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(54) **SYSTEM AND METHOD FOR GENERATING DYNAMICALLY FILTERED CONTENT RESULTS, INCLUDING FOR AUDIO AND/OR VIDEO CHANNELS**

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(52) **U.S. Cl.**

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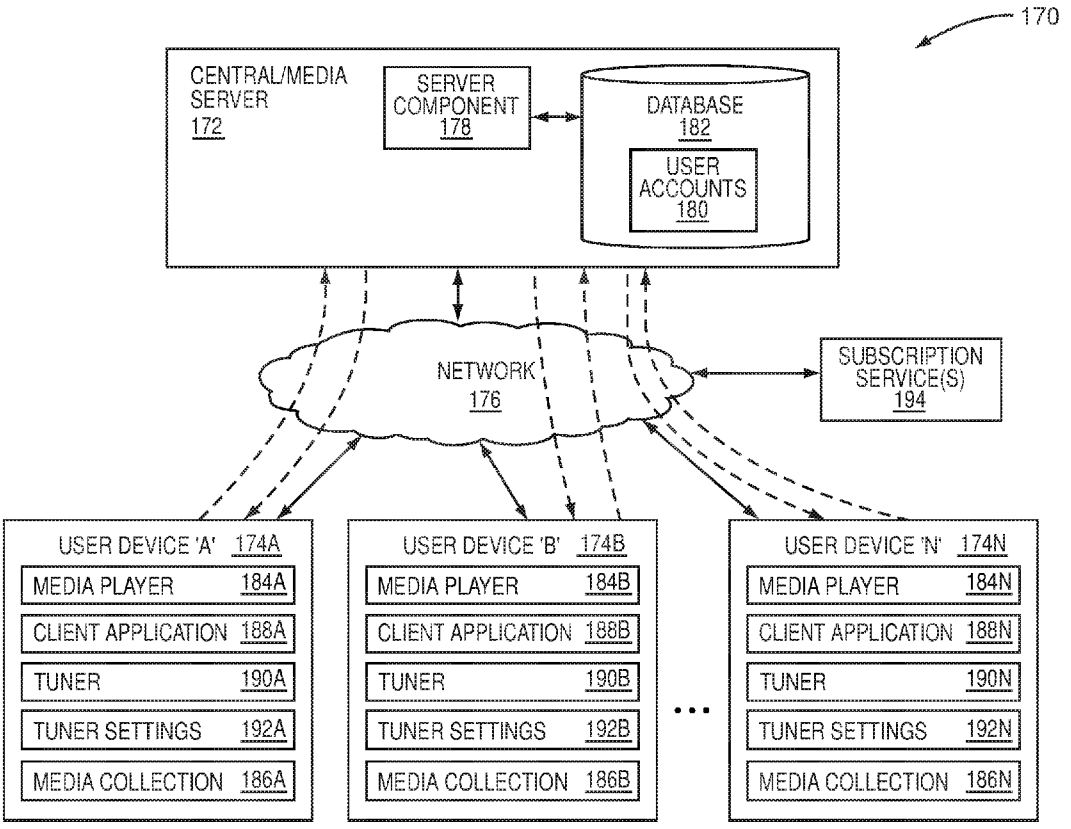
(57) **ABSTRACT**

A system and method for allowing a user to more effectively generate focused content results, including audio and/or video content is described. Content is dynamically filtered to generate content results in response to initial filtering settings or characteristics. The content results are provided to a user. Once the user finds and selects a content result of interest, additional filtering characteristics associated with the selected result are provided to the user as a suggestion for additional filtering. In this manner, the user is made aware of additional filtering settings or characteristics that can be used to focus the search results. Subsequent filter settings and filtering operations can be based on characteristics of previous relevant results in an iterative and dynamic manner. Focused results are more likely produced, because additional filtering settings are provided and adjusted according to characteristics of results deemed relevant by the user.



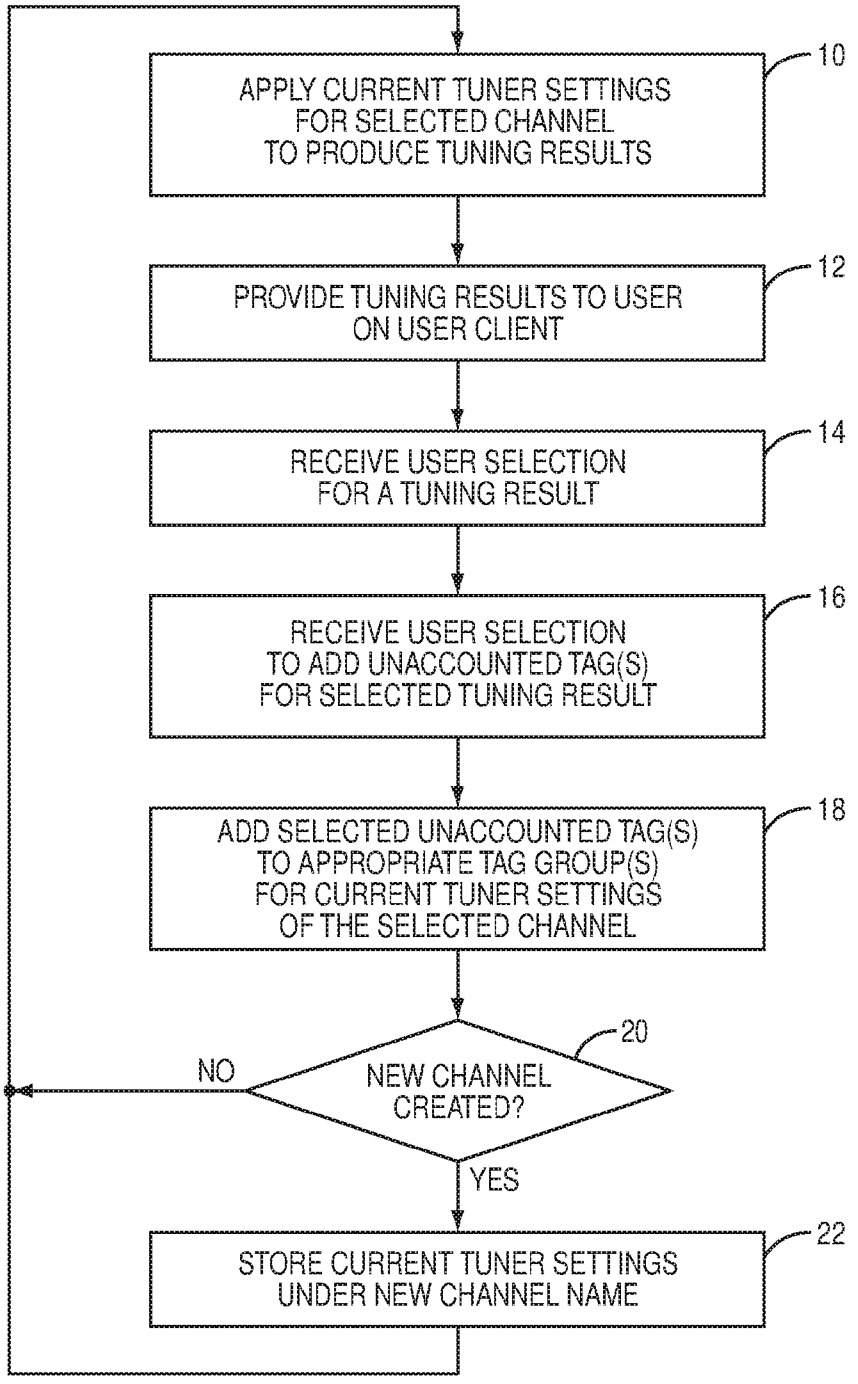

APPLY CURRENT TUNER SETTINGS FOR SELECTED CHANNEL TO PRODUCE TUNING RESULTS
10
PROVIDE TUNING RESULTS TO USER ON USER CLIENT
12
RECEIVE USER SELECTION FOR A TUNING RESULT
14
RECEIVE USER SELECTION TO ADD UNACCOUNTED TAG(S) FOR SELECTED TUNING RESULT
16
ADD SELECTED UNACCOUNTED TAG(S) TO APPROPRIATE TAG GROUP(S) FOR CURRENT TUNER SETTINGS OF THE SELECTED CHANNEL
18
NEW CHANNEL CREATED?
20
NO
YES
STORE CURRENT TUNER SETTINGS UNDER NEW CHANNEL NAME
22

