

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Spotify USA Inc.
Petitioner,

v.

Manuel Tijerino
Patent Owner.

Patent No. 9,146,925

Inter Partes Review No. IPR2025-01280

DECLARATION OF WILLIAM ROSENBLATT

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Exhibit List

Exhibit Description	Exhibit #
U.S. Patent No. 9,146,925 to Tijerino (“the ’925 Patent”)	EX1001
Prosecution History of U.S. Patent No. 9,146,925	EX1002
<i>Curriculum Vitae</i> of William Rosenblatt	EX1004
U.S. Patent No. 10,373,420 to Dion et al. (“Dion”)	EX1005
U.S. Patent No. 6,308,204 to Nathan et al. (“Nathan-204”)	EX1006
U.S. Patent No. 9,608,583 to Nathan et al. (“Nathan-109”)	EX1007
DEEPAK ALUR ET AL., CORE J2EE PATTERNS: BEST PRACTICES AND DESIGN STRATEGIES, 2ND ED. (Sun Microsystems Press 2001).	EX1008
ANDREW S. TANENBAUM, MODERN OPERATING SYSTEMS (Prentice-Hall, Inc. 2nd ed. 2002).	EX1009
HAROLD ABELSON ET AL., STRUCTURE AND INTERPRETATION OF COMPUTER PROGRAMS, 2ND ED. (MIT Press 1996).	EX1010
U.S. Patent Appl. Pub. No. 2004/0243482 to Laut (“Laut”)	EX1011
U.S. Patent No. 7,469,208 to Kincaid (“Kincaid”)	EX1012
U.S. Patent Appl. Pub. No. 2008/0137881A1 to Bongiovi (“Bongiovi”)	EX1013
LEONARD RICHARDSON ET AL., RESTFUL WEB SERVICES (O’Reilly Media, Inc. 2007).	EX1014

I, William Rosenblatt, make this declaration in connection with the proceeding identified above.

I. INTRODUCTION

1. I have been retained by counsel for Spotify USA Inc. (“Petitioner” or “Spotify”) in connection with the proceeding identified above. I submit this declaration in support of Spotify’s Petition for *Inter Partes* Review of United States Patent No. 9,146,925 (EX1001, “’925 patent”). I understand that Manuel Tijerino (“Patent Owner”) states that he is the owner of the ’925 patent.

2. I have reviewed and am familiar with the ’925 patent, which issued on Sept. 29, 2015. I understand that the ’925 patent includes 17 claims, of which claims 1 and 3 are independent. I also understand that the Petition for *inter partes* review that accompanies this Declaration (the “Petition”) seeks to cancel claims 1-17 (the “challenged claims”) of the ’925 patent.

3. In preparation for this Declaration, I reviewed the exhibits provided by the Petitioner, including the ’925 Patent. In addition to Exhibits EX1001-EX1014 and other documents cited below, my opinions herein are based upon my personal knowledge, professional judgment, education, and experience gained through my years as a computer scientist, professor, and consultant. I reserve the right to rely upon additional materials as I become aware of them, and to revise my analysis and opinions to the extent appropriate based on any such new materials.

4. The '925 patent is generally directed to "Internet jukeboxes" that play media such as music tracks. (EX1001, Abstract, 1:11-2:35.) Users can upload media for playback by a jukebox. (*Id.*) I am familiar with the technology described in the '925 patent as of its filing date of July 27, 2010.

5. I have been asked to consider how a person of ordinary skill in the art ("POSITA") would have understood the challenged claims in light of the disclosure of the '925 patent. I also have been asked to consider how a POSITA would have understood the following prior art references:

Prior Art Reference	Abbreviation
U.S. Patent No. 10,373,420 to Dion	Dion (EX1005)
U.S. Patent No. 7,107,109 to Nathan et al.	Nathan-109 (EX1007)
U.S. Patent Appl. Pub. No. 2004/0243482A1 to Laut	Laut (EX1011)
U.S. Patent No. 7,469,208 to Kincaid	Kincaid (EX1012)
U.S. Patent Appl. Pub. No. 2008/0137881A1 to Bongiovi	Bongiovi (EX1013)

6. Further, I have been asked to consider and provide my technical review, analysis, insights, and opinions regarding whether a POSITA would have understood the disclosures of the above references to render obvious the challenged claims.

7. I am being paid \$650 per hour for my work on this matter. My compensation is not dependent on the outcome of this *inter partes* review and in no way affects the substance of my statements in this declaration.

8. I reside in New York City, USA.

II. SUMMARY OF GROUNDS

9. I understand that the Petition for *inter partes* review of the '568 patent asserts the following grounds of unpatentability:

Ground	35 U.S.C. §	Claims	Prior Art References
1	103	1-17	Laut, Kincaid, Bongiovi
2	103	1-17	Dion, Nathan-109

III. QUALIFICATIONS AND EXPERTISE

10. My qualifications are stated more fully in my *curriculum vitae*, which has been provided as EX1004. Here, I provide a brief summary of my relevant qualifications.

11. I received a Bachelor's degree in Electrical Engineering and Computer Science from Princeton University in 1983, with a concentration in software and independent work in computer graphics, and a Master of Science degree in Computer and Information Science from the University of Massachusetts at Amherst in 1990, where I conducted graduate-level research in software

engineering, programming languages, and databases, and I taught a course in Software Engineering for seniors and first-year graduate students.

12. I have received continuing education in business and finance from NYU, Harvard Business School, and the USC Marshall School of Business.

13. My professional software engineering experience began during college, when I developed program log generation software for a commercial radio station. I subsequently served in software engineering roles at Motorola and Intermetrics, where I worked on data communications technologies. After graduate school, I developed software and managed software development projects at a series of companies including the Rustin Group, Moody's Investors Service, Times Mirror Co., and McGraw-Hill, as further detailed in the CV that is provided as EX1004. At Times Mirror and McGraw-Hill, two large diversified publishing companies, I managed various projects related to digital content management and publishing.

14. In 2000, I founded GiantSteps Media Technology Strategies, the consulting firm that I run to this day. I have consulted to a range of clients on technology and business issues related to digital music, including Warner Music Group, Sony Music Entertainment, British Telecom, and MakeMusic; other clients have included Google, HP, IBM, Microsoft, Adobe, Sun Microsystems, Associated

Press, McGraw-Hill, National Public Radio, Pearson, Readers Digest, LG Electronics, Sony Electronics, Sony Pictures, and Walt Disney Co., as well as various startup companies. During the period from just before Spotify's 2008 launch in Europe to just after its 2011 launch in the United States, I consulted on technology and market strategy for a startup digital music service provider serving the mobile device market that became operational in South America and Southeast Asia. I also have approximately ten years of experience in audio production at radio stations, including short- and long-form preproduced audio as well as music and live broadcasts, in both analog and digital audio. This experience includes the optimization of volume levels for radio broadcasting.

15. I have testified on various aspects of digital music technology and the digital music market before the Copyright Royalty Board, SDNY Rate Courts, and federal district courts. I have served as an expert in patent litigations and post-grant proceedings, as well as copyright litigations concerning the music market and digital technology, since the mid-2000s. In the latter, I have offered testimony on the market for mobile digital music services in the late 2000s through early 2010s and the market for digital radio services in the mid-2010s. As part of my work as a consultant and litigation expert, I routinely examine source code and other documents related to technology architecture and design.

16. I am currently an adjunct professor in the Music Business program, Department of Music and Performing Arts Professions, at NYU, where I teach the courses Technological Transformation of the Music Industry and Data Analysis in the Music Industry. In addition to NYU, I have given guest lectures at several colleges, universities, and law schools on the music business and on technology issues related to media and copyright, including Berklee College of Music, MIT, Columbia, Carnegie Mellon, University of Virginia, University of New Hampshire Law School, and Rutgers Law School.

17. Since 2010 I have chaired the annual Copyright and Technology conferences, CLE-qualifying events that I produce in partnership with the Copyright Society and the Fordham IP Institute. I have also spoken at conferences on five continents worldwide over the past two decades, including Music Business Association (Music Biz), Mondo.NYC, European Union High Level Conference on the Data Economy (Helsinki), Popkomm (Berlin), the World Economic Forum Annual Meeting (Davos), BUMA/IViR Symposium: Copyright and the Music Industry: Digital Dilemmas (Amsterdam), and International Copyright Technology (ICOTEC) Conference (Seoul).

18. I am on the board of trustees of the Copyright Society and the peer review board of the Journal of the Copyright Society. I have been a member of the

Open Music Initiative, a standards initiative related to technology for rights and royalty administration in digital music. Since 1984 I have served as a trustee of WPRB-FM, a student-run, commercially licensed radio station in Princeton, NJ, that serves the greater Philadelphia area. From 2001-2010 I served as President of the trustee board and Chairman of Princeton Broadcasting Service, Inc., the corporation that operates the station.

19. I am co-author of the book *Key Changes: The Ten Times Technology Transformed the Music Industry* (Oxford University Press) and the author of whitepapers including *The Global Digital Music Landscape: An Overview of Distribution, Copyright, and Rights Administration for Music in the Digital Age* for the World Intellectual Property Organization (WIPO) and *Music Rights and Data Collaboration: The Key to the Next Level of Revenue in the Music Industry*. I am a contributor to Forbes on music industry topics.

IV. LEGAL UNDERSTANDING

A. My Understanding of Claim Construction

20. I have been advised and understand that claim construction is a matter of law and that the final claim construction will ultimately be determined by the Patent Trial and Appeal Board (the “Board”). I have been advised and understand

that patent claims are generally construed from the perspective of one of ordinary skill in the art at the time the claimed invention was made.

B. My Understanding of Obviousness

21. I have been advised and understand that a claimed invention is unpatentable if the differences between the invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a POSITA to which the subject matter pertains. This means that even if all of the requirements of the claim cannot be found in a single prior art reference that would anticipate the claim, the claim can still be invalid.

22. It is my understanding that obviousness is a question of law based on underlying factual findings: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of skill in the art; and (4) objective considerations of non-obviousness. I understand that for a single reference or a combination of references to render the claimed invention obvious, a POSITA must have been able to arrive at the claims by altering or combining the applied references.

23. I also understand that prior art references can be combined under several different circumstances. For example, it is my understanding that one such circumstance is when a proposed combination of prior art references results in a

system that represents a predictable variation of the prior art, which is achieved using prior art elements according to their established functions.

24. I also understand that when considering the obviousness of a patent claim, one should consider whether a teaching, suggestion, or motivation to combine the references exists so as to avoid impermissibly applying hindsight when considering the prior art. I understand this test should not be applied rigidly, but that the test can be important to avoiding such hindsight.

V. THE '925 PATENT

A. Background

25. The '925 patent relates to using Internet-connected jukeboxes to distribute media content. (EX1001, 3:64-4:3.) According to the '925 patent, an artist can upload media (comprising images, video, or music) to a server, “instantly transferring the media to a system of internet jukeboxes in establishments,” and allowing playback of the media by jukebox customers. (EX1001, 2:21-35.) The jukebox can be configured to maintain an account for the artist, allowing the artist to earn fees and royalties from playback of the media. (EX1001, 2:21-35.) The jukebox can also provide for automated payment of rent and fees to a venue, a service provider, and licensing agencies. (EX1001, 2:21-35.)

B. Priority Date

26. In preparing my opinions, I have applied a priority date of July 27, 2010 for the '925 patent. The application that became the '925 patent (Appl. No. 12/804,665) was filed on July 27, 2010 and does not claim priority to any other application. (EX1001, (22).)

C. Prosecution History

27. I understand the '925 patent application was rejected multiple times before its eventual allowance. (EX1002.) I understand the application was rejected over prior art references directed to digital jukeboxes and media distribution, and that the application was allowed only after the claims were amended—at the Examiner's suggestion—to recite normalizing audio signals based on a root mean square (RMS) value; and compressing the audio signals based on a preset compression ratio and a preset threshold value. (EX1002, 402-13 (April 29, 2015 Supplemental Amendment and Interview Summary).)

D. Level of Ordinary Skill

28. I have been advised and understand that a POSITA is presumed to be aware of all pertinent art, follows the conventional wisdom in the art, and is a person of ordinary creativity, not an automaton. Based on the disclosure of the '925 patent and the priority date, a POSITA would have had a Bachelor of Science degree and a Masters degree in Computer Science, Electrical Engineering,

Computer Engineering, or an equivalent field, as well as one to two years of academic or industry experience in computer-based systems for digital audio distribution and playback, or comparable industry experience. The POSITA further would have been knowledgeable about audio signal processing techniques, such as gain normalization and dynamic range compression, and software engineering.

E. Claim Construction

29. Based on my understanding of claim construction as provided above, I do not believe any claim construction is necessary for this proceeding. As set forth herein, the challenged claims are invalid under any reasonable interpretation of the claims.

VI. GROUND 1: LAUT IN VIEW OF KINCAID AND BONGIOVI RENDERS OBVIOUS CLAIMS 1-17

30. Each limitation of claims 1-17 is met by Laut in view of Kincaid and Bongiovi for the reasons set forth below.

A. Summary of Laut

31. Laut is a U.S. Patent Publication (titled “Method and Apparatus for Multi-Way Jukebox System”) of a U.S. patent application by Steven Laut. The underlying application (Appl. No. 10/446,406) was filed on May 28, 2003, and was published on December 2, 2004. (EX1011, (22).) Laut is thus prior art to the ’925

patent under at least 35 U.S.C. §§102(a), (b), and (e). It was not considered during the prosecution of the '925 patent.

32. Laut relates to “multi-way” networked jukebox systems. (EX1011, [0028].) Unlike conventional “one-way” jukeboxes, the jukeboxes of Laut permit users to upload content to a jukebox, for playback (*e.g.*, via the Internet) on other networked jukeboxes hosted at public venues such as bars and restaurants. (EX1011, [0029], [0073].) This “multi-way capability” gives artists, including those who “cannot typically have [their] music played on a wide basis,” a “means for distributing their respective content” at various jukebox systems in the network. (EX1011, [0073], [0105].)

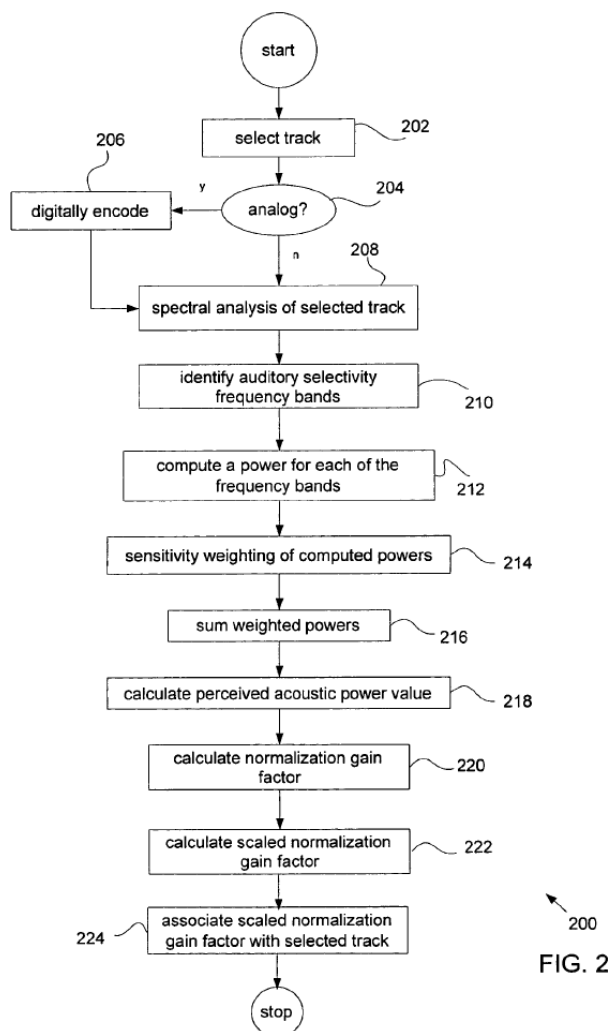
33. Laut is analogous art to the '925 patent at least because Laut is directed to the same problem (Internet-enabled jukeboxes) in the same field of endeavor (digital audio distribution and playback) as the '925 patent.

B. Summary of Kincaid

34. Kincaid is a U.S. Patent (titled “Method and Apparatus for Automatically Normalizing a Perceived Volume Level in a Digitally Encoded File”) assigned to Apple Inc. The patent was issued on December 23, 2008 from an application (Appl. No. 11/433,163) filed May 12, 2006. (EX1012, (21), (22).)

Kincaid is thus prior art to the '925 patent under at least 35 U.S.C. §§102(a), (b), and (e). It was not considered during the prosecution of the '925 patent.

35. Kincaid relates to automatically normalizing the volume of digital audio tracks in a library, such as for Apple's iTunes software, so that the perceived volume across different audio tracks is substantially the same when downloaded and played by a media player. (EX1012, 1:44-59, 3:60-4:23.) A perceived acoustic power value can be calculated for an audio track. (EX1012, 1:60-2:5, 3:60-62.) A normalization gain factor is determined based on the power value, which is then associated with the track as metadata, and stored in a database. (EX1012, 4:6-9, 7:53-55.) Fig. 2 illustrates an example of this process:



(EX1012, 6:59-7:51, Fig. 2.)

36. A media player downloads the song and the metadata, and uses the gain factor to adjust the playback volume of the song to achieve the desired loudness. (EX1012, 7:53-8:5, 9:25-33.) Fig. 3 illustrates an example of this process:

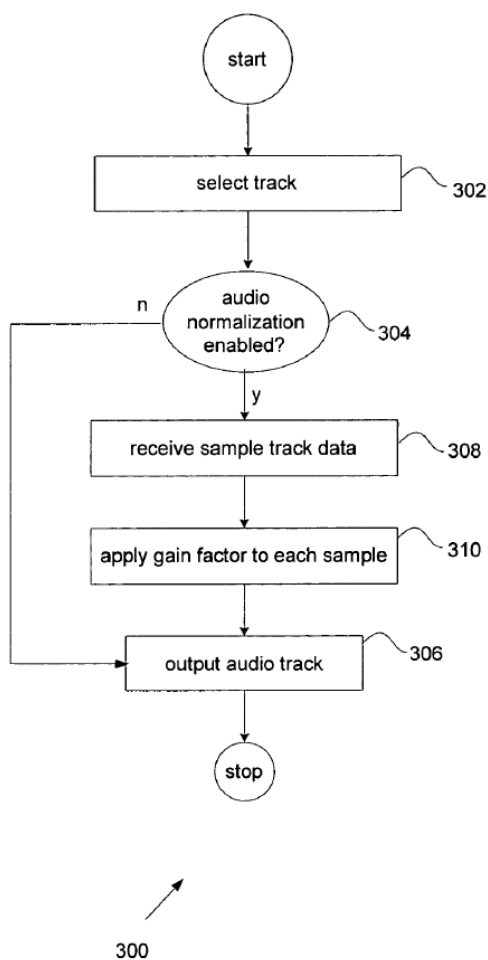


FIG. 3

(EX1012, 7:53-8:5, Fig. 3.)

37. Kincaid is analogous art to the '925 patent at least because Kincaid is directed to the same field of endeavor (digital audio distribution and playback) as the '925 patent, and addresses problems analogous to those of the '925 patent. For example, Kincaid relates to computer-enabled audio devices and software for

music playback, analogous to the jukebox of the '925 patent, and describes improving playback of digital audio on such devices, *e.g.*, by achieving consistent volume across audio tracks. (EX1001, 7:56-60.)

C. Summary of Bongiovi

38. Bongiovi is a U.S. Patent Publication (titled “System and Method for Digital Signal Processing”) of a U.S. patent application by inventor Anthony Bongiovi. The underlying application (Appl. No. 11/947,301) was filed on November 29, 2007, and was published on June 12, 2008. (EX1011, (22).) Bongiovi is thus prior art to the '925 patent under at least 35 U.S.C. §§102(a), (b), and (e). It was not considered during the prosecution of the '925 patent.

39. Bongiovi relates to using an audio device (*e.g.*, an MP3 player, computer, or home theater system) with a computer chip to digitally process an audio signal, “such that studio-quality sound ... can be reproduced across the entire spectrum of audio devices.” (EX1013, [0011].) More specifically, Bongiovi discloses using dynamic range compression techniques to improve audio playback quality in “high-noise” or public environments, such as clubs, theaters, and shopping centers. (EX1013, [0014]-[0020].) Fig. 1 illustrates an example method in which a processor accepts an audio signal 110 as input; and performs steps

(including annotated compressor steps 104 and 108) on the audio signal to produce output audio signal 111:

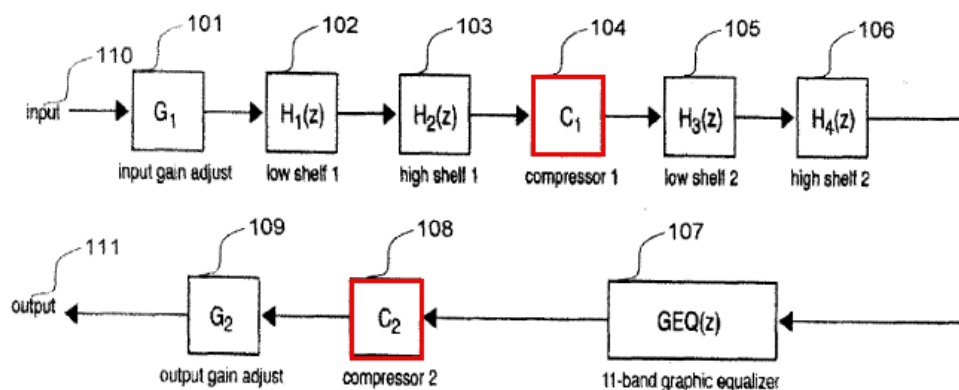


FIG. 1

(EX1013, [0051]-[0054], Fig. 1 (annotated).)

40. Bongiovi is analogous art to the '925 patent at least because Bongiovi is directed to the same field of endeavor (digital audio distribution and playback) as the '925 patent, and addresses problems analogous to those of the '925 patent. For example, Bongiovi relates to computer-enabled audio devices, including those in high-noise public environments, analogous to the jukebox of the '925 patent; and describes improving playback of digital audio on such devices, *e.g.*, by avoiding audio peaks that “sound harsh” and can damage speakers. (EX1001, 7:54-60; EX1013, [0020], [0052], [0143].)

D. Claim 1

1. ***[Preamble] A computer implemented method for real time music distribution of new media tor [sic] allowing an artist to control availability of the new media for playback in public venues via a jukebox, the method comprising:***

41. Laut provides artists with “a means for distributing their respective content simultaneously, staggered, scheduled, etc. at a number of jukebox systems coupled in the network.” (EX1011, [0105].) For example, in Laut, a user, *e.g.*, an artist, can use a computer-networked jukebox with a controller 220 to “upload content that is desired to be played on any or all of the available jukebox systems that are coupled to the network.” (EX1011, [0030], [0073]; *see* EX1001, 4:5-6.) Artists have access to jukeboxes hosted at public venues such as bars and restaurants; the artist can “select any/all jukebox systems at different venues to play the content.” (EX1011, [0029], [0073].) This gives control of real-time music distribution to artists, including independent artists who “cannot typically have [their] music played on a wide basis (*i.e.*, radio or televised, such as VH1™, MTV™, satellite audio, etc.)”. (EX1011, [0029], [0073].)

