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(54) **MEDIA PLAYER INTERFACE**

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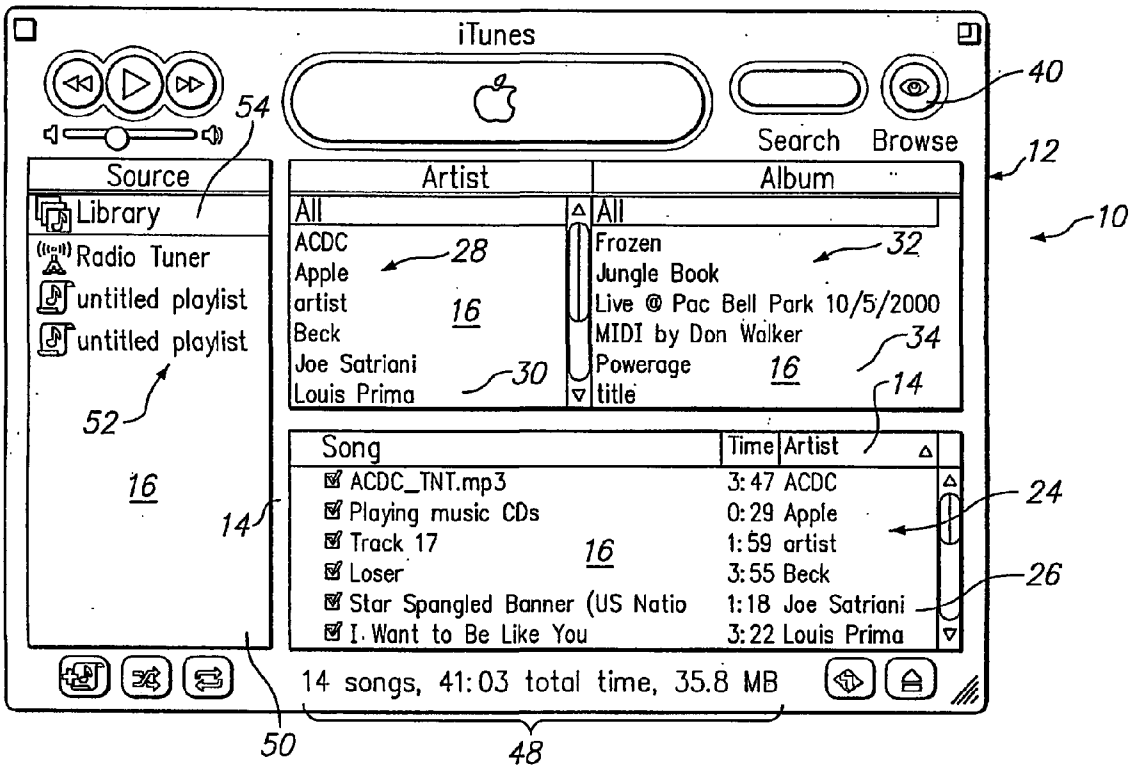
(57) **ABSTRACT**

A computer readable medium contains media player application code which implements the procedures of generating in a user interface an application window having a window frame and a plurality of stiles to define a plurality of panes within said frame, displaying in a first one of said panes a user selectable index of a plurality of media files, displaying in a second one of said first selected information for said media files, and displaying in a third one of said panes second selected information for said media files.



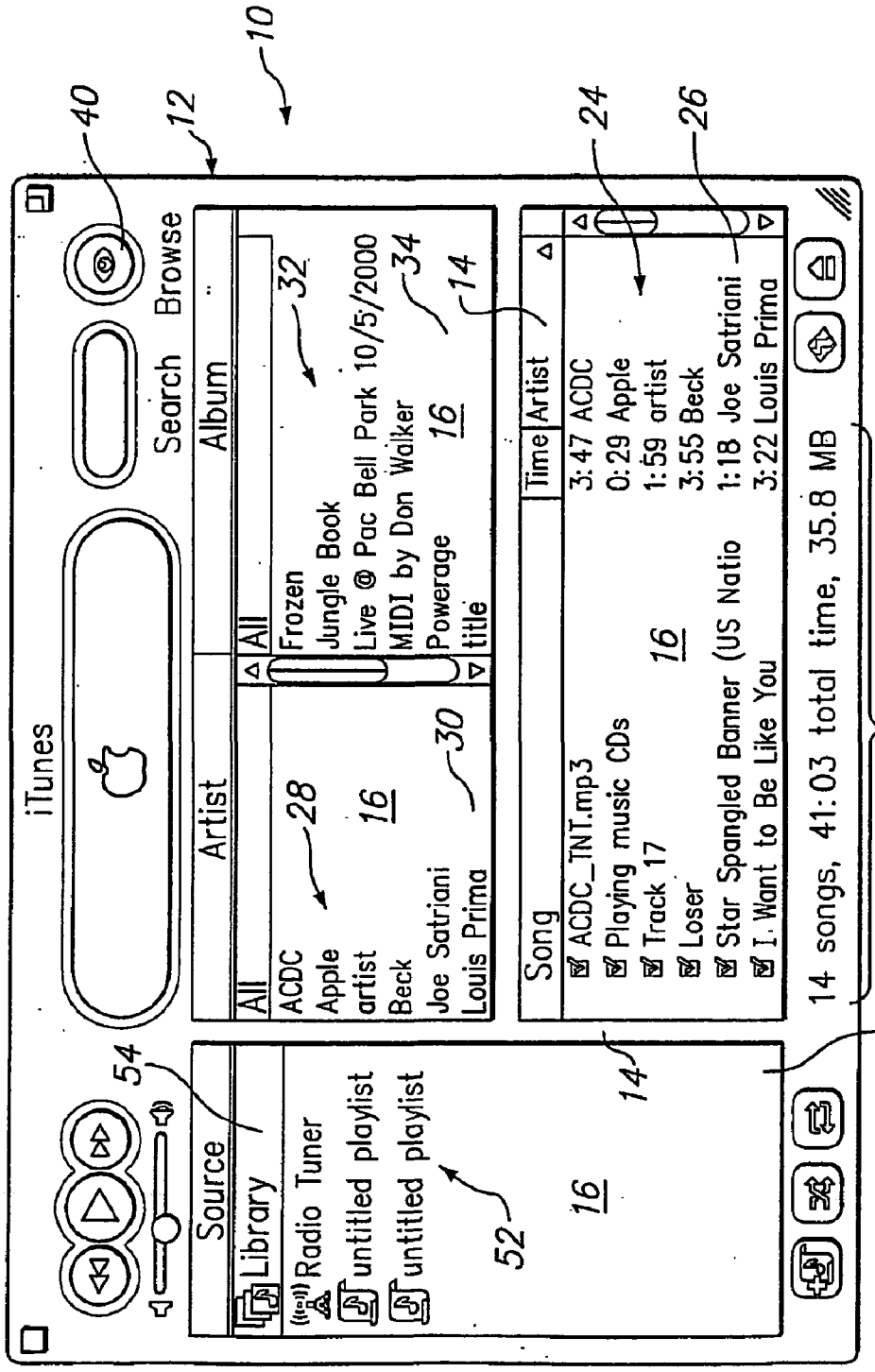

10
12
40
iTunes
Search
Browse
Artist
Album
All
ACDC
Apple
artist
Beck
Joe Satriani
Louis Prima
28
16
30
All
Frozen
Jungle Book
Live @ Pac Bell Park 10/5/2000
MIDI by Don Walker
Powerage
title
32
34
16
14
Song
Time
Artist
ACDC_TNT.mp3
Playing music CDs
Track 17
Loser
Star Spangled Banner (US Natio
I Want to Be Like You
3:47 ACDC
0:29 Apple
1:59 artist
3:55 Beck
1:18 Joe Satriani
3:22 Louis Prima
24
26
16
14
14 songs, 41:03 total time, 35.8 MB
48
50
54
Source
Library
Radio Tuner
untitled playlist
untitled playlist
52
16

