://www.nice.com/worldwide-offices/.
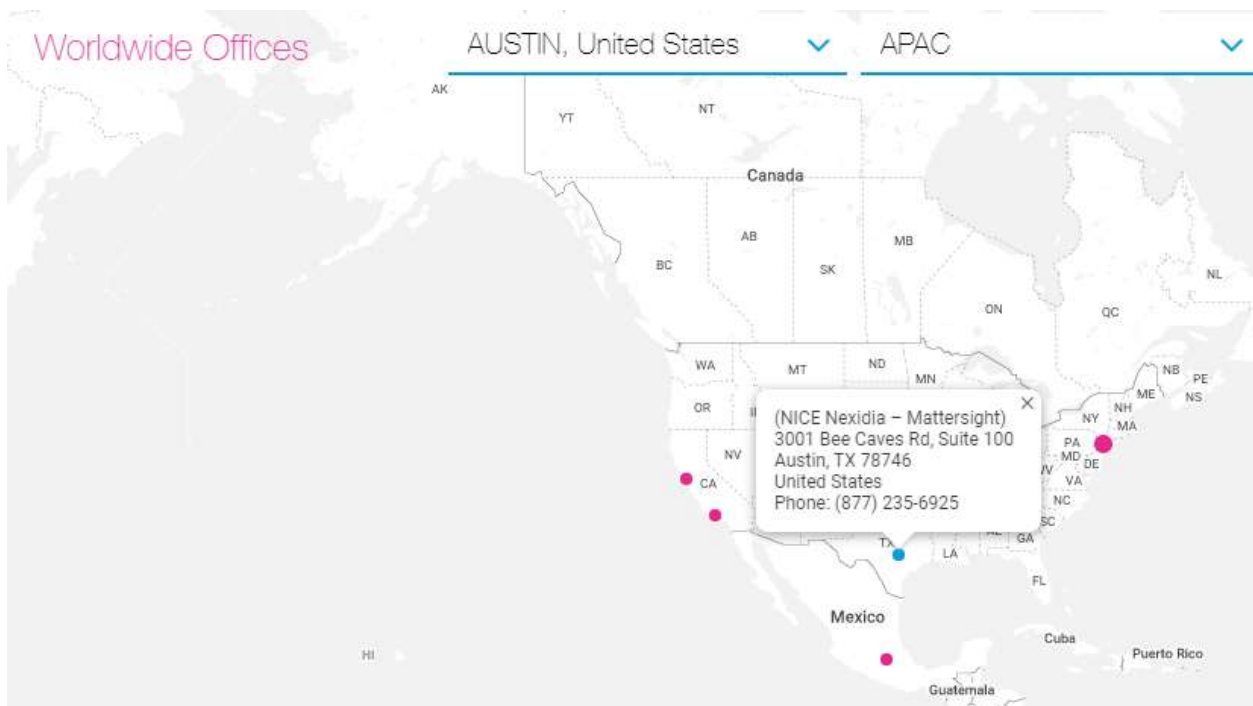
THE EUREKA PATENTS

11.   Nexidia has infringed U.S. Patent Nos. 6,173,287, 6,311,189, and 6,332,144.

12.   The '189, '287, and '144 Patents relate to methods, apparatuses, and

systems for annotating media, accessing an item of interest within a stored representation of data, ranking multimedia annotations of interest, and matching a query to a portion of media.

13.   EDS is the assignee of all right, title, and interest in and to the '287 Patent, titled "Technique for Ranking Multimedia Annotations of Interest" (attached as Exhibit A).

14.   EDS is the assignee of all right, title, and interest in and to the '189 Patent, titled "Technique for Matching a Query to a Portion of Media" (attached as Exhibit B).

15.   EDS is the assignee of all right, title and interest in and to the '144 Patent, titled "Technique for Annotating Media" (attached as Exhibit C).

16.   EDS has the exclusive right to assert all causes of action arising under the Asserted Patents and the right to remedies for infringement thereof.

17.   The original assignee of the '189 Patent, Altavista Company, was one of the most popular search engines in the late 1990s. It was created by research scientists at Digital Equipment Corporation (the original assignee of the '287 and '144 Patents) and was the 11th most visited website in 1998. Yahoo purchased Altavista in 2003.

The Asserted Patents

18.   On January 9, 2001, the United States Patent and Trademark Office

issued the '287 Patent for inventions covering, in one claimed embodiment, a method for accessing an item of interest within a particular one of a plurality of stored representations of data, the method comprising: a) searching a plurality of stored annotations corresponding to different items within the plurality of stored representations of data to locate an annotation of interest corresponding to the item of interest, the annotation of interest having an associated data identifier and an associated location identifier, the associated data identifier corresponding to the particular one of the plurality of stored representations of data, the associated location identifier corresponding to a location of interest within the particular one of the plurality of stored representations of data; b) searching a plurality of stored data identifiers associated with the plurality of stored annotations to locate the associated data identifier and an associated address identifier, the associated address identifier corresponding to an address of the particular one of the plurality of stored representations of data within the plurality of stored representations of data; and c) accessing the item of interest at the location of interest using the associated address identifier and the associated location identifier.

19.   The technologies recited in the claims of the '287 Patent claim inventive concepts and do not claim an abstract idea. The inventive concepts are directed to a technical solution to solve a problem unique to data storage technology by greatly enhancing and facilitating the operation of data storage and retrieval

technology.

20.   For example, embodiments of the claimed invention recite a method for accessing an item of interest within stored representations of data by using annotations, data identifiers, locations of interest and other computer-specific technology. The inventions are directed to helping organizations solve the problem of allowing multimedia content to be easily stored on, and retrieved from, relatively inexpensive digital storage devices. '287 Patent, col. 1, lines 16-17.

21.   Independent claim 1 is not representative of the claims of the '287 patent. The dependent claims add meaningful limitations that further demonstrate that those claims are not directed to an abstract idea and reflect inventive concepts. The dependent claims recite, for example, accessing one of a plurality of items within a particular content stream without first accessing another item of interest. By providing this novel functionality, the inventions enable targeted access by a user that does not require cycling through query results to locate a particular item of interest resulting in an improved system that delivers more expedient and efficient querying and retrieval. Such detail precludes characterizing the claims as covering abstract ideas, laws of nature, or natural phenomenon.   These details also demonstrate inventive aspects of the disclosed embodiments that are not reflected in independent claim 1.

22.   Another dependent claim example is storing the associated data

identifier corresponding to an address of the particular stored content within the plurality of stored data identifiers, resulting in an improved data structure that delivers more expedient and efficient querying and retrieval. Such detail precludes characterizing the claims as covering abstract ideas, laws of nature, or natural phenomenon. These details also demonstrate inventive aspects of the disclosed embodiments that are not reflected in independent claim 1.

23. The technology claimed in the '287 Patent presented new and unique advantages over the state of the art at the time. Although the inventions taught in the claims of the '287 Patent have by today been widely adopted by leading businesses, at the time of the invention, the technologies were innovative. At that time, organizations had little or no means of searching within multimedia content, organizing information about multimedia content, and delivering multimedia content in a ubiquitous manner. See '287 Patent, col. 1, lines 11-64.

24. In the Background of the Invention section of the specification, the inventors described the state of the art: large amounts of analog multimedia data that was being digitized to enable more efficient and cost-effective storage and retrieval.

25. A problem the inventors recognized and solved by their inventions was that multimedia content owners had little or no means of searching the content, organizing information about multimedia content, and delivering multimedia content. More specifically, there was little or no "means for searching inside streams

of multimedia content (e.g., audio/video streams), adding meta-information to multimedia content (i.e., annotating multimedia content) for purposes of indexing within multimedia content, and providing universal access to indexed multimedia content over a variety of connection speeds and on a variety of client platforms."

26.   The growing volume of digitized multimedia content at the time of the inventions gave rise to a need for an efficient system and technique for augmenting digital content with metadata associated with portions of content that could be stored in association with the content, searched to locate portions of content of interest, and enable efficient retrieval, and delivery of relevant portions without the need for retrieving and delivering entire content streams that would then be searched for the particular portion of interest.

27.   The asserted claims of the '287 Patent are not directed to a method of organizing human activity, a fundamental economic practice long prevalent in our system of commerce, or a building block of the modern economy. Instead, they are limited to specific solutions for data storage technology.

28.   More particularly, with reference to the '287 Patent specification, at the time of the inventions claimed in the '287 Patent (circa 1998), organizations desired to migrate analog multimedia content to digital form. This process provided the ability to store, search, browse, and retrieve digitized multimedia content from distributed sites. An organization having a number of distributed offices could store,

search, browse, and retrieve digitized multimedia content from a centralized storage

facility over a local area network or public computer network such as the world-wide

web. '287 Patent at 1:19-29.

29.   A technological context of the '287 Patent is an organization wanting

to provide other entities located outside the organization with the ability to access,

search, browse, and retrieve digitized multimedia content stored and maintained

within the organization. '287 Patent at 1:41-52.

30.   For example, the '287 Patent specification describes the claimed

subject matter providing such organizations (or third-party entities accessing the

multimedia data) the ability to search within stored multimedia content by creating

a new and useful data structure adding meta-information to multimedia content (i.e.,

annotating multimedia content) to index the multimedia content and enable

searching, browsing, retrieval, and access of distributed multimedia content without

having to undertake the time-consuming and inefficient process of locating items of

interest (e.g., spoken phrases or visual scenes) within an audio or video stream.

31.   The '287 Patent specification details network schematics of

embodiments in Figures 1A and 1B along with a detailed description of the novel

processes carried out within them to generate the inventive data structures that

provide the benefits of the inventions.