2. ***[A] providing, by a processor, a user interface to interact with a system;***

42. Laut discloses a jukebox system 200 with a controller 220 having a CPU 221, and a first display 210 coupled to a user interface 240:

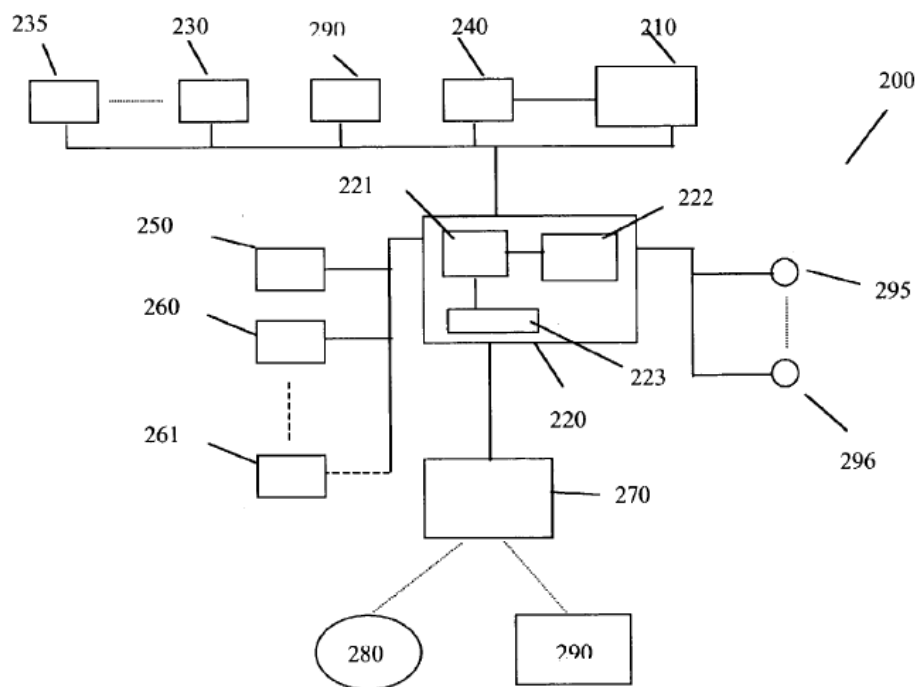
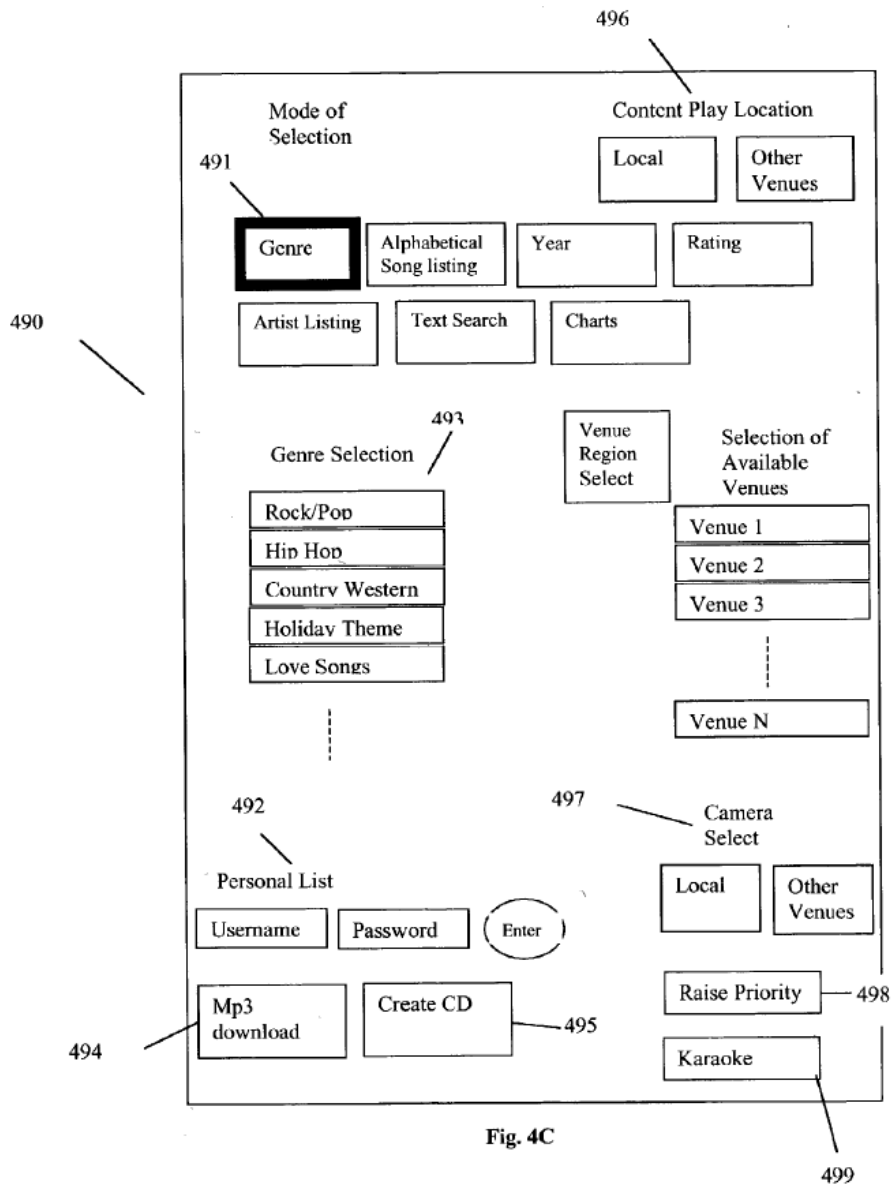


Fig. 2A

(EX1011, [0029]-[0032], Fig. 2A.)

43. User interface 240 can be accessed by a user to interact with the jukebox system by, *e.g.*, selecting content choices; entering a user identification and password; and selecting a venue for content playback. (EX1011, [0032].) Fig. 4C illustrates an example user interface:



(EX1011, [0048]-[0049], Fig. 4C.)

44. The POSITA would understand user interface 240 to be provided by the processor, *e.g.*, controller 220, at least because controller 220 “includes processes for ... displaying content information on a display,” which is a function of user interface 240. (EX1011, [0029]-[0032].) Similarly, Laut illustrates that

controller 220 communicates with user interface 240, so as to provide the user interface 240 via display 210 and exchange data:

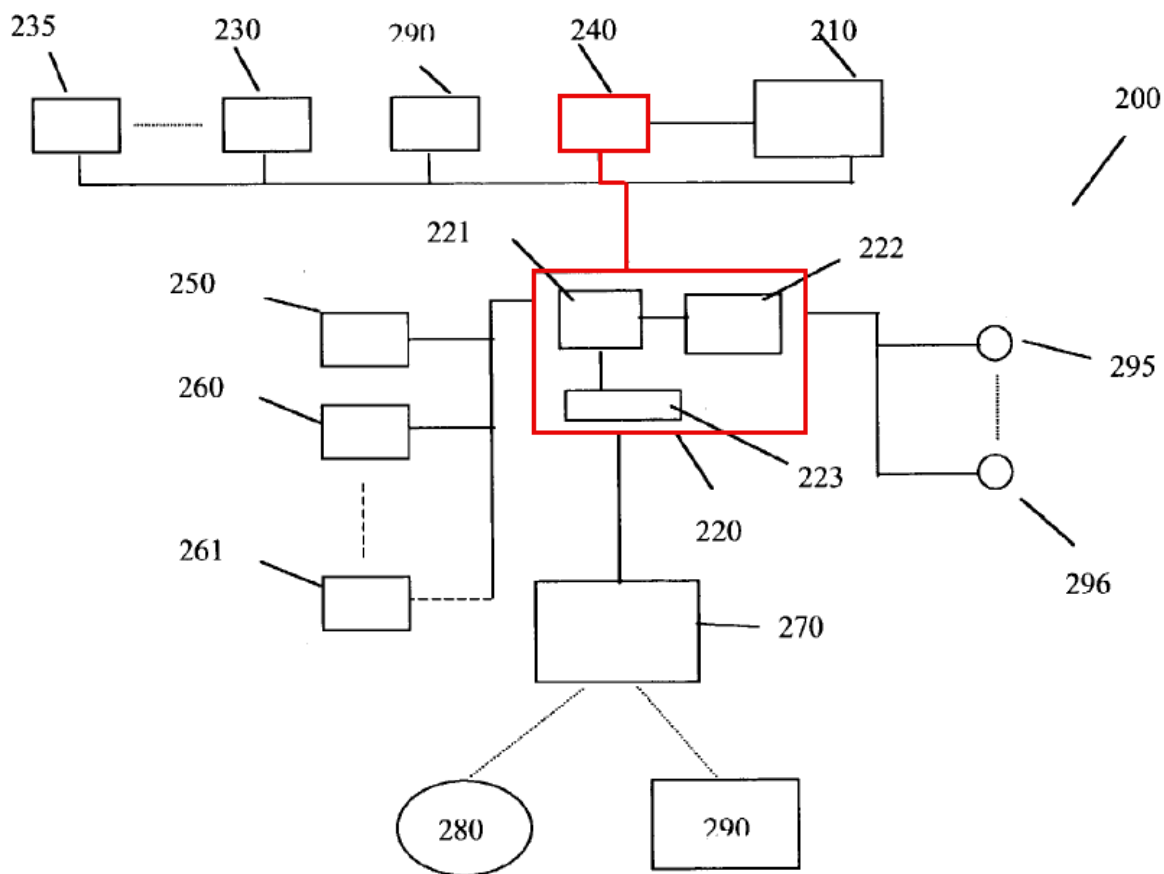


Fig. 2A

(EX1011, [0029]-[0032], Fig. 2A (annotated).)

3. [B] *providing, by the processor, a user interface to add the user to the system;*

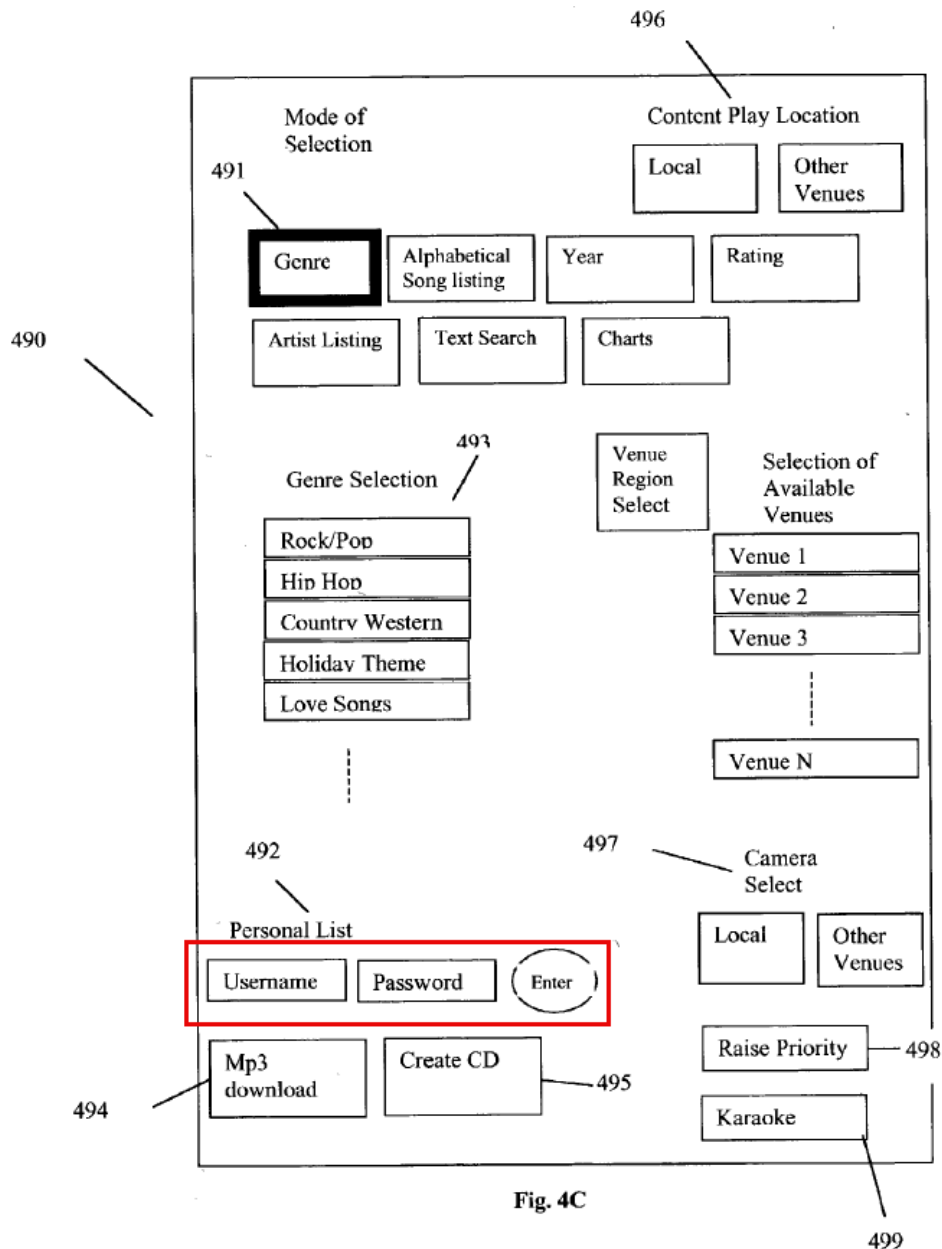
45. Laut discloses that the user can have a personal account with the jukebox system, with an associated identification and password for security, that permits the user to store personal content selections and other data. (EX1011, [0042]-[0046], [0060].) The user can access user interface 240 to access his or her account using the identification and password. (EX1011, [0042]-[0046].) To the extent not expressly disclosed in Laut, it would have been obvious to the POSITA for the user interface 240 to add the user to the system. This is at least because the POSITA would understand that the user's account must be added before it can be used; and that the user interface 240, as the user's mechanism for accessing and logging in to the jukebox system, is the most sensible interface for creating an account and thereby adding the user. User interface 240 is provided by the processor as described for element [A].

4. [C] *providing, by the processor, a user interface to create an account;*

46. Laut meets this element as described above for element [B].

5. [D] *providing, by the processor, a user interface to log into the system;*

47. Laut discloses that the user can access user interface 240 to enter his or her user identification and password to log into the system:



(EX1011, [0032]. [0024]-[0046], Fig. 4C (annotated); *see also id.*, [0073], [0089].)

48. User interface 240 is provided by the processor as described for element [A].

6. ***[E] providing, by the processor, a user interface to add the new media to the system, wherein the new media is new if not previously stored in the system;***

49. Laut discloses that a user can “upload content that is desired to be played on any or all of the available jukebox systems that are coupled to the network” and “any/all jukebox systems at different venues to play the content.” (EX1011, [0073].) To the extent not expressly disclosed, the POSITA would have found it obvious that this would be content not previously stored in the system. Laut discloses that “[w]ith this feature, an independent artist that cannot typically have his/her music played on a wide basis (*i.e.*, radio or televised, such as VH1™, MTV™, satellite audio, etc.) can distribute his/her music/video at many venues where jukebox systems are located that are coupled to the network.” (*Id.*)

50. Under Laut, a user can remotely log on to a website, *i.e.*, via user interface 240, by entering a user identification and password to upload content. (EX1011, [0073].) Further, user interface 240 is provided as an interface for the user to access and manipulate his or her music content on the jukebox system, which the POSITA would understand to include newly added music content. (EX1011, [0032].) User interface 240 is provided by the processor as described for element [A].

7. [F] *receiving, by the processor, the new media added to the system*

51. The new media is received by the processor in Laut: the processor provides the user interface 240 via which the new media is added, as described above, and further “includes processes for ... receiving content” such as the new media. (EX1011, [0030].)

8. [G] *automatically identifying, by the processor, metadata for the new media and storing the metadata in a database;*

52. Once a song is uploaded in Laut, it is rated according to a “standard audio/video rating system.” (EX1011, [0048], [0073], [0094].) The POSITA would understand a rating of a song to be a metadata element for that song. The rating is stored in a database, along with other metadata such as year, artist name, title, and genre; the metadata can be searched and used to limit or control what is played on a particular jukebox. (EX1011, [0048]-[0052], [0056], [0060]-[0062], Fig. 7.) As additional examples of metadata usage, a jukebox owner can limit playback to content from specific artists; and a child-friendly pizza parlor can limit playback to content with child-friendly ratings. (EX1011, [0048]-[0052].)

53. The processor employs user interface 240 to organize and filter the new media by its metadata (*e.g.*, rating, genre, etc.), for presentation and selection via user interface 240:

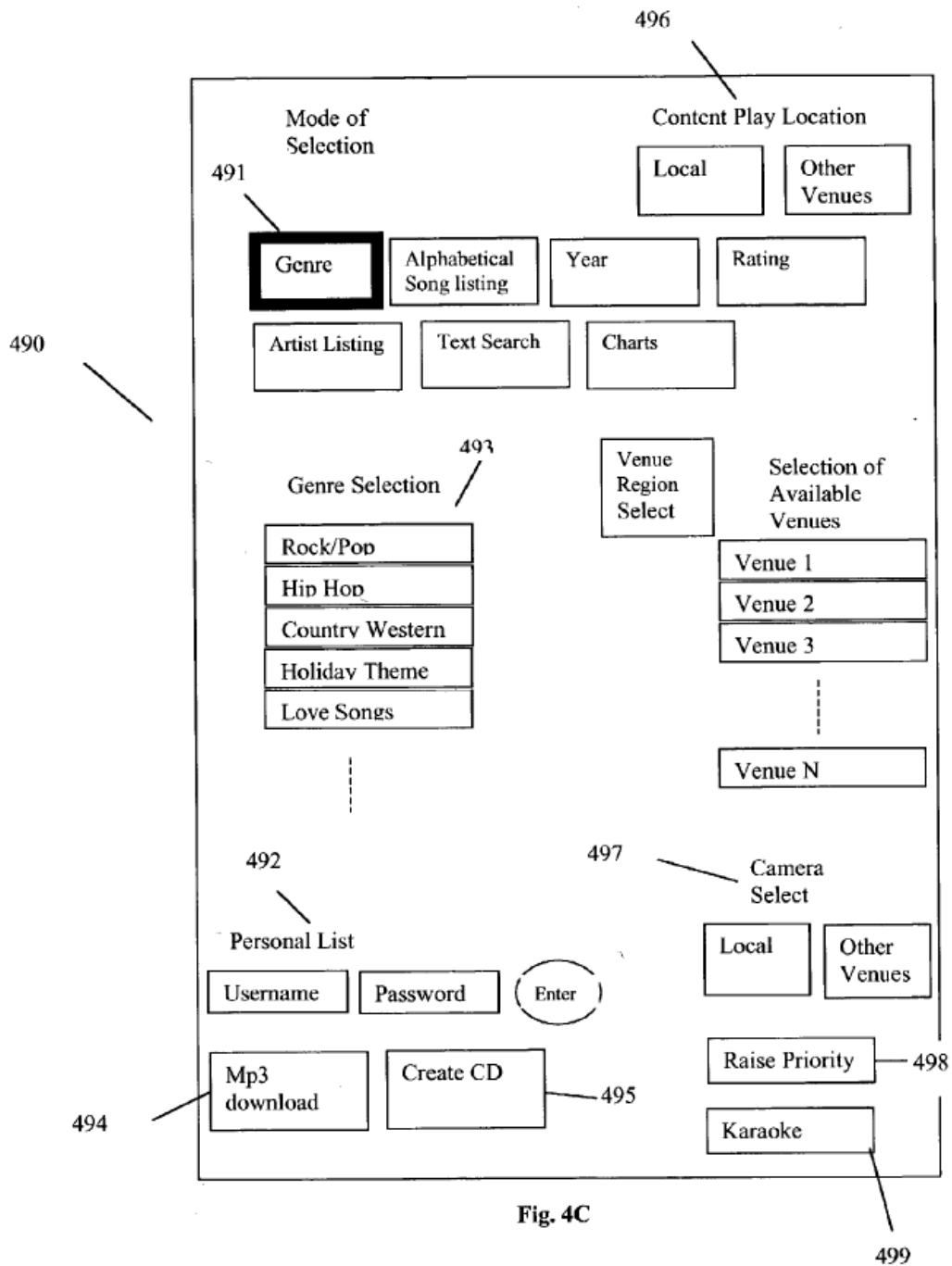


Fig. 4C

(EX1011, [0048]-[0052], Fig. 4C.)

54. The POSITA would understand this functionality to require the processor to automatically identify the metadata, so that it can be presented appropriately in the user interface.

9. ***[H] storing, by the processor, the new media in a central storage device, wherein the storing automatically enables the new media to be requested by the jukebox for playback over the Internet by providing to a client software installed in the jukebox, access to the database storing the metadata for the new media, via an API call over the Internet;***

55. As described for element [E], a user in Laut uploads a song, or other new media, automatically making it available for playback on “any or all of the available jukebox systems that are coupled to the network.” (EX1011, [0073].)

The jukeboxes utilize installed client software (*e.g.*, user interface 240, menu 700 in the figure below) to request playback of the song over the Internet, *e.g.*, by searching for the song’s metadata (genre, rating, etc.) in the database as described for element [G]:

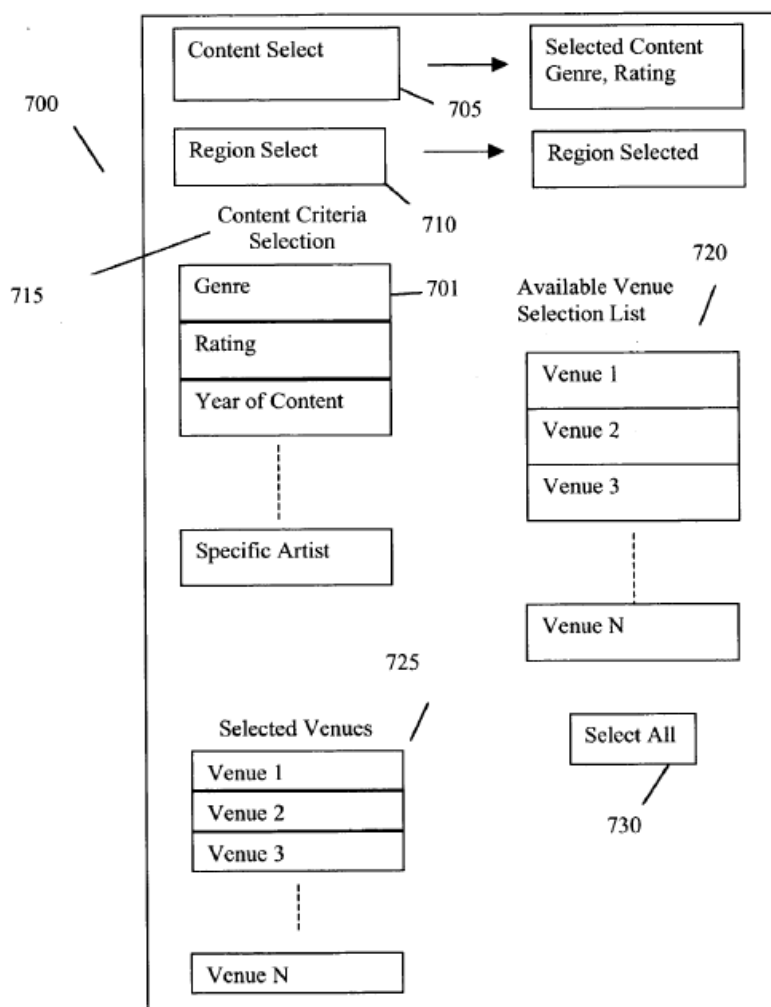


Fig. 7

(EX1011, [0048]-[0052], [0056], [0060]-[0062], Fig. 7.)

56. Further, Fig. 16 illustrates a process of selecting content for playback, with content selected at block 1605, from a menu for accessing metadata from the database, as described above:

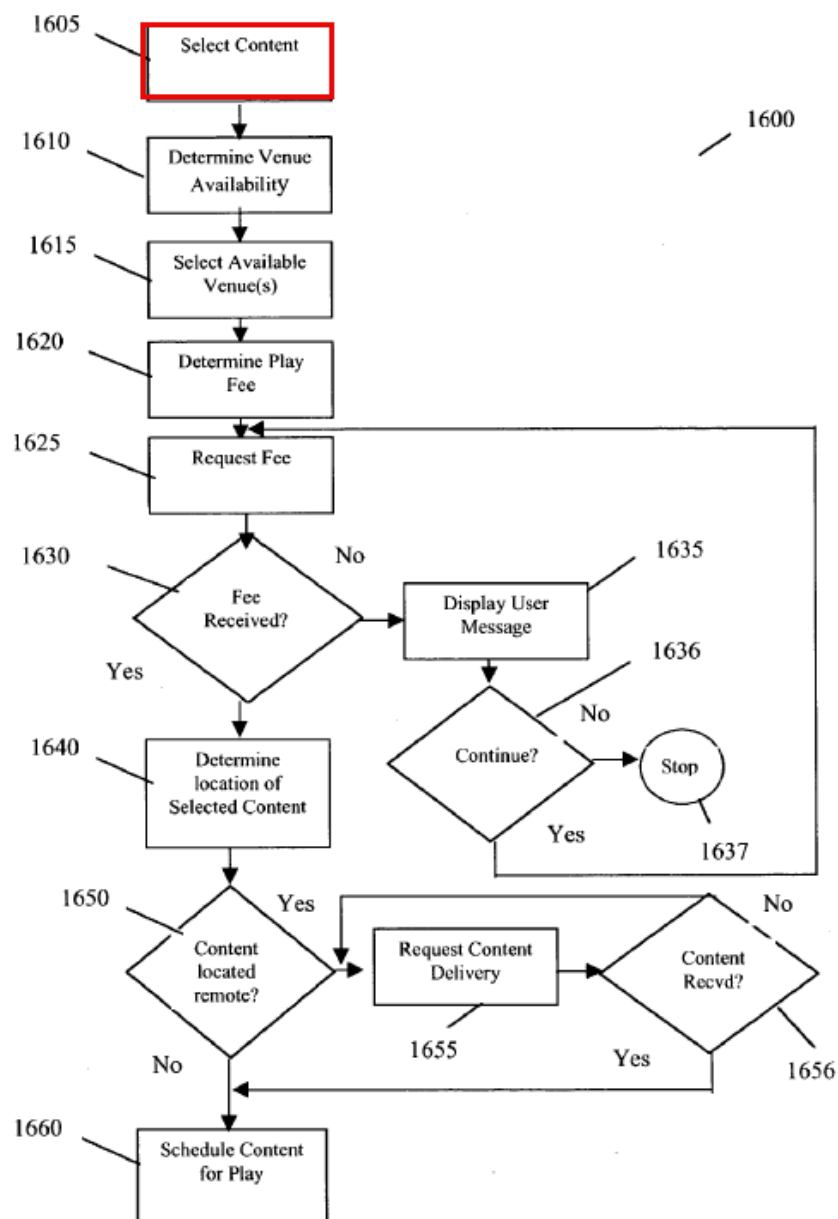


Fig. 16

(EX1011, [0096]-[0100], Fig. 16 (annotated).)