FIG. 1

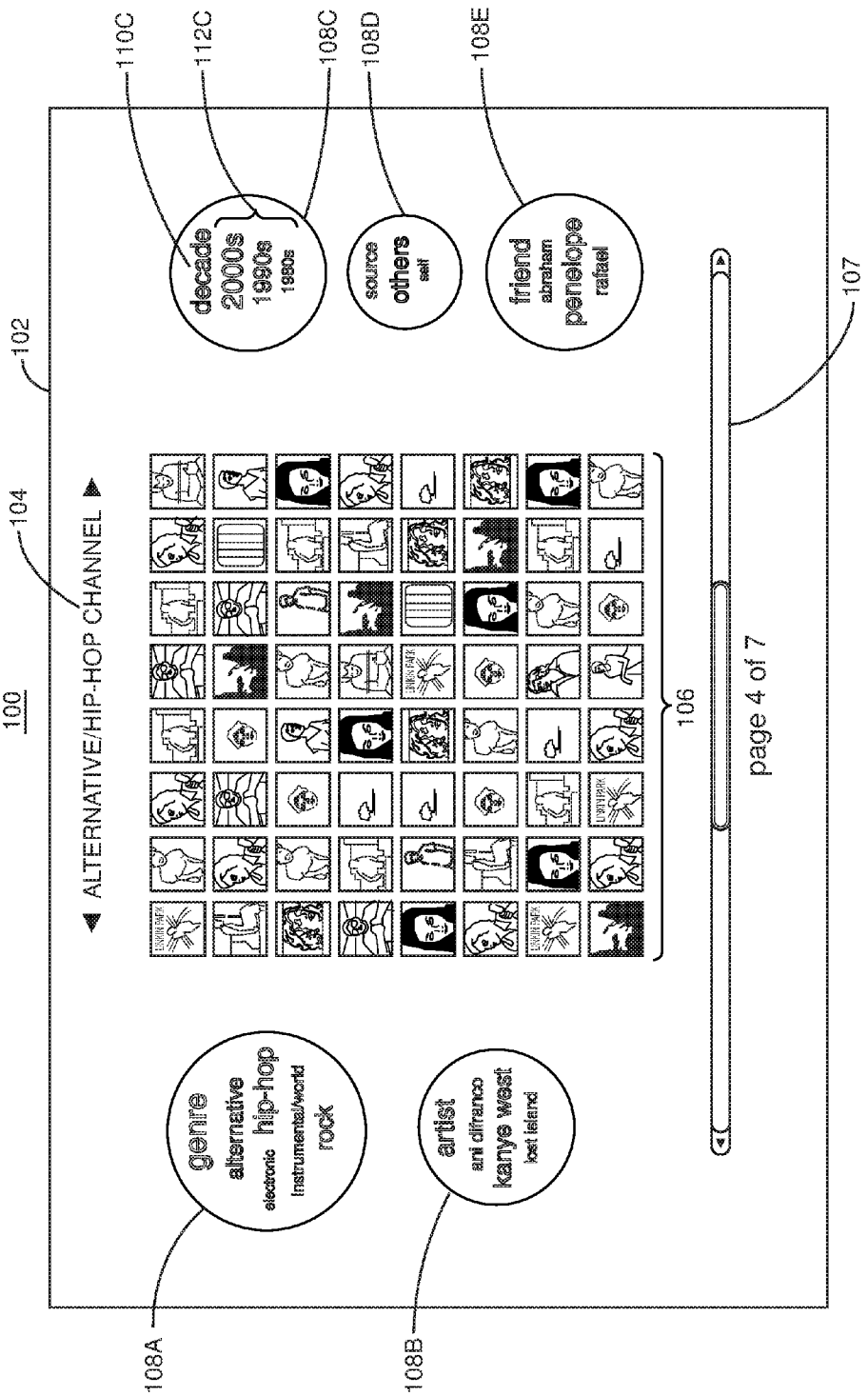

100
102
104
ALTERNATIVE/HIP-HOP CHANNEL
110C
112C
108C
108D
108E
decade
2000s
1990s
1980s
source
others
self
friend
abraham
penelope
rafael
106
107
page 4 of 7
genre
alternative
electronic
hip-hop
instrumental/world
rock
artist
ani difranco
kanye west
bon iver
108A
108B

FIG. 2

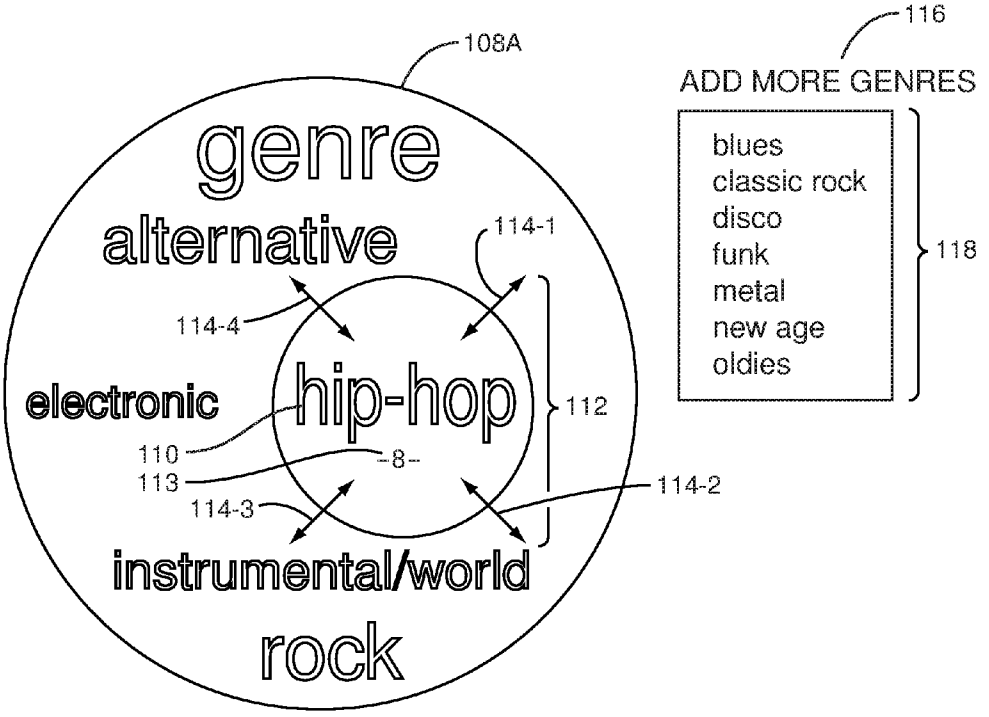


FIG. 3A

119

GENRE	RANK
ALTERNATIVE	3
ELECTRONIC	2
⋮	⋮
HIP-HOP	8
⋮	⋮
INSTRUMENTAL/WORLD	2
⋮	⋮
ROCK	4

FIG. 3B

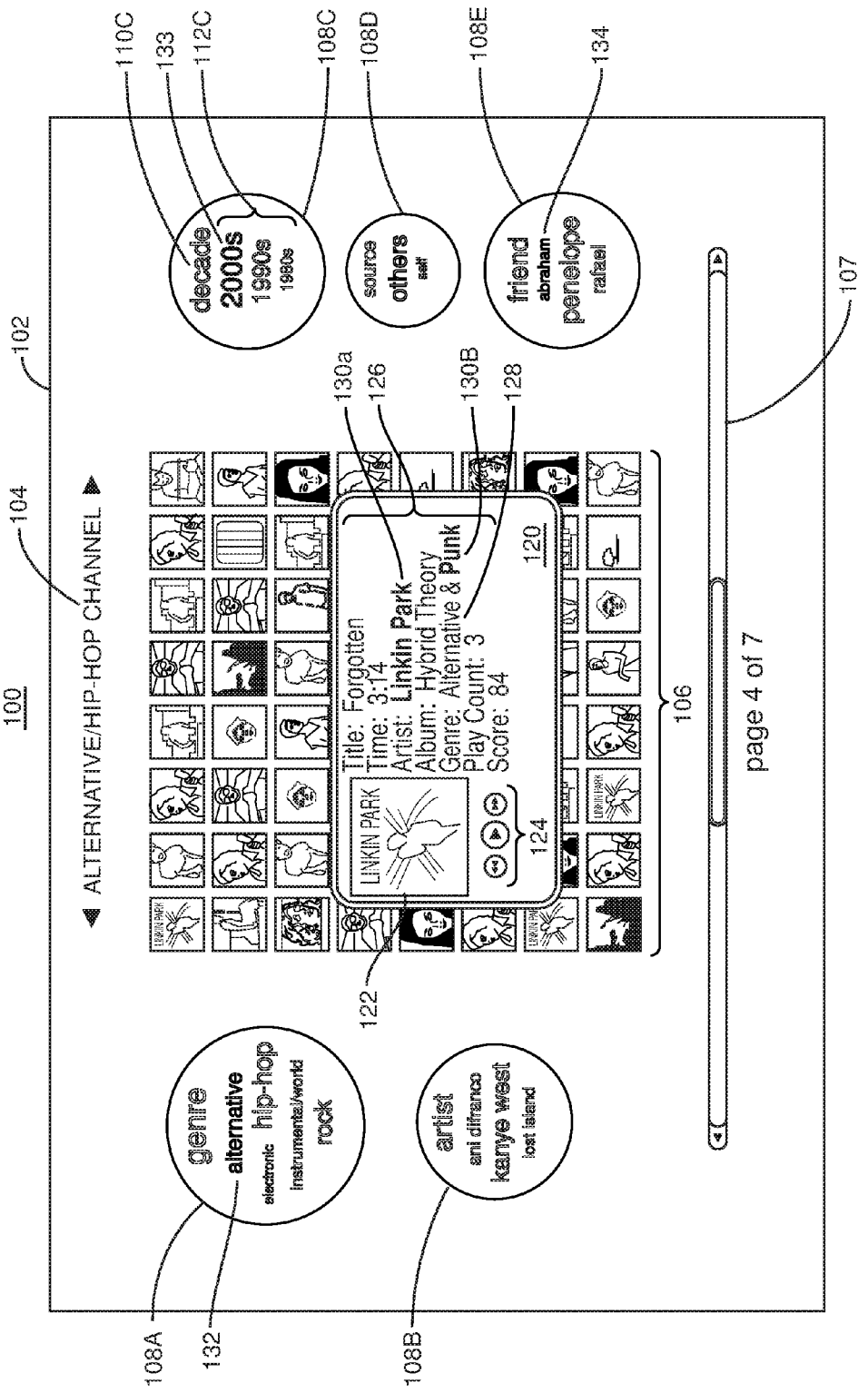

100
102
104
ALTERNATIVE/HIP-HOP CHANNEL
110C
133
112C
108C
108D
108E
134
decade
2000s
1990s
1980s
source
others
self
friend
abraham
penelope
rafael
130a
126
130B
128
Title: Forgotten
Time: 3:14
Artist: Linkin Park
Album: Hybrid Theory
Genre: Alternative & Punk
Play Count: 3
Score: 84
120
124
122
106
107
page 4 of 7
genre
alternative
electronic
hip-hop
instrumental
world
rock
artist
ani difranco
kanye west
lost island
108A
132
108B

