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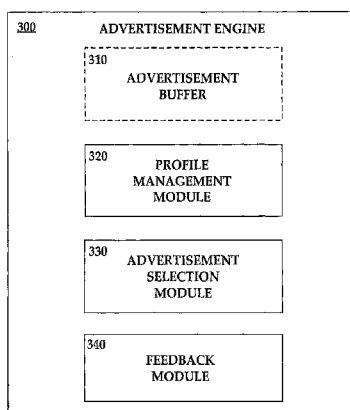
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(54) Title: ADVERTISEMENT ROTATION



(57) Abstract: A system and method for delivering content over a network is provided. Content may be primary content (e.g., music or a movie) or ancillary content (e.g., an advertisement). The ancillary content may further be classified as universal ancillary content that all users of the present system will receive; targeted ancillary content that particular users of the present system will receive; and context-specific ancillary content that users of the present system and viewing particular primary content will receive. The type of primary and/or ancillary content delivered to the user will depend, in part, on indicia of the user of a device receiving the content. The present invention seeks to ensure that a user has relevant and up-to-date ancillary content notwithstanding the nature or date of the primary content. Feedback data concerning the viewing of the ancillary content may also be generated such that a provider of the advertisement and/or product may provide targeted advertisements and improved products and services.

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ADVERTISEMENT ROTATION

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims the priority benefit of U.S. provisional patent application number 60/798,381 filed May 5, 2006 and entitled "Advertisement Rotation," the disclosure of which is incorporated herein by reference.

[0002] The present application is related to U.S. patent application number 11/361,121 filed February 24, 2006 and entitled "Method and System for Providing Auxiliary Content Located on Local Storage During Download/Access of Primary Content Over a Network," which is a continuation and claims the priority benefit of U.S. patent application number 09/771,751 filed January 29, 2001 and also entitled "Method and System for Providing Auxiliary Content Located on Local Storage During Download/Access of Primary Content Over a Network." The present application is further related to U.S. patent application number 09/452,811 filed December 2, 1999 and entitled "Method and System for Enabling Optional Customer Election of Auxiliary Content Provided on Detachable Local Storage Media." The disclosures of these commonly owned applications are incorporated herein by reference.

BACKGROUND OF THE INVENTION

Field of the Invention

[0003] The present invention relates, generally, to the management of advertisements displayed on devices connected to a network. More specifically, the present invention relates to the targeted delivery, replacement, display, and statistical reporting of advertisement viewing in a device receiving advertising content while maintaining the relevance and up-to-date status of those advertisements.

Background of the Related Art

[0004] Traditional advertising outlets such as newspapers and magazines have seen a decrease in demand as “new media” becomes increasingly prevalent. Other forms of conventional media such as broadcast television and radio are also finding themselves subject to this trend with respect to decreased advertising demand and revenues.

[0005] The decrease in demand for access to and use of traditional advertising venues is a result, in part, of the rise of the Internet, on-demand video content, and the continued growth of cable and satellite television. The increased popularity of other forms of entertainment—such as interactive and online video games—as well as the continued growth of access to various forms of media content through portable devices are additional contributors to the decline of traditional advertising paradigms.

[0006] Notwithstanding this trend, there remains a need for manufacturers and service providers (and their related advertising agencies) to provide the consuming public with information concerning products and services. Consumers—subject to reasonable limitations—also desire to be informed about new and innovative products and services. Without advertising to bridge the gap between consumer and manufacturer, there is a tendency for consumer costs to rise and product demand to fall. Advertising, in that regard, helps maintain an informed public that is aware of and ready to purchase various goods and services while simultaneously helping to mitigate spikes in cost cycles.

[0007] Notwithstanding the inherent need for advertising by consumer and manufacturer alike, traditional advertising media (“old media”) have become decreasingly effective. As a result, supply-side efforts to reach the consumer have become increasingly difficult. This has proven to be especially true in the case of portable media (*e.g.*, portable digital media devices). In the case of a portable media device and also online gaming, the consumer (user) is often isolated from traditional advertising channels. Thus, notwithstanding the incredible popularity of such devices and online entertainment, a massive consuming public is not being exposed to the goods and services of various advertising entities.

[0008] In those instances where the advertiser is able to reach the consumer, it is often with a stale or out-of-date message. For example, a DVD stamped with a series of movie previews quickly becomes out-of-date when the previewed movies are released and subsequently end their theatrical run. Notwithstanding, the advertisement remains embedded on the disc. Various gaming systems suffer from similar drawbacks in that advertising content embedded on the game disc may soon become irrelevant. Consumer demand for focused, relevant, or otherwise personally pertinent advertising content (if such advertising content is desired at all) and advertiser needs for statistical information related to advertisement success only complicates the problem.

[0009] As such, there is a need for the delivery of up-to-date advertising content to a variety of media devices and through a variety of services. There is a further need for this content to be as relevant as possible for a particular recipient of the content. There remains yet an additional need for the generation and reporting of statistical information concerning the delivery, display, and effectiveness of content to the creators or sponsors of such content.

SUMMARY OF THE INVENTION

[0010] A system and method for delivery of content is disclosed. The system includes at least one data communications network and a client device communicatively coupled to the at least one data communications network. The client user device may be configured to generate indicia of a user of the device. A content server is communicatively coupled to the at least one data communications network and may be configured to deliver primary, ancillary, and/or primary and ancillary content to the aforementioned client device. Certain portions of the content may be determined at least in part by the indicia of the user of the device. Various means for tracking and feedback may also be implemented.