FIG. 1

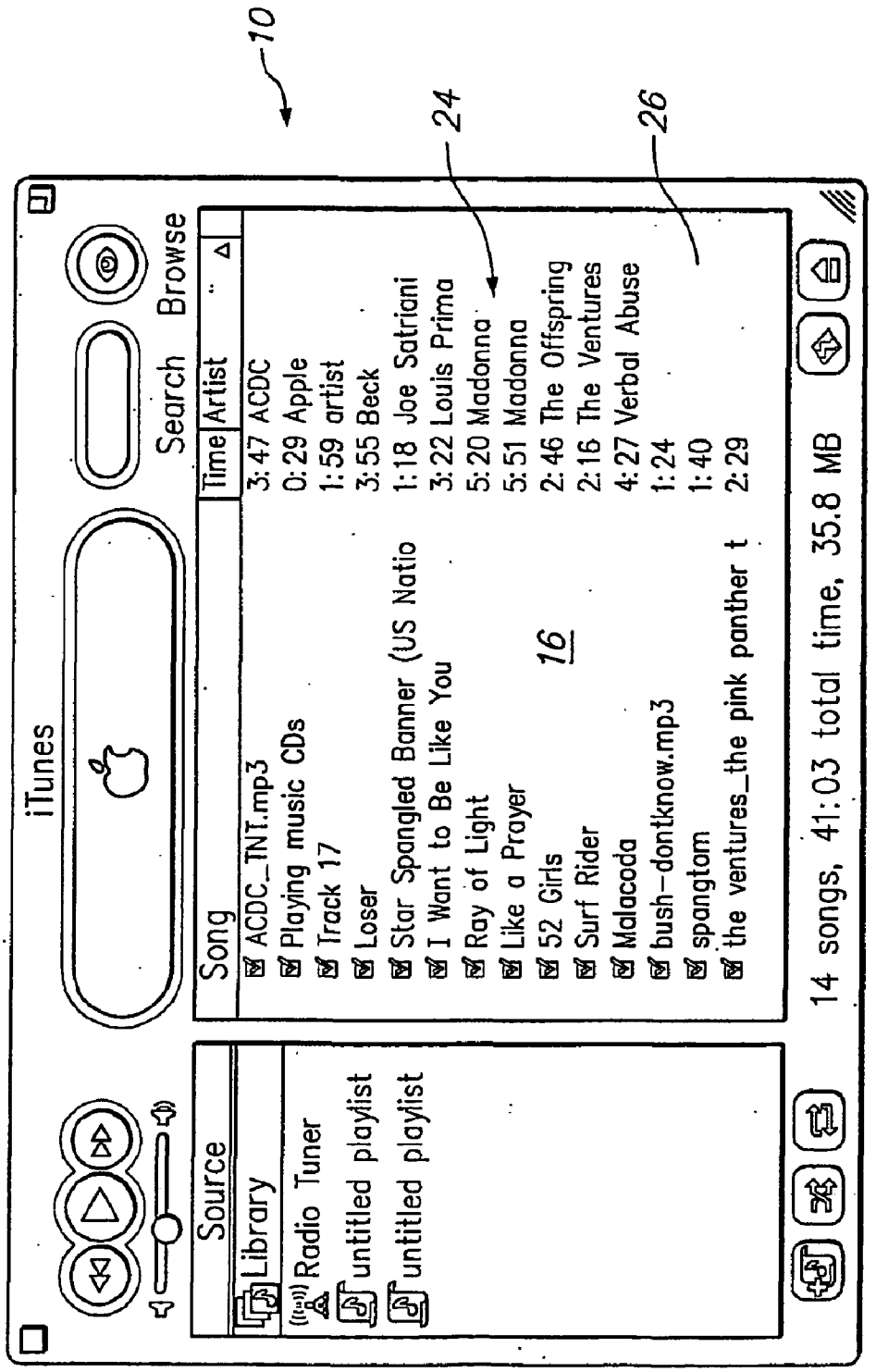

10
24
26
16
iTunes
Search
Browse
Source
Library
Radio Tuner
untitled playlist
untitled playlist
Song
Time
Artist
ACDC_TNT.mp3 3:47 ACDC
Playing music CDs 0:29 Apple
Track 17 1:59 artist
Loser 3:55 Beck
Star Spangled Banner (US Natio 1:18 Joe Satriani
I Want to Be Like You 3:22 Louis Prima
Ray of Light 5:20 Madonna
Like a Prayer 5:51 Madonna
52 Girls 2:46 The Offspring
Surf Rider 2:16 The Ventures
Malacoda 4:27 Verbal Abuse
bush-dontknow.mp3 1:24
spangtam 1:40
the ventures_the pink panther t 2:29
14 songs, 41:03 total time, 35.8 MB

FIG. 2

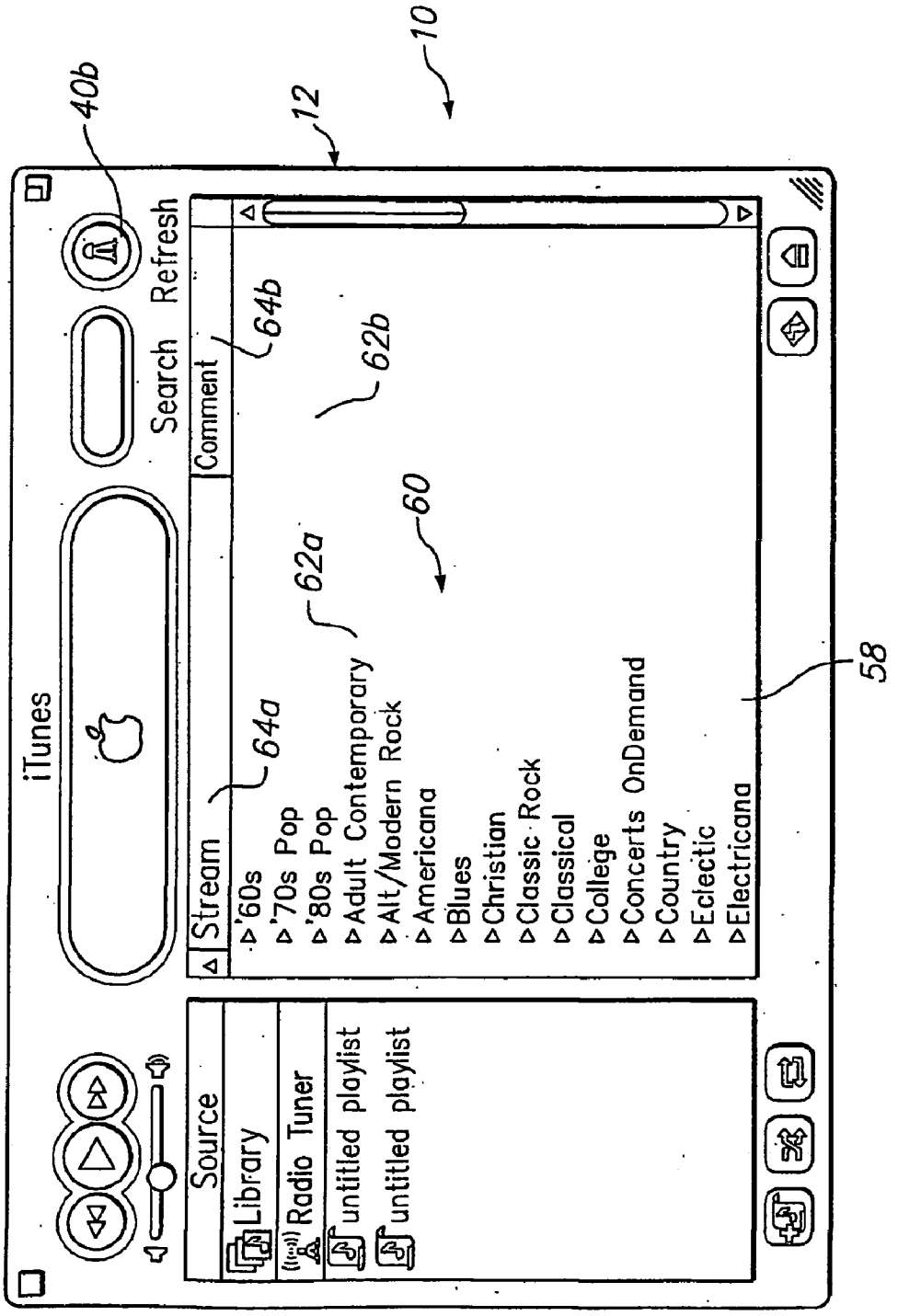

10
12
40b
iTunes
Search
Refresh
Source
Library
Radio Tuner
untitled playlist
untitled playlist
Stream
Comment
64a
64b
62a
62b
60
58
'60s
'70s Pop
'80s Pop
Adult Contemporary
Alt/Modern Rock
Americana
Blues
Christian
Classic Rock
Classical
College
Concerts OnDemand
Country
Eclectic
Electricana

