

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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SPOTIFY USA INC.  
Petitioner,

v.

MANUEL TIJERINO  
Patent Owner.

Patent No. 9,146,925

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*Inter Partes* Review No. IPR2025-01280

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**PETITION FOR *INTER PARTES* REVIEW**

**UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 *et seq.***

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**Exhibit List**

| <b>Exhibit Description</b>                                                                                           | <b>Exhibit #</b> |
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| U.S. Patent No. 9,146,925 to Tijerino (“the ’925 Patent”)                                                            | EX1001           |
| Prosecution History of U.S. Patent No. 9,146,925                                                                     | EX1002           |
| Declaration of William Rosenblatt in Support of Petition for <i>Inter Partes</i> Review of U.S. Patent No. 9,146,925 | EX1003           |
| <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           |

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| June 25, 2025 Court Order (Dkt. 76) in <i>Tijerino v. Spotify USA Inc.</i> , Case No. 2:24-cv-02290 (E.D. La.)                                                                                                                                                                                                                                                                             | EX1018    |
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| Federal Court Management Statistics, December 2024 (available at <a href="https://www.uscourts.gov/data-news/reports/statistical-reports/federal-court-management-statistics/federal-court-management-statistics-december-2024">https://www.uscourts.gov/data-news/reports/statistical-reports/federal-court-management-statistics/federal-court-management-statistics-december-2024</a> ) | EX1022    |
| Associated Press, <i>Digital music service Spotify launches in US</i> (July 14, 2011)                                                                                                                                                                                                                                                                                                      | EX1023    |
| <i>Introducing Spotify Fan Insights</i> (November 17, 2015) ( <a href="https://artists.spotify.com/blog/introducing-spotify-fan-insights">https://artists.spotify.com/blog/introducing-spotify-fan-insights</a> )                                                                                                                                                                          | EX1024    |
| <i>An Overview of Spotify for Artists</i> (April 18, 2017) ( <a href="https://artists.spotify.com/en/blog/an-overview-of-spotify-for-artists">https://artists.spotify.com/en/blog/an-overview-of-spotify-for-artists</a> )                                                                                                                                                                 | EX1025    |

| Exhibit Description                                                                                          | Exhibit # |
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| Exhibit J to Complaint (Dkt. 1-6) in <i>Tijerino v. Spotify USA Inc.</i> , Case No. 2:24-cv-02290 (E.D. La.) | EX1026    |

## **I. INTRODUCTION**

Petitioner Spotify USA Inc. (“Petitioner”) petitions for *inter partes* review of claims 1-17 of U.S. Patent No. 9,146,925 (“the ’925 patent” (EX1001)). The challenged claims do not present any patentable improvement over the prior art, as set forth in this Petition and the supporting Declaration of William Rosenblatt (EX1003). Accordingly, Petitioner requests that the Board institute *inter partes* review of the ’925 patent and cancel the challenged claims.

## **II. SUMMARY OF THE ’925 PATENT**

### **A. Background**

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 media playback. (EX1001, 2:21-35.) The jukebox can also provide for automated payment of rent and fees. (EX1001, 2:21-35.)

### **B. Priority Date**

This Petition applies 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 another application. (EX1001, (22).)

### **C. Prosecution History**

The '925 patent application was rejected multiple times before its eventual allowance. (EX1002.) As the Examiner recognized, and as the applicant repeatedly failed to rebut, the applicant's purported invention was not novel over prior art references directed to digital jukeboxes and media distribution, including U.S. Patent Appl. Pub. No. 2003/0135424 to Davis et al. and U.S. Patent No. 6,601,135 to Gunaseelan et al. (EX1002.) 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).) But the Examiner failed to robustly examine the amended claims and allowed the application without providing any reasons for allowance. As demonstrated herein, the claim amendments merely recite conventional audio processing steps that cannot confer patentability.

### **D. Level of Ordinary Skill**

Based on the disclosure of the '925 patent and the priority date, a person of

ordinary skill in the art (“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. (EX1003, ¶28.) The POSITA further would have been knowledgeable about audio signal processing techniques, such as gain normalization and dynamic range compression, and software engineering. (EX1003, ¶28.)

### **III. CLAIM CONSTRUCTION**

Under *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), claims are given their ordinary and customary meaning in light of the specification. 415 F.3d at 1315-17. Petitioner does not believe any claim construction is necessary for this Petition.<sup>1</sup> As set forth herein, the challenged claims are invalid under any

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<sup>1</sup> If trial is instituted, Petitioner reserves its right to address construction of any terms raised at trial, or in the related district court action. Petitioner believes that the ’925 patent claims are invalid under at least 35 U.S.C. §§ 101 and 112, including non-patentable subject matter and indefiniteness. Because such issues cannot be raised in an IPR, Petitioner reserves the right to raise those issues in the

reasonable interpretation of the claims. (EX1003, ¶29.)

#### IV. PRECISE REASONS FOR RELIEF REQUESTED

Pursuant to 35 U.S.C. §§ 311-319 and 37 C.F.R. § 42.100 *et seq.*, Petitioner requests cancellation of claims 1-17 of the '925 patent based on the following references and the supporting Rosenblatt Declaration (EX1003).

| 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)   |

The statutory grounds for the challenge of each claim are set forth below.

All statutory citations are pre-AIA based on the priority date of July 27, 2010.

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

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related district court action.

Below, Petitioner discusses why the challenged claims are unpatentable, including by specifying how and where the prior art satisfies each limitation of each challenged claim, as required by 37 C.F.R. § 42.104(b)(4).<sup>2</sup> Petitioner's showing establishes a reasonable likelihood that it will prevail on each ground of invalidity as to each challenged claim.

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

Each limitation of claims 1-17 is met by Laut in view of Kincaid and Bongiovi for the reasons set forth below. (EX1003, ¶30.)

**A. Summary of Laut**

Laut is the publication 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). Laut was not considered during the prosecution of the '925 patent.

Laut relates to “multi-way” networked jukebox systems. (EX1011, [0028]; EX1003, ¶32.) Unlike conventional “one-way” jukeboxes, the jukeboxes of Laut

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<sup>2</sup> Petitioner also shows how each claim preamble is satisfied, but does not concede that any preamble is limiting for any ground in the Petition.

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]; EX1003, ¶32.) 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]; EX1003, ¶32.)

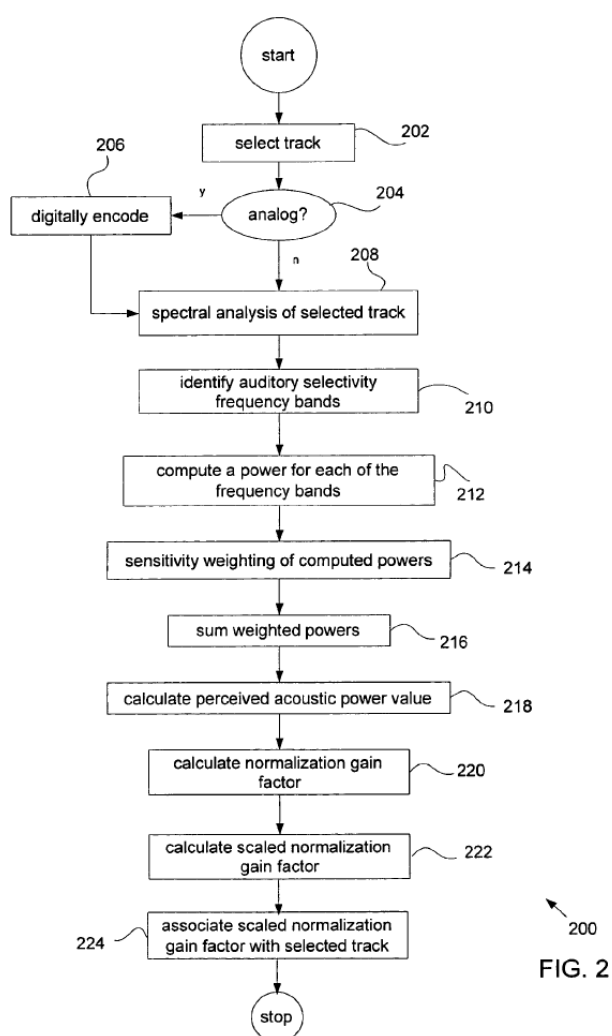
Laut is analogous art to the ’925 patent at least because Laut is directed to the same problem (improving Internet-enabled jukeboxes) in the same field of endeavor (digital audio distribution and playback) as the ’925 patent. (EX1003, ¶33.)

## **B. Summary of Kincaid**

Kincaid is a U.S. Patent 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). Kincaid was not considered during the prosecution of the ’925 patent.

Kincaid relates to automatically normalizing the volume of digital audio tracks in a library, 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; EX1003, ¶35.) A perceived acoustic power value can be calculated for an audio track. (EX1012, 1:60-2:5, 3:60-62; EX1003, ¶35.) A normalization gain factor is determined based on the power value, which then is associated with the track as metadata (*e.g.*, an id tag), and stored in a database. (EX1012, 4:6-9, 7:53-55; EX1003, ¶35.) Fig. 2 illustrates:



(EX1012, 6:59-7:51, Fig. 2; EX1003, ¶35.)

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; EX1003, ¶36.) Fig. 3 illustrates:

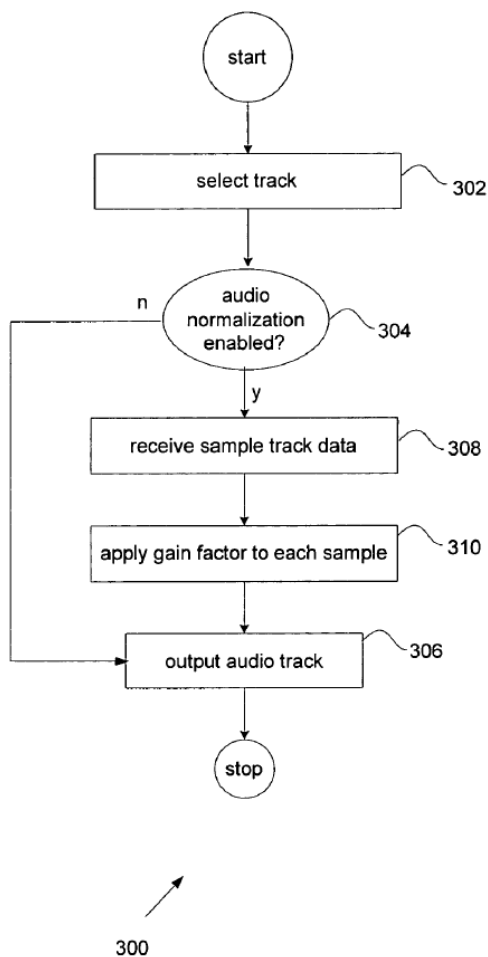


FIG. 3

(EX1012, 7:53-8:5, Fig. 3; EX1003, ¶36.)

Kincaid is analogous art to the '925 patent at least because Kincaid relates to

computer-enabled hardware and software audio devices for music playback, analogous to the jukebox of the '925 patent, and analogously describes improving playback of digital audio on such devices, *e.g.*, by achieving consistent volume across audio tracks. (EX1001, 7:56-60; EX1003, ¶37.)

### **C. Summary of Bongiovi**

Bongiovi is the publication 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). Bongiovi was not considered during the prosecution of the '925 patent.

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]; EX1003, ¶39.) 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]; EX1003, ¶39.) 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:

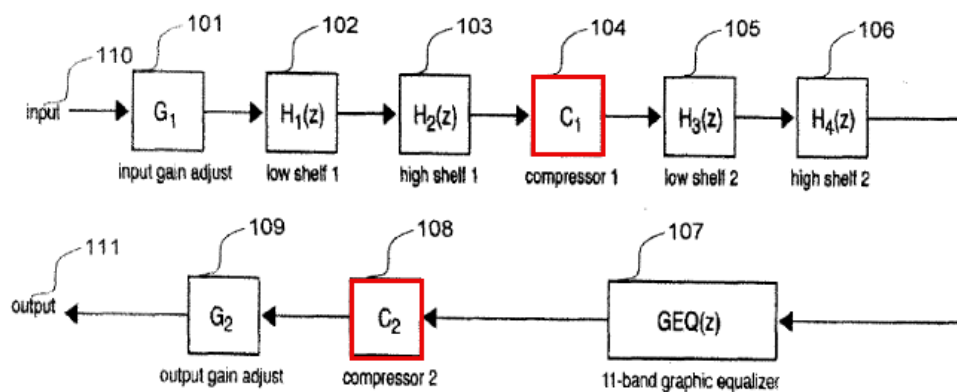


FIG. 1

(EX1013, [0051]-[0054], Fig. 1 (annotated); EX1003, ¶39.)

Bongiovi is analogous art to the '925 patent at least because Bongiovi relates to computer-enabled audio devices, including in high-noise public environments, analogous to the jukebox of the '925 patent; and analogously 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]; EX1003, ¶40.)

## D. Claim 1

### 1. [Preamble]<sup>3</sup>

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]; EX1003, ¶41.) 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]; EX1003, ¶41; *see* EX1001, 4:5-6.) Artists have access to jukeboxes hosted at public venues such as bars and restaurants; and the artist can “select any/all jukebox systems at different venues to play the content.” (EX1011, [0029], [0073]; EX1003, ¶41.) 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]; EX1003, ¶41.)

### 2. [A]

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:

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<sup>3</sup> See the claims appendix for a full recitation of each claim.

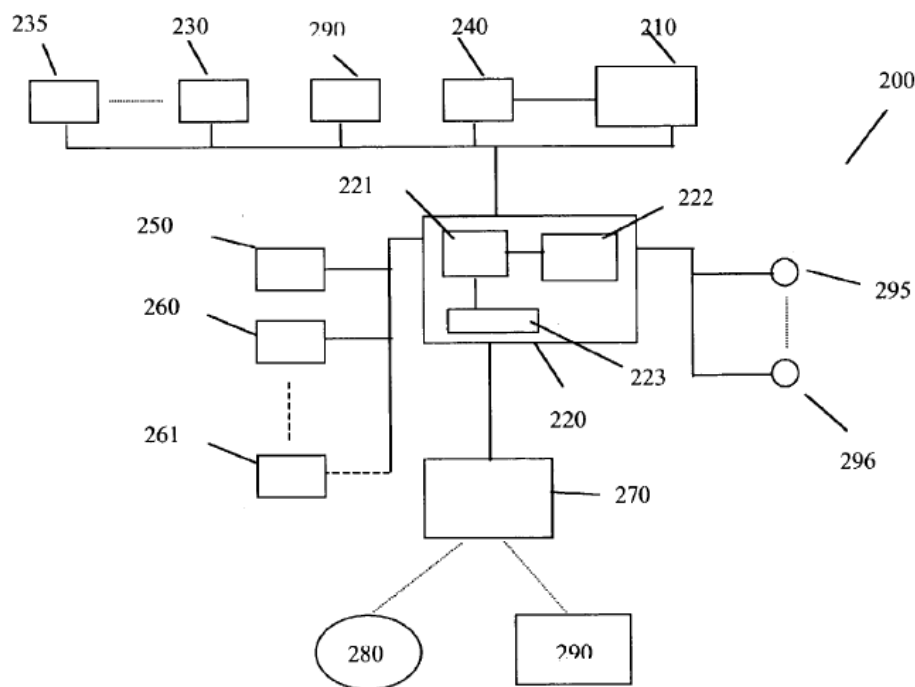
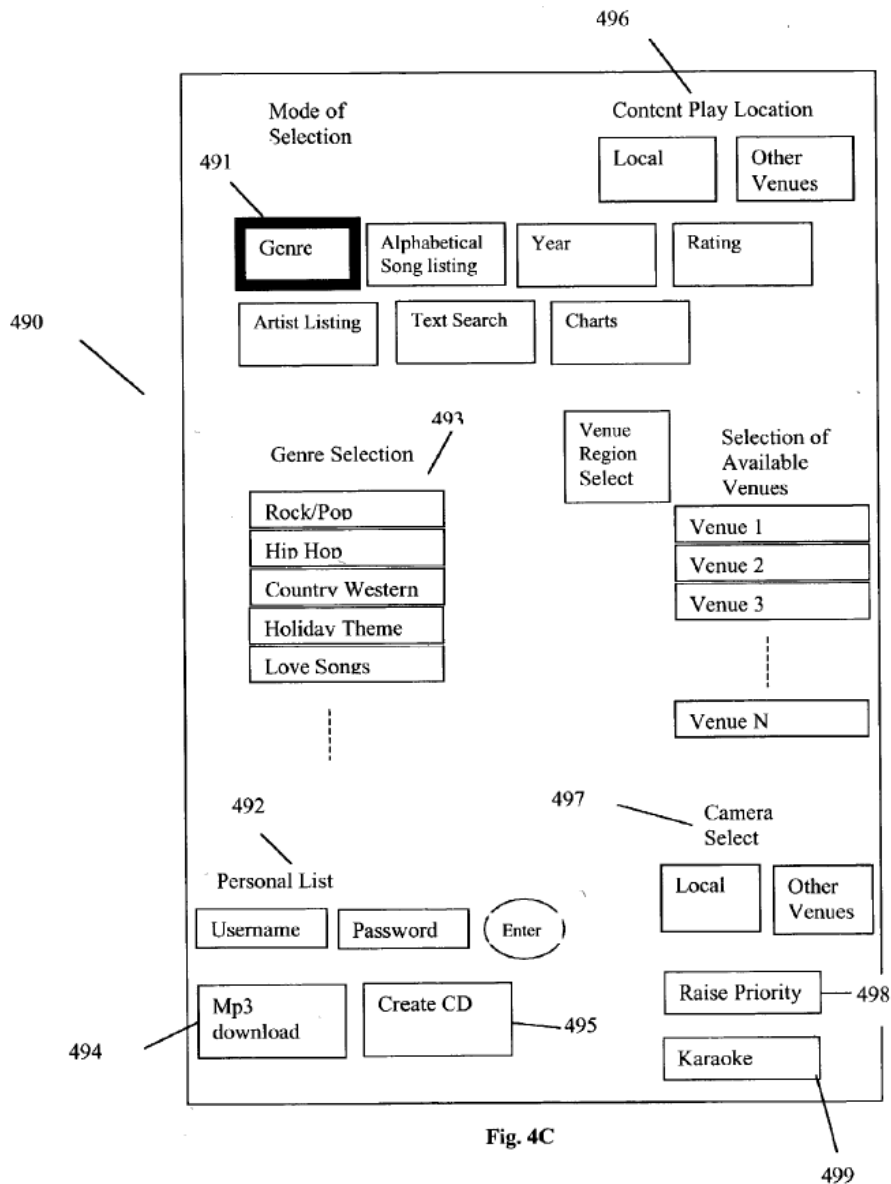


Fig. 2A

(EX1011, [0029]-[0032], Fig. 2A; EX1003, ¶42.)

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]; EX1003, ¶43.) Fig. 4C illustrates:



(EX1011, [0048]-[0049], Fig. 4C; EX1003, ¶43.)