[0011] In one embodiment, an apparatus for the display of primary and ancillary content is provided. The apparatus may include at least one source of primary content, the primary content including multiple trigger data points. Each trigger data point indicates a point for the identification, retrieval, and insertion of ancillary advertisement content with respect to the primary content. An advertisement selection module is configured to identify ancillary advertisement content stored in memory. The identification occurs in response to processing of trigger data in the primary content and based upon information associated with a user profile of a current user of the apparatus; the user profile includes user preferences with regard to primary or ancillary content. In accordance with advertisement rotation functionality of the present invention, subsequent processing of the trigger data point may result in identification of different ancillary advertisement content. A decoder is also provided in the apparatus, the decoder being configured to retrieve and decode the ancillary advertisement content in the memory and identified by the advertisement selection module. A graphics processing unit is coupled to the decoder and renders the primary content and the decoded ancillary advertisement content. The ancillary advertisement content is inserted relative to the primary content in accordance with an indication of the trigger data.

[0012] A method for the selection and display of content is provided in another embodiment of the present invention. The method includes delivering profile management data from a content display device to a profile management server. The profile management data is associated with a user profile. The method also includes receiving identified ancillary advertisement content at the display device. The ancillary advertisement content is identified based on the user profile. The method further includes storing the ancillary advertisement content at the content display device for subsequent display in response to trigger data processed by the display device. A different selection of ancillary advertisement content is displayed in response to subsequent processing of the trigger data by the display device.

[0013] In yet another embodiment of the present invention, a computer-readable storage medium is provided. The storage medium has stored thereon instructions executable by a processor, the instructions corresponding to a method for selection and display of content. The method includes delivering profile management data from a content display device to a profile management server. The profile management data is associated with a user profile. The method also includes receiving identified ancillary advertisement content at the display device. The ancillary advertisement content is identified based on the user profile. The method further includes storing the ancillary advertisement content at the content display device for subsequent display in response to trigger data processed by the display device. Subsequent processing of the trigger data may result in display of a different selection of ancillary advertisement content.

[0014] A still further embodiment of the present invention is for a content delivery network. The network includes a client device configured for the receipt and storage of content; a primary content server configured for the delivery of primary content to the client device, wherein the primary content comprises trigger data; an ancillary content server configured for the delivery of ancillary content to the client device; and a profile management server configured to receive profile management data from the client device. The profile management data is associated with a user profile for determining the ancillary content delivered to the client device. The ancillary content is displayed by

the client device in response to the processing of the trigger data and each subsequent processing of the trigger data results in the display of a different selection of ancillary content.

[0015] Another embodiment of the present invention includes a content decoder for use in a content display device. The content decoder is configured to retrieve and decode ancillary advertisement content from memory accessible to the media display device. The ancillary advertisement content identified by an advertisement selection module, the ancillary advertisement content being for insertion with respect to primary content being rendered on the content display device. The decoder is further configured to provide instructions to a graphics processing unit coupled to the content decoder. The instructions identify how to render the decoded ancillary advertisement content with respect to the primary content, the instructions corresponding to an indication of trigger data in the primary content.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIGURE 1 illustrates an exemplary system for delivery of primary and ancillary content from a server network to a client device with advertisement rotation functionality; exchanges of feedback and profile management data are also disclosed, all of which occur over a communications network.

[0017] FIGURE 2 illustrates an exemplary schematic of a device offering advertisement rotation in accordance with an embodiment of the present invention.

[0018] FIGURE 3 illustrates an exemplary advertisement engine as disclosed in the schematic of FIGURE 2, the advertising engine including an optional advertisement buffer, a profile management module, an advertisement selection module, and a feedback module.

[0019] FIGURE 4 is an exemplary illustration of primary content including triggers associated with ancillary content including universal, targeted, and context-specific content.

[0020] FIGURE 5 illustrates an exemplary user profile in table form, which includes various preferred, predetermined, accepted, and rejected content.

[0021] FIGURE 6 illustrates an exemplary method for the selection and delivery of content to a device in accordance with one embodiment of the present invention.

DETAILED DESCRIPTION

[0022] FIGURE 1 illustrates an exemplary system 100 for the delivery of primary and ancillary content to a client device 130₁..._N from a server network 110 over a communications network 120.

[0023] Server network 110 may include any number of specialty servers (*i.e.*, servers configured for a specific task) such as a primary content server 102, an ancillary content server 104, a feedback server 106, and a profile management server 108. In some embodiments of the present invention, the functionalities of the individual servers (102, 104, 106, and 108) may be integrated into a single server. Alternatively, only specific functionalities may be integrated (*e.g.*, the functionalities of primary content server 102 and ancillary content server 106). Servers with such integrated functionalities like those discussed above may be referred to as an integrated server. The server hardware itself may be any computing device as is known in the art.

[0024] Any of the aforementioned servers (or an integrated server) may take on certain client-side, cache, or proxy server characteristics. These characteristics may depend on the particular network placement of the server or certain configurations of the server. Balancing, redundancy, and scalability schemes like those disclosed in the U.S. patent application number 11/355,237 for a "System and Method for Server Management" (the disclosure of which is incorporated herein by reference) may also be implemented amongst one or more of the servers of server network 110.

[0025] Primary content server 102 is a head-end or intermediate computing device (*e.g.*, a cache or proxy server) that may be configured for the delivery of primary content. Primary content may generally be understood to refer to movies, television programs, on-line video programming, Internet radio, any variety of audio files, and the like. Primary content may also be inclusive of various video games that may be accessed via communications network 120. Primary content may include a single title or selection (*e.g.*, a single song, a single video program, or a single video game title or portion thereof) or a collection of programs (*e.g.*, an entire album, several episodes of a television

program, different 'chapters' of a single video as it might otherwise appear on a DVD, or various levels of a video game).