FIG. 3

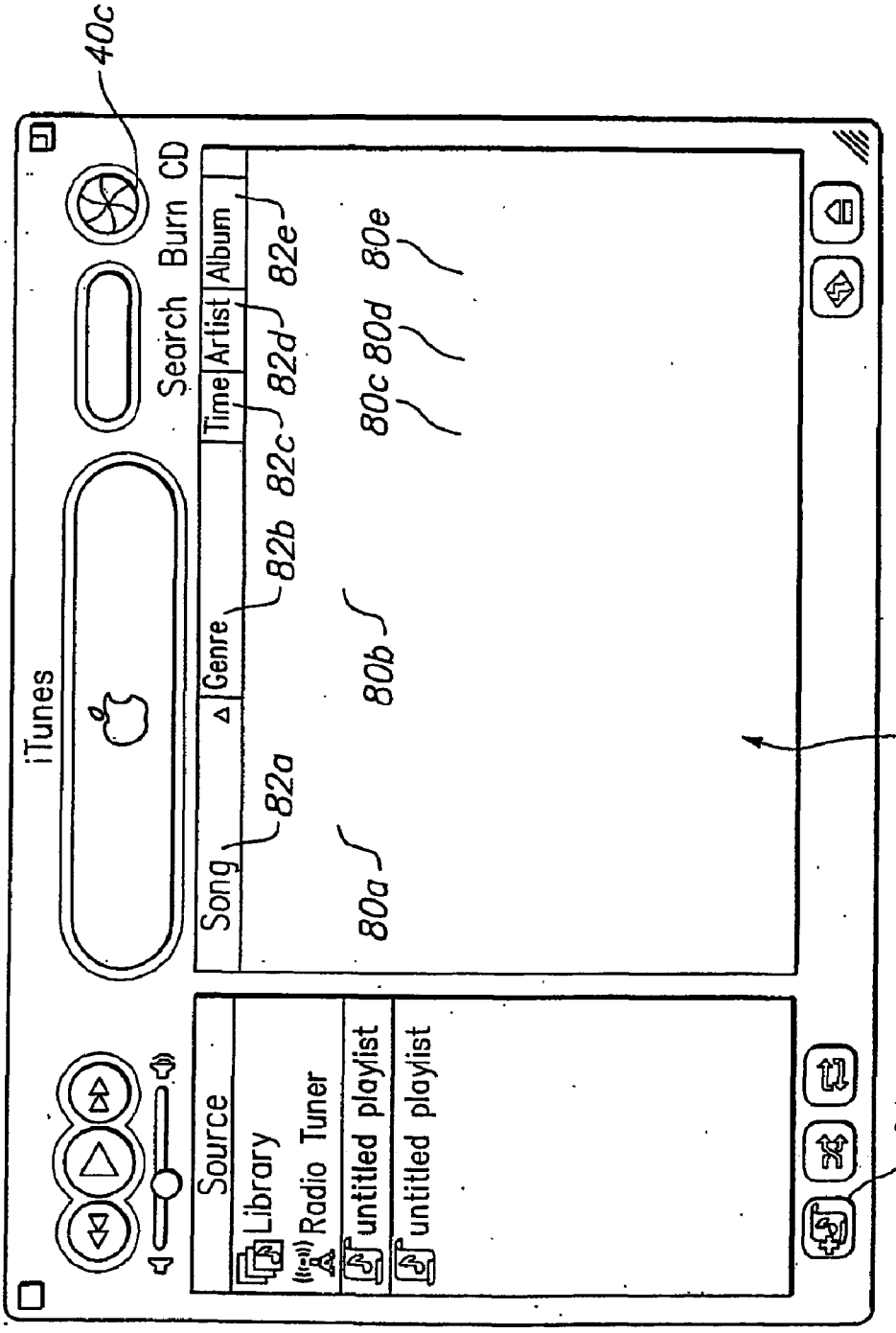

40c
iTunes
Search Burn CD
Source
Library
Radio Tuner
untitled playlist
untitled playlist
Song
Genre
Time
Artist
Album
82a
82b
82c
82d
82e
80a
80b
80c
80d
80e
76
84