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]; EX1003, ¶44.) Similarly, Laut illustrates

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

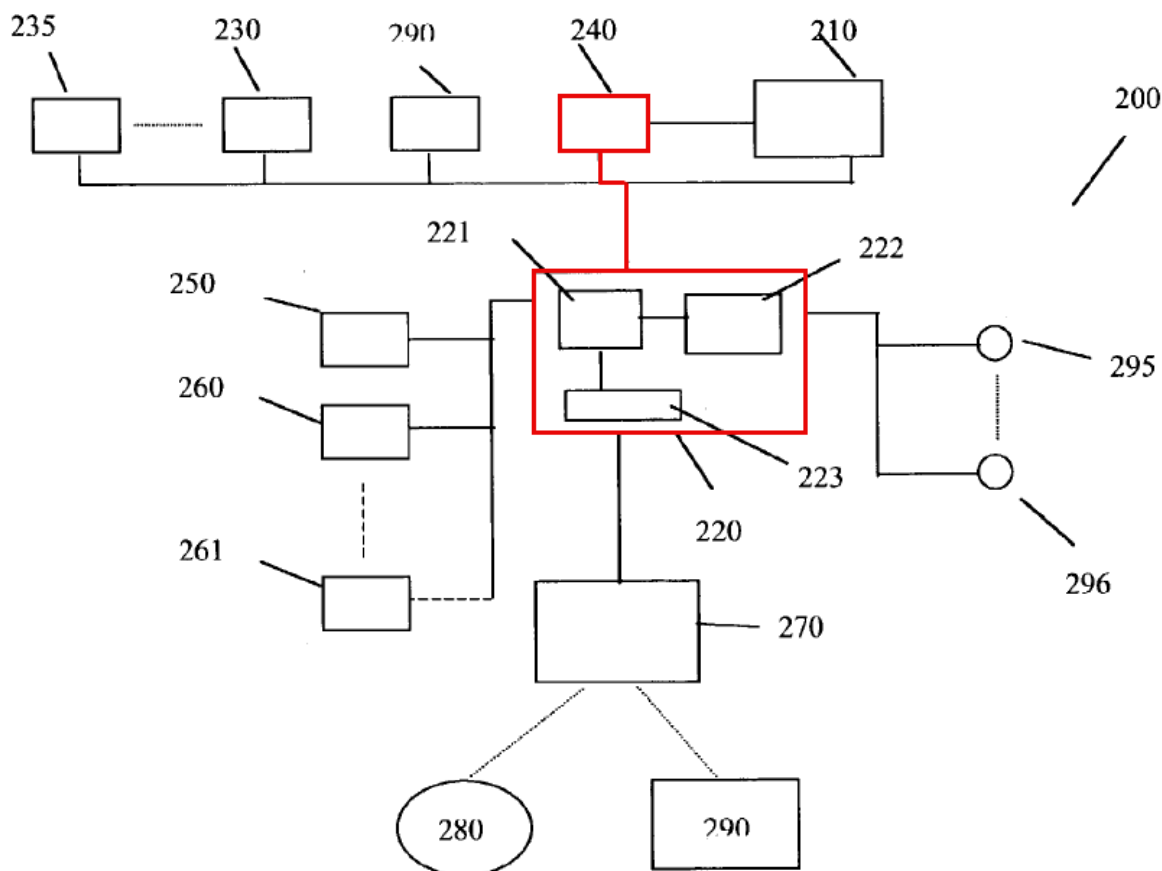


Fig. 2A

(EX1011, [0029]-[0032], Fig. 2A (annotated); EX1003, ¶44.)

### 3. [B]

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]-

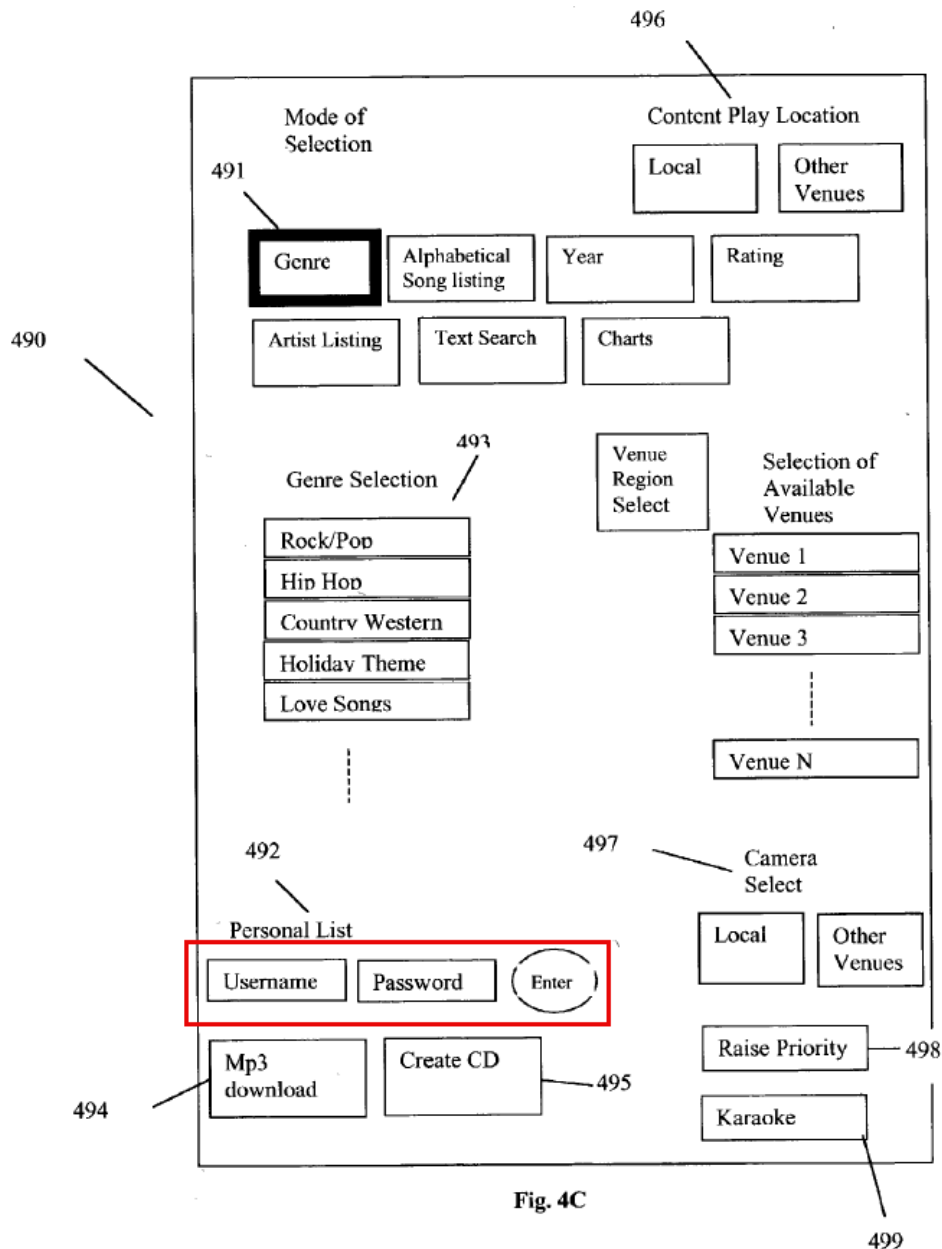
[0046], [0060]; EX1003, ¶45.) The user can access user interface 240 to access his or her account using the identification and password. (EX1011, [0042]-[0046]; EX1003, ¶45.) It would have been obvious to the POSITA for the user interface 240 to add the user to the system, because the user's account must be added before it can be used; and because 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. (EX1003, ¶45.) User interface 240 is provided by the processor as described for element [A]. (EX1003, ¶45.)

**4. [C]**

*See* element [B]. (EX1003, ¶46.)

**5. [D]**

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], [0073], [0089], Fig. 4C (annotated);

EX1003, ¶47.)

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

(EX1003, ¶48.)

**6. [E]**

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]; EX1003, ¶49.) The POSITA would have found it obvious that this would include content not previously stored in the system. (EX1003, ¶49.) 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.” (EX1011, [0073]; EX1003, ¶49.)

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]; EX1003, ¶50.) User interface 240 is coupled to controller 220 and network interface 230, which are the jukebox components that “allow upload/download information to be transmitted/received to/from jukebox system 200.” (EX1011, [0034]; EX1003, ¶50.) 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]; EX1003, ¶50.) User interface 240 is provided by the processor as described for element [A]. (EX1003, ¶50.)

## 7. [F]

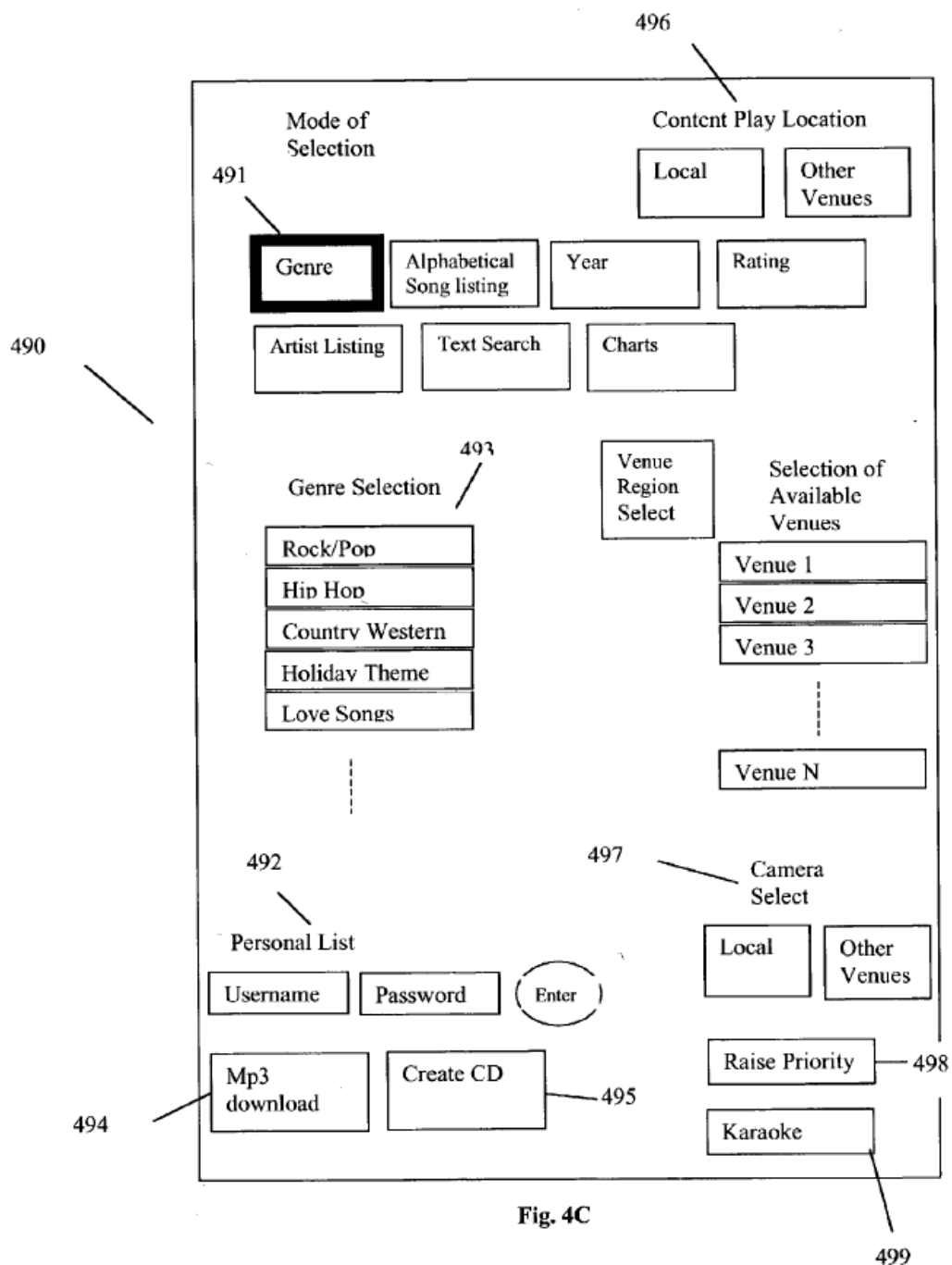
The new media is received by the processor in Laut: the processor provides the user interface 240 via which the new media is added, as described above, and further “includes processes for ... receiving content” such as the new media. (EX1011, [0030]; EX1003, ¶51.)

## 8. [G]

Once a song is uploaded in Laut, it is rated according to a “standard audio/video rating system.” (EX1011, [0048], [0073], [0094]; EX1003, ¶52.) The POSITA would understand a rating of a song to be a metadata element for that song. (EX1003, ¶52.) 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; EX1003, ¶52.) 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]; EX1003, ¶52.)

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:



(EX1011, [0048]-[0052], Fig. 4C; EX1003, ¶[53].)

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. (EX1003, ¶54.)

**9. [H]**

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]; EX1003, ¶55.) The jukeboxes utilize installed client software (*e.g.*, user interface 240, menu 700 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]:

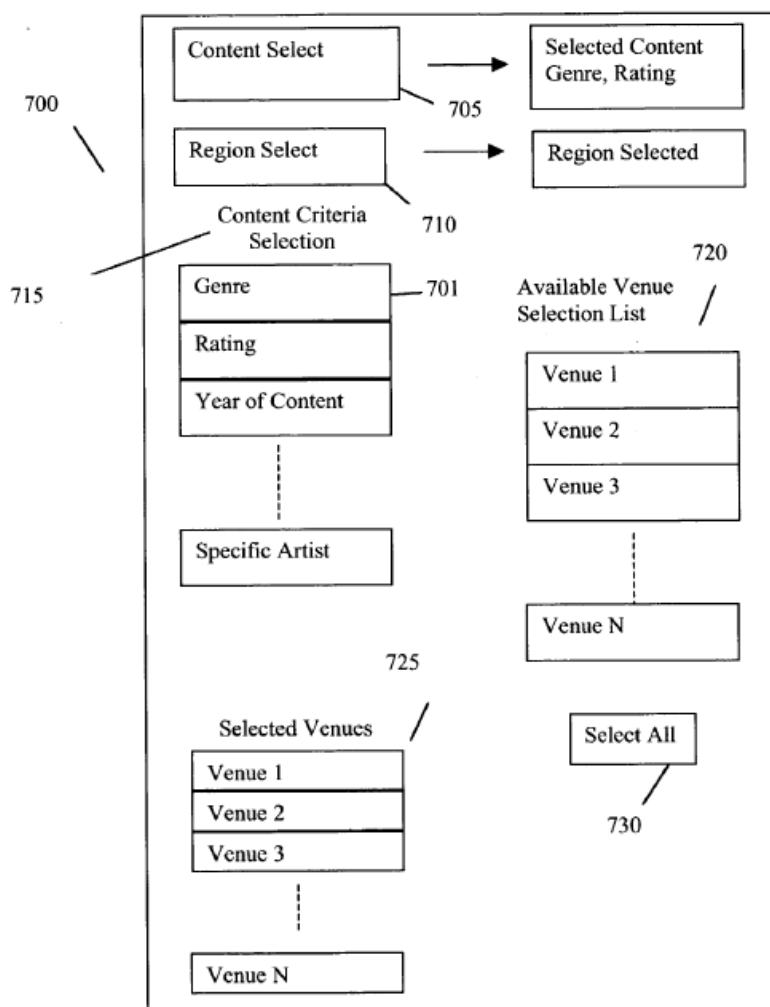


Fig. 7

(EX1011, [0048]-[0052], [0056], [0060]-[0062], Fig. 7; EX1003, ¶55.)

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:

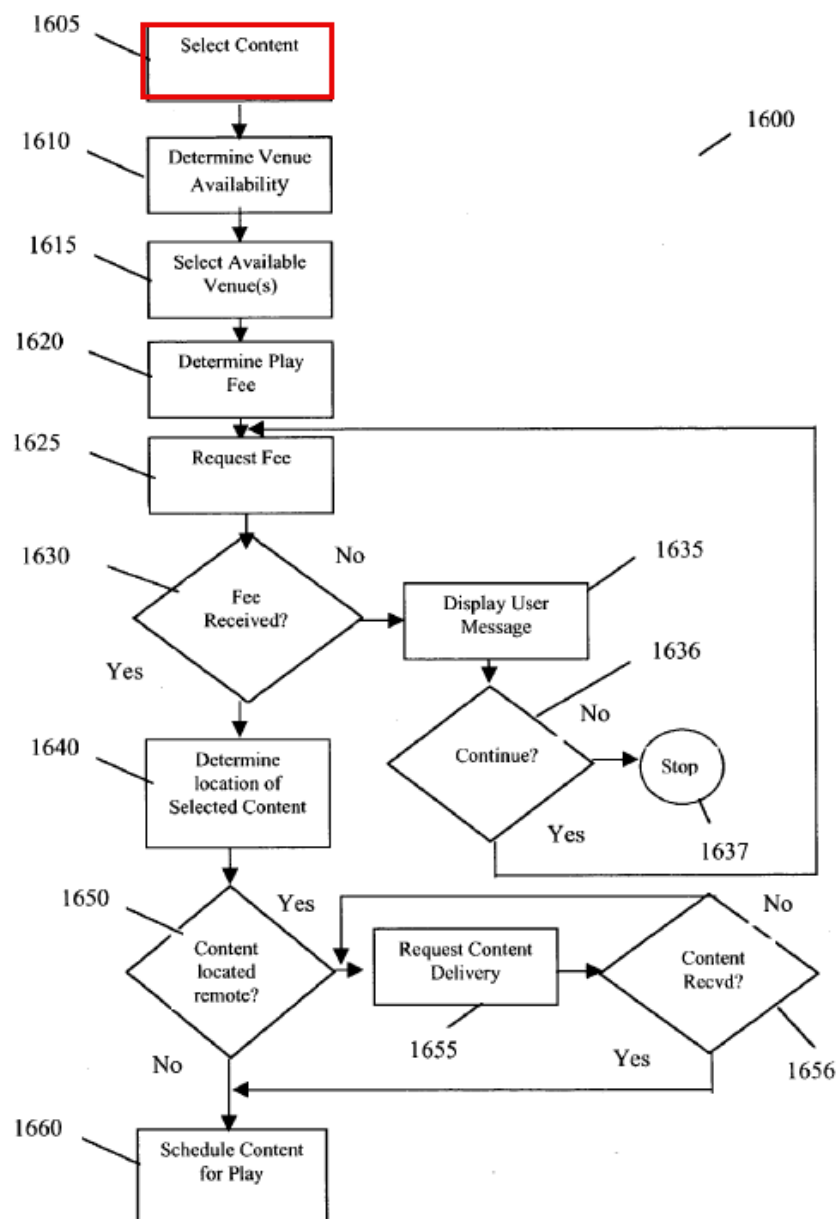


Fig. 16

(EX1011, [0096]-[0100], Fig. 16 (annotated); EX1003, ¶56.)

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:

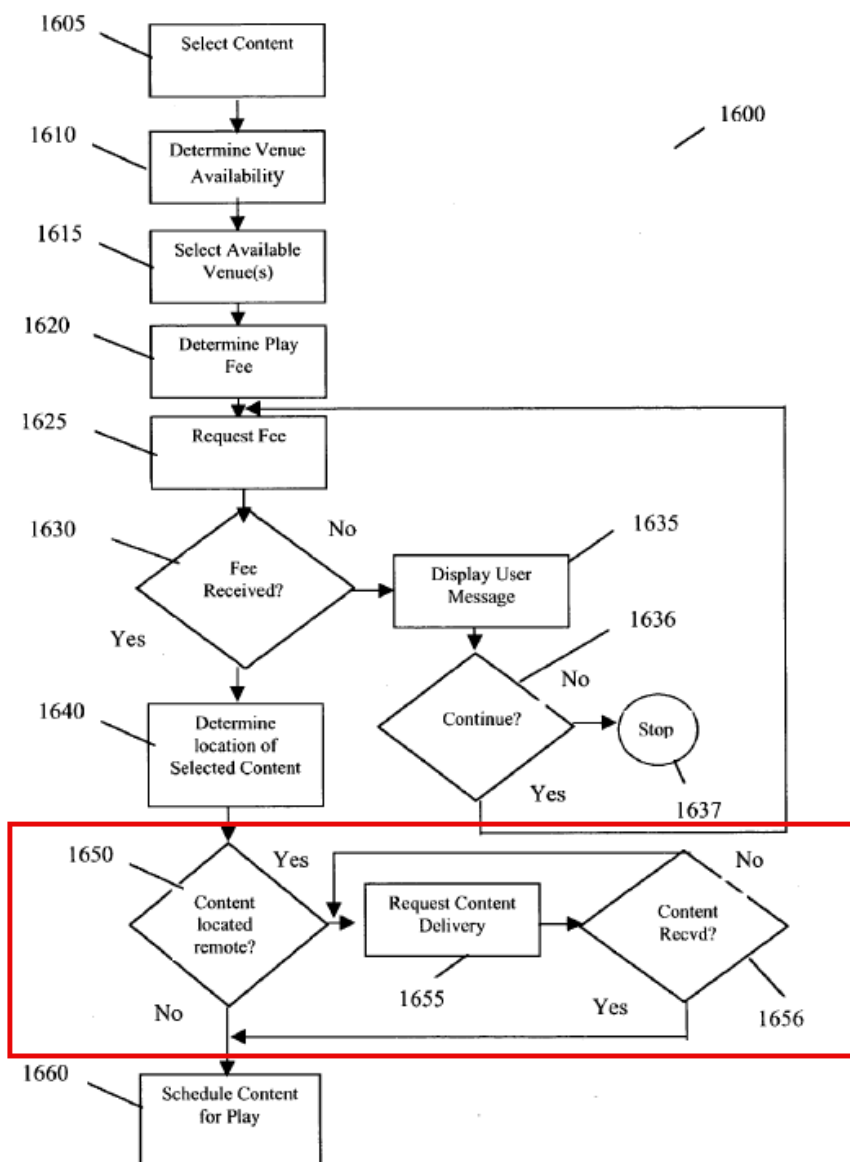


Fig. 16

(EX1011, [0034], [0086]-[0087], [0096]-[0100], Figs. 14, 16 (annotated);  
EX1003, ¶57.)

