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Tecot et al.

(54) MULTIMEDIA PRESENTATION RESUMPTION WITHIN AN ENVIRONMENT OF MULTIPLE PRESENTATION SYSTEMS

(76) Inventors: **Edward M. Tecot**, Sunnyvale, CA (US); **Shannon C. Hegg**, Mountain View, CA (US); **Martine Habib**, Woodside, CA (US)

Correspondence Address:
LEE & HAYES PLLC
421 W RIVERSIDE AVENUE SUITE 500
SPOKANE, WA 99201

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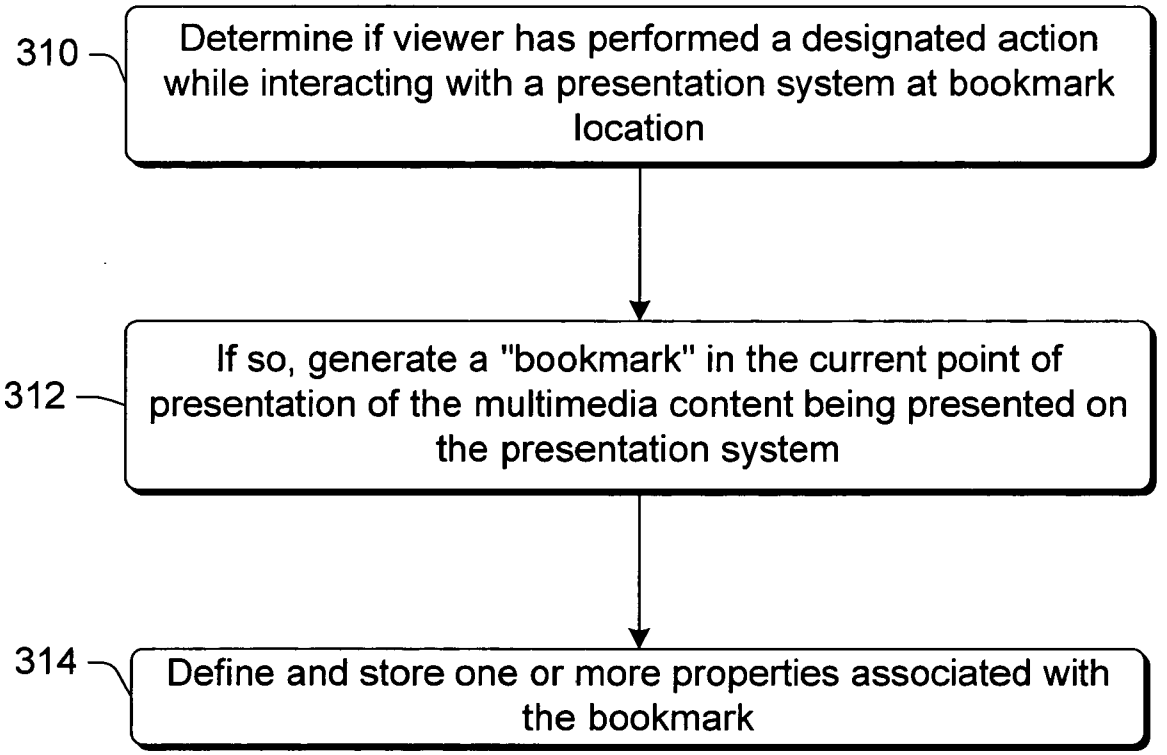
(57) ABSTRACT

With at least one implementation described herein, one or more viewers are able to watch the same source multimedia content at multiple locations within an environment (e.g., a household). With at least one implementation described herein, a viewer is able to resume watching such content at a new location (or "locus") from the point that she bookmarked the content at an original location. This abstract itself is not intended to limit the scope of this patent. The scope of the present invention is pointed out in the appending claims.



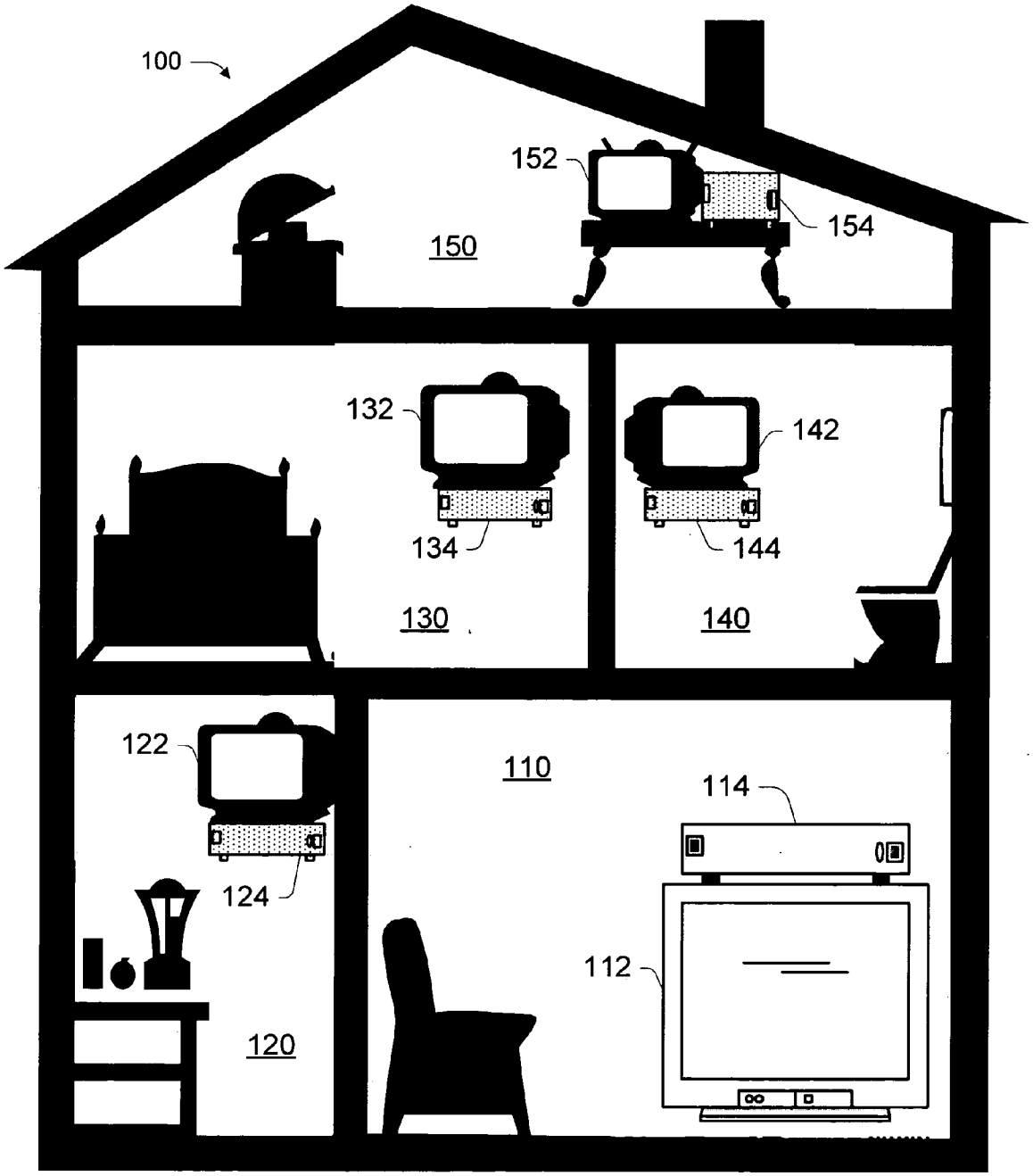


Fig. 1

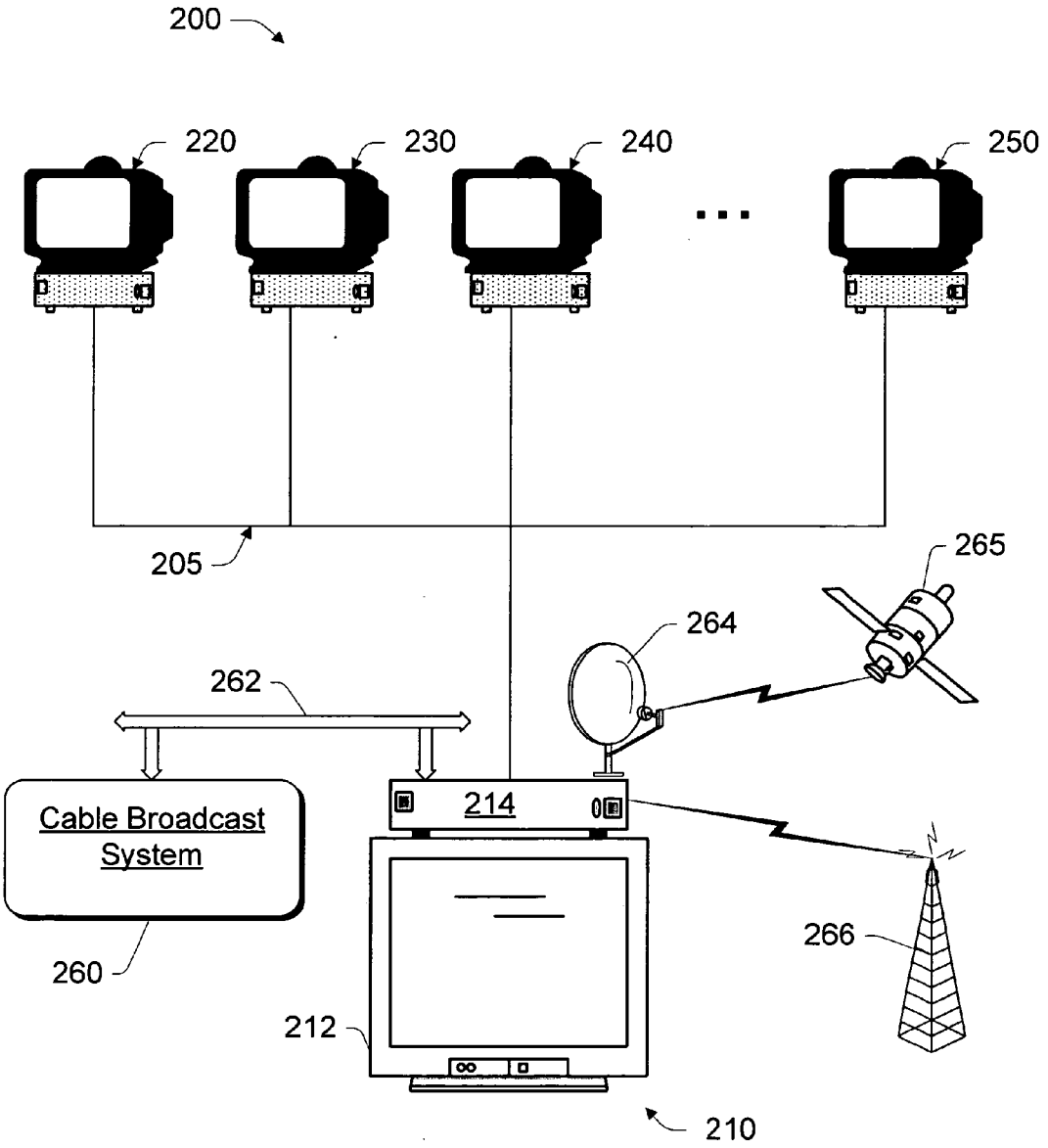

200
220
230
240
250
205
265
264
262
Cable Broadcast System
214
266
260
212
210

Fig. 2

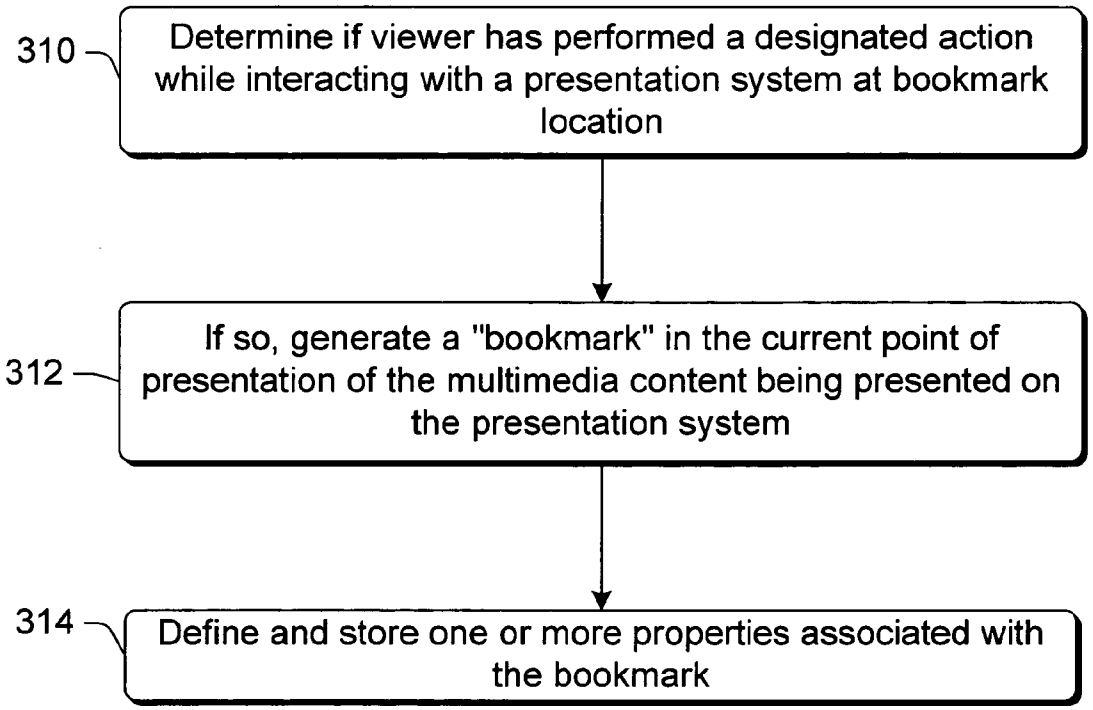

310
Determine if viewer has performed a designated action while interacting with a presentation system at bookmark location
312
If so, generate a "bookmark" in the current point of presentation of the multimedia content being presented on the presentation system
314
Define and store one or more properties associated with the bookmark