57. After the new media is selected for playback on a jukebox, and upon receipt of a fee (1630), remotely stored content (1650) is requested (1655) and downloaded to the jukebox from a content server, *e.g.*, via the Internet:

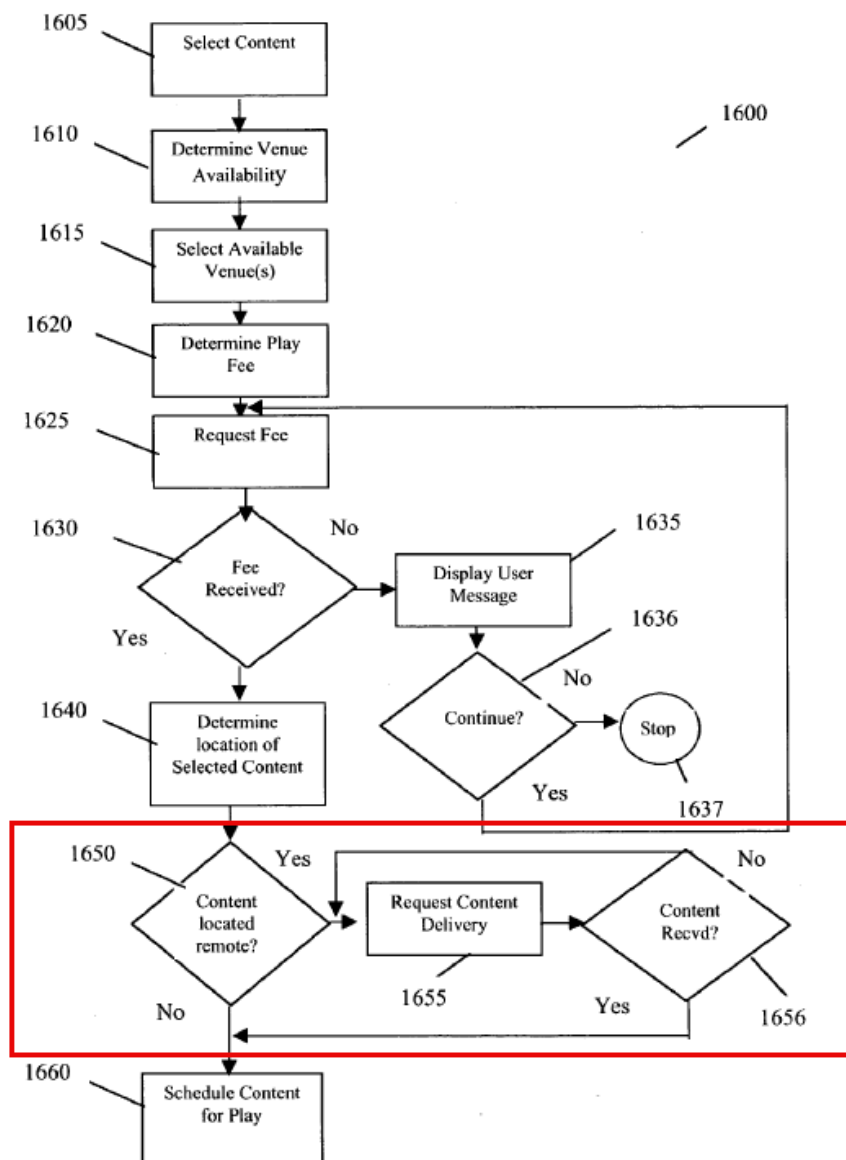


Fig. 16

(EX1011, [0034], [0086]-[0087], [0096]-[0100], Figs. 14, 16 (annotated).)

58. The POSITA would thus understand that the uploaded new media is stored in a content server. The POSITA would further understand the content server to include a central storage device. Further, the POSITA would understand the processor to store the new media in the content server: the processor (*e.g.*, controller 220) “includes processes for ... storing content to memory”, and does so upon receiving the new media as described above for elements [E] and F]. (EX1011, [0030].)

59. To the extent not expressly disclosed, it would have been obvious to the POSITA for the jukebox to gain access to the database via an API call over the Internet. As the Examiner recognized, the claimed API call is “equivalent to making a general request for a media/song list.” (EX1002, 412 (April 29, 2015 Interview Summary).) Analogously, as described above, Laut discloses that the jukebox communicates with the database through user interface 240 actions to request and retrieve a song. The POSITA would understand “API call” to be a generic term of art that encompasses a range of ubiquitous and well-understood mechanisms suitable for a client passing information to and invoking functionality on a server via the Internet, *e.g.*, for communicating a song request from the jukebox to the database as disclosed in Laut.

10. ***[I] automatically analyzing, by the processor, audio signals of the new media for determining a root mean square (RMS) value, wherein the RMS value is further mathematically manipulated for obtaining a positive RMS value less than 1;***

60. Kincaid discloses that the perceived acoustic power of an audio track can be calculated as “part of the background process that runs when the tracks are added to the music library,” and used to normalize volume across tracks.

(EX1012, 4:13-15.) The POSITA would thus understand this calculation to include “automatically” analyzing the audio signal as part of a background process that does not require user intervention. (EX1012, 6:59-62.) Kincaid’s technique of normalizing track volumes automatically is advantageous, because adjusting the volumes manually is disruptive to the user’s listening experience. (EX1012, 1:25-47.)

61. Kincaid further discloses that the perceived acoustic power is determined by “calculating a root mean square value (RMS)” of average weighted power values for the audio signal. (EX1012, 11:48-58 (claim 22)). For example, Kincaid discloses computing a track’s “average weighted power value” (P_{power}), which is “proportional to the square of waveform amplitude”; and then calculating the square root of that value. The POSITA would understand these operations to meet calculating an RMS value (*e.g.*, the POSITA would understand “mean” as “average”). (EX1012, 4:64-5:27.)

62. More specifically, the power value P_{power} is calculated as the maximum of the average power values of the left and right audio channels, and then used to compute a “normalization gain factor” G_n , defined as the following function of the RMS value (*i.e.*, the square root of P_{power}):

$$G_n = 1 \times \sqrt{(1/P_{power})}$$

(EX1012, 4:67-5:32, eq.(3).)

63. The RMS value can be further manipulated by scaling G_n (*e.g.*, by a factor in the range of approximately 0 to approximately 10,000) to produce a scaled normalization gain factor $G_{n,scaled}$. (EX1012, 5:27-32.) Kincaid discloses that G_n can be scaled such that $G_{n,scaled}$ is equal to 1 for the average audio track. (EX1012, 5:27-32.) The POSITA would understand that if $G_{n,scaled}$ is equal to 1 for the average audio track, then $G_{n,scaled}$ is less than 1 for certain audio tracks, thus meeting the claim limitation. Further, the POSITA would understand $G_{n,scaled}$ to be a positive RMS value, at least because $G_{n,scaled}$ is computed as a square root of a positive number (*i.e.*, $(1/P_{power})$), thus producing a positive number; and then scaled by a non-negative factor “in the range of approximately 0 to approximately 10,000.” (EX1012, 5:13-32, eq.(3).) The POSITA would understand this series of mathematical operations to result in a positive RMS value.

64. In Kincaid, CPU 410 performs the above analysis. (EX1012, 8:6-51, Fig. 4.) The corresponding component in Laut, *i.e.*, CPU 221 of controller 220, would implement the analysis of Kincaid's CPU 410.

b. Motivation to Combine

65. The POSITA would have been motivated to combine Laut and Kincaid to meet the claim limitation. Laut discloses that its jukebox is configured to play audio tracks spanning many different artists and genres (*e.g.*, Rock/Pop, Holiday Theme, Love Songs), and provided from various sources (*e.g.*, uploaded by users as described for element [E]). (EX1011, [0048], Fig. 4C.) The POSITA would understand such audio tracks to vary widely in perceived loudness, owing to differences in how the tracks are recorded, mixed, and mastered; genre expectations (*e.g.*, rock tracks may be generally louder than folk songs or ballads); or artists' or record producers' own loudness preferences. Laut's jukebox would thus be susceptible to a problem identified in Kincaid: that differences in perceived volume between audio tracks are undesirable for listeners, and manually re-adjusting the perceived volume for each track would disrupt an "otherwise ... effortless and enjoyable listening experience." (EX1012, 1:35-43.) Further, for jukeboxes such as in Laut, manually adjusting the volume is impractical or impossible, *e.g.*, because jukeboxes typically do not include accessible volume

controls. The POSITA would want to ensure consistent loudness across tracks to maximize customer satisfaction, and would thus be motivated to combine Kincaid with Laut in order to correct these problems. The POSITA's motivation would have been at least partially financial: improving the listeners' experiences could increase demand for the jukebox, leading to more frequent usage and thus increased revenue. (EX1011, [0004], [0006].)

66. The POSITA would have had a reasonable expectation of success in combining Laut and Kincaid. Kincaid's techniques are broadly applicable to music playback devices, and can be implemented in "any number and type of devices where computational resources are limited such as multimedia asset players"—analogous to Laut's computer-based jukebox. (EX1012, 1:56-59.) For example, Kincaid's volume normalization is implemented via CPU 410, analogous to CPU 221 of Laut's controller 220. (EX1012, 9:6-51, Fig. 4; EX1011, [0029]-[0030].) Kincaid and Laut also share other analogous and familiar computer components, such as memory, storage devices, and network interfaces; connect to the Internet to receive audio data; and share common data file formats, including the MP3 audio format. (EX1011, [0031], [0087]; EX1012, 1:25-47, 8:52-64.) The POSITA would thus expect the teachings of Laut and Kincaid to be easily combined based on familiar components. Further, Kincaid describes its

normalization techniques in detail, thus minimizing any guesswork required of the POSITA in making the combination. (*See, e.g.*, EX1012, 4:24-5:32.)

11. [J] *storing, by the processor, the obtained RMS value less than 1 as metadata for the new media;*

67. Kincaid discloses that the normalization gain factor $G_{n,scaled}$ —less than 1, and obtained from the RMS value, as described for element [I]—is associated with the audio track as metadata. (EX1012, 7:39-41, 9:21-25.) For example, the normalization gain factor can belong to a normalization information tag, which can be incorporated into the audio file to form a “tagged” audio file. (EX1012, 7:41-47, 9:21-25.) The tagged audio file can be stored in a music library and made available for playback. (EX1012, 7:53-56.) The POSITA would understand the audio file with its metadata to be stored by the processor as described for element [G].

12. [K] *providing, by the processor, the metadata for the new media over the Internet in response to the API call for display by the jukebox*

68. Laut meets this element as described for element [H]. Additionally, Laut discloses that metadata such as the artist and song title is displayed on display 290 and/or display 210 of the jukebox via user interface 240. (EX1011, [0074], Fig. 4C.) The metadata is provided by the processor over the Internet at least because controller 220 provides the metadata to user interface 240 and display 210

by a wireless connection, such as WiFi, which the POSITA would understand to include a wireless Internet connection. (EX1011, [0032], Fig. 2A.)

69. Additionally, Kincaid discloses that the audio file is “tagged” with the normalization gain factor metadata, and the tagged file is downloaded to the audio playback device. (EX1012, 8:52-61, 9:21-33.)

13. [L] *receiving, by the processor, a request from the jukebox for playback of the new media associated with the displayed metadata;*

70. Laut meets this element as described for elements [H] and [K]. For example, with respect to Fig. 16, content is selected for playback at 1605 based on displayed metadata, and delivery of the content is requested at 1655:

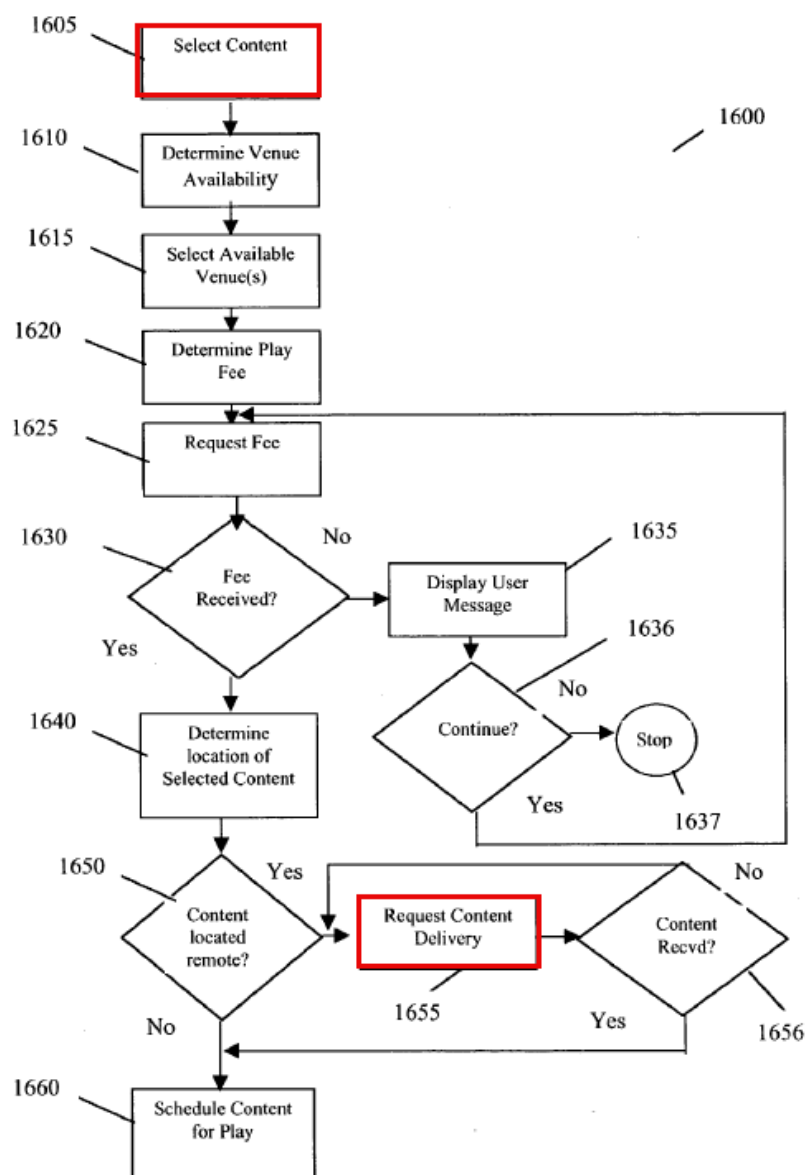


Fig. 16

(EX1011, [0096]-[0100], Fig. 16 (annotated).)

71. The request is received by the processor via user interface 240, as described for element [H].

14. [M] *in response to the request, streaming by the processor the requested new media to the jukebox for playing audio corresponding to the streamed portion of the new media;*

72. Laut meets this element as described for element [H]. For example, with respect to Fig. 16, requested content is scheduled for playback via the jukebox at stage 1660:

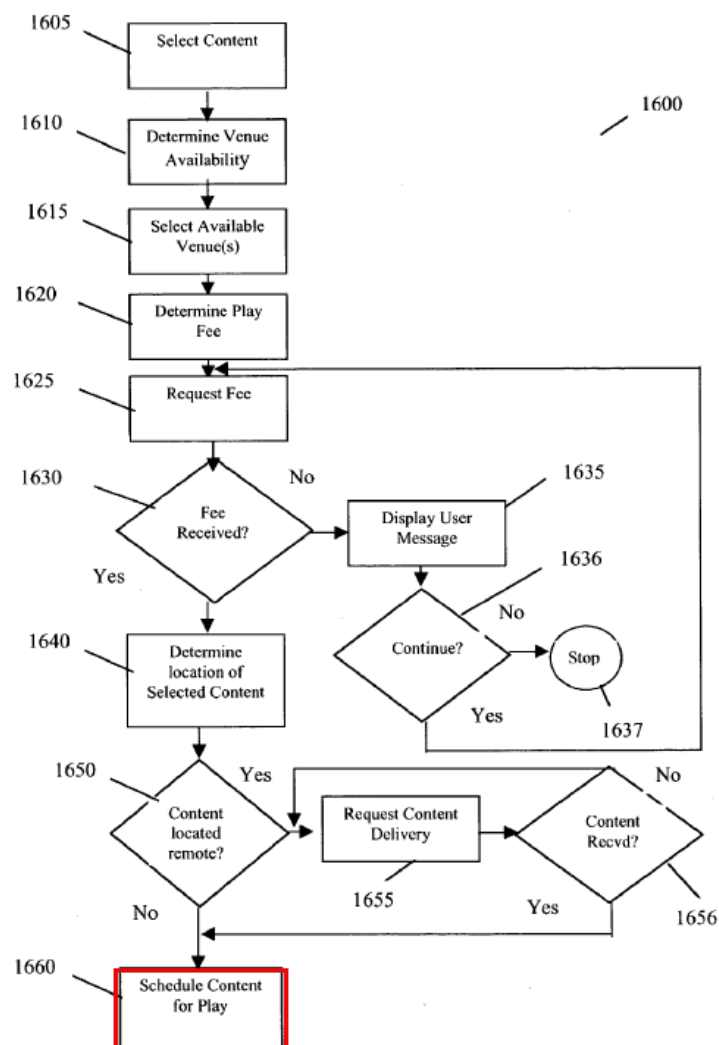


Fig. 16

(EX1011, [0096]-[0100], Fig. 16 (annotated).)

73. For playback, the content is converted to corresponding audio signals, which are transmitted through an audio output device of the jukebox (*e.g.*, amplifier and speakers). (EX1011, [0101].) Further, Laut discloses that content received by the jukebox can be received as a stream; and that the content is preferably provided in streaming formats including RA (Real Audio Streamed) and ASF (Windows Media File-Advanced Streaming Format). (EX1011, [0031], [0078], [0087].) The POSITA would understand the content to be streamed by the processor, which “includes processes for ... playing content,” such as content in the above streaming formats. (EX1011, [0030], [0031].)

15. [N] *automatically calculating, by the processor, amounts earned by an artist and a venue playing the new media; and*

74. Laut discloses keeping track of which songs are downloaded “in order for the artists to be paid the royalties due to them.” (EX1011, [0080].) Laut further discloses payment of artist royalties by “*automatic* money transfer to different accounts,” which the POSITA would understand to require automatic calculation of amounts earned by the artist. (EX1011, [0080] (emphasis added).) Further, “[m]anagers or operators can access management data through remote manager connections 1420[; m]anagement data, such as statistics, fees paid to publishers, fees owed, etc. can be viewed through remote manager connections 1420.” (EX1011, [0090].) The POSITA would understand that if managers can

view fees paid or owed to publishers then the processor must have calculated those amounts.

75. Laut further discloses that the jukebox system automatically calculates various fees for playing media content. For example, controller 220 determines the cost to play the content selected at the desired jukeboxes, at the desired time; this determination is performed automatically by controller 220 “looking up prices stored in memory coupled to the controller.” (EX1011, [0063].) Additional fees are calculated based on the number of plays, and how the content is to be delivered. (EX1011, [0063].) The POSITA would understand these various fees to include amounts earned by the venue hosting the jukebox and playing the media. Laut further discloses a user interface through which the user can select various options to adjust the fee due to the venue, with the jukebox automatically updating the fee in response to options selected. (EX1011, [0065], Fig. 8.) Fig. 8 illustrates:

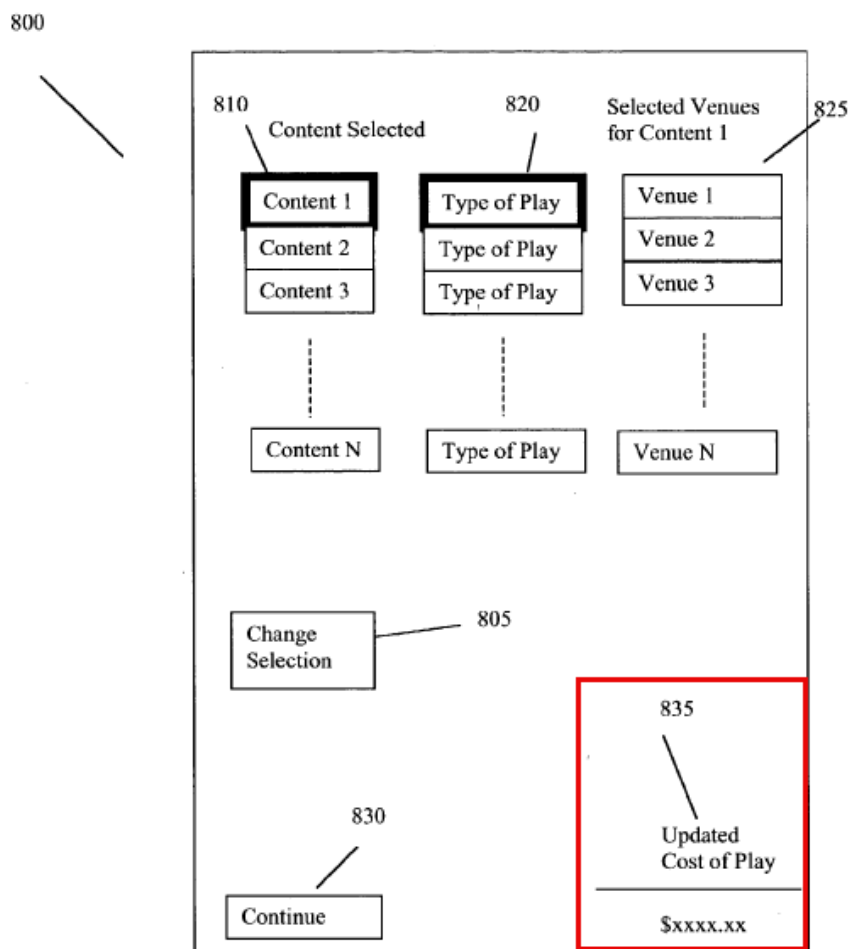


Fig. 8

(EX1011, [0065], Fig. 8 (annotated).)

76. The POSITA would understand the calculations to be performed by Laut's processor, which "includes processes for ... accepting fees [and] verifying payment," including electronic payment. (EX1011, [0030].)

16. [O] receiving, by the processor, indication of payment of the amount earned,

77. Laut discloses the jukebox receiving and verifying payment, *e.g.*, via credit card, or as money placed in a money receiver. (EX1011, [0030], [0032].)