32.   Figure 1A is accompanied by a description of the claimed processes

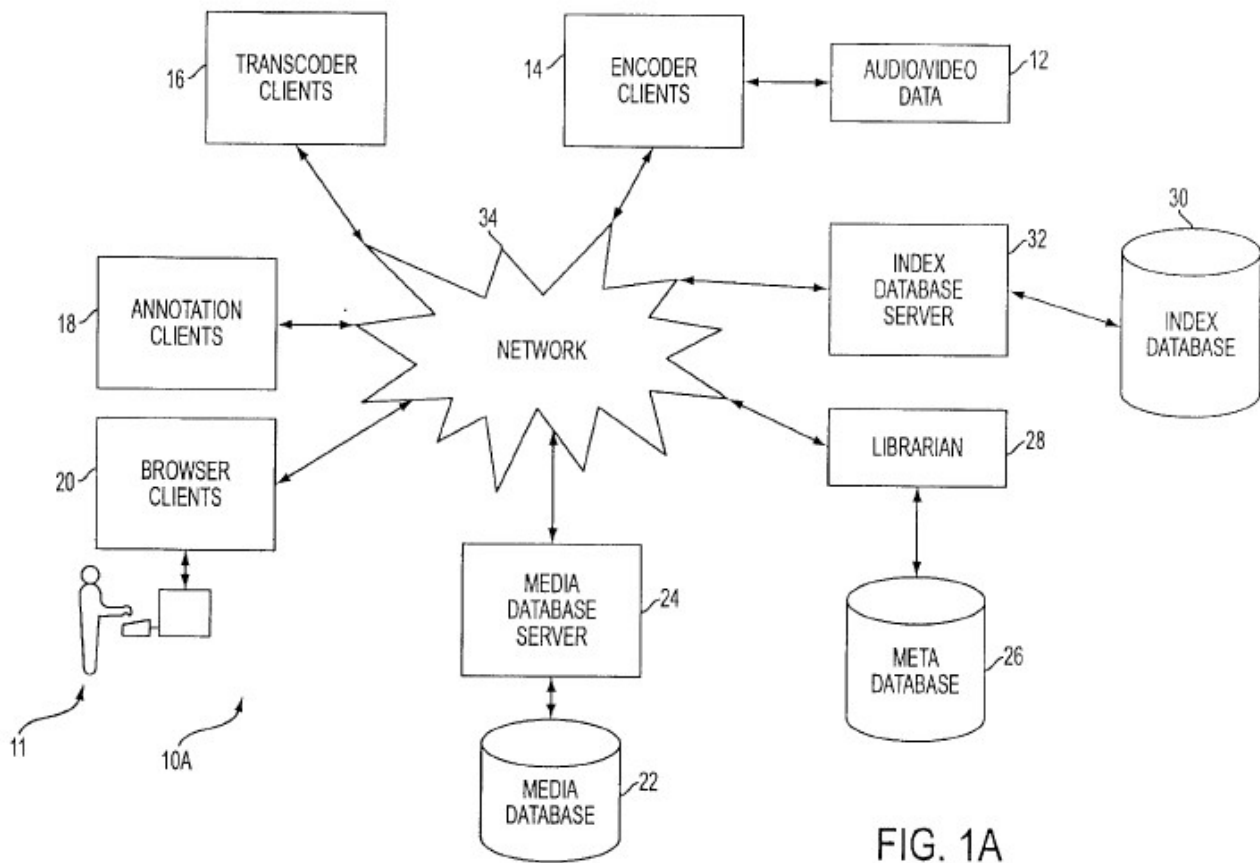carried out in the system. See '287 4:66-11:7.

FIG. 1A

33.   The process claimed in the '287 Patent creates data structures that were

novel and useful at the time of their invention.

34.   Figure 5 shows a file structure for a file that is stored in a media

database (22 in Figure 1A above) containing a digital representation of audio/video

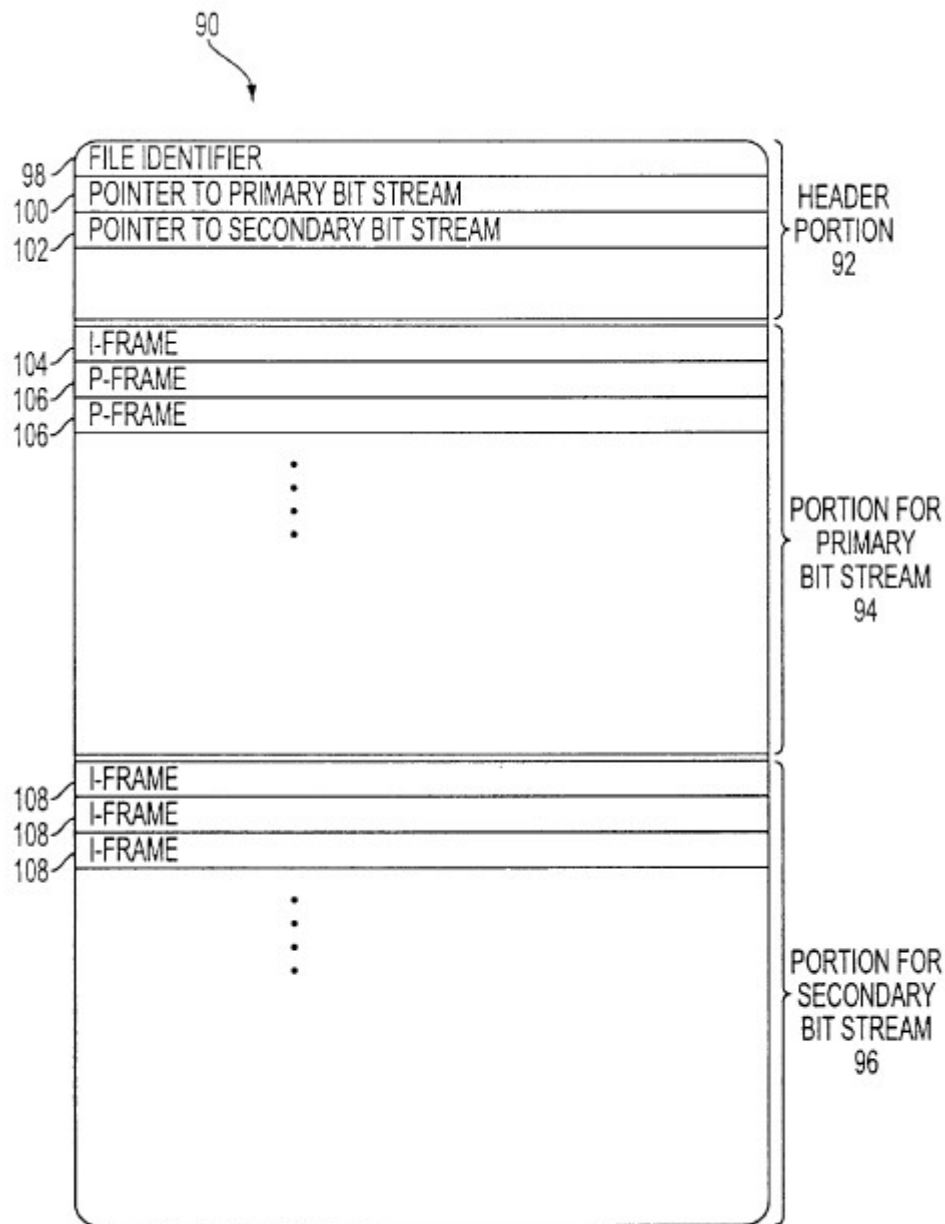data in accordance with the inventions claimed in the '287 Patent. '287 at 4:14-16.

FIG. 5

35.   At the time of the inventions claimed in the Asserted Patents, a system having a user interface showing media/metadata relationships that enabled a user to navigate stored multimedia content based upon such media/metadata relationships to identify clips in a media stream was novel and useful.

36.   The technology claimed in the '287 Patent does not preempt all ways for accessing items within a stored representation of data. For example, the claims do not preclude identifying the location of a stored document or other methods of searching for data that do not use stored annotations, metadata tables, or the novel data structures claimed in the '287 Patent.

37.   The '287 Patent claims cannot be practiced by a human alone and there exists no human analogue to the methods claimed in the '287 Patent. The claims are specifically directed to data storage, annotation, retrieval, and indexing technology and recite components such as annotations, data identifiers, locations of interest and other computer-specific technology that exist in the context of computer-based systems and cannot be practiced by a human alone.

38.   The particular combination of claim elements recited in the claims of the '287 Patent was not well-understood, routine, or conventional to a skilled artisan in the relevant field at the time of the inventions.

39.   The claimed subject matter of the '287 Patent describes novel techniques and methods for transforming digital multimedia content by storing annotations associated with content, searching stored annotations to locate a desired portion of content, and providing access to portions of multimedia content without the need for burdensome and time-consuming review of large multimedia streams to find particular portions of interest.

40.   The specifications of the Asserted Patents describe data elements for use in practicing the inventions that one of skill in the art at the time of the inventions (circa 1998) would recognize as not being generic.

41.   An "Object Table" is a data element in a meta database that lists all multimedia objects. An Object Table comprises, in an exemplary embodiment, an assigned object identification number, which typically is a unique numeric or alphanumeric value, and object type (e.g., audio or video).

42.   Figure 8 exemplifies the structure and content of an Object Table:

FIG. 8

43.   A "Representation Table" stores representations, each assigned a unique identification number, corresponding to objects.

44.   The Representation, Annotation, and Object tables disclosed and claimed in the '287 Patent were not abstract concepts. The '287 Patent is directed

to more than simply reviewing research notes on content.

45.   Figure 9 exemplifies the structure and content of a Representation

Table:

FIG. 9

46.   An "Annotation Table" lists annotations in the object database.

Examples of annotations include transcript, speaker, or keyframe.   Annotations

generated for an object that represents an audio/video stream, for example, have a

corresponding start and end time.

47.   The claimed stored annotations, annotation table, and related data

structures were novel and unique at the time of the invention and were not considered

routine, conventional or well-understood by those of skill in the art.

Each of the annotations in the object database of the meta database **26** are also assigned an annotation type **154**. The annotation type **154** can be, for example, transcript, speaker, or keyframe. Each annotation type **154** corresponds to the type of annotation that has been generated for a corresponding object in the object database of the meta database **26**. Accordingly, each of the annotations in the object database of the meta database **26** are listed in the annotation table **150** with a corresponding annotation type **154**.

'287 at 17:17-25.

48.   Figure 10 exemplifies the structure and content of an Annotation Table:

ANNOTATION TABLE

ANNOTATION ID.	OBJECT ID.	ANNOTATION TYPE	ANNOTATION VALUE	ANNOTATION START TIME	ANNOTATION END TIME
01000000	00000001	TRANSCRIPT	"WORD"	1:00:00.00	1:00:05.00
01000001	00000001	SPEAKER	"SPEAKERNAME"	2:00:00.00	2:00:10.00
01000002	00000001	KEYFRAME	"URL"	3:00:00.00	3:00:00.20

FIG. 10

49.   The novel metadata structures and elements claimed in the '287 Patent were not generic database components well known to or understood by those of ordinary skill in the art at the time of the inventions.

50.   The novel techniques for performing operations on the metadata structures and operations claimed in the '287 Patent were not generic database

components well known to or understood by those of ordinary skill in the art at the time of the inventions.

51.   The claimed subject matter of the '287 Patent describes systems and methods for transforming multimedia content into searchable, retrievable, and efficiently stored (enabling distributed storage and access) datastores associated in a novel manner to enable operations that could not be performed on analog or digital multimedia content at the time of the inventions.

52.   On October 30, 2001, the United States Patent and Trademark Office issued the '189 Patent. One claimed embodiment recites a method for matching a query to a portion of media, comprising: a) receiving a query relating to media of interest; b) searching, based upon the query, a plurality of annotation values to identify an annotation value within the plurality of annotation values which matches the query, each of the plurality of annotation values corresponding to a respective portion of a respective item of available media; c) identifying a start time of a media stream forming a first portion of a first item of available media corresponding to the identified annotation value; and d) providing the identified media stream start time in response to the query.

53.   The '189 Patent focuses on the structure, function, and operation of the Annotation Table and claims systems and methods for using it to query, identify, and provide access to multimedia content.

54.   The Annotation Table (see Figure 10) stores metadata associated with multimedia content.

55.   An Annotation Table was not a generic component in multimedia storage and streaming systems at the time of the inventions circa 1998 and generating and using an Annotation Table was not a well-understood methodology for performing operations on stored multimedia content.

56.   The claimed subject matter of the '189 Patent provided an inventive augmentation to stored multimedia content by providing a searchable Annotation Table used to locate start times or other indicia of portions of multimedia content of interest.