Fig. 3

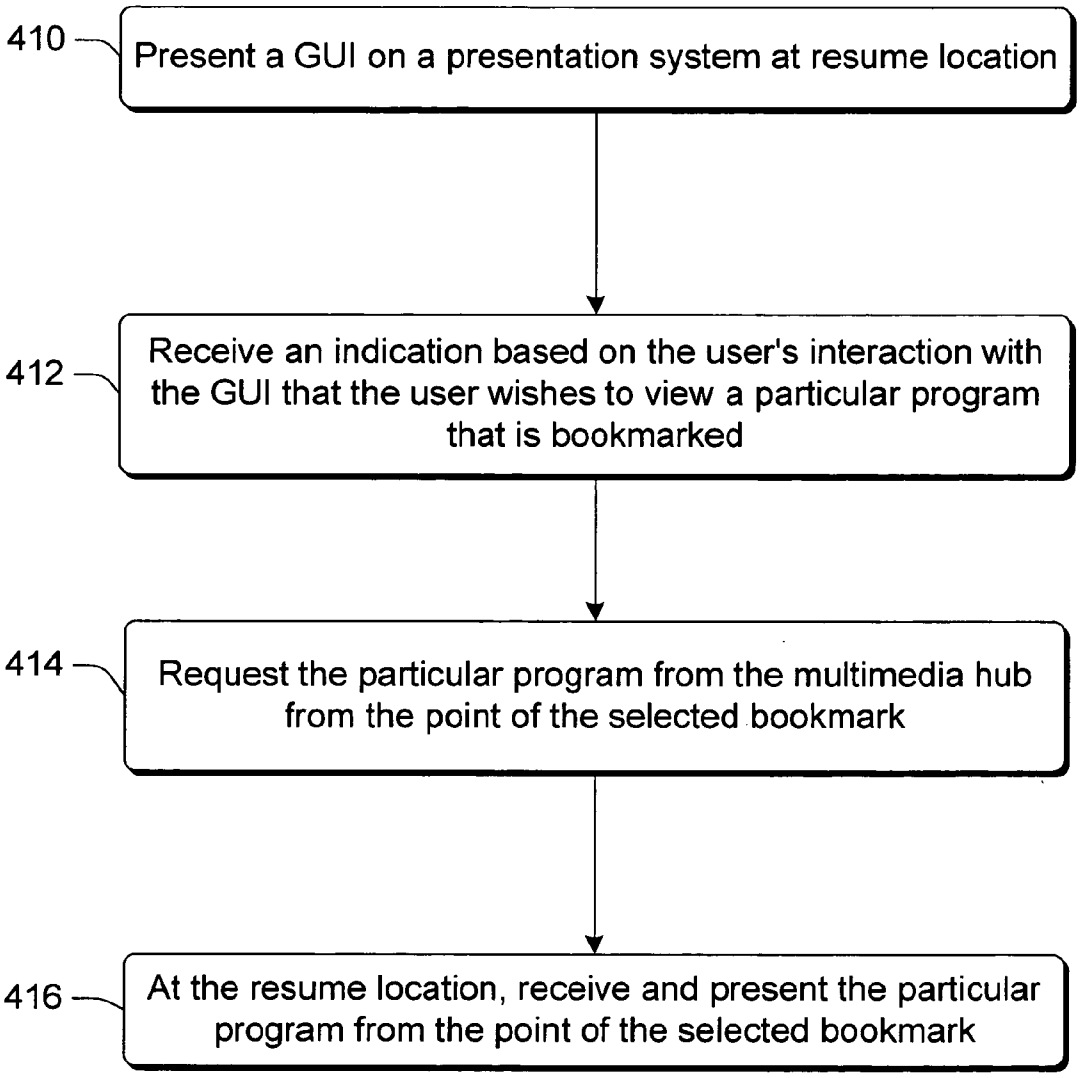

410
Present a GUI on a presentation system at resume location
412
Receive an indication based on the user's interaction with the GUI that the user wishes to view a particular program that is bookmarked
414
Request the particular program from the multimedia hub from the point of the selected bookmark
416
At the resume location, receive and present the particular program from the point of the selected bookmark

Fig. 4

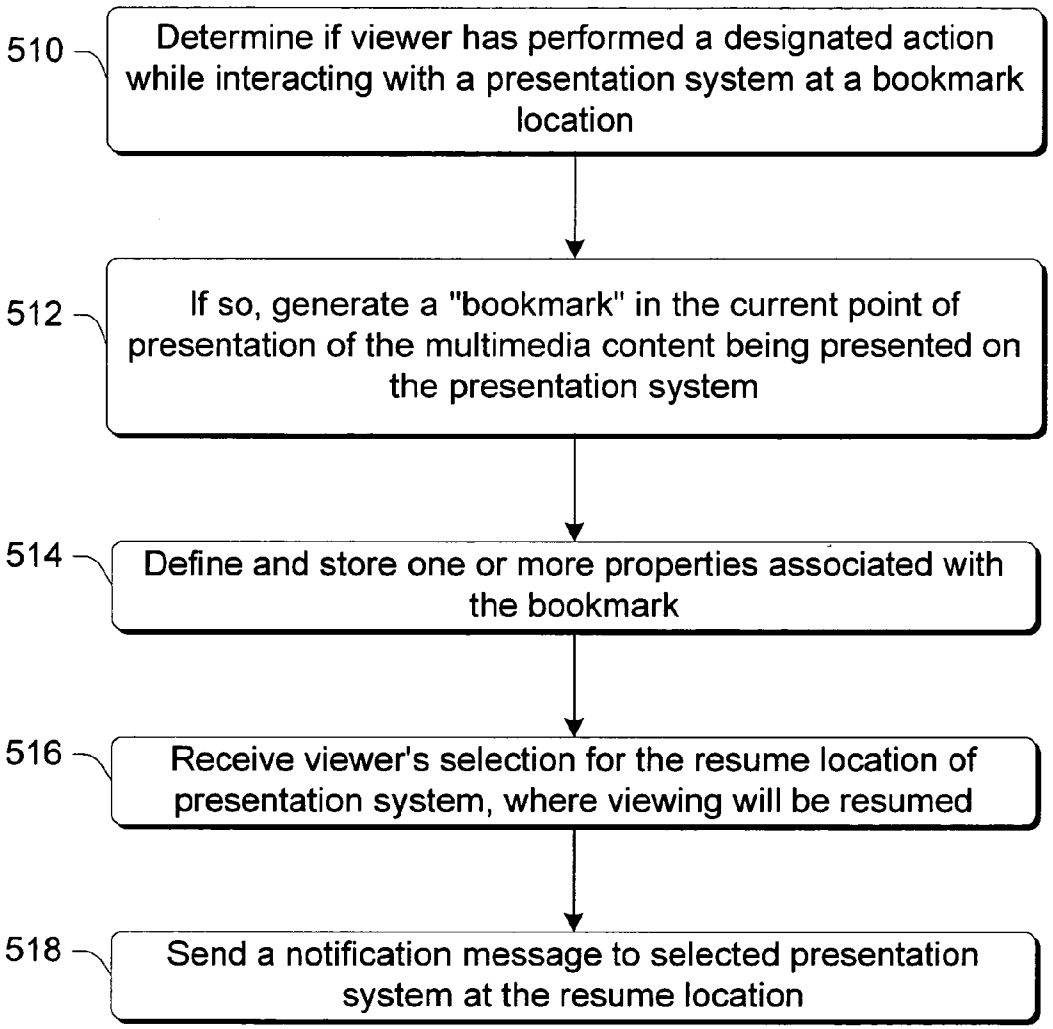

510
Determine if viewer has performed a designated action while interacting with a presentation system at a bookmark location
512
If so, generate a "bookmark" in the current point of presentation of the multimedia content being presented on the presentation system
514
Define and store one or more properties associated with the bookmark
516
Receive viewer's selection for the resume location of presentation system, where viewing will be resumed
518
Send a notification message to selected presentation system at the resume location

Fig. 5

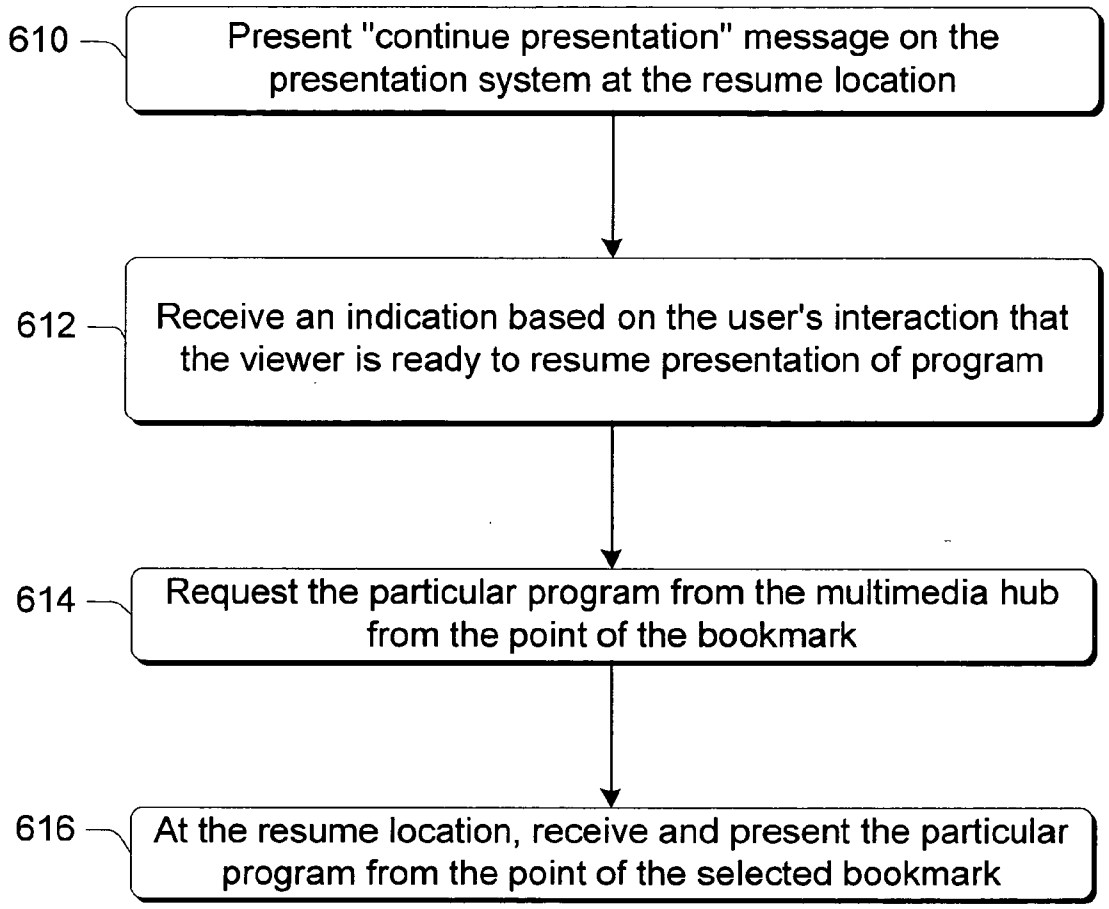

610
Present "continue presentation" message on the presentation system at the resume location
612
Receive an indication based on the user's interaction that the viewer is ready to resume presentation of program
614
Request the particular program from the multimedia hub from the point of the bookmark
616
At the resume location, receive and present the particular program from the point of the selected bookmark