FIG. 4

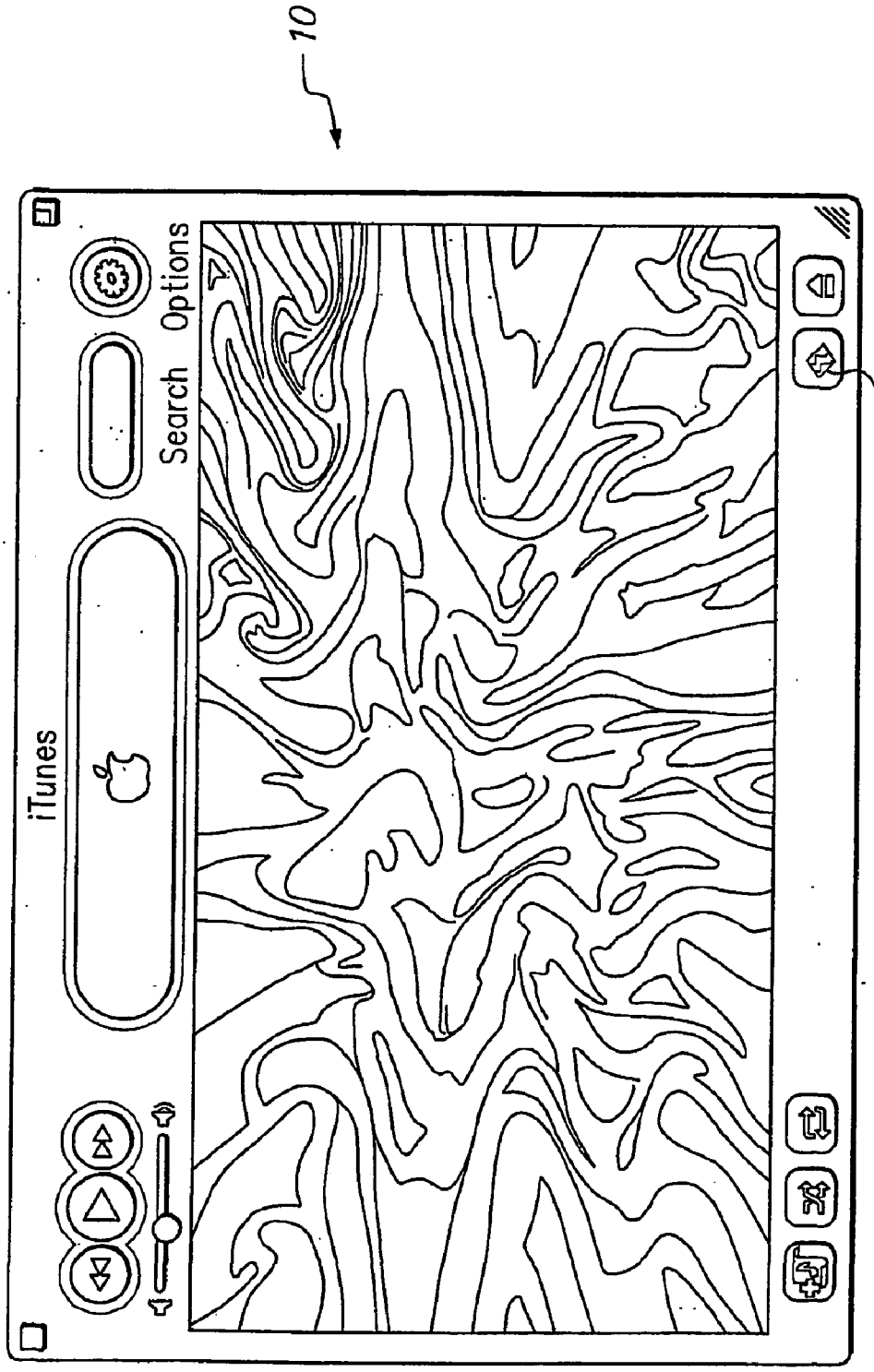


FIG. 5

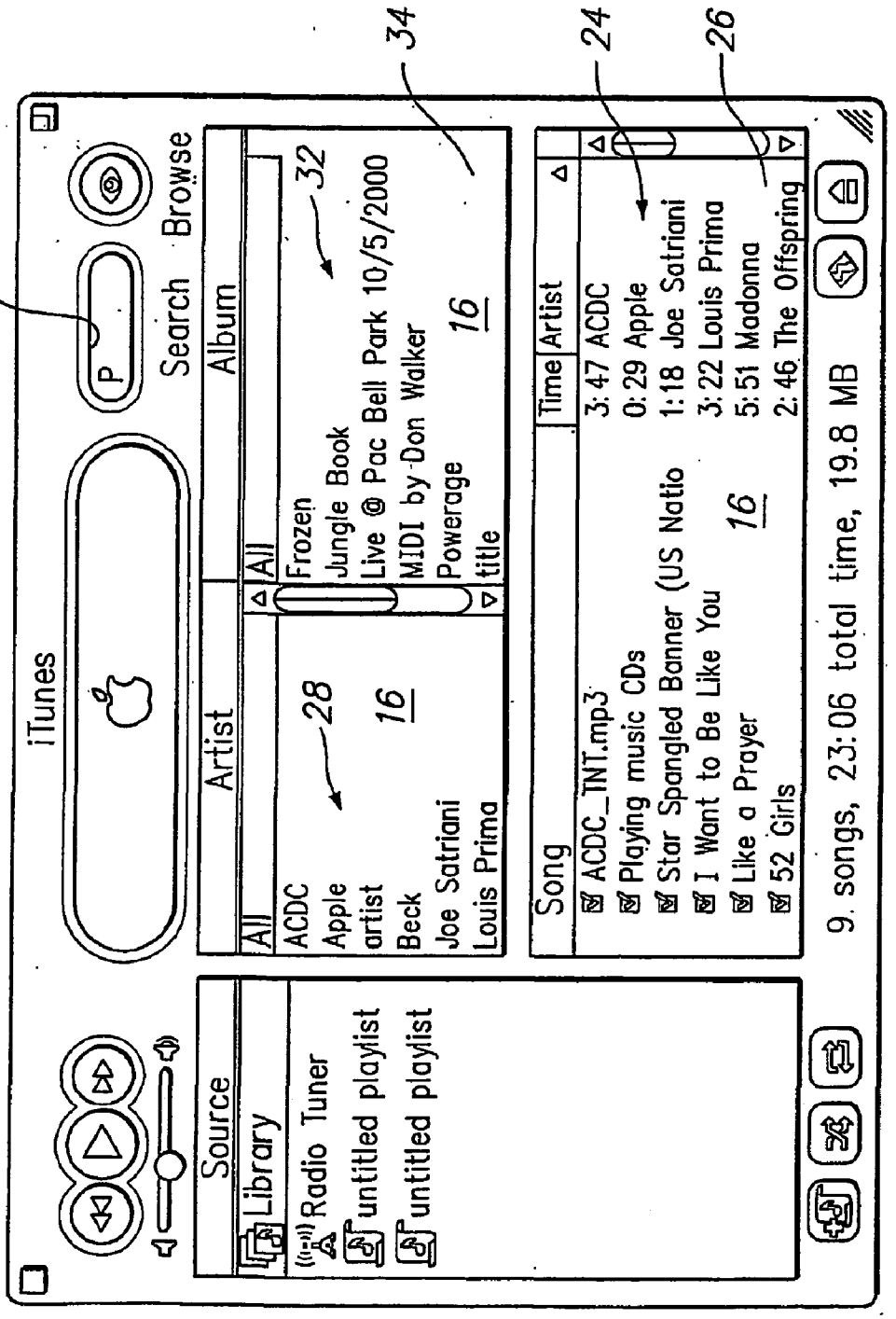

88
iTunes
Search
Browse
Source
Library
Radio Tuner
untitled playlist
untitled playlist
Artist
All
ACDC
Apple
artist
Beck
Joe Satriani
Louis Prima
28
16
Album
All
Frozen
Jungle Book
Live @ Pac Bell Park 10/5/2000
MIDI by Don Walker
Powerage
title
32
16
34
Song
Time
Artist
ACDC_TNT.mp3 3:47 ACDC
Playing music CDs 0:29 Apple
Star Spangled Banner (US Natio 1:18 Joe Satriani
I Want to Be Like You 3:22 Louis Prima
Like a Prayer 5:51 Madonna
52 Girls 2:46 The Offspring
16
24
26
9 songs, 23:06 total time, 19.8 MB

FIG. 6

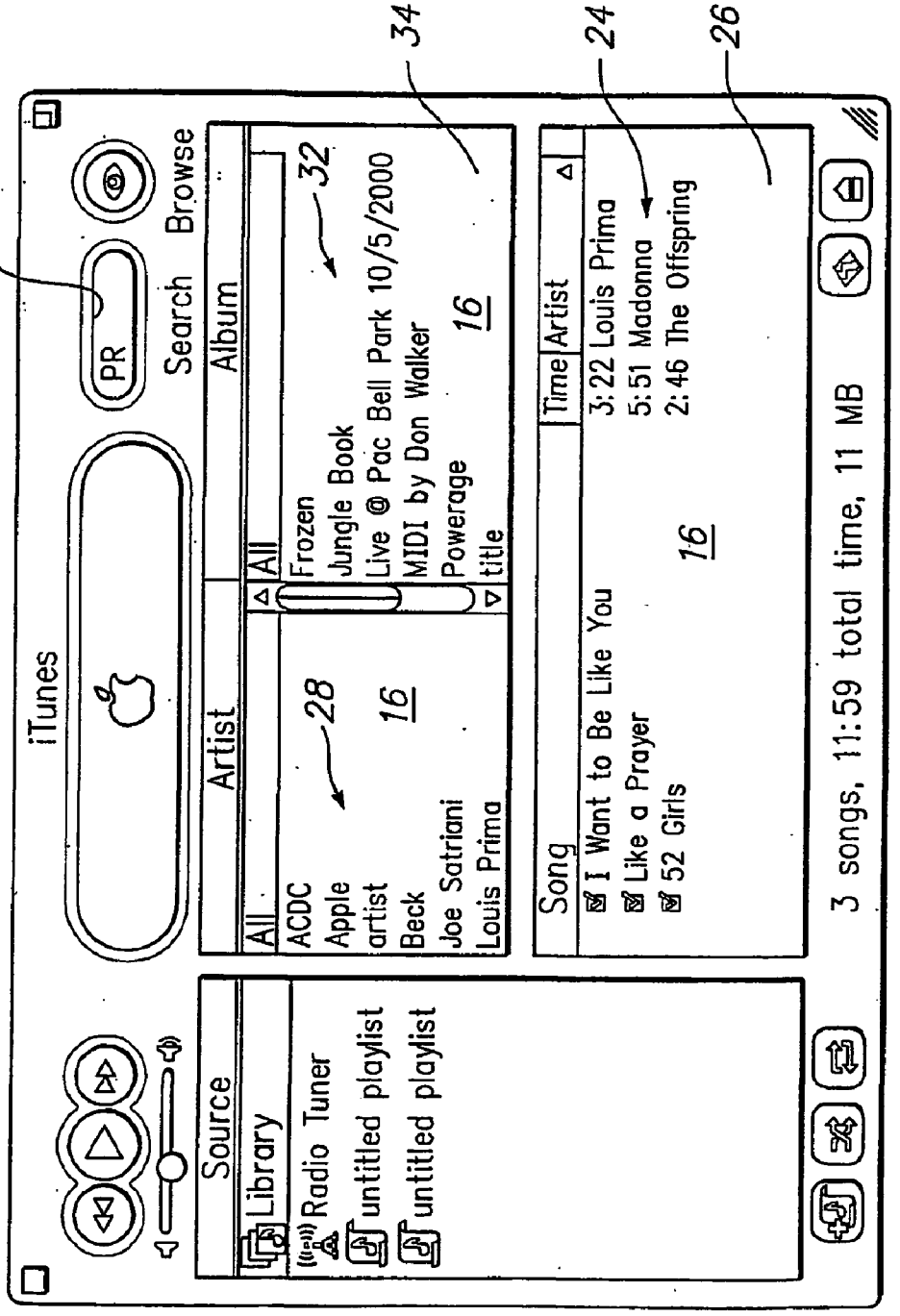

88
iTunes
PR
Search
Browse
Source
Library
Radio Tuner
untitled playlist
untitled playlist
Artist
Album
All
All
ACDC
Apple
artist
Beck
Joe Satriani
Louis Prima
28
16
32
Frozen
Jungle Book
Live @ Pac Bell Park 10/5/2000
MIDI by Don Walker
Powerage
title
16
34
Song
Time
Artist
I Want to Be Like You
3:22 Louis Prima
Like a Prayer
5:51 Madonna
52 Girls
2:46 The Offspring
16
24
26
3 songs, 11:59 total time, 11 MB