57.   More particularly, with reference to the '189 Patent specification, at the time of the inventions claimed in the '189 Patent (circa 1998), organizations desired to migrate analog multimedia content to digital form. This process provided the ability to store, search, browse, and retrieve digitized multimedia content from distributed sites. An organization having a number of distributed offices could store, search, browse, and retrieve digitized multimedia content from a centralized storage facility over a local area network or public computer network such as the world-wide web. '189 Patent at 1:19-29.

58.   A technological context of the '189 Patent is an organization wanting to provide other entities located outside the organization with the ability to access,

search, browse, and retrieve digitized multimedia content stored and maintained within the organization. '189 Patent at 1:43-54.

59.   For example, the '189 Patent specification describes the claimed subject matter providing such organizations (or third-party entities accessing the multimedia data) the ability to search within stored multimedia content by creating a new and useful data structure adding meta-information to multimedia content (i.e., annotating multimedia content) to index the multimedia content and enable searching, browsing, retrieval, and access of distributed multimedia content without having to undertake the time-consuming and inefficient process of locating items of interest (e.g., spoken phrases or visual scenes) within an audio or video stream.

60.   The '189 Patent specification details network schematics of embodiments in Figures 1A and 1B along with a detailed description of the novel processes carried out within them to generate the inventive data structures that provide the benefits of the inventions.

61.   Figure 1B is accompanied by a description of the claimed processes carried out in the system. See, e.g., '189 at 4:20-9:17.
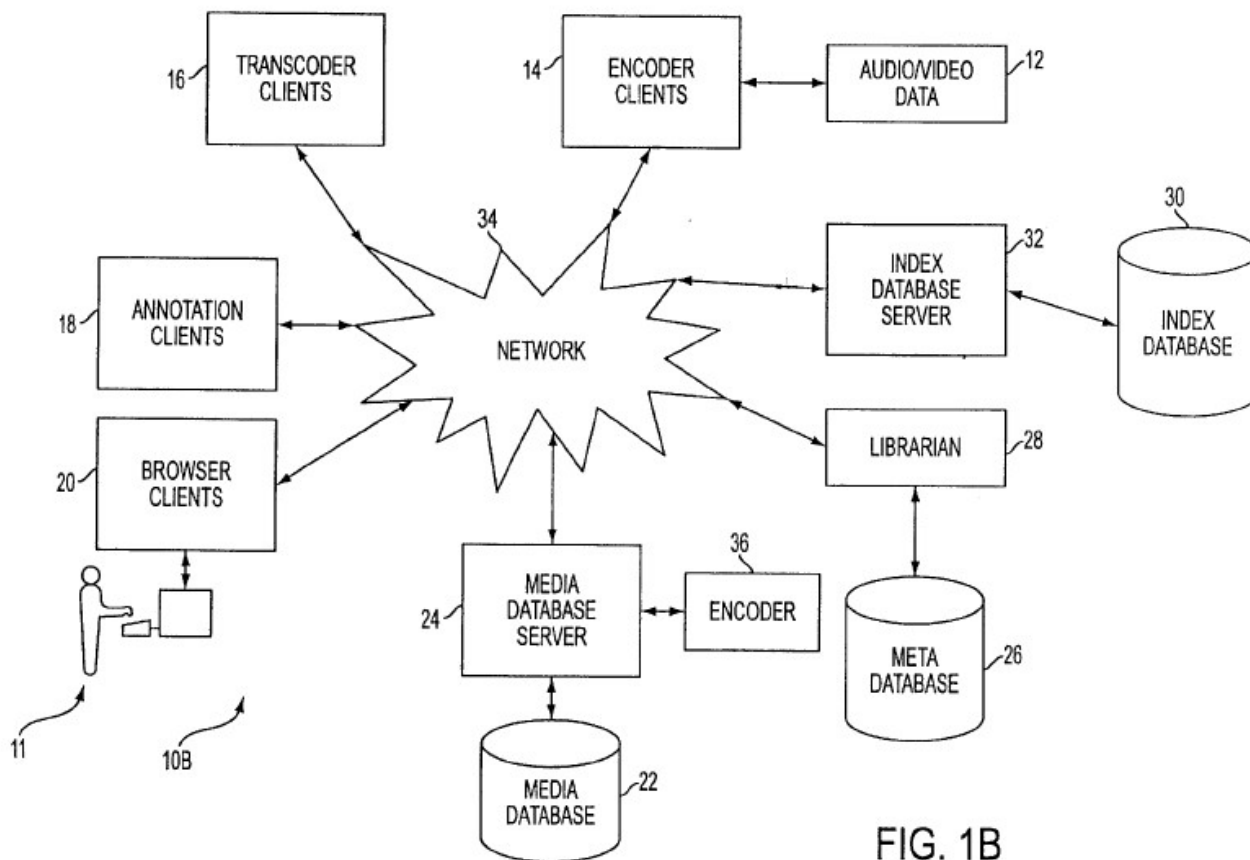
FIG. 1B

62.   Utilizing the system illustrated in Figure 1B, multimedia content is processed into digital representations consisting of three components: an audio layer, a video layer, and a system layer.

63.   The specification describes the utility of this process and resulting data structures:

> In view of the above, it is now appropriate to indicate that the media database server **24** stores the first digital representation **48** of the raw audio/video data **12** in the media database **22** such that each P-frame in the primary bit stream **44** for the first digital representation of the raw audio/video data **12** references a corresponding I-frame in the secondary bit stream **46** for the first digital representation of the raw audio/video data **12**, and vice versa. Thus, the user **11** can browse and/or retrieve a desired portion of the first digital representation **48** starting at any arbitrary location within the first digital representation **48** by first obtaining an I-frame from the secondary bit stream **46** for the first digital representation of the raw audio/video data **12** which corresponds to the arbitrary starting location of the desired portion, and then obtaining P-frames from the primary bit stream **44** for the first digital representation of the raw audio/video data **12** for all subsequent locations of the desired portion. This is beneficial in that the media database server **24** will only have to send a message containing a single I-frame in order for the user **11** to browse and/or retrieve a desired portion of the first digital representation **48**, thereby obtaining maximum network transmission efficiency while maintaining the encoding advantages of only a single I-frame in the primary bit stream **44** for the first digital representation of the raw audio/video data **12**.

'189 at 13:10-34.

64.   The process claimed in the '189 Patent creates data structures that were novel and useful at the time of their invention.

65.   The system and methods claimed in the '189 Patent represent novel uses and applications of these data structures for identifying start time markers in multimedia streams based upon stored metadata values.

66.   Figure 5 shows a file structure for a file that is stored in a media database (22 in Figure 1B above) containing a digital representation of audio/video data in accordance with the inventions claimed in the '189 Patent. '189 at 13:60-
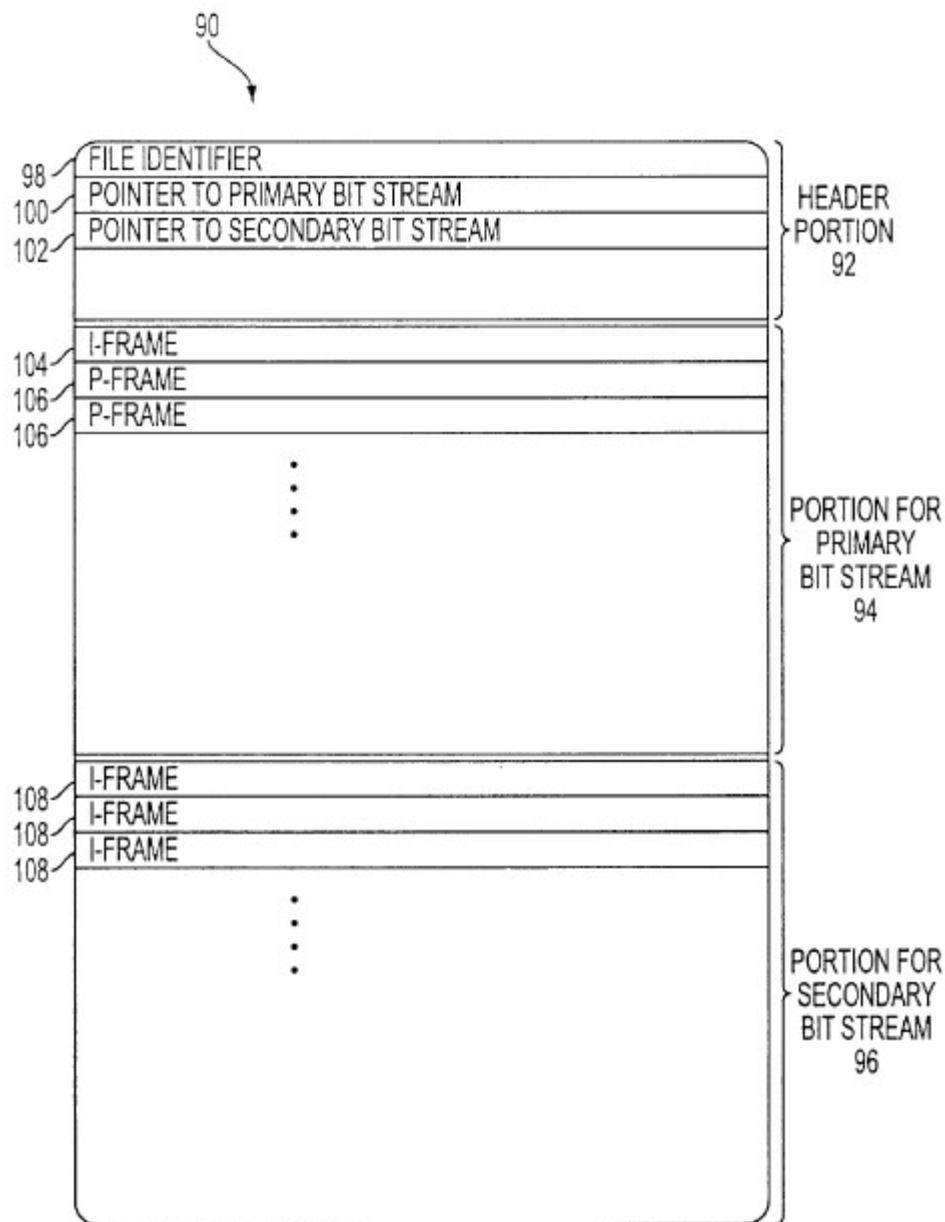
14:56.

FIG. 5

67.   At the time of the inventions claimed in the Asserted Patents, a system

having a user interface showing media/metadata relationships that enabled a user to

navigate stored multimedia content based upon such media/metadata relationships

to identify clips in a media stream was novel and useful.

68.   The technologies recited in the claims of the '189 Patent provide inventive concepts and do not claim an abstract idea. The inventive concepts are directed to a technical solution to solve a problem unique to media streaming technology, by greatly enhancing and facilitating the searching, identifying portions of, and providing access to multimedia data streams.

69.   For example, embodiments of the claimed invention recite a method for matching a query to a portion of media using queries and other computer-specific technology. The inventions are directed to helping organizations solve the problem of allowing multimedia content to be easily stored on and retrieved from relatively inexpensive digital storage devices. See '189 Patent, col. 1, lines 13-21.