Fig. 6

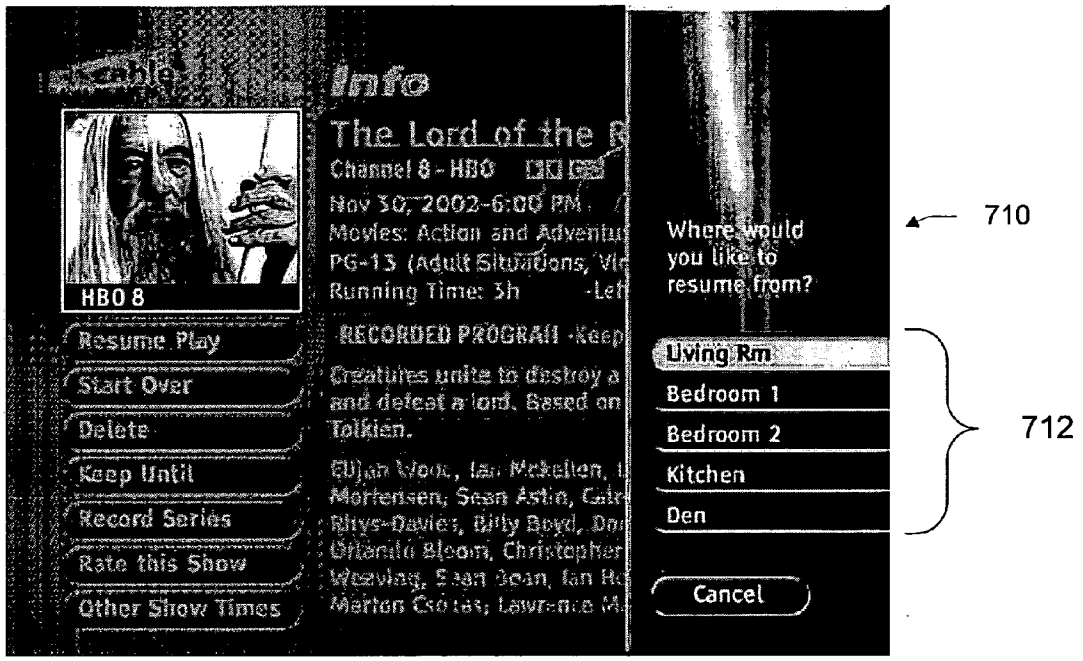

Info
The Lord of the R
Channel 8 - HBO
Nov 30, 2002-6:00 PM
Movies: Action and Adventu
PG-13 (Adult Situations, Vi
Running Time: 3h
HBO 8
Resume Play
Start Over
Delete
Keep Until
Record Series
Rate this Show
Other Show Times
RECORDED PROGRAM
Creatures unite to destroy a
and defeat a lord. Based on
Tolkien.
Where would you like to resume from?
Living Rm
Bedroom 1
Bedroom 2
Kitchen
Den
Cancel
710
712

Fig. 7

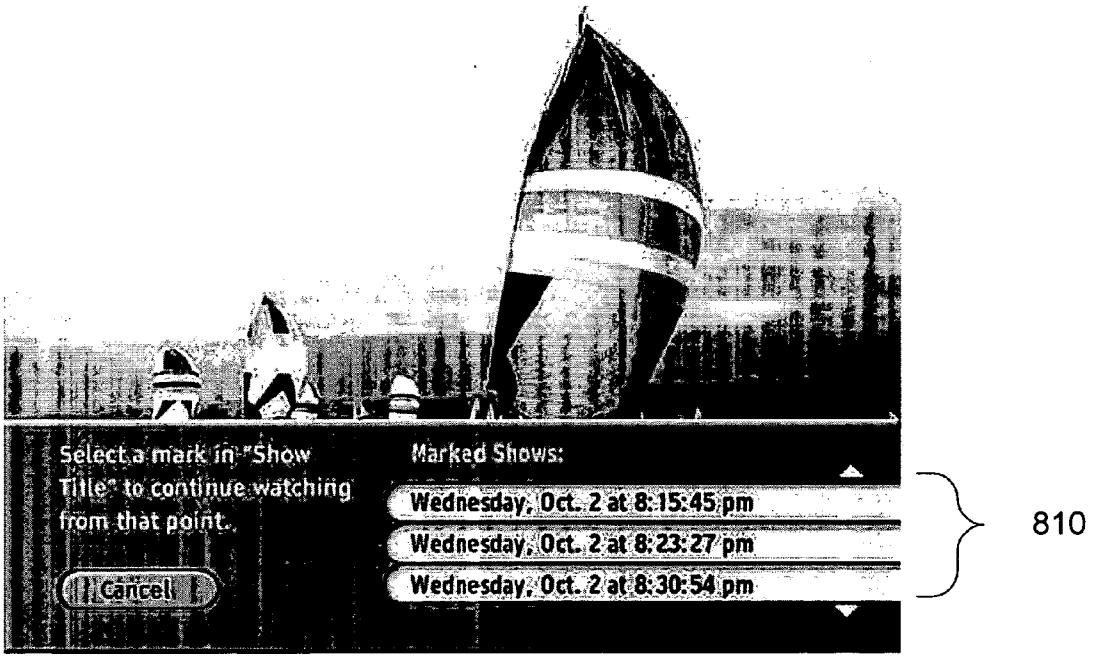
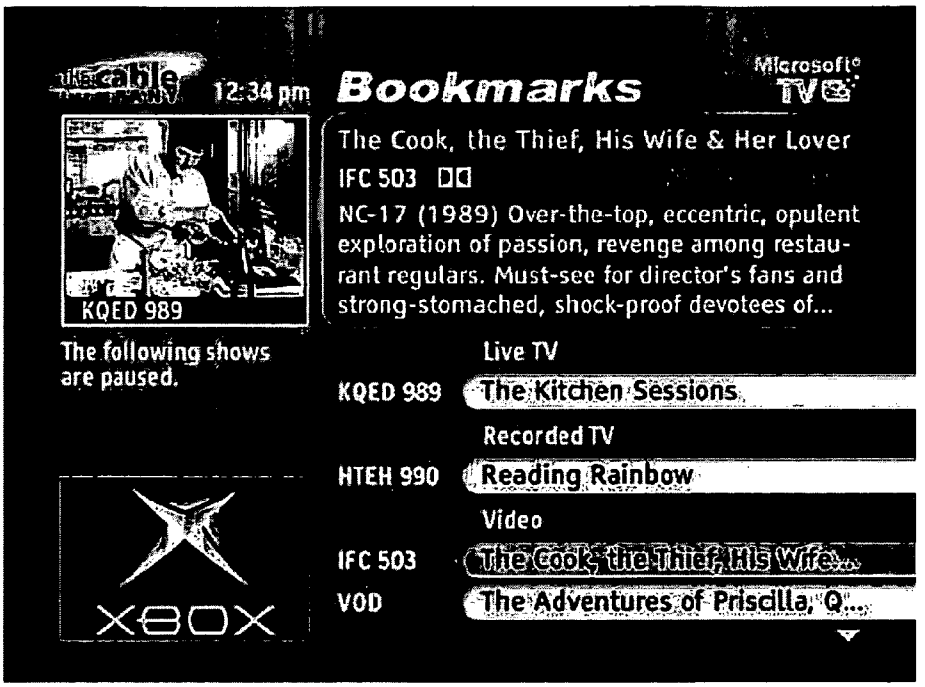

Select a mark in "Show Title" to continue watching from that point.
Cancel
Marked Shows:
Wednesday, Oct. 2 at 8:15:45 pm
Wednesday, Oct. 2 at 8:23:27 pm
Wednesday, Oct. 2 at 8:30:54 pm
810

Fig. 8



910

Fig. 9

1010

Fig. 10

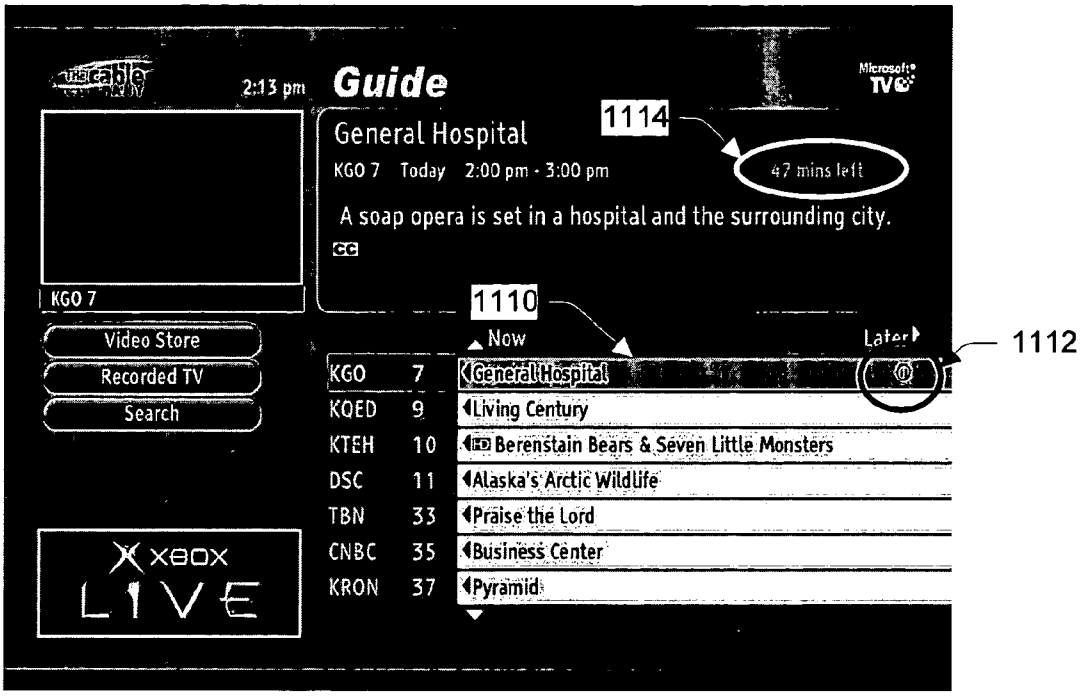

2:13 pm
Guide
Microsoft TV
General Hospital
1114
KGO 7 Today 2:00 pm - 3:00 pm
47 mins left
A soap opera is set in a hospital and the surrounding city.
KGO 7
1110
Video Store
Recorded TV
Search
Now
Later
1112
KGO 7 General Hospital
KQED 9 Living Century
KTEH 10 Berenstain Bears & Seven Little Monsters
DSC 11 Alaska's Arctic Wildlife
TBN 33 Praise the Lord
CNBC 35 Business Center
KRON 37 Pyramid
XBOX LIVE

Fig. 11

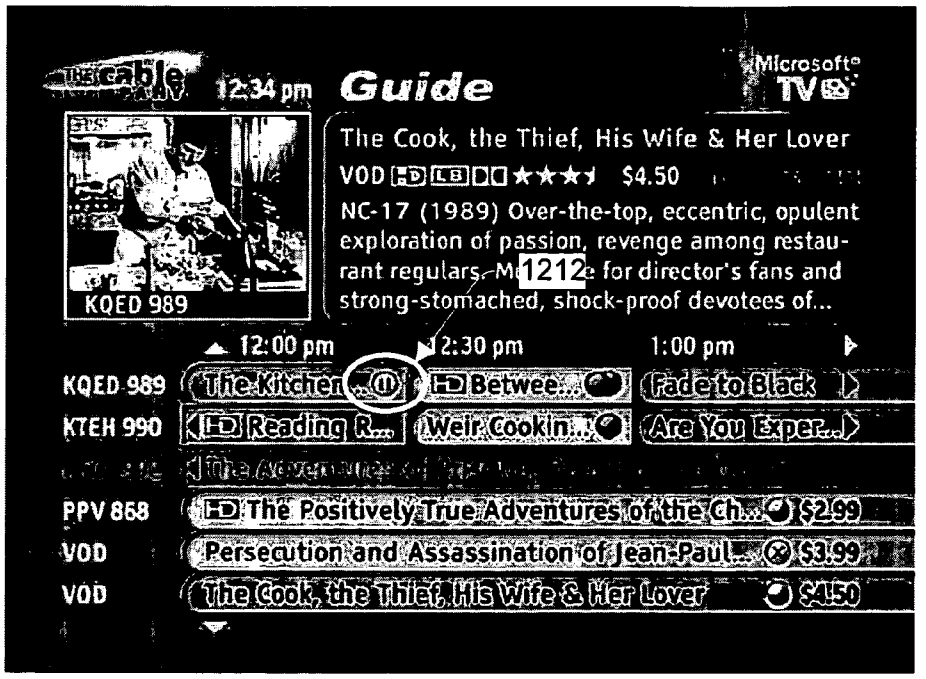

12:34 pm
Guide
Microsoft TV
The Cook, the Thief, His Wife & Her Lover
VOD $4.50
NC-17 (1989) Over-the-top, eccentric, opulent exploration of passion, revenge among restaurant regulars. M 1212 e for director's fans and strong-stomached, shock-proof devotees of...
KQED 989
12:00 pm
12:30 pm
1:00 pm
KQED 989 The Kitchen... Betwee... Fade to Black
KTEH 990 Reading R... Weir Cookin... Are You Exper...
PPV 868 The Positively True Adventures of the Ch... $2.99
VOD Persecution and Assassination of Jean-Paul... $3.99
VOD The Cook, the Thief, His Wife & Her Lover $4.50