FIG. 4

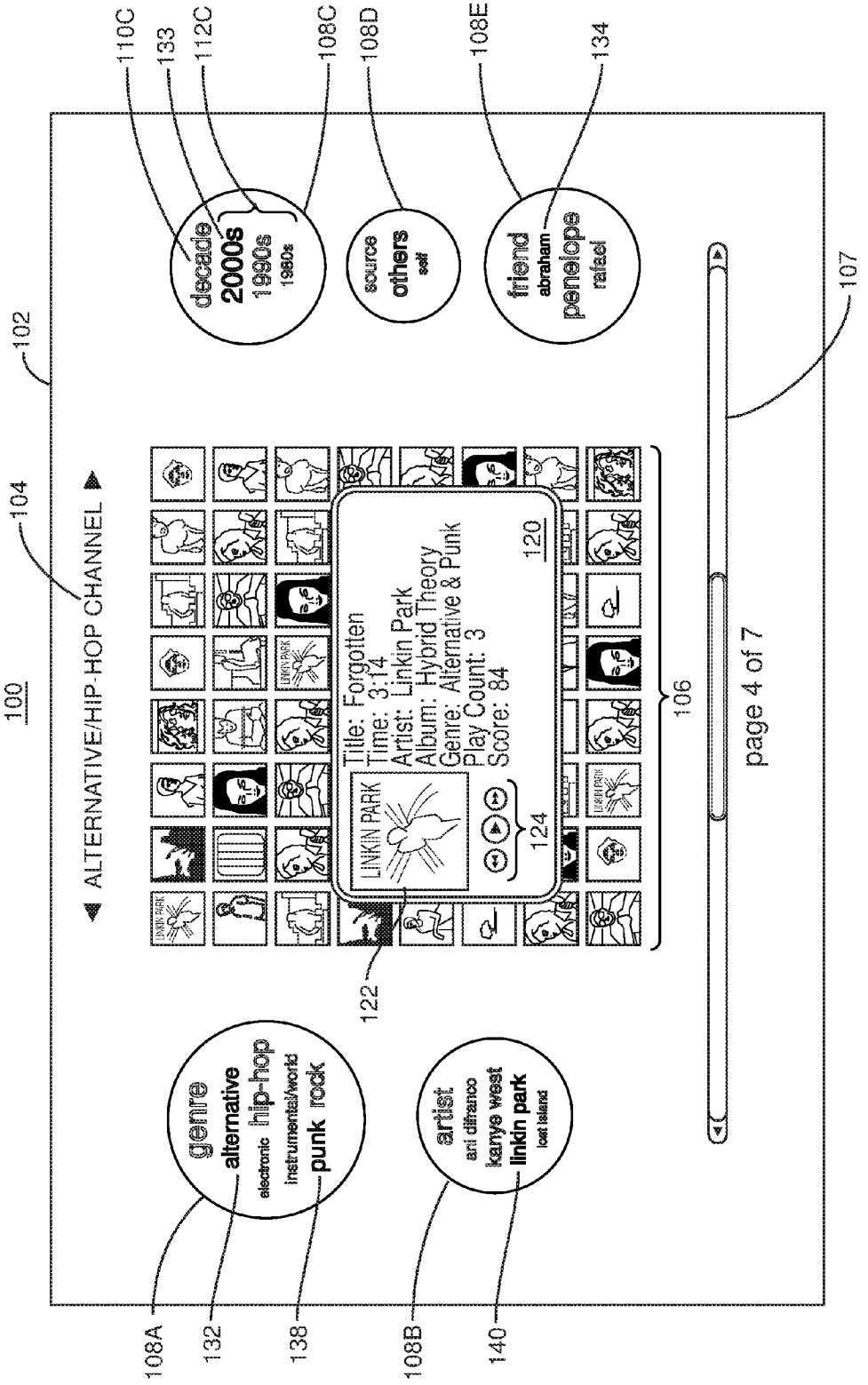

100
102
104
ALTERNATIVE/HIP HOP CHANNEL
Title: Forgotten
Time: 3:14
Artist: Linkin Park
Album: Hybrid Theory
Genre: Alternative & Punk
Play Count: 3
Score: 84
120
124
122
106
107
page 4 of 7
110C
133
112C
108C
108D
108E
134
decade
2000s
1990s
1980s
source
others
self
friend
abraham
penelope
rafael
genre
alternative
electronic
hip-hop
instrumental/world
punk
rock
artist
ani difranco
kanye west
linkin park
lost island
108A
132
138
108B
140

FIG. 5

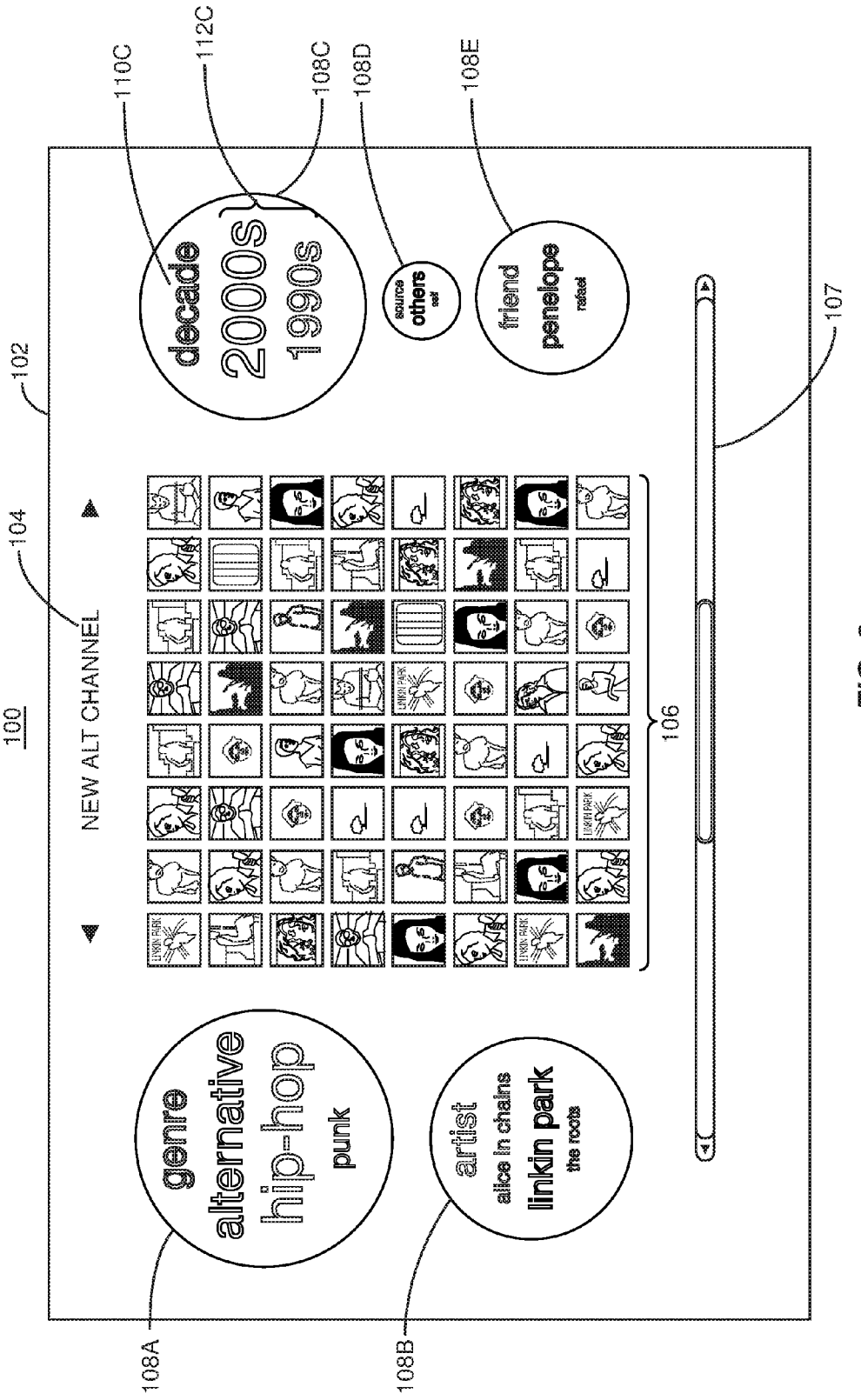

100
102
104
NEW ALT CHANNEL
106
107
110C
112C
108C
108D
108E
decade
2000s
1990s
source
others
self
friend
penelope
retired
genre
alternative
hip-hop
punk
artist
alice in chains
linkin park
the roots
108A
108B