FIG. 7

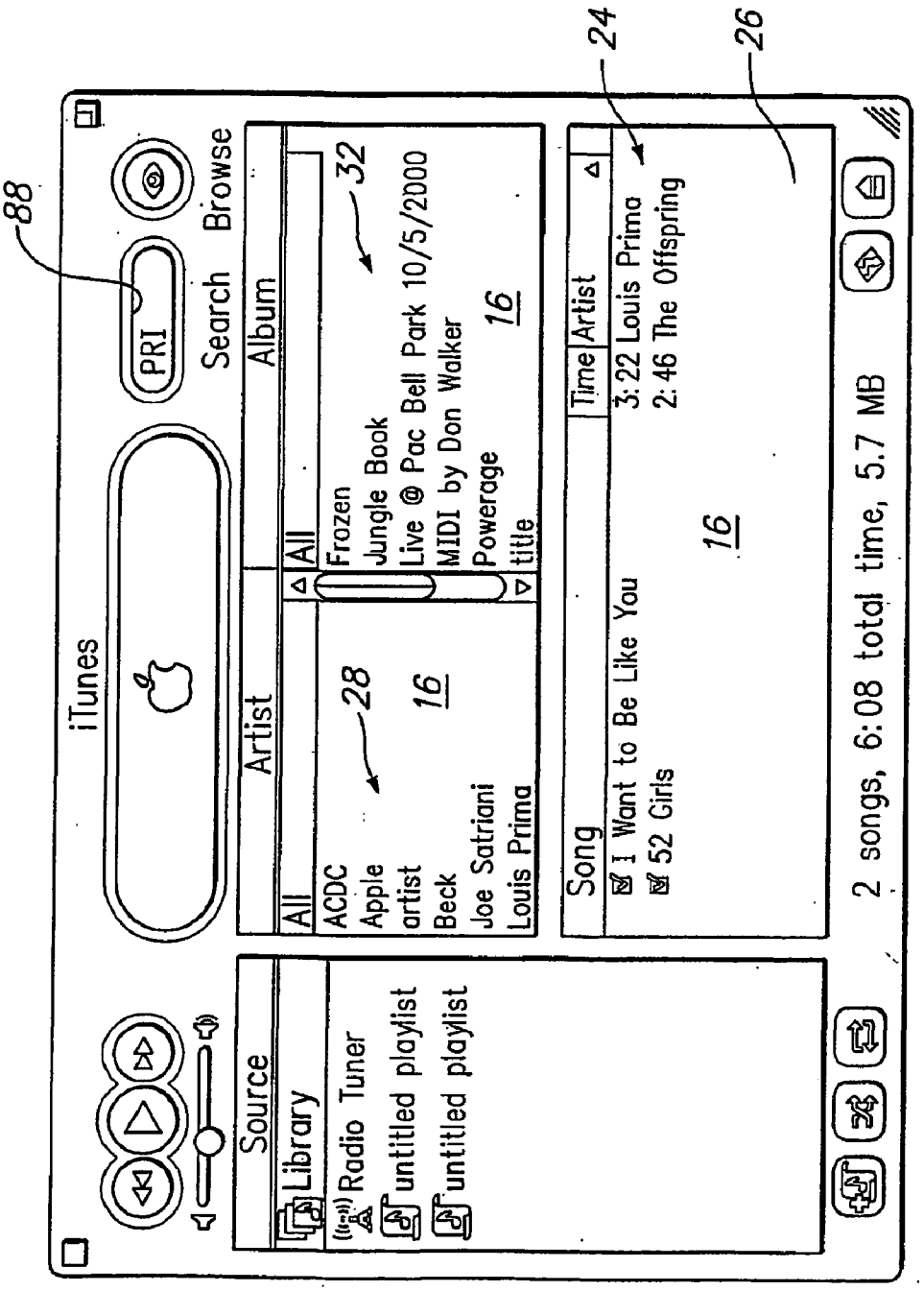

88
iTunes
PRI
Search
Browse
Source
Library
Radio Tuner
untitled playlist
untitled playlist
Artist
Album
All
ACDC
Apple
artist
Beck
Joe Satriani
Louis Prima
All
Frozen
Jungle Book
Live @ Pac Bell Park 10/5/2000
MIDI by Don Walker
Powerage
title
28
16
32
16
Song
Time
Artist
I Want to Be Like You
3:22 Louis Prima
52 Girls
2:46 The Offspring
16
24
26
2 songs, 6:08 total time, 5.7 MB

FIG. 8

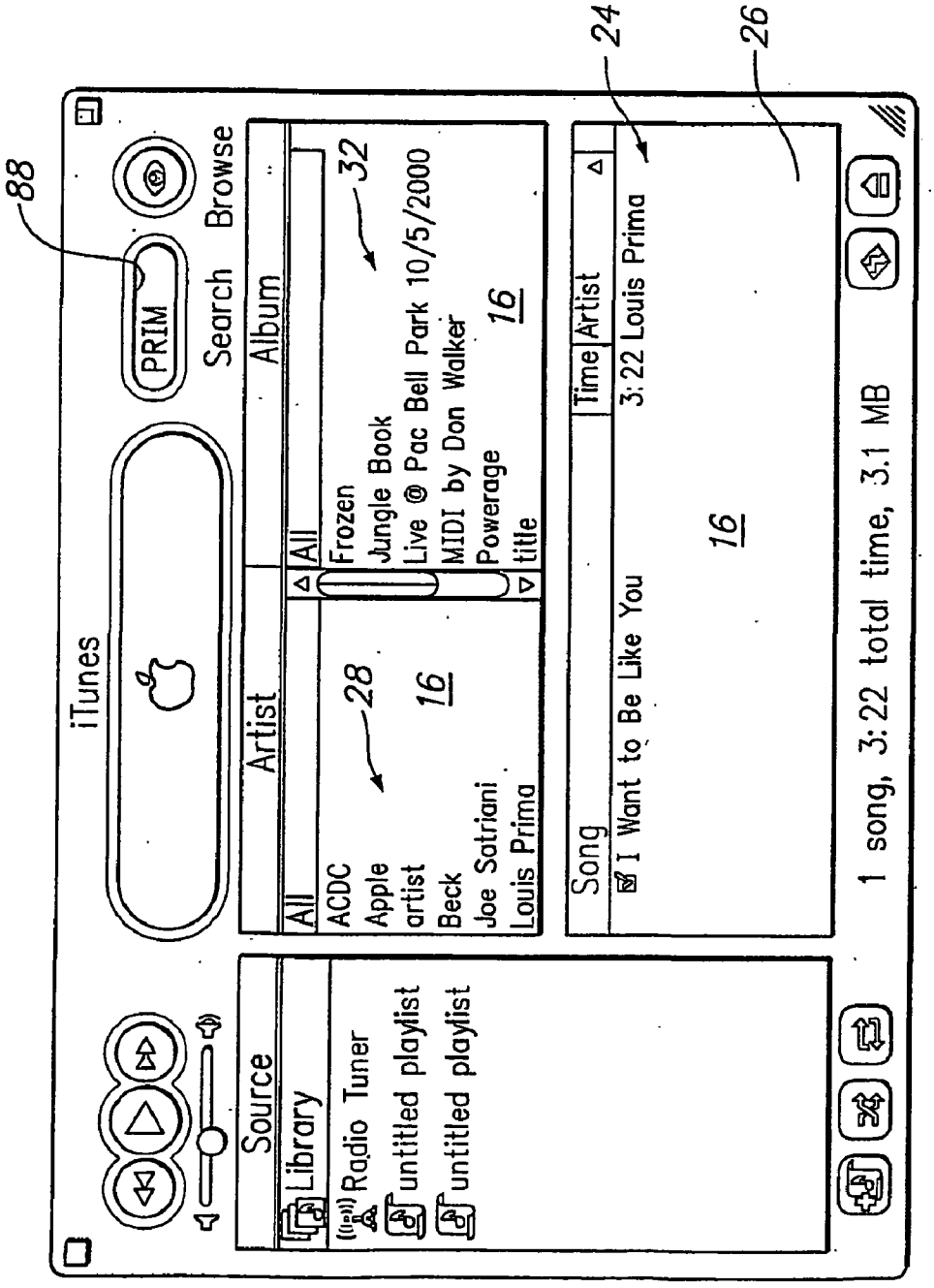

88
iTunes
PRIM
Search
Browse
Source
Library
Radio Tuner
untitled playlist
untitled playlist
Artist
Album
All
ACDC
Apple
artist
Beck
Joe Satriani
Louis Prima
28
16
All
Frozen
Jungle Book
Live @ Pac Bell Park 10/5/2000
MIDI by Don Walker
Powerage
title
32
16
24
26
Song
Time
Artist
I Want to Be Like You
3:22
Louis Prima
16
1 song, 3:22 total time, 3.1 MB