Fig. 12

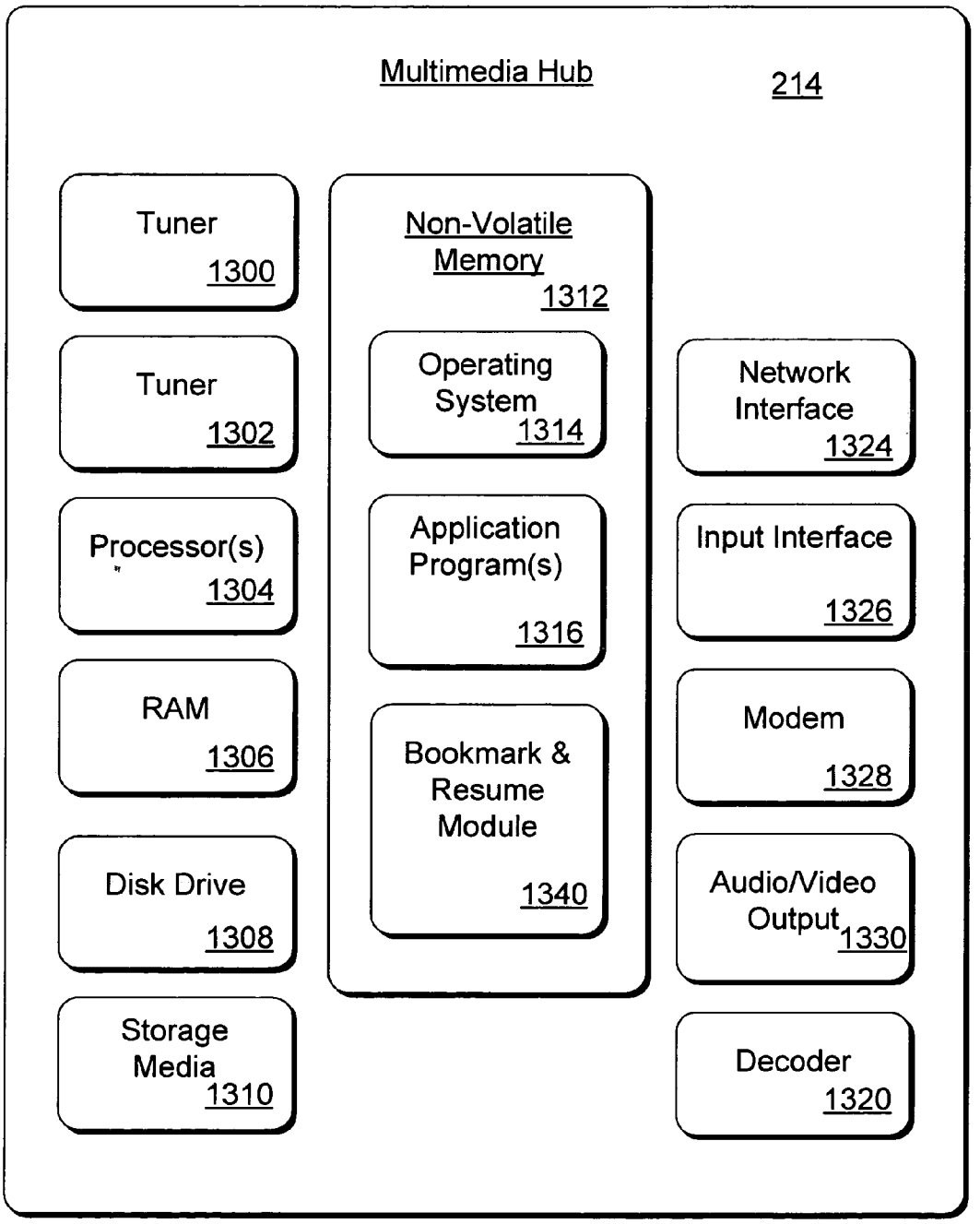

Multimedia Hub
214
Tuner
1300
Tuner
1302
Processor(s)
1304
RAM
1306
Disk Drive
1308
Storage Media
1310
Non-Volatile Memory
1312
Operating System
1314
Application Program(s)
1316
Bookmark & Resume Module
1340
Network Interface
1324
Input Interface
1326
Modem
1328
Audio/Video Output
1330
Decoder
1320

Fig. 13

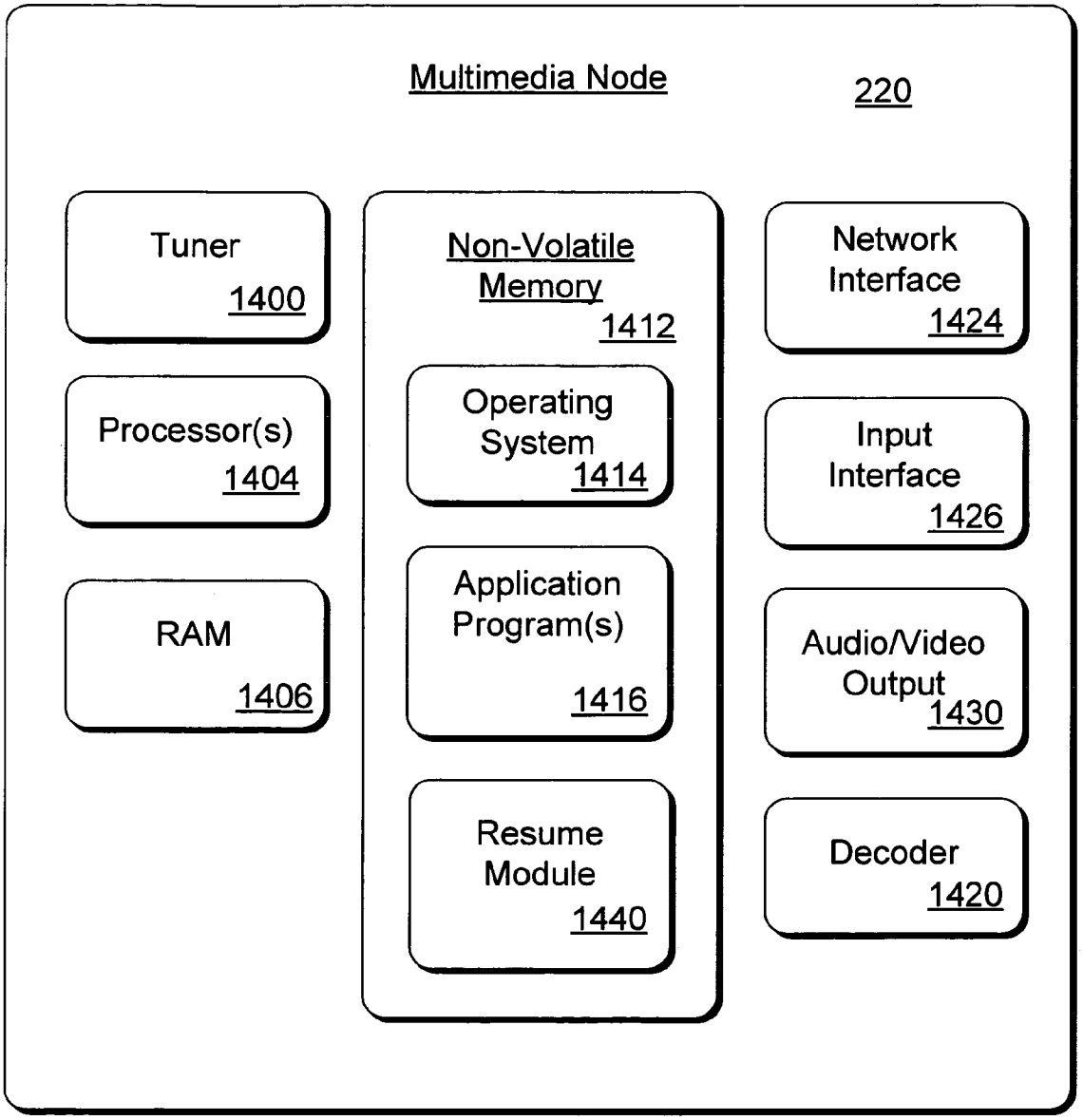

Multimedia Node
220
Tuner
1400
Processor(s)
1404
RAM
1406
Non-Volatile Memory
1412
Operating System
1414
Application Program(s)
1416
Resume Module
1440
Network Interface
1424
Input Interface
1426
Audio/Video Output
1430
Decoder
1420

Fig. 14

MULTIMEDIA PRESENTATION RESUMPTION WITHIN AN ENVIRONMENT OF MULTIPLE PRESENTATION SYSTEMS

TECHNICAL FIELD

[0001] This invention generally relates to a multimedia technology.

BACKGROUND

[0002] Digital cable and satellite have begun to change the nature of home entertainment by vastly expanding the choices available to consumers. Digital Video Recorders and Video-On-Demand have made "appointment TV" unnecessary by putting the consumer in charge of when they wish to view. However, the problem of where to watch has been mostly unanswered by these new devices.

[0003] In a typical home, a consumer is watching audio/visual (herein "multimedia") content from one of several typical sources. Examples of such typical sources include:

[0004] Video cassette recorder/player (VCR) and its video tapes;

[0005] DVD player/recorder and its DVD disks;

[0006] Digital video recorder (DVR) and its secondary storage device (such as a hard disk). These are sometimes called personal video recorders (PVRs); and Live television ("Live TV") broadcast via cable, satellite dish, or antennae. This may include video-on-demand (VOD) or pay-per-view (PPV).

[0007] Of course, these are just examples of typical sources and other such sources may exist.

[0008] Base Scenario

[0009] The following describes the base scenario considered herein:

[0010] An environment has multimedia presentation systems at multiple different loci in the environment. For example, a home may have multiple television sets and each one is in a different room. One may be in the living room, one in each of 3 bedrooms, and another in the game room.

[0011] Multimedia content is being viewed at one of the presentation systems at one of the loci. For example, a person is watching a movie in the living room.

[0012] The viewer moves to another locus in the environment, but wishes to continuing watching the same multimedia content that she was viewing at the previous locus. For example, a person goes to the bedroom, but wants to continue to watch the same movie that they were watching in the living room.

[0013] More particularly, the viewer may want to continue watching the same multimedia content at the new locus exactly at the point where she ceased viewing the content at the previous locus. For example, a person may go to the kitchen, but wants to continue to watch the same movie exactly at the point where she paused it in the living room.

[0014] Conventional Approaches

[0015] With all of the conventional approaches, each of the presentation systems (e.g., televisions) at each locus (e.g., rooms) has its own source of the multimedia content. Examples of such sources include the VCR, DVD player, DVR, and Live TV.

[0016] None of the conventional approaches allow a viewer to pick-up a presentation of multimedia content in a new location, at the point where the viewer stopped viewing it in the original location.

[0017] The following describes how to accomplish this base scenario using conventional approaches.

[0018] VCR: The viewer must stop the tape at the original locus and take it with her to the new locus. The new locus must have its own VCR to play the tape. The viewer may put the tape in the VCR at the new locus and it will start playing where the viewer stopped it in the original locus.

[0019] DVD: The viewer must stop the DVD player at the original locus and take the DVD disk with her to the new locus. The new locus must have its own DVD player. When the viewer loads the DVD into the DVD player of the new location, the typical DVD players will start playing the DVD at the very beginning. The user will have to manually jump ahead to a point on the DVD disk that is close to where she stopped viewing at the original locus.

[0020] DVR: There is no conventional technology that allows the user to accomplish this base scenario. Since the source of the multimedia content remains in the DVR at the original locus, the viewer is not able to pick exactly where she left off viewing in the original locus. If the DVR has a removable media, then this approach is more like the VCR or DVD approach.

[0021] Live TV: The viewer is not able to stop or pause live television broadcast. The viewer may watch the same broadcast at another locus, but the viewer will not be able to continue from exactly where she paused the broadcast at the original locus. While a DVR is capable of "pausing" live TV, there is no conventional technology that allows for the user to resume watching such paused live TV at another locus.

[0022] Alternative Scenario

[0023] In addition to the base scenario provided above, assume that another viewer wishes to continue to watch the multimedia content at the original locus (or at another locus) when the first viewer leaves to go view the content at still another locus.

[0024] For example, assume that there are two people watching a recorded movie. One person "pauses" the movie and leaves the room to go to another room in the house. However, the remaining person continues to watch the movie. The person who left the room wishes to resume watching the movie in a new room. Although another person continues to watch the movie in the original room, the person who left the room wishes to resume watching exactly where she "paused" it.

[0025] None of the current approaches addresses this alternative scenario.

SUMMARY

[0026] With at least one implementation described herein, one or more viewers are able to watch the same source multimedia content at multiple locations within an environment (e.g., a household). With at least one implementation

described herein, a viewer is able to continue watching such content at a new location (or "locus") from the point that she bookmarked the content at an original location.

[0027] This summary itself is not intended to limit the scope of this patent. Moreover, the title of this patent is not intended to limit the scope of this patent. For a better understanding of the present invention, please see the following detailed description and appending claims, taken in conjunction with the accompanying drawings. The scope of the present invention is pointed out in the appending claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] The same numbers are used throughout the drawings to reference like elements and features.

[0029] **FIG. 1** is a general environmental diagram intended to illustrate a typical environment suitable for at least one embodiment described herein.

[0030] **FIG. 2** is a general schematic diagram intended to illustrate a typical environment suitable for at least one embodiment described herein.

[0031] **FIG. 3** is a flow diagram showing a methodological implementation described herein.

[0032] **FIG. 4** is a flow diagram showing a methodological implementation described herein.

[0033] **FIG. 5** is a flow diagram showing a methodological implementation described herein.

[0034] **FIG. 6** is a flow diagram showing a methodological implementation described herein.

[0035] **FIG. 7** illustrates an exemplary graphical user interface (GUI) that may be produced and/or used by at least one embodiment described herein.

[0036] **FIG. 8** illustrates an exemplary graphical user interface (GUI) that may be produced and/or used by at least one embodiment described herein.

[0037] **FIG. 9** illustrates an exemplary graphical user interface (GUI) that may be produced and/or used by at least one embodiment described herein.

[0038] **FIG. 10** illustrates an exemplary graphical user interface (GUI) that may be produced and/or used by at least one embodiment described herein.

[0039] **FIG. 11** illustrates an exemplary graphical user interface (GUI) that may be produced and/or used by at least one embodiment described herein.