FIG. 6

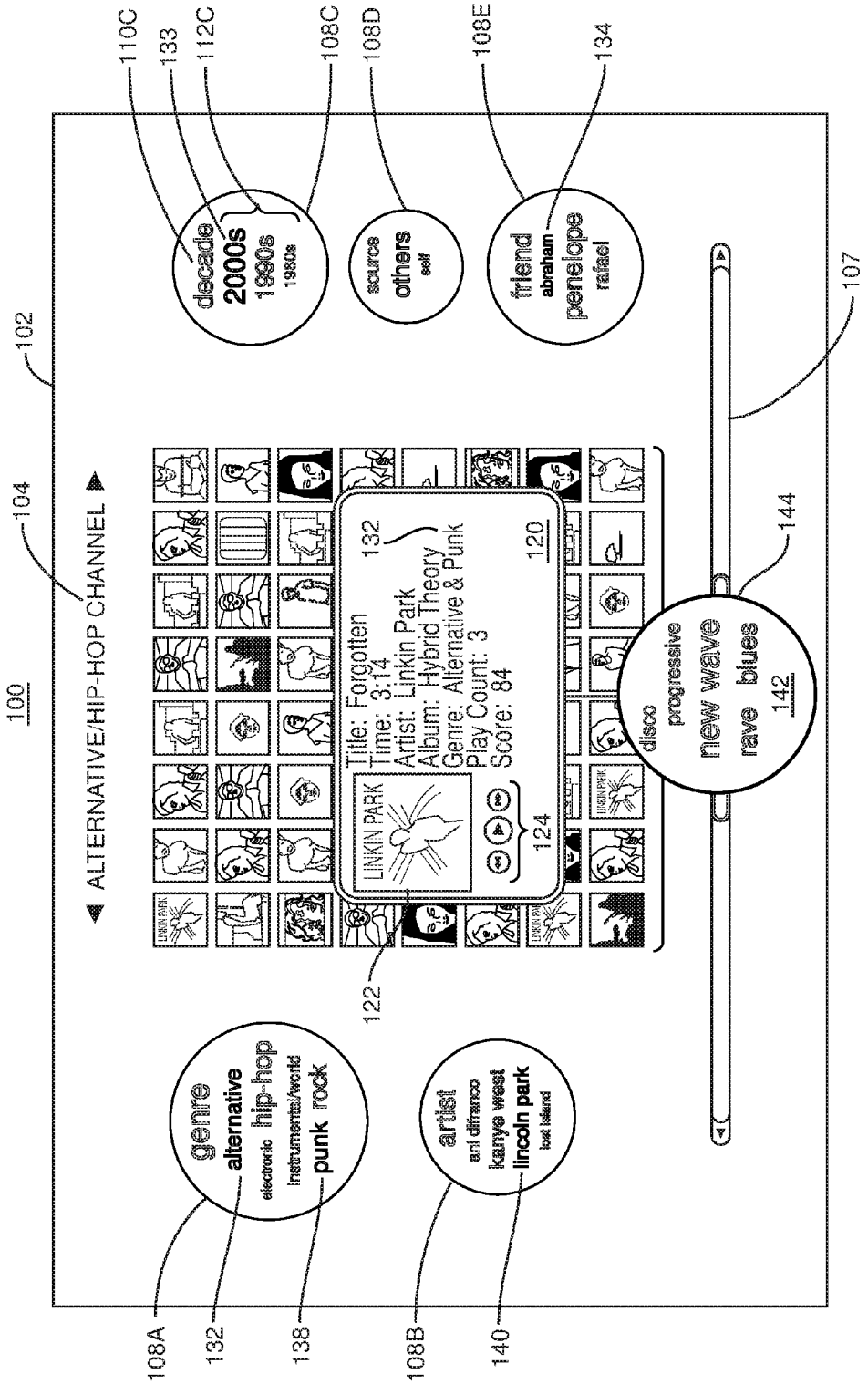

100
102
104
ALTERNATIVE/HIP-HOP CHANNEL
110C
133
112C
108C
108D
108E
134
decade
2000s
1990s
1980s
source
others
self
friend
abraham
penelope
rafael
107
132
Title: Forgotten
Time: 3:14
Artist: Linkin Park
Album: Hybrid Theory
Genre: Alternative & Punk
Play Count: 3
Score: 84
120
LINKIN PARK
124
122
144
disco
progressive
new wave
rave
blues
142
genre
alternative
electronic
hip-hop
instrumental/world
punk
rock
artist
ani difranco
kanye west
lincoln park
lost island
108A
132
138
108B
140

FIG. 7A

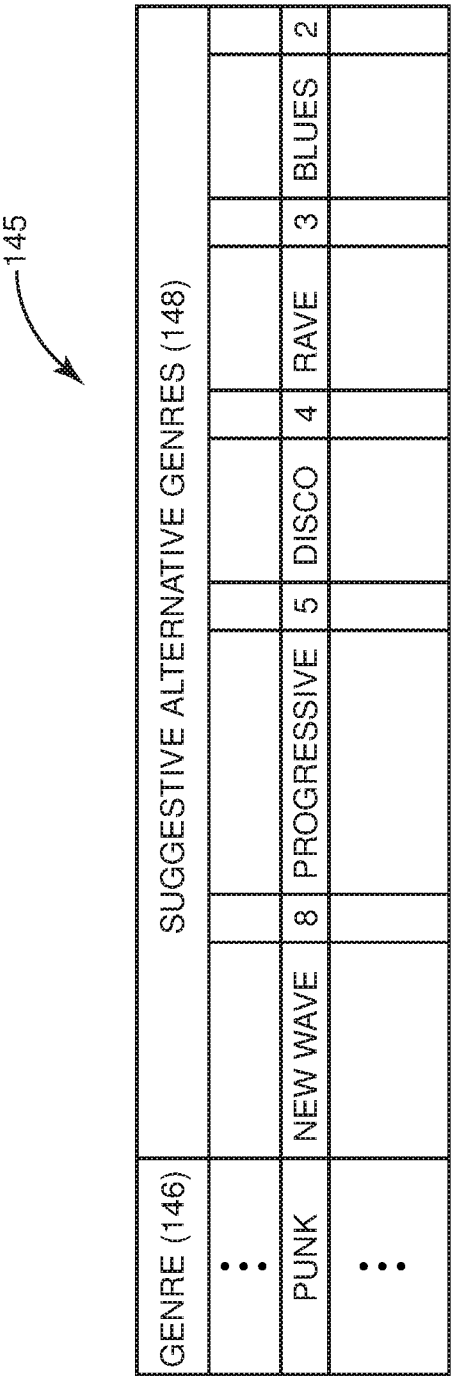
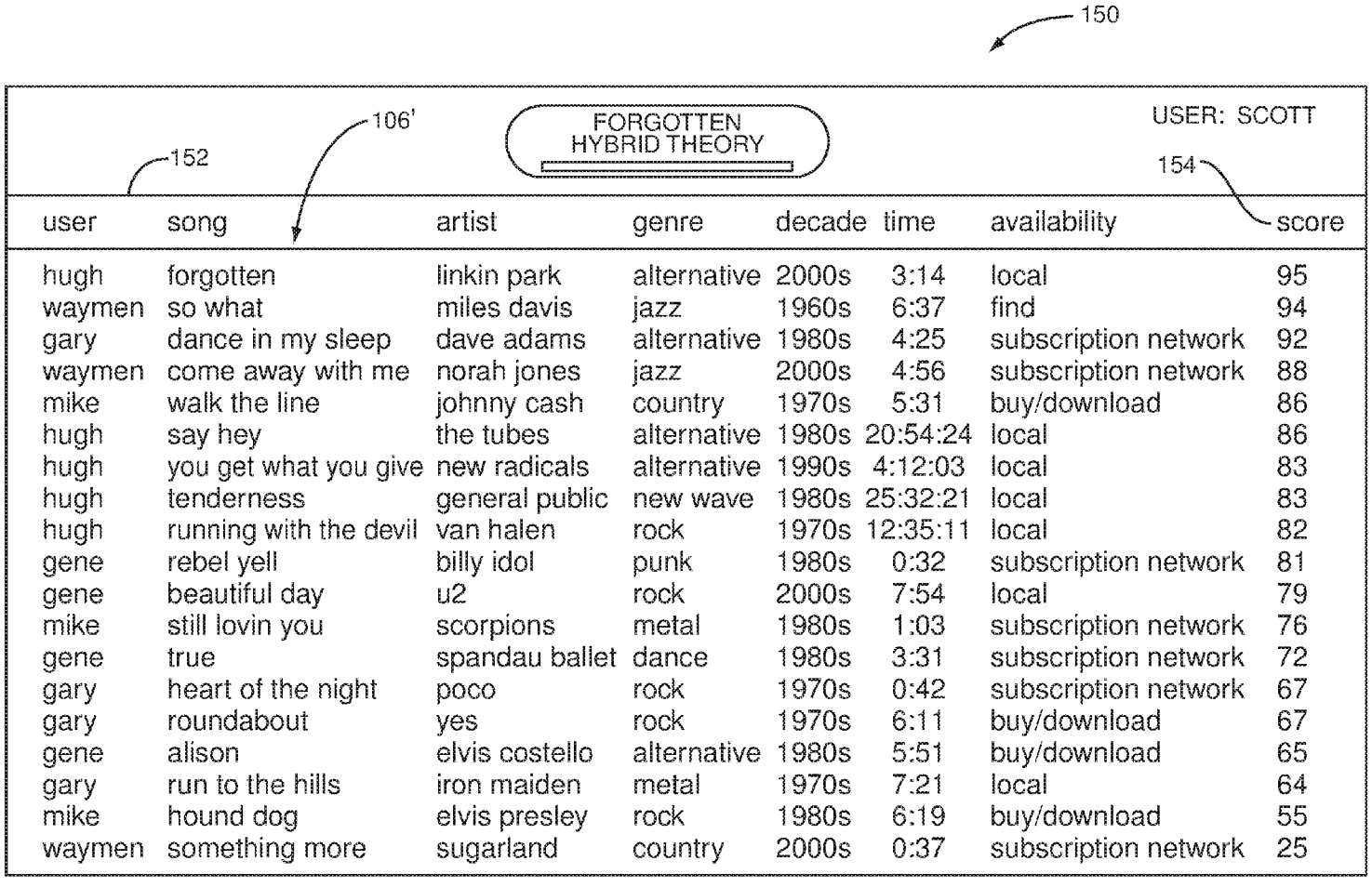