The POSITA would thus understand that the uploaded new media is stored

in a content server. (EX1003, ¶58.) The POSITA would further understand the content server to include a central storage device. (EX1003, ¶58.) 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]; EX1003, ¶58.)

It would have been obvious to the POSITA for the jukebox to gain access to the database via an API call over the Internet. (EX1003, ¶59.) As the Examiner recognized, the claimed API call is generic and “equivalent to making a general request for a media/song list.” (EX1002, 412 (April 29, 2015 Interview Summary); EX1003, ¶59.) Analogously, as described above, Laut discloses that the jukebox communicates with the database by using user interface 240 actions to request and retrieve a song. (EX1003, ¶59.) 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. (EX1003, ¶59.)

## **10. [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,” and used to normalize volume across tracks. (EX1012, 4:13-15; EX1003, ¶60.) The POSITA would 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; EX1003, ¶60.) Kincaid’s automatic volume normalization is advantageous, because adjusting the volumes manually would be disruptive to the user’s listening experience. (EX1012, 1:25-47; EX1003, ¶60.)

In Kincaid, 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); EX1003, ¶61.) Kincaid computes 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; EX1003, ¶61.)

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  $P_{\text{power}}$ ):

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

(EX1012, 4:67-5:32, eq.(3); EX1003, ¶62 .)

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  $G_{n,\text{scaled}}$ . (EX1012, 5:27-32; EX1003, ¶63.) Kincaid discloses that  $G_n$  can be scaled such that  $G_{n,\text{scaled}}$  is equal to 1 for the average audio track. (EX1012, 5:27-32; EX1003, ¶63.) The POSITA would understand that if  $G_{n,\text{scaled}}$  is equal to 1 for the average audio track, then  $G_{n,\text{scaled}}$  is less than 1 for certain audio tracks, thus meeting the claim limitation. (EX1003, ¶63.) Further, the POSITA would understand  $G_{n,\text{scaled}}$  to be a positive RMS value, at least because  $G_{n,\text{scaled}}$  is computed as a square root of a positive number (*i.e.*,  $(1/P_{\text{power}})$ ), 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); EX1003, ¶63.) The POSITA would understand this series of operations to result in a positive RMS value. (EX1003, ¶63.)

In Kincaid, CPU 410 performs the above analysis. (EX1012, 8:6-51, Fig. 4; EX1003, ¶64.) The corresponding component in Laut, *i.e.*, CPU 221 of controller 220, would implement the analysis of Kincaid’s CPU 410. (EX1003, ¶64.)

**a. Motivation to Combine**

The POSITA would have been motivated to combine Laut and Kincaid to meet the claim limitation. (EX1003, ¶65.) Laut’s 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; EX1003, ¶65.) 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. (EX1003, ¶65.) Laut’s jukebox would thus face a problem identified in Kincaid: 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; EX1003, ¶65.) Further, manually adjusting the volume could be impractical or impossible, *e.g.*, if the jukebox does not include accessible volume controls. (EX1003, ¶65.) The POSITA would seek 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. (EX1003, ¶65.) 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]; EX1003, ¶65.)

The POSITA would have had a reasonable expectation of success in combining Laut and Kincaid. (EX1003, ¶66.) 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; EX1003, ¶66.) 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]; EX1003, ¶66.) 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; EX1003, ¶66.) Laut and Kincaid are thus easily combined based on familiar components. (EX1003, ¶66.) 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; EX1003, ¶66.)

## 11. [J]

Kincaid's 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; EX1003, ¶67.) 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; EX1003, ¶67.) The tagged audio file can be stored in a music library and made available for playback. (EX1012, 7:53-56; EX1003, ¶67.) The audio file with its metadata is stored by the processor such as described for element [G]. (EX1003, ¶67.)

## 12. [K]

*See* element [H]. (EX1003, ¶68.) 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; EX1003, ¶68.) 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; EX1003, ¶68.)

Additionally, in Kincaid, 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; EX1003, ¶¶69.)

**13. [L]**

*See* elements [H] and [K]. (EX1003, ¶¶70.) In Fig. 16, content is selected for playback at 1605 based on displayed metadata, and delivery of the content is requested at 1655:

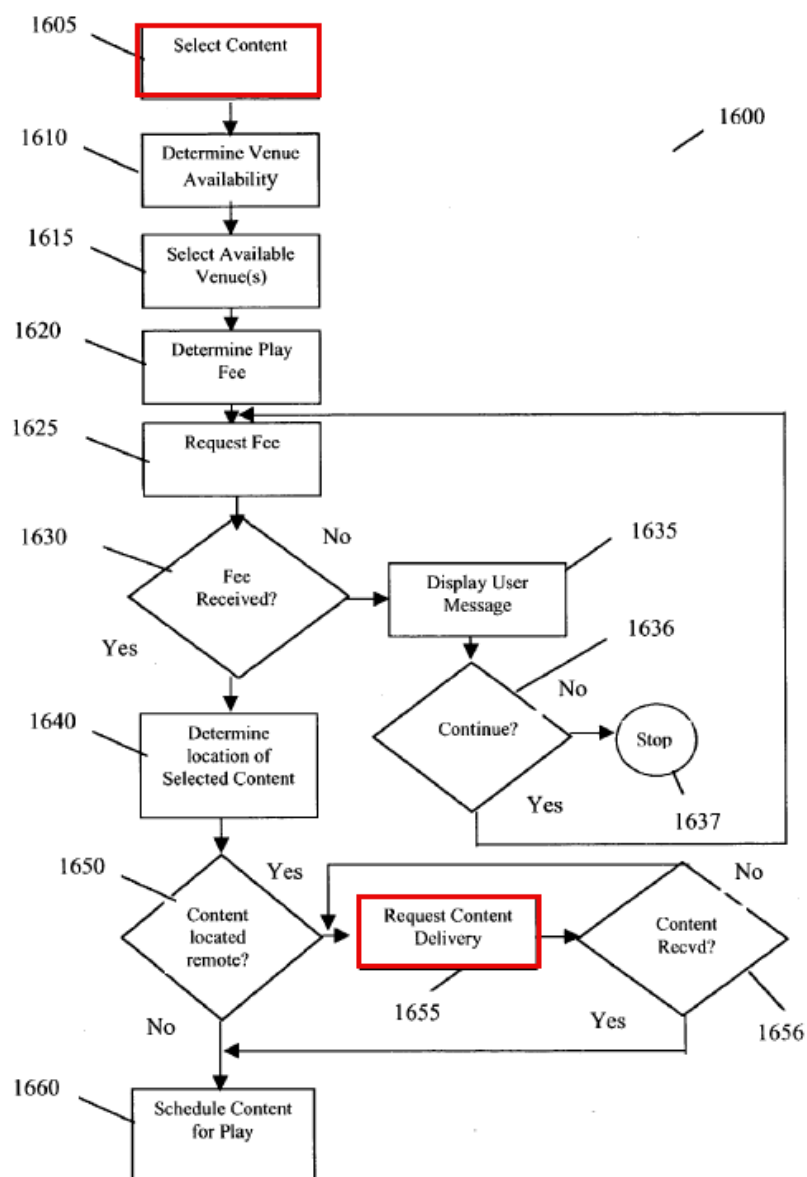


Fig. 16

(EX1011, [0096]-[0100], Fig. 16 (annotated); EX1003, ¶70.)

The request is received by the processor via user interface 240, as described for element [H]. (EX1003, ¶71.)

# 14. [M]

See element [H]. (EX1003, ¶72.) In Fig. 16, requested content is scheduled for playback via the jukebox at stage 1660:

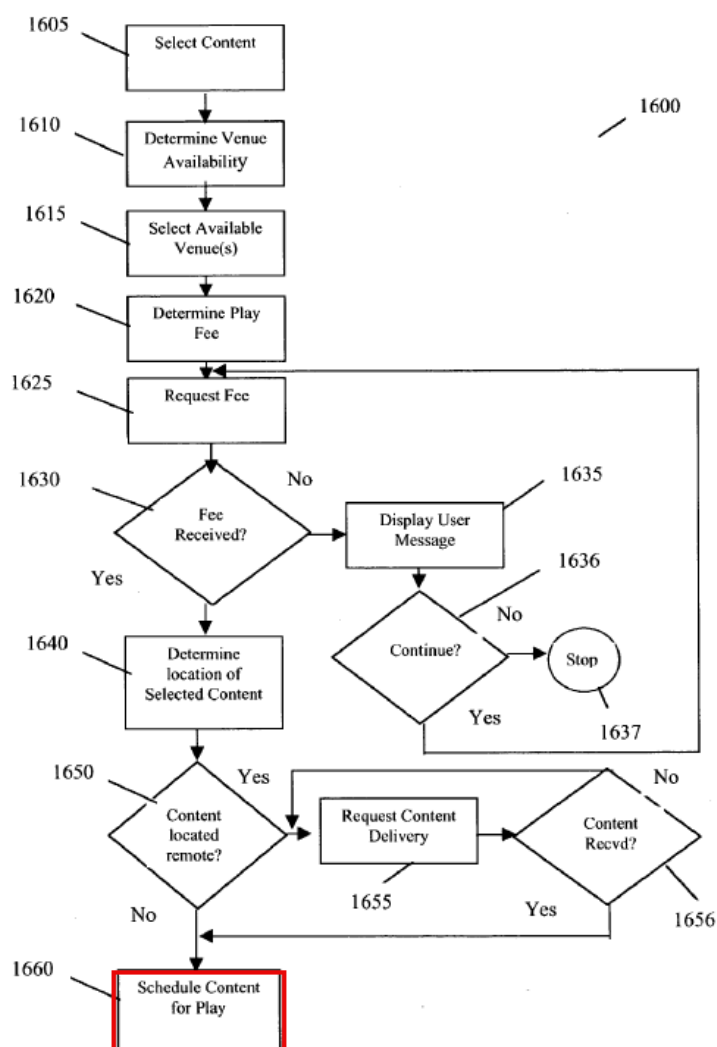


Fig. 16

(EX1011, [0096]-[0100], Fig. 16 (annotated); EX1003, ¶72.)

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]; EX1003, ¶73.) Content received by the jukebox can be received as a stream; and is preferably provided in streaming formats including RA (Real Audio Streamed) and ASF (Windows Media File-Advanced Streaming Format). (EX1011, [0031], [0078], [0087]; EX1003, ¶73.) 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]; EX1003, ¶73.)

## 15. [N]

Laut discloses keeping track of which songs are downloaded “in order for the artists to be paid the royalties due to them.” (EX1011, [0080]; EX1003, ¶74.) Laut further discloses payment of artist royalties by “*automatic* money transfer to different accounts,” which the POSITA would understand to include automatic calculation of amounts earned by the artist. (EX1011, [0080] (emphasis added); EX1003, ¶74.) 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]; EX1003, ¶74.) The POSITA would understand that if managers can view fees paid or owed to publishers, then the processor must have calculated those amounts. (EX1003, ¶74.)

Laut's jukebox system automatically calculates various fees for playing media content. (EX1003, ¶75.) 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]; EX1003, ¶75.) Additional fees are calculated based on the number of plays, and how the content is to be delivered. (EX1011, [0063]; EX1003, ¶75.) The POSITA would understand these various fees to include amounts earned by the venue hosting the jukebox and playing the media. (EX1003, ¶75.) And in Laut's user interface, 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; EX1003, ¶75.) Fig. 8 illustrates:

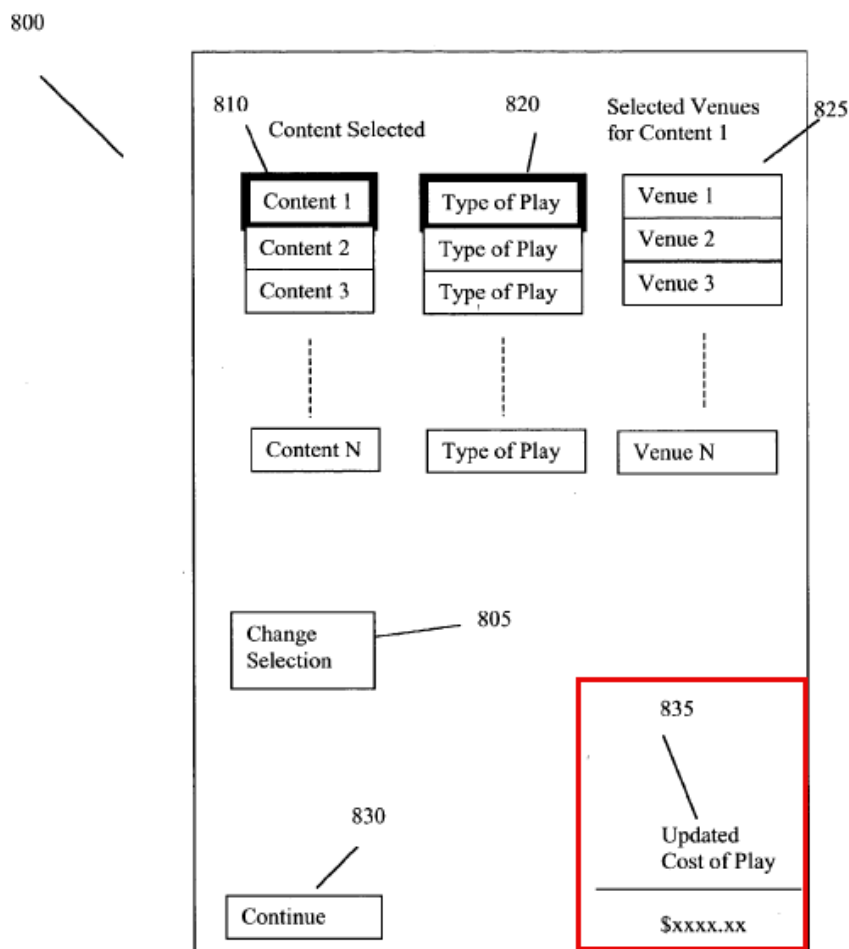


Fig. 8

(EX1011, [0065], Fig. 8 (annotated); EX1003, ¶75.)

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]; EX1003, ¶76.)

## 16. [O]

Laut discloses the jukebox receiving and verifying payment, *e.g.*, via credit

card, or as money placed in a money receiver. (EX1011, [0030], [0032]; EX1003, ¶¶77.) The playback process 1600 includes “determin[ing] whether the correct fee is deposited/verified”:

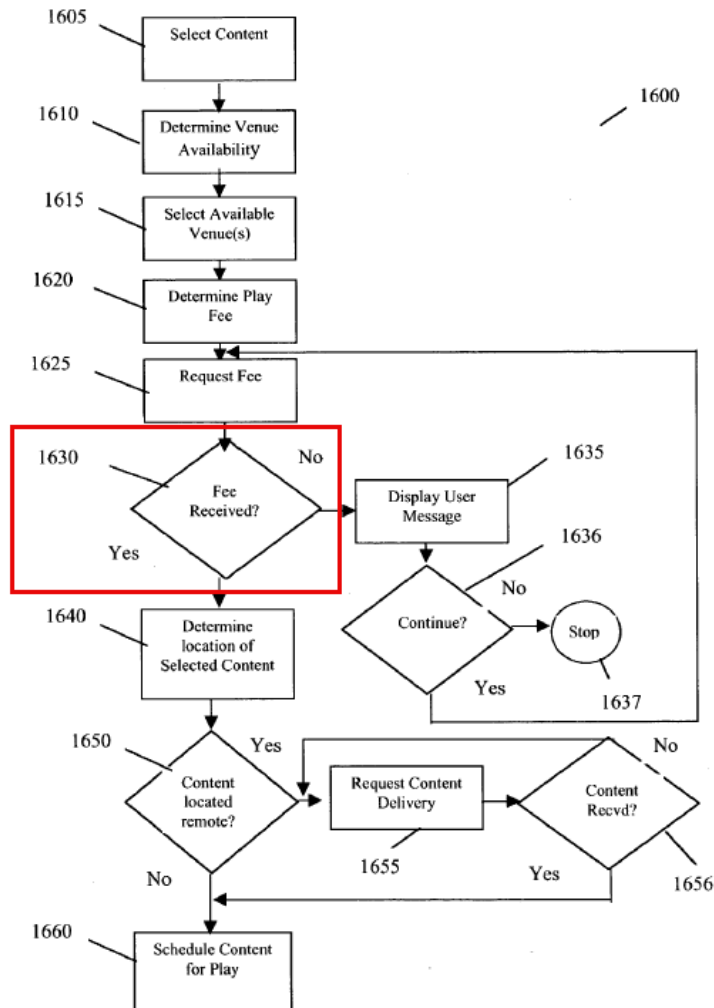


Fig. 16

(EX1011, [0098], Fig. 16; EX1003, ¶¶77.)

Laut’s 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]; EX1003, ¶78.) 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]; EX1003, ¶78.)

#### **17. [P]**

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; EX1003, ¶79.) 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; EX1003, ¶79.)

#### **18. [Q]**

Bongiovi discloses using a processor to apply dynamic range compression to audio signals. (EX1013, [0011], [0014]-[0020]; EX1003, ¶80.) As shown in Fig. 1 below, a processor receives an audio signal 110 as input, and compresses the audio signal (104, 108) to produce output audio signal 111:

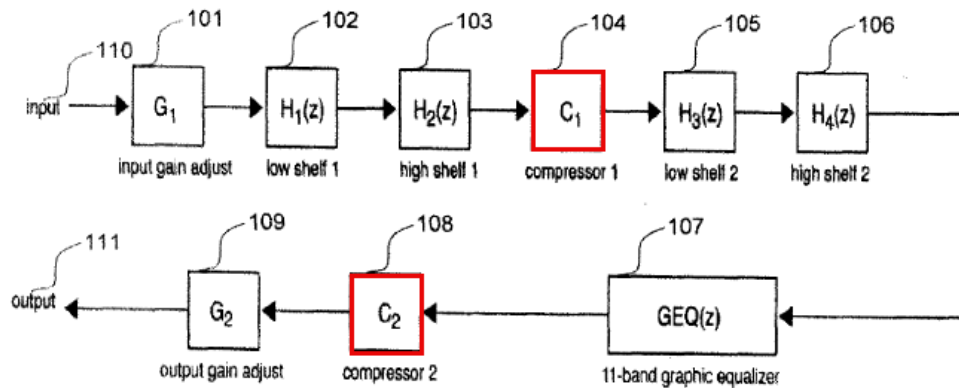


FIG. 1

(EX1013, [0052], [0131]-[0138], Fig. 1 (annotated); EX1003, ¶80.)