[0040] **FIG. 12** illustrates an exemplary graphical user interface (GUI) that may be produced and/or used by at least one embodiment described herein.

[0041] **FIG. 13** is a block diagram that illustrates components of an example computing device of a multimedia hub of at least one embodiment described herein.

[0042] **FIG. 14** is a block diagram that illustrates components of an example computing device of a presentation system of at least one embodiment described herein.

DETAILED DESCRIPTION

[0043] In the following description, for purposes of explanation, specific numbers, materials and configurations are set forth in order to provide a thorough understanding of the present invention. However, it will be apparent to one skilled in the art that the present invention may be practiced without the specific exemplary details. In other instances, well-known features are omitted or simplified to clarify the description of the exemplary implementations of the present invention and, thereby, to better explain the present invention. Furthermore, for ease of understanding, certain method steps are delineated as separate steps; however, these separately delineated steps should not be construed as necessarily order dependent in their performance.

[0044] The following description sets forth one or more exemplary implementations of a Multimedia Presentation Resumption within an Environment of Multiple Presentation Systems that incorporate elements recited in the appended claims. These implementations are described with specificity in order to meet statutory written description, enabling, and best-mode requirements. However, the description itself is not intended to limit the scope of this patent.

[0045] These exemplary implementations, described herein, are examples. These exemplary implementations do not limit the scope of the claimed present invention; rather, the present invention might also be embodied and implemented in other ways, in conjunction with other present or future technologies.

[0046] An example of an embodiment of a Multimedia Presentation Resumption within an Environment of Multiple Presentation Systems may be referred to as an "exemplary resumption architecture."

[0047] Herein, "presenting" includes communicating the multimedia content to a display and/or audio device. Herein, "broadcast media" refers to a multimedia transmission (such as a television or radio broadcast) being received via at least one broadcast tuner.

[0048] Herein, "multi-TV" refers to the use of multiple multimedia presentation systems (such as television equipment). This term presumes that the multiple presentation systems are dispersed across several different locations (or "loci") in an environment. For example, a household may have multiple rooms, each with television equipment.

[0049] Herein, "bookmark & resume" of broadcast media effectively produces a time-shift of the broadcast media. It may appears to the viewer that she is "pausing" the broadcast media when she presses the "pause" button (or some other designated button, like a "bookmark" button) for her DVR. However, in reality, the broadcast media broadcast continues, but the DVR records it for later presentation. When the viewer later un-bookmarks (or "resumes") the presentation of the broadcast media, the DVR plays the recorded content from the point that it was "bookmarked."

[0050] When the user "bookmarks" broadcast media, she does not decide a priori to record the multimedia content being presented. Rather, such recording of the content and later presentation of that content is performed automatically by the DVR. It is typical for a DVR to automatically and continuously record multimedia content. And it may do so without specific manual directions (e.g., pressing a "pause" button) from a user.

[0051] Herein, "multimedia content" includes digital video streams as well as audio, music, DVDs, a slide show

of digital images, and interactive content (e.g., games, the Internet, interactive TV). Moreover, digital multimedia content also includes content that has been converted from the analog domain, especially audio, video, and television.

[0052] Introduction

[0053] Unlike the conventional approaches, the exemplary resumption architecture addresses and solves the base scenario and alternative scenario that are described in the BACKGROUND section above.

[0054] With the exemplary resumption architecture, one or more viewers are able to watch the same source multimedia content at multiple locations (or "loci") within an environment (e.g., a household). More particularly, with the exemplary resumption architecture, the viewer is able to resume watching such content at a new location (or "locus") from the point that she bookmarked the content at an original location. More particularly still, with the exemplary resumption architecture, the viewer can do the above while another viewer continues to watch the content at the original location or at yet another location in the environment.

[0055] With the exemplary resumption architecture, all multimedia content on a central hub is available to all presentation systems coupled to that hub Therefore, a viewer may effectively "move" the content that she is watching from one location in the environment to another and continue to watch without missing any of the content.

[0056] Multi-TV Environment

[0057] **FIG. 1** shows an example of a typical environment **100** in which the exemplary resumption architecture may be implemented. The typical environment **100** shown here includes multiple presentation systems coupled together in a household. Of course, other implementations may be at other similar settings, such as apartment buildings, office buildings, school buildings, factories, etc. Implementations are not limited to an area defined by a structure, but may extend a neighborhood, community, town, city, state, nation, globe, etc.

[0058] As shown in **FIG. 1**, the household includes a living room **110**, a kitchen **120**, a bedroom **130**, a bathroom **140**, and a game room **150**. Each room has its own presentation systems. Those systems include:

[0059] television **112** and multimedia hub **114** in the living room **110**;

[0060] television **122** and multimedia node **124** in the kitchen **120**;

[0061] television **132** and multimedia node **134** in the bedroom **130**;

[0062] television **142** and multimedia node **144** in the bathroom **140**; and television **152** and multimedia node **154** in the game room **150**.

[0063] Although it is not shown in **FIG. 1**, these presentation systems are communicatively coupled to each other. In other words, they are networked together. In this way, the hub may communicate with the nodes.

[0064] Each of these presentation systems includes a multimedia presentation device (e.g., a television) and a multimedia hub or node. For example, the system in the bedroom **130** includes the television **132** and its multimedia node **134**. This node (or hub) is sometimes called a set-top box.

[0065] The set-top box is coupled to its television for presentation of the multimedia content (e.g., audio data and video data) received by the presentation system, as well as a graphical user interface (GUI). A particular set-top box may be coupled to any number of televisions and/or similar devices that may be implemented to display or otherwise render content.

[0066] The hub **114** may be implemented in any number of embodiments, including as a set-top box, a satellite receiver, a TV recorder with a hard disk, a game console, an information appliance, a DVD player, a DVR, a personal computer, a home media center, and so forth. The hub will have at least some form of DVR components and functionality. In particular, it will have a storage device capable of storing recorded multimedia content or "bookmarking" broadcast media.

[0067] The nodes may also be implemented in any number of embodiments, but they do need as much functionality as the hub **114** since the hub services the nodes. Therefore, they need; at least; to be able to communicate with the hub and to receive multimedia content from the hub.

[0068] In the exemplary environment **100** shown in **FIG. 1**, the set-top boxes (such as hub **114** and node **134**) are shown as standalone units that connect to their televisions. Alternatively, the various components and functionality of the set-top box are incorporated into the television, rather than using two separate devices.

[0069] **FIG. 2** illustrates another exemplary environment **200** in which the techniques, systems, and other aspects described herein may be implemented (partially or wholly). Exemplary environment **200** is a television entertainment architecture that facilitates distribution of multimedia content. At least a portion of this environment corresponds to the exemplary environment **100** shown in **FIG. 1**.

[0070] **FIG. 2** shows a centralized multimedia presentation system **210** coupled to one or more presentation systems **220**, **230**, **240**, and **250** over a communications network **205**. The centralized multimedia presentation system **210** includes a hub **214** with its television **212**.

[0071] The communications network **205** may include any communicative media as long as it is capable of satisfactorily transmitting multimedia content from the hub to a node. Examples of such communicative media include (for example): a cable television network, RF, microwave, satellite, and/or data network, such as the Internet, and may also include wired or wireless media. As long as multimedia content transmission is satisfactory, the communications network **205** may be any type of network, using any type of network topology and any network communication protocol, and may be represented or otherwise implemented as a combination of two or more networks.

[0072] The centralized multimedia presentation system **210** has one or more tuners for receiving incoming multimedia content from one or more sources of such content. Indeed, each source may have one or more tuners. Such tuners may include in-band tuners that tune to various frequencies or channels to receive television signals. These tuners may be digital tuners, analog tuners, or any combi-

nation of analog and digital components used to get digital data into the centralized multimedia presentation system **210**.

[**0073**] Alternatively, the centralized multimedia presentation system **210** of the exemplary resumption architecture may not have any tuners. Instead of tuning and demodulating an incoming multimedia signal, the system may receive streamed content via another mechanism that does not employ tuners. For example, it may received the streamed content via a packet protocol.

[**0074**] The centralized multimedia presentation system **210** has enough tuners to service the needs of the exemplary resumption architecture. If there are an insufficient number of tuners to meet the needs, then the exemplary resumption architecture will have a strategy for allocating the tuning resources.

[**0075**] The sources of multimedia data from which the tuners may receive content may include (for example):

[**0076**] a cable broadcast system **260** over a cable broadcast network **262**; a satellite broadcast system which is received by a satellite dish **264** from an orbiting satellite **265**; and

[**0077**] a live television broadcast from a local broadcast antenna **266**.

[**0078**] Furthermore, the centralized multimedia presentation system **210** may store multimedia content on its internal storage system (as a DVR does) or from other storage media (such as a DVD). Alternatively, multimedia content may be at another communicatively coupled location on the network rather than on the hub. For example, a location may have a centralized storage location for such content. Also, for example, a cable headend may maintain storage for many subscribers. Moreover, the storage may be maintained via a federation of hubs and nodes where each shares their own available storage.

[**0079**] The cable broadcast system **260** may provide broadcast media having multimedia content, such as movies, television programs, live feeds, video-on-demand, pay-per-view, commercials, music, and similar audio and/or video content. The cable broadcast network **262** may include a cable television network, RF, microwave, satellite, and/or data network, such as the Internet, and may also include wired or wireless media. Furthermore, it may be any type of network, using any type of network topology and any network communication protocol, and may be represented or otherwise implemented as a combination of two or more networks.

[**0080**] Bookmarks

[**0081**] When a bookmark command is received while a multimedia content is being presented, the centralized multimedia presentation system **210** of the exemplary resumption architecture stores a "bookmark" indicative of that point in the presentation.

[**0082**] Each bookmark will be associated with a particular multimedia content and will identify the location for which the bookmark was created within the presentation of the multimedia content. The bookmark may have many other properties associated with it as well. Examples of these other properties may include (but are not limited to):

[**0083**] identifying the particular multimedia content that is "bookmarked;"

[**0084**] identifying the physical or logical location where the content was "bookmarked (i.e, which device through which the bookmark was set);"

[**0085**] this may be thought of as identifying relative time within the content;

[**0086**] identifying the user who "bookmarked" the content; and

[**0087**] absolute chronological time/date (i.e., this is the time at which the bookmark was set—not the relative time within the content, but the actual GMT time that the user requested the bookmark to be set).

[**0088**] For example, a bookmark for Program X may indicate that "John" bookmarked the presentation of Program X in the "living room" at a relative time of 1:05:35 into the presentation and did so on Tuesday, Sep. 23, 2003 at 8:43 pm.

[**0089**] Furthermore, when presented on GUI, the bookmarks have visible characteristics so that they are differentiated from each other. For example, bookmarks for "Jane" may be red to distinguish them from the blue bookmarks of "John." In another example, differing types of bookmarks may use different icons to distinguish them.

[**0090**] Operation of the Exemplary Resumption Architecture

[**0091**] With the exemplary resumption architecture, a user may bookmark any stored content on one presentation system and resume it on any other (within the network environment).

[**0092**] At an original location, the user "bookmarks" the multimedia content ("program") that she is watching. The presentation system at the original location creates and stores a bookmark. This original location may be called the "bookmark location" or "bookmark locus." Now that the presentation has been "bookmarked," the user may access it on a presentation system at another location in the networked environment.

[**0093**] The presentation system in the new location retrieves the bookmark and presents a GUI that asks if the user wants to resume playing the content that was bookmarked from the bookmark's location. If there are multiple bookmarks, multiple locations are presented. This new location may be called the "resume location" or "resume locus."

[**0094**] When a user (of any presentation system in the networked environment) queries for information about a particular multimedia content (herein, "program"), a resume option is provided if there is a bookmark stored for that program. If there is more than one bookmark for a particular program, then option to "resume from . . . " is provided so that the user may select which bookmark. If the user selects the "resume from . . . " option, an interface containing the list of locations is presented.

[**0095**] Broadcast Media

[**0096**] A system does not need tuners to present stored multimedia content. However, with broadcast media, the system must have at least one tuner to receive the broadcast. This broadcast media includes typical broadcast television,

typical cable broadcasts, reception of video-on-demand (VOD), and reception of pay-per-view (PPV).

[0097] With broadcast media, the user can "bookmark" the broadcast media content at any point. The hub records the broadcast media content using a tuner. When the user moves to another location, the user may pick-up watching the broadcast media content at the point of the "bookmark." When the user "resumes," the hub provides the just recorded content for the "broadcast media" as it continues to record what it is receiving on the tuner.

[0098] The exemplary resumption architecture tracks the state of all live content being consumed by every system in the environment. This includes live content that is playing and live content that is "bookmarked."

[0099] Whenever the user requests information on a live program, the exemplary resumption architecture presents a GUI with information (such as start times and length of program) about the live program. Broadcast media programs appearing in an electronic program guide GUI may contain icons denoting that they contain one or more bookmarks. In other words, the icon indicates that the presentation of this broadcast media program was bookmarked somewhere at sometime. When the user selects this program, she is given the option to resume (from one or more bookmarks) or watch actual live broadcast.

[0100] If a user wishes to bookmark live content and resume in another location, the exemplary resumption architecture may use tuner swapping, where the state regarding the playback of content on the two devices is exchanged. Alternatively, it employs tuner sharing, by allowing multiple devices to play back the same shared content while keeping independent state.