70.   The '189 Patent provides a technique for matching a query to a slice of media.

71.   The technology claimed in the '189 Patent presented new and unique advantages over the state of the art at the time. Although the inventions taught in the claims of the '189 Patent have by today been widely adopted by leading businesses, at the time of the invention, the technologies were innovative. At that time, organizations had little or no means of searching within multimedia content, organizing information about multimedia content and delivering multimedia content in a ubiquitous manner. *See* '189 Patent, col. 1, lines 13-66.

72.   The claims of the '189 Patent are not directed to a method of organizing human activity, a fundamental economic practice long prevalent in our system of commerce, or a building block of the modern economy. Instead, they are limited to specific solutions for data media streaming technology.

73.   The '189 Patent describes and claims methods and systems utilizing a non-abstract Annotation Table data structure having specific data elements necessary for providing the ability to perform pinpoint search, retrieval, and provision functions on stored multimedia content.

74.   The technology claimed in the '189 Patent does not preempt all ways for matching queries to media. For example, the claims do not preclude matching the query to the media as a whole, or other methods of searching for data that do not use the novel data structures disclosed and claimed in the '189 Patent.

75.   The '189 Patent claims steps and functionality operate on the novel data structures claimed and described in the patent specification.   Indeed, the specification explicitly states that operation is "directly related to the indexing process and the structure of the index database." '189 at 17:4-38.

As previously described, the index database server **32** stores the annotations that were generated for the object in the meta database **26** corresponding to the raw audio/video data **12** in the index database **30** along with, or with reference there to, the object identification number associated with the raw audio/video data **12**. The index database server **32** then searches the index database **30** for annotations which match a query initiated by the user **11**, and then obtains the object identification number associated with each matching annotation. The implementation of these steps in accordance with the present invention is directly related to the indexing process and the structure of the index database **30**.

76.   The '189 Patent claims cannot be practiced by a human alone and there exists no human analogue to the methods claimed in the '189 Patent. The claims are specifically directed to matching a query to a portion of media using queries and other computer-specific technology that exists in the context of computer-based systems and cannot be practiced by a human alone.

77.   The particular combination of claim elements recited in the claims of the '189 Patent (including in particular annotation values in an Annotation Table) was not well-understood, routine, or conventional to a skilled artisan in the relevant field at the time of the inventions.

78.   Independent claim 1 is not representative of the claims of the '189 patent. The dependent claims add meaningful limitations that further demonstrate that those claims are not directed to an abstract idea and reflect inventive concepts. The dependent claims recite, for example, storing and searching annotation values

that include text or phrases within audio or video media. These limitations meaningfully limit the independent claim scope to particular applications (e.g., audio or video) and specific annotation field schema. Such detail precludes characterizing the claims as covering abstract ideas, laws of nature, or natural phenomenon. These details also demonstrate inventive aspects of the disclosed embodiments that are not reflected in independent claim 1.

79.   On December 18, 2001, the United States Patent and Trademark Office issued the '144 Patent. One claimed embodiment recites a method for annotating media comprising the steps of: a) identifying one or more particular times within media stream at which content corresponds to an annotation value; b) associating the annotation value with the one or more particular times; and c) identifying a probability representing a measure of confidence in an accuracy of the annotation value.

80.   The '144 Patent focuses on building, storing, and using the Annotation Table and claims systems and methods for annotating media by identifying particular times within a media stream corresponding to an annotation value, which may include a textual item or thing, based upon a probabilistic calculation.

81.   The Annotation Table (see Figure 10) stores metadata associated with multimedia content in a novel data structure.

82.   The Annotation Table may also include associated probability values

reflecting a measurement of confidence in the accuracy metadata associated with multimedia content. Annotation probabilities are represented by Figure 6:
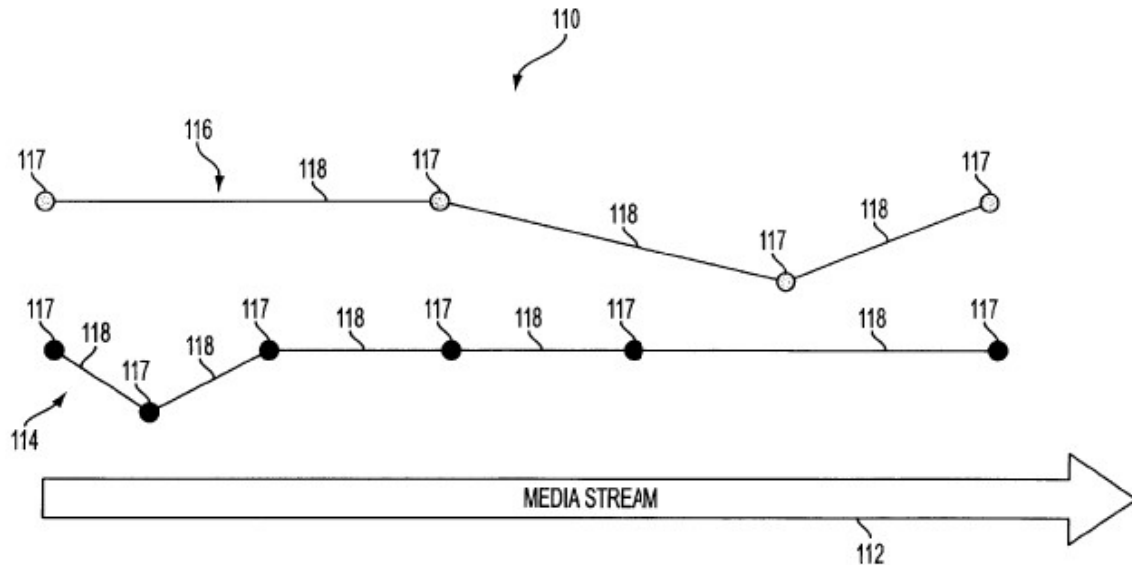
FIG. 6

83.   An Annotation Table including probabilistic metadata was not a generic component in multimedia storage and streaming systems at the time of the inventions circa 1998 and generating and using an Annotation Table featuring probabilistic modeling was not a well-understood methodology for performing operations on stored multimedia content.

84.   The claimed subject matter of the '144 Patent provided an inventive augmentation to stored multimedia content by providing a searchable Annotation Table used to locate start times or other indicia of portions of multimedia content of interest featuring probabilistic values.

85.   More particularly, with reference to the '144 Patent specification, at the

time of the inventions claimed in the '144 Patent (circa 1998), organizations desired to migrate analog multimedia content to digital form. This process provided the ability to store, search, browse, and retrieve digitized multimedia content from distributed sites. An organization having a number of distributed offices could store, search, browse, and retrieve digitized multimedia content from a centralized storage facility over a local area network or public computer network such as the world-wide web. '144 Patent at 1:31-53.

86.   A technological context of the '144 Patent is an organization wanting to provide other entities located outside the organization with the ability to access, search, browse, and retrieve digitized multimedia content stored and maintained within the organization. '144 Patent at 1:42-53.

87.   For example, the '144 Patent specification describes the claimed subject matter providing such organizations (or third-party entities accessing the multimedia data) the ability to search within stored multimedia content by creating a new and useful data structure adding meta-information to multimedia content (i.e., annotating multimedia content) to index the multimedia content and enable searching, browsing, retrieval, and access of distributed multimedia content without having to undertake the time-consuming and inefficient process of locating items of interest (e.g., spoken phrases or visual scenes) within an audio or video stream.

88.   The '144 Patent specification details network schematics of

embodiments in Figures 1A and 1B along with a detailed description of the novel

processes carried out within them to generate the inventive data structures that

provide the benefits of the inventions.

89.   Figure 1B is accompanied by a description of the claimed processes

carried out in the system. See '144 at 11:62-13:43.

FIG. 1B
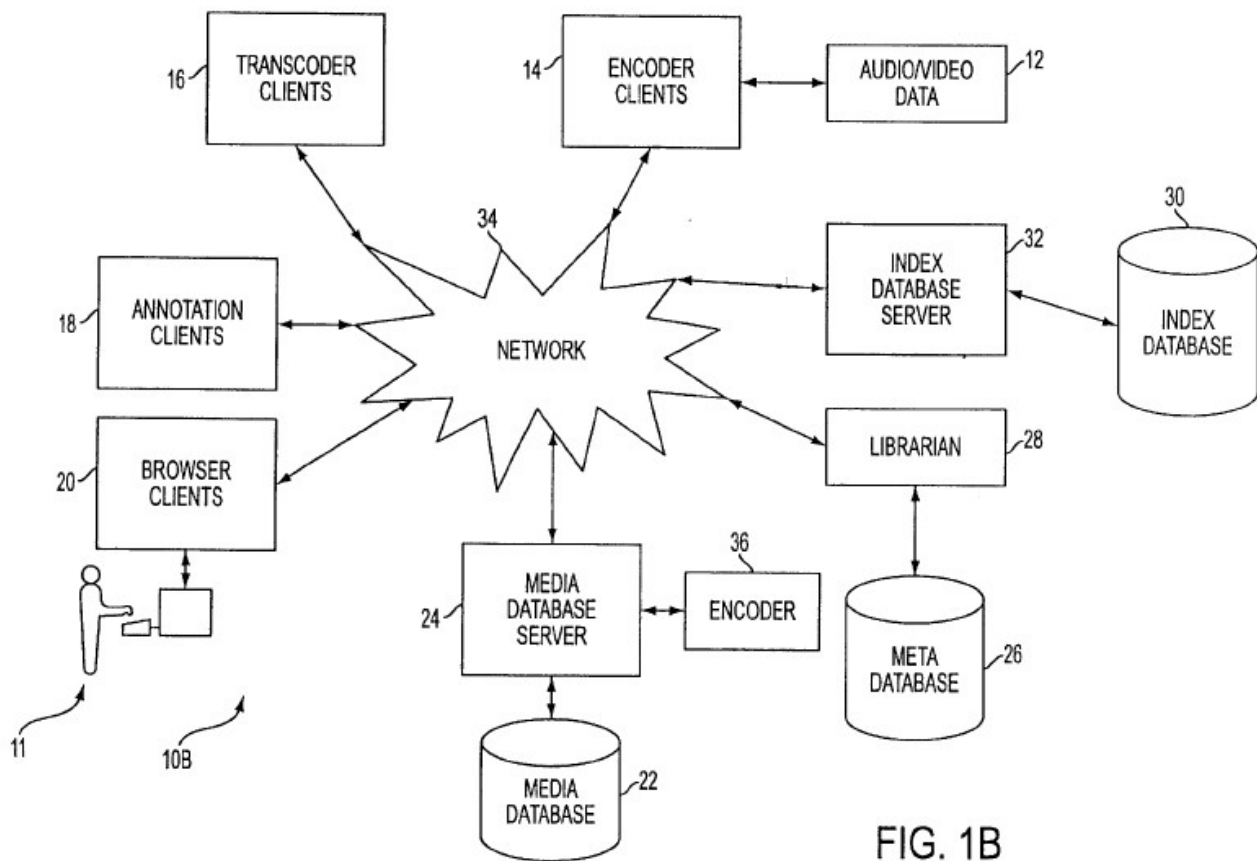
90.   Utilizing the system illustrated in Figure 1B, multimedia content is

processed into digital representations consisting of three components: an audio layer,

a video layer, and a system layer.