[0026] Primary content may be inclusive of downloadable content. In some embodiments, primary content may be streamed or subject to progressive download such as HTTP streaming. Primary content may include, for example, video data such as motion picture data conforming to the MPEG-2 standard. Video data may also conform to the MPEG-4 standard, which supports three-dimensional objects, sprites, text, and other media types. Primary content may also include audio data conforming to, for example, the MP3 format in addition to binary program data or any combination of the above. Primary content should not, however, be construed as being limited to any particular audio or video standard or format.

[0027] Primary content (or any content referenced herein) may be transported using any variety of network protocols (*e.g.*, TCP/IP) for establishing any/or maintaining network transport and/or connectivity. In some embodiments, profile management data or certain aspects thereof may be transported utilizing any variety of the aforementioned protocols. Additionally, certain profile management data, metadata, and other various other types of data and information may be embedded in or combined with the primary or ancillary content and/or a transmission of the same. Any such 'embedding' or other combination of different content/data types is not meant to suggest the transformation of primary or ancillary content into, for example, profile management data or vice versa.

[0028] Ancillary content server 104 is a head-end or intermediate computing device (*e.g.*, a cache or proxy server) that may be configured for the delivery of certain types of ancillary content, including advertisements and advertisement data. Ancillary content may generally be understood to refer to downloadable content such as video data, audio data, still image data, binary program data, or any combination of the above that is not otherwise primary content or profile management data. One example of ancillary content includes advertisements, which may be made up of video images, animations, sounds, applets, and any other variety of features (*e.g.*, HTML links in an advertisement to a site for purchase of a particular advertised product).

[0029] Ancillary content may be related to or associated with the primary content. For example, the primary content may be an episode of the television sitcom *Seinfeld*. The ancillary content may be a commercial for the release of a particular season of *Seinfeld* on DVD. Alternatively, the ancillary content may be unrelated to the primary content. In such as case, the primary content may—again—be an episode of the television sitcom *Seinfeld*. The ancillary content, in this case, may be a movie trailer for a wholly unrelated movie. Various relationships and associations of primary and ancillary content are within the scope of the present invention and discussed herein.

[0030] Feedback server 106 is a computing device that may be configured for the accumulation and management of feedback data as it pertains to primary and/or ancillary content. Feedback data may be combined with profile management data for shared delivery to and use by a profile management server 108 and the feedback server 106. Feedback data may also be a separate data set intended for specific delivery to and use by the feedback server 106. The contents of profile management data and its accumulation and subsequent use and/or distribution by the feedback server are described in the context of a feedback module 340 (FIGURE 3) and user profile 500 (FIGURE 5) management below.

[0031] Profile management server 108 is a computing device that may be configured for the management of profile management data. Profile management data may pertain to a particular client device 130 and/or a user who may be associated with a particular client device 130. Profile management data, in one example, may include a USER ID or a similar identifier such as a 'screen name.' This USER ID may pertain to a particular user such as the owner of the client device 130. USER ID may, alternatively, refer to a person who may have access to a particular client device 130 such as a family member or friend of the owner of the client device 130. Profile management data may also include a serial number or other identifier associated with that specific device 130 (e.g., a device identifier).

[0032] Profile management data may be a combination of a USER ID and device identifier. For example, a USER ID in combination with one device (such as a

PlayStation® Portable) may constitute one set of profile management data (*e.g.*, 'John Doe' – PP125263328-PSP1001). That same USER ID in combination with a different device (such as a PlayStation® 3 entertainment system) may constitute a second set of profile management data (*e.g.*, 'John Doe' – CE133212XXX).

[0033] Profile management data may be any form of machine or human readable data. Profile management data may constitute a string of data where each element of datum is reflective of information about the user associated with the data. Various elements of datum may reflect gender, occupation, income, hobbies and interests, preferences as to particular primary and/or ancillary content, and any other demographic information that may be beneficial to advertisers or other entities in targeting various types of content.

[0034] Profile management data may be reflected by a data table that identifies a series of characteristics about a particular person. This data table may include, for example, cross-references of user characteristics against other user characteristics. A data table may reflect that a particular user prefers one type of primary content (*e.g.*, comedic movies) but dislikes another (*e.g.*, romantic movies). A simple string of data may reflect that a user does not wish to receive primary content that is deemed a romantic movie. A more complex set of profile management data, however, (*e.g.*, a set as may be indicated in a data table) may reflect that the receipt of primary content that is a comedic movie with romantic undertones (*e.g.*, a romantic comedy) may be acceptable to that particular user. An exemplary user profile data table is shown and described in the context of FIGURE 5 below.

[0035] Upon receipt of profile management data set (*e.g.*, a USER ID and password) by the profile management server 108, the USER ID may be correlated to an associated account (a user profile) that may encompass any variety of user/device information. This associated information residing at the profile management server 108 may include a detailed data table or complex data string identifying various characteristics and preferences of a particular user and/or various settings, limitations or other

characteristics that pertain to a particular device (*e.g.*, presence of certain decoders, processing power, available memory, etc.) associated with that user.

[0036]

[0037] Profile management data may allow for a single client device 130 to be utilized by any number of users but with information specific to that user. For example, the owner of the device 130 may prefer a particular user interface and layout of icons on the device 130. That user's spouse, roommate, or other friend or family member may have a different preference (*e.g.*, background color, images, placement of icons, and various other default settings). In this way, one device 130 may be used by any number of users with specific preferences subject to that user providing, for example, their USER ID. The specific device settings for each user may constitute one form of profile management data as may be managed by profile management module 320 (FIGURE 3).