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]; EX1003, ¶81.) The compression is “characterized” by “the threshold,  $K_T$ , and the ratio,  $r$ .” (EX1013, [0080]; EX1003, ¶81.) 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]; EX1003, ¶81.) Fig. 10 illustrates this operation of compressors 104 and 108:

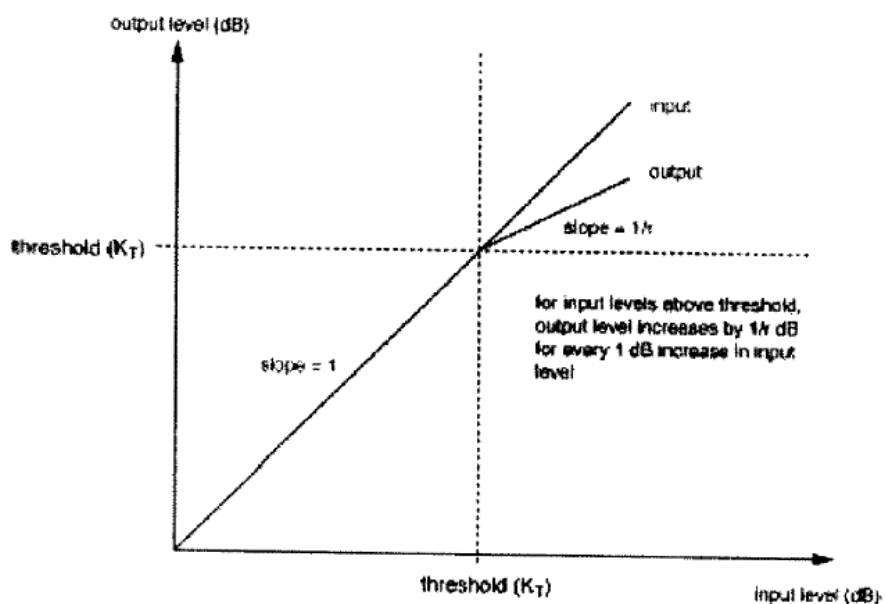


Figure 10: Compressor Static Transfer Characteristic

FIG. 10

(EX1013, [0035], Fig. 10; EX1003, ¶81.)

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  $r$ . (EX1003, ¶82.) 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. (EX1003, ¶82.)

#### a. Motivation to Combine

The POSITA would have been motivated to combine Bongiovi with Laut

and Kincaid. (EX1003, ¶83.) 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]; EX1003, ¶83.) This problem is addressed by Bongiovi: dynamic range compression reduces the difference in amplitude between the loudest and quietest elements of the signal. (EX1013, [0014]-[0020]; EX1003, ¶83.) 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; EX1003, ¶82.) This produces a “constant output level of rich, full sound” even in high-noise environments such as clubs and theatres. (EX1013, [0014]-[0020]; EX1003, ¶83.) For example, 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 otherwise make it difficult to hear quieter portions of uncompressed audio tracks. (EX1013, [0017]; EX1003, ¶83.)

Additionally, Kincaid expressly suggests combining its loudness adjustment with “peak limiting,” such as the peak level reduction in Bongiovi’s dynamic range compression, in order to “guard against over amplification” and thus further

improve audio quality. (EX1012, 4:15-19; EX1003, ¶84.) 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). (EX1003, ¶84.) 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—analogous to Laut’s jukeboxes—to obtain more appropriate sound quality for high-noise jukebox environments. (EX1013, [0011], [0015]-[0020]; EX1003, ¶84.)

The POSITA would have had a reasonable expectation of success in making the combination. (EX1003, ¶85.) Bongiovi’s audio processing is implemented 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; EX1003, ¶85.) Audio data is 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; EX1003, ¶85.) Moreover, Bongiovi is broadly applicable to the “entire spectrum of audio devices,” which the POSITA would

understand to include Internet jukeboxes. (EX1013, [0011], [0020], [0143]; EX1003, ¶85.) And Bongiovi provides detailed implementation guidance—including source code examples with detailed explanations—for programming a processor, such as in controller 220 of Laut’s jukebox, to implement its compression techniques. (EX1013, [0131]-[0143]; EX1003, ¶85.)

**E. Claim 2**

**1. [Preamble]**

*See* claim 1. (EX1003, ¶86.)

**2. [A]**

Laut’s jukebox media includes “audio, video/graphics, text.” (EX1011, [0002]; EX1003, ¶87.)

**F. Claim 3**

**1. [Preamble]**

*See* claim 1, Preamble. (*See also* EX1011, [0108]; EX1003, ¶88.)

**2. [A]**

*See* claim 1, element [A]. (EX1003, ¶89.)

**3. [B]**

*See* claim 1, element [B]. (EX1003, ¶90.)

**4. [C]**

*See* claim 1, element [C]. (EX1003, ¶91.)

**5. [D]**

*See* claim 1, element [D]. (EX1003, ¶92.)

**6. [E]**

*See* claim 1, element [E]. (EX1003, ¶93.)

**7. [F]**

*See* claim 1, element [F]. (EX1003, ¶94.)

**8. [G]**

*See* claim 1, element [G]. (EX1003, ¶95.)

**9. [H]**

*See* claim 1, element [H]. (EX1003, ¶96.)

**10. [I]**

*See* claim 1, element [I]. (EX1003, ¶97.)

**11. [J]**

*See* claim 1, element [J]. (EX1003, ¶98.)

**12. [K]**

*See* claim 1, element [K]. (EX1003, ¶99.)

**13. [L]**

*See* claim 1, element [L]. (EX1003, ¶100.)

**14. [M]**

*See* claim 1, element [M]. (EX1003, ¶101.)

**15. [N]**

*See* claim 1, element [N]. (EX1003, ¶102.)

**16. [O]**

*See* claim 1, element [O]. (EX1003, ¶103.)

**17. [P]**

*See* claim 1, element [P]. (EX1003, ¶104.)

**18. [Q]**

*See* claim 1, element [Q]. (EX1003, ¶105.)

**G. Claim 4****1. [Preamble]**

*See* claim 1. (EX1003, ¶106.)

**2. [A]**

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]. (EX1003, ¶107.)

It would have been obvious to the POSITA to perform these operations by invoking a data access object. (EX1003, ¶108.) The POSITA would have understood object-oriented design and programming principles, and recognized a data access object as a common example of an object-oriented structure, *i.e.*, one that abstracts and encapsulates access to a data source, such as a database.

(EX1008, 463; EX1003, ¶108.) A data access object can manage a connection with the database to store and retrieve data. (EX1008, 463; EX1003, ¶108.) 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; EX1003, ¶108.) 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; EX1003, ¶108.) These advantages are particularly significant for Laut's network of jukebox systems, on diverse and evolving hardware, which require access to a common database subject to ongoing updates. (EX1003, ¶108.) Data access objects would advantageously simplify the interface between these jukebox systems and the database, and reduce the cost and complexity of maintenance. (EX1003, ¶108.)

## **H. Claim 5**

### **1. [Preamble]**

*See* claim 4. (EX1003, ¶109.)

## 2. [A]

Laut's processor retrieves and transmits the metadata as described for claim 1, elements [G] and [K]. (EX1003, ¶110.) 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; EX1003, ¶110.) Laut similarly discloses a web interface for entering and retrieving metadata selections on a remote server. (EX1011, [0043]; EX1003, ¶110.)

The POSITA would further understand the "REST protocol" to refer to the RESTful<sup>4</sup> architecture, which was a widely accepted best practice for web-based software applications. (EX1014, 13-14, 79-80, 105; EX1003, ¶111.) 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; EX1003, ¶111.)

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<sup>4</sup> REST is an acronym for REpresentational State Transfer.

**I. Claim 6****1. [Preamble]**

*See* claim 1. (EX1003, ¶112.)

**2. [A]**

Laut's menus for song selection can be organized according to "artist name, song/video title, etc.," as well as "recently released albums." (EX1011, [0048], [0096]; EX1003, ¶113.)

**J. Claim 7****1. [Preamble]**

*See* claim 1. (EX1003, ¶114.)

**2. [A]**

Controller 220 of Laut's 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]; EX1003, ¶115.) Controller 220 can schedule the content for playback at a particular time. (EX1011, [0066], [0073]; EX1003, ¶115.) The POSITA would understand this header information to include file size and play time, because controller 220 would require this information in order to perform the synchronized or scheduled playback. (EX1003, ¶115.)

The POSITA would understand the metadata to include file size for a file at least because Laut’s jukebox includes an operating system. (EX1003, ¶116.) 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; EX1003, ¶116.) As the POSITA understood, an operating system would have been practically required for Laut’s jukebox to handle system tasks such as memory management, process scheduling, and input/output handling. (EX1003, ¶116; *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 for such files. (EX1011, [0031]; EX1009, 386-87, 430-38; EX1003, ¶116.)

## **K. Claim 8**

### **1. [Preamble]**

*See* claim 1. (EX1003, ¶117.)

**2. [A]**

*See* claim 1, element [I]. (EX1003, ¶118.) 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 without user intervention. (EX1012, 4:13-15; EX1003, ¶118.)

**L. Claim 9****1. [Preamble]**

*See* claim 8. (EX1003, ¶119.)

**2. [A]**

*See* claim 1, element [J]. (EX1003, ¶120.) For example, in Kincaid, the average volume can be stored as metadata in a tagged audio file in a database, such as for a music library. (EX1012, 7:39-56; EX1003, ¶120.)

**M. Claim 10****1. [Preamble]**

*See* claim 8. (EX1003, ¶121.)

**2. [A]**

*See* claim 1, elements [I] and [P]. (EX1003, ¶122.)

**N. Claim 11****1. [Preamble]**

*See* claim 1. (EX1003, ¶123.)

**2. [A]**

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.).” (EX1011, [0087]; EX1003, ¶124.) The specific information can include “country, state, city, county, limitations (*i.e.*, ratings, genre, etc.), equipment available, street address, etc.” (EX1011, [0087]; EX1003, ¶124.) Further, an “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]; EX1003, ¶124.) And the jukebox controller 220 arranges content for playback based on a “time/date stamp,” which contains the “time/date of scheduled play.” (EX1011, [0091]; EX1003, ¶124.)

Laut’s 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]; EX1003, ¶125.) This information is sent to a database “[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]; EX1003, ¶125.) 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. (EX1003, ¶125.)

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; EX1003, ¶126.)

## **O. Claim 12**

### **1. [Preamble]**

*See* claim 1. (EX1003, ¶127.)

### **2. [A]**

Laut discloses support for MP3 playlists (*e.g.*, in M3U format). (EX1011, [0031]; EX1003, ¶128.) Further, user interface 240 (and thus the processor) can be used 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;

EX1003, ¶128.) For example, Fig. 4B illustrates a user's "Music Choice Lists":

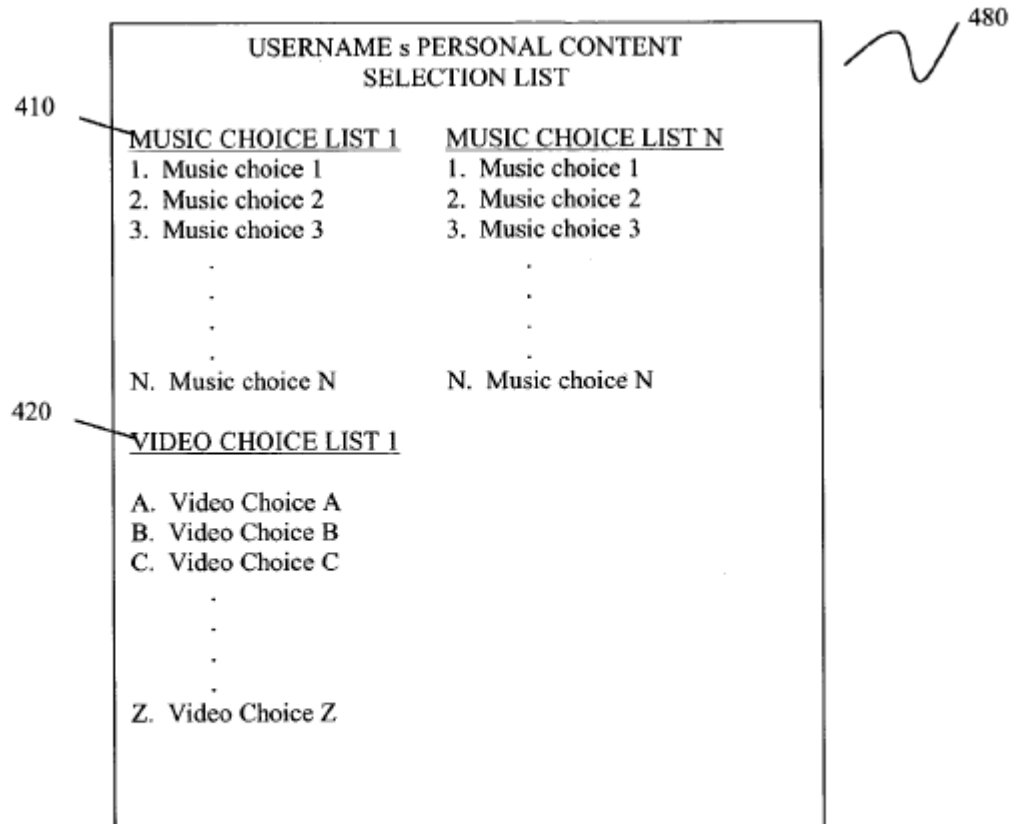


Fig. 4B

(EX1011, Fig. 4B; EX1003, ¶128.)

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

(EX1003, ¶129.)

### 3. [B]

Laut's user interface 240 (and thus the processor) allows editing 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; EX1003, ¶130.)

**P. Claim 13**

**1. [Preamble]**

*See* claim 12. (EX1003, ¶131.)

**2. [A]**

Laut discloses that a user selects certain 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). (EX1003, ¶132.) Similarly, Laut's uploaded content may be made available at some, but not necessarily all, jukeboxes. (EX1011, [0073]; EX1003, ¶132.) Further, the POSITA would understand that Laut's jukebox does not present metadata for all songs; 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:

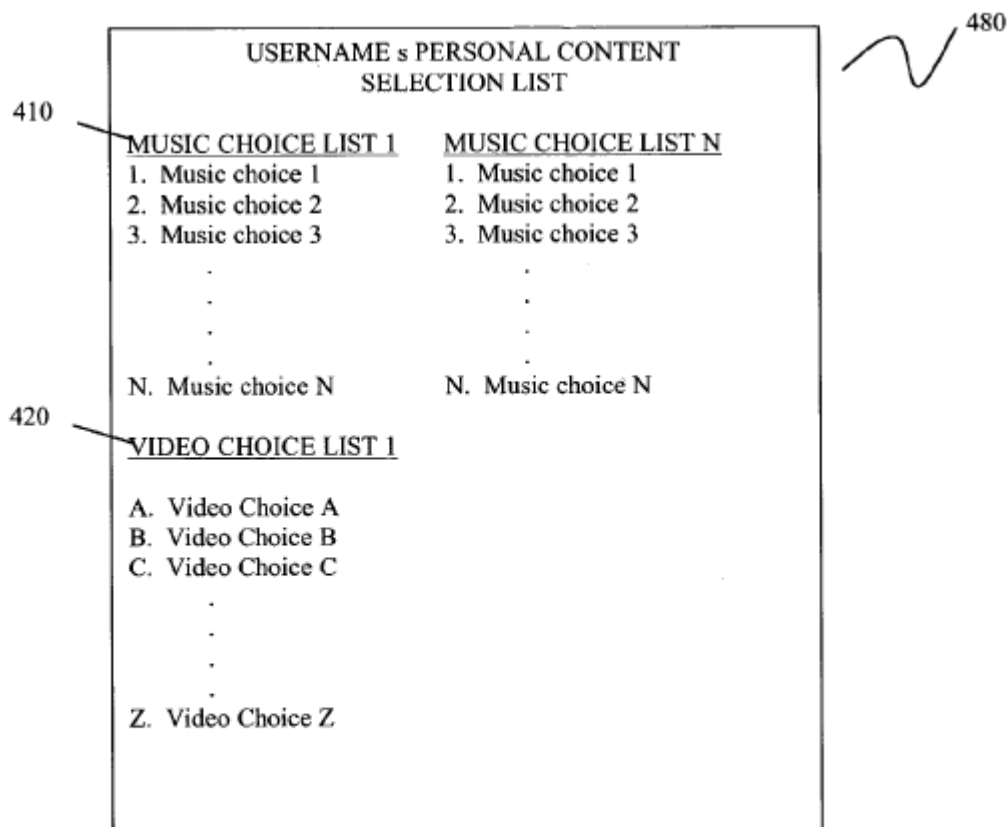


Fig. 4B

(EX1011, Fig. 4B; EX1003, ¶132.)

## Q. Claim 14

### 1. [Preamble]

See claim 1. (EX1003, ¶133.)

### 2. [A]

Laut's 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]; EX1003, ¶134.)

## **R. Claim 15**

### **1. [Preamble]**

*See* claim 1. (EX1003, ¶135.)

### **2. [A]**

Laut’s 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]; EX1003, ¶136.) The jukebox is updated with content from the central storage device (*e.g.*, servers 1470, 1480). (EX1011, [0093]; EX1003, ¶136.)

## **S. Claim 16**

### **1. [Preamble]**

*See* claim 1. (EX1003, ¶138.)

### **2. [A]**

The term “the wide area network” lacks antecedent basis and is not found in the ’925 patent’s specification. (EX1001, 9:66-10:55; EX1003, ¶139.) To the extent the claim is not indefinite, “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]; EX1003, ¶139.)

## **T. Claim 17**

### **1. [Preamble]**

*See* claim 1. (EX1003, ¶140.)

### **2. [A]**

*See* claim 1, elements [I] and [P]. (EX1003, ¶141.) 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; EX1003, ¶141.)

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

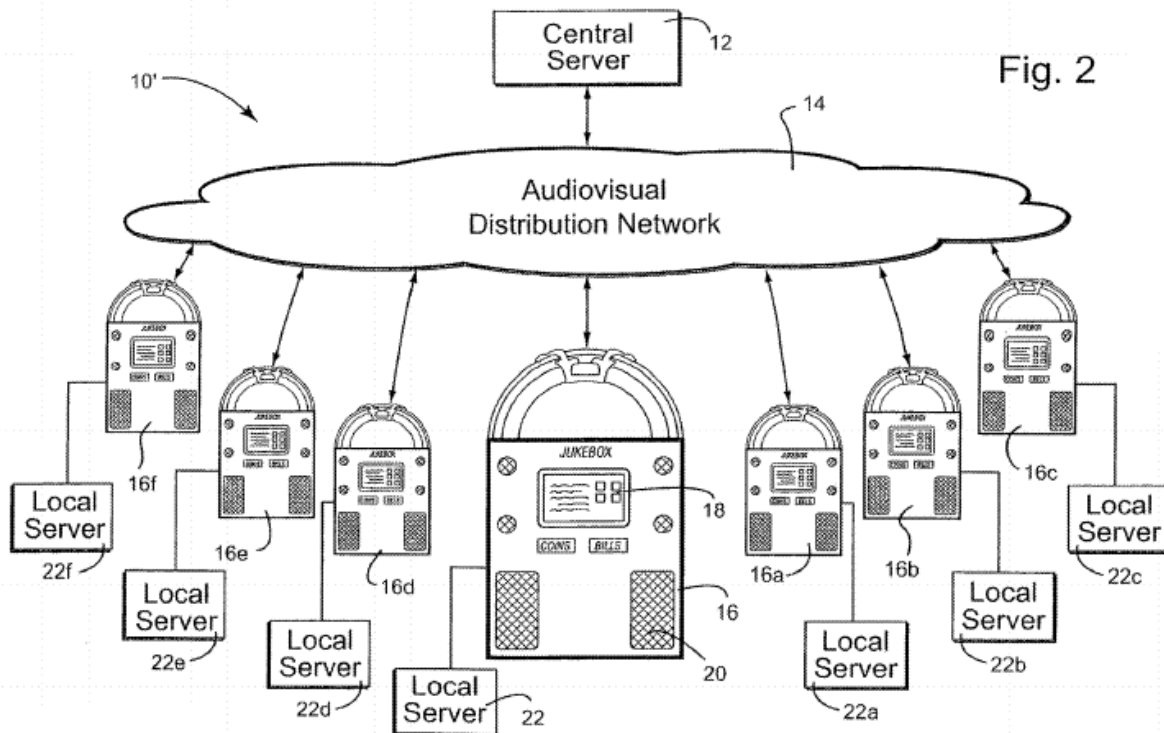
Each limitation of claims 1-17 is met by Dion in view of Nathan-109 for the reasons set forth below. (EX1003, ¶142.)