91.   The specification describes the utility of this process and resulting data

structures:

> In view of the above, it is now appropriate to indicate that the media database server **24** stores the first digital representation **48** of the raw audio/video data **12** in the media database **22** such that each P-frame in the primary bit stream **44** for the first digital representation of the raw audio/video data **12** references a corresponding I-frame in the secondary bit stream **46** for the first digital representation of the raw audio/video data **12**, and vice versa. Thus, the user **11** can browse and/or retrieve a desired portion of the first digital representation **48** starting at any arbitrary location within the first digital representation **48** by first obtaining an I-frame from the secondary bit stream **46** for the first digital representation of the raw audio/video data **12** which corresponds to the arbitrary starting location of the desired portion, and then obtaining P-frames from the primary bit stream **44** for the first digital representation of the raw audio/video data **12** for all subsequent locations of the desired portion. This is beneficial in that the media database server **24** will only have to send a message containing a single I-frame in order for the user **11** to browse and/or retrieve a desired portion of the first digital representation **48**, thereby obtaining maximum network transmission efficiency while maintaining the encoding advantages of only a single I-frame in the primary bit stream **44** for the first digital representation of the raw audio/video data **12**.

'144 at 12:62-13:18.

92.   The process claimed in the '144 Patent creates data structures that were novel and useful at the time of their invention. These data structures enabled an automatic process, such as a daemon process, for associating probabilities with markers in multimedia content corresponding to identified times which were previously associated with a specific annotation value. See '144 at 2:37-57.

93.   A novel data structure called an annotation index is stored in association with multimedia content to provide a user with an indication of confidence in the correspondence of an item of interest marked in content with the annotation.

94.   By improving multimedia storage systems with the addition of a probabilistic annotation index, query results may be ranked and presented to a user with additional metadata based upon the multimedia but not inherently part of it.

95.   The probabilistic annotation index claimed in the '144 Patent marks an improvement to multimedia storage systems that was novel in 1998.

96.   The system and methods claimed in the '144 Patent represent novel uses and applications of these data structures for identifying and ranking start time markers in multimedia streams based upon stored metadata values.

97.   Figure 5 shows a file structure for a file that is stored in a media database (22 in Figure 1B above) containing a digital representation of audio/video data in accordance with the inventions claimed in the '144 Patent. '144 at 14:11-53.

90

98 — FILE IDENTIFIER	HEADER
100 — POINTER TO PRIMARY BIT STREAM	PORTION
102 — POINTER TO SECONDARY BIT STREAM	92

104 — I-FRAME	
106 — P-FRAME	PORTION FOR
106 — P-FRAME	PRIMARY
⋮	BIT STREAM
	94

108 — I-FRAME	
108 — I-FRAME	PORTION FOR
108 — I-FRAME	SECONDARY
⋮	BIT STREAM
	96
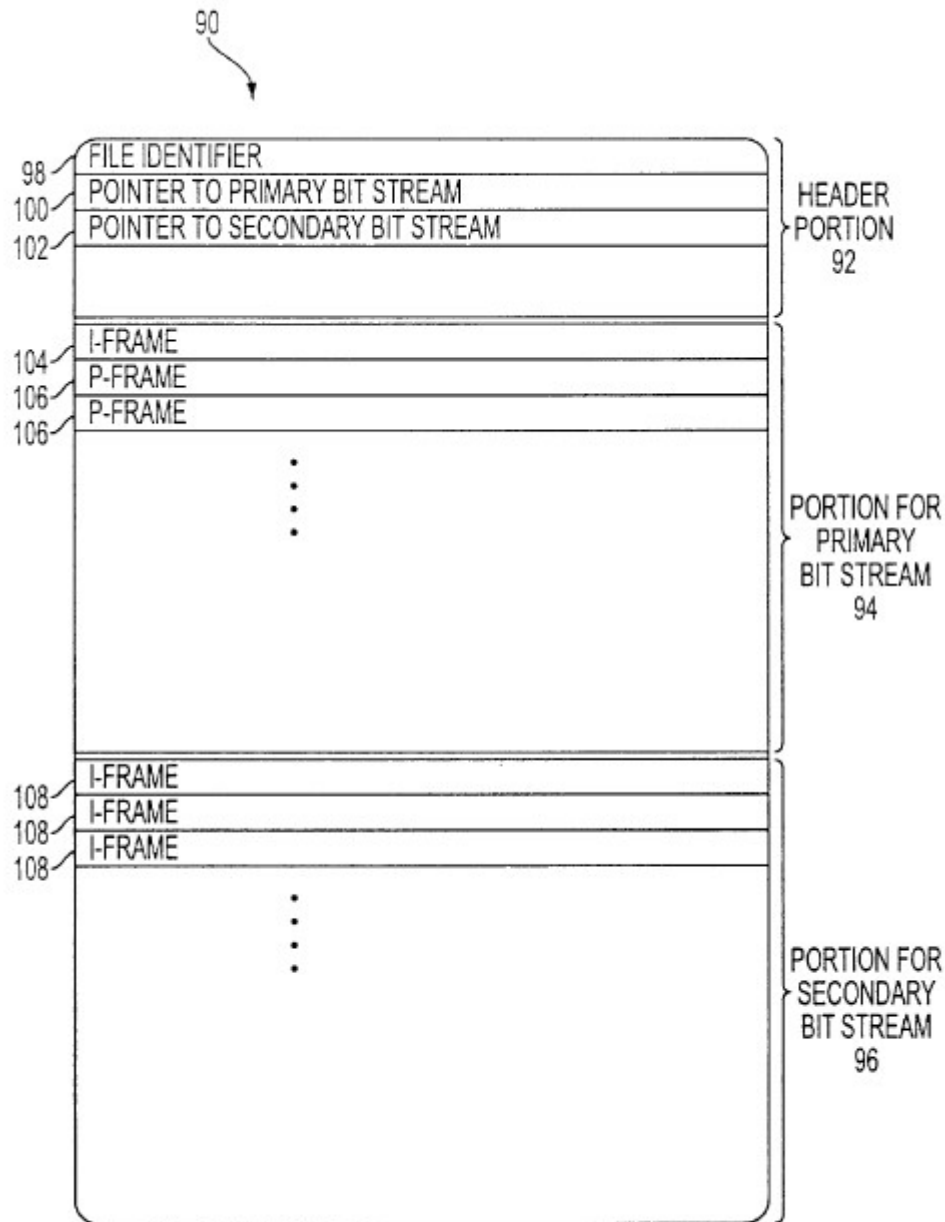
FIG. 5

98.   At the time of the inventions claimed in the Asserted Patents, a system having a user interface showing media/metadata relationships that enabled a user to navigate stored multimedia content based upon such media/metadata relationships to identify clips in a media stream was novel and useful.

99.   The specification explicitly notes that the claimed subject matter "differs from many video annotation systems that work on shot lists." '144 at 14:42-52.

> The annotation structure **110** as described above differs from many video annotation systems that work on shot lists. In this prior art approach, a video is first broken down into thematic chunks called shots that are then grouped into scenes. Each shot is then taken as a basic atomic unit for annotation. That is, each shot is annotated, and searching will only retrieve particular shots. The difficulty of this prior approach is that performing the above processing automatically can be very difficult. The present invention avoids this difficulty by allowing the presence of people and things to be marked within a scene.

100.   The technologies recited in the claims of the '144 Patent provide inventive concepts and do not claim an abstract idea. The inventive concepts are directed to a technical solution to solve a problem unique to media streaming technology, by greatly enhancing and facilitating the searching, identifying portions of, and providing access to multimedia data streams using a probabilistic model representing a measure of confidence in the accuracy of the annotation value corresponding to a mark or start time in the multimedia stream.

101.   For example, embodiments of the claimed invention recite a method for receiving a query and searching, based upon the query, annotation values corresponding to media to identify and provide a start time within the media stream and other computer-specific technology.

102.   Embodiments of the claimed invention include computer systems configured to store, search, and identify multimedia content based upon annotation values. The inventions are directed to helping organizations solve the problem of allowing multimedia content to be easily stored on and retrieved from relatively inexpensive digital storage devices. *See* '144 Patent, col. 1, lines 13-20.

103.   The '144 Patent provides a technique for identifying start and end times within a media stream based upon probabilistic modeling of annotations corresponding to media content.

104.   The technology claimed in the '144 Patent presented new and unique advantages over the state of the art at the time. Although the inventions taught in the claims of the '144 Patent have by today been widely adopted by leading businesses, at the time of the invention, the technologies were innovative. At that time, organizations had little or no means of searching within multimedia content, organizing information about multimedia content and delivering multimedia content in a ubiquitous manner. *See* '144 Patent, col. 1, lines 13-66.

105.   The claims of the '144 Patent are not directed to a method of or system for organizing human activity, a fundamental economic practice long prevalent in our system of commerce, or a building block of the modern economy. Instead, they are limited to specific solutions for data media streaming technology.

106.   Independent claim 1 is not representative of the claims of the '144

patent. The dependent claims add meaningful limitations that further demonstrate that those claims are not directed to an abstract idea and reflect inventive concepts. The dependent claims recite, for example, defining independently viewable portions of the media stream by start and end time and storing portions of a larger media stream independently to provide more efficient handling of large video or audio assets and distributed storage and delivery. These novel improvements to storage and access systems for multimedia content further improve delivery of content by query and access.

107.   In addition to improvements in storage and delivery of multimedia content, the dependent claims recite meaningful limitations to the application of probabilistic modeling data to separate portions of stored multimedia content. This improved granularity yields improved query results and more efficient access to particular items of interest particularly in large or distributed multimedia assets. Granular probabilistic modeling of annotations of interest in multimedia content was novel at the time of the inventions and marked a significant improvement in multimedia storage and delivery systems by providing more accurate query results and shorter access latency.

108.   Such detail in the dependent claims precludes characterizing the claims as covering abstract ideas, laws of nature, or natural phenomenon. These details also demonstrate inventive aspects of the disclosed embodiments that are not reflected in

independent claim 1.

109. The '144 Patent describes and claims methods and systems utilizing a non-abstract Annotation Table data structure generated using specific analytical modeling and having specific data elements necessary for providing the ability to perform pinpoint search, retrieval, and provision functions on stored multimedia content.

110. The technology claimed in the '144 Patent does not preempt all ways for matching queries to media. For example, the claims do not preclude matching the query to the media as a whole, or other methods of searching for data that do not use all of the claimed steps and elements.

111. The '144 Patent claims cannot be practiced by a human alone and there exists no human analogue to the methods claimed in the '144 Patent. The claims are specifically directed to matching a query to a portion of media using queries and other computer-specific technology that exists in the context of computer-based systems and cannot be practiced by a human alone.

112. The particular combination of claim elements recited in the claims of the '144 Patent (including in particular annotation values and probabilities in an Annotation Table) was not well-understood, routine, or conventional to a skilled artisan in the relevant field at the time of the inventions

Nexidia's Products

113.   Nexidia makes, has made, uses, tests, sells, offers for sale, distributes, imports into the United States, licenses, and/or supports the Accused Products (Nexidia Audio Discovery, Nexidia Search, Audiofinder).

114.   Nexidia describes the Accused Products on its website and in publications available for download from www.nice.com and distributed throughout the United States.