145
GENRE (146)
SUGGESTIVE ALTERNATIVE GENRES (148)
2
3
4
5
8
...
PUNK
NEW WAVE
PROGRESSIVE
DISCO
RAVE
BLUES
...

FIG. 7B



user	song	artist	genre	decade	time	availability	score
hugh	forgotten	linkin park	alternative	2000s	3:14	local	95
waymen	so what	miles davis	jazz	1960s	6:37	find	94
gary	dance in my sleep	dave adams	alternative	1980s	4:25	subscription network	92
waymen	come away with me	norah jones	jazz	2000s	4:56	subscription network	88
mike	walk the line	johnny cash	country	1970s	5:31	buy/download	86
hugh	say hey	the tubes	alternative	1980s	20:54:24	local	86
hugh	you get what you give	new radicals	alternative	1990s	4:12:03	local	83
hugh	tenderness	general public	new wave	1980s	25:32:21	local	83
hugh	running with the devil	van halen	rock	1970s	12:35:11	local	82
gene	rebel yell	billy idol	punk	1980s	0:32	subscription network	81
gene	beautiful day	u2	rock	2000s	7:54	local	79
mike	still lovin you	scorpions	metal	1980s	1:03	subscription network	76
gene	true	spandau ballet	dance	1980s	3:31	subscription network	72
gary	heart of the night	poco	rock	1970s	0:42	subscription network	67
gary	roundabout	yes	rock	1970s	6:11	buy/download	67
gene	alison	elvis costello	alternative	1980s	5:51	buy/download	65
gary	run to the hills	iron maiden	metal	1970s	7:21	local	64
mike	hound dog	elvis presley	rock	1980s	6:19	buy/download	55
waymen	something more	sugarland	country	2000s	0:37	subscription network	25

FIG. 8

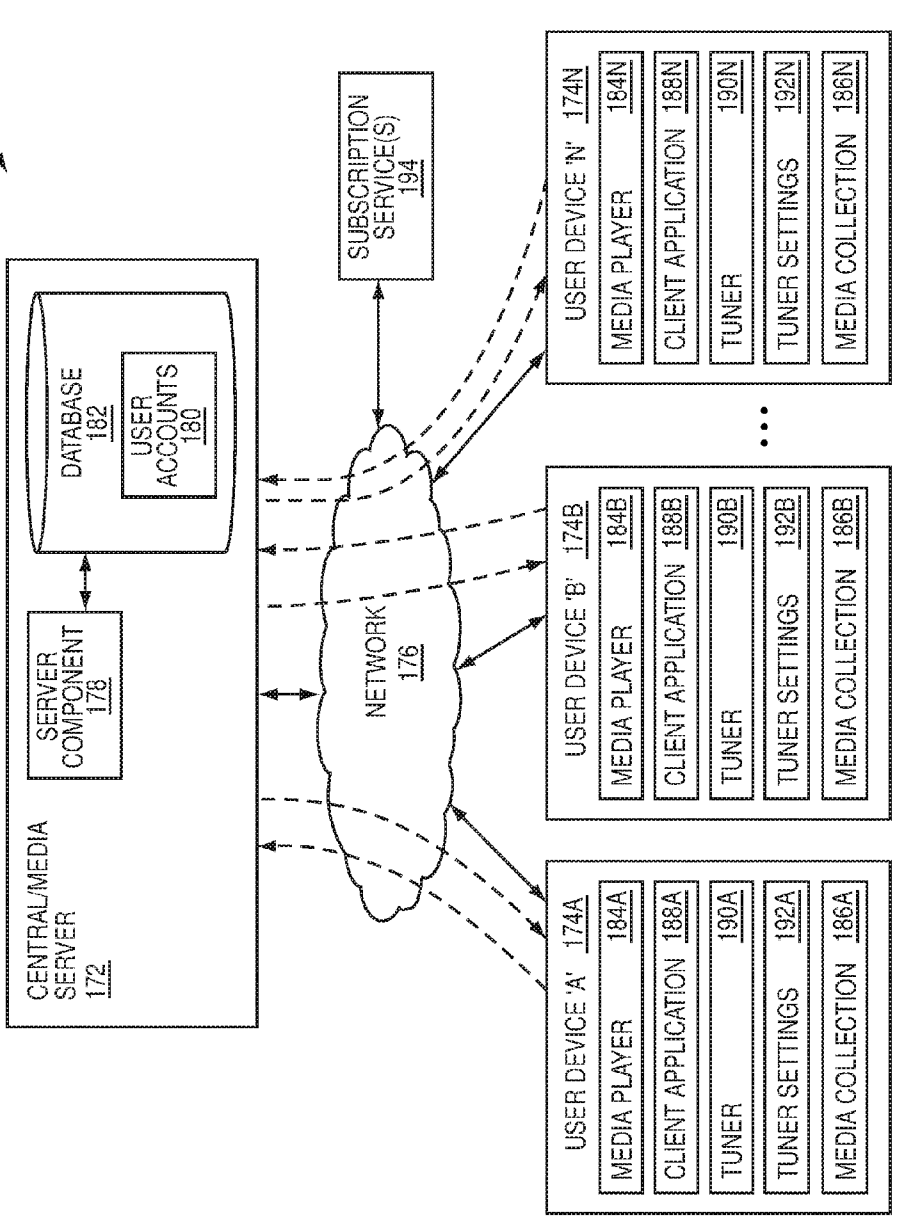

170
CENTRAL/MEDIA SERVER 172
SERVER COMPONENT 178
DATABASE 182
USER ACCOUNTS 180
SUBSCRIPTION SERVICE(S) 194
NETWORK 176
USER DEVICE 'A' 174A
MEDIA PLAYER 184A
CLIENT APPLICATION 188A
TUNER 190A
TUNER SETTINGS 192A
MEDIA COLLECTION 186A
USER DEVICE 'B' 174B
MEDIA PLAYER 184B
CLIENT APPLICATION 188B
TUNER 190B
TUNER SETTINGS 192B
MEDIA COLLECTION 186B
USER DEVICE 'N' 174N
MEDIA PLAYER 184N
CLIENT APPLICATION 188N
TUNER 190N
TUNER SETTINGS 192N
MEDIA COLLECTION 186N

FIG. 9

SYSTEM AND METHOD FOR GENERATING DYNAMICALLY FILTERED CONTENT RESULTS, INCLUDING FOR AUDIO AND/OR VIDEO CHANNELS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. Pat. No. 9,311,364, filed Apr. 20, 2015, entitled "System And Method For Generating Dynamically Filtered Content Results, Including For Audio And/Or Video Channels", which is a continuation of U.S. Pat. No. 9,105,147, filed Dec. 20, 2007, entitled "System And Method For Generating Dynamically Filtered Content Results, Including For Audio And/Or Video Channels", the disclosures of which are hereby incorporated herein by reference in their entirety.

FIELD OF THE INVENTION

[0002] The present invention relates to a system and method for generating dynamically filtered content results, including for audio and/or video channels. A user can iteratively select content of interest among the filtered content results to receive suggestions on additional filtering characteristics. The additional filtering characteristics can then be used to redefine the filtering characteristics to provide content results focused on content having characteristics similar to the user's selected content result of interest.

BACKGROUND

[0003] In recent years, there has been enormous increase in the amount of digital content available online. As a result, the amount of content downloaded by users has increased. This content includes audio and video content. For example, Apple® iTunes® enables users to legally purchase and download music to personal music devices. Video services exist that allow users to access and download video media. Due to the large amount of content available, searching and filtering technologies have emerged as an important enabler to assist users in navigating large amounts of content to produce and manage subsets of available content. These technologies are desired to allow users to filter content according to the user's desires or interests.

[0004] Current filtering technologies can be used to generate content results according to user-defined characteristics or criteria. However, these filtering technologies may be inefficient in sufficiently allowing a user to focus the content results to the user's particular interests or goals. For example, a user may select certain genre tags to generate song results meeting the desired genre. If the results are not sufficiently narrowed to the user's desires or interests, the user may have to change or replace the genre tags to produce new results. The user may have to guess which tag changes or replacements should be made to achieve focused results with no guarantee that more focused results will be produced. The user may have to provide several iterations of different filtering settings or characteristics to finally reach a result set that is sufficiently narrowed to the user's interests. As one can imagine, this can be time consuming and possibly frustrating to a user, especially if the iterations do not provide sufficiently focused results.

[0005] Further, the user may not be aware of all available filter settings that can be used to filter content to the desired results. Unknown filter settings may be the ones that would successfully produce the desired focused results. For example, in the iTunes® music classification system, there are over 230 different genre and sub-genre music types. Many users are only familiar with the most popular genre types. However, the most popular types often produce the greatest number of search results and thus provide the least focus. Less commonly known genres may be available to produce the desired focused results.

[0006] Thus, a need exists for providing a user the ability to more effectively focus content results to the user's particular desires or interests. The user may be unfamiliar with all available filtering characteristics associated with the content at issue. Thus, the user may not be able to efficiently focus content results without additional suggestions or assistance.

SUMMARY

[0007] Embodiments described include systems and methods for allowing a user to more effectively generate focused content results, including but limited to audio and/or video content results. Content is initially filtered to generate results in response to initial filtering characteristics or settings. The content results are then provided to a user for review. Once the user finds and selects a content result of particular interest, additional filtering characteristics associated with the selected result are provided to the user as suggestions to include as updates to the filtering settings. The suggested filtering characteristics are characteristics that were previously unaccounted for in the filtering settings to produce the results. The updated filter settings can then be used to generate new content results. In this manner, the regeneration of content results is more likely to produce highly relevant and focused results. This is because the results are used to affect the filtering itself. The additional filtering characteristics suggested to the user are characteristics of results deemed relevant by the user, as opposed to traditional filtering engines that only produce results in one direction—from settings to results. With each new generation of content results, additional and previously unaccounted for filtering characteristics of selected results can be continued to be provided to the user. The user can continue to select these additional filtering characteristics to generate new content results in an iterative and dynamic manner until the results are sufficiently focused to the user's desires. It is possible that after a certain number of iterations, the user's selection of results will not provide new previously unaccounted for filtering characteristics. This may also provide the user some degree of comfort that the content results are sufficiently focused.