### **A. Summary of Dion**

Dion is a U.S. Patent 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.

Dion discloses Internet-enabled jukeboxes with digital download and playback capabilities. (EX1005, Abstract, 2:31-42; EX1003, ¶144.) A jukebox can include a controller with a CPU; and can communicate with a central server, and with other jukeboxes, via an audiovisual distribution network such as the Internet. (EX1005, 3:1-4, 9:40-67.) Fig. 2 illustrates:



(EX1005, Fig. 2; EX1003, ¶144.)

A user interface allows users to interact with the jukebox to upload and access music, video, and image content. (EX1005, 2:43-67; EX1003, ¶145.) Fig. 6 shows an example interface:

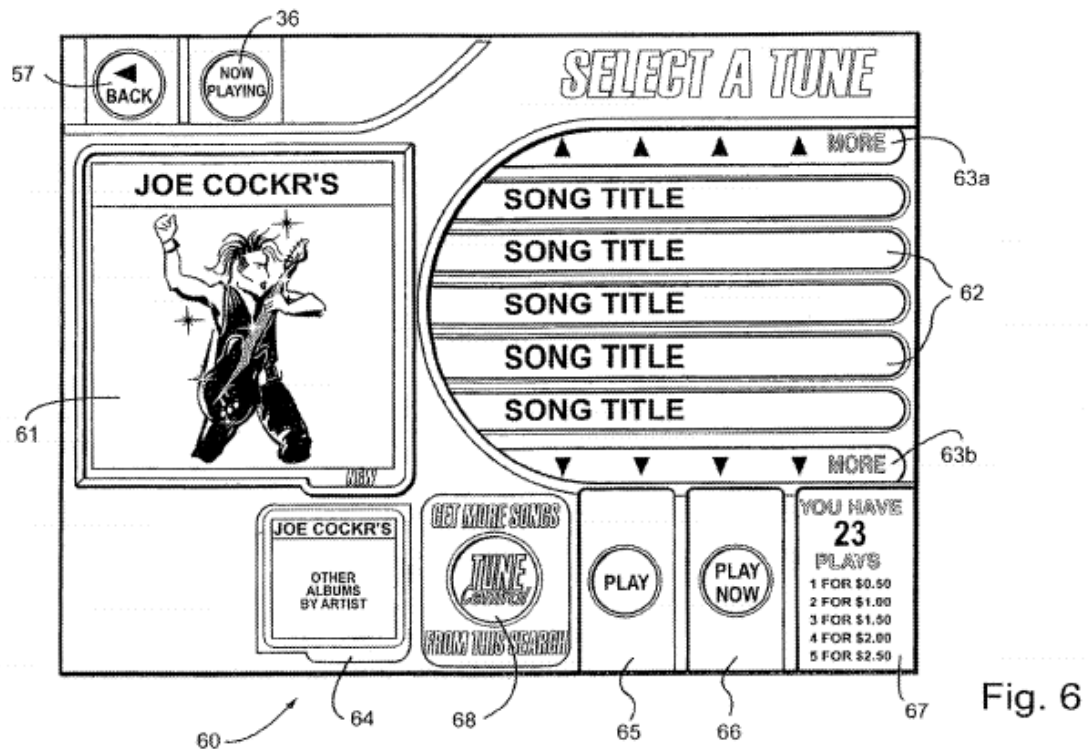


Fig. 6

(EX1005, Fig. 6, 13:65-14:43; EX1003, ¶145.)

Dion is analogous art to the '925 patent at least because Dion is directed to the same problem (improving Internet-enabled jukeboxes) in the same field of endeavor (digital audio distribution and playback) as the '925 patent. (EX1003, ¶147.)

Dion incorporates by reference U.S. Patent No. 6,308,204 ("Nathan-204", EX1006), which describes the structure and operation of Dion's jukebox system.

(EX1005, 2:31-42; EX1003, ¶148.)

### B. Summary of Nathan-109

Nathan-109 is a U.S. Patent 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). Nathan-109 was not considered during the prosecution of the '925 patent.

Nathan-109 discloses adjusting the sound level of a digital sound recording for music systems, such digital jukeboxes, such that identical sound levels can be obtained across different recordings. (EX1007, 1:40-46; EX1003, ¶150.) Fig. 1 illustrates:

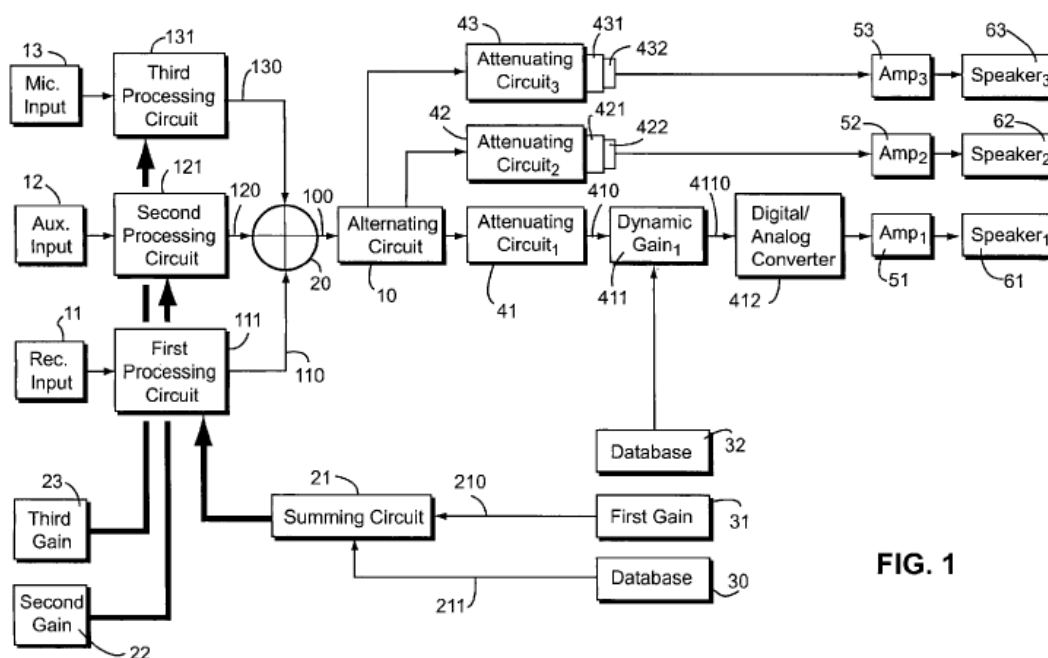


FIG. 1

(EX1007, Fig. 1; EX1003, ¶150.)

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

(EX1003, ¶151.)

### **C. Claim 1**

#### **1. [Preamble]**

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; EX1003, ¶152.) 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; EX1003, ¶152.) The jukebox includes one or more processors, such as CPUs, to perform Dion's computer-implemented methods. (EX1005, 3:1-4, 9:40-48; EX1003, ¶152.)

#### **2. [A]**

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; EX1003, ¶153.) Fig. 29 shows an example user interface 24 that

a user can use to access jukebox 16:

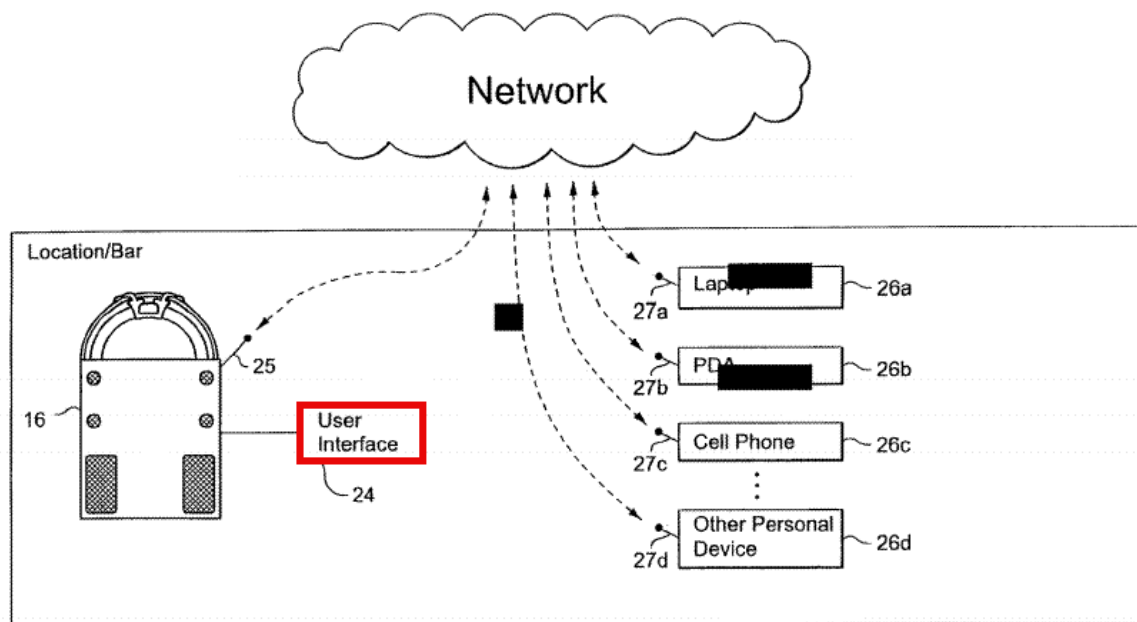


Fig. 29

(EX1005, 46:24-46, Fig. 29 (annotated); EX1003, ¶153.)

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

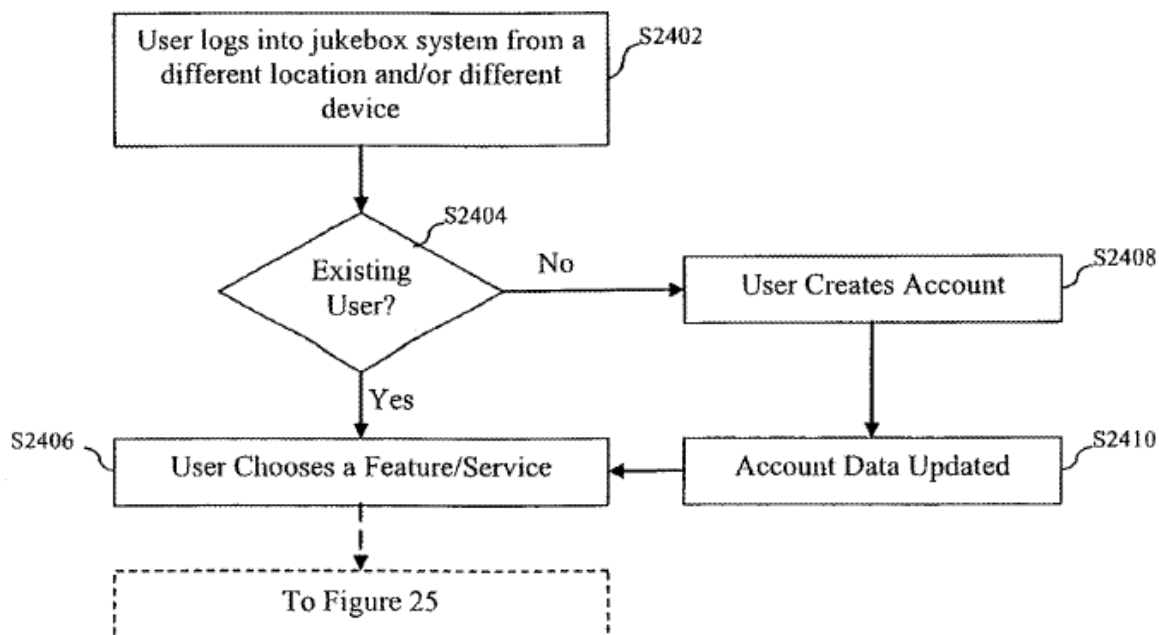


Fig. 24

(EX1005, 38:9-35, Fig. 24; EX1003, ¶154.)

The process 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; EX1003, ¶155.)

Example user interfaces for various functions of the jukebox and related systems are shown throughout Dion. (EX1003, ¶156; *see, e.g.*, EX1005, Figs. 3-6, 16A-B, 19A-F, 22, 23, 26A-D, 33-39.)

### 3. [B]

As described for element [A], the jukebox processor provides a user interface for performing a process illustrated in Fig. 24.<sup>5</sup> (EX1003, ¶157.) In the process, upon logging in to the jukebox (S2402), the user interface determines

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<sup>5</sup> Throughout Ground II, to the extent required by the claims, Dion in view of Nathan-109 would have been understood to disclose that operations performed by multiple processors could be performed by the same processor element. This is at least because while Dion in view of Nathan-109 functionally describes software operations that may be performed by computer processors, the references do not require any particular underlying processor implementation, and do not require processors to be implemented by discrete hardware components. Dion explains that “any suitable combination of programmed logic circuitry (*e.g.*, hardware, software, firmware, and/or any suitable combination thereof)” can implement its teachings. (EX1005, 50:27-30.) Consistent with the references, the operations of Dion in view of Nathan-109 could have been flexibly implemented as a common processor element, or as multiple processor elements, with the decision based on implementation factors such as cost, speed, reliability, and frequency of expected changes. (*See* EX1015, 8.)

whether the user is recognized as an existing user (S2404). (EX1005, 38:36-37; EX1003, ¶157.) 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; EX1003, ¶157.)

**4. [C]**

*See* element [B]. (EX1003, ¶158.)

**5. [D]**

*See* element [B]. (EX1003, ¶159.) Dion's Fig. 22 illustrates a user interface to log into the jukebox system:



**Fig. 22**

(EX1005, 34:57-35:7, Fig. 22; EX1003, ¶159.)

**6. [E]**

Dion discloses that a jukebox interface can be provided by the processor to allow a registered user to upload new media (*e.g.*, audio content). (EX1005, 53:1-22; EX1003, ¶160.) 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 and made available to multiple jukeboxes. (EX1005, 52:16-20, 53:1-22; EX1003, ¶160.)

**7. [F]**

*See* element [E]. (EX1003, ¶161.)

**8. [G]**

Dion discloses that a user is represented by an avatar that becomes “attached” to new media uploaded by the user. (EX1005, 51:26-32, 53:1-3; EX1003, ¶162.) The avatar may be displayed as album art for the new media. (EX1005, 53:20-22; EX1003, ¶162.) The avatar also identifies the user’s (*i.e.*, artist’s) name, at least because the avatar may serve as the user’s digital signature. (EX1005, 53:18-20; EX1003, ¶162.) The avatar thus meets the claimed metadata for the new media. (*See* EX1005, 51:26-28; EX1003, ¶162). Further, dependent claim 6 clarifies that an artist name is within the scope of the claimed metadata. (EX1001, 12:1-2; EX1003, ¶162.)

In Dion, a “central database of recognized user information” is maintained and accessible by jukeboxes and remote devices. (EX1005, 46:52-54, 47:58-65; EX1003, ¶163.) Database 29 is connected to the jukebox via network 14, as shown in Fig. 29E:

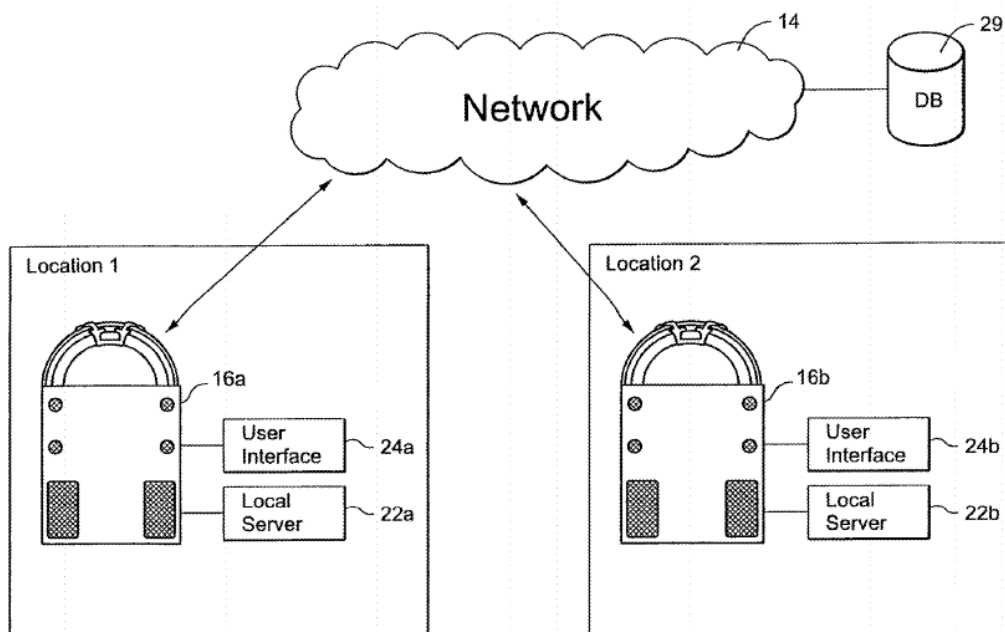


Fig. 29E

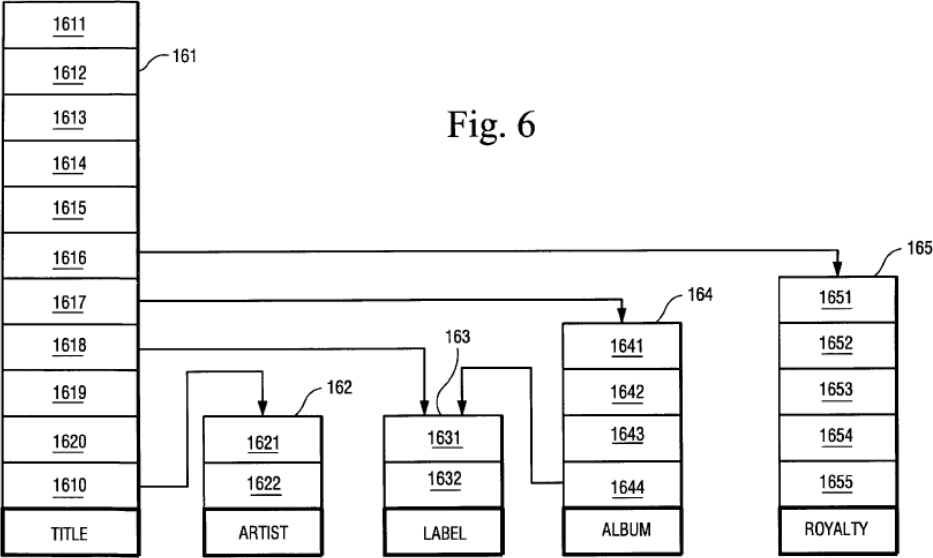
(EX1005, 48:30-44, Fig. 29E; EX1003, ¶163.)

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; EX1003, ¶164.)

Additional metadata examples include determining the “color” of a song,

which may relate to song characteristics such as volume, rhythm, beat, and tempo; and storing and providing song data such as title, artist, album, album artwork, and genre, and the ability to search by those fields. (EX1005, 19:14-29, Figs. 26A, 26D, 26E, 44:66-45:17; EX1003, ¶165.) Moreover, in order to check for copyright compliance, an authorization process may be automatically performed on the new media. (EX1005, 53:12-17; EX1003, ¶165.) 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; EX1003, ¶165.) The POSITA would understand that this requires use of metadata to perform the checking, and that the digital watermark is itself metadata. (EX1003, ¶165.) 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 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; EX1003, ¶165.) The POSITA would understand a processor to perform these functions. (EX1003, ¶165.)

Nathan-204 (incorporated by reference into Dion) 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; EX1003, ¶166.)

