

Visual Summary of Grounds

Claim Element	1: Iwamura	2: Levy/Arya	3: Iggulden/Bohm	4: Ghias	5: Wood	6: Iwamura/Chen	7: Levy/Arya/Chen
A computer-implemented method comprising: receiving, by a computer system including at least one computer, features that were extracted from a media work by a client device;	Y	Y	N	Y	N	N	N
determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor; and	Y	Y	N	Y	N	N	N
transmitting, by the computer system, information about the identified media work to the client device.	Y	Y	N	Y	N	N	N
The computer-implemented method of claim 1 wherein the media work is an audio work, wherein the features extracted from the work comprise at least one selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and wherein the audio work is one of (A) a broadcast, (B) a digital file, or (C) an MP3 file.	N	Y	N	Y	N	N	N
The computer-implemented method of claim 1 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.	Y	Y	N	Y	N	N	N
The computer-implemented method of claim 1 further comprising performing an action including at least one of promoting commerce or enhancing interest in the work.	Y	Y	N	N	N	N	N
Apparatus comprising: at least one processor; and	Y	Y	N	Y	N	N	N
at least one storage device storing processor-executable instructions which, when executed by the at least one processor, perform a method of receiving features that were extracted from a media work by a client device,	Y	Y	N	Y	N	N	N
determining, by the computer system, an identification of the media work using the features extracted from the media work to perform a sub-linear time search of extracted features of identified media works to identify a neighbor, and	Y	Y	N	Y	N	N	N
transmitting information about the identified media work to the client device.	Y	Y	N	Y	N	N	N
The apparatus of claim 5 wherein the media work is an audio work, wherein the features extracted from the work comprise at least one selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and wherein the audio work is one of (A) a broadcast, (B) a digital file, or (C) an MP3 file.	N	Y	N	Y	N	N	N
The apparatus of claim 5 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.	Y	Y	N	Y	N	N	N
The apparatus of claim 5 wherein the method further includes performing an action including at least one of promoting commerce or enhancing interest in the work.	Y	Y	N	N	N	N	N
A computer-implemented method comprising: receiving, by a computer system including at least one computer, features what were extracted from media work by a client device;	Y	Y	N	Y	N	N	N

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determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works; and	Y	Y	N	Y	Y	N	N
transmitting, by the computer system, information about the identified media work to the client device.							
10. The method of claim 9 wherein the media work is an audio work, wherein the features extracted from the work comprise at least one selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and wherein the audio work is one of (A) a broadcast, (B) a digital file, or (C) an MP3 file.	N	Y	N	Y	Y	N	N
11. The method of claim 9 wherein the information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.	Y	Y	N	Y	Y	N	N
12. The method of claim 9 further comprising performing an action including at least one of promoting commerce or enhancing interest in the work.	Y	Y	N	N	Y	N	N
13. Apparatus comprising:							
at least one processor; and							
at least one storage device storing processor-executable instructions which, when executed by the at least one processor, perform a method of							
receiving features what were extracted from a media work by a client device,	Y	Y	N	Y	Y	N	N
determining, by the computer system, an identification of the media work using the received features extracted from the media work to perform an approximate nearest neighbor search of extracted features of identified media works, and							
transmitting information about the identified media work to the client device.							
14. The apparatus of claim 13 wherein the media work is an audio work, wherein the features extracted from the work comprise at least one selected from a group consisting of (A) a frequency decomposition of a signal of the audio work, (B) information samples of the audio work, (C) average intensities of sampled windows of the audio work, and (D) information from frequencies of the audio work, and wherein the audio work is one of (A) a broadcast, (B) a digital file, or (C) an MP3 file.	N	Y	N	Y	Y	N	N
15. The apparatus of claim 13 information about the identified media work transmitted to the client device includes at least one of (A) a title, or (B) an author.	Y	Y	N	Y	Y	N	N
16. The apparatus of claim 13 wherein the method further includes performing an action including at least one of promoting commerce or enhancing interest in the work.	Y	Y	N	N	Y	N	N
17. The computer-implemented method of claim 1 wherein the media work is a video signal	N	Y	N	N	N	N	N
18. The computer-implemented method of claim 17 wherein the video signal is obtained from at least one of (A) a broadcast or (B) a video file format.	N	Y	N	N	N	N	N
19. The computer-implemented method of claim 9 wherein the media work is a video signal	N	Y	N	N	N	N	N
20. The computer-implemented method of claim 19 wherein the video signal is obtained from at least one of (A) a broadcast or (B) a video file format.	N	Y	N	N	N	N	N