[0008] In one embodiment of the present invention, the content is audio and/or video media. In the context of media, the filter settings or characteristics can be provided in the form of tuner settings. A tuner is provided to generate content results based on the tuner settings. The tuner settings form media channels when used by the tuner to filter content and generate content results. Importance levels may be assigned to the tuner settings to control the dominance of particular settings in tuning. The tuner settings may also be predefined preferences of the user or other preferences assigned by a system. For example, the tuner settings may be based on a scoring system, wherein the scores are determined according to predefined preferences, including those of a user. As the tuner settings are adjusted, media content results are produced. The tuner settings can be stored to create a media channel for later retrieval and content generation. The media channels can be given custom names by the users for recognition and later retrieval for tuning.

[0009] The tuner settings can also be provided in the form of one or more tags. The tuner generates content results based on content matching the tags. The tuner settings can include multiple tags of the same type in a tag grouping. A tag grouping is a container that can hold one or more tags of the same type. For example, one type of tag group is "genre." With the genre tag group, a user can deposit one or more genre tags of interest to be used in filtering to produce content results. The tags within a tag grouping can be assigned different levels of importance in filtering. For example, a "rock" tag within a genre tag grouping can be assigned an importance level of 8 out of 10, while a "metal" tag in the same genre tag grouping can be assigned an importance level of 6 out of 10. In this instance, the tuner will focus the content results more towards "rock" genre than "metal" genre.

[0010] In addition to or in lieu of the system suggesting additional characteristics associated with a result of interest selected by the user from among the content results, additional filtering characteristics can also provided to the user for inclusion in the tuner settings that are related to the characteristics of the user-selected result. These additional related characteristics may not be accounted for in the filter settings. The system may have stored characteristics that are deemed relevant to those included in the user's selected result. For example, a user-selected result may include a "hard rock" genre tag. In response, the system may suggest "rock" genre as an additional filtering characteristic for a result having a "hard rock" tag. In this example, the system has stored "hard rock" genre as being relevant to "rock" genre.

[0011] Those skilled in the art will appreciate the scope of the present invention and realize additional aspects thereof after reading the following detailed description of the preferred embodiments in association with the accompanying drawing figures.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] The accompanying drawing figures incorporated in and forming a part of this specification illustrate several aspects of the invention, and together with the description serve to explain the principles of the invention.

[0013] FIG. **1** is a flow chart illustrating an exemplary process for producing filtered content and allowing a user to provide additional characteristics for filtering in an iterative manner based on characteristics of content results, according to one embodiment of the present invention;

[0014] FIG. **2** is a diagram of content results generated according to tags assigned to tag groupings to provide filter settings, according to one embodiment of the present invention;

[0015] FIG. **3**A illustrates an exemplary tag grouping that is adapted to hold desired tags to be used in filter settings according to assigned and adjustable levels of importance, according to one embodiment of the present invention;

[0016] FIG. **3**B illustrates a table for storing assigned importance levels for tags assigned to a tag grouping, according to one embodiment of the present invention;

[0017] FIG. **4** is a diagram of content results with one of the results being selected by the user and having additional characteristics not employed in the current filter settings, according to one embodiment of the present invention;

[0018] FIG. **5** is an illustration of the content results provided in FIG. **4**, with the user having selected additional characteristics from the selected result to be used in the filter settings to produce a new set of content results;

[0019] FIG. **6** is an illustration of a new media channel created from content results, according to one embodiment of the present invention;

[0020] FIG. **7**A is an illustration of providing additional related tags related to a user-selected content result that may be selected for inclusion in the filter settings to be used in further generating content results, according to one embodiment of the present invention;

[0021] FIG. **7**B is a table illustrating the importance level assigned to the additional related tags illustrated in FIG. **7**A, according to one embodiment of the present invention;

[0022] FIG. **8** illustrates an alternative configuration for displaying content results to a user, according to one embodiment of the present invention; and

[0023] FIG. **9** is an illustration of an exemplary media delivery system that may provide or employ aspects of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0024] The embodiments set forth below represent the necessary information to enable those skilled in the art to practice the invention and illustrate the best mode of practicing the invention. Upon reading the following description in light of the accompanying drawing figures, those skilled in the art will understand the concepts of the invention and will recognize applications of these concepts not particularly addressed herein. It should be understood that these concepts and applications fall within the scope of the disclosure and the accompanying claims.

[0025] Embodiments of the present invention include systems and methods for allowing a user to more effectively generate focused content results, including but not limited to audio and/or video content results. Content is initially filtered to generate results in response to initial filtering characteristics or settings. The content results are then provided to a user for review. Once the user finds and selects a content result of particular interest, additional filtering characteristics associated with the selected result are provided to the user as suggestions to include as updates to the filtering settings. The suggested filtering characteristics are characteristics that were previously unaccounted for in the filtering settings to produce the results. The updated filter settings can then be used to generate new content results. In this manner, the regeneration of content results is more likely to produce highly relevant and focused results. This is because the results are used to affect the filtering itself. The additional filtering characteristics suggested to the user are characteristics of results deemed relevant by the user, as opposed to traditional filtering engines that only produce results in one direction—from settings to results. With each new generation of content results, additional and previously unaccounted for filtering characteristics of selected results can be continued to be provided to the user. The user can continue to select these additional filtering characteristics to generate new content results in an iterative and dynamic manner until the results are sufficiently focused to the user's desires. It is possible that after a certain number of iterations, the user's selection of results will not provide new previously unaccounted for filtering characteristics. This may also provide the user some degree of comfort that the content results are sufficiently focused.

[0026] In one embodiment of the present invention, the content is audio and/or video media. Filter settings or characteristics are provided in the form of tuner settings. Impor-

tance levels or weightings may be assigned to the settings. The tuner settings may also be predefined preferences of the user or other preferences assigned by a system. For example, the tuner settings may be based on a scoring system, wherein the scores are determined according to predefined preferences, including those of a user. As the tuner settings are adjusted, media content results are produced. The tuner settings form media channels. The media channels can be stored for later retrieval and content generation by storing the tuner settings. The media channels can be given custom names by the users for recognition and later retrieval for tuning.

[0027] In this regard, FIG. **1** is a flowchart illustrating the filtering process according to one embodiment of the present invention. The exemplary steps in FIG. **1** will be discussed in conjunction with user displays in FIGS. **2**-**7**B, which may execute on a client device to provide the content results to a user in response to filtering content. In this embodiment, the content being filtered is audio and/or video media. Filtering in this context is also known as tuning. A tuner may be provided to execute the filter. Filter settings or characteristics in the form of tuner settings are used by the tuner to filter content and provide filtered content results. The tuner settings may be predefined preferences of the user or other preferences assigned by a system. For example, the tuner settings may be based on a scoring system, wherein the scores are determined according to predefined preferences, including those of a user. As the tuner settings are adjusted, the tuning content results are regenerated. The tuner settings form media channels. Different channels may be established and selected by a user wherein each channel has associated tuner settings. Thus, when a particular channel is selected, the tuner settings stored for the channel will be recalled by the tuner to generate the content results.

[0028] Turning to FIG. **1**, the exemplary process of tuning audio and/or video media starts by applying the current tuner settings for the selected channel to produce the tuning results (step **10**). Next, the content results are provided to the user on a user client so that the user can browse or select from among the results (step **12**). FIG. **2** illustrates an example of a display **100** that may be displayed by a user client to provide content results to a user. In this example, the content is displayed in a display window **102**. The name of a selected channel **104** may be displayed in the display window **102** to show the user which channel is currently being tuned. The content results **106** may be visually displayed to the user, whereby the results are a function of content generated when the tuner settings for the selected channel are applied (e.g. step **10** of FIG. **1**). In this example, the content results **106** are album or song media recommendations made to the user from other peer users in a media recommendation system. Such a system is described in co-pending and commonly assigned application Ser. No. 11/484,130 entitled "P2P NETWORK FOR PROVIDING REAL TIME MEDIA RECOMMENDATIONS," which is incorporated herein by reference in its entirety.

[0029] In the example illustrated in FIG. **2**, the tuner settings in this example are to provide the results **106** in the order of recommendation scores. A scoring system previously scored the recommendations according to preferences or settings. In this example, the results **106** are provided in the form of icons. The song having the highest recommendation score is displayed at the top left icon of the results **106**. The next highest scoring recommendation is displayed next in numerically descending order, from left to right, and top to bottom. If more recommendations result from the tuner settings than can be displayed on the display **100** at one time, a paging scroll bar **107** may be provided to allow the user to traverse between different pages to display all the content results **106**. Also note that in the spirit of providing a simplified drawing example, the results **106** illustrated in FIG. **2** and later illustrations include duplicate icons. However in practice, each result **106** would typically be unique.

[0030] In this example, the filter characteristics or tuner settings associated with the results **106** are tags that are displayed in tag groupings **108**A-**108**E. The tag groupings **108** are designed to hold tags of the same type. For example, the genre tag grouping **108**A holds genre type tags. The tag groupings **108** are filled with tags that represent the tags associated with the results **106** in this example. Thus initially, the tag groupings **108** are part of the tuner settings, but they were not set directly by the user in this example. However, the user can adjust the tags in the tag groupings **108** to adjust the tuner settings. In response, the content results **106** will be regenerated by the tuner according to the adjusted tuner settings. Further, the user can adjust the tag groupings **108** themselves to control whether any tags of a certain tag type will be included in the tuner settings, and if so, to what extent.