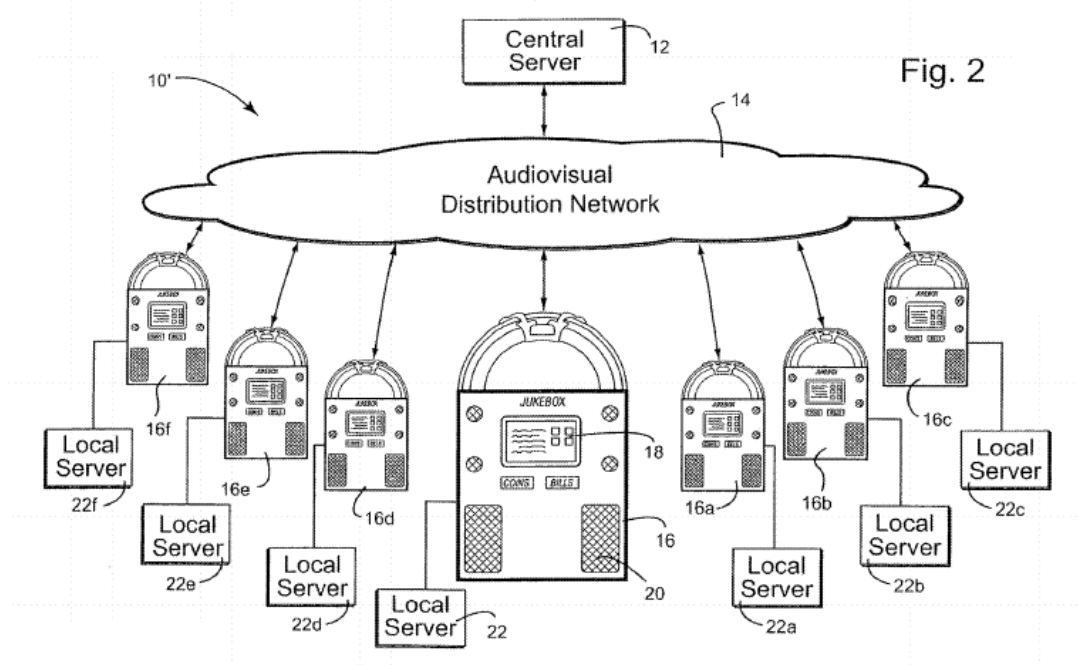
The database includes metadata for the media, including title (1611) and music category (1613). (EX1006, 10:13-50, Fig. 6; EX1003, ¶167.)

**9. [H]**

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; EX1003, ¶168.) 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 central server 12 and made available to multiple jukeboxes via an audiovisual distribution network 14 (*e.g.*, the Internet). (EX1005, 52:16-20; EX1003, ¶168.)

Fig. 2 illustrates:



(EX1005, Fig. 2; EX1003, ¶168.)

The jukebox communicates with database 29 via the Internet (network 14), as shown in Fig. 29E:

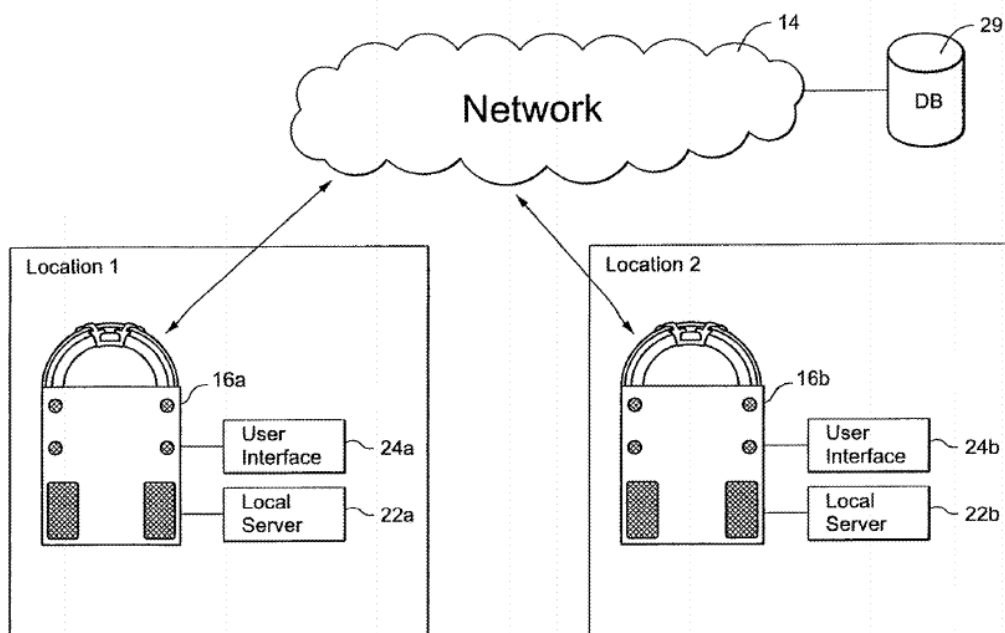


Fig. 29E

(EX1005, 48:30-44, Fig. 29E; EX1003, ¶169.)

A user can request a song via the jukebox's user interface (client software); 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; EX1003, ¶170.)

Fig. 6 shows an example interface via which the user can request a song:

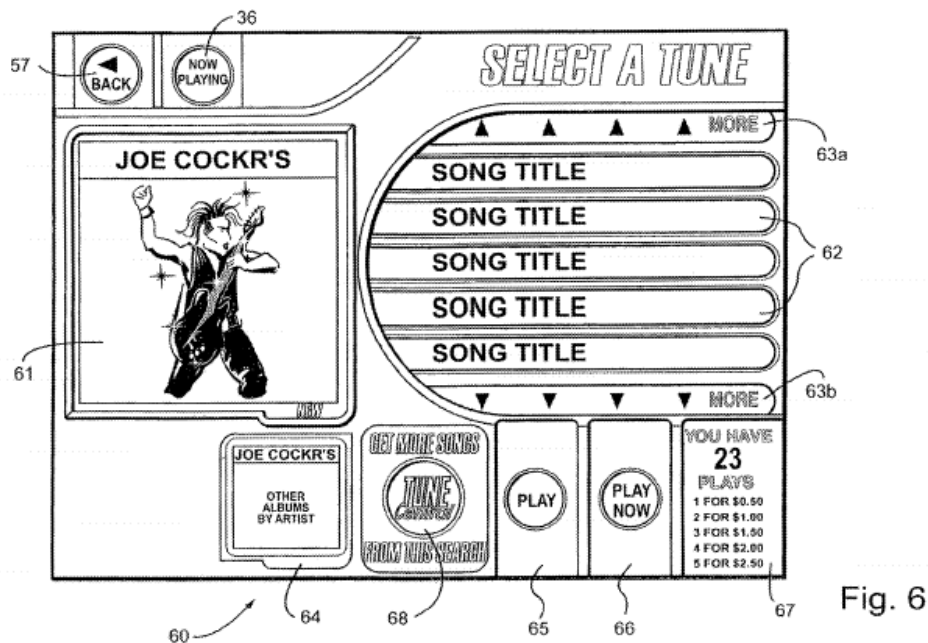


Fig. 6

(EX1005, Fig. 6, 13:65-14:43; EX1003, ¶170.)

It would have been obvious to the POSITA for the jukebox to gain access to the database via an API (application program interface) call over the Internet.

(EX1003, ¶171.) Nathan-204, incorporated by reference in Dion, expressly foresees using APIs within the jukebox system and for communication calls to the server. (EX1005, 2:38-40; EX1006, 8:26-9:26; EX1003, ¶171.) And as the Examiner recognized, the claimed API call is generic and “equivalent to making a general request for a media/song list.” (EX1002, 412 (April 29, 2015 Interview Summary); EX1003, ¶171.) 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; EX1003, ¶171.) The POSITA would understand “API call” to be a generic term of art that encompasses these communications. (EX1003, ¶171.)

## 10. [I]

Dion discloses performing digital signal processing of a song, *e.g.*, using a processor; and Nathan-109 further discloses processing 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; EX1003, ¶172.)

Nathan-109 discloses adjusting a song’s playback volume, based on an analysis of the song, to control the volume (sound) level. (EX1007, 3:39-43; EX1003, ¶173.) This adjustment “mak[es] 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; EX1003, ¶173.) 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; EX1003, ¶173.)

The gain value may be a positive value. (EX1007, 5:64-65; EX1003, ¶174.) Further, the gain value can be manipulated to be less than 1: 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;

EX1003, ¶174.) Nathan-109's Equation **a** also includes a ratio of a selected amplitude  $A_2$  to the maximum amplitude of the recording  $A_m$ ; because amplitude  $A_2$  is less than the maximum amplitude, the POSITA would understand this ratio to be a number less than 1. (EX1007, 4:30; EX1003, ¶174.) 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. (EX1003, ¶174.) For example, Nathan-109 discloses attenuating the volume by  $-3$  dB, which corresponds to a gain of less than 1. (EX1007, 6:29-31; EX1003, ¶174.)

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. (EX1003, ¶175.) Dion already discloses its 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; EX1003, ¶175.) And Nathan-109 offers a specific technique for jukeboxes to normalize playback volume across songs. (EX1003, ¶175.) The POSITA accordingly would have utilized Nathan-109's normalization methods to implement volume adjustments in Dion's processor. (EX1003, ¶175.)

The POSITA would have been motivated to combine Dion with Nathan-109. (EX1003, ¶176.) 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. (EX1003, ¶176.) The POSITA would have thus been motivated to look to other references to supply the missing implementation detail. (EX1003, ¶176.) 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; EX1003, ¶176.) 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. (EX1003, ¶176.) 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), as well as inventorship and ownership (*i.e.*, TouchTunes Music Corporation), demonstrating a strong connection between the references. (EX1003, ¶176.)

## 11. [J]

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; EX1003, ¶177.) 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; EX1003, ¶177.) 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. (EX1003, ¶177.) 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; EX1003, ¶177.)

## 12. [K]

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. (EX1003, ¶178.) The jukebox display can present song playlists that include the user's avatar, the name of the playlist, and the number of plays (*i.e.*, credits) required for play. (EX1005, 51:33-52; EX1003, ¶178.) “These 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; EX1003, ¶178.) Fig. 33 illustrates:



Fig. 33

(EX1005, Fig. 33; EX1003, ¶178.)

Additionally, the jukebox display can present metadata such as title, artist, album, album artwork, and genre:

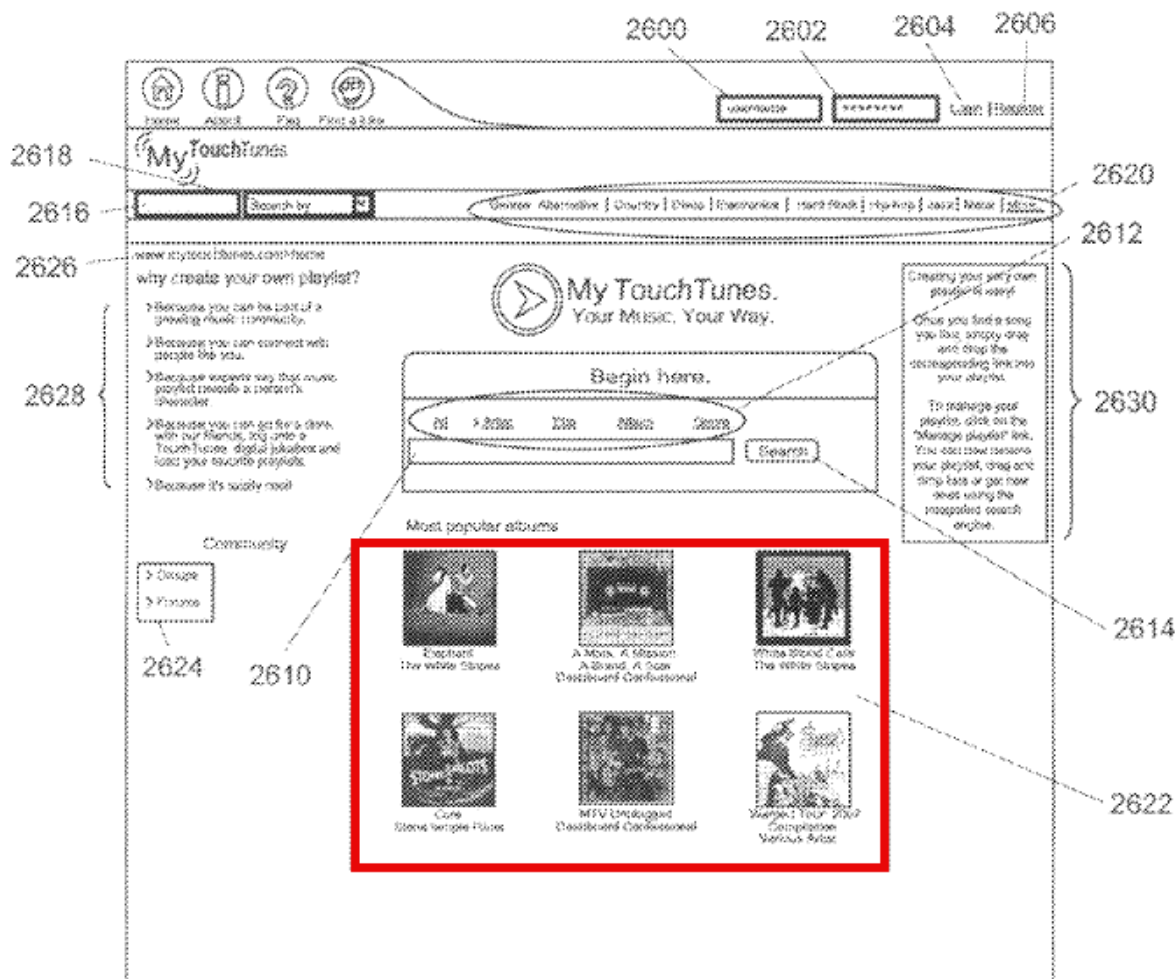


Fig. 26A

(EX1005, Fig. 26A (annotated); EX1003, ¶179.)

### 13. [L]

Dion discloses a jukebox user interface to request playback of a song, as shown in Fig. 6:

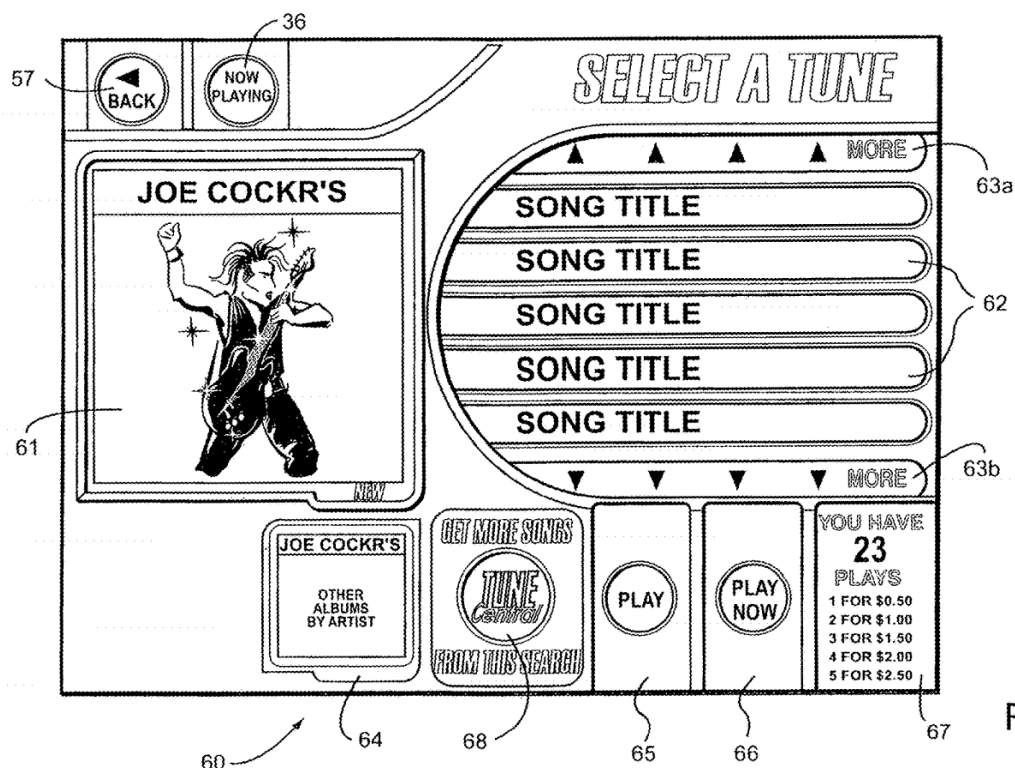


Fig. 6

(EX1005, Fig. 6; EX1003, ¶180.)

A user can select “Play” or “Play Now” buttons to initiate a play request for a given song. (EX1005, 14:6-18; EX1003, ¶181.) The POSITA would understand a processor to receive these requests. (EX1003, ¶181.)

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; EX1003, ¶182.) In response, jukebox can display the songs in the playlist, along with the user’s avatar, the name of the playlist, and a number of credits required for play. (EX1005, 51:47-52; EX1003, ¶182.)

**14. [M]**

Dion discloses that the requested media is provided via the jukebox, which presents a “now playing” screen and proceeds with playback, as shown in Fig. 34:

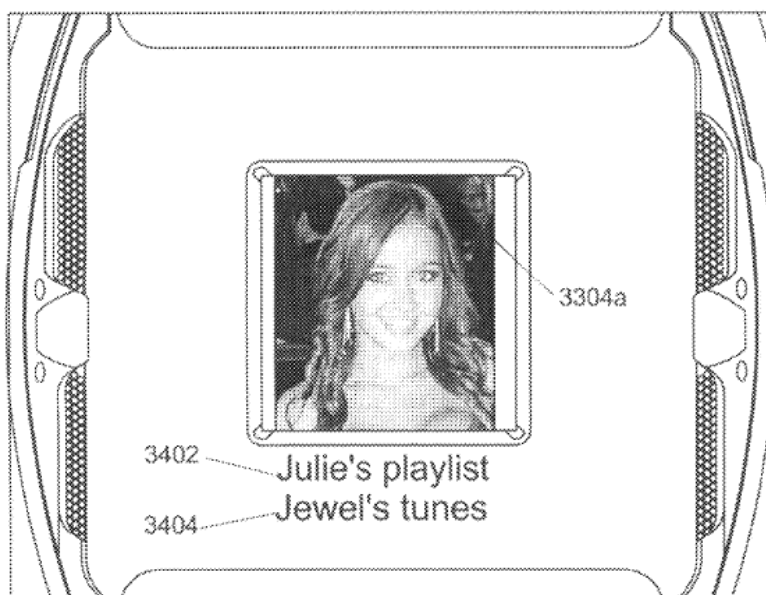


Fig. 34

(EX1005, 51:53-58, Fig. 34; EX1003, ¶183.)

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; EX1003, ¶184.) The POSITA would understand a processor to perform the streaming process. (EX1003, ¶184.)

**15. [N]**

Dion’s jukebox monitors the specific songs that have been played on the jukebox; 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; EX1003, ¶185.) This includes amounts earned by an artist: the determination is performed to assure that “proper royalties are paid *to the artists* or music owners.” (EX1005, 3:10-14 (emphasis added); EX1003, ¶185.) Further, “[r]oyalties may be tracked and returned to the user through its avatar” and may depend on whether artists are independent or associated with major labels. (EX1005, 53:6-11; EX1003, ¶185.)

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; EX1003, ¶186.) Dion discloses that its jukebox “provides 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; EX1003, ¶186.)

## 16. [O]

For independent artist users, the calculated amounts “may be tracked and returned to the user through its avatar,” thus indicating payment of the amounts. (EX1005, 53:6-7; EX1003, ¶187.) 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; EX1003, ¶¶187.)

Fig. 11 illustrates an example process, including receipt of payment (149), that can be performed by a processor:

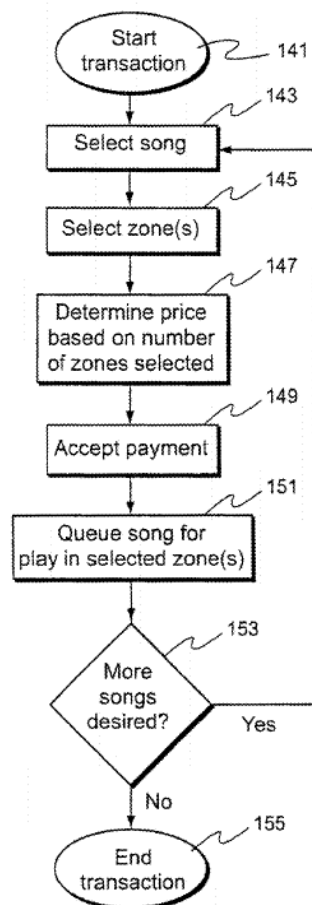


Fig. 11

(EX1005, 18:42-19:3, Fig. 11; EX1003, ¶¶187-88.)