Laut further discloses, as part of the playback process 1600 described above,

“determin[ing] whether the correct fee is deposited/verified”:

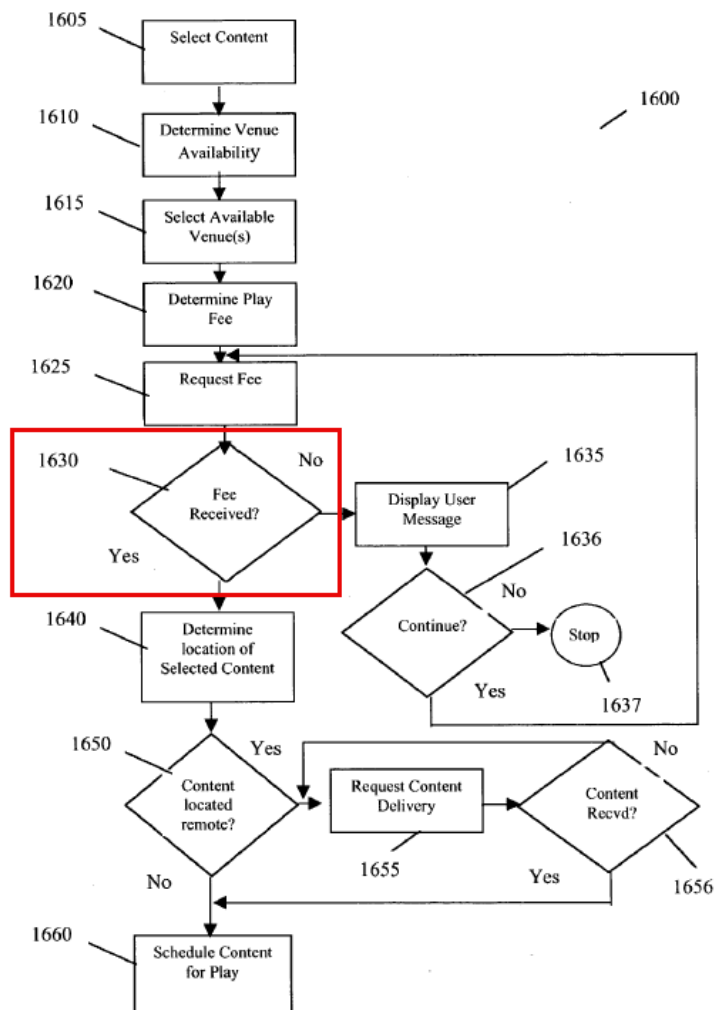


Fig. 16

(EX1011, [0098], Fig. 16.)

78. Laut further discloses that the jukebox system monitors “money collected,” and “venue[s] that collected the most money, least money, etc.,” thus indicating payments of amounts earned. (EX1011, [0053], [0054], [0092].) The POSITA would understand indication of payment to be received by Laut’s controller 220, which “includes processes for ... accepting fees [and] verifying payment,” as described for element [N]. (EX1011, [0030].)

17. [P] wherein, the audio signals of the new media are normalized by the processor or jukebox by applying gain to the signals based on the obtained positive RMS value less than 1, and

79. Kincaid discloses storing a tagged audio file that includes the normalization gain factor metadata, as described above for elements [I] and [J]. (EX1012, 9:21-25.) On playback, the audio player (*i.e.*, the processor or jukebox) queries the tagged audio file for the normalization gain factor; and applies that gain factor to “normalize the loudness of the associated [audio] file (for either every sample or a selected number of samples).” (EX1012, 3:63-66, 8:2-5, 9:25-33.)

18. [Q] wherein, the audio signals of the new media are further compressed for reducing a dynamic range of the signal based on a preset compression ratio and a preset threshold value.

80. This element is met by Laut in view of Kincaid and Bongiovi. Bongiovi discloses using a processor to apply dynamic range compression to audio

signals. (EX1013, [0011], [0014]-[0020].) Annotated Fig. 1 below discloses a process in which a processor receives an audio signal 110 as input, and compresses the audio signal (104, 108) to produce output audio signal 111:

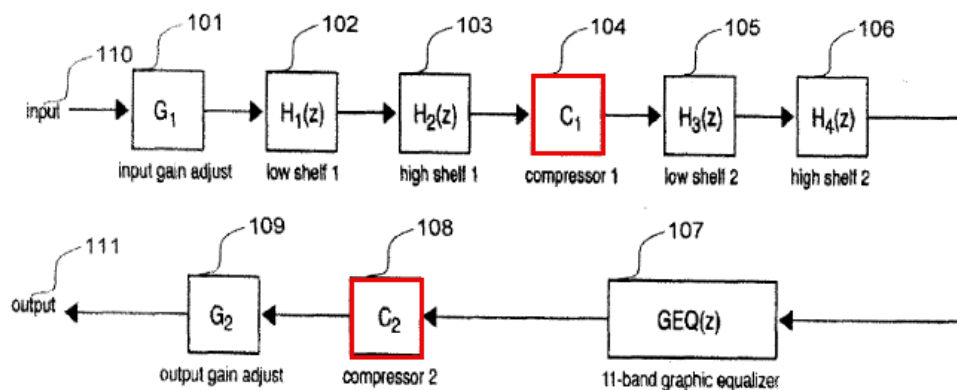


FIG. 1

(EX1013, [0052], [0131]-[0138], Fig. 1 (annotated).)

81. Bongiovi’s compressors 104 and 108 are “designed to alter the dynamic range of a signal by reducing the ratio between the signal’s peak level and its average level.” (EX1013, [0080].) The compression is “characterized” by “the threshold, K_T , and the ratio, r .” (EX1013, [0080].) That is, once the audio signal’s level surpasses the threshold K_T , the compressor decreases the level by the ratio r . (EX1013, [0080], Fig. 10; *see also* [0131]-[0138].) Fig. 10 illustrates this operation of compressors 104 and 108:

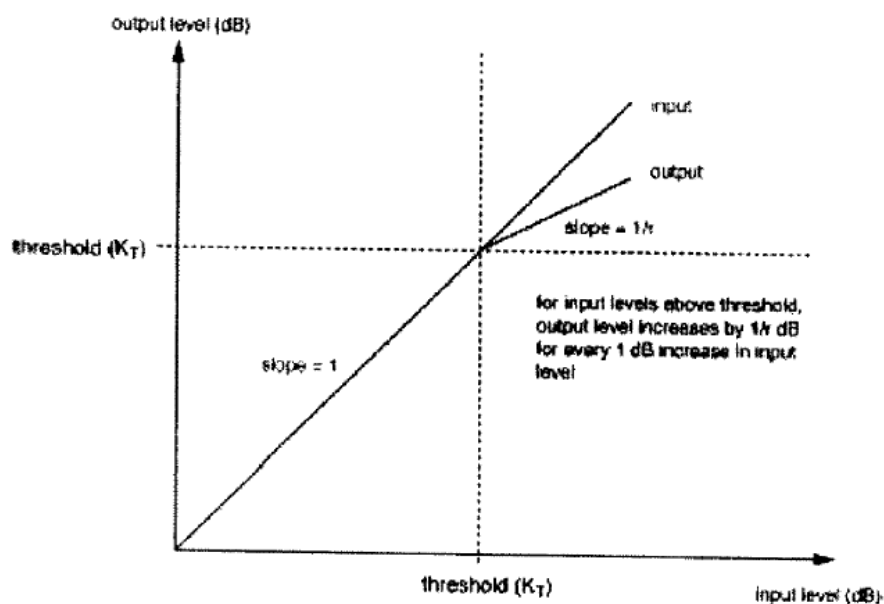


Figure 10: Compressor Static Transfer Characteristic

FIG. 10

(EX1013, [0035], Fig. 10.)

82. The dynamic range of the audio signal is thus reduced by attenuating the signal's highest levels (*i.e.*, those above the threshold K_T) according to the ratio r . The POSITA would understand that these threshold and ratio values are inputs that must be preset in order for a processor to execute the compressor function. After reducing the signal's peak levels, the overall output gain can then be increased (*e.g.*, at stage 109 of Fig. 1), thus increasing a track's overall loudness

without exceeding an audio system's maximum allowable levels. (EX1013, [0051], [0116]-[0117], Fig. 1.)

b. Motivation to Combine

83. The POSITA would have been motivated to combine Bongiovi with Laut and Kincaid. For example, the POSITA would have sought out specific techniques for improving audio quality in high-noise environments, such as the bars and restaurants in which Laut's jukeboxes are typically installed. (EX1011, [0017], [0029], [0101].) This problem is addressed by Bongiovi: dynamic range compression reduces the difference in amplitude between the loudest and quietest elements of the signal, producing a "constant output level of rich, full sound" even in high-noise environments such as clubs and theatres. (EX1013, [0014]-[0020].) For example, by compressing output to a limited volume range, as described above, Bongiovi permits "studio-quality sound" in a high-noise environment with an 80 dB noise floor and a 110 dB sound threshold—ambient sound levels that could make it difficult to hear quieter portions of uncompressed audio tracks. (EX1013, [0017].)

84. Additionally, Kincaid expressly suggests combining its loudness adjustment with "peak limiting," such as the peak level reduction taught in Bongiovi, in order to "guard against over amplification" and thus further improve

audio quality. (EX1012, 4:15-19.) The POSITA would also recognize that mere volume adjustment from one song to the next (as disclosed in Kincaid) would not optimize the experience for patrons of high-noise jukebox venues which, like the public venues disclosed in Bongiovi, did not do justice to music recordings with wide dynamic range (*i.e.*, the soft passages being obscured by ambient noise). The POSITA thus would have been motivated to combine Laut and Kincaid with the audio compression techniques of Bongiovi, which instruct the POSITA how to use computer-enabled audio devices—analogue to Laut’s jukeboxes—to obtain more appropriate sound quality for high-noise jukebox environments. (EX1013, [0011], [0015]-[0020].)

85. The POSITA would have had a reasonable expectation of success in making the combination. Bongiovi describes implementing its audio processing techniques using computer audio devices, with processors such as the CPUs found in Laut and Kincaid. (EX1013, [0019], [0052], [0070]; EX1011, [0071]; EX1012, 8:6-51, Fig. 4.) Bongiovi also discloses audio data in the same MP3 file format preferably used in Laut and in Kincaid. (EX1013, [0020]-[0023], [0052]; EX1011, [0031], [0087]; EX1012, 1:25-47, 8:52-64.) Moreover, Bongiovi is broadly applicable to the “entire spectrum of audio devices,” spanning a range including MP3 players, computers, and home theater systems, which the POSITA would

understand to include Internet jukeboxes. (EX1013, [0011], [0020], [0143].) And Bongiovi provides detailed implementation guidance for its compression techniques—including source code examples (written in the highly popular and widely known C programming language) with detailed explanations—for programming a computer chip, such as in controller 220 of Laut’s jukebox, to implement those techniques. (EX1013, [0131]-[0143].)

E. Claim 2

1. [Preamble] *The method of claim 1*

86. Laut meets the preamble as described above for claim 1.

2. [A] *wherein media comprises images, video and music.*

87. Laut discloses that the jukebox media includes “audio, video/graphics, text.” (EX1011, [0002].)

F. Claim 3

1. [Preamble] *A non transitory computer-readable media embodying program instructions for execution by a computer, the program instructions adapting the computer for real time music distribution of new media to allow an artist to control availability of the new media for playback in public venues via a jukebox, the program instructions comprising:*

88. Laut meets the preamble as for claim 1, Preamble. (*See also* EX1011, [0108].)

2. [A] *providing a user interface for authoring of media;*

89. Laut meets this element as for claim 1, element [A].

3. [B] *providing a user interface to add the user to the system;*

90. Laut meets this element as for claim 1, element [B].

4. [C] *providing a user interface to create an account;*

91. Laut meets this element as for claim 1, element [C].

5. [D] *providing a user interface to log into the system;*

92. Laut meets this element as for claim 1, element [D].

6. [E] *providing a user interface to add the new media to the system, wherein the new media is new if not previously stored in the system;*

93. Laut meets this element as for claim 1, element [E].

7. [F] *receiving the new media added to the system;*

94. Laut meets this element as for claim 1, element [F].

8. [G] *automatically identifying metadata for the new media and storing the metadata in a database;*

95. Laut meets this element as for claim 1, element [G].

9. [H] *storing the new media in a central storage device, wherein the storing automatically enables the new media to be requested by the jukebox for playback over the Internet by providing to a client software installed in the jukebox, access to the database storing the metadata for the new media, via an API call over the Internet;*

96. Laut meets this element as for claim 1, element [H].

10. **[I] *automatically analyzing audio signals of the new media for determining a root mean square (RMS) value, wherein the RMS value is further mathematically manipulated for obtaining a positive RMS value less than 1;***
97. Laut in view of Kincaid meets this element as for claim 1, element [I].
11. **[J] *storing the obtained RMS value less than 1 as metadata for the new media;***
98. Laut in view of Kincaid meets this element as for claim 1, element [J].
12. **[K] *providing metadata for the new media over the Internet in response to the API call for display by the jukebox;***
99. Laut in view of Kincaid meets this element as for claim 1, element [K].
13. **[L] *receiving a request from the jukebox for playback of the new media associated with the displayed metadata;***
100. Laut meets this element as for claim 1, element [L].
14. **[M] *in response to the request, streaming the requested new media to the jukebox for playing audio corresponding to the streamed portion of the new media;***
101. Laut meets this element as for claim 1, element [M].
15. **[N] *automatically calculating, by the processor, amounts earned by an artist and a venue playing the new media; and***
102. Laut meets this element as for claim 1, element [N].
16. **[O] *receiving, by the processor, indication of payment of the amount earned,***
103. Laut meets this element as for claim 1, element [O].

17. ***[P] wherein, the audio signals of the new media are normalized by the processor or jukebox by applying gain to the signals based on the obtained positive RMS value less than 1, and***

104. Laut in view of Kincaid meets this element as for claim 1, element [P].

18. ***[Q] wherein, audio signals of the new media are further compressed for reducing a dynamic range of the signal based on a preset compression ratio and a preset threshold value.***

105. Laut in view of Kincaid and Bongiovi meets this element as for claim 1, element [Q].

G. Claim 4

1. ***[Preamble] The method of claim 1 further comprising:***

106. Laut in view of Kincaid and Bongiovi meets the preamble as described above for claim 1.

2. ***[A] invoking by the processor a data access object for interfacing with the database for retrieving the metadata from the database and providing the metadata to the jukebox.***

107. Laut meets this element. For example, Laut discloses the processor retrieving the metadata from the database and providing the metadata to the jukebox, as described above for claim 1, elements [G], [K], and [L].

108. To the extent not expressly disclosed, it would have been obvious to the POSITA to perform these operations by invoking a data access object. The

POSITA would understand a data access object to be an example of an object-oriented structure, *i.e.*, one that abstracts and encapsulates access to a data source, such as a database. (EX1008, 463.) For example, a data access object can manage a connection with the database to store and retrieve data. (EX1008, 463.) This is consistent with the '925 patent's description of retrieving database data through a data access object, which will "call the underlying metadata stored in the database." (EX1001, 5:43-48.) As of the priority date, the POSITA would have understood object-oriented design and programming principles, including examples such as data access objects, which were in common use for database retrieval operations. (*See, e.g.*, EX1008, 462-95.) The POSITA would have found it obvious to use the well-known data access object to perform the database retrieval operations in Laut, and would have been motivated to do so, in order to realize specific advantages: data abstraction (*e.g.*, access to the database in Laut without having to know specific database implementation details); portability (*e.g.*, ease of migration to a different database implementation); and reduced code complexity. (EX1008, 493-94.) These advantages are particularly significant for the system described in Laut, which potentially includes a network of geographically dispersed jukebox systems, on diverse hardware that may proliferate over time, all of which require access to a common database that itself

may require ongoing updates or be rehosted on new platforms as technology evolves. The use of data access objects would advantageously simplify the interface between these jukebox systems and the database, and reduce the cost and complexity of maintenance.

H. Claim 5

1. [Preamble] *The method of claim 4,*

109. Laut in view of Kincaid and Bongiovi meets the preamble as described above for claim 4.

2. [A] *wherein the processor invokes the REST protocol for retrieving and transmitting the metadata.*

110. Laut meets this element. The processor retrieves and transmits the metadata as described for claim 1, elements [G] and [K]. The '925 patent explains that “files’ metadata can be browsed by calling a restful web service,” such that “basically you are just browsing the database through a restful web service.” (EX1001, 5:42-50.) To the POSITA, Laut similarly discloses a web interface for entering and retrieving metadata selections on a remote server. (EX1011, [0043].)

111. The POSITA would further understand the “REST protocol” to refer to the RESTful¹ architecture, which, as the POSITA would know, is a widely accepted best practice for web-based software applications. (EX1014, 13-14, 79-

¹ REST is an acronym for REpresentational State Transfer.

80, 105.) To the extent not expressly disclosed, the POSITA would have found it obvious for Laut's web interface to invoke the REST protocol at least to adopt such best practices for web-based applications; and to benefit from advantages including scalability (*e.g.*, to large data sets), network security, and ease of use (*e.g.*, by providing uniform interfaces familiar to users). (EX1014, 79-105.)

I. Claim 6

1. [Preamble] *The method of claim 1,*

112. Laut meets the preamble as described above for claim 1.

2. [A] *wherein the metadata includes at least one of artist name, track name, or album name.*

113. Laut discloses that menus for song selection can be organized according to "artist name, song/video title, etc.," as well as "recently released albums." (EX1011, [0048], [0096].)

J. Claim 7

1. [Preamble] *The method of claim 1,*

114. Laut in view of Kincaid and Bongiovi meets the preamble as described above for claim 1.

2. [A] *wherein the metadata includes file size for a file containing the media, and play time.*

115. Laut discloses that controller 220 of the jukebox receives file header information that "allows controller 220 to determine the content is to be played

substantially simultaneously (as close as possible) at other venues.” (EX1011, [0066], [0073].) Similarly, Laut discloses that controller 220 can schedule the content for playback at a particular time. (EX1011, [0066], [0073].) The POSITA would understand this header information to include file size and play time, because this is information that controller 220 would require in order to perform the synchronized or scheduled playback.

116. Further, the POSITA would understand the metadata to include file size for a file at least because the POSITA would understand the jukebox in Laut to include an operating system. This is because Laut discloses a computer-based jukebox with components including a CPU, a display, a memory, input devices such as a keyboard and mouse, and various other hardware peripherals (*e.g.*, cameras). (EX1011, [0029]-[0039], Fig. 2.) As the POSITA understood, an operating system would have been required for Laut’s jukebox to handle fundamental system tasks such as memory management, process scheduling, and input/output handling. (*See* EX1009, 5 (“the job of the operating system is to provide for an orderly and controlled allocation of the processors, memories, and I/O devices among the various programs competing for them.”).) The POSITA further would have understood the operating system to include a file system for managing files, such as Laut’s “memory files”; and would have understood the file

system to automatically determine and store file size metadata, as well as other metadata such as file type or permissions, for such files. (EX1011, [0031]; EX1009, 386-87, 430-38.)

K. Claim 8

1. [Preamble] *The method of claim 1,*

117. Laut in view of Kincaid and Bongiovi meets the preamble at least as described above for claim 1.

2. [A] *wherein the processor automatically analyzes the uploaded media for determining an average volume of the media based on the RMS value.*

118. Laut in view of Kincaid meets this element as described for claim 1, element [I]. Kincaid discloses that the perceived acoustic power of an audio track can be calculated as “part of the background process that runs when the tracks are added to the music library,” which the POSITA would understand to include automatically analyzing the uploaded tracks. (EX1012, 4:13-15.)

L. Claim 9

1. [Preamble] *The method of claim 8 further comprising:*

119. Laut in view of Kincaid and Bongiovi meets the preamble as described above for claim 8.

2. [A] *storing the average volume in the central storage device.*

120. Laut in view of Kincaid meets this element as described above for claim 1, element [J]. For example, in Kincaid, the average volume can be stored as metadata in a tagged audio file in a database, such as a music library. (EX1012, 7:39-56.)

M. Claim 10

1. [Preamble] *The method of claim 8 further comprising:*

121. Laut in view of Kincaid and Bongiovi meets the preamble as described above for claim 8.

2. [A] *automatically adjusting, by either the processor or the jukebox, volume of the media during playback of the media, wherein the adjusting is based on the determined average volume.*

122. Laut in view of Kincaid meets this element as described for claim 1, elements [I] and [P].

N. Claim 11

1. [Preamble] *The method of claim 1 further comprising:*

123. Laut in view of Kincaid and Bongiovi meets the preamble at least as described above for claim 1.

2. ***[A] updating by the processor a table for tracking playback of the media, wherein the table identifies the media, a venue playing the media, and a timestamp identifying the playback of the media.***

124. Laut discloses identifiers for jukeboxes that are “transmitted or received by jukebox systems” along with content, which can be “associated with various venue specific information (*e.g.*, associated fields in a database, etc.). The specific information can include: country, state, city, county, limitations (*i.e.*, ratings, genre, etc.), equipment available, street address, etc.” (EX1011, [0087].) Laut also discloses that the “ID code” is “stored in a database on content servers 1480” and is associated with the venue’s content playback statistics, including statistics identifying the media played, such as “how many times each content has been played.” (EX1011, [0087]-[0088].) Laut further discloses that the jukebox’s controller arranges content for playback based on a “time/date stamp,” which contains the “time/date of scheduled play.” (EX1011, [0091].)

125. Laut also discloses that the jukebox can display “statistical information for content ... such as number of times played at current venue, number of times played at selected venue, overall times played throughout the network, number of times played in different zones (*i.e.*, states, countries, cities, etc.), etc.” (EX1011, [0055].) This information is sent to a database on a remote server “[e]very time content is selected to be played on a jukebox system(s)”, and

“[a] database-sorting program is used to sort the information requested to be displayed on a jukebox system.” (EX1011, [0056].) The POSITA would understand that this entails storing timestamps identifying the playback of the media, at least so that the playback instances can be sorted for display.

126. To the extent not expressly disclosed, it would have been obvious for the above data to be stored and updated by the processor as a table, at least because a table is a fundamental and ubiquitous data structure well-suited for the storage of fielded information such as the above. (*See, e.g.*, EX1010, 266-73.)

O. Claim 12

1. [Preamble] *The method of claim 1 further comprising:*

127. Laut in view of Kincaid and Bongiovi meets the preamble at least as described above for claim 1.

2. [A] *generating, by the processor, a virtual album; and*

128. Laut discloses support for MP3 playlists (*e.g.*, in M3U format). (EX1011, [0031].) Laut further discloses that a jukebox user can use user interface 240 (and thus the processor) to create and edit lists of “personal content selections,” *i.e.*, “pre-selected music content to be played” at a jukebox. (EX1011, [0044]-[0047], Fig. 4B.) For example, Fig. 4B illustrates a user’s “Music Choice Lists”:

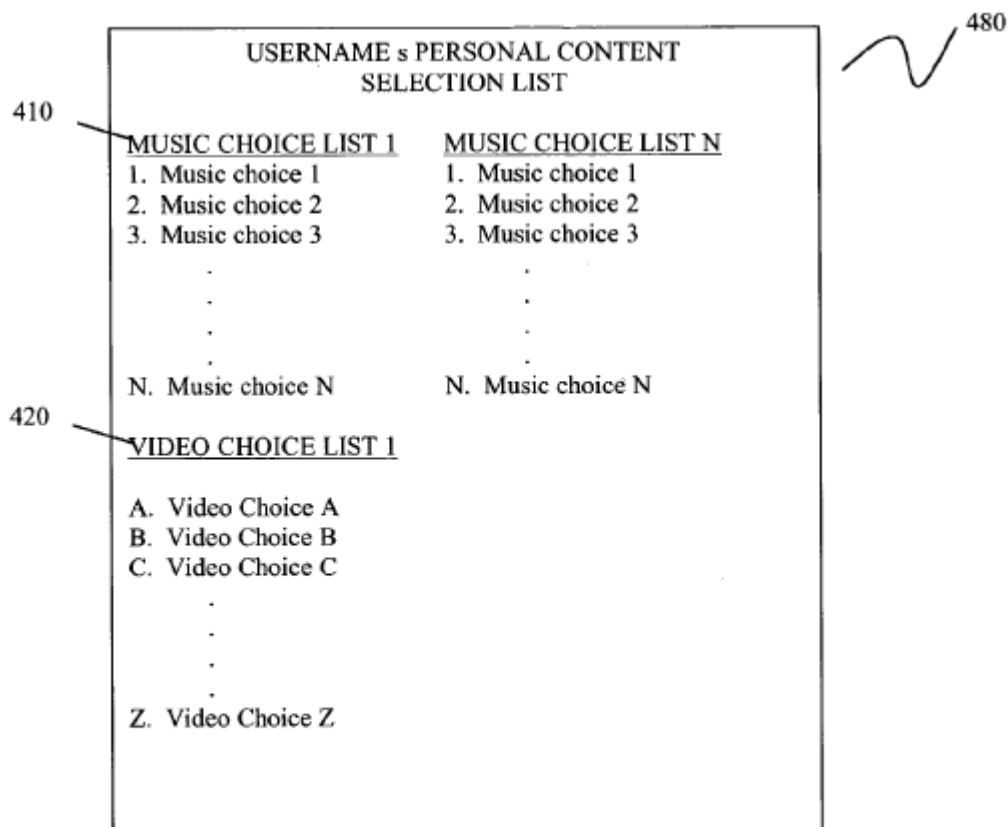


Fig. 4B

(EX1011, Fig. 4B.)