[0038] The various servers of server network 110, in addition to any requisite interface means for the delivery of, for example, primary and ancillary content, may also include or be coupled to any requisite storage facilities to host content or any other related data (*e.g.*, a user profile in the case of profile management server 108). For example, primary content server 102, upon the receipt of a request for the delivery of content, may retrieve the requested primary content from local storage and deliver the same to the requesting client device 130. Alternatively, this content may be retrieved from a library of content coupled to the primary content server 102. Remote or ancillary data stores may also be used in the context of the remaining servers of server network 110.

[0039] In some embodiments, the primary content server 102 may function as an access point and load-balancing/management server. Server 102 may receive various requests for content and then determine the appropriate content server in a content distribution network to be tasked with delivering the content. Similar arrangements may be employed with the other servers of server network 110 and their respective data (*e.g.*, ancillary content server 104).

[0040] Communications network 120 includes various communications facilities and mediums (e.g., telephony, wireless, satellite, cable, optic, and so forth) as may be provided by telecommunications companies and Internet Service Providers.

Communications network 120 may be a geographically widespread network like the Internet that links various network segments. Network 120 may include a number of smaller linked communications networks such as Local Area Networks (LANs). Each LAN may take on a variety of configurations including server-client, peer-to-peer, peer groups, or any combination of the same.

[0041] Client 130 may be one of any number of different client or end-user devices. For example, client 130 may be a set-top box as is commonly associated with cable or satellite television. A set-top box of this nature may comprise digital video recorder (DVR) functionality. Client 130 may also be a home entertainment device such as a PlayStation® 3 from Sony Computer Entertainment Inc. Various other home entertainment devices from various other manufacturers of such equipment may also be used in the present system 100.

[0042] Client 130 may also be a home media center capable of playing, for example, digital video discs (DVDs) or other optical, flash or on-demand media, which may further include audio-only content (e.g., CDs) in addition to full-motion video and still-frame content. Client 130 may further be any one of a number of portable media devices such as a PlayStation® Portable™ from Sony Computer Entertainment Inc.

[0043] Client 130 is inclusive of any device capable of receiving primary and/or ancillary content over a network or other communications means (e.g., a synchronization operation with another computing device), storing that content locally at the client 130 (or at a storage device coupled to the client 130 such as flash card memory) and exchanging certain profile management data with a server configured for such exchanges (e.g., profile management server 108). In that regard, client 130 may include a mobile device such as a cellular phone, a personal digital assistant (PDA), as well as a laptop or desktop computer.

[0044] FIGURE 2 illustrates an exemplary schematic 200 of a device (*e.g.*, client device 130) offering advertisement rotation in accordance with an embodiment of the present invention. The schematic 200 of FIGURE 2 may be implemented in any number of client device 130 including but not limited to a portable media device or cellular phone, a home entertainment system such as a video game console, and any variety of online gaming devices including desktop and laptop computers.

[0045] The exemplary client schematic 200 includes system control 205, media control 210, and peripheral control 215. System control 205 may be responsible for fundamental system operations such as start-up, graphic rendering, input/output control, and so forth. Media control 210 may be responsible for handling various audio and video formats including advertisement rotation. Peripheral control 215 may be responsible for the interface of various peripherals with the device.

[0046] Various combinations of hardware, software, and computer-executable instructions (*e.g.*, program modules and engines) may be utilized with regard to system control 205, media control 210, and peripheral control 215. Program modules and engines include routines, programs, objects, components, data structures, and the like that may perform particular tasks or implement particular abstract data types. Computer-executable instructions and associated data structures represent examples of the programming means for executing steps of the methods and implementing particular system configurations disclosed herein.

[0047] System control 205 as illustrated in FIGURE 2 includes a central processing unit (CPU) 220, main memory 225, a graphics processing unit (GPU) 230, sound processing unit (SPU) 235, input/output processor (IOP) 240, and IOP memory 245. The various controls (205, 210, and 215) and the various components therein (*e.g.*, CPU 220 and main memory 225) may be communicatively coupled via a series of buses both dedicated and shared.

[0048] CPU 220 may utilize various processor architectures may including those disclosed in U.S. patent publication number 2002-0138637 for a "Computer Architecture and Software Cells for Broadband Networks," the disclosure of which is incorporated

herein by reference. CPU 220 may be configured to execute programs stored in an operating system read only memory (OS ROM) (not shown) and main memory 225. Main memory 225 may contain pre-stored programs and/or programs transferred from any variety of interfaces controlled by peripheral control 215 (e.g., from an optical disk via optical disk controller interface 265) via IOP 240. IOP 240 may be configured to control various exchanges between CPU 220 and GPU 230 as well as media control 210 and the aforementioned peripheral control 215. GPU 230 may be configured to execute drawing instructions from the CPU 220 and/or media control 210 to produce images for display on the client device 130. SPU 235 may be configured to execute instructions and processes data to produce sound signals that are output on an audio device (not shown) that may be coupled to or otherwise integrated with device 130.

[0049] Media control 210 as illustrated in FIGURE 2 is responsible for handling various audio and video formats as may be introduced to a client device 130 implementing exemplary schematic design 200. An AV decoder 250 and advertisement engine 255 are disclosed in the embodiment illustrated in FIGURE 2. Media control 210 may further include enhanced dynamic random access memory (not shown) and/or a virtual machine environment (VME) (also not shown) for implementing certain emulation environments to isolate a particular media application from the actual hardware architecture of the device (e.g., an execution 'sandbox').