115.   For example, Nexidia describes AudioFinder in a brochure available at the Nexidia website:

https://www.nice.com/optimizing-customer-engagements/Documents/nx_audio_finder_brochure.pdf

116.   Nexidia brochures provide the following description of its audio discovery technology:

> Electronic communications, and specifically electronic audio content, is being produced in ever increasing volumes. While discoverable in litigation and investigation matters, working with audio content is very different from text-based content. From trading floor and contact center recordings to digital conferences and voicemail, searching these recorded audio and video files presents significant challenges for legal and litigation professionals, corporate compliance managers, and government regulators alike. Nexidia enables these professionals to easily address Audio Discovery challenges with AudioFinder.

www.nice.com/optimizing-customer-engagements/Documents/nx_audio_finder_brochure.pdf

117.   Nexidia Accused Products such as Nexidia Search quickly find all relevant clips when a user simply types a word or phrase.

118.   Nexidia Accused Products search the spoken word content contained within media.

119.   The following description of Nexidia Search accurately describes the product:

38

NEXIDIA SEARCH

Whether your challenge is legal discovery, corporate compliance, or governance, Nexidia Search offers tremendous flexibility and speed, indexing recorded audio up to 20,000 hours per day. This makes large volumes of audio available in just a matter of days for search, automated analysis, in-depth review, and targeted listening.

https://web.archive.org/web/20160505185007/http:/nexidia.com/media/1773 /nexidia-audio-discovery-overview-2015.pdf.

120.   Nexidia promotes Search on the Nice.com website.

121.   Nexidia promotes the functionality of the Accused Products that embodies the Asserted Patents:
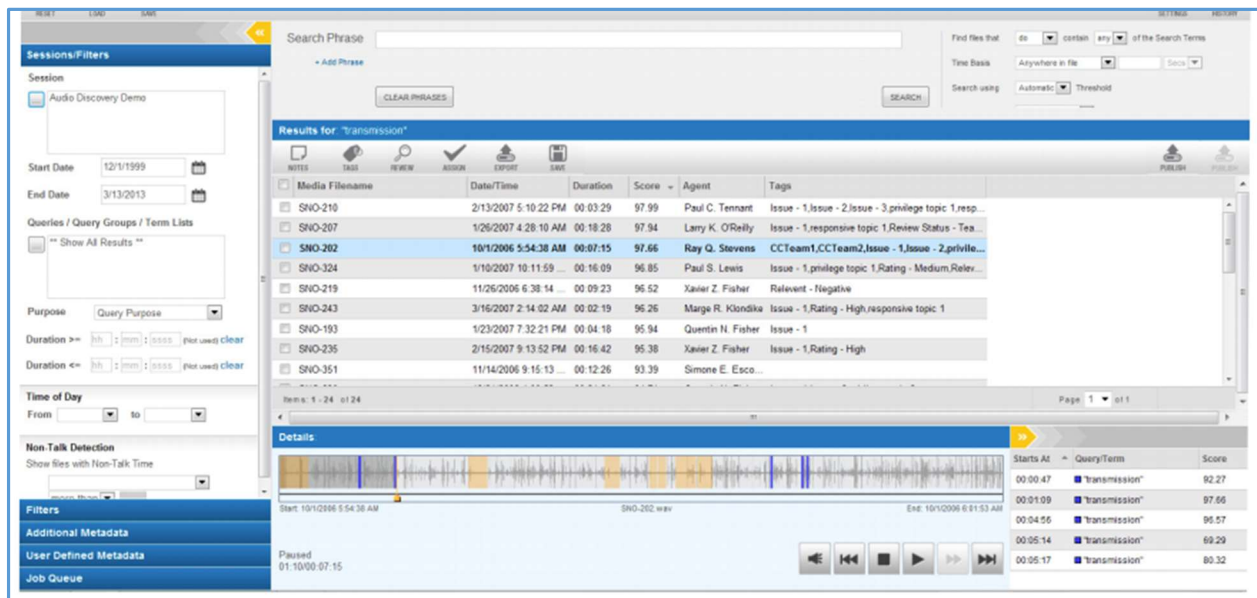
Breakthrough Technology Framework

Nexidia's award-winning, patented phonetic search technology indexes audio and video using phonemes, the smallest unit of human speech, to produce the most accurate and relevant results. This phonetic approach supports virtually all available audio qualities and audio variances including a speaker's language, accent, dialect, gender, and age, eliminating the need for data dictionaries and extensive speaker training.

Nexidia Search uncovers relevant information and solves the considerable challenges of audio search and review by:

- Quickly locating relevant content— helping legal professionals understand the nature of the evidence

- Significantly reducing the cost of audio review, allowing reviewers to quickly pin-point searches and deliver relevant data

- Complementing traditional electronic discovery

https://www.nice.com/optimizing-customer-

engagements/Documents/nx_legal_OnDemand_brochure.pdf

122.   Nexidia publishes the following screenshot demonstrating the user interface of the Accused Products:
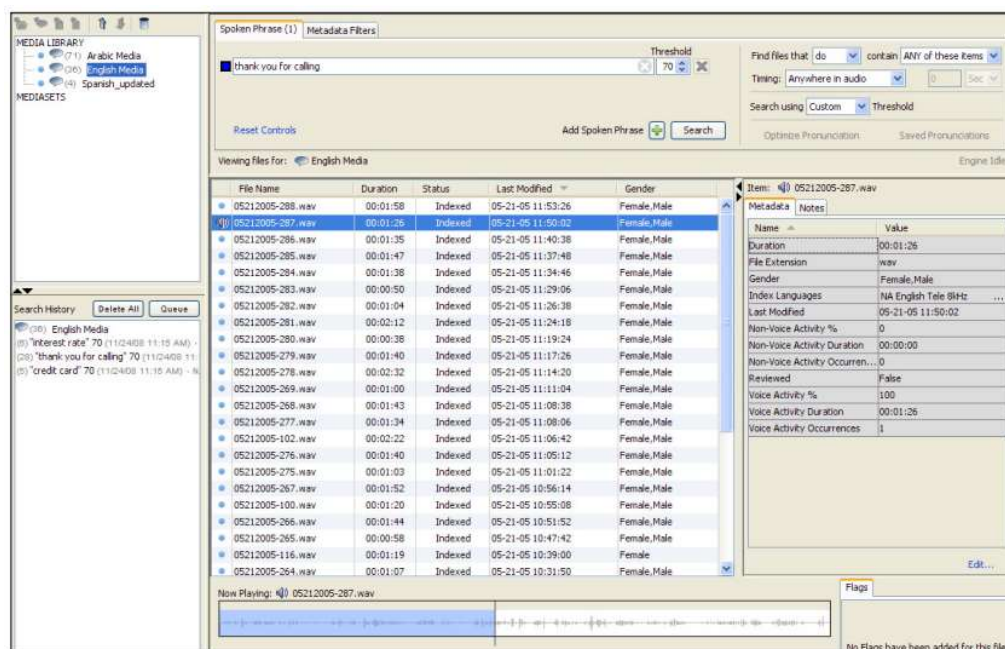
Nexidia's phonetic indexing technology searches the spoken word content contained within the media.

123.   Nexidia promotes the search and indexing features of the Accused Products.

124.   The Accused Products are systems and perform methods for accessing an item of interest such as a particular work, phrase, or phonetic string within an audio or video stream.

https://web.archive.org/web/20160505185007/http://nexidia.com/media/1773/nexidia-audio-discovery-overview-2015.pdf.
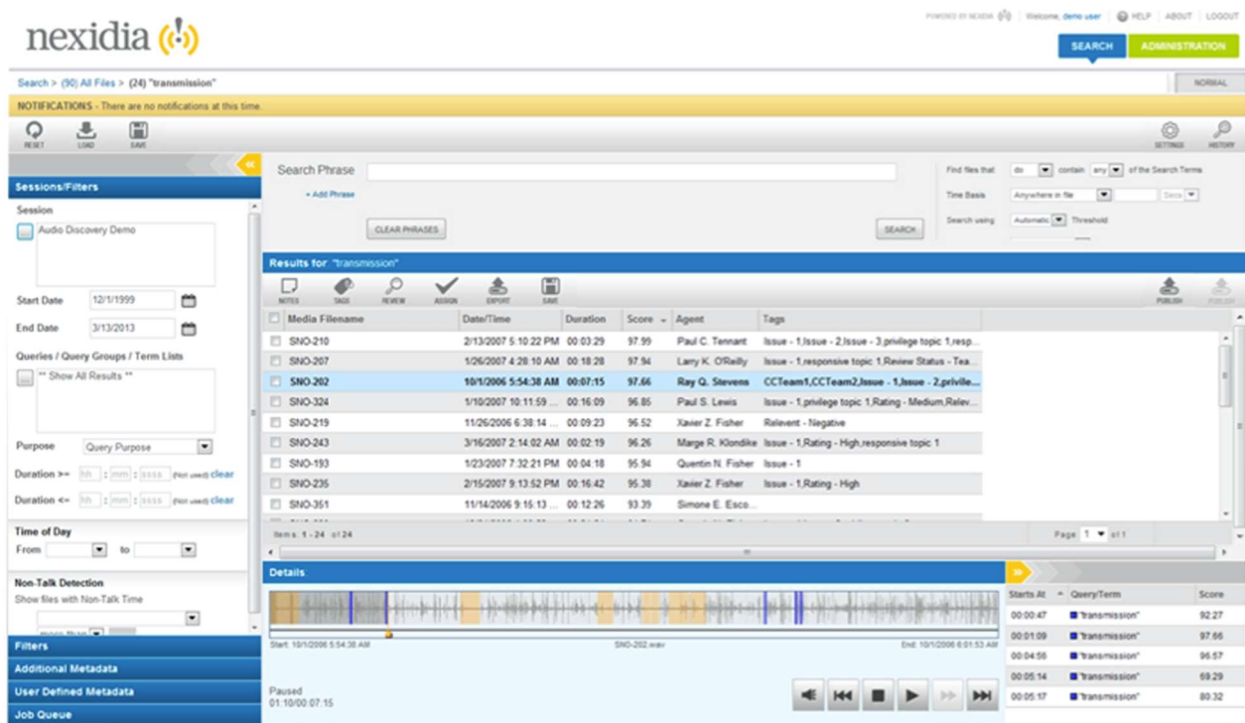
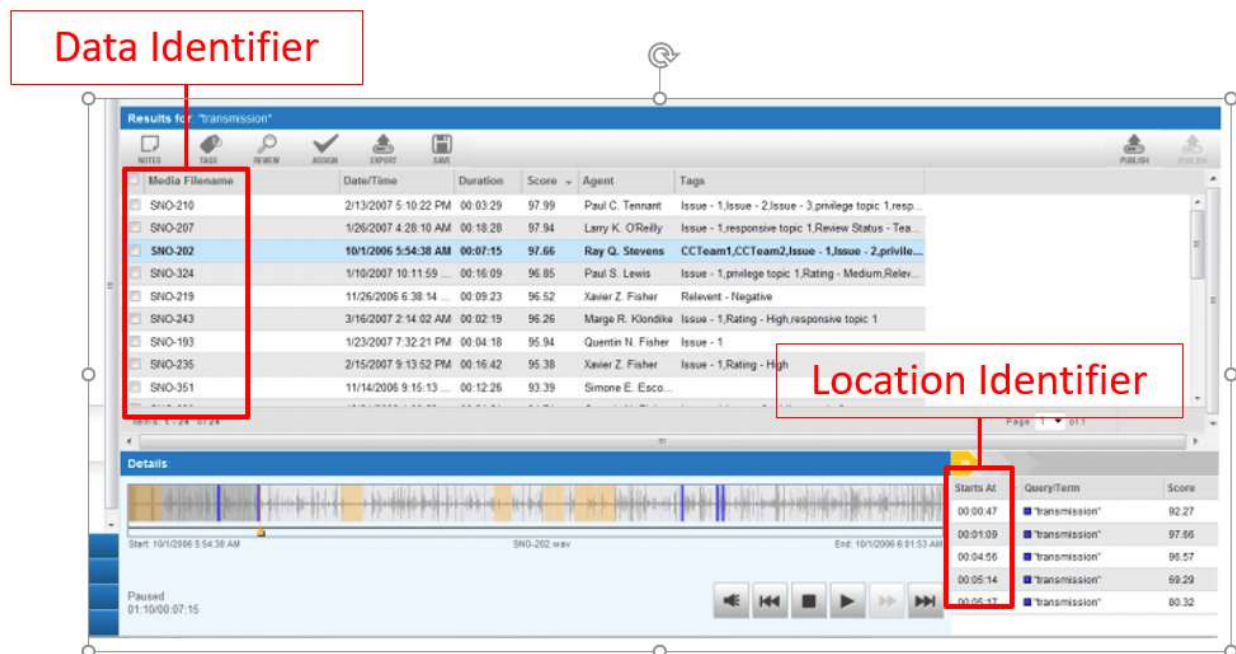125.   The user interface presents data from an annotation table:

https://web.archive.org/web/20160505185007/http://nexidia.com/media/1773/nexidia-audio-discovery-overview-2015.pdf.
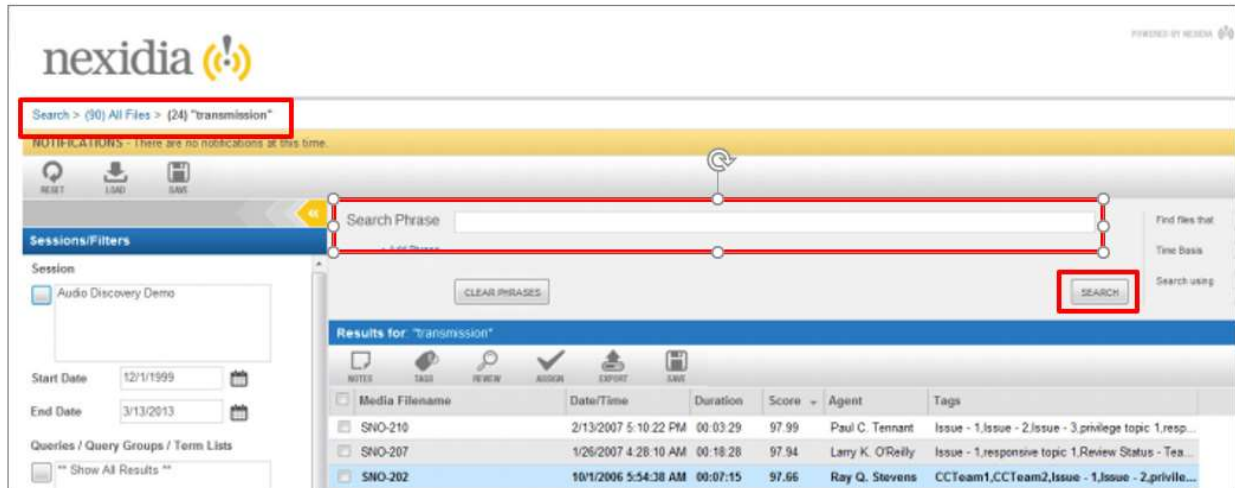
126. In normal operation, the Nexidia Accused Products search phonetically indexed content to locate annotations of interest.

127. Nexidia advertises the phonetic qualities of its search products.

HOW IT WORKS

Nexidia's award-winning and patented phonetic search technology indexes and searches audio using phonemes – the smallest unit of human speech. Media files are phonetically indexed – broken down into phonemes – which can be searched for the most accurate, relevant results. This phonetic approach supports almost all generally available audio qualities and audio variances such as a speaker's language, accent, dialect, gender, and age.

https://www.nice.com/optimizing-customer-engagements/Documents/nx_audio_finder_brochure.pdf.

128.   The Nexidia Accused Products store data and location identifiers corresponding to stored representations of data (e.g., media filenames for audio content and codes or IDs for corresponding to a start time within the stream).

129.   In normal operation, Nexidia Search searches a plurality of annotation values (e.g., phonetically indexed dialog), identifies a start time of a media stream and returns query results providing a media content stream in response to a query.

130.   In Nexidia Search, when a query is performed, results are displayed in the Results Window in order of importance based upon probability as described and shown below:

https://web.archive.org/web/20160505185007/http://nexidia.com/media/1773/nexidia-audio-discovery-overview-2015.pdf

131.   In normal operation of the Accused Products, Nexidia searches a plurality of data identifiers (e.g., indexed object IDs) associated with the stored media to locate a data identifier and address (e.g., a timestamp) corresponding a

particular   audio   file   as   shown   below   (from

https://web.archive.org/web/20160505185007/http://nexidia.com/media/1773/nexi

dia-audio-discovery-overview-2015.pdf):

132.   The Accused Products access an audio stream at a location of interest

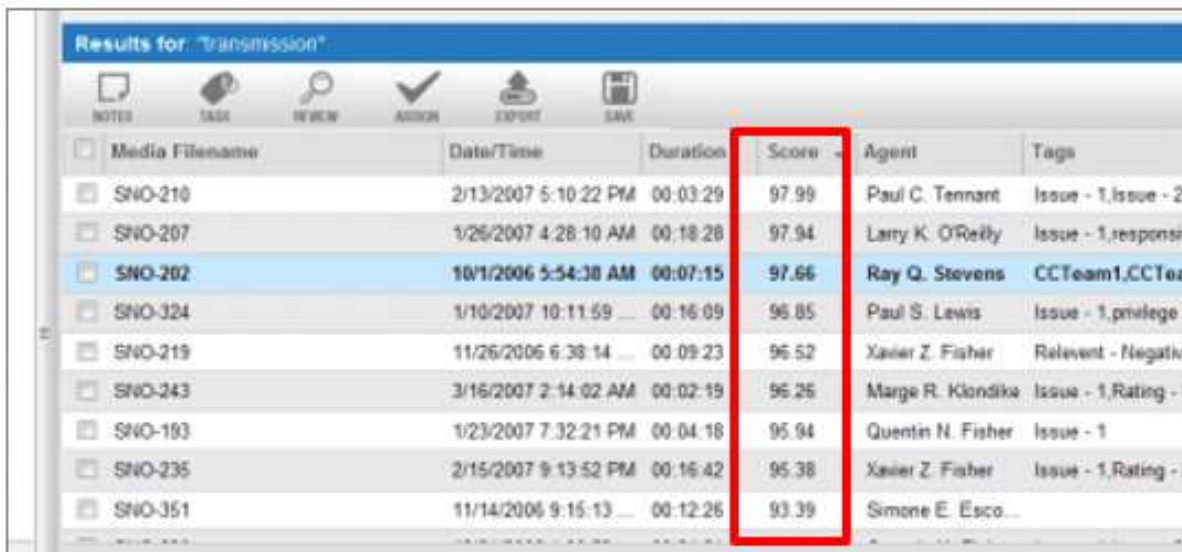using a location identifier indicating a start time for a clip.

133.   The location identifier (highlighted below) corresponds to a start time

of a particular portion of media content:
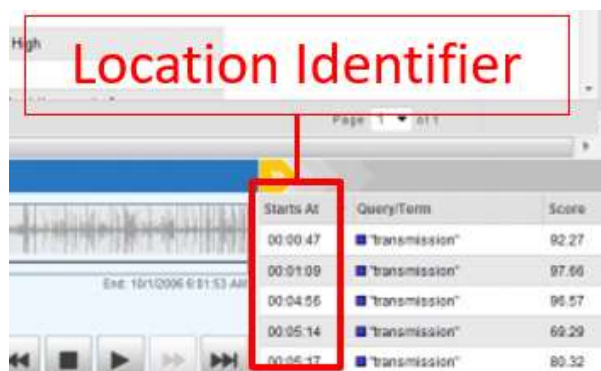
134.   Queries relating to media of interest are used to search phonetically indexed dialog to identify an annotation value matching the query. For example, after Nexidia Search indexes media, the user interface will initiate a search of the indexed media for phonetic sounds that match or comprise a query term.

135.   Start time within a media stream is identified.

136.   Nexidia identifies a probability representing a measure of confidence in the accuracy of the annotation value at each particular time and returns a "score."

137.   Nexidia Search and AudioFinder infringe all three Asserted Patents.

138.   The Accused Products phonetically index audio files generating metadata that is associated and distributed with the originating media segments, stored in databases, and searchable in various environments. *See* Nexidia Phonetic Search Technology Whitepaper (2017).

139.   The Accused Products infringes U.S. Patent Nos. 6,173,287 and

6,311,189.

140.   In normal operation, the Nexidia Accused Products perform each and every step of the '144 patent claims.

141.   For example, Nexidia Search and AudioFinder perform a method for phonetically indexing audible dialog in audio files (annotating media) by identifying and associating one or more particular times corresponding with dialogue within a media stream.

142.   Nexidia Search and AudioFinder identify a probability representing a measure of confidence in accuracy of an annotation value at one or more particular times.

COUNT 1 - INFRINGEMENT OF U.S. PATENT NO. 6,311,189

143.   Eureka realleges and incorporates by reference the allegations set forth in the preceding paragraphs as if set forth verbatim in this Count.

144.   Eureka is the owner, by assignment, of U.S. Patent No. 6,311,189, titled "Technique for Matching a Query to a Portion of Media."

145.   As the owner of the '189 Patent, Eureka holds all substantial rights in and under the '189 Patent, including the right to grant sublicenses, exclude others, and to enforce, sue, and recover damages for past and future infringement.

146.   The United States Patent Office granted the '189 Patent on October 30, 2001.

147. The '189 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code and a full examination by the Patent Office.

148. Defendant has been practicing one or more claims of the '189 Patent, including at least claims 1, 9-11 by making, using, monetizing, testing, offering for sale, selling, and/or importing the Nexidia Accused Products provide indexing, annotations, coding, and the ability to search and display media.

149. Nexidia has directly infringed the '189 Patent by making, deploying, testing, using, providing, monetizing, and licensing the Nexidia Accused Products.

150. Nexidia directly infringes the '189 Patent by making, using, selling, offering for sale, and/or importing the Accused Products that include the media (e.g. audio or video) marking, tagging, labeling, indexing, searching and displaying functionality.

151. For example, the Nexidia Accused Products practice each and every step of claim 1 when performing a method for matching a query to a portion of media.

152. The Nexidia Accused Products receive a query relating to media of interest (e.g. audio or video content). For example, Nexidia Search allows users to search for a particular spoken word or phrase.