129. The POSITA would understand these disclosures to meet the claimed virtual album.

3. ***[B] adding, by the processor, the media to the virtual album by creating an association between the media and the virtual album.***

130. Laut discloses that the user can use user interface 240 (and thus the processor) to edit his or her personal content selections, *i.e.*, by adding songs or

other media to those selections, as shown in Fig. 4B above. (EX1011, [0044]-[0047], Fig. 4B.)

P. Claim 13

1. [Preamble] *The method of claim 12 further comprising:*

131. Laut in view of Kincaid and Bongiovi meets the preamble at least as described above for claim 12.

2. [A] *receiving by the processor, a second media uploaded by the user, wherein the second media is not added to the virtual album, wherein the jukebox does not display the metadata for the second media.*

132. To the extent this limitation is enabled and not indefinite, it is met by Laut. For example, Laut discloses that a user selects songs to be added to a list of personal content selections (playlists), *see* Fig. 4B; the POSITA would thus understand that some songs may not be selected, such that a particular song may be uploaded without being added to a particular playlist (or to any playlist at all). Similarly, Laut's uploaded content may be made available at some, but not necessarily all, jukeboxes. (EX1011, [0073].) Further, the POSITA would understand that Laut's jukebox does not present metadata for all songs. For example, in Fig. 4B, user interface 240 displays metadata (*e.g.*, title) for songs that belong to the user's "Music Choice Lists" 1 and 2, but does not display metadata for songs not belonging to those playlists.

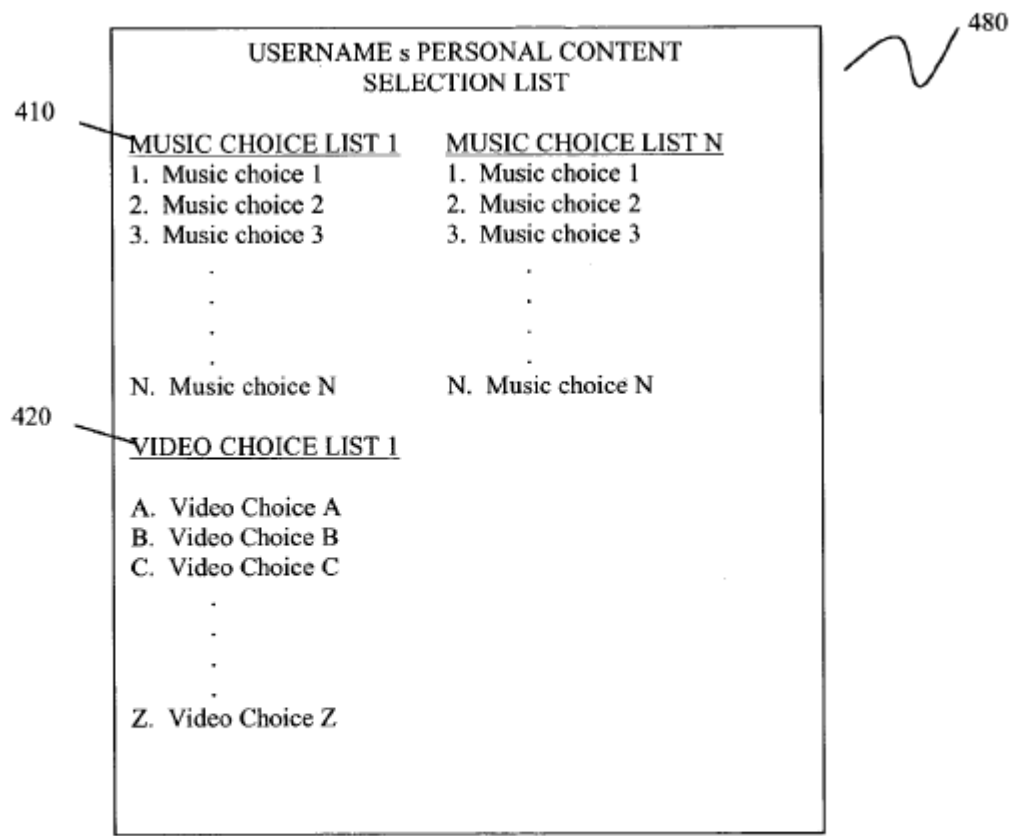


Fig. 4B

(EX1011, Fig. 4B.)

Q. Claim 14

1. [Preamble] *The method of claim 1*

133. Laut in view of Kincaid and Bongiovi meets the preamble at least as described above for claim 1.

2. [A] *wherein the jukebox is at least one of computer device, an internet jukebox, kiosk, set-top box, or cell phone.*

134. Laut discloses that the jukebox is a computer device having, *e.g.*, a controller 220 with “components of a personal computer (PC), such as a notebook or desktop type computer.” (EX1011, [0030].)

R. Claim 15

1. [Preamble] *The method of claim 1,*

135. Laut in view of Kincaid and Bongiovi meets the preamble at least as described above for claim 1.

2. [A] *wherein information available through the jukebox is synchronized with information in the database and central storage device.*

136. Laut discloses that the database is “dynamically updated through a server program (*i.e.*, with search terms, new content and the content’s associated search terms, etc. ...) coupled to a network in which jukebox 200 is coupled.” (EX1011, [0048].) Laut also discloses that the jukebox is updated with content from the central storage device (*e.g.*, servers 1470 and 1480). (EX1011, [0093].)

S. Claim 16

137. To the extent claim 16 is not indefinite, Laut in view of Kincaid and Bongiovi meets each limitation of claim 16, as described below.

2. [Preamble] *The method of claim 1*

138. Laut in view of Kincaid and Bongiovi meets the preamble at least as described above for claim 1.

3. [A] *wherein the wide area network is the Internet.*

139. The term “the wide area network” lacks antecedent basis, as there is no recitation of a wide area network (or any other network) in the parent claim. (EX1001, 9:66-10:55.) Nor is “wide area network” found in the specification of the ’925 patent. To the extent the claim is not indefinite, Petitioner submits that “wherein the wide area network is the Internet” is met by Laut’s disclosure that the jukebox includes a network interface 230 to “couple with a network, such as the Internet”; and that the jukebox accesses content stored remotely on a server “connected to a network, such as the Internet”. (EX1011, [0032].)

T. Claim 17

1. [Preamble] *The method of claim 10,*

140. Laut in view of Kincaid and Bongiovi meets the preamble at least as described above for claim 1.

2. [A] *wherein all media is configured to be played by the jukebox with substantially a same volume based on the adjusting during playback of each of the media.*

141. Laut in view of Kincaid meets this element as described for claim 1, elements [I] and [P]. Kincaid discloses normalizing the volume of “each track”

such that the “perceptually uniform average power (and therefore, loudness) across multiple tracks is achieved.” (EX1012, 1:44-59, 3:60-4:23.)

VII. GROUND 2: DION IN VIEW OF NATHAN-109 RENDERS OBVIOUS CLAIMS 1-17

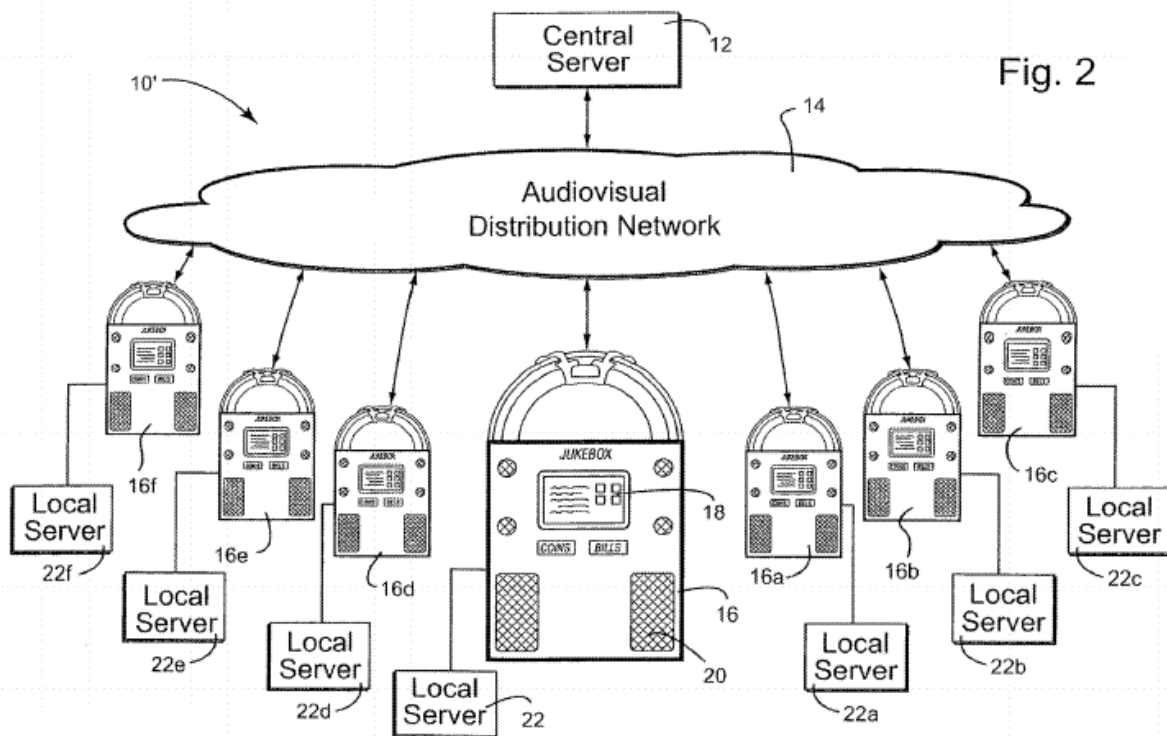
142. It is my opinion that each limitation of claims 1-17 is met by Dion in view of Nathan-109 for the reasons set forth below.

A. Summary of Dion

143. Dion is a U.S. Patent (titled “Digital Downloading Jukebox with Enhanced Communication Features”) issued to four inventors, including Dominique Dion and Guy Nathan, and assigned to TouchTunes Music Corporation. The underlying application was filed on September 24, 2007; published as U.S. Patent Pub. No. 2008/0086379A1 on April 10, 2008; and issued as U.S. Patent No. 10,373,420 on August 6, 2019. (EX1005, (63).) Dion is thus prior art to the ’925 patent under at least 35 U.S.C. §102(e), and the published application under §§102(a) and (b). For ease of reference, Petitioner is relying on the issued patent, although both disclosures are identical and the analysis would be the same under the published application. The published application was considered during the prosecution of the ’925 patent.

144. Dion discloses an Internet jukebox system, *i.e.*, a system and methods for networked jukeboxes with digital download and playback capabilities.

(EX1005, Abstract, 2:31-42.) Dion's jukeboxes may be located in commercial establishments, such as bars and restaurants; and can present a requested song in exchange for payment from a user. (EX1005, 2:26-31, 2:51-56.) A jukebox can include one or more processors, such as a CPU for general operations and a DSP for audio processing; and can communicate with a central server, and with other jukeboxes, via an audiovisual distribution network such as the Internet. (EX1005, 3:1-4, 9:40-48.) The jukebox may also be connected to a local server (*e.g.*, via an Ethernet connection). (EX1005, 9:58-67.) Fig. 2 illustrates:



(EX1005, Fig. 2.)

145. Users can interact with the jukebox to access music, video, and image content. (EX1005, 2:43-67.) For example, central server 12 can include a library of audio content, which stores songs and other data that have been digitized, compressed, and encrypted. (EX1005, 9:25-37.) A user can request a song via a user interface; and in response, the central server 12 can provide the requested song via the Internet 14 to jukebox 16 for presentation. (EX1005, 2:43-3:4.) Fig. 6 shows an example interface via which the user can request a song:

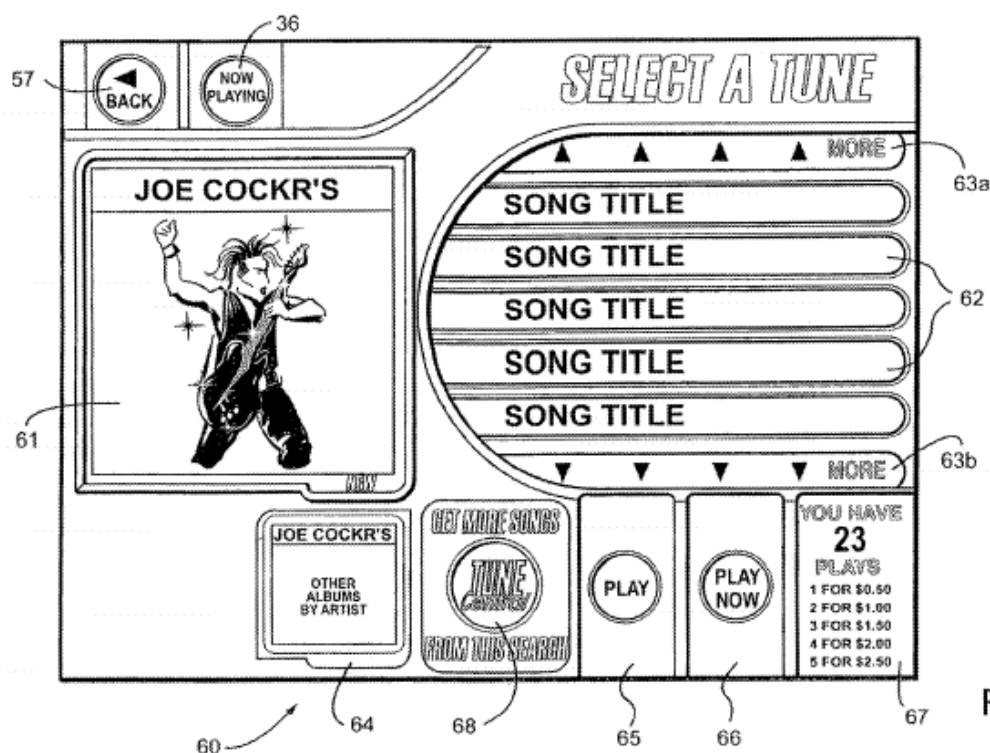


Fig. 6

(EX1005, Fig. 6, 13:65-14:43.)

146. Dion also discloses that users can upload audio and video content to the jukebox for storage in the central server, so that after clearing the content for

distribution, the content can be made available to other jukeboxes. (EX1005, 52:13-20.)

147. Dion is analogous art to the '925 patent at least because Dion is directed to the same problem (Internet-enabled jukeboxes) in the same field of endeavor (digital audio distribution and playback) as the '925 patent.

148. Dion incorporates by reference U.S. Patent No. 6,308,204 ("Nathan-204", EX1006). (EX1005, 2:38-40.) Dion explains that Nathan-204 shows an example of Dion's jukebox system, and describes the structure and operation of that jukebox system. (EX1005, 2:31-42, 9:37-40.) For example, Nathan-204 discloses a music information database with which a jukebox can communicate. (EX1006, 10:13-12:3.)

B. Summary of Nathan-109

149. Nathan-109 is a U.S. Patent (titled "Process for Adjusting the Sound Volume of a Digital Sound Recording") issued to Guy Nathan and Dominique Dion (co-inventors of the Dion reference), and assigned to TouchTunes Music Corporation. The underlying application was filed on June 1, 2000; and issued as U.S. Patent No. 7,107,109 on September 12, 2006. Nathan-109 is thus prior art to the '925 patent under at least 35 U.S.C. §§102(a), (b), and (e). It was not considered during the prosecution of the '925 patent.

150. Nathan-109 discloses a process for adjusting the sound level of a digital sound recording for music systems, expressly including digital jukeboxes, such that identical sound levels can be obtained across different recordings. (EX1007, 1:40-46.) A sound volume or sound level for a song is defined by a root mean square (RMS) value. (EX1007, 3:10-12.) The sound recordings can be presented by an audiovisual reproduction system, such as a jukebox, which automatically adjusts the amplification gain level to obtain the desired sound level. (EX1007, 1:7-12. 1:56-60.) Nathan-109 further discloses applying dynamic gain values to components (*e.g.*, low-pitched and/or high-pitched components) of the sound recordings, so as to increase the perception of those components. (EX1007, 5:66-6:18, 7:22-42.) Fig. 1 illustrates Nathan-109's process:

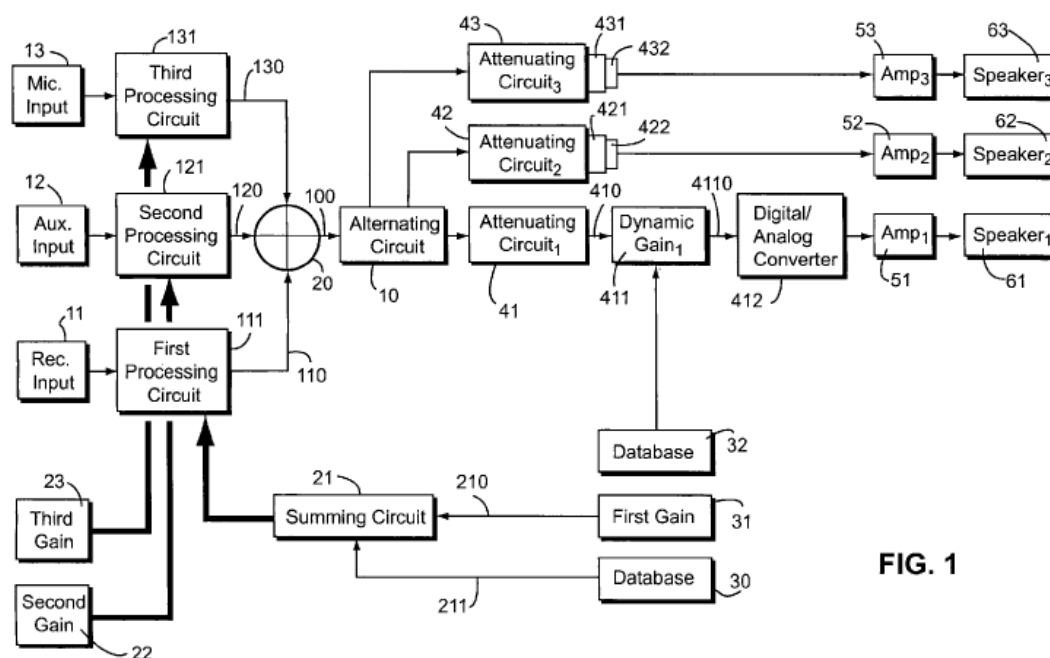


FIG. 1

(EX1007, Fig. 1.)

151. Nathan-109 is analogous art to the '925 patent at least because Nathan-109 is directed to the same problem (Internet-enabled jukeboxes) in the same field of endeavor (digital audio distribution and playback) as the '925 patent.

C. Claim 1

1. ***[Preamble] A computer implemented method for real time music distribution of new media tor [sic] allowing an artist to control availability of the new media for playback in public venues via a jukebox, the method comprising:***

152. To the extent the preamble is limiting, it is met by Dion. For example, Dion discloses a jukebox that is located in a public venue, such as a bar or restaurant, that is operable to play music in response to receiving payment.

(EX1005, 2:51-56.) Artists can control availability of the music for playback at least by uploading it to a jukebox or central server, and by electing to do so pursuant to a license agreement. (EX1005, 52:13-20, 53:1-3.) The jukebox includes one or more processors, such as CPUs and DSPs, to perform computer-implemented methods disclosed in Dion. (EX1005, 3:1-4, 9:40-48.)

2. ***[A] providing, by a processor, a user interface to interact with a system;***

153. Dion meets this element. As the '925 patent admits, "it goes without saying" that "in most digital systems, there are digital user interfaces to interact with the system." (EX1001, 4:7-9.) For example, Dion discloses a user interface

for users to interact with the jukebox system and perform tasks such as choosing a feature and/or service. (EX1005, 38:9-35, 38:58-66, Fig. 24.) Fig. 29 shows an example user interface 24 that a user can use to access jukebox 16:

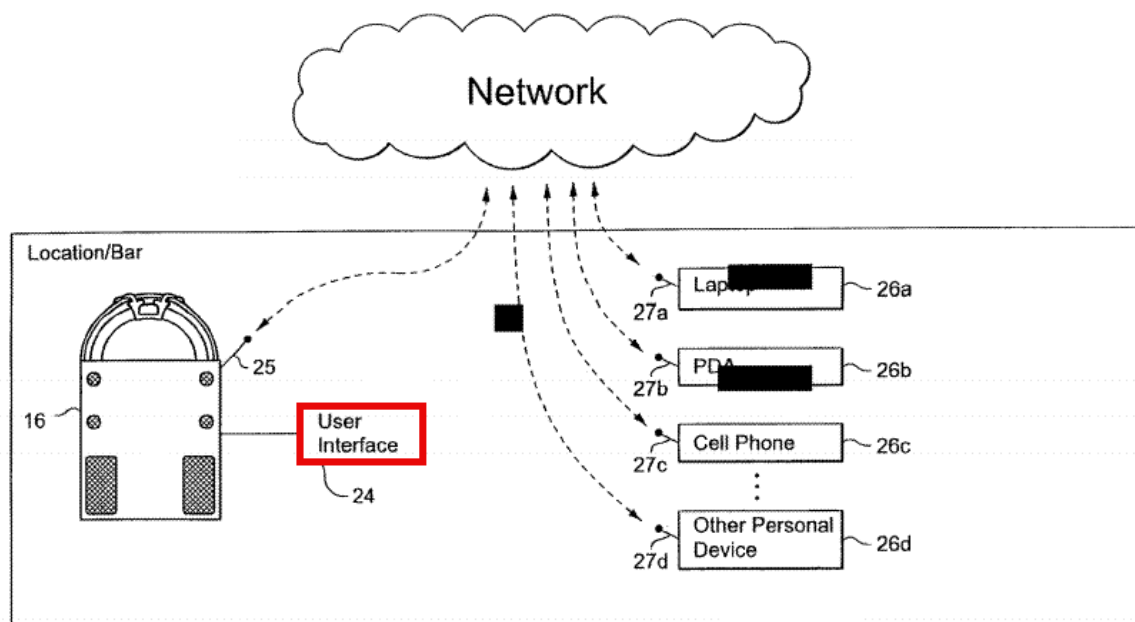


Fig. 29

(EX1005, 46:24-46, Fig. 29 (annotated).)

154. Fig. 24 illustrates a flow chart for accessing and interacting with the jukebox via the user interface:

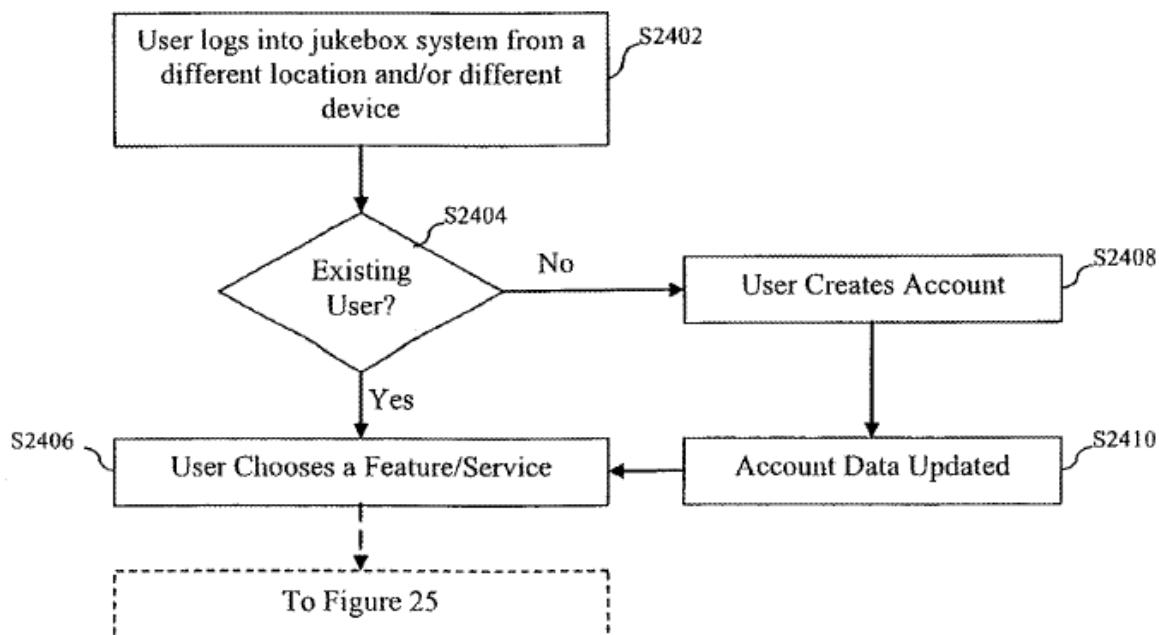


Fig. 24

(EX1005, 38:9-35, Fig. 24.)