[0050] Through media control 210, a client device 130 may display still images, audio, and video as may be introduced through a variety of peripherals like those under the control of peripheral control 215. Media control 210 may implement various audio formats such as MP3, ATRAC3, WMA, WAV, MP4, and AAC. Media control 210 also implements a variety of video formats including MPEG-4 Part 2 as well as H.264/AVC. Still images may also be implemented through media control 210 in formats such as JPEG, GIF, BMP, TIF, and PNG.

[0051] AV decoder 250 may be configured to decompress and/or decodes a variety of media as may be introduced by peripheral control 215. Decompressed media may be temporarily stored in eDRAM (not shown) prior to rendering and/or audible emission

by the device 130. The functionalities of advertisement engine 255 are discussed in greater detail in the context of FIGURE 3.

[0052] Peripheral control 215 as shown in FIGURE 2 controls any variety of peripheral input/outputs that may be present on the client device 130. For example, device 130 may utilize flash memory as may be introduced through flash memory interface 260. Optical disc interface 265 may provide for the introduction of data through any variety of optical discs such as CD-ROM or DVD-ROM but may also include proprietary formats such as the Universal Media Disc from Sony Corporation. Peripheral control 215 may further include a USB 2.0 interface 270, which may include a mini-B interface. Client device 130 may also comprise a WLAN interface 275 such that device 130 can exchange data with other computing devices utilizing an 802.11x wireless protocol.

[0053] Other data formats may be managed by peripheral control 215 such as data introduced via an optional *InfraRed* interface as may conform to IRDA standards or a *Memory Stick™* interface for an IC-based recording medium like that from Sony Corporation. Device 130 may also include an IEEE 1394 ('FireWire') connection in addition to Bluetooth and Ultra Wideband (UWB) radio technology interfaces. Some embodiments may utilize a network adaptor, which may offer an Ethernet connection and/or telephony connection.

[0054] Peripheral control 215 as shown in FIGURE 2 also includes controller interface 280 that may be configured for the introduction of instructions through a control device such as a joystick, directional buttons, and other control buttons. Other control input methodologies may be managed by peripheral control 215 such as a USB-camera like the *Eye Toy®* from Sony Computer Entertainment Inc. A control device (e.g., the aforementioned USB-camera) may sometimes be coupled to the device 130 through a peripheral input such as USB interface 270.

[0055] FIGURE 3 illustrates an exemplary advertisement engine 300 as initially disclosed in FIGURE 2 (255). Advertisement engine 300 may include or be coupled to optional advertisement buffer 310, profile management module 320, advertisement

selection module 330, and feedback module 340. Advertisement engine 300, as illustrated in FIGURE 3, may be configured to manage advertisement rotation.

[0056] Advertisement buffer 310 may be any mass memory device configured to store data (e.g., eDRAM). Computer-readable instructions or data, including application programs and other program modules may be stored in advertisement buffer 310.

Advertisement buffer 310 may be used for the storage and retrieval of ancillary content such as advertisements as may be provided by ancillary content server 104.

[0057] Content stored in advertisement buffer 310 may be encoded, which may require the intervention of AV decoder 250 (FIGURE 2) to render or process that content. AV decoder 250 may include a series of CODECS for the compression and/or decompression of content (including ancillary content stored in advertisement buffer 310).

[0058] In some instances, received content may overflow the advertisement buffer 310. Such 'excess' content may be stored on a local auxiliary storage device such as a flash card via flash interface 260 or a Memory StickTM. Certain intelligence in the server network 110 of FIGURE 1 and as might be implemented at ancillary content server 104 and/or profile management server 108 may operate to prevent the occurrence of overflow and the need for auxiliary storage of data. For example, profile management server 108 (with knowledge of client 130 capabilities) may operate in conjunction with ancillary content server 104 to ensure that memory is available for the storage of new content based on personal management data and/or reporting of certain device 130 statistics.

[0059] Advertisement buffer 310, in some embodiments, may refuse to accept the new content for lack of storage or may utilize a first-in-first-out (FIFO) configuration whereby old content is flushed from the buffer or memory to make room for new content. Some embodiments may utilize advertisement selector 330 in conjunction with various servers of the server network 110 to intelligently dispose of certain content in the advertisement buffer 310 (e.g., low priority content) to make room for incoming high priority content.

[0060] Profile management module 320 may be configured to obtain profile management data from a user of the device, maintain certain profile management data concerning the device, and/or to exchange certain profile management data with, for example, profile management server 108. A user of a device 130 may log-in or sign-on using the aforementioned USER ID, a screen name, or some other indicia of the particular user accessing the device 130. Entry of this information may occur through a manual keyboard, a virtual keyboard (as may be displayed on the screen of the device), voice recognition, biometrics, visual profile recognition, and so forth. The particular means of identification will accordingly require certain hardware and/or software to process that identification information (e.g., a voice recognition module for voice-entry, a fingerprint reader for biometric entry, a USB-camera for visual profile recognition). The USER ID may or may not be accompanied by a password that may be entered in a similar fashion.

[0061] The profile management module 320 may maintain a library of USER IDs that have been previously entered on the device. The profile management module 320 may allow for 'quick entry' of certain USER ID information by recognizing the first few letters of the USER ID and either automatically completing the USER ID or providing a drop down list of USER IDs that correspond to the partially entered USER ID. The profile management module 320 may also be configured to accept the entry of new USER IDs and provide storage of the same.

[0062] Profile management module 320 may be further configured to only allow device access to a particular list of USER IDs. Alternatively, profile management module 320 may be configured to offer limited access to certain device functionality based on the particular USER ID. For example, any user may be able to access time-and-date information on the device but may be prohibited from accessing a communications network whereby pay-for-play content may be accessed or downloaded. Profile management module 320 may be further configured to recognize and accept/deny access to various features or functions based on certain combinations of a USER ID and password. Profile management module 320 may also provide interim or probationary

access to certain features or functions until the full range of access by a new USER ID has been confirmed by a verified USER ID such as the owner of the device. Profile management module 320 may also store certain data concerning certain preferences for a USER ID. For example, one particular user may prefer certain screen configurations whereas another user may prefer another particular configuration.