## 17. [P]

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,” where “the root mean square voltage value defines the sound volume or sound level.” (EX1007, 1:56-60, 3:10-12; EX1003, ¶189.) 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, as explained for element [J]. (EX1003, ¶189.)

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]. (EX1003, ¶190.)

## **18. [Q]**

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; EX1003, ¶191.) 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; EX1003, ¶191.) 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; EX1003, ¶191.) 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; EX1003, ¶191.) 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. (EX1003, ¶191.) 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 can be equal to the attenuation value, as described above. (EX1007, 7:12-36; EX1003, ¶191.)

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]. (EX1003, ¶192.) 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. (EX1003, ¶192.) 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; EX1003, ¶192.) 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; EX1003, ¶192.) 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. (EX1003, ¶192.)

**D. Claim 2**

**1. [Preamble]**

*See* claim 1. (EX1003, ¶193.)

**2. [A]**

In Dion, media uploaded by users can include music, and video and/or audio content such as “pictures, audio files, movies, and the like”. (EX1005, 2:47-49, 9:25-37; 52:13-20; EX1003, ¶194.)

**E. Claim 3**

**1. [Preamble]**

*See* claim 1, Preamble. (EX1003, ¶195; *see also* EX1005, 50:27-32.)

**2. [A]**

*See* claim 1, element [A]. (EX1003, ¶196.)

**3. [B]**

*See* claim 1, element [B]. (EX1003, ¶197.)

**4. [C]**

*See* claim 1, element [C]. (EX1003, ¶198.)

**5. [D]**

*See* claim 1, element [D]. (EX1003, ¶199.)

**6. [E]**

*See* claim 1, element [E]. (EX1003, ¶200.)

**7. [F]**

*See* claim 1, element [F]. (EX1003, ¶201.)

**8. [G]**

*See* claim 1, element [G]. (EX1003, ¶202.)

**9. [H]**

*See* claim 1, element [H]. (EX1003, ¶203.)

**10. [I]**

*See* claim 1, element [I]. (EX1003, ¶204.)

**11. [J]**

*See* claim 1, element [J]. (EX1003, ¶205.)

**12. [K]**

*See* claim 1, element [K]. (EX1003, ¶206.)

**13. [L]**

*See* claim 1, element [L]. (EX1003, ¶207.)

**14. [M]**

*See* claim 1, element [M]. (EX1003, ¶208.)

**15. [N]**

*See* claim 1, element [N]. (EX1003, ¶209.)

**16. [O]**

*See* claim 1, element [O]. (EX1003, ¶210.)

**17. [P]**

*See* claim 1, element [P]. (EX1003, ¶211.)

**18. [Q]**

*See* claim 1, element [Q]. (EX1003, ¶212.)

**F. Claim 4****1. [Preamble]**

*See* claim 1. (EX1003, ¶213.)

**2. [A]**

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]. (EX1003, ¶214.) 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; EX1003, ¶214.)

It would have been obvious to the POSITA to perform these operations by invoking a data access object, for the reasons given above for Ground 1, Claim 4. (EX1003, ¶215.)

## **G. Claim 5**

### **1. [Preamble]**

*See* claim 4. (EX1003, ¶216.)

### **2. [A]**

Dion 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; this is consistent with the '925 patent's explanation 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; EX1005, 33:35-54; EX1003, ¶217.) The POSITA would have found it obvious for Dion's web interface to use a processor to invoke the REST protocol, for the reasons described for Ground 1, claim 5. (EX1003, ¶217.)

## H. Claim 6

## 1. [Preamble]

See claim 1. (EX1003, ¶218.)

## 2. [A]

Dion’s metadata includes at least an artist name and a track name, as shown in Fig. 26A:

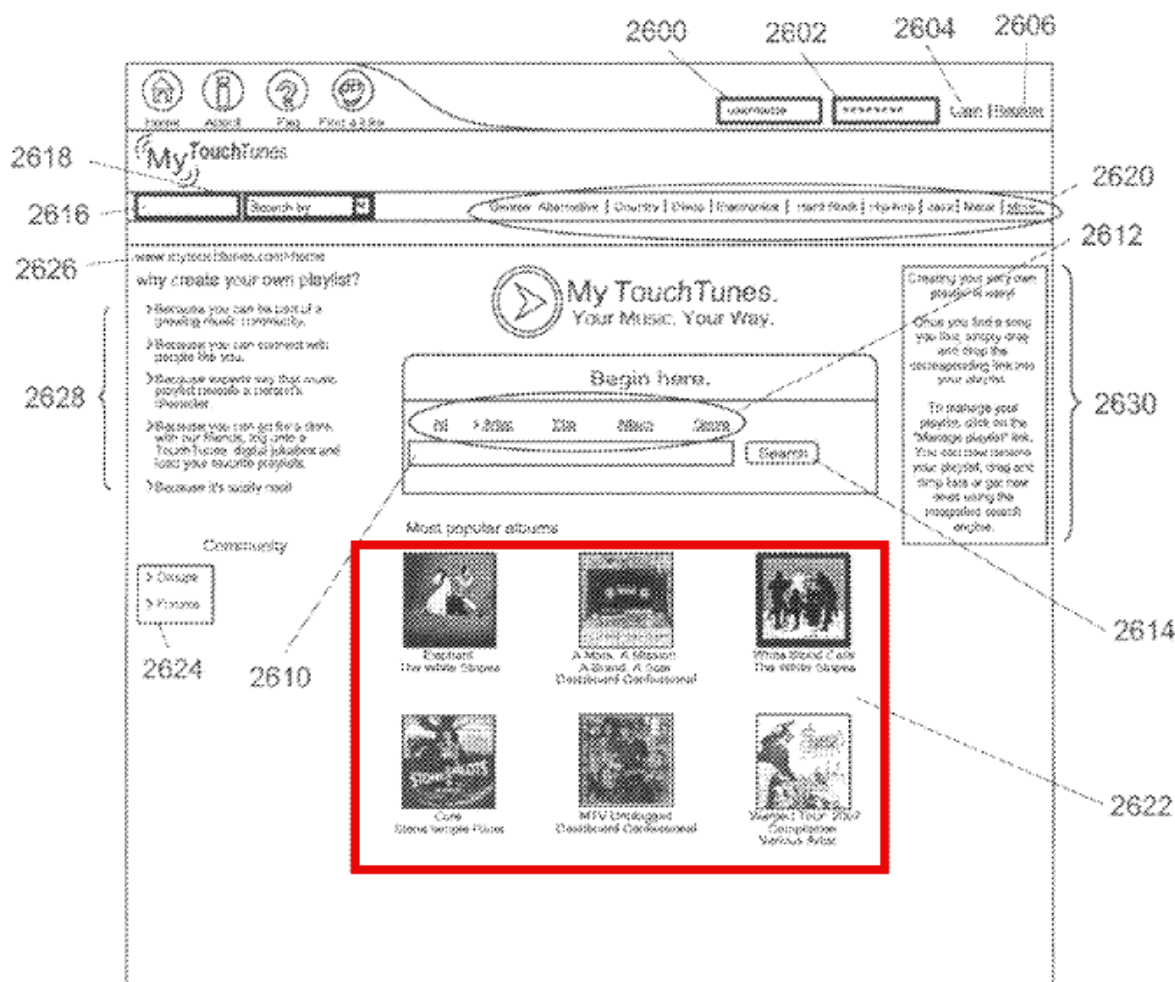


Fig. 26A

(EX1005, Fig. 26A (annotated); EX1003, ¶219.)

Further, 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:

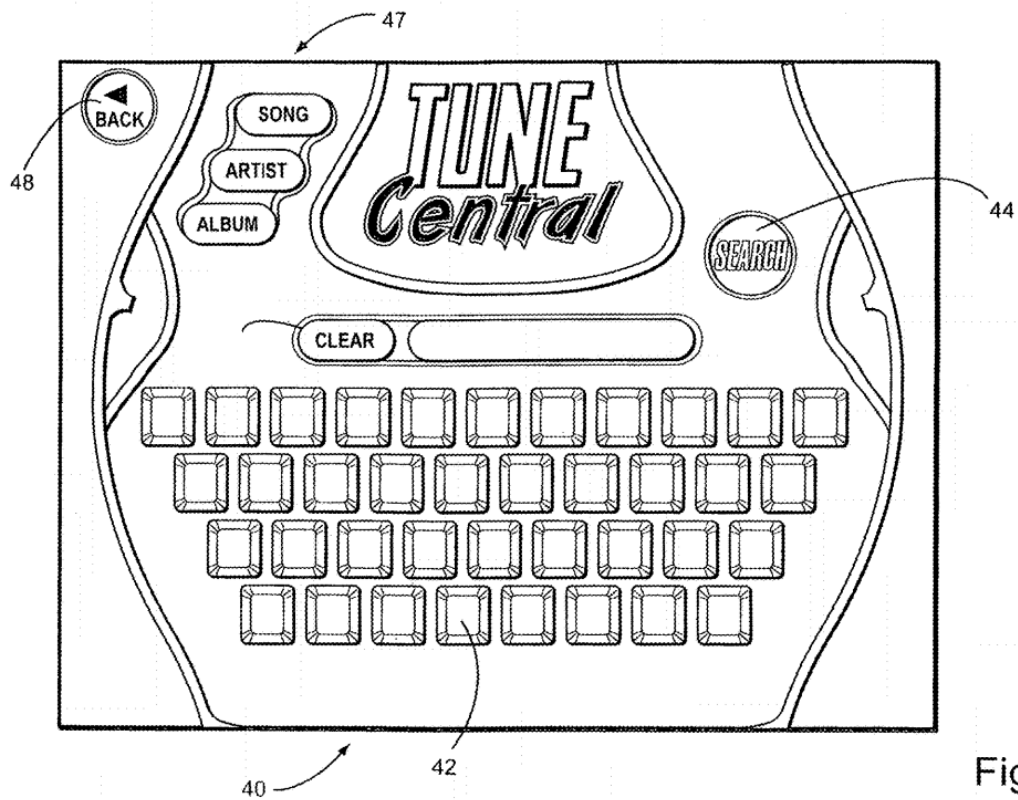


Fig. 4

(EX1005, Fig. 4; EX1003, ¶220.)

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].

(EX1003, ¶221.)

**I. Claim 7****1. [Preamble]**

*See* claim 1. (EX1003, ¶222.)

**2. [A]**

Dion discloses a voting queue display that presents the time remaining in the currently playing song. (EX1005, 25:56-61; EX1003, ¶223.) The POSITA would understand that this requires storing the song’s duration (play time) as metadata. (EX1003, ¶223.) Further, 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. (EX1003, ¶223.)

Dion discloses that the metadata includes the claimed file size. (EX1003, ¶224.) Dion discloses an operating system in portion 229 of hard drive 223:

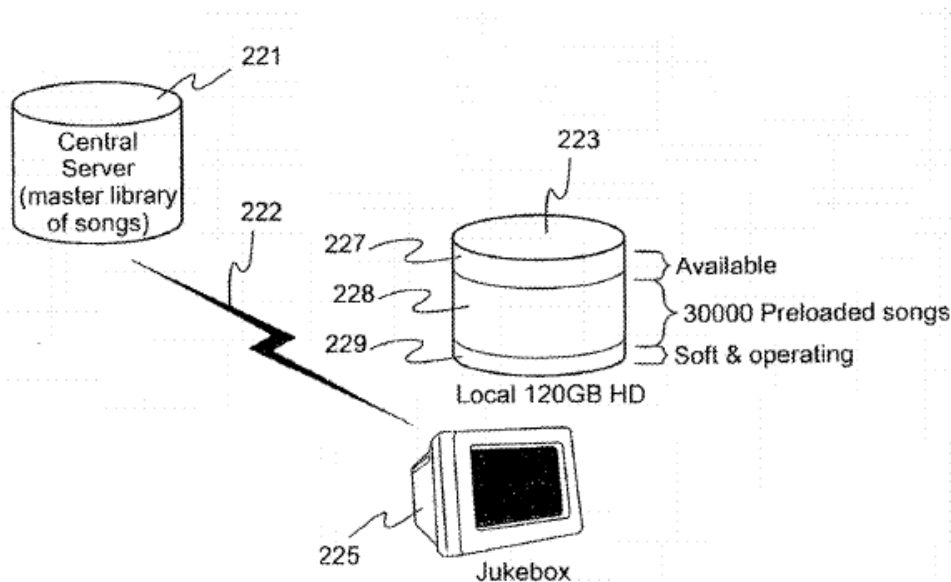


Fig. 17

(EX1005, 22:21-37, Fig. 17; EX1003, ¶225.)

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; EX1003, ¶224.) The POSITA would understand Dion’s operating system to perform such operations; for example, the operating system’s file system would automatically determine and store file sizes, among other attributes, for Dion’s media files. (*See, e.g.*, EX1009, 386-87, 430-48; EX1003, ¶224.)

**J. Claim 8****1. [Preamble]**

*See* claim 1. (EX1003, ¶226.)

**2. [A]**

*See* claim 1, elements [I] and [P]. (EX1003, ¶227.)

**K. Claim 9****1. [Preamble]**

*See* claim 8. (EX1003, ¶228.)

**2. [A]**

*See* claim 1, element [J]. (EX1003, ¶229.) 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; EX1003, ¶229). Dion in view of Nathan-109 teaches storing the average volume of a song along with other metadata to be able to order playlists by volume along with other characteristics. (EX1005, 19:22-29; EX1007, 3:10-12, 3:39-43; EX1003, ¶229.)

**L. Claim 10****1. [Preamble]**

*See* claim 8. (EX1003, ¶230.)

**2. [A]**

*See* claim 1, elements [I] and [P]. (EX1003, ¶231.) 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. (EX1003, ¶231.)

## **M. Claim 11**

### **1. [Preamble]**

*See* claim 1. (EX1003, ¶232.)

### **2. [A]**

Dion discloses that information from jukeboxes 16 is “use[d] ... to determine the appropriate royalties and/or other payments that are owed for songs played on each jukebox.” (EX1005, 3:4-10; EX1003, ¶233.) This requires maintaining data on media played; for example, the ’925 patent discloses that a table of information belongs to a royalty “payment schematic.” (EX1001, 10:46, Fig. 5.8; EX1003, ¶233.) 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”, which each indicate a venue playing the media. (EX1005, 15:28-31, 21:53-56; EX1003, ¶233.) Dion additionally discloses compensating users for creating public playlists, which requires the jukebox to “maintain counts, percentages, and the like related to the songs and playlists accessed.” (EX1005, 50:66-51:1; EX1003, ¶233.) Further, Dion tracks “instances

of media previously played by the user within a predetermined time period”.

(EX1005, 30:37-44; EX1003, ¶233.) This requires maintaining data identifying the times at which media are played. (EX1003, ¶233.)

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* EX1010, 266-73; EX1003, ¶234.)

**N. Claim 12**

**1. [Preamble]**

*See* claim 1. (EX1003, ¶235.)

**2. [A]**

Dion discloses that a jukebox user can create customized playlists of songs. (EX1005, 28:30-57; EX1003, ¶236.) Fig. 23 illustrates:

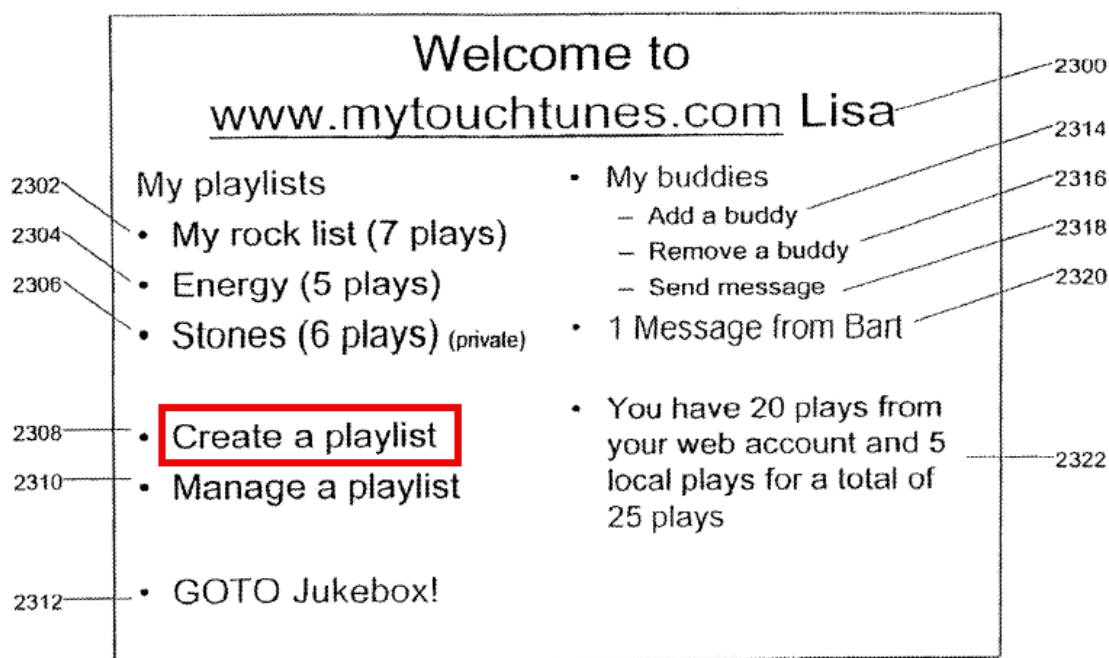


Fig. 23

(EX1005, Fig. 23 (annotated); EX1003, ¶236.)

Dion's playlists, in which individual songs can be associated with one or more playlists by a processor, are 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; EX1003, ¶237.)

### 3. [B]

In Dion, a user can edit a playlist using a processor by adding a song to the playlist, thereby creating an association between the song and the playlist.

(EX1005, 28:30-57, 30:23-36; EX1003, ¶238.) Fig. 26D illustrates associations between playlists 2674 (e.g., a “Classical” playlist) and songs 2676 (e.g., “Canon in D minor”):

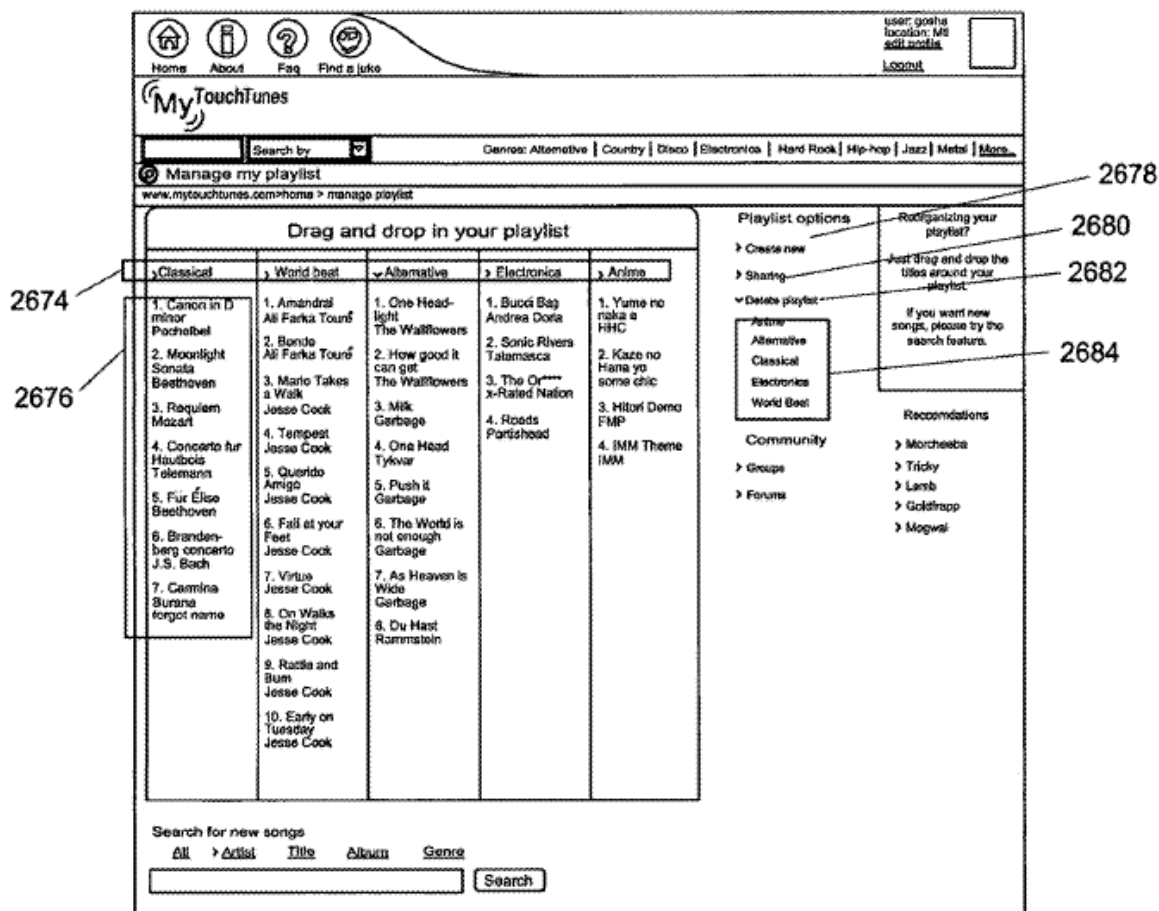


Fig. 26D

(EX1005, Fig. 26D; EX1003, ¶238.)