FIG. 9

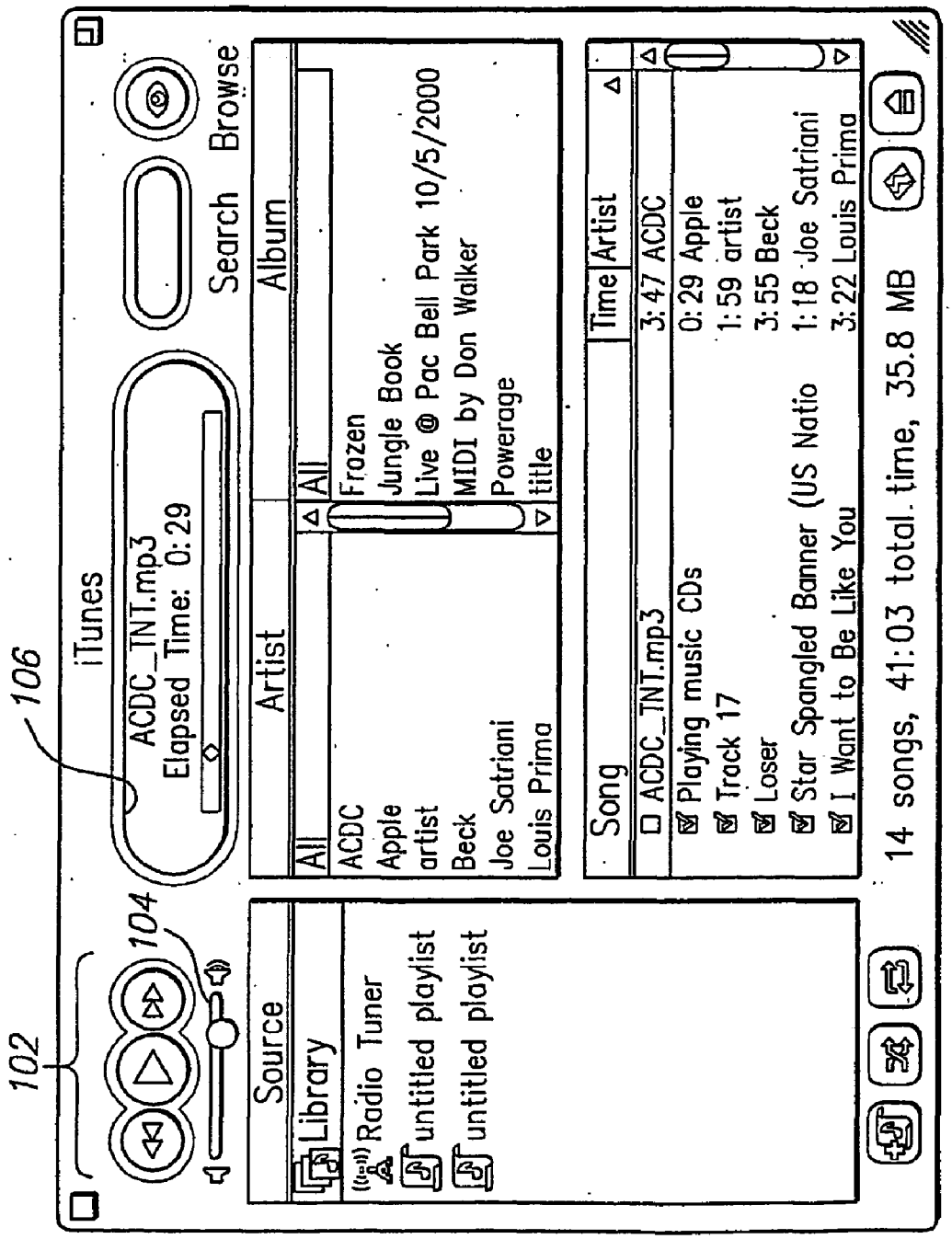

102
104
106
iTunes
ACDC_TNT.mp3
Elapsed Time: 0:29
Search
Browse
Source
Library
Radio Tuner
untitled playlist
untitled playlist
Artist
All
ACDC
Apple
artist
Beck
Joe Satriani
Louis Prima
Album
All
Frozen
Jungle Book
Live @ Pac Bell Park 10/5/2000
MIDI by Don Walker
Powerage
title
Song
Time
Artist
ACDC_TNT.mp3
3:47 ACDC
Playing music CDs
0:29 Apple
Track 17
1:59 artist
Loser
3:55 Beck
Star Spangled Banner (US Natio
1:18 Joe Satriani
I Want to Be Like You
3:22 Louis Prima
14 songs, 41:03 total time, 35.8 MB