153. The Nexidia Accused Products search, based upon the query, a plurality

of annotation values corresponding to a portion of a media item to identify an annotation value matching the query and identify a start time in a media stream corresponding to the identified annotation value and return the identified media start time in response to the query. An example of query results identifying a media start times is shown below:
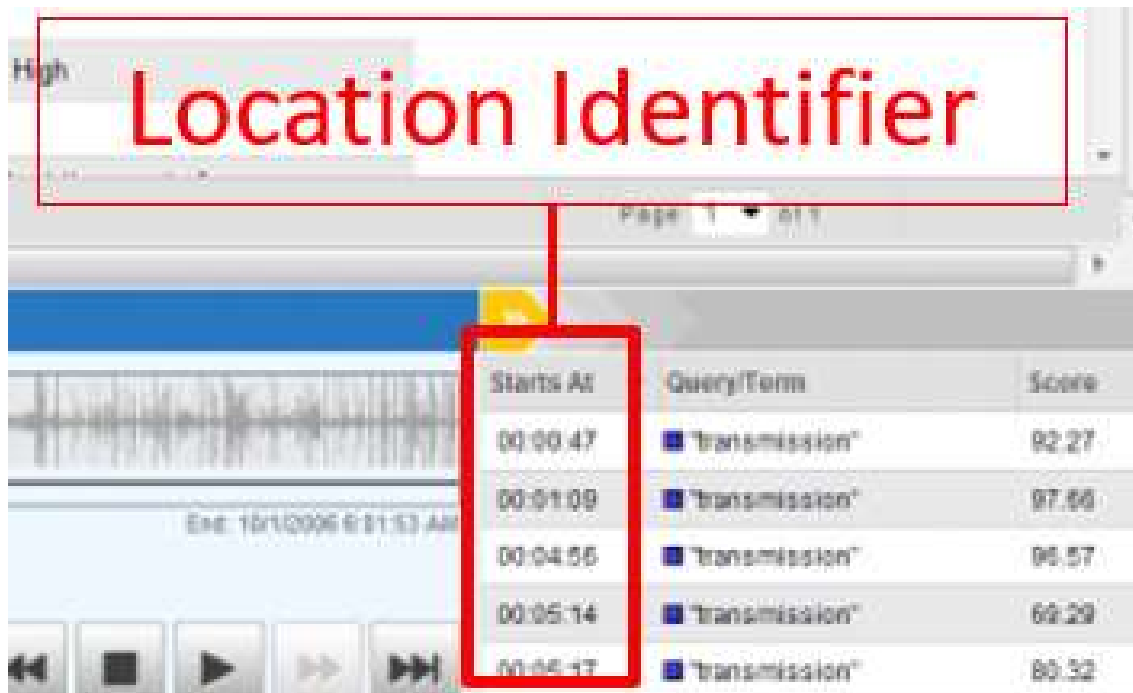
154.   Defendant's infringing conduct described in this Count has damaged Eureka. Nexidia is liable to Eureka in an amount that adequately compensates it for infringement, which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT 2 - INFRINGEMENT OF U.S. PATENT NO. 6,173,287

155.   Eureka realleges and incorporates by reference the allegations set forth in the preceding paragraphs as if set forth in this Count.

156.   Eureka is the owner, by assignment, of U.S. Patent No. 6,173,287, titled "Technique for Ranking Multimedia Annotations of Interest."

157.   As the owner of the '287 Patent, Eureka holds all substantial rights in and under the '287 Patent, including the right to grant sublicenses, exclude others, and to enforce, sue, and recover damages for past and future infringement.

158.   The United States Patent Office granted the '287 Patent on January 9, 2001.

159.   The '287 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code after a complete examination by the Patent Office.

160.   Nexidia has been practicing one or more claims of the '287 Patent, including at least claims 1-4, 6, 7, and 10 by making, using, offering for sale, monetizing, selling, and/or importing the Accused Products that provide functionality including indexing, annotating, labeling, tagging, coding, and the ability to query and display media content.

161.   Nexidia has directly infringed the '287 Patent by deploying, testing, using, monetizing, and operating Nexidia Accused Products.

162.   Nexidia directly infringes the '287 Patent by making, selling, offering for sale, and importing the Accused Products.

163.   For example, the Accused Products practice each and every step of

claim 1 by performing the method of accessing an item of interest (e.g., a particular word or phrase) within a particular one of a plurality of stored representations of data (e.g., audio content or files).

164. The Nexidia Accused products search a plurality of stored annotations corresponding to different items within the plurality of stored representations of data to locate an annotation of interest corresponding to the item of interest. For example, Nexidia Search identifies an annotation of interest (e.g., a particular instance of a spoken word) from among the audio files. A particular keyword has an associated data identifier (e.g., the textual representation) and an associated location identifier (e.g., a timestamp).

165. The Nexidia Accused Products search a plurality of stored data identifiers associated with the plurality of stored annotations to locate the associated data identifier and an associated address identifier, the associated address identifier corresponding to an address of the particular one of the plurality of stored representations of data within the plurality of stored representations of data. For example, Nexidia Search identifies a particular instance, keyword, or label from a multitude of possible instances, keywords, or labels and locates an associated data identifier (e.g., the textual representation) and an associated address identifier.

166. The Nexidia Accused Products access the item of interest at the location of interest using the associated address identifier and associated location

identifier. For example, Nexidia Search accesses the media item of interest at the location of interest using a name and bin for each media stream of interest and a timestamp or other code indicating a particular position in an audio or video timeline.

167. As a result of Nexidia's infringing conduct described in this Count, Eureka has been damaged. Defendant is liable to Eureka in an amount that adequately compensates it for Defendant's infringement, which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT 3 - INFRINGEMENT OF U.S. PATENT NO. 6,332,144

168. Eureka realleges and incorporates by reference the allegations set forth in the preceding paragraphs as if set forth in this Count.

169. Eureka is the owner, by assignment, of U.S. Patent No. 6,332,144, titled "Technique for Annotating Media."

170. As the owner of the '144 Patent, Eureka holds all substantial rights in and under the '144 Patent, including the right to grant sublicenses, exclude others, and to enforce, sue, and recover damages for past and future infringement.

171. The United States Patent Office granted the '144 Patent on December 18, 2001.

172. The '144 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code after a complete examination by

the Patent Office.

173. Nexidia has been practicing one or more claims of the '144 Patent, including at least claims 1-5, 11, 13, 14, and 15 by making, using, offering for sale, monetizing, selling, and/or importing the Nexidia Accused Products that provide functionality including indexing, annotating, labeling, tagging, coding, and the ability to search (query), probabilistically analyze and measure and display media.

174. Nexidia has directly infringed the '144 Patent by deploying, testing, using, monetizing, and operating the Nexidia Accused Products.

175. Nexidia directly infringes the '144 Patent by making, selling, offering for sale, and importing the Accused Products.
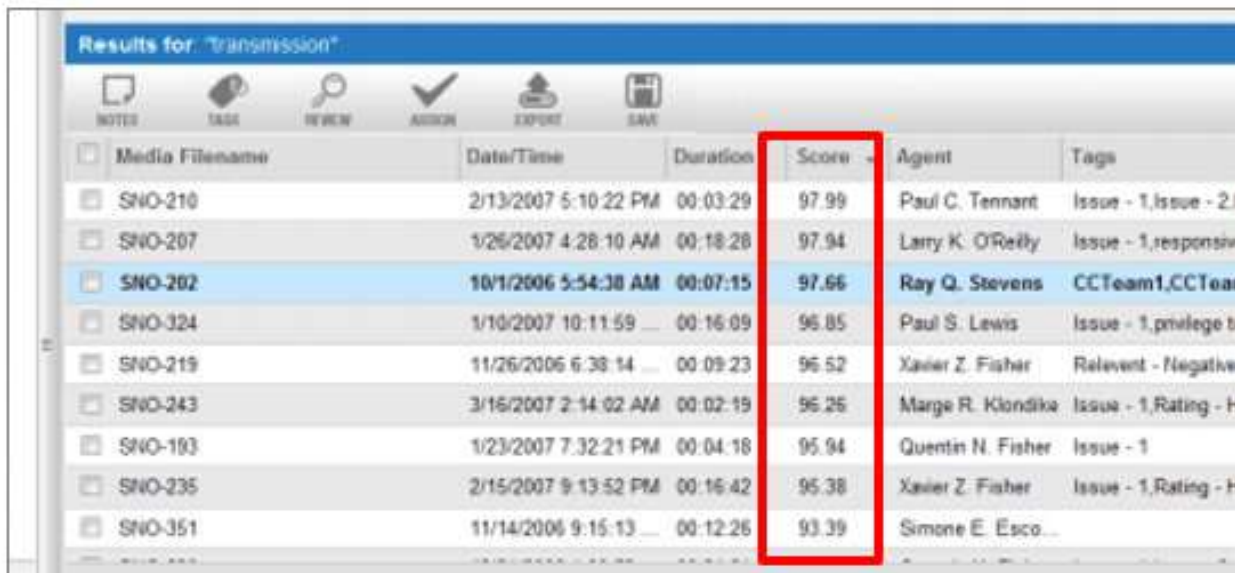
176. The Nexidia Accused Products use methods for accessing an item of interest (e.g., a spoken word or phrase) within a particular one of a plurality of stored representations of data (e.g., audio or video).

177. The Nexidia Accused Products practice each and every element of claim 1 by performing a method for annotating media comprising the steps of identifying one or more particular times within a period defined by start/end times within a media content stream at which content corresponds to an annotation value, associating the annotation value with the identified time(s), and identifying a probability representing accuracy of the annotation value corresponding to the identified time(s).

178. For example, Nexidia Search performs a method for phonetically indexing audible dialog in audio files (annotating media) by identifying and associating one or more particular times corresponding with dialogue within a media stream.

179. Further with respect to claim 1, Nexidia Search identifies a probability representing a measure of confidence in accuracy of an annotation value at one or more particular times.

180. Nexidia Search provides a score indicating the probability that a clip matches the query terms:

181. As a result of Nexidia's infringing conduct described in this Count, Eureka has been damaged. Defendant is liable to Eureka in an amount that adequately compensates it for Defendant's infringement, which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court

under 35 U.S.C. § 284.

PRAYER FOR RELIEF

Eureka prays for the following relief:

a) A judgment be entered that Defendant has directly infringed one or more claims of the Asserted Patents;

b) A judgment be entered that the Asserted Patents are valid and enforceable;

c) Eureka be awarded damages adequate to compensate for Defendant's infringement up until the date such judgment is entered, including prejudgment and post-judgment interest, costs, and disbursements as justified under 35 U.S.C. § 284 and, if necessary, to adequately compensate Eureka for Defendant's infringement, an accounting;

d) A judgment that Eureka be awarded attorneys' fees, costs, and expenses incurred in prosecuting this action; and

e) A judgment that Eureka be awarded such further relief at law or in equity as the Court deems just and proper.

DEMAND FOR JURY TRIAL

Eureka Database Solutions, LLC demands trial by jury for all issues so triable pursuant to Fed. R. Civ. P. 38(b) and Civil L.R. 3-6(a).

March 18, 2020

By _____

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