[0101] If a user wishes to bookmark live content and resume in another location, there are at least two approaches available. The first is called tuner-swapping. With this, the state regarding the playback of content on the two systems (the original location and the new location where the content is resumed) is exchanged. The second is called tuner-sharing. With this, the exemplary resumption architecture allows for multiple devices to playback the same shared content while keeping independent state.

[0102] One way to accomplish tuner swapping is for the "source" location to give up tuner to "destination" location. Thus, the destination will have access to the media content "pause" buffer attached to the particular tuner, but source will not.

[0103] Practical example of this: Users A and B are watching time delayed broadcast media on channel 5 in living room. If A moves to the bedroom, B has 3 choices: go with A to bedroom and continue watching time delayed, stay in living room and watch another channel, or see channel 5 go live, thus missing the content in the pause buffer.

[0104] Instead of "tuner swapping," the tuner may be shared. The "source" and "destination" share tuner and the "pause" buffer. Practical example: Same situation as above, however, B can continue to watch time delayed content in the living room.

[0105] With bookmarked broadcast media, the presentation system at the resume location reads from the same storage as the presentation system at the bookmark location and synchronizes its state at that time. No further synchronization is needed or desired. The users of systems at both locations (the original bookmark location and the new resume location) are free to watch the content as they see fit.

[0106] Again, the exemplary resumption architecture may employ either tuner "swapping" or "sharing." Alternatively, it may employ another functionally equivalent option.

[0107] Methodological Implementations of the Exemplary Pull-Based Resumption Architecture

[0108] **FIG. 3** shows a methodological implementation of the exemplary resumption architecture. This methodological implementation may be performed in software, hardware, or a combination thereof.

[0109] This methodological implementation is focused on bookmarking multimedia content (stored or broadcast media) in response to a viewer's action (such as bookmarking a presentation). More particularly, it is focused on a pull-based model, where the system at the resume location provides a user interface for initiating the resumption of the presentation.

[0110] At **310** of **FIG. 3**, the exemplary resumption architecture determines if the viewer has performed one of the designated actions while interacting with a presentation system at the bookmark locus. If not, it just waits until such action occurs. If so, it proceeds to block **312**.

[0111] Examples of designated actions that may trigger proceeding to block **312** include (but are not limited to) the following:

[0112] While watching a stored program,

[0113] the user chooses to watch a broadcast media channel;

[0114] the user goes to recorded shows list and starts watching another show; the user goes to a VOD menu and selects to watch a VOD program; or

[0115] the user goes to a page without a TV control (e.g., the user has accessed a user interface which does not present the current video stream);

[0116] the user presses the "pause" key or a dedicated "bookmark" key (on a remote control, on the system, or via a GUI).

[0117] While watching a VOD program,

[0118] the user chooses to watch a broadcast media channel;

[0119] the user goes to recorded shows list and starts watching a recorded show;

[0120] the user goes to a VOD menu and selects to watch another VOD program; or

[0121] the user goes to a page without a TV control (e.g., the user has accessed a user interface which does not present the current video stream);

[0122] the user presses the "pause" key or a dedicated "bookmark" key (on a remote control, on the system, or via a GUI).

[0123] While watching a broadcast media program, the user chooses to watch another broadcast media channel;

[0124] the user goes to recorded shows list and starts watching a recorded show;

[0125] the user goes to a VOD menu and selects to watch a VOD program; or

[0126] the user presses the "pause" key or a dedicated "bookmark" key (on a remote control, on the system, or via a GUI).

[0127] At **312**, it generates a "bookmark" in the current point of presentation of the stored multimedia content being presented on the presentation system.

[0128] At **314**, the exemplary resumption architecture defines one or more properties associated with the bookmark and stores the bookmark in association with the stored multimedia content. Examples of the types of properties are discussed above in the section titled, "Bookmarks."

[0129] Since this is the pull-based model, the hub simply waits for a system at a resume location to request the bookmarked program before actually streaming it to another system on the networked environment.

[0130] Although the program's presentation has been bookmarked (so that it can be resumed in another location), it is possible for the program's presentation may continue at the original location as well. For example, two people are watching a broadcast media program. One person bookmarks the program and goes to resume watching it in another room in the household. However, the other person may remain in the room and continue to watch the program at the original location.

[0131] **FIG. 4** shows a methodological implementation of the exemplary resumption architecture. This methodological implementation is focused on resuming a bookmarked presentation of multimedia content (stored or broadcast media) at another location. This methodological implementation may be performed in software, hardware, or a combination thereof.

[0132] At **410** of **FIG. 4**, a presentation system at the resume locus ("resume-locus system") presents a graphical user interface (GUI). Examples of such GUIs are shown in **FIGS. 7-13** and discussed in the corresponding text below.

[0133] At **412**, it receives an indication based on the user's interaction with the GUI that the user wishes to view a particular program that has been bookmarked.

[0134] At **414**, the resume-locus system requests (from the multimedia hub) the particular program to start from the point of the selected bookmark.

[0135] At **416**, the resume-locus system receives (from the hub) the particular program from the point of the selected bookmark. It presents the program from that point.

[0136] Since this is the pull-based model, the resume-locus system initiates the resumption of a bookmarked multimedia content rather than the bookmark-locus system.

[0137] Methodological Implementations of the Exemplary Push-Based Resumption Architecture

[0138] **FIG. 5** shows a methodological implementation of the exemplary resumption architecture. This methodological implementation may be performed in software, hardware, or a combination thereof.

[0139] This methodological implementation is focused on bookmarking multimedia content (stored or broadcast media) in response to a viewer's action (such as bookmarking a presentation). More particularly, it is focused on a push-based model, wherein the hub streams (or "pushes") the bookmarked program to a selected system at the resume location.

[0140] With this push-based approach, the user is asked where to "move" the bookmarked program once the user has bookmarked it. It is very "discoverable" in the sense of ease-of-use. When the person arrives at the resume location, she only needs to indicate that she is ready and the bookmarked program continues at that new location.

[0141] At **510** of **FIG. 5**, the exemplary resumption architecture determines if the viewer has performed one of the designated actions while interacting with a presentation system at the bookmark locus. If not, it just waits until such action occurs. If so, it proceeds to block **512**.

[0142] Examples of which designated actions may trigger proceeding to block **512** are listed above in the discussion of block **310** of **FIG. 3**.

[0143] At **512**, it generates a "bookmark" in the current point of presentation of the stored multimedia content being presented on the presentation system.

[0144] At **514**, the exemplary resumption architecture defines one or more properties associated with the bookmark and stores the bookmark in association with the stored multimedia content. Examples of the types of properties are discussed above in the section titled, "Bookmarks."

[0145] At **516**, it receives the viewer's selection for the resume location, which is where the viewer plans to continue viewing the bookmarked presentation. This can be done in many ways. For example, a GUI may present several selected location options, and the viewer chooses one. Alternatively, the viewer may choose multiple locations or all locations.

[0146] At **518**, the hub sends a notification (or some form of communication) to the presentation system at the resume location. This notification will indicate that this system is the resume system for a particular presentation. In response to this notification, the resume system may present a message (such as "Resume Bookmarked Program?") that will allow the viewer to choose when to continue upon entering the new location.

[0147] **FIG. 6** shows a methodological implementation of the exemplary resumption architecture. This methodological implementation is focused on resuming a bookmarked presentation of multimedia content (stored or broadcast media) at another location. This methodological implementation may be performed in software, hardware, or a combination thereof.

[0148] At **610** of **FIG. 6**, in response to this notification (of block **518** of **FIG. 5**), a presentation system at the resume locus ("resume-locus system") presents a message (such as "Resume Bookmarked Program?") that will allow the

viewer to choose when to continue viewing upon entering the new location. Of course, it may present any other equivalent message and/or GUI.

[0149] Furthermore, it may also present a graphical user interface (GUI). Examples of such GUIs are shown in **FIGS. 7-13** and discussed in the corresponding text below.

[0150] At **612**, the resume-locus system receives an indication based on the user's interaction that the user is ready to continue the bookmarked program.

[0151] At **614**, it requests the bookmarked program from the multimedia hub from the point of the bookmark.

[0152] At **616**, the resume-locus system receives from the hub the particular program from the point of the bookmark. It presents the program from that point.

[0153] Since this is the push-based model, the bookmark-locus system initiates the resumption of a bookmarked multimedia content rather than the resume-locus system.

[0154] Examples of Graphical User Interfaces

[0155] **FIGS. 7-13** illustrate examples of GUIs that may be employed by the exemplary resumption architecture. Of course, other GUIs may be employed and variations of these exemplary GUIs may be employed. Unless otherwise stated, these GUIs are presented by the presentation system at the resume locus ("resume-locus system").

[0156] If desired, the exemplary resumption architecture may limit the display of bookmarks in the GUI. For example, it may only list bookmarks for programs that have been bookmarked during the last thirty minutes (or some other defined time interval).

[0157] Bookmarks Per Program

[0158] **FIG. 7** illustrates an example GUI that displays all of the current bookmarks for the same particular multimedia presentation. In this example, that presentation is the "Lord of the Rings." In this example, each different bookmark is identified by the location where the presentation was bookmarked. At **710**, the GUI asks from where the user would like to resume. At **712**, the GUI provides a list of the current locations where the "Lord of the Rings" was bookmarked. It lists "Living Rm,""Bedroom 1,""Bedroom2,""Kitchen," and "Den."

[0159] Alternatively, the GUI may list other properties of the bookmark. For example, it may be listed by the following properties:

[0160] the relative time within the presentation that it was bookmarked;

[0161] the absolute time (e.g., 8:34:43 pm) that it was bookmarked (as shown in **FIG. 8**);

[0162] who bookmarked it; most recently bookmarked bookmarks, in order; and

[0163] category of the programming.

[0164] It may provide a selectable option to choose which way to view the listed properties. Furthermore, it may list multiple properties of the bookmarks. For example, it may indicate who, at what time, at what location.

[0165] Most Recent Bookmarks Per Program

[0166] **FIG. 8** illustrates an example GUI that displays just the most recently bookmarked programs for the same particular multimedia presentation. The GUI provides a list of the most recently bookmarked programs **810**. It provides an absolute timestamp with the listings.

[0167] Bookmarks GUI

[0168] **FIGS. 9 and 10** illustrate example GUIs that display just the bookmarked programs. The GUI provides a list of the current programs that are bookmarked at **910** in **FIGS. 9 and 1010** in **FIG. 10**.

[0169] In the example in **FIG. 9**, this screen of the GUI shows four programs that are bookmarked. Of course, there may be more that the user may scroll up or down to see (or use some other available browsing method).

[0170] Alternatively, the GUI may list a subset of all of the bookmarks. This subset is selected based upon one or more properties. For example, the GUI may list:

[0171] identity of the multimedia content;

[0172] relative point of bookmark during the presentation;

[0173] most recently bookmarked multimedia programs;

[0174] category of multimedia content bookmarked;

[0175] locus of system where the presentation was bookmarked;

[0176] identity of user who manually bookmarked the presentation;

[0177] chronological time of the bookmark generating;

[0178] chronological date of the bookmark generating; and

[0179] relative time during the presentation where the presentation was bookmarked.

[0180] Broadcast Media

[0181] **FIGS. 11 and 12** illustrate examples of GUIs that display a grid of broadcast media programming. This may include broadcast television, VOD, PPV, cable television, satellite television, and the like.

[0182] Unlike a typical broadcast media grid, the GUI illustrated in **FIGS. 11 and 12** show a "bookmark" icon for the broadcast media that is currently bookmarked. In this example, KGO (channel **7**) is currently showing "General Hospital" at **1110**. A portion of the grid includes a "bookmark" icon **1112**. It is circled here to make it easier to find in this illustration. Furthermore, the description of the currently highlighted program may indicate at **1114**, the amount of time left from the bookmarked location in the bookmarked broadcast media program. **FIG. 12** shows "bookmark" icon **1212** in a multiple grid view.

[0183] Alternatively, rather than listing the bookmarked broadcast media programs along with non-bookmarked programs, a GUI may present only the bookmarked broadcast media programs. In this alternative, there is no need to present a "bookmark" icon because all of the displayed programming in this GUI is bookmarked.

[0184] Resume from . . .

[0185] The "resume from . . . " GUI may be a simple message (such as "Resume Bookmarked Program?") presented on the screen of the resume-locus system and have simple "OK" and "cancel" options. Alternatively, it may have an interface that is more graphic and interactive.

[0186] DVD Pause and Resume

[0187] The above functionality applies to multimedia presentations from a DVD disk. However, it does not need to use a tuner since the content comes from the DVD reader in the hub (or attached thereto).

[0188] The DVD content may continue to be presented at the location where it was bookmarked. So, a person who remains in the room may continue to watch the DVD. The person who left the room may choose to resume the presentation of the DVD in another room. Much like the broadcast media scenario described above, the hub will receive the stored content (which has just been recorded from the DVD) for the user to watch.

[0189] Alternatively, the exemplary resumption architecture may note the location on the DVD when the user pauses or bookmarks it. Then the user removes the DVD. At a later time, the user may reinsert the DVD into the same system or another one in the networked environment. The system identifies the DVD and provides a GUI with the option to resume playing the DVD at the point it was last bookmarked.

[0190] Exemplary Multimedia Server

[0191] **FIG. 13** illustrates an exemplary implementation of the multimedia server ("hub") **214**. More particularly, it illustrates selected components of the system **220** shown in **FIG. 2**.