FIG. 10

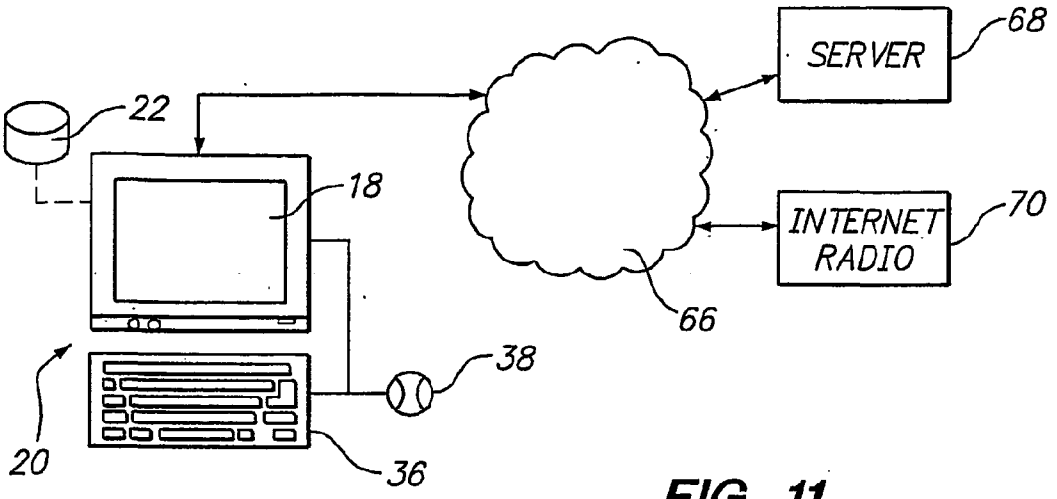

SERVER
68
22
18
INTERNET RADIO
70
66
38
20
36

FIG. 11

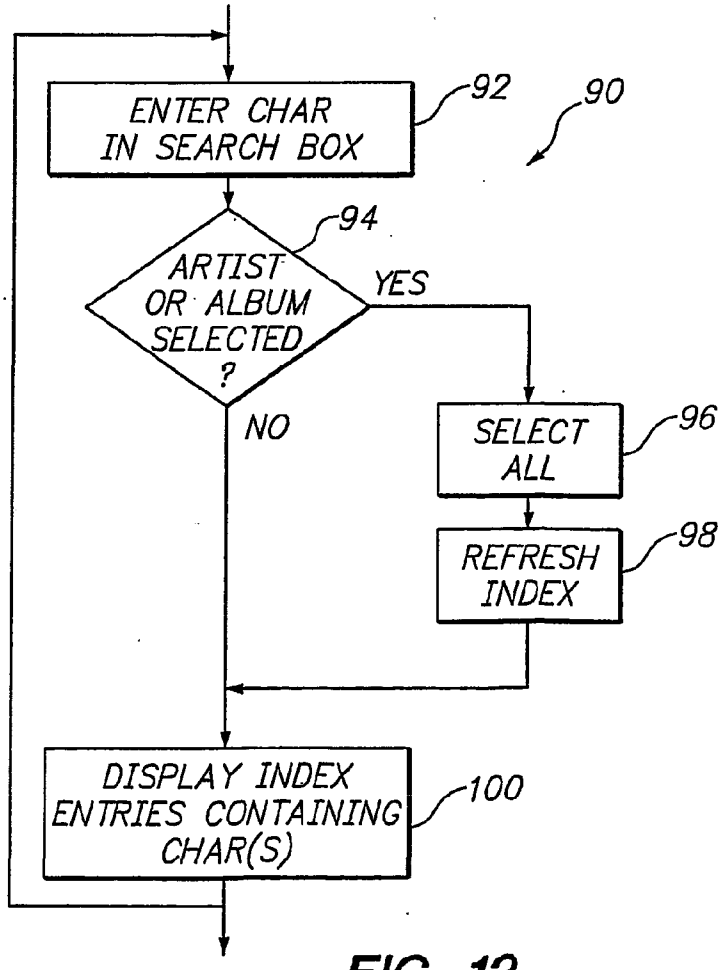

ENTER CHAR IN SEARCH BOX
92
90
94
ARTIST OR ALBUM SELECTED ?
YES
NO
SELECT ALL
96
REFRESH INDEX
98
DISPLAY INDEX ENTRIES CONTAINING CHAR(S)
100

FIG. 12

MEDIA PLAYER INTERFACE

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to graphic user interfaces for computer application programs, and more particulary to a graphic user interface for a medial player on a personal computer or similar user device.

[0003] 2. Description of the Related Art

[0004] Graphical users interfaces for media players are well known. Such interfaces typically provide a computer generated image that simulates a control panel of a hardware media player. In addition, the computer generated image may also include information not generally accessible in a hardware player. For example, the computer generated image may include an index of media files whose content is capable of being read by the media player. The index is generated by the media player usually by reading the entries of one or more directories of an operating system file system within a user computer. The media player may search all such directories such that only file types having an extension readable by the media player are displayed.

SUMMARY OF THE INVENTION

[0005] According to the present invention, a computer readable medium contains media player application code which implements the procedures of generating in a user interface an application window having a window frame and a plurality of stiles to define a plurality of panes within said frame, displaying in a first one of said panes a user selectable index of a plurality of media files, displaying in a second one of said first selected information for said media files, and displaying in a third one of said panes second selected information for said media files.

[0006] In one embodiment of the present invention, a user selectable browse button may be displayed in the frame such that the user may toggle the window between displaying all of the panes, and only the pane containing the index of the media files. In another embodiment, a fourth pane displays an index of all the sources for the media files. A feature of this embodiment is that a single user selectable button displayed with the frame may change states in accordance with the particular source of media files selected. In still another embodiment, the frame may contain a user accessible search box. As the user enters each character into the search box, the content of each of the panes is automatically updated to reflect only those entries of the index which match the search character string. In yet another embodiment, a user selectable button allows the window to toggle between display of the panes and a visual effect to accompany the presentation of the content of the media files.

[0007] These and other objects, advantages and features of the present invention will become readily apparent to those skilled in the art from a study of the following Description of the Exemplary Preferred Embodiments when read in conjunction with the attached Drawing and appended Claims.

BRIEF DESCRIPTION OF THE DRAWING

[0008] **FIGS. 1-10** are representative of a graphic user interface of a media player in accordance with the present invention;

[0009] **FIG. 11** is a schematic block diagram of a network system useful in practicing one aspect of the present invention; and

[0010] **FIG. 12** is a flow chart useful to describe a search function of the user interface of the present invention.

DESCRIPTION OF THE EXEMPLARY PREFERRED EMBODIMENTS

[0011] Referring now to **FIG. 1-10**, there is shown an application window **10** having a window frame **12** and a plurality of stiles **14** to define a plurality of panes **16** within the frame **12**. In a preferred embodiment of the present invention, the window **10** may be generated in a user interface, such as a monitor **18** of a computer **20**, as seen in **FIG. 11**. The computer **20** contains a computer readable medium, such a disk **22**, which contains an application code, such as a media player. The code, when executed, would then generate the application window **10** and implement the following described procedures.

[0012] As best seen in **FIG. 1**, an index **24** of a plurality of media files is displayed in a first one **26** of the panes **16**, first selected information **28** for the media files is displayed in a second one **30** of the panes **16** and second selected information **32** for the media files is displayed in a third one **34** of the panes **16**. In one exemplary embodiment of the present invention, the first selected information **28** is an index of a plurality of artists associated with each of the media files, and the second selected information **32** is an index of a plurality of albums associated with each of the media files. Each of the artist and album indices may further be selectable by a user of the computer **20** through its user interface to limit, respectively, the display of the index **24** of the media files to selected ones of the media files associated with the selected one of said artists, or to selected ones of the media files associated with one of the albums. It is to be understood that the term user interface as used herein may also include, as required to perform the procedures set forth herein, a keyboard **36** or mouse **38**, as best seen in **FIG. 11**.

[0013] In accordance with one exemplary embodiment of the present invention, a browse button **40***a*, selectable through the user interface, may be displayed. Selecting the browse button **40***a* toggles the window **10** between all of the panes **16** being displayed and only a selected one of the panes **16** being displayed. For example, the selected one of the panes **16** may be the first one **26** of the panes **16**. As best seen in **FIG. 2**, only the selected one of the panes **16** is displayed in the window **10** in lieu of the other ones of the panes **16** when the window is toggled.

[0014] As best seen in **FIG. 1**, the index **24** of the media files includes columnar categories **42***a*, **42***b*, **42***c* for each of the media files. As is known, the index **24** is sortable by each of the categories **42***a*, **42***b*, **42***c*. To implement such sorting, a plurality of heading buttons **44***a*, **44***b*, **44***c*, associated with a respective one of the categories **42***a*, **42***b*, **42***c*, may be displayed. Each of the heading buttons **44***a*, **44***b*, **44***c* are selectable through the user interface, such as by using the mouse **38** to place a cursor over the desired button and then performing a mouse click, to sort the index **24** by the respective one of the categories **42***a*, **42***b*, **42***c*.

[0015] In another embodiment of the present invention, the index **24** may further include a plurality of check boxes

46 also selectable through the user interface. As best seen in FIG. 1, each of the check boxes is associated with a respective one of each of the media files in the index 24. Status information 48 concerning the media files for which the associated one of the check boxes 46 has been selected may further be displayed in a selected portion of the frame 12.

[0016] In addition to the hereinabove described panes 16, a fourth one 50 of the panes 16 may contain information relating to a plurality of selectable sources 52 for the media files. For example, a first one 54 of the sources 52 may be a library source of all or selected ones of the media files stored in the disk 22 of the computer 20. In accordance with one embodiment of the present invention, when the library source is selected the first one 26, the second one 30 and the third one 34 of the panes 16 are displayed.

[0017] A second one 56 of the sources 52 may include a radio tuner. As best seen in FIG. 3, when the radio tuner is selected through the user interface, a fifth one 58 of the panes 16 is displayed in lieu of said first, second and third ones of said panes. The fifth one 58 of the panes 16 includes an index 60 of genre of the media files. Similarly as described hereinabove, the index 60 of genre may also include columnar categories 62*a*, 62*b* for each of the genre of the media files, and such categories 62*a*, 62*b* may also be sortable by each of these categories 62*a*, 62*b*. Accordingly, a heading button 64*a*, 64*b*, for each respective one of the categories 62*a*, 62*b* may be displayed in the fifth one 58 of the panes 16. Each of the heading buttons 64*a*, 64*b* are selectable through the user interface to sort the index 60 of genre by the respective one of the categories 62*a*, 62*b*.