[0031] In the example of FIG. **2**, the dominance or level of importance of the tag groupings **108** are provided according to their visual size. The level of importance can be adjusted by the user. For example, the "genre" tag grouping **108**A is larger in size than the "artist" tag grouping **108**B. This means that "genre" tags are deemed to play a higher level of importance by the tuner to produce results **106** than the "artist." Likewise, the tags within a tag grouping **108** can also be sized to control the relative level of importance among other tags. FIGS. **3**A and **3**B illustrate this concept by example. As illustrated in FIG. **3**A, the user has selected the "hip-hop" tag **110** within the "genre" tag grouping **108**A. Once selected, a sizing ellipse **112** is displayed for the "hip-hop" tag **110** with the current level of importance **113** display. Sizing arrows **114** are also displayed that allow the user to click and drag in the desired direction to expand or shrink the size of the tag **110** to change its level of importance **113**. In this example, the level of importance for the "hip-hop" tag **110** is '8' out of a maximum of '**10**.' If the level of importance is changed by the user by resizing the sizing ellipse **112**, the level of importance **113** will also be updated and displayed in kind in the sizing ellipse **112**. Selecting a tag grouping **108** may also cause a pop-up window **116** to be displayed to allow the user to add other tags **118** to the tag grouping **108** to be included in the tuner settings. More information about the ability to assign tags to tag groupings **108** and resizing tag groupings and/or the tags within tag groupings to control relative levels of importance in filtering content is described in co-pending and commonly assigned application Ser. No. 11/955,534, filed on Dec. 13, 2007 and entitled "RESIZING TAG REPRESENTATIONS OR TAG GROUP REPRESENTATIONS TO CONTROL RELATIVE IMPORTANCE," which is incorporated herein by reference in its entirety. The tags assigned to a tag grouping as well as their assigned level of importance may be stored in a tag table **119** as part of the tuner settings.

[0032] After the content results **106** are displayed to the user (step **12** in FIG. **1**), the system waits for a selection from the user. The user may select any item of interest among the content results **106** for play or further inspection (step **14**). The user can quickly expose more detail about a particular content result **106** by moving a mouse cursor over the icon of the desired result. If the user desires to select a particular

content result **106**, the user can then click on the icon representing the desired result **106**. FIG. **4** illustrates a user display **100** showing an exemplary result **106** selected by the user. In this example, the user has selected the highest scoring song recommendation by clicking at the top left of the results on "Forgotten," by "Linkin Park." In response, a results window **120** is generated to show the user more information about the selection. The album cover **122**, play controls **124**, and other characteristic information about the result **126** are visually displayed to the user. Some characteristic information about the selected result is already included in the tuner settings. These characteristics of the selection are highlighted in both the results window **120** and the tag groupings **108**. For example, the selection illustrated in FIG. **2** is of "alternative" genre **132**, was released in the "2000's" decade **133**, and was recommended by "Abraham" **134**. Highlighting may take the form of a different text color, font, text size, or other visually distinct manner. This provides a convenient visual display to the user of which tuner settings used by the tuner were met by the selected result.

[0033] In addition to informing the user of characteristics of the selected result that are included in the tuner settings, any additional characteristics associated with the selected result that are not included in current tuner settings are also highlighted to the user within the characteristic information **126**. These are also called unaccounted characteristics, or unaccounted tags in this example. In this example of FIG. **4**, the artist name "Linkin Park" **130**A and the "punk" genre are highlighted as additional characteristics not presently included in the tuner settings. Thus, if the user wants to further focus the content results **106** to results more closely focused on the characteristics to the selected result, the user can select any of the additional characteristics to be added to the tuner settings (step **16** of FIG. **1**). The system will add the unaccounted characteristics to the tuner settings (step **18** of FIG. **1**), and the tuner will automatically generate updated results **106** based on the updated tuner settings taking into account the previously unaccounted characteristics selected by the user. In this manner, the user can easily start focusing the results **106** to those more similar to the characteristics of their selected results of interest. Thus, the present invention allows the user to adjust the tuner settings in an iterative manner based on characteristics of content results of interest to the user. This will effectively focus the results **106** to those highly relevant to the user's desires or interest. This is opposed to filtering technologies where the user adjusts the tuner settings not based on characteristics of relevant results, but on other factors. Thus, these other filtering technologies are only as effective as the user's knowledge and skill of the possible characteristics available for filtering. In contrast, the present invention also provides suggestions to the user for additional filtering characteristics based on results the user has deemed relevant to their interests.

[0034] FIG. **5** illustrates an example of the user display **100** after the user has selected previously unaccounted characteristics to be included in the tuner settings causing the tuner to regenerate content results **106** (steps **16** and **18** in FIG. **1**). Note that the tag groupings **108** now include the previously unaccounted and user-selected tags of "punk" genre **138** and artist of "Linkin Park" **140**. Because these tags are now part of the tuner settings, they are likewise highlighted in the tag groupings **108** as being accounted for and relevant characteristics in the current tuner settings. Once the unaccounted tags are added to the tag groupings **108**, the user can resize those tags as well as others, as previously described, to adjust their level of importance in use by the tuner to generate results **106**. A default level of importance may be provided until the user resizes tags and/or tag groupings.

[0035] The process continues by the tuner generating content results **106** based on the user's selection of relevant results **106** and providing adjustments to the tuner settings. These adjustments can include both accounted and unaccounted characteristics in the tuner settings. The user repeats this process in an iterative manner, if desired, until the user is satisfied that the content results **106** are sufficiently focused. If desired, the user can store the tuner settings under a new channel at any time during the iterations (decision **20** in FIG. **1**). If a new channel is created, the current tuner settings are stored under the new channel (step **22** in FIG. **1**). An example of this is illustrated in FIG. **6**, wherein the new channel "New Alt Channel" has been created. In this manner, the user can recall stored tuner settings assigned to the channel that produced the desired content results **106**. Once a new channel is created, the process repeats by providing content results **106** according to the tuner settings as the initial results **106**. Thus, no tags in the tag groupings **108** will be highlighted for a newly selected channel until a particular result **106** is selected by the user.

[0036] In another embodiment, the present invention can also facilitate focusing content results **106** by providing the user additional filtering characteristics that are not assigned to the user-selected content result, but instead are related to the selected content result. This allows the user more options to focus content results based on related interests or goals. In this embodiment, the system provides the related additional characteristics for the user as a measure of assistance instead of the user having to be solely familiar with related characteristics that may be included in updated filter settings.

[0037] The additional related filtering characteristics may not be accounted for in either the tuner settings or in the characteristics of the user-selected content result. The user is then free to select any of these additional related filtering characteristics to be included in the tuner settings to have the tuner produce updated content results **106**. FIG. **7**A illustrates this by example. In this example, the user has selected the song "Forgotten" by "Linkin Park" from the content results **106**. However, in this embodiment, the additional related characteristics that are not included in the selected result, but are related to it, are displayed for possible selection. In this example, several different genre types **142** are displayed in an additional related characteristic ellipse **144** for possible selection that are not "alternative" and "punk" genres, but may be closely related to these genre types. The system may have pre-defined settings indicating which additional related characteristics or tags are to be provided and displayed to the user in response to given characteristics of a user-selected content result **106**. A table may be provided to store these additional related characteristics like the additional related genre table **145** illustrated in FIG. **7**B. In this example, other genres **142** are assigned as being relevant to "punk" genre, with a level of importance or relevance assigned to each. This level of importance controls the sizing of the additional related characteristics when displayed in the additional related characteristic ellipse **144**.

[0038] FIG. **8** illustrates an alternative user display **150** for displaying content results to a user. In this example, the content results **106'** are provided in list form as opposed to icons. Other characteristics **152** of the results **106'** may be displayed

in the list. In this example, a score **154** is also associated with each of the results **106'**. This score **154** may be used to control the ordering of the initial results set by the tuner in this example. The scoring may be based on any settings or algorithm, including settings based on the user's preferences.

[0039] FIG. **9** illustrates a system diagram of a content delivery and sharing system **170** that may be employed by the present invention to access and filter content. A central server **172** may be provided that provides access to content and other content related services, such as content flow management, to user devices **174** over a network **176**. The network **176** may be a wide area network, a local area network, a wired or wireless network, or any other type of network, including but not limited to the Internet. The central server **172** may facilitate providing content services to user devices **174** via a server component **178** that executes to handle requests and provide responses. This also enables users to access and share content in the system **170** and with other peer user devices **174**A-**174**N. The central server **172** may have accessible content stored in a database **182** or may obtain the content from other services, such as subscription-based services **194**.

[0040] The central server **172** may require the user to have an established user account **180** stored in the database **182** to access content-based services from the central server **172**. To establish a user account, users may direct their user device **174** to contact the central server **172**, and namely the server component **178** within the central server **172**. The server component **178** may store user account and associated information in a record of user accounts **180** in the database **182** within or accessible to the central server **172**.

[0041] The user devices **174** may contain a media player **184** to allow a user to play media content and content results, including songs and/or video presentations for example. The user device **174** may also contain a tuner **190** to provide the results **106**, **106'** to a user at the user device **174** as previously described. The user device **174** may also contain tuner settings **192** locally to be used by the tuner **190** to provide content results to the user. Alternatively, the tuner settings may be stored remotely, such as at the central server **172** under the user's account, or elsewhere that is network accessible. The tuner settings **192** may be predefined user preferences or settings, or may be any other type of settings or algorithms for allowing the tuner **190** to filter and provide content results.

[0042] The user device **174** may also have media content stored locally in a user's media collection **186**. The tuner **190** may access the media collection **186** to provide content results. If the desired media content is not stored locally, the tuner **190** may also be adapted to access other systems to obtain desired media content. In this regard, the user device **174** may request media content from the subscription service **194**, or from the central server **172**.

[0043] Further, in order to access media-based services from the central server **172**, users may be required to download a client application **188** to their user device **174** from the central server **172**. The client application **188** provides software to allow the user devices **174** to communicate with the central server **172** to access media-based services and related information. For example, a user device **174** may contact the central server **172**, via the client application **188**, to request certain media content. The central server **172** may provide the requested media content from its database **182** if present, or may access an outside service, such as the subscription service **194** for example, to access the requested media content.