155. The process shown in Fig. 24 can be performed by a processor of the jukebox, *i.e.*, by the main CPU; and can be made available via a mobile device such as a cell phone or PDA or via a web browser. (EX1005, 9:40-42, 38:13-20.)

156. Example user interfaces for various functions of the jukebox and related systems are shown throughout Dion. (*See, e.g.*, EX1005, Figs. 3-6, 16A-B, 19A-F, 22, 23, 26A-D, 33-39.)

3. [B] *providing, by the processor, a user interface to add the user to the system;*

157. Dion meets this element. For example, as described above for element [A], the jukebox processor provides a user interface for performing a process illustrated in Fig. 24. As shown in Fig. 24, upon logging in to the jukebox (S2402), the user interface determines whether the user is recognized as an existing user (S2404). (EX1005, 38:36-37.) If the user is not recognized, the user is prompted to create an account (S2408), thus adding that user to the system (S2410) (e.g., by updating a central account database or storing account information on the jukebox). (EX1005, 38:36-57.)

4. [C] *providing, by the processor, a user interface to create an account;*

158. Dion meets this element as described above for element [B].

5. [D] *providing, by the processor, a user interface to log into the system;*

159. Dion meets this element as described for element [B]. Further, Fig. 22 of Dion illustrates a user interface to log into the jukebox system:

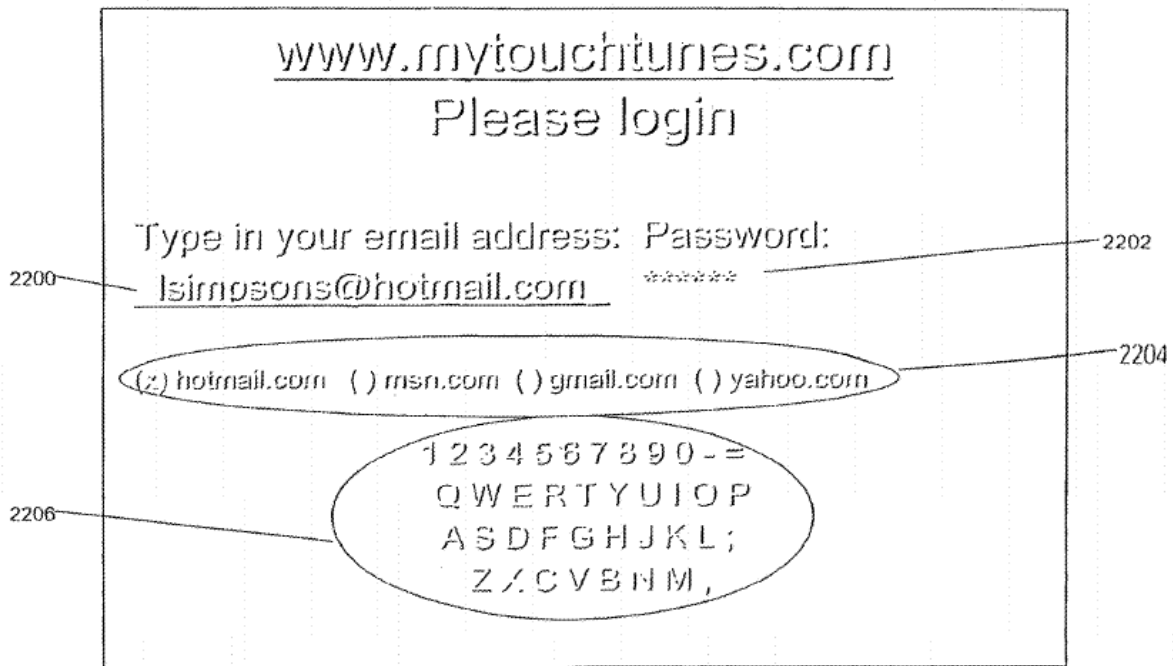


Fig. 22

(EX1005, 34:57-35:7, Fig. 22.)

6. **[E] providing, by the processor, a user interface to add the new media to the system, wherein the new media is new if not previously stored in the system;**

160. Dion meets this element. For example, Dion discloses that the processor runs a jukebox interface to allow a registered user to upload new media (e.g., video and/or audio content) to the jukebox and/or jukebox distribution network. (EX1005, 53:1-22.) If the uploaded media is not previously stored in the system, it can be captured by and/or stored to a single jukebox, or may be stored to a central location, from which it is made available to multiple jukeboxes.

(EX1005, 52:16-20, 53:1-22.)

7. [F] *receiving, by the processor, the new media added to the system*

161. Dion meets this element as described for element [E].

8. [G] *automatically identifying, by the processor, metadata for the new media and storing the metadata in a database;*

162. Dion meets this element. For example, Dion discloses that a user is represented by an avatar; that the avatar identifies the user; and that when the new media is uploaded by a user, the user's avatar is "attached" to or associated with the media. (EX1005, 51:26-32, 53:1-3.) For example, the avatar may be displayed as album art for the new media. (EX1005, 53:20-22.) The avatar also identifies the user's name, at least because the avatar may serve as the user's digital signature. (EX1005, 53:18-20.) Accordingly, the POSITA would understand the avatar to meet the claimed metadata for the new media; for example, the POSITA would understand that the identity of the uploading user, to which the avatar is associated, is metadata for the new media (EX1005, 51:26-28); in addition, claim 6 (which depends from claim 1) clarifies that an artist name is within the scope of the claimed metadata. (EX1001, 12:1-2.)

163. Dion further discloses that a "central database of recognized user information" is maintained and accessible by jukeboxes and remote devices.

(EX1005, 46:52-54, 47:58-65.) For example, Dion discloses a database 29 connected to the jukebox via network 14, as shown in Fig. 29E:

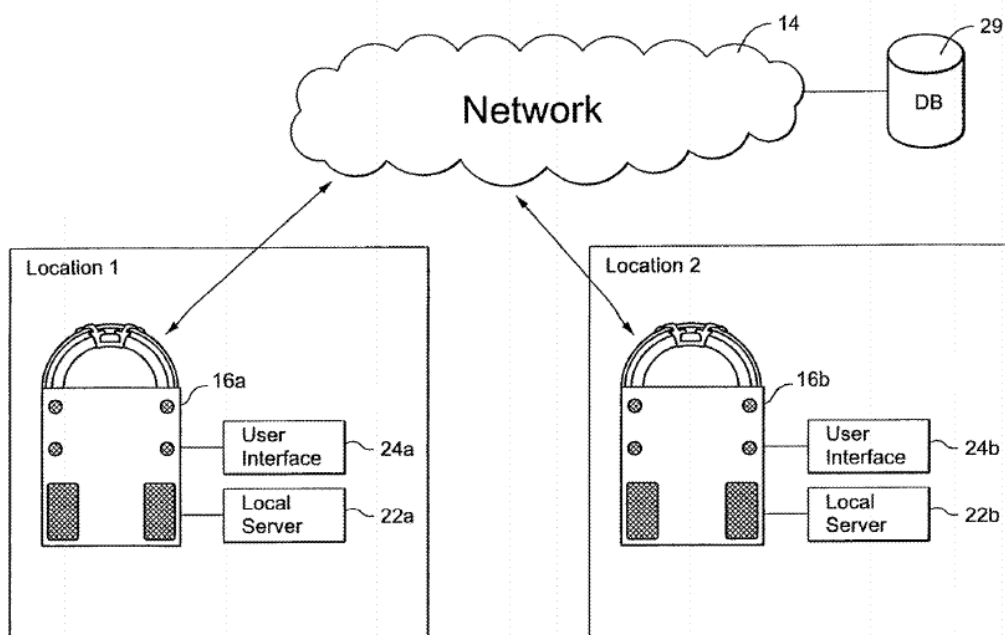


Fig. 29E

(EX1005, 48:30-44, Fig. 29E.)

164. To the extent not expressly disclosed in Dion, the POSITA would understand the “recognized user information” stored in the database to include or indicate the avatar, at least because the avatar represents and identifies the user, and may be associated with “all actions a user takes within the community.”

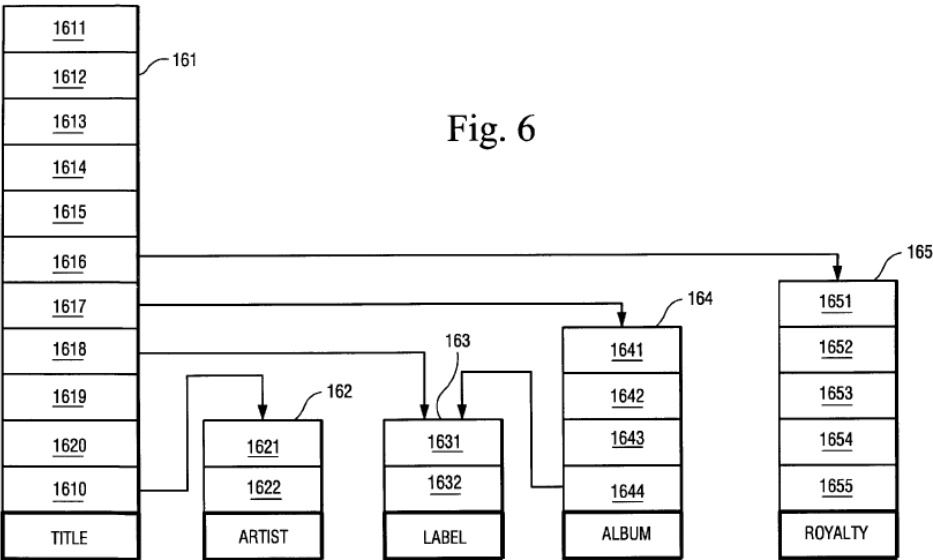
(EX1005, 51:26-32, 52:62-66.)

165. Dion discloses additional examples of the claimed metadata. For example, Dion discloses determining the “color” of a song, which may relate to

song characteristics such as volume, rhythm, beat, and tempo. (EX1005, 19:14-29.) Dion also discloses storing and providing song data such as title, artist, album, album artwork, and genre, and the ability to search by those fields. (EX1005, Figs. 26A, 26D, 26E, 44:66-45:17.) Additionally, Dion discloses that, in order to check for copyright compliance, an authorization process may be automatically performed on the new media. (EX1005, 53:12-17.) For example, the new media may be automatically compared to banks of known music, or checked for the presence of a digital watermark. (EX1005, 53:12-17.) The POSITA would understand that this requires use of metadata to do the checking and/or that a digital watermark contains metadata or an indicia of metadata. Dion also discloses automatically using information about songs listed in the user's profile to identify and recommend songs the user may be interested in; the POSITA would similarly understand that this requires the use of metadata to identify songs and compare those songs to those listed in the user's profile. (EX1005, 12:11-24.) The POSITA would understand a processor to perform these functions.

166. Nathan-204, which is incorporated by reference into Dion and describes the structure and operation of Dion's jukebox system, provides additional disclosure relating to Dion's database. (EX1005, 2:31-42, 9:37-40.) For example,

Fig. 6 of Nathan-204 shows a database 16, which stores media information and communicates with Dion’s central server by uploading or downloading the corresponding information:

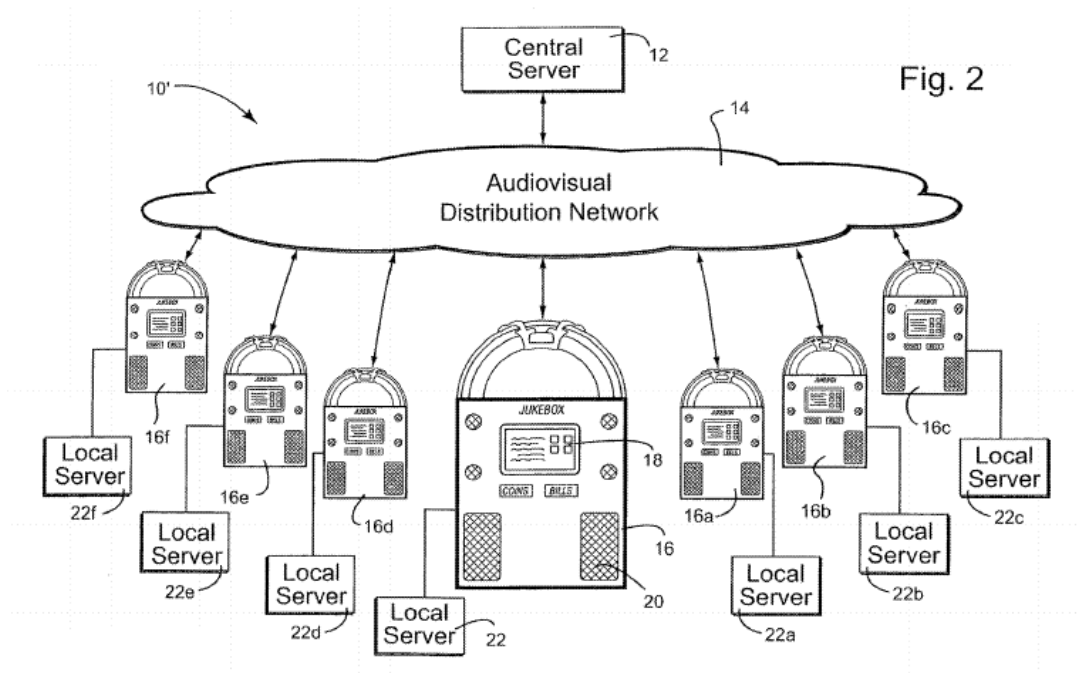


(EX1005, 2:31-42; EX1006, 10:13-59, Fig. 6.)

167. The database includes metadata for the media, including, among others: title (1611); a unique product identifier (1612); music category (1613); date of updating (1614); length (1615); purchase price (1619); and cost of royalties (1620). (EX1006, 10:13-50, Fig. 6.)

9. ***[H] storing, by the processor, the new media in a central storage device, wherein the storing automatically enables the new media to be requested by the jukebox for playback over the Internet by providing to a client software installed in the jukebox, access to the database storing the metadata for the new media, via an API call over the Internet;***

168. Dion meets this element. For example, Dion's central server 12 can include a library of audio content, which stores songs and other data that have been digitized, compressed, and encrypted. (EX1005, 9:25-37.) Dion discloses that upon receiving the new media from a user, the new media may be stored by the jukebox (*i.e.*, by the jukebox's processor) to a central location, *i.e.*, central server 12, from which the new media is made available to multiple jukeboxes via an audiovisual distribution network 14 (*e.g.*, the Internet). (EX1005, 52:16-20.) Fig. 2 illustrates:



(EX1005, Fig. 2.)

169. The jukebox includes client software that provides a user interface, as described above, for receiving user requests and communicating with central server 12 to retrieve and present the requested media. The jukebox is further in communication with the database 29 via the Internet (network 14), as shown in Fig. 29E:

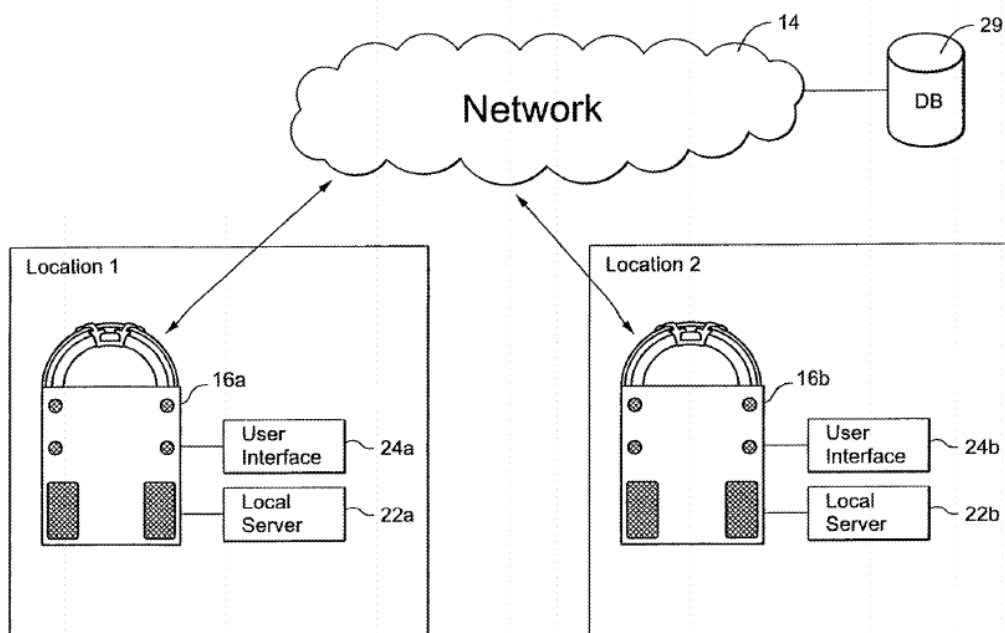
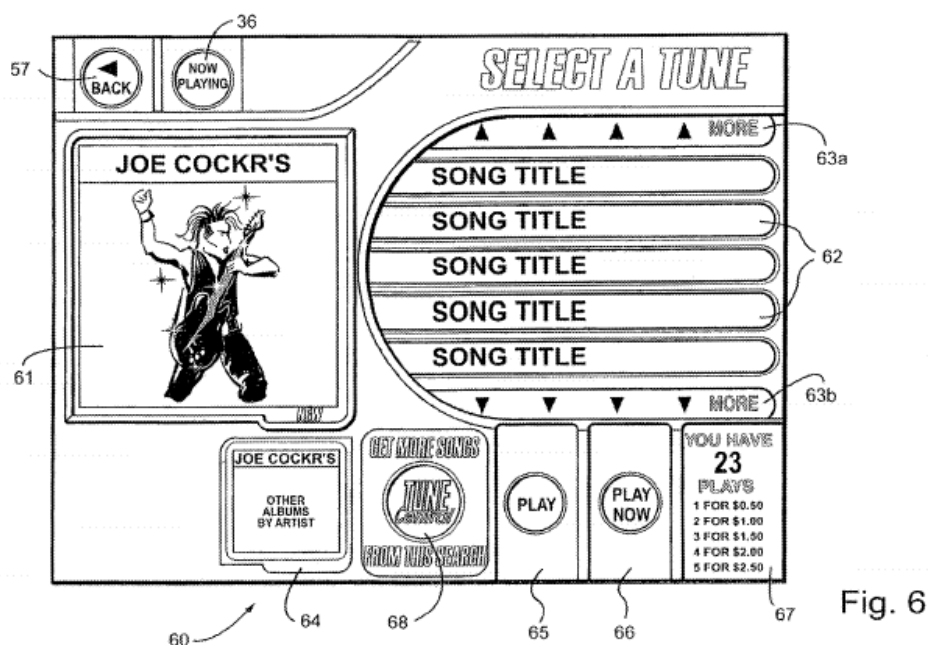


Fig. 29E

(EX1005, 48:30-44, Fig. 29E.)

170. A user can request a song via a user interface; and in response, the central server 12 can provide the requested song via the Internet 14 to jukebox 16 for presentation. (EX1005, 2:43-3:4.) Fig. 6 shows an example interface via which the user can request a song:



(EX1005, Fig. 6, 13:65-14:43.)

171. To the extent not expressly disclosed in Dion, it would have been obvious to the POSITA for the jukebox to gain access to the database via an API call over the Internet. Moreover, Nathan-204, incorporated by reference in Dion, expressly foresees using application program interfaces within the jukebox system and for communication calls to the server. (EX1005, 2:38-40; EX1006, 8:26-9:26.) And as the Examiner recognized, the claimed API call is “equivalent to making a general request for a media/song list.” (EX1002, 412 (April 29, 2015 Interview Summary).) For example, FIG. 29E discloses that the jukebox 16 is in communication with database 29 via the Internet (network 14), and that a remote interface can be used to request and retrieve a song. (EX1005, 46:1-48:44, Figs.

28, 29A-29E.) The POSITA would understand “API call” to be a generic term of art that encompasses a range of ubiquitous and well-understood mechanisms suitable for a client passing information to and invoking functionality on a server via the Internet, *e.g.*, for communicating a song request from the jukebox to the database.

- 10. [I] *automatically analyzing, by the processor, audio signals of the new media for determining a root mean square (RMS) value, wherein the RMS value is further mathematically manipulated for obtaining a positive RMS value less than 1;***

172. Dion in view of Nathan-109 meets this element. Dion discloses performing digital signal processing of a song, *e.g.*, using a DSP (a processor); and Nathan-109 further discloses processing a digital sound recording (*e.g.*, a song) by adjusting its volume (sound) level, so that consistent volume levels can be obtained across different songs, regardless of their initial sound level differences. (EX1007, 1:40-46.)

173. Nathan-109 discloses a process that includes performing an analysis of the song; and then adjusting the playback volume of the song, based on the analysis, to control the volume (sound) level. (EX1007, 3:40-44.) For example, Nathan-109 discloses “automatically adjusting the gain level making it possible to obtain a sound level for the recording of a specified value so that it corresponds to the gain calculated for this recording.” (EX1007, 1:56-60.) Nathan-109 explains

that “[f]or a given amplification value, the root mean square [RMS] value defines the sound volume or sound level.” (EX1007, 3:10-12.)

174. Nathan-109 discloses that the gain value may be a positive value. (EX1007, 5:64-65.) Further, the gain value can be manipulated to be less than 1: Nathan-109 discloses that the maximum volume is obtained when the signal is not attenuated, *i.e.*, at a gain of 0 dB, which the POSITA would understand to be equal to a gain factor of 1. (EX1007, 6:19-20.) Nathan-109’s Equation **a** also includes a ratio of a selected amplitude A_2 , which is less than the maximum amplitude of the recording, to the maximum amplitude of the recording A_m ; the POSITA would understand this ratio to be a number less than 1. (EX1007, 4:30.) Accordingly, the POSITA would understand that to adjust the volume, a gain of less than 1 must be applied, so as not to exceed the maximum volume. For example, Nathan-109 discloses attenuating the volume by -3 dB, which corresponds to a gain of less than 1. (EX1007, 6:29-31.)

175. It would have been obvious for the POSITA to automatically apply Nathan-109’s RMS determination to audio signals of the new media in Dion. Dion already discloses a processor performing volume adjustments of jukebox playback, *e.g.*, to ensure that songs are played at a desired volume level. (EX1005, 17:64-18:12.) And Nathan-109 offers a specific technique for jukeboxes to normalize

playback volume across songs. The POSITA accordingly would have utilized Nathan-109's normalization methods to implement volume adjustments in Dion's processor.

176. The POSITA would have been motivated to combine Dion with Nathan-109. While Dion discloses performing volume adjustments for jukebox playback (*see, e.g.*, EX1005, 17:52-62, 18:4-8), it does not offer a specific implementation of performing such volume adjustments. The POSITA would have thus been motivated to look to other references, such as Nathan-109, to supply the missing implementation detail. The POSITA would have found Nathan-109's solution to be applicable, because it is directed at an analogous problem (normalizing jukebox audio volume across different music tracks); and beneficial, because it offers improvements in sound quality and memory usage. (EX1007, 1:7-12, 1:16-35.) Further, the POSITA would have had a reasonable expectation of success in making the combination, at least because Dion and Nathan-109 make use of common components (*e.g.*, jukeboxes, processors, loudspeakers) and apply those components in familiar ways. The results of the combination thus would have been predictable—supported further by the fact that Dion and Nathan-109 share common technology (digital jukeboxes, *e.g.*, the TouchTunes jukebox), as

well as inventorship and ownership (*i.e.*, TouchTunes Music Corporation), demonstrating a strong connection between the references.

11. [J] *storing, by the processor, the obtained RMS value less than 1 as metadata for the new media;*

177. Dion in view of Nathan-109 meets this element. For example, Nathan-109 discloses that a processor stores sound recordings along with their determined gain values, *e.g.*, in memory in a server or a database, such that each gain value is associated with its corresponding sound recording. (EX1007, 2:46-54, 5:35-56.) The gain values can then be accessed by a playback device, which can use the gain values to adjust the playback level. (EX1007, 2:46-54, 5:51-65.) The POSITA would understand that, because each gain value is associated with a sound recording (new media), it is a metadata element for that new media. Further, as Nathan-109 explains, RMS values define the sound volume or sound level; and Dion provides that such song volumes can be stored as metadata. (EX1007, 3:10-12; EX1005, 19:20-24.)