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1. The computer-implemented method of claim 1 wherein at least one of the acts of ceiving or transmitting is performed via a direct communication between the client device and the computer system.	Y	Y	N	Y	N	N	N
2. The computer-implemented method of claim 1 wherein at least one of the acts of ceiving or transmitting is performed via an indirect communication between the client device and the computer system.	Y	Y	N	Y	N	N	N
3. The computer-implemented method of claim 9 wherein at least one of the acts of ceiving or transmitting is performed via a direct communication between the client device and the computer system.	Y	Y	N	Y	Y	N	N
4. The computer-implemented method of claim 9 wherein at least one of the acts of ceiving or transmitting is performed via an indirect communication between the client device and the computer system.	Y	Y	N	Y	Y	N	N
5. A computer-implemented method comprising:							
obtaining, by a computer system including at least one computer, media work extracted features that were extracted from a media work, the media work uploaded from a client device;							
determining, by the computer system, an identification of the media work using the media work extracted features to perform a nonexhaustive search of reference extracted features of reference media works to identify a near neighbor; and	Y	Y	Y	N	N	N	N
determining, by the computer system, an action based on the determined identification of the media work.							
6. The method of claim 25, wherein the action comprises providing to and/or displaying, at another client device, additional information in association with the media work.	N	N	N	N	N	Y	Y
7. The method of claim 26, wherein the additional information is an advertisement.	N	N	N	N	N	Y	Y
8. The method of claim 25, wherein the action comprises providing a coupon.	N	N	N	N	N	N	N
9. The method of claim 25, wherein the action comprises providing a link to a Website.	Y	Y	N	N	N	N	N
10. The method of claim 25, wherein the action comprises initiating an e-commerce transaction.	Y	Y	N	N	N	N	N
11. The method of claim 25, wherein the action comprises initiating a telephone call.	N	N	N	N	N	N	N
12. The method of claim 25, wherein the action comprises logging an event relating to competitive market research data.	N	Y	Y	N	N	N	N
13. A computer-implemented method comprising:							
obtaining, by a computer system including at least one computer, media work extracted features that were extracted from a media work, the media work uploaded from a client device;							
determining, by the computer system, an identification of the media work using the media work extracted features to perform a sublinear approximate nearest neighbor search of reference extracted features of reference identified media works; and	Y	Y	Y	N	N	N	N
determining, by the computer system, an action based on the determined identification of the media work.							

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4. The method of claim 33, wherein the action comprises providing to and/or displaying, at another client device, additional information in association with the media work.	N	N	N	N	N	Y	Y
5. The method of claim 34, wherein the additional information is an advertisement.	N	N	N	N	N	Y	Y
6. The method of claim 33, wherein the action comprises providing a coupon.	N	N	N	N	N	N	N
7. The method of claim 33, wherein the action comprises providing a link to a website.	Y	Y	N	N	N	N	N
8. The method of claim 33, wherein the action comprises initiating an e-commerce transaction.	Y	Y	N	N	N	N	N
9. The method of claim 33, wherein the action comprises initiating a telephone call.	N	N	N	N	N	N	N
10. The method of claim 33, wherein the action comprises logging an event relating to competitive market research data.	N	Y	Y	N	N	N	N