[0018] As also seen in FIG. 3, user selectable refresh button 40*b* may also be displayed in the frame 12 when the radio tuner has been selected. Selection of the refresh button 40*b* connects the user computer 20 to the Internet 66, as best seen in FIG. 11, to obtain refreshed information for the media files, such as from a file server 68 or an Internet radio 70, and update the index 60 of genre as needed. In one embodiment of the present invention, the browse button 40*a* described in conjunction with FIGS. 1-2, and the refresh button 40*b* may be the same button which changes states and icons in accordance with the selection of one of the sources 52, as described in commonly owned, copending application Ser. No. 09/757,109 filed on Jan. 8, 2001, which is incorporated herein by reference.

[0019] In another embodiment of the present invention, a third one 72 of the sources 52 may include a user definable playlist. Selected ones of the media files may be added to the playlist by dragging and dropping through the user interface from the index 24 of the media files to an icon 74 for the playlist in the fourth one 50 of the panes 16, as is known in the art. As best seen in FIG. 4, when the playlist icon 74 is selected, an index 76 of media files contained in the selected playlist is displayed in a sixth one 78 of the panes 16 in lieu of the first one 26, the second one 30 and the third one 34 of the panes 16 (FIG. 1).

[0020] Similarly as described hereinabove, the index 76 of the selected playlist may also include columnar categories 80*a-e* for each of the media files contained in the playlist. Each of the categories 80*a-e* may also be sortable. Accordingly, a plurality of heading buttons 82*a-e* for each respective one of the categories 80*a-e* for the index 76 of the selected playlist are selectable through the user interface to sort this index 76.

[0021] As best seen in FIG. 4, when a playlist is selected, a burn CD button 40*c* may also be displayed in the frame 12. Selecting through the user interface of the burn CD button 40*c* initiates a further procedure allowing media files indicated in said selected playlist to be recorded onto a compact disk. Also as described hereinabove, the burn CD button 40*c* may be the same as the browse button 40*a* described in conjunction with FIGS. 1-2, and the refresh button 40*b* described in conjunction with FIG. 3 which changes states and icons in accordance with the selection of one of the sources 52, as described in the hereinabove referenced application.

[0022] In another embodiment of the present invention, a user selectable button 84 in a selected portion of the frame may also be displayed. Selecting of the button 84 through the user interface causes a new user definable playlist to be added to the sources 52.

[0023] As best seen in FIG. 5, another user selectable button 86 may be displayed in the frame 12. Selection of this button 86 may develop a visual effect in the window 10 in lieu of the panes 16. The visual effect may be developed responsive to at least one parameter of one of the media files while used by the media player.

[0024] Referring now to FIGS. 6-9, a search box 88 may be disposed in a selected portion of the frame 16. In this embodiment of the present invention, the search box 88 is adapted to receive through the user interface successive characters of a search term or search string. As each one of the characters of the search string are entered, the index 24 of the media files is automatically searched. In response to the search being performed, the index 24 of the media files is refreshed such that only selected ones of the media files in the index 24 that match the successive ones of said characters are displayed.

[0025] In further reference to the flow chart 90 of FIG. 12, a search character is entered into the search box 88, as indicated 92. For example, as seen in FIG. 6, the character "p" may be entered into the search box 88. A query is made to determine if an artist or album has heretofore been selected, as indicated at 94. If yes, then the "All" selection of the artist and album is automatically selected, as indicated at 96, so that the index 24 may be refreshed, as indicated at 98, so that the entire index 24 is searched for this character, instead of the limited selected index 24 as described above when an artist or album had been selected. Upon the character "p" being entered, the index 24 is then displayed, as indicated at 100, to contain only those media files which contain this search character. Also as seen in FIG. 6, the status information 48 is also refreshed indicating that fewer media files are now selected.

[0026] The flow process of FIG. 12 repeats for each subsequent character entered into the search box 88. Progressively in FIGS. 7-9, the characters "r", "i" and "m" are appended to the search string. In each of FIGS. 7-9, it is clearly shown that the index 24-of the media files becomes successively more limited, and the status information 88 also further refreshed, until only one match remains, as seen in FIG. 9.

[0027] With reference to **FIG. 10**, a plurality of user selectable control buttons **102** may be disposed in a selected portion of the frame **12**. As is conventionally known, the control buttons **102** control execution of the media player, such as play, fast forward and fast reverse, when calling content from the media files in said index **24**. Furthermore the media player may only call content from only user selected ones of the media files, such as through selection of the check boxes **46**. At least one user selectable slider **104** in association with the control buttons **102** may also be displayed. The slider **104** controls at least one parameter of content of the media files, such as volume. A status pane **106** may also be displayed in a selected portion of the frame **16**. The status frame **106** displays status of content of one of the media files when called by the media player. The stiles **16** are movable in the window **10** to change selectively through the user interface dimensions of the panes **16**.

[0028] There has been described hereinabove exemplary preferred embodiments of a graphic user interface for a media player. Those skilled in the art may now make numerous uses of, and departures from, the hereinabove described exemplary preferred embodiments without departing from the inventive concepts disclosed herein. Accordingly, the present invention is to be described solely by the scope of the appended claims.

1-66. (Canceled).

67. A user interface for a media player application comprising:

an application window having a window frame and a plurality of stiles that define:

a first pane that displays a user selectable index of a plurality of media files;

a second pane that displays first selected information for said media files; and

a third pane that displays second selected information for said media files.

68. A user interface as set forth in claim 67 wherein said first selected information includes an index of a plurality of artists associated with said media files.

69. A user interface as set forth in claim 67 wherein said second selected information includes an index of a plurality of albums associated with said media files.

70. A user interface as set forth in claim 67 further comprising a browse button in said frame which toggles said window between all of said panes being displayed and only a selected one of said panes being displayed.

71. A user interface as set forth in claims **70** wherein said selected one of said panes is said first one of said panes.

72. A user interface as set forth in claim 67 further comprising a fourth pane that displays information relating to a plurality of selectable sources for said media files, one of said sources being a library source which when selected causes said first, second and said third ones of said panes to be displayed.

73. A user interface as set forth in claim 72 wherein a second source includes a radio tuner.

74. A user interface as set forth in claim 73 further comprising a fifth pane that displays an index of genre of said media files when said radio tuner source has been selected, said fifth pane being displayed in lieu of said first, second and third panes.

75. A user interface as set forth in claim 73 further comprising a user selectable refresh button in said frame that connects said media player application to the Internet to obtain refreshed information for said media files.

76. A user interface as set forth in claim 67 further including a plurality of user selectable control buttons disposed in a selected portion of said frame, said control buttons controlling execution of said media player reproducing content from said media files in said index.

77. A user interface for a media player application, comprising:

an application window having a window frame and a plurality of stiles that define:

a first pane that displays a user selectable index of a plurality of media files;

a second pane that displays selected information for said media files;

a third pane that displays second selected information for said media files; and

a fourth pane that displays information relating to a plurality of user selectable sources for said media files, wherein a first one of said sources is a library source and a second one of said sources is a user definable playlist, said library source when selected causing said first, second and said third ones of said panes to be displayed.

78. A user interface as set forth in claim 77 further comprising a fifth pane that displays an index of media files contained in said playlist when said playlist has been selected, said fifth pane being displayed in lieu of said first, second and third panes.

79. A user interface as set forth in claim 77 wherein a third one of said sources is a radio tuner.

80. A user interface as set forth in claim 79 further comprising a fifth pane that displays an index of genre of said media files when said radio source has been selected, said fifth pane being displayed in lieu of said first, second and third panes.

81. A user interface as set forth in claim 79 further comprising a user selectable refresh button that is displayed in said frame when said radio tuner has been selected, which selectively connects said media player application to the Internet to obtain refreshed information for said media files.

82. A user interface as set forth in claim 81 wherein said refresh button changes state to a browse button when said library source is selected.

83. A user interface as set forth in claim 82 wherein said browse button toggles said window between all of said panes being displayed and only said first one and said fourth one of said panes being displayed.

84. A user interface as set forth in claim 81 wherein said refresh button changes state to a burn CD button when said playlist is selected, that selectively initiates a further procedure allowing media files indicated in said selected playlist to be recorded onto a compact disk.

85. A user interface for media player application, comprising:

an application window having a window frame and a plurality of stiles that define a plurality of panes including:

a first pane that displays a user selectable index of a plurality of media files;

a second pane that displays first selected information for said media files; and

a third pane that displays second selected information for said media files;

said frame including a user selectable button that causes a visual effect to be displayed in said window in lieu of said panes.

86. A user interface as set forth in claim 85 wherein said visual effect is responsive to at least one parameter of one of said media files while used by said media player.

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