12. [K] *providing, by the processor, the metadata for the new media over the Internet in response to the API call for display by the jukebox*

178. Dion meets this element. In Dion, metadata is provided by a processor over the Internet in response to a request made via an API call, as described above for element [H], and is displayed on the jukebox. For example,

Dion discloses that the jukebox display can present playlists that include one or more songs, along with the user's avatar, the name of the playlist, and the number of plays (*i.e.*, credits) required for play. (EX1005, 51:33-52.) Dion clarifies that “[t]hese and/or similar features” are provided by allowing the user to upload video and/or audio content for distribution to jukeboxes, such as described above for element [E]. (EX1005, 52:13-20.) Fig. 33 illustrates:



Fig. 33

(EX1005, Fig. 33.)

179. Additionally, Dion discloses that the jukebox display can present metadata such as title, artist, album, album artwork, and genre, as shown in Fig. 26A:

26A:

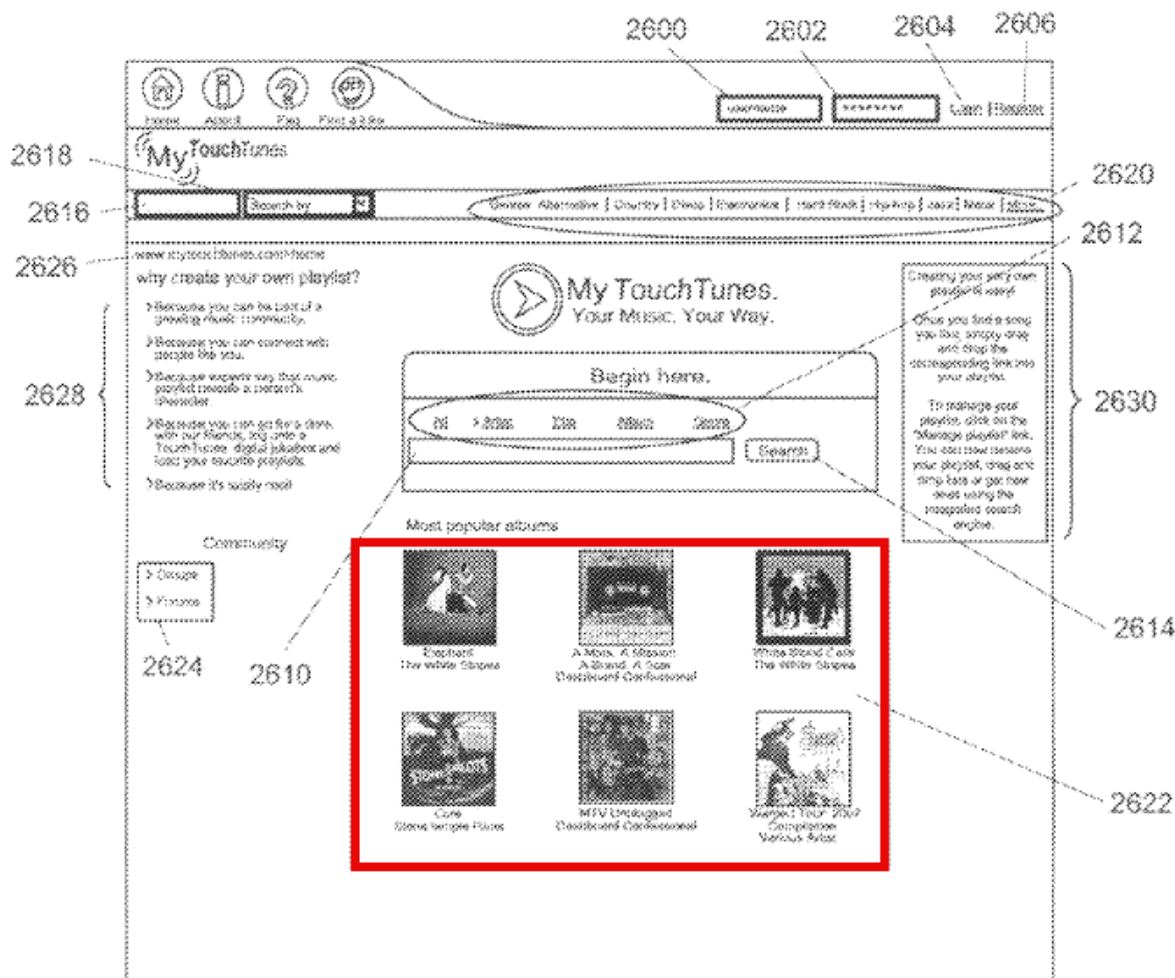


Fig. 26A

(EX1005, Fig. 26A (annotated).)

13. [L] receiving, by the processor, a request from the jukebox for playback of the new media associated with the displayed metadata;

180. Dion meets this element. For example, Dion discloses a jukebox user interface through which a user can request playback of a song, as shown in Fig. 6:

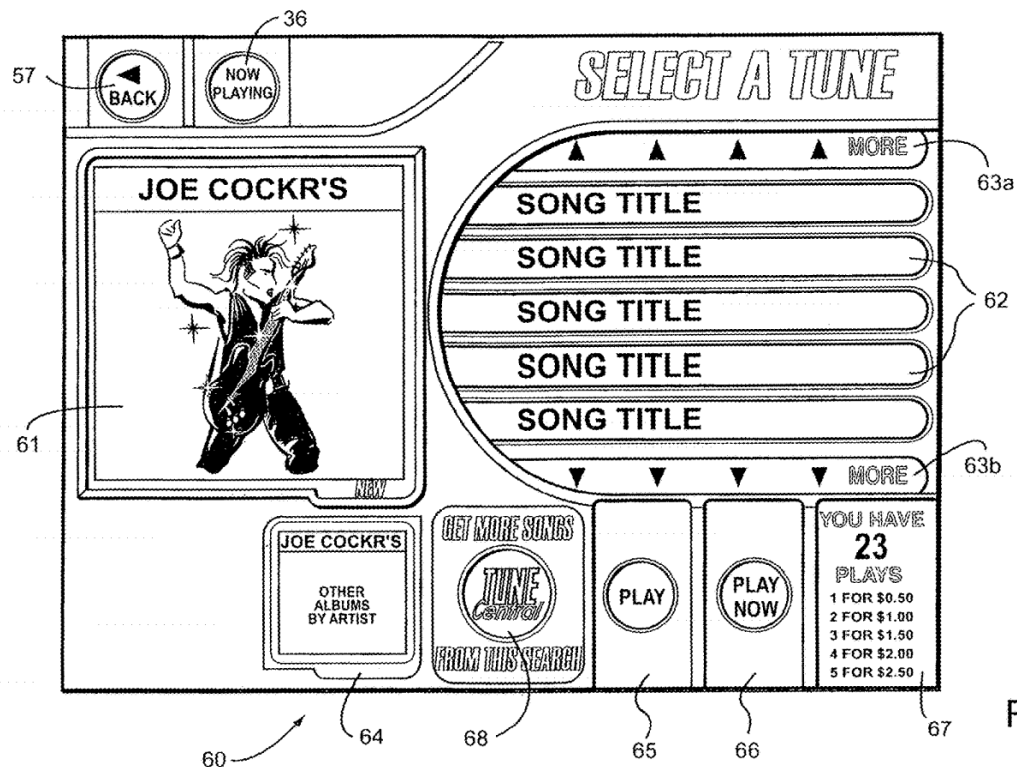


Fig. 6

(EX1005, Fig. 6.)

181. Dion further discloses that a user can select “Play” or “Play Now” buttons to initiate a play request for a given song. (EX1005, 14:6-18.) The POSITA would understand a processor to receive these requests.

182. Dion further discloses that a user can select, for playback, a playlist associated with the user represented by an avatar, such as described above for element [K]. (EX1005, 51:47-52.) In accordance with the selection, the jukebox can display the contents of the playlist (*e.g.*, one or more songs), along with the user's avatar, the name of the playlist, and a number of credits required for play. (EX1005, 51:47-52.) Dion discloses that such requests can also be provided by mobile device (*e.g.*, a cell phone or PDA); a stand-alone application on a remote computer; or a web browser. (EX1005, 38:9-35.)

14. [M] *in response to the request, streaming by the processor the requested new media to the jukebox for playing audio corresponding to the streamed portion of the new media;*

183. Dion meets this element. For example, Dion discloses that if the song, album, or playlist (or portion thereof) is selected for play as described above, the media of the playlist is provided via the jukebox, which presents a “now playing” screen and proceeds with playback, as shown in Fig. 34:

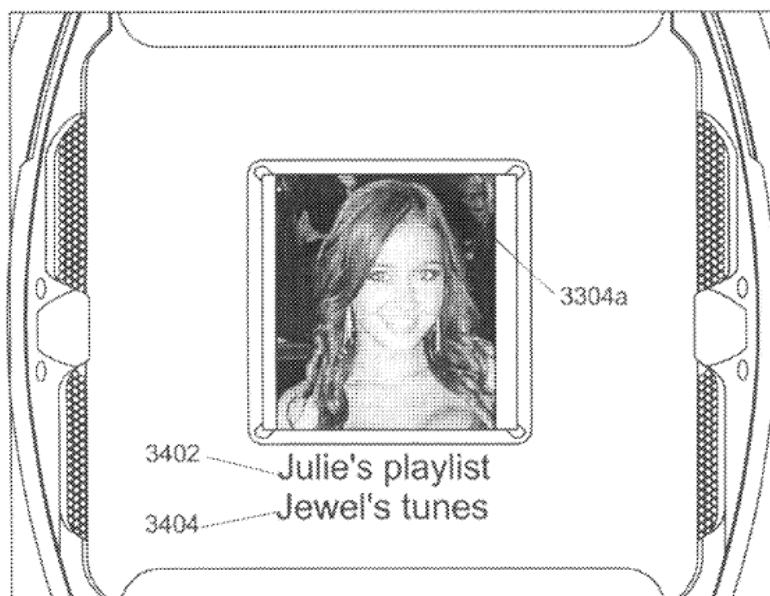


Fig. 34

(EX1005, 51:53-58, Fig. 34.)

184. Dion discloses that the requested media may be streamed to the jukebox from a server, which the POSITA would understand can include central server 12; or from another jukebox. (EX1005, 15:65-16:2.) The POSITA would further understand a processor to perform the streaming process.

15. [N] *automatically calculating, by the processor, amounts earned by an artist and a venue playing the new media; and*

185. Dion meets this element. For example, Dion discloses that the jukebox monitors the specific songs that have been played on the jukebox; and that this information is used by a processor to “determine the appropriate royalties and/or other payments that are owed for songs played on each jukebox.” (EX1005,

3:4-10, 9:14-16.) This includes amounts earned by an artist: Dion clarifies that the determination is performed to assure that “proper royalties are paid *to the artists* or music owners.” (EX1005, 3:10-14 (emphasis added).) Dion further clarifies that “[r]oyalties may be tracked and returned to the user through its avatar” and that royalties may depend on whether artists are independent or associated with major labels. (EX1005, 53:6-11.)

186. Dion further discloses that the amounts calculated include amounts earned by a venue playing the new media, *e.g.*, a location (such as a bar or restaurant) hosting the jukebox. (*See* EX1005, 2:51-56.) For example, Dion discloses that “[j]ukeboxes have conventionally been provided in commercial establishments, such as restaurants and bars, in order to provide desired music on demand for patrons thereof for a fee” and that the jukebox makes playlists available for use “for a fee,” which provides revenue for venue owners. (EX1005, 2:29-31, 15:10-14.)

16. [O] *receiving, by the processor, indication of payment of the amount earned,*

187. Dion meets this element. Dion makes clear that the determination is performed to assure that “proper royalties are paid to the artists or music owners.” (EX1005, 3:10-14 (emphasis added).) Further, for independent artist users, “[r]oyalties may be tracked and returned to the user through its avatar.” (EX1005,

53:6-7.) Additionally, Dion discloses that the jukebox includes a payment device, such as a coin, bill, and/or credit card input device; and is “operable to play music in response to receiving a payment from a user, such as coins, bills, credit/debit card, etc.” (EX1005, 2:51-56, 9:51-55.) Fig. 11 illustrates an example process that can be performed by a processor:

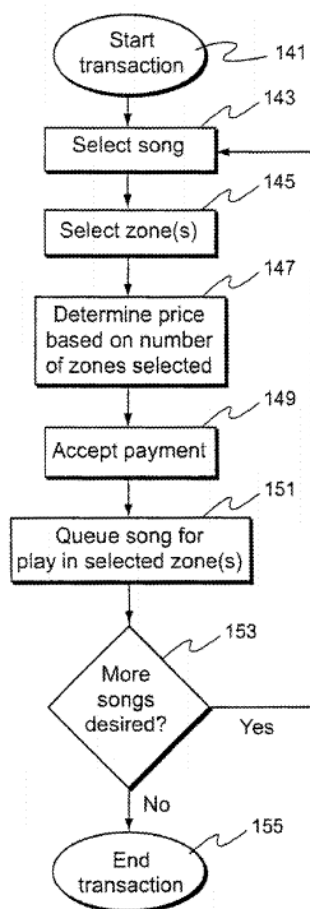


Fig. 11

(EX1005, 18:42-55, Fig. 11.)

188. For example, as shown in Fig. 11, the processor can determine a price for playback of a selected song (147); accept payment of that price from the user (149); and queue the selected song for playback (151). (EX1005, 18:45-19:3.)

17. [P] wherein, the audio signals of the new media are normalized by the processor or jukebox by applying gain to the signals based on the obtained positive RMS value less than 1, and

189. Dion in view of Nathan-109 meets this element. For example, Nathan-109 discloses the jukebox “reproducing the recording”—that is, playing back the audio signals—by “automatically adjusting the gain level making it possible to obtain a sound level for the recording of a specified value so that it corresponds to the gain calculated for this recording” and that “the root mean square voltage value defines the sound volume or sound level.” (EX1007, 1:56-60, 3:10-12.) The gain calculated is as described above for element [I]; by Equation a, the gain includes a ratio of RMS-calculated gains that is less than 1 (*e.g.*, because the ratio of a level to a maximum level must necessarily be less than 1, as explained above for element [J]).

190. The POSITA would have been motivated to apply these teachings of Nathan-109 to Dion to meet the claim limitation for the reasons described above for element [I].

18. [Q] *wherein, the audio signals of the new media are further compressed for reducing a dynamic range of the signal based on a preset compression ratio and a preset threshold value.*

191. Dion in view of Nathan-109 meets this element. For example, Nathan-109 discloses dynamically adjusting the gain for low-pitched and high-pitched components of a song, so that these components can be more easily heard without exceeding a maximum gain level. (EX1007, 5:67-6:6.) According to this process, when the level of low-pitched and/or high-pitched sounds is less than a threshold sound level value selected by the user, an additional gain is applied to the low-pitched and/or high-pitched sounds. (EX1007, 5:67-6:18.) The signal can be attenuated by a specified fixed value, and a gain corresponding to that attenuation value can be applied to the low-pitched and/or high-pitched sounds. (EX1007, 7:14-29.) As an example, if the output signal is attenuated by 6 dB, the level of low-pitched and/or high-pitched sounds can be increased by 6 dB. (EX1007, 7:29-36.) As the POSITA will appreciate, increasing the gain of low-pitched and high-pitched components while maintaining or reducing an overall maximum volume, has the effect of reducing the dynamic range and thus compressing the audio signal. Moreover, in addition to the gain ratio provided in Equation *a* of Nathan-109, the POSITA would understand a compression ratio to be preset at least because the signal attenuation value is pre-determined based on a corresponding

zone (area of the venue); and because the dynamic gain applied to the low-pitched and high-pitched components is equal to the attenuation value, as described above. (EX1007, 7:12-36.)

192. The POSITA would have been motivated to apply these teachings of Nathan-109 to Dion for at least the reasons described above for element [I]. In addition, the POSITA would have been motivated to apply Nathan-109's compression technique to Dion's jukebox in order to increase the perception of low-pitched and high-pitched sounds in songs played by the jukebox. This would result in improved sound quality for venue customers and jukebox users; and may be particularly significant in noisy environments, such as bars and restaurants, where jukeboxes are often located. (EX1005, 2:51-53.) The POSITA would also be motivated to apply Nathan-109's attenuation values to the system disclosed in Dion because Dion also discloses the need for multiple zones, having different attenuation values. (EX1005, 18:13-22, Fig. 10.) The POSITA would have a financial incentive to make the combination, as improved sound quality can be expected to encourage users to patronize the jukebox, and the availability of different attenuation levels for different zones could maximize the number of patrons in each zone, *i.e.*, the total number of patrons in the venue listening to the jukebox.

D. Claim 2**1. [Preamble] *The method of claim 1***

193. Dion in view of Nathan-109 meets the preamble as described above for claim 1.

2. [A] *wherein media comprises images, video and music.*

194. Dion meets this element. For example, Dion discloses that the jukebox contains “audio content (typically music), as well as or alternatively audiovisual content (typically music and associated video or graphics)” and preferably stores, receives, and displays “still and/or moving video and/or graphical images” in addition to digitized songs. (EX1005, 2:47-49, 9:25-37.) Dion further discloses that media uploaded by users can include video and/or audio content such as “pictures, audio files, movies, and the like”. (EX1005, 52:13-20.)

E. Claim 3**1. [Preamble] *A non transitory computer-readable media embodying program instructions for execution by a computer, the program instructions adapting the computer for real time music distribution of new media to allow an artist to control availability of the new media for playback in public venues via a jukebox, the program instructions comprising:***

195. Dion meets the preamble as for claim 1, Preamble. (See also EX1005, 50:27-32.)

2. [A] *providing a user interface for authoring of media;*

196. Dion meets this element as for claim 1, element [A].

3. [B] *providing a user interface to add the user to the system;*

197. Dion meets this element as for claim 1, element [B].

4. [C] *providing a user interface to create an account;*

198. Dion meets this element as for claim 1, element [C].

5. [D] *providing a user interface to log into the system;*

199. Dion meets this element as for claim 1, element [D].

6. [E] *providing a user interface to add the new media to the system, wherein the new media is new if not previously stored in the system;*

200. Dion meets this element as for claim 1, element [E].

7. [F] *receiving the new media added to the system;*

201. Dion meets this element as for claim 1, element [F].

8. [G] *automatically identifying metadata for the new media and storing the metadata in a database;*

202. Dion in view of Nathan-109 meets this element as for claim 1,
element [G].

9. ***[H] storing the new media in a central storage device, wherein the storing automatically enables the new media to be requested by the jukebox for playback over the Internet by providing to a client software installed in the jukebox, access to the database storing the metadata for the new media, via an API call over the Internet;***

203. Dion meets this element as for claim 1, element [H].

10. ***[I] automatically analyzing audio signals of the new media for determining a root mean square (RMS) value, wherein the RMS value is further mathematically manipulated for obtaining a positive RMS value less than 1;***

204. Dion in view of Nathan-109 meets this element as for claim 1, element [I].

11. ***[J] storing the obtained RMS value less than 1 as metadata for the new media;***

205. Dion in view of Nathan-109 meets this element as for claim 1, element [J].

12. ***[K] providing metadata for the new media over the Internet in response to the API call for display by the jukebox;***

206. Dion meets this element as for claim 1, element [K].

13. ***[L] receiving a request from the jukebox for playback of the new media associated with the displayed metadata;***

207. Dion meets this element as for claim 1, element [L].

14. [M] *in response to the request, streaming the requested new media to the jukebox for playing audio corresponding to the streamed portion of the new media;*

208. Dion meets this element as for claim 1, element [M].

15. [N] *automatically calculating, by the processor, amounts earned by an artist and a venue playing the new media; and*

209. Dion meets this element as for claim 1, element [N].

16. [O] *receiving, by the processor, indication of payment of the amount earned,*

210. Dion meets this element as for claim 1, element [O].

17. [P] *wherein, the audio signals of the new media are normalized by the processor or jukebox by applying gain to the signals based on the obtained positive RMS value less than 1, and*

211. Dion in view of Nathan-109 meets this element as for claim 1, element [P].

18. [Q] *wherein, audio signals of the new media are further compressed for reducing a dynamic range of the signal based on a preset compression ratio and a preset threshold value.*

212. Dion in view of Nathan-109 meets this element as for claim 1, element [Q].

F. Claim 4

1. [Preamble] *The method of claim 1 further comprising:*

213. Dion in view of Nathan-109 meets the preamble as described above for claim 1.

2. ***[A] invoking by the processor a data access object for interfacing with the database for retrieving the metadata from the database and providing the metadata to the jukebox.***

214. Dion meets this element. For example, Dion discloses the processor retrieving the metadata from the database and providing the metadata to the jukebox, as described above for claim 1, elements [G], [K], and [L]. Further, Nathan-204 (incorporated in Dion) discloses interfacing with a database (16) to retrieve metadata such as song titles, artists, and albums; and providing that metadata to the jukebox. (EX1006, 10:13-11:27, Fig. 6.)

215. To the extent not expressly disclosed, it would have been obvious to the POSITA to perform these operations by invoking a data access object, for reasons given above for Ground 1, Claim 4.

G. Claim 5

1. ***[Preamble] The method of claim 4,***

216. Dion in view of Nathan-109 meets the preamble as described above for claim 4.

2. ***[A] wherein the processor invokes the REST protocol for retrieving and transmitting the metadata.***

217. Dion meets this element. The '925 patent explains that “files’ metadata can be browsed by calling a restful web service,” such that “basically you are just browsing the database through a restful web service.” (EX1001, 5:42-50.)

The POSITA would understand this to be met by Dion, which discloses that bilateral communication can be performed via a web interface, including via transmission of a hyperlink to convey information from a client to a server. (EX1005, 33:35-54.) Further, as described above for Ground 1, claim 5, the POSITA would understand the “REST protocol” to refer to the RESTful architecture, which, as the POSITA would know, is a widely accepted best practice for web-based software applications. (EX1014, 13-14, 79-80, 105.) To the extent not expressly disclosed, the POSITA would have found it obvious for Dion’s web interface to use a processor to invoke the REST protocol, at least to adopt such best practices for web-based applications; and to benefit from advantages including scalability (*e.g.*, to large data sets), network security, and ease of use (*e.g.*, by providing uniform interfaces familiar to users). (EX1014, 79-105.)

H. Claim 6

1. [Preamble] *The method of claim 1,*

218. Dion in view of Nathan-109 meets the preamble as described above for claim 1.

2. [A] *wherein the metadata includes at least one of artist name, track name, or album name.*

219. Dion meets this element. For example, Dion discloses that the metadata includes at least an artist name and a track name, as shown in Fig. 26A:

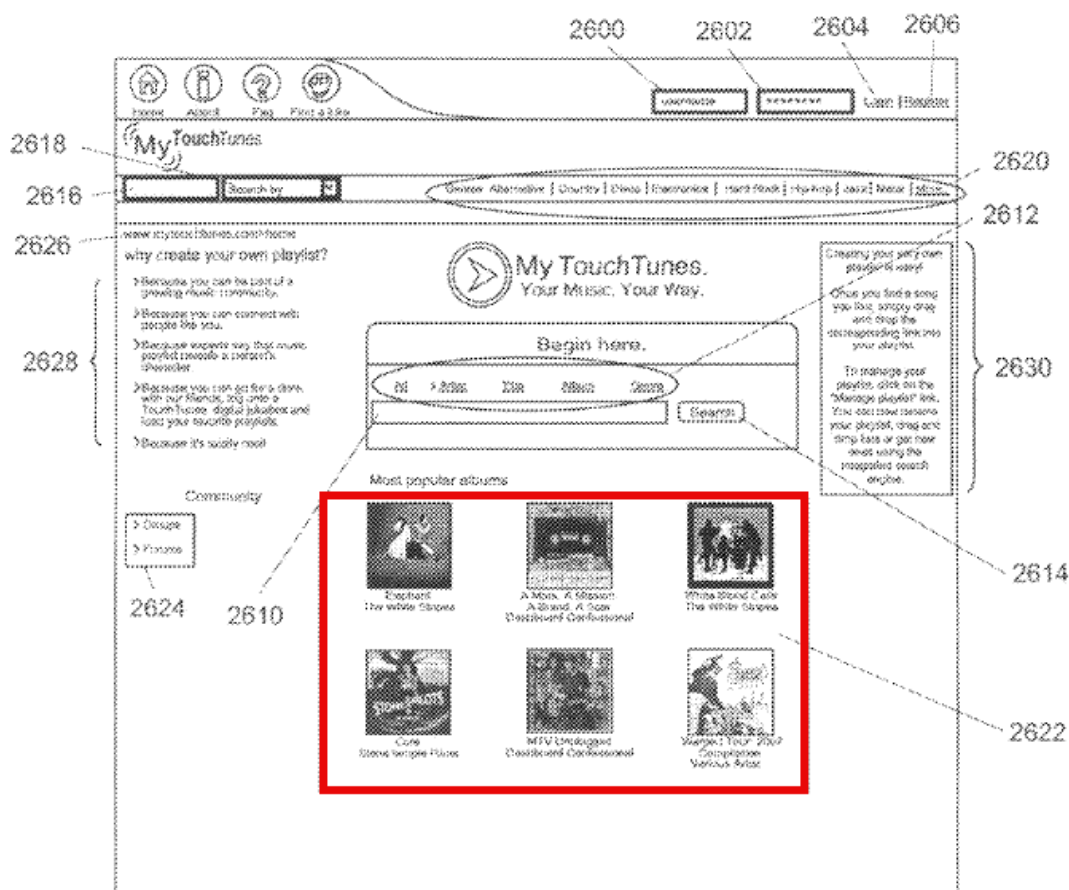


Fig. 26A

(EX1005, Fig. 26A (annotated).)