[0063] Profile management module 320 may be configured to control the exchange of profile management data with profile management server 108 (FIGURE 1). A user may provide a USER ID (and password) during log-in activity with the device. The profile management module 320, after verifying that the particular user (as associated with that particular USER ID) is authorized to access the device and certain functionalities and features thereon, may establish a link with the profile management server 108 to indicate the presence of the aforementioned user.. Profile management module 320 may take advantage of a pre-existing communications link or cause, for example, the WLAN interface 275 to initiate a link in response to a user having provided profile management data, namely their USER ID.

[0064] The aforementioned communications link with the profile management server 108 need not be established for any particular time period. The exchange of data may occur for as long (or as short) as is necessary. Measurements of network congestion may determine whether a communications link is maintained as may be measured by various response times (e.g., through network 'pings'). The amount of battery power in a device (e.g., a portable device) may also determine how long a communications link is maintained. The number of client devices attempting to log-in to the profile management server 108 may also determine whether a communication link is maintained for an extended period of time. For example, if a large number of client devices are attempting to access the profile management server 108, the profile management server 108 may terminate communication links after the necessary exchange of profile management data has taken place in order to accept new connection requests.

[0065] Upon the receipt of profile management data from the profile management module 320 at the profile management server 108, the profile management server 108 may access certain information about a particular user (*e.g.*, a user profile associated with a particular USER ID). An association between profile management data (*e.g.*, a USER ID) and a user profile at the profile management server 108 may be developed in a number of ways.

[0066] For example, a user may manually develop a user profile through any number of interfaces, including the device from which the profile management data is provided. A user, after having created a USER ID, may provide certain individual preferences in response to a checklist or other form of query (*e.g.*, a user survey). This information may then automatically populate certain portions of the user profile (*e.g.*, with regard to gender, age, income, etc.) or be analyzed by a human or automated process to identify particular demographics based on an accumulated knowledge base.

[0067] A user may also develop a profile at the profile management server 108 through an Internet interface that may be coupled to the profile management server 108. The same questions may be posited through an Internet interface as though they were presented on the aforementioned device. Responding via a desktop or laptop computer, which may have a more manageable keyboard or interface, may be easier than attempting data entry through a portable device, cellular phone or home entertainment system.

[0068] A user profile may also be developed through more traditional means such as customer cards that are manually filled out and mailed back to a data entry entity. Information gathered through phone surveys may also be input into the user profile by the party responsible for maintenance of the profile or through a third-party data collection agency. Profile data may also be collected without the immediate knowledge of the user through, for example, credit reports and purchasing habits observed via credit card activity (*e.g.*, data mining) or even through data generated based on playback histories from a DVR or other media device.

[0069] Upon having identified the presence of a particular user at a particular client device, the profile management server 108 may share the user profile with a primary content server 102 (FIGURE 1) and/or ancillary content server 104 (FIGURE 1) via network 102 (FIGURE 1), a LAN, or through some other direct communication means (e.g., via a point-to-point connection). Through the receipt of this user profile or certain information related to the same, the primary content server 102 and ancillary content server 104 may be better informed as to what content should be delivered to the user at the client device in order to maximize the user's media experience. Profile management server 108 may also receive information concerning the particular device that the user has accessed (e.g., the profile management data may include both a USER ID and device identification). If a particular device cannot process a particular form of content, that content will not be delivered to the device (e.g., the AV decoder at the device fails to support a particular encoding format). The particular selection and delivery of content is also described in the context of FIGURE 5.

[0070] In some embodiments, the USER ID as provided at log may also be delivered to the feedback server 106. Alternatively, profile management server 108 may inform the feedback server 106 that a particular user is now online. The feedback server 106 may then begin keeping or updating a feedback profile about a particular user, particular primary content delivered to and/or requested by the user, and/or particular products and/or services that may be advertised in certain ancillary content provided to and/or observed by the user. This feedback profile and the feedback data therein may be utilized by various content providers, manufacturers, and service providers. Feedback data may also be utilized by the profile management server 108 such that a user profile is updated to indicate new preferences that have been observed through user feedback. For example, a user may no longer favor a particular product that was initially indicated as being favored through a survey response that is now six-months old.

[0071] Advertisement selection module 330 may be configured to determine which advertisements stored in advertisement buffer 310 are rendered by a device

implementing advertisement rotation. Advertisement selection module 330 may identify particular ancillary data content (*e.g.*, advertisements) in the advertisement buffer 310 (or other storage means) based on, for example, some sort of identifying information such as certain header information in the ancillary data. For example, if the content to be rendered happens to be in an HTML format for viewing in a web browser, the ancillary data content might comprise header information that reads:

```
<title>Network Provider Related Advertisement</title>  
<meta http-equiv="Content-Type" content="text/html; charset=windows-1252" />  
<meta name="description" CONTENT="Universal Ancillary Content">
```

[0072] Ancillary content may be provided in any variety of formats. As such, the present reference to an HTML header should not be interpreted as limiting the means by which advertisement selection module 330 identifies content stored in the advertisement buffer 310. Alternative identification data or metadata may be used such as a look-up table referencing particular ancillary content selections. Identification data/metadata may also be used by the advertisement selection module 330 to process ancillary content selections include rendering, removal, and the like.