[0192] The system **220** includes a first tuner **1300** and one or more additional optional tuners **1302**. The tuners **1300** and **1302** may be digital tuners, analog tuners, or any combination of analog and digital components used to get digital data into the system **220**.

[0193] The hub also includes one or more processors **1304** and one or more memory components. Examples of possible memory components include a random access memory (RAM) **1306**, a disk drive **1308**, a mass storage component **1310**, and a non-volatile memory **1312** (e.g., ROM, Flash, EPROM, EEPROM, etc.).

[0194] Alternative implementations of system **220** may include a range of processing and memory capabilities, and may include more or fewer types of memory components than those illustrated in **FIG. 13**.

[0195] Processor(s) **1304** process various instructions to control the operation of the system **220** and to communicate with other electronic and computing devices. The memory components (e.g., RAM **1306**, disk drive **1308**, storage media **1310**, and non-volatile memory **1312**) store various information and/or data such as multimedia content, electronic program data, web content data, configuration information for the hub, and/or graphical user interface information. The device may cache data into any one of these many memory components.

[0196] An operating system **1314** and one or more application programs **1316** may be stored in non-volatile memory **1312** and executed on processor **1304** to provide a runtime environment. A runtime environment facilitates extensibility of system **220** by allowing various interfaces to be defined that, in turn, allow application programs **1316** to interact with system **220**.

[0197] The application programs **1316** that may be implemented on the hub may include, for example, an electronic program guide (EPG), an email program to facilitate electronic mail, and so on.

[0198] The system **220** may also include other components pertaining to a television entertainment system which, for simplicity, are not illustrated in this example. For instance, the hub can include a user interface application and user interface lights, buttons, controls, etc. to facilitate viewer interaction with the device.

[0199] Input interface **1326** (e.g., serial, parallel, infrared, etc.) and network interface **1324** allow the hub to interact and communicate with other electronic and computing devices via various communication links. Furthermore, the input interface **1326** may ultimately allow a user to provide input into the hub. Although not shown, the hub may also include other types of data communication interfaces to communicate with other devices.

[0200] The system **220** may include a modem **1328** or other communications device that facilitates communication with other electronic and computing devices via a conventional telephone line or other communications mediums.

[0201] The system **220** has the ability to receive digital data, and it may receive it using the tuners **1300** or **1302**, the network interface **1324**, the modem **1328**, or other communications device.

[0202] The system **220** may also include an audio/video output **1330** that provides signals to a presentation device (e.g., television) or other device that processes and/or presents or otherwise renders the audio and video data. This output may be called the display.

[0203] The system **220** also includes a bookmark and resume module **1340** that partially or wholly implements the exemplary resumption architecture. It may be an application program or a hardware component.

[0204] Although shown separately, some of the components of the hub may be implemented in an application specific integrated circuit (ASIC). Additionally, a system bus (not shown) typically connects the various components within the hub.

[0205] A system bus may be implemented as one or more of any of several types of bus structures, including a memory bus or memory controller, a peripheral bus, an accelerated graphics port, or a local bus using any of a variety of bus architectures. By way of example, such architectures can include a CardBus, Personal Computer Memory Card International Association (PCMCIA), Accelerated Graphics Port (AGP), Small Computer System Interface (SCSI), Universal Serial Bus (USB), IEEE 1394, a Video Electronics Standards Association (VESA) local bus, and a Peripheral Component Interconnects (PCI) bus, also known as a Mezzanine bus.

[0206] Exemplary Multimedia Presentation System

[0207] **FIG. 14** illustrates an exemplary implementation of a node multimedia presentation system, such as system **220** of **FIG. 2**.

[0208] The system **220** includes one or more processors **1404** and one or more memory components. Examples of possible memory components include a random access memory (RAM) **1406** or other a non-volatile memory (e.g., ROM, Flash, EPROM, EEPROM, etc.).

[0209] Alternative implementations of system **220** may include a range of processing and memory capabilities and may include more or fewer types of memory components than those illustrated in **FIG. 14**.

[0210] Processor(s) **1404** process various instructions to control the operation of the system **220** and to communicate with other electronic and computing devices. The memory components store various information and/or data such as multimedia content, electronic program data, web content data, configuration information for the system, and/or graphical user interface information. The device may cache data into any one of these many memory components.

[0211] An operating system **1414** and one or more application programs **1416** may be stored in non-volatile memory and executed on processor **1404** to provide a runtime environment. A runtime environment facilitates extensibility of system **220** by allowing various interfaces to be defined that, in turn, allow application programs **1416** to interact with system **220**.

[0212] Input interface **1426** (e.g., serial, parallel, infrared, etc.) and network interface **1424** allow the node to interact and communicate with other electronic and computing devices via various communication links. Furthermore, the input interface **1426** may ultimately allow a user to provide input into the node. Although not shown, the node may also include other types of data communication interfaces to communicate with other devices.

[0213] The system **220** may also include other components pertaining to a television entertainment system, which, for simplicity, are not illustrated in this example. For instance, the system can include a user interface application and user interface lights, buttons, controls, etc. to facilitate viewer interaction with the device.

[0214] The system **220** may also include an audio/video output **1430** that provides signals to a presentation device (e.g., television) or other device that processes and/or presents or otherwise renders the audio and video data. This output may also be called a multimedia rendering unit.

[0215] The system **220** also includes a resume module **1440** that partially or wholly implements the exemplary resumption architecture. It may be an application program or a hardware component.

[0216] Although shown separately, some components of the system may be implemented in an application specific integrated circuit (ASIC). Additionally, a system bus (not shown) typically connects the various components within system.

[0217] The node may also have a system bus may be implemented as one or more of any of several types of bus structures like those described above for the hub.

[0218] Processor-Executable Instructions

[0219] An implementation of an exemplary resumption architecture may be described in the general context of processor-executable instructions, such as program modules, executed by one or more computers or other devices. Generally, program modules include routines, programs, objects, components, data structures, etc. that perform particular tasks or implement particular abstract data types. Typically, the functionality of the program modules may be combined or distributed as desired in various embodiments.

[0220] Processor-Readable Media

[0221] An implementation of an exemplary resumption architecture may be stored on or transmitted across some form of processor-readable media. Processor-readable media may be any available media that may be accessed by a computer. By way of example, and not limitation, processor-readable media may comprise "computer storage media" and "communications media."

[0222] "Computer storage media" include volatile and non-volatile, removable and non-removable media implemented in any method or technology for storage of information such as processor-readable instructions, data structures, program modules, or other data. Computer storage media includes, but is not limited to, RAM, ROM, EEPROM, flash memory or other memory technology, CD-ROM, digital versatile disks (DVD) or other optical storage, magnetic cassettes, magnetic tape, magnetic disk storage or other magnetic storage devices, or any other medium, which may be used to store the desired information and which may be accessed by a computer.

[0223] "Communication media" typically embodies processor-readable instructions, data structures, program modules, or other data in a modulated data signal, such as carrier wave or other transport mechanism. Communication media also includes any information delivery media.

[0224] The term "modulated data signal" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. By way of example and not limitation, communication media includes wired media such as a wired network or direct-wired connection, and wireless media such as acoustic, RF, infrared, and other wireless media. Combinations of any of the above are also included within the scope of processor-readable media.

Conclusion

[0225] Although the invention has been described in language specific to structural features and/or methodological steps, it is to be understood that the invention defined in the appended claims is not necessarily limited to the specific features or steps described. Rather, the specific features and steps are disclosed as preferred forms of implementing the claimed invention.

1. A multimedia-content resumption architecture comprising:

a centralized multimedia server comprising:

one or more multimedia-content receivers configured to receive multimedia programs as part of one or more broadcast media transmissions;

one or more storage units configured to store multimedia programs;

a computing unit configured to generate and store one or more bookmarks associated with a particular multimedia content;

one or more multimedia presentations systems that are communicatively coupled to the server, a system comprising:

a multimedia rendering unit configured to present multimedia programs and one or more user interfaces (UIs); and

a computing unit configured to communicate with the server and further configured to generate a UI for presentation via the multimedia rendering unit.

2. An architecture as recited in claim 1, wherein the storage unit of the server is further configured to store the multimedia program.

3. An architecture as recited in claim 1, wherein the computing unit is further configured to generate and store at least two bookmarks associated with a particular multimedia content.

4. A medium as recited in claim 1, wherein one or more broadcast media transmissions are selected from a group consisting of incoming live television broadcast, incoming live cable television signal, incoming live satellite signal, incoming live video-on-demand signal, and incoming live pay-per-view signal.

5. A processor-readable medium having processor-executable instructions that, when executed by a processor, performs a method comprising:

generating a "bookmark" at a point during a presentation of a multimedia program;

associating one or more properties with the bookmark, wherein such properties comprise more than just the identity of the multimedia content and point of bookmark within that presentation;

storing the bookmark with its one or more properties.

6. A medium as recited in claim 5, wherein the method further comprises storing multiple bookmarks for the multimedia program, wherein each bookmark has one or more properties associated therewith.

7. A medium as recited in claim 5, wherein the method further comprises determining whether an action performed by a user is one which is designated to generate a bookmark and, if so, proceeding with generating, associating, and storing.

8. A medium as recited in claim 5, wherein the method further comprises determining whether an action performed by a user is one which is designated to generate a bookmark while stored multimedia content is being presented and, if so, proceeding with generating, associating, and storing, wherein the action that is designated to generate a bookmark is selected from a group consisting of:

selecting another source of multimedia content;

viewing a list of other sources of multimedia content;

manually pressing a "pause" key;

manually pressing a "bookmark" key;

manually pressing another pre-de fined key or choosing a pre-defined option.

9. A medium as recited in claim 5, wherein the properties associated with the bookmark are selected from a group consisting of:

locus of system where the presentation was bookmarked;

identity of user who manually bookmarked the presentation;

chronological time of the bookmark generating;

chronological date of the bookmark generating;

relative time during the presentation where the presentation was bookmarked.

10. A medium, as recited in claim 5, wherein the method further comprises receiving the multimedia program as part of a broadcast media transmission.

11. A medium, as recited in claim 5, wherein the method further comprises receiving the multimedia program as part of a broadcast media transmission, wherein the broadcast media transmission is selected from a group consisting of incoming live television broadcast, incoming live cable television signal, incoming live satellite signal, incoming live video-on-demand signal, and incoming live pay-per-view signal.

12. A medium as recited in claim 5, wherein the method further comprises:

receiving an indication of where to stream a resumption of the presentation of the multimedia program amongst a collection of multiple loci where the presentation may be resumed;

streaming a notification to the selected resumption locus.

13. A medium as recited in claim 5, wherein the method further comprises repeating the generating, associating, and storing for each of multiple bookmarks created for a particular multimedia program.

14. A computing device comprising:

a digital video recorder (DVR) unit;

a medium as recited in claim 5.

15. A processor-readable medium having processor-executable instructions that, when executed by a processor, performs a method comprising:

a means for generating a "bookmark" at a point during a presentation of a multimedia program;

a means for associating one or more properties with the bookmark, wherein such properties comprise more than just the identity of the multimedia content and point of bookmark within that presentation;

a means for storing the bookmark with its one or more properties

16. A method comprising:

bookmarking one or more points within a multimedia program's presentation;

storing the one or more bookmarked points, with each bookmark having one or more properties associated therewith, wherein such properties comprise more than just the identity of the multimedia content and point of bookmark within that presentation.

17. A method as recited in claim 16, wherein the method further comprises determining whether an action performed by a user is one which is designated to generate a bookmark while stored multimedia content is being presented and, if so, proceeding with generating and storing; wherein the action that is designated to generate a bookmark is selected from a group consisting of

selection of another source of multimedia content;

viewing a list of other sources of multimedia content;

manually pressing a "pause key";

manually pressing a "bookmark" key; and

manually pressing another pre-defined key or choosing a pre-defined option.

18. A method as recited in claim 16, wherein the properties associated with the bookmark are selected from a group consisting of:

locus of system where the presentation was bookmarked;

identity of user who manually bookmarked the presentation;

chronological time of the bookmark generating;

chronological date of the bookmark generating;

relative time during the presentation where the presentation was bookmarked.

19. A method as recited in claim 16 further comprising receiving the multimedia program as part of a broadcast media transmission.

20. A method as recited in claim 16 further comprising receiving the multimedia program as part of a broadcast media transmission, wherein the broadcast media transmission is selected from a group consisting of incoming live television broadcast, incoming live cable television signal, incoming live satellite signal, incoming live video-on-demand signal, and incoming live pay-per-view signal.

21. A method as recited in claim 16 further comprising:

receiving an indication of where to stream the presentation of the multimedia program amongst a collection of multiple loci where presentation may be resumed;

streaming a notification to the selected resumption locus.

22. A multimedia server system which is configured to be communicatively coupled to one or more multimedia presentation systems, the server system comprising:

one or more multimedia-content receivers configured to receive multimedia programs;

one or more storage units configured to store multimedia programs;

a computing unit configured to:

bookmark a point during a presentation of a multimedia program;

associate one or more properties with the bookmark;

store the bookmark in association with the multimedia program.

23. A server system as recited in claim 22 further comprising a user-interface control panel configured to receive user input action that triggers generation of a bookmark, such action is selected from a group consisting of:

selection of another source of multimedia content;

viewing a list of other sources of multimedia content;

manually pressing "pause key";

manually pressing "bookmark" key; and

manually pressing another pre-defined key, or choosing a pre-defined option.