220. Dion also discloses that users can search for music on jukeboxes by “album, artist, [or] song,” which requires that such items be stored as metadata (EX1005, 11:27), as shown in Fig. 4:

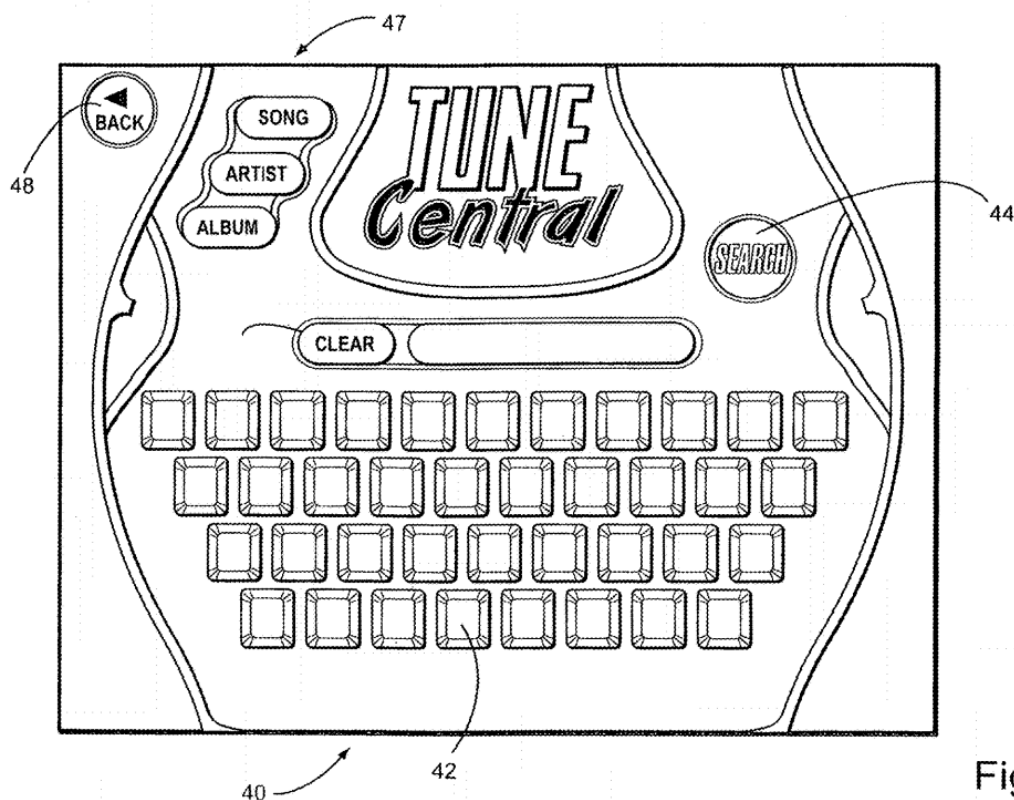


Fig. 4

(EX1005, Fig. 4.)

221. Additionally, Dion discloses that the metadata includes an avatar, and that the avatar may identify the user's (artist's) name, as described for element [G].

I. Claim 7

1. [Preamble] *The method of claim 1,*

222. Dion in view of Nathan-109 meets the preamble as described above for claim 1.

2. [A] *wherein the metadata includes file size for a file containing the media, and play time.*

223. Dion meets this element. For example, Dion discloses a voting queue display that lists the currently playing song and its progress, expressed as the time remaining in the song. (EX1005, 25:56-61.) The POSITA understands that this requires storing the song's duration (play time) as metadata. For further example, Nathan-204 (incorporated by reference by Dion) discloses that the metadata can "indicate[] the length in seconds for playing the piece," thus meeting the claimed play time.

224. Further, Dion discloses that the metadata includes the claimed file size. The '925 patent discloses that "[t]he system will automatically figure out aspects of the media file, such as file size, play time, and average volume." (EX1001, 5:27-28.) The POSITA would understand that this would typically be done by means of built-in operating system and/or database functionality, and thus that any database of digital media files would include such functionality. For example, as the POSITA would recognize, the file system of an operating system would automatically determine and store file sizes, among other attributes, for such files. (See, e.g., EX1009, 386-87, 430-48.)

225. Moreover, Dion specifically discloses such an operating system. For example, as shown in Fig. 17, a jukebox 225 may include a local hard drive 223

(e.g., a 120 gigabyte hard drive). (EX1005, 22:21-37, Fig. 17.) A portion 228 of the hard drive 223 is occupied by preloaded songs, a portion 227 is available to store additional downloaded content, and a portion 229 stores software and an operating system:

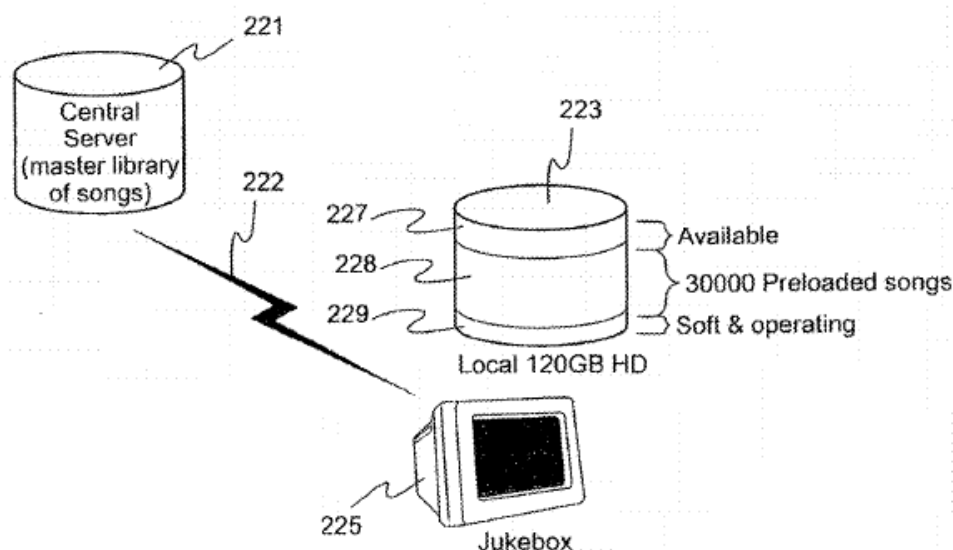


Fig. 17

(EX1005, 22:21-37, Fig. 17)

J. Claim 8

1. [Preamble] *The method of claim 1,*

226. Dion in view of Nathan-109 meets the preamble at least as described above for claim 1.

2. ***[A] wherein the processor automatically analyzes the uploaded media for determining an average volume of the media based on the RMS value.***

227. Dion in view of Nathan-109 meets this element as described for claim 1, elements [I] and [P].

K. Claim 9

1. ***[Preamble] The method of claim 8 further comprising:***

228. Dion in view of Nathan-109 meets the preamble as described above for claim 8.

2. ***[A] storing the average volume in the central storage device.***

229. Dion in view of Nathan-109 meets this element as described above for claim 1, element [J]. The '925 patent discloses that "the average volume is checked using the root mean (RMS) formula," *i.e.*, that the average volume is derived from the RMS calculation. (EX1001, 7:44-60). Dion discloses storing the volume of a song along with other metadata to be able to order playlists by volume along with other characteristics. (EX1005, 19:22-29.) As described for claim 8 and for claim 1 element [I] above, Dion in view of Nathan-109 meets the element of computing an RMS value that is then used to determine an average volume, which the POSITA would thus understand to be the quantity stored.

L. Claim 10**1. [Preamble] *The method of claim 8 further comprising:***

230. Dion in view of Nathan-109 meets the preamble as described above for claim 8.

2. [A] *automatically adjusting, by either the processor or the jukebox, volume of the media during playback of the media, wherein the adjusting is based on the determined average volume.*

231. Dion in view of Nathan-109 meets this element as described for claim 1, elements [I] and [P]. The POSITA would have recognized that the average volume, as well as the maximum volume, could be used by the jukebox for automatically adjusting the song volume during playback.

M. Claim 11**1. [Preamble] *The method of claim 1 further comprising:***

232. Dion in view of Nathan-109 meets the preamble at least as described above for claim 1.

2. [A] *updating by the processor a table for tracking playback of the media, wherein the table identifies the media, a venue playing the media, and a timestamp identifying the playback of the media.*

233. Dion meets this element. For example, Dion discloses that “[t]he jukeboxes 16 periodically communicate with the server 12 to provide information to the server 12 regarding the specific songs that have been played on the jukebox.

The central server then uses this information to determine the appropriate royalties and/or other payments that are owed for songs played on each jukebox.” (EX1005, 3:4-10.) This requires that the jukeboxes and the server store data on media played; note that the ’925 patent discloses a table of information specified in this claim element as part of a (royalty) “payment schematic.” (EX1001, 10:46, Fig. 5.8.) Dion also discloses “[a] unique identifier ... in the local server for enabling the local server to be uniquely identified” and “a unique identifier for each jukebox device.” (EX1005, 15:28-31, 21:53-56.) These, especially the identifier of the “local server,” are indicia of “a venue playing the media.” Dion additionally discloses a scheme for giving credits to users for creating public playlists, that requires the jukebox to “maintain counts, percentages, and the like related to the songs and playlists accessed.” (EX1005, 50:66-51:1.) Dion also discloses that “the plurality of selectable instances of media is formed from instances of media previously played by the user within a predetermined time period and/or from instances of media previously played by the user at a predetermined location.” (EX1005, 30:37-44.) This requires that the system continuously store data about specific times and locations at which media are played.

234. To the extent not expressly disclosed, it would have been obvious for the above data to be stored and updated by a processor as a table, in view of Dion

and because a table is a fundamental and ubiquitous data structure well-suited for the storage of fielded information such as the above. (*See, e.g.*, EX1010, 266-73.)

N. Claim 12

1. [Preamble] *The method of claim 1 further comprising:*

235. Dion in view of Nathan-109 meets the preamble at least as described above for claim 1.

2. [A] *generating, by the processor, a virtual album; and*

236. Dion meets this element. For example, Dion discloses that a jukebox user can create customized playlists of songs. (EX1005, 28:30-57.) Fig. 23 illustrates an example:

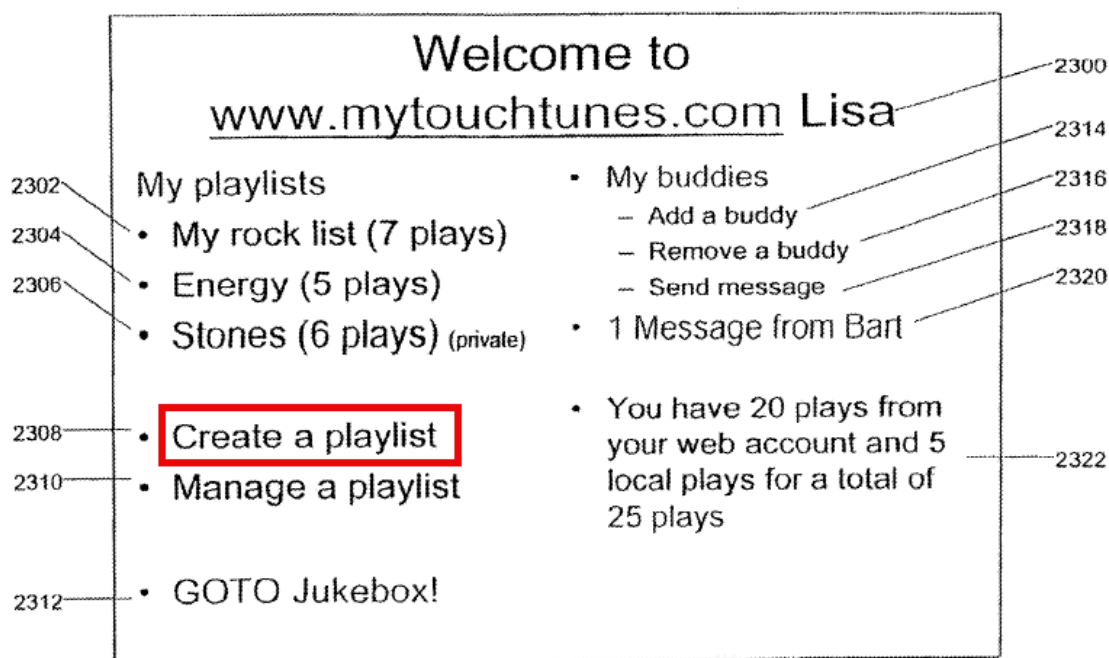


Fig. 23

(EX1005, Fig. 23 (annotated).)

237. Dion's disclosure of playlists, in which individual songs can be associated with one or more playlists by a processor, is consistent with the '925 patent's description of virtual albums: "a user can create Virtual Albums and associate their media with those albums ... with the concept of Virtual Albums all we're doing is creating associations." (EX1001, 5:64-6:9.)

3. [B] adding, by the processor, the media to the virtual album by creating an association between the media and the virtual album.

238. Dion meets this element. For example, Dion discloses that a user can edit a playlist by adding a song to the playlist with a processor, thereby creating an association between the song and the playlist (*i.e.*, that the playlist includes the song). (EX1005, 28:30-57, 30:23-36.) Fig. 26D illustrates example associations between playlists 2674 (*e.g.*, a “Classical” playlist) and songs 2676 (*e.g.*, “Canon in D minor”):

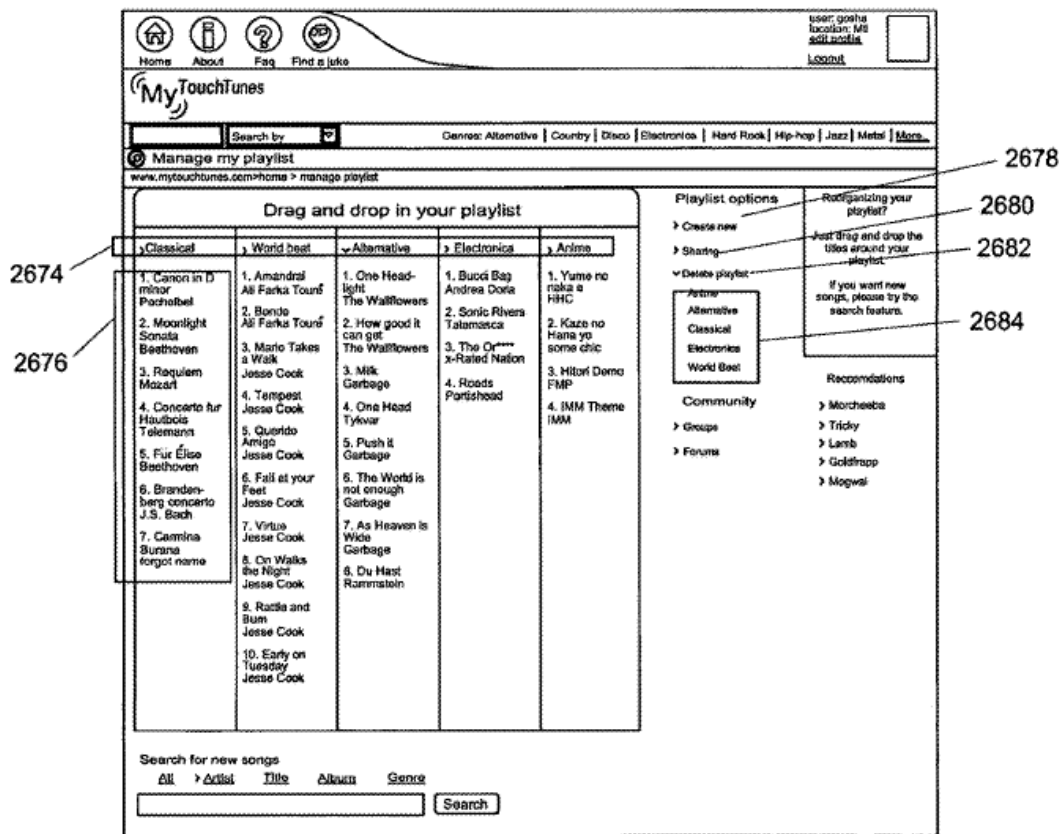


Fig. 26D

(EX1005, Fig. 26D.)

O. Claim 13

1. [Preamble] *The method of claim 12 further comprising:*

239. Dion in view of Nathan-109 meets the preamble at least as described above for claim 12.

2. [A] *receiving by the processor, a second media uploaded by the user, wherein the second media is not added to the virtual album, wherein the jukebox does not display the metadata for the second media.*

240. To the extent this limitation is enabled and not indefinite, it is met by Dion. For example, Dion discloses that a user selects songs to be added to a playlist, *see* Fig. 26D; the POSITA would thus understand that some songs may not be selected, such that a particular song may be uploaded by a processor without being added to a particular playlist (or to any playlist at all). The POSITA would understand the processor to execute a process for receiving the media. Further, the POSITA would understand that Dion's jukebox does not present metadata for all songs. For example, Fig. 26D displays metadata (*e.g.*, title, artist) for songs that belong to playlists 2674, but does not display metadata for songs not belonging to those playlists.

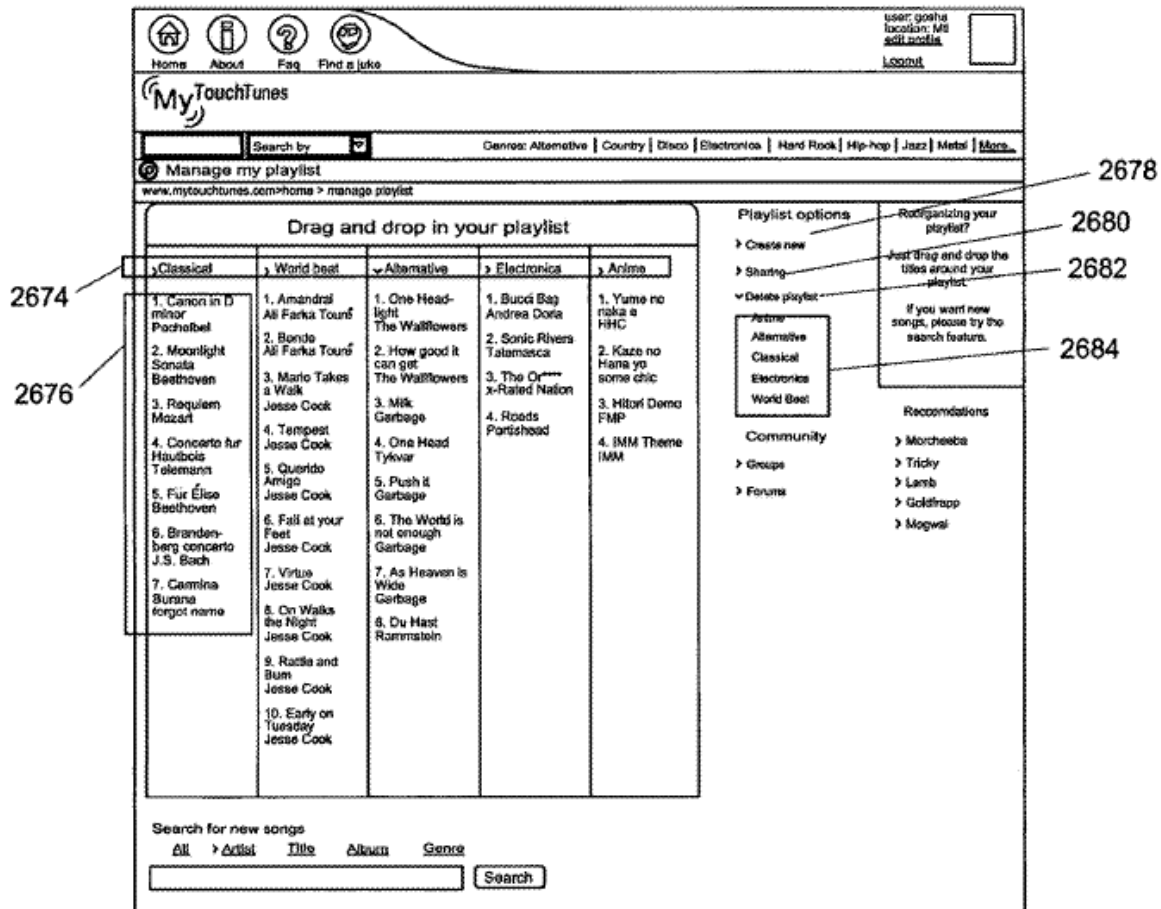


Fig. 26D

(EX1005, Fig. 26D.)

P. Claim 141. [Preamble] *The method of claim 1,*

241. Dion in view of Nathan-109 meets the preamble at least as described above for claim 1.

2. **[A] *wherein the jukebox is at least one of computer device, an internet jukebox, kiosk, set-top box, or cell phone.***

242. Dion meets this element. For example, Dion discloses that the jukebox is connected to, and operable to communicate through, the Internet.

(EX1005, 3:1-4.) The jukebox is thus an Internet jukebox. Dion further discloses that the jukebox may be a PDA (a computer device) or a cell phone. (EX1005, 24:32-39.)

Q. Claim 15

1. **[Preamble] *The method of claim 1,***

243. Dion in view of Nathan-109 meets the preamble at least as described above for claim 1.

2. **[A] *wherein information available through the jukebox is synchronized with information in the database and central storage device.***

244. Dion meets this element. For example, Dion discloses that “each of the jukeboxes maintains in a database a library of digitized songs for play on the jukebox, wherein the library can be changed or updated through communication by the central server” and that “the jukebox’s local server is “updated periodically to maintain a correspondence with the library on the central server 12.” (EX1005, 9:30-33, 9:58-10:9.) Dion further discloses that the jukebox updates a central account database with user account information. (EX1005, 38:51-57, Fig. 26C.)

R. Claim 16

245. To the extent claim 16 is not indefinite, Dion in view of Nathan-109 meets each limitation of claim 16, as described below.

2. [Preamble] *The method of claim 1*

246. Dion in view of Nathan-109 meets the preamble at least as described above for claim 1.

3. [A] *wherein the wide area network is the Internet.*

247. The term “the wide area network” lacks antecedent basis, as there is no recitation of a wide area network (or any other network) in the parent claim. (EX1001, 9:66-10:55.) Nor is “wide area network” found in the specification of the ’925 patent. To the extent the claim is not indefinite, Petitioner submits that “wherein the wide area network is the Internet” is met by Dion’s disclosure of an audiovisual distribution network 14, which may be the Internet, as shown in Fig. 2:

248. Dion additionally discloses that “[t]he jukebox devices 16 (sometimes referred to as simply “jukeboxes” herein) are operable to communicate with the central server 12 through a communications network 14, such as, for example, the Internet.” (EX1005, 3:1-4.)

1. [Preamble] *The method of claim 10,*

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2. ***[A] wherein all media is configured to be played by the jukebox with substantially a same volume based on the adjusting during playback of each of the media.***

250. Dion in view of Nathan-109 meets this element. For example, Nathan-109 discloses that “between two recordings, the volume or sound level perceived by the listener is automatically adjusted so that the sound level is the same from one recording to another”; and that sound levels are “homogeneous for all the recordings contained in the storage means.” (EX1007, 3:33-38, 5:59-64.) Similarly, Dion discloses restricting the volume of music, such that songs are played at a desired volume level. (EX1005, 17:64-18:12.)

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code.

Executed the 11th of July, 2025 in New York, New York.

Respectfully submitted,



William Rosenblatt