[0073] Various identifying information related to the ancillary (and primary) content may reflect a term of the content such as a rendering life-cycle. Content may be subject to rendering a particular number of times, a certain number of times a day, certain times with regard to certain content, and the like. Upon that particular piece of content having reached the end of its life-cycle, the content may automatically be deleted or left 'unprotected' such that it may be overwritten by new incoming content. In the case of a 'per day' limitation, content may be rendered as called upon until the particular content selection reaches its 'per day' limitation. That particular content selection may then not be rendered again until a new life-cycle begins (*e.g.*, the next day). Certain content may be subjected to numerous term limitations such as a twice-a-day rendering limitation but no more than twenty-times total.

[0074] Other content may have an actual expiration date such that when a particular date or time arrives, that content is deleted or is made subject to overwriting by other content. In some embodiments, content may be serial like a news cast. In these instances, the content may remain available until more up-to-date content is available. For example, the 5PM news may be available for rendering an unlimited number of times until the 6PM news is available at which time the 5PM news may be deleted or left unprotected and subject to overwriting by new content (e.g., the 6PM news).

[0075] Expiration and other life-cycle data may be tracked by the advertisement selection module 330 such that this information is taken into account when making advertisement selections of what advertisement may be rendered next. The advertisement selection module 330 may further track the last time an advertisement was rendered such that the same advertisement is not continuously rendered back-to-back when other content is available in the advertisement buffer 310. The advertisement selection module may be configured to maintain an even-rotation of advertisements subject to certain priorities discussed below.

[0076] Certain content, subject to copyright and other digital rights management (DRM) concerns may be saved for future viewing notwithstanding the arrival of an expiration date or the like. For example, a user might find a particular commercial amusing and wish to watch it even after its initial life-cycle has expired. In some instances, certain content may be transferable to removable memory such that it may be transported to and used in other devices. Certain content may also be able to be transmitted to other devices subject to certain copyright and DRM limitations (e.g., viral video).

[0077] Some content may have a priority designation embedded in its identifying information. For example, a device may have two targeted ancillary content selections in an advertisement buffer 310. The advertisement selection module 330 may then look to see if one piece of content has a higher priority than another (e.g., an advertiser has paid an additional premium to ensure its content is seen before other content). If no

priority is given or the content has equal priority, the advertisement selection module 330 may default to a random selection.

[0078] If the advertisement selection module 330 has determined that a particular piece of content has reached its expiration date or the end of its life-cycle, the advertisement selection module 330 may cause the device to initiate a request for new ancillary content. In the case of primary content, which may also be governed by the advertisement selection module 330 or by a similar software module with similar functionality but otherwise dedicated to primary content, new primary content may be requested. The advertisement selection module 330 may withhold making this request until a particular piece of content has actually expired. Alternatively, the selection module 330 may anticipate the expiration of content and make a request (subject to memory availability) such that the new content is immediately available for subsequent rendering when the older content expires.

[0079] Requests for new content may occur when the user is not using the device such that bandwidth that might be required for other activities (*e.g.*, an ad hoc gaming network) is not consumed by the download of content. Certain high priority content may require a download immediately upon the expiration of certain content. Downloads may also only occur upon a notification from a primary or ancillary content server 102/104 that new content is actually available. This notification may occur through an SMS transmission, a single packet transmission, or some other limited bandwidth communication initiated by a server or other device in the server network 110 for receipt by the device 130 and to otherwise signal the availability of new content—ancillary, primary or both.

[0080] As will be discussed further in the context of FIGURE 4, primary content accessed by the device from, for example, an optical disc, via a streaming solution, or through download-and-play may include trigger data. Trigger data may indicate to the advertisement selection module 330 that a particular point in the primary content has been reached wherein the selection, loading, and/or rendering of ancillary content may be appropriate. Examples of appropriate points for the insertion of ancillary content

may include a point in a television program where a commercial break would occur, the end of a 'chapter' in the case of a DVD, between tracks in a musical selection, or the loading of a new level in the instance of a video game.

[0081] Trigger data may indicate that a particular type of ancillary content is to be rendered (*e.g.*, universal (predetermined) or targeted ancillary content as is further discussed herein). In response to an instruction associated with the trigger data, the advertisement selection module 330 may retrieve the appropriate content from the advertisement buffer 310 or some other storage medium based on a review of header or other identification information. The appropriate ancillary content may then be 'inserted' as instructed by the trigger data. Trigger data may also include certain limitations as to the insertion of ancillary content such as time limits, fade-in and fade-out, prohibitions as to certain ancillary and primary content combinations, and the like.

[0082] Trigger data may also indicate may also identify a portion of the primary content that is to be simultaneously overlaid with the ancillary content. In this example, primary content may be a movie. Trigger data may result in the 'triggering' of a commercial or some other ancillary content. In some instances, the ancillary may be inserted between scenes or at some other point(s) in the primary content. In this particular example, however, the trigger may indicate that the ancillary content should be overlaid on top of the primary content. In this example, ancillary data (such as an advertisement) may be rendered/displayed concurrently with the primary content.

[0083] The ancillary content may be of higher resolution than the primary content in order to stand out from the same. Similarly, the ancillary content may be brighter than the primary content. In some instances, the primary content may be reduced in definition or brightness and the ancillary content remains of otherwise 'standard' quality or brightness. The ancillary content, too, may be of a lesser definition or brightness with respect to the primary content. Instructions with respect to resolution, brightness, or any other characteristics of the ancillary content may be a part of the trigger data or as part of a header file in the ancillary data indicating the proper format for display of that data. This information may also include a particular locale for the display of the content.