[0044] The client application **188** may also facilitate the user devices **174** sending and receiving media recommendations to and from other peer user devices **174** in the system **170** as described in application Ser. No. 11/484,130, previously referenced above. A user may desire to recommend a given media content to a friend. In this instance, the user, acting as a recommender, instructs their user device **174** to send a recommendation for the desired media content to a recipient user's device **174**. This instruction may be performed by the recommender user manually or automatically as a result of the recommender playing a given media content. The recommender user may have a pre-defined list of friends that will be sent recommendations for media content once played by the recommender user. In either case, the media recommendation is sent over the network **176** to the central server **172**. The central server **172** intercepts the media recommendations and forwards it to the recipient's user device **174**. There, the recipient's user device **174** may place the media recommendation in a media queue, which may be a playlist for example, so that the recipient user's device **174** can access, display, and/or play the recommended media content. The media queue may contain an ordered list of media content scheduled to be played by the user device **174**. The order of placement of the received media recommendation in the media queue may be controlled by a scoring algorithm. The scoring algorithm may be controlled or influenced by the tuner settings **192**. The tuner settings **192** may include preferences based on media attributes, or may be based on other information including the identity of the recommender, as examples.

[0045] It should be noted that the present invention is not limited to filtering or tuning of audio or video media. The present invention may be used to filter or tune any type of content. The present invention may be used in any type of filtering technology. This includes search engines, including those on the Internet to search content available through the world wide web. The filter or tuner employed by the present invention may be located at a user device or at another device, including but not limited to a central server. Further, the filter or tuner settings may likewise be located at a user device or at another device, including but not limited to a central server. If located at other devices other than a user device, the tuner may operation in conjunction with a user device to display results to the user and receive a user's selections regarding filtering characteristics and tuning channels.

[0046] Those skilled in the art will recognize improvements and modifications to the preferred embodiments of the present invention. All such improvements and modifications are considered within the scope of the concepts disclosed herein and the claims that follow.

What is claimed is:

1. A method for filtering content, comprising the steps of:

generating first content results based on first filter settings applied to a source of content, the first content results comprising a plurality of content;

displaying the first content results based on recommendation scores of the plurality of content of the first content results;

receiving a selection of content from a user device from among the first content results;

in response to receipt of the selection, generating a suggestive characteristic associated with the selected content and unaccounted for in the first filter settings applied to the source of content;

providing the suggestive characteristic to the user device;

receiving a selection of the suggestive characteristic from the user device;

in response to receipt of the selection, adding the suggestive characteristic received from the user device to the first filter settings to provide second filter settings, wherein at least one of the first filter settings and the second filter settings comprise a tag grouping including a tag defining a characteristic of content;

assigning a level of importance to the tag in the tag grouping in at least one of the first filter settings and the second filter settings to control the level of importance of the tag in the at least one of the first filter settings and the second filter settings; and

generating second content results based on the second filter settings applied to the source of content.

2. The method of claim **1** further comprising assigning a level of importance to the tag grouping in at least one of the first filter settings and the second filter settings to control the level of importance of the tag grouping in the at least one of the first filter settings and the second filter settings.

3. The method of claim **1**, further comprising

displaying the second content results based on recommendation scores of the plurality of content of the second content results;

receiving a selection of content from a user device from among the second content results

in response to receipt of the selection, generating a suggestive characteristic associated with the selected content and unaccounted for in the second filter settings applied to the source of content;

providing the suggestive characteristic to the user device;

receiving a selection of the suggestive characteristic from the user device;

in response to receipt of the selection, adding the suggestive characteristic received from the user device to the second filter settings;

generating further content results based on the second filter settings applied to the source of content; and

repeat the steps of displaying the second content results, receiving the selection of content, generating a suggestive characteristic, providing the suggestive characteristic, receiving the selection of the suggestive characteristic, adding the suggestive characteristic, and generating further content results in an iterative manner.

4. The method of claim **3** wherein the iteratively manner is stopped after a predetermined number of times.

5. The method of claim **4** wherein the iteratively manner is stopped when there are no further suggestive characteristics.

6. The method of claim **3** further comprising re-assigning the level of importance to the tag grouping in at least one of the first filter settings and the second filter settings to control the level of importance of the tag grouping in the at least one of the first filter settings and the second filter settings

7. The method of claim **3**, further comprising creating a channel based on the updated filter settings.

8. The method of claim **1**, wherein generating content results based on filter settings being applied to a source of content comprises generating content results based on tuner settings being applied to a source of content.

9. The method of claim **1**, further comprising:

providing at least one additional characteristic relating to the at least one suggestive characteristic to the user and that was unaccounted for in the at least one suggestive characteristic;

receiving a selection from the user of the at least one additional characteristic;

including the at least one additional characteristic selected by the user in the filter settings to provide updated filter settings; and

generating new content results based on the updated filter settings being applied to the source of content.

10. The method of claim **1**, further comprising:

receiving a selection from the user of at least one filter characteristic not associated with content selection; and

including the at least one filter characteristic not associated with the content selection in the filter settings to provide updated filter settings.

11. The method of claim **1**, further comprising:

displaying the filter settings to the user; and

displaying the at least one suggestive characteristic in a visually distinct manner from the filter settings.

12. The method of claim **1**, wherein at least the steps of generating first content results, generating and providing the suggestive characteristic, adding the suggested characteristic, and generating new content results are performed by a central server located apart from the user device.

13. A device for filtering content, comprising:

a tuner coupled to a source of content, wherein the tuner is adapted to:

generate first content results based on first filter settings applied to a source of content, the first content results comprising a plurality of content;

displaying the first content results based on recommendation scores of the plurality of content of the first content results;

receive a selection of content from a user device from among the first content results;

in response to receipt of the selection, generate a suggestive characteristic associated with the selected content and unaccounted for in the first filter settings applied to the source of content;

provide the suggestive characteristic to the user device;

receive a selection of the suggestive characteristic from the user device;

in response to receipt of the selection, add the suggestive characteristic received from the user device to the first filter settings to provide second filter settings, wherein at least one of the first filter settings and the second filter settings comprise a tag grouping including a tag defining a characteristic of content;

assign a level of importance to the tag in the tag grouping in at least one of the first filter settings and the second filter settings to control the level of importance of the tag in the at least one of the first filter settings and the second filter settings; and

generate second content results based on the second filter settings applied to the source of content.

14. The device of claim **13**, wherein the tuner is further adapted to

display the second content results to the user based on recommendation scores of the content of the second content results;

receive a selection of content from a user device from among the second content results

in response to receipt of the selection, generate a suggestive characteristic associated with the selected content and unaccounted for in the second filter settings applied to the source of content;

provide the suggestive characteristic to the user device;

receive a selection of the suggestive characteristic from the user device;

in response to receipt of the selection, add the suggestive characteristic received from the user device to the second filter settings;

generate further content results based on the second filter settings applied to the source of content; and

repeat the steps to display the second content results, receive the selection of content, generate a suggestive characteristic, providing the suggestive characteristic, receive the selection of the suggestive characteristic, add the suggestive characteristic, and generate further content results in an iterative manner.

15. The device of claim **13**, wherein the tuner is further adapted to create a channel based on the updated tuner settings.

16. The device of claim **13**, wherein the source of content is comprised from a group consisting of audio media, video media, and audio and video media.

17. The device of claim **13**, wherein the tuner settings comprise at least one tag defining a characteristic of content.

18. The device of claim **16**, wherein the tuner is further adapted to assign a level of importance to the at least one tag in the tuner settings to control the level of importance of the at least one tag in the tuner settings.

19. The device of claim **13**, further wherein the tuner is further adapted to:

provide at least one additional characteristic relating to the at least one suggestive characteristic to the user and that was unaccounted for in the at least one suggestive characteristic;

receive a selection from the user of the at least one additional characteristic;

include the at least one additional characteristic selected by the user in the tuner settings to provide updated tuner settings; and

generate new content results based on the updated tuner settings being applied to the source of content.

20. The device of claim **13**, wherein the tuner is further adapted to:

display the tuner settings to the user; and

display the at least one suggestive characteristic in a visually distinct manner from the tuner settings.

21. A non-transitory computer readable medium comprising instructions for instructing a computer to:

generate first content results based on first filter settings applied to a source of content, the first content results comprising a plurality of content;

display the first content results based on recommendation scores of the plurality of content of the first content results;

receive a selection of content from a user device from among the first content results;

in response to receipt of the selection, generate a suggestive characteristic associated with the selected content and unaccounted for in the first filter settings applied to the source of content;

provide the suggestive characteristic to the user device;

receive a selection of the suggestive characteristic from the user device;

in response to receipt of the selection, add the suggestive characteristic received from the user device to the first filter settings to provide second filter settings, wherein at least one of the first filter settings and the second filter settings comprise a tag grouping including a tag defining a characteristic of content;

assign a level of importance to the tag in the tag grouping in at least one of the first filter settings and the second filter settings to control the level of importance of the tag in the at least one of the first filter settings and the second filter settings; and

generate second content results based on the second filter settings applied to the source of content.

22. The computer readable medium of claim **21** comprising further instructions to:

display the second content results to the user based on recommendation scores of the content of the second content results;

receive a selection of content from a user device from among the second content results

in response to receipt of the selection, generate a suggestive characteristic associated with the selected content and unaccounted for in the second filter settings applied to the source of content;

provide the suggestive characteristic to the user device;

receive a selection of the suggestive characteristic from the user device;

in response to receipt of the selection, add the suggestive characteristic received from the user device to the second filter settings;

generate further content results based on the second filter settings applied to the source of content; and

repeat the steps to display the second content results, receive the selection of content, generate a suggestive characteristic, providing the suggestive characteristic, receive the selection of the suggestive characteristic, add the suggestive characteristic, and generate further content results in an iterative manner.

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