24. A server system as recited in claim 22, wherein the properties associated with the bookmark are selected from a group consisting of:

locus of system where the presentation was bookmarked;

identity of user who manually bookmarked the presentation;

chronological time of the bookmark generating;

chronological date of the bookmark generating;

relative time during the presentation where the presentation was bookmarked.

25. A server system as recited in claim 22, wherein the one or more multimedia-content receivers are further configured to receive the multimedia program as part of a broadcast media transmission.

26. A server system as recited in claim 22, wherein the one or more multimedia-content receivers are further configured to receive the multimedia program as part of a broadcast media transmission, wherein the broadcast media transmission is selected from a group consisting of incoming live television broadcast, incoming live cable television signal, incoming live satellite signal, incoming live video-on-demand signal, and incoming live pay-per-view signal.

27. A processor-readable medium having processor-executable instructions that, when executed by a processor, performs a method comprising:

presenting a user interface (UI) on a multimedia presentation system;

receiving a manual user interaction based upon the UI that indicates that the user selects a bookmarked multimedia program for resumption of presentation from the point of the bookmark;

requesting that a communicatively coupled multimedia server stream to the system the selected bookmarked multimedia program from the point of the bookmark;

presenting the selected bookmarked multimedia program from the point of the bookmark.

28. A medium as recited in claim 27, wherein the UI comprises a listing of some or all of the bookmarks associated with a particular multimedia program, and the manual user interaction comprises a manual selection of one of the listed programs.

29. A medium as recited in claim 27, wherein the UI comprises a listing of some or all of the bookmarks associated with a particular multimedia program and, wherein, the bookmarks are listed based upon one or more properties associated therewith.

30. A medium as recited in claim 27, wherein the UI comprises a listing of some or all of the bookmarks associated with a particular multimedia program and, wherein, the bookmarks are listed based upon one or more properties associated therewith; the properties are selected from a group consisting of:

identity of the multimedia content;

relative point of bookmark during the presentation;

most recently bookmarked multimedia programs;

category of multimedia content bookmarked;

locus of system where the presentation was bookmarked;

identity of user who manually bookmarked the presentation;

chronological time of the bookmark generating;

chronological date of the bookmark generating;

relative time during the presentation where the presentation was bookmarked.

31. A medium as recited in claim 27, wherein the UI graphically illustrates one or more of the following:

identity of one or more bookmarked multimedia program;

relative point of bookmark during presentation of one or more bookmarked multimedia programs;

most recently bookmarked multimedia programs;

category of one or more bookmarked multimedia programs;

locus of system where one or more bookmarked multimedia programs were bookmarked;

identity of user who manually bookmarked one or more bookmarked multimedia programs;

chronological time of that one or more bookmarked multimedia programs were bookmarked;

chronological date of that one or more bookmarked multimedia programs were bookmarked;

relative time of that one or more bookmarked multimedia programs were bookmarked;

graphical depiction of relative time of that one or more bookmarked multimedia programs were bookmarked.

32. A medium as recited in claim 27, wherein the UI comprises a listing of some or all broadcast media programs that have one or more bookmarks.

33. A medium as recited in claim 27, wherein the UI comprises a listing of broadcast media programs available with indicative indicia corresponding with broadcast media programs that have one or more bookmarks.

34. A medium as recited in claim 27, wherein the UI comprises a grid listing of broadcast media programs available with indicative indicia corresponding with broadcast media programs that have one or more bookmarks.

35. A medium as recited in claim 27, wherein the UI comprises a listing of broadcast media programs available with indicative indicia corresponding with broadcast media programs that have one or more bookmarks, wherein the appearances of the indicia vary to indicate differences in one or more properties associated with bookmarked broadcast media programs.

36. A computing device comprising:

a multimedia presentation unit;

a medium as recited in claim 27.

37. A processor-readable medium having processor-executable instructions that, when executed by a processor, performs a method comprising:

a means for presenting a user interface (UI) on a multimedia presentation system;

a means for receiving a manual user interaction based upon the UI that indicates that the user selects a bookmarked multimedia program for resumption of presentation from the point of the bookmark;

a means for requesting that a communicatively coupled multimedia server stream to the system the selected bookmarked multimedia program from the point of the bookmark;

a means for presenting the selected bookmarked multimedia program from the point of the bookmark.

38. A method comprising:

presenting a user interface (UI) on a multimedia presentation system;

receiving a user interaction based upon the UI that indicates that the user selects a bookmarked multimedia program for resumption of presentation from the point of the bookmark;

requesting for a communicatively coupled multimedia server to stream to the system the selected bookmarked multimedia program from the point of the bookmark;

presenting the selected bookmarked multimedia program from the point of the bookmark.

39. A method as recited in claim 38, wherein the UI comprises a listing of some or all of the bookmarks associated with a particular multimedia program and the user interaction comprises a manual selection of one of the listed programs.

40. A method as recited in claim 38, wherein the UI comprises a listing of some or all of the bookmarks associated with a particular multimedia program, and, wherein, the bookmarks are listed based upon one or more properties associated therewith.

41. A method as recited in claim 38, wherein the UI comprises a listing of some or all of the bookmarks associated with a particular multimedia program, and, wherein, the bookmarks are listed based upon one or more properties associated therewith; the properties are selected from a group consisting of:

identity of the multimedia content;

relative point of bookmark during the presentation;

most recently bookmarked multimedia programs;

category of multimedia content bookmarked;

locus of system where the presentation was bookmarked;

identity of user who manually bookmarked the presentation;

chronological time of the bookmark generating;

chronological date of the bookmark generating;

relative time during the presentation where the presentation was bookmarked.

42. A method as recited in claim 38, wherein the UI comprises a grid listing of broadcast media programs avail-

able with indicative indicia corresponding with broadcast media programs that have one or more bookmarks.

43. A method as recited in claim 38, wherein the UI comprises a listing of broadcast media programs available with indicative indicia corresponding with broadcast media programs that have one or more bookmarks, wherein the appearances of the indicia may be varied to indicate differences in one or more properties associated with bookmarked broadcast media programs.

44. A multimedia presentation system which is configured to be communicatively coupled to at least one multimedia server, the presentation system comprising:

a multimedia rendering unit configured to present multimedia content and one or more user interfaces (UIs); and

a computing unit configured to communicate with a multimedia server over the network and further configured to generate a UI for presentation on the presentation device.

45. A presentation system as recited in claim 44 further comprising a user-interface control panel configured to receive user input action that triggers generation of a bookmark; such action is selected from a group consisting of

selection of another source of multimedia content;

viewing a list of other sources of multimedia content;

manually pressing "pause" key;

manually pressing "bookmark" key; and

manually pressing another pre-defined key or choosing a pre-defined option.

46. A presentation system as recited in claim 44, wherein the properties associated with the bookmark are selected from a group consisting of:

identity of the multimedia content;

relative point of bookmark during the presentation;

most recently bookmarked multimedia programs; category of multimedia content bookmarked;

locus of system where the presentation was bookmarked;

identity of user who manually bookmarked the presentation;

chronological time of the bookmark generating;

chronological date of the bookmark generating;

relative time during the presentation where the presentation was bookmarked.

47. A processor-readable medium having processor-executable instructions that, when executed by a processor, performs a method comprising:

presenting a user interface (UI) on a multimedia presentation system at a resume location ("resume-locus system") that allows a user to select when to resume presentation of a multimedia program from a point of a bookmark that occurred at another location within a network of communicatively coupled multimedia presentation systems;

receiving a manual user interaction that indicates that the user would like to resume;

requesting that a communicatively coupled multimedia server stream, to the resume-locus system, the selected bookmarked multimedia program from the point of the bookmark;

presenting the selected bookmarked multimedia program from the point of the bookmark and doing so at the resume-locus system.

48. A computing device comprising:

a multimedia presentation unit;

a medium as recited in claim 47.

49. A processor-readable medium having processor-executable instructions that, when executed by a processor, produces a user interface (UI) of multimedia presentation system, the UI comprising:

a first display area listing bookmarks, each one being associated with one or more multimedia programs;

an executable process, that is configured to stream a request for a multimedia program when its associated listing is selected; this request is sent to a communicatively coupled multimedia server and asks the server to stream the multimedia program associated with the bookmark of the selected listing from the point of that bookmark.

50. A medium as recited in claim 49, the UI further comprising a second display area indicating a particular multimedia program associated with all of the bookmarks listed in the first area.

51. A medium as recited in claim 49, wherein the bookmarks are listed in the first display area, based upon one or more properties associated therewith.

52. A medium as recited in claim 49, wherein the bookmarks are listed in the first display area, based upon one or more properties associated therewith;

the properties are selected from a group consisting of:

identity of the multimedia content;

relative point of bookmark during the presentation;

most recently bookmarked multimedia programs;

category of multimedia content bookmarked;

locus of system where the presentation was bookmarked;

identity of user who manually bookmarked the presentation;

chronological time of the bookmark generating;

chronological date of the bookmark generating;

relative time during the presentation where the presentation was bookmarked.

53. A processor-readable medium having processor-executable instructions that, when executed by a processor, produces a user interface (UI) of multimedia presentation system, the UI comprising:

a first display area listing multimedia programs having at least one bookmark associated therewith;

an executable process that is configured to stream a request for a multimedia program when its associated listing is selected; this request is sent to a communicatively coupled multimedia server and asks the server

to stream the multimedia program associated with the selected listing from the point of a bookmark associated therewith.

54. A medium as recited in claim 53, wherein programs listed in the first area are part of broadcast media transmissions.

55. A medium as recited in claim 53, wherein the bookmarks of the programs listed in the first display area are chosen to be listed based upon one or more properties associated with the bookmarks or the programs.

56. A medium as recited in claim 53, wherein the bookmarks of the programs listed in the first display area are chosen to be listed based upon one or more properties associated with the bookmarks or the programs; the properties are selected from a group consisting of:

identity of the multimedia content;

relative point of bookmark during the presentation;

most recently bookmarked multimedia programs;

category of multimedia content bookmarked;

locus of system where the presentation was bookmarked;

identity of user who manually bookmarked the presentation;

chronological time of the bookmark generating;

chronological date of the bookmark generating;

relative time during the presentation where the presentation was bookmarked.

57. A processor-readable medium having processor-executable instructions that, when executed by a processor, produces a user interface (UI) of a multimedia presentation system, the UI comprising:

a first display area listing broadcast multimedia programs, wherein such listing includes one or more broadcast media programs that are bookmarked;

an executable process associated with the listing of each program that is configured to stream a request when its associated listing is selected; this request is sent to a communicatively coupled multimedia server and asks the server to stream the multimedia program associated with the selected listing from the point of a bookmark associated therewith.

58. A medium as recited in claim 57, wherein a listing of broadcast multimedia programs in the first area is in a grid-like pattern based upon presentation schedule of such broadcast multimedia programs.

59. A medium as recited in claim 57, wherein the bookmarks of the programs listed in the first display area are chosen to be listed based upon one or more properties associated with the bookmarks or the programs.

60. A medium as recited in claim 57, wherein the bookmarks of the programs listed in the first display area are chosen to be listed based upon one or more properties associated with the bookmarks or the programs; the properties are selected from a group consisting of:

identity of the multimedia content;

relative point of bookmark during the presentation;

most recently bookmarked multimedia programs;

category of multimedia content bookmarked;

locus of system where the presentation was bookmarked;

identity of user who manually bookmarked the presentation;

chronological time of the bookmark generating;

chronological date of the bookmark generating;

relative time during the presentation where the presentation was bookmarked.

61. A medium as recited in claim 57, wherein broadcast multimedia programs are received via one or more broadcast media transmissions which are selected from a group consisting of incoming live television broadcast, incoming live cable television signal, incoming live satellite signal, incoming live video-on-demand signal, and incoming live pay-per-view signal.

62. A "bookmarked" multimedia program, which is a multimedia program having one or more bookmarks associated with it, where such bookmarks are indicative of a resumption point for presentation of the program, generated in accordance with the following acts:

providing a server computer in a communications with a communications network;

receiving input from a client computer by way of the communications network, the input providing a parameter indicative of a request for a "bookmarked" multimedia program and of one or more bookmarks;

retrieving a selected data from a database, wherein the data is selected based upon the parameter provided by the user input; and

presenting the "bookmarked" multimedia program as a function of the selected data.

63. A multimedia presentation system which is configured to be communicatively coupled to at least one multimedia server, the presentation system comprising:

a multimedia rendering unit configured to present multimedia content and one or more user interfaces (UIs); and

a computing unit configured to communicate with a multimedia server over the network and further configured to generate a UI for presentation on the presentation device,

wherein the a UI graphically illustrates one or more of the following:

identity of one or more bookmarked multimedia program;

relative point of bookmark during presentation of one or more bookmarked multimedia programs;

most recently bookmarked multimedia programs;

category of one or more bookmarked multimedia programs;

locus of system where one or more bookmarked multimedia programs were bookmarked;

identity of user who manually bookmarked one or more bookmarked multimedia programs;

chronological time of that one or more bookmarked multimedia programs were bookmarked;

chronological date of that one or more bookmarked multimedia programs were bookmarked;

relative time of that one or more bookmarked multimedia programs were bookmarked;

graphical depiction of relative time of that one or more bookmarked multimedia programs were bookmarked.

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