## O. Claim 13

### 1. [Preamble]

See claim 12. (EX1003, ¶239.)

## 2. [A]

In Dion, 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 and received by a processor without being added to a particular playlist (or to any playlist at all). (EX1003, ¶240.) Further, the POSITA would understand that Dion's jukebox does not present metadata for all songs. (EX1003, ¶240.) 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:

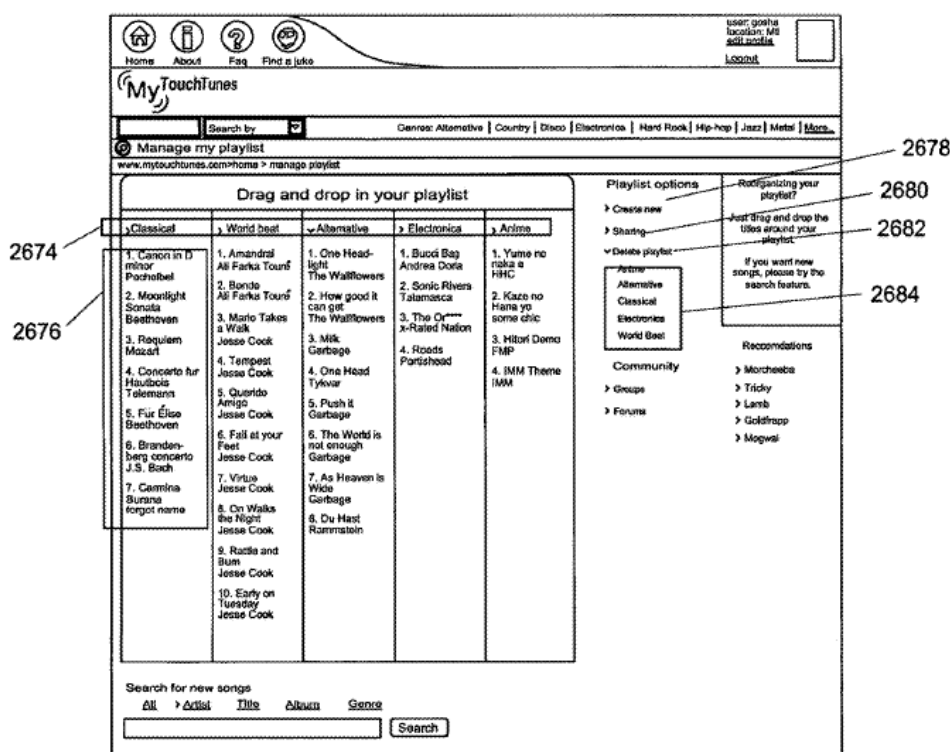


Fig. 26D

(EX1005, Fig. 26D; EX1003, ¶240.)

**P. Claim 14**

**1. [Preamble]**

*See* claim 1. (EX1003, ¶241.)

**2. [A]**

Dion's jukebox communicates via the Internet. (EX1005, 3:1-4; EX1003, ¶242.) The jukebox is thus an Internet jukebox. (EX1003, ¶242.) The jukebox may be also a PDA (a computer device) or a cell phone. (EX1005, 24:32-39; EX1003, ¶242.)

**Q. Claim 15**

**1. [Preamble]**

*See* claim 1. (EX1003, ¶243.)

**2. [A]**

In Dion, the jukebox's library of songs can be "updated through communication by the central server"; further, 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; EX1003, ¶244.) Additionally, the jukebox updates a central account database with user account information. (EX1005, 38:51-57, Fig. 26C; EX1003, ¶244.)

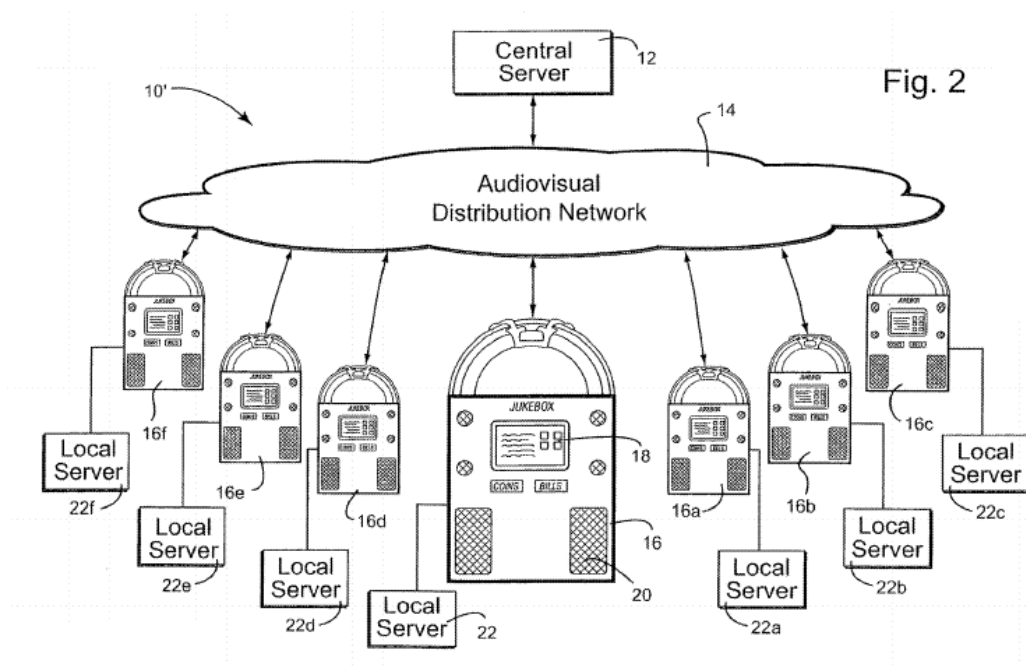
## R. Claim 16

### 1. [Preamble]

See claim 1. (EX1003, ¶246.)

### 2. [A]

The term “the wide area network” lacks antecedent basis and is not found in the specification of the ’925 patent. (EX1001, 9:66-10:55; EX1003, ¶247.) To the extent the claim is not indefinite, “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:



(EX1005, 52:16-20, Fig. 2; EX1003, ¶247.)

Further, Dion’s jukeboxes “communicate with the central server 12 through

a communications network 14, such as, for example, the Internet.” (EX1005, 3:1-4; EX1003, ¶248.)

## **S. Claim 17**

### **1. [Preamble]**

*See* claim 1. (EX1003, ¶249.)

### **2. [A]**

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; EX1003, ¶250.) Similarly, Dion discloses restricting the volume of music, such that songs are played at a desired volume level. (EX1005, 17:64-18:12; EX1003, ¶250.)

## **VII. THE BOARD SHOULD NOT DENY INSTITUTION UNDER § 314(a) OR § 325(d)**

### **A. District Court Litigation**

The Board should not deny institution under § 314(a) based on *Tijerino v. Spotify USA Inc.*, 2:24-cv-02290 (E.D. La.). The *Fintiv* factors favor institution because each of them either favors institution or is neutral. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020).

*Fintiv* Factor 1 is neutral because the court has not stayed the Litigation or indicated if it is likely to grant a stay.

*Fintiv* Factor 2 favors institution because the actual trial date will almost certainly be long after the Final Written Decision. The litigation is currently at a standstill and will not move forward on the merits until the court has ruled on Petitioner's motion to dismiss, or in the alternative transfer to the Southern District of New York ("SDNY"), based on *improper venue* (EX1017) ("MTD"). Indeed, the court recently ordered venue-related discovery, including a deposition, be completed by August 25, 2025 (EX1018), explaining that "venue needs to be resolved first before we move to anything else" (EX1019, 64:25-65:3) and "I am not doing anything on this case until I see the results of that deposition" (*id.*, 63:24-64:1).

Accordingly, the trial date of December 8, 2025, set forth in the current scheduling order (issued before argument on Spotify's MTD) is unrealistic and cannot hold regardless of the outcome of Spotify's MTD.

If the court dismisses the case, then no trial date will be set unless and until PO re-files his case in another district. If the court transfers the case to SDNY, any trial date will be long after the FWD. The two patent cases tried there in the past five years were tried 89.5 months and 46.2 months after filing. (EX1020, 2, 28.)

Even if the court denies the motion, and Spotify does not obtain a writ of mandamus from the Federal Circuit ordering transfer to SDNY, the trial date in Louisiana will not hold. For example, the court ordered venue-related discovery is to be completed *after* the current deadline for PO's expert report(s). (EX1018 (file venue discovery 8/25/25); EX1016 (opening expert reports 8/22/25).)

Accordingly, an amended schedule will have to be entered that, unlike the current schedule, includes the necessary claim construction deadlines, and is based on a jury trial. Tellingly, the only patent trial in E.D. Louisiana in the past five years was held 40.8 months after filing. (EX1021, 2, 18-19.) And these statistics likely *underestimate* the time to trial because that district now has the second largest backlog of pending civil cases across the country: 76% of pending civil cases are more than three years old. (EX1022, 29.)

*Fintiv* Factor 3 favors institution because the court has not issued any substantive orders relating to the '925 patent and there have been no proceedings relating to claim construction or Petitioner's alleged infringement. The court has not set any claim construction deadlines, let alone claim construction briefing or a *Markman* hearing. The parties have not even exchanged infringement and invalidity contentions, identified claim terms for construction, disclosed preliminary constructions, or exchanged extrinsic evidence. The parties and the

court have not yet invested in the alleged merits of Patent Owner's claims while the court considers and resolves Spotify's MTD. Moreover, Petitioner expects the MTD will be granted, and that there will not be any material investment before institution.

*Fintiv* Factor 4 favors institution, because Petitioner stipulates, as per *Sotera Wireless*, not to pursue in the litigation the same grounds as in, or that reasonably could have been raised in, the Petition if it is instituted. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01054, Paper 12 at 18-19 (PTAB Dec. 1, 2020); *see also* USPTO March 24, 2025 Memorandum, 3.)

*Fintiv* Factor 5 is neutral, because the parties to the litigation are the same as the parties in this proceeding. *See Cisco Sys., Inc. v. Ramot at Tel Aviv Univ.*, IPR2020-00122, Paper 15, 10 (May 15, 2020)(APJ Crumbley, dissenting)("In cases such as the one at hand, where the parties are the same, the factor is neutral. To hold otherwise—that the factor weighs in favor of denial if the parties are the same—would, in effect, tip the scales against a petitioner merely for being a defendant in district court.").

*Fintiv* Factor 6 favors institution because, as set forth above, the Petition presents multiple grounds of obviousness and is compelling on the merits.

Finally, discretionary factors (*e.g.*, settled expectations) do not weigh against

institution. The '925 Patent issued September 2015, at which time Spotify already had been available in the United States for more than four years. (EX1023.)

Moreover, the accused Spotify for Artists feature (originally branded Spotify Fan Insights) was released just two months after the '925 Patent issued. (EX1024; EX1025.) But Patent Owner did not raise the '925 patent with Petitioner until last year, just two months before filing the litigation.<sup>6</sup> In fact, there is no evidence that Patent Owner commercialized, asserted, marked, or licensed the patent at all, let alone in Petitioner's technology space; and Patent Owner recently represented to the court that he has "never made any money off of [his alleged invention]." (EX1019, 30:13-15.) Accordingly, Patent Owner could not possibly have had any expectation that Petitioner would not challenge the '925 patent when he suddenly asserted it a decade after the patent issued and the accused feature was launched.

*See Intel Corp. v. Proxense LLC*, IPR2025-00327, Paper 12 at 2 (June 26, 2025)

("persuasive reasons" for reviewing patent years after issuance include patent in forces for years but "not . . . commercialized, asserted, marked, licensed, or otherwise applied in a petitioner's particular technology space, if at all").

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<sup>6</sup> Patent Owner first raised the patent with Petitioner in July 2024. (EX1026, 11.)

**B. Prosecution**

The Board further should not deny institution under § 325(d) based on the prosecution of the original patent application (U.S. Patent Appl. No. 12/804,665).

The Board applies a two-part framework for determining whether to deny institution under § 325(d) in view of prosecution of the original patent application and any subsequent reexamination: “(1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.” *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (Feb. 13, 2020) (designated precedential on March 24, 2020); *see also Ecto World, LLC v. Rai Strategic Holdings*, IPR2024-01280, Paper 13 (May 19, 2025) (designated precedential on May 19, 2025).

Here, the USPTO publication of Dion (U.S. Patent Pub. No. 2008/0086379) was considered during prosecution of the '925 patent, but was not a basis for rejection. (EX1001, (56); EX1002.) And the Nathan-109 reference was not presented to the Office and thus was not considered during prosecution. Accordingly, for Ground 2, some, but not all, of the art on which the Petition relies

was before the Examiner; and none of the art was substantively addressed by the Examiner in any way.

Under *Ecto World*, Petitioner nevertheless has the burden to demonstrate examiner error under the second part of the *Advanced Bionics* framework. Here, the Examiner plainly erred in a manner material to patentability. *See also Becton, Dickinson* factors (c), (e), and (f). For example, the claims were allowed following an amendment to recite limitations relating to RMS values and dynamic range reduction. (EX1002, 402-13 (April 29, 2015 Supplemental Amendment and Interview Summary).) However, as demonstrated herein, these limitations merely present conventional signal processing techniques. The amendment was made at the suggestion of the Examiner himself, who demonstrated a substantial oversight by failing to locate and apply the Nathan-109 reference. As set forth above, Nathan-109, considered in view of Dion, demonstrates that the newly added limitations represent prior art—not patentability.

For Ground 1, none of the three references (Laut, Kincaid, Bongiovi) was presented to the Office and thus none of the three was considered during prosecution.

## **VIII. NOTICES AND STATEMENTS**

Pursuant to 37 C.F.R. § 42.8(b)(1), Spotify AB and Spotify Technology S.A.

are the real parties-in-interest for Petitioner.

Pursuant to 37 C.F.R. § 42.8(b)(2), Petitioner identifies the following related matters. The '925 Patent is asserted in the following litigation matter: *Tijerino v. Spotify USA Inc.*, Case No. 2:24-cv-02290 (E.D. La.).

Pursuant to 37 C.F.R. § 42.8(b)(3), Petitioner identifies the following counsel (and a power of attorney accompanies this Petition).

| Lead Counsel                                                                                                                                                                                                                                             | Backup Counsel                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mehran Arjomand<br>Registration No.: 48,231<br>MORRISON & FOERSTER LLP<br>707 Wilshire Boulevard, Suite 6000<br>Los Angeles, CA 90017<br>Tel: (213) 892-5630<br>Fax: (213) 892-5454<br>Email: <a href="mailto:MArjomand@mofo.com">MArjomand@mofo.com</a> | Alex S. Yap<br>Registration No.: 60,609<br>MORRISON & FOERSTER LLP<br>707 Wilshire Boulevard, Suite 6000<br>Los Angeles, CA 90017<br>Tel: (213) 892-5688<br>Fax: (213) 892-5454<br>Email: <a href="mailto:AYap@mofo.com">AYap@mofo.com</a> |

| Backup Counsel                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bryan Blumenkopf<br>Registration No.: 73,282<br>MORRISON & FOERSTER LLP<br>12531 High Bluff Drive, Suite 200<br>San Diego, CA 92130<br>Tel: (213) 892-5269<br>Fax: (213) 892-5454<br>Email: <a href="mailto:BBlumen@mofo.com">BBlumen@mofo.com</a> |

Pursuant to 37 C.F.R. § 42.8(b)(4), service information for lead and back-up counsel is provided above. Petitioner consents to electronic service by email to [Spotify\\_925\\_IPR@mofo.com](mailto:Spotify_925_IPR@mofo.com).

Pursuant to 37 C.F.R. § 42.104(a), Petitioner certifies that the '925 patent is available for *inter partes* review and that Petitioner is not barred or estopped from requesting an *inter partes* review challenging the patent claims on the grounds identified in this Petition.

## IX. CONCLUSION

Petitioner requests that the Board initiate *inter partes* review and cancel all challenged claims of the '925 Patent.

The USPTO is authorized to charge any required fees, including the fee as set forth in 37 C.F.R. § 42.15(a) and any excess claim fees, to Deposit Account No. 03-

**1952** referencing Docket No. **78187-0000023**.

Dated: July 11, 2025

Respectfully submitted,

By /Mehran Arjomand/

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## X. CLAIMS APPENDIX

### Claim 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:*

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

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

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

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

**[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;*

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

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

**[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;*

**[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;*

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

*[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*

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

*[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;*

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

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

*[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*

*[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.*

## **Claim 2**

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

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

**Claim 3**

**[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:*

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

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

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

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

**[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;*

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

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

**[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;*

**[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;*

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

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

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

**[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;*

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

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

**[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*

**[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.*

#### **Claim 4**

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

**[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.*

**Claim 5**

[Preamble] *The method of claim 4,*

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

**Claim 6**

[Preamble] *The method of claim 1,*

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

**Claim 7**

[Preamble] *The method of claim 1,*

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

**Claim 8**

[Preamble] *The method of claim 1,*

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

**Claim 9**

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

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

**Claim 10**

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

**[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.*

**Claim 11**

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

**[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.*

**Claim 12**

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

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

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

**Claim 13**

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

**[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.*

**Claim 14**

[Preamble] *The method of claim 1,*

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

**Claim 15**

[Preamble] *The method of claim 1,*

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

**Claim 16**

[Preamble] *The method of claim 1*

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

**Claim 17**

[Preamble] *The method of claim 10,*

[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.*

**Certification of Word Count (37 C.F.R. § 42.24)**

I hereby certify that this Petition for *Inter Partes* Review has 13,956 words (as counted by the “Word Count” feature of the Microsoft Word™ word-processing system), exclusive of “a table of contents, a table of authorities, mandatory notices under § 42.8, a certificate of service or word count, or appendix of exhibits or claim listing.”

Dated: July 11, 2025

By /Bryan Blumenkopfl  
Bryan Blumenkopf

**Certificate of Service (37 C.F.R. § 42.6(e)(4) and 42.205(a))**

I hereby certify that the attached Petition for *Inter Partes* Review and supporting materials were served as of the below date by U.S. Express Mail, or by a means as fast and reliable as U.S. Express Mail, on the Patent Owner at the correspondence address indicated for U.S. Patent No. 9,146,925. Additionally, service was made to Mr. Tijerino's address below and via email to his email address.

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Dated: July 11, 2025

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