[0084] In an embodiment overlaying the ancillary content over the primary content, the ancillary content may be a still image in order to avoid overly distracting the viewer from the primary content. Notwithstanding, it is possible to have multiple-frame ancillary content (e.g., from a slideshow-type presentation to full motion video) simultaneously overlaid with respect to the primary content. Certain header data in the primary and/or ancillary content may indicate whether or not certain ancillary content may be displayed in conjunction with primary content. For example, a primary content provider may pay a premium to ensure its content is not interrupted with particular types of content. Likewise, an ancillary content provider may pay a premium to ensure that its content is rendered regardless of the nature of the ancillary content (still frame or video, for example) and the primary content on which it is overlaid.

[0085] The ancillary content may also be audio-free such that the listening experience of a user is not interrupted when the ancillary content is rendered with respect to the primary content. Alternatively, the user may be able to utilize some control device (e.g., a control button, touchpad, joystick, etc.) to control whether the audio of the ancillary content is less or greater than the primary content or muted altogether. In some embodiments, the overlaid content may utilize closed captioning to avoid interrupting the audio track of the primary content. In some embodiments, however, the two audio tracks (ancillary and primary) may both be played back simultaneously as a part of the rendering/display process.

[0086] In some embodiments, the trigger data (or header data in the content) may indicate that the ancillary content should be displayed adjacent the primary content. This arrangement may result in the creation of dedicated advertisement spaces within content playback. For example, the bottom portion of the screen may be identified as an advertisement area whereby ancillary advertising content is displayed side-by-side (but not overlaid) with respect to the primary content. The aforementioned controls over audio, closed-captioning and the like as discussed with respect to overlaid content are equally applicable to side-by-side content.

[0087] Trigger data (and/or header data in the content) may also include instructions with respect to coordinate-specific rendering of content. These *coordinates* may be applicable to overlays of content and side-by-side displays of content. Further, this coordinate information may provide for (or at least to create the appearance of) the insertion of ancillary content directly into the primary content environment. For example, primary content may show the many billboards of Times Square in New York City. Ancillary content with coordinate information and/or an association to primary content with such information may identify *where* in the primary content the billboard is positioning. Ancillary advertising content may then be 'inserted' and 'integrated' directly into the primary content environment such that the ancillary advertisement appears to be an actual part of the primary content.

[0088] In still further embodiments, header data of content and trigger data may both include instructions with respect to the placement of ancillary content *vis-à-vis* primary content. These *instructions* may, in some instances, conflict with one another. For example, the trigger data may indicate that the next rendered selection of ancillary content that is an advertisement should be overlaid on the primary content with certain parameters as they pertain to resolution and the like. The header data of the ancillary content, however, may indicate that the primary content should be re-scaled to make room for a dedicated advertising space in the display whereby a scrolling banner-type ad may be placed.

[0089] In these instances, the trigger and/or header data may include an indication as to whether, in the case of conflicting data, which set should govern. For example, one selection of ancillary content may always defer to a conflicting trigger data instruction. Similarly, the trigger data may always defer to the header data. In other instances, trigger, primary and/or ancillary data may have some *indication of priority* such that a premium movie trumps a five-second advertisement but defers to a nationwide advertisement buy that will be rendered on all media devices incorporation advertisement rotation functionality. In some instances, the determination may be random. For example, in one instance, a particular advertisement's header data may

trump a particular instruction associated with trigger data. In a subsequent processing of the trigger data to render the ancillary data, the very same commercial advertisement may defer to the trigger data.

[0090] Feedback module 340 may be configured to maintain a record of ancillary content loaded from the advertisement buffer 310 and rendered on a device. Feedback module 340 may be further configured to maintain other forms of information related to the rendering of the ancillary content. For example, the feedback module 340 may record the number of times a particular ancillary content selection was played, the date and time the ancillary content was played, and if there was 'seeking' activity related to the ancillary content (*e.g.*, pause, fast-forward, and rewind). 'Seeking' related information may indicate 'favored' or 'disfavored' portions of the ancillary content. This information may also be associated with the particular user and, if appropriate, the particular device rendering the ancillary content.

[0091] In some embodiments, ancillary content may be accessible independent of primary content. For example, a user may view a commercial independent of any larger television program. If a user independently seeks to access such content, the feedback module 340 may record the independent access of the ancillary content in addition to the aforementioned information concerning time, date, seek, and so forth.

[0092] Feedback data generated by the feedback module 340 may also indicate whether certain ancillary content was skipped entirely or only partially viewed. In some embodiments of the present invention, the feedback module 340 may employ impression determination functionality as is described in U.S. patent application number 11/241,229 entitled "Advertising Impression Determination," the disclosure of which is incorporated herein by reference. Impression determination functionality may be of particular relevance when the client device is a video game console and various objects in the video game environment might be preclude the actual viewing of certain ancillary content.

[0093] This advertisement impression function may be implemented as a part of the feedback module 340 or software within another portion of the client device.

Notwithstanding the particular locale of impression determination functionality, the feedback module 340 may maintain a record of *certain impressions generated*. A report to the feedback server 106 may, in turn, reflect that impression data as a part of the transmitted feedback data.

[0094] The feedback data generated by the feedback module 340 may be stored locally on the device and transmitted to the feedback server 106 at a suitable time. For example, the transmission of feedback data may occur during the transmission of profile management data. The feedback data may be an integrated or distinct data set in this transmission. Alternatively, the feedback data may be transmitted when a network connection is present but no content or other data is actively being exchanged between the device and another data point. Further, the feedback data may be transmitted immediately following the generation of the data, following the viewing of particular primary or ancillary content, or during a sign-off process from a network connection. The feedback data may be transmitted at a time when the consumption of bandwidth related to the transmission would not interfere with the exchange of other time-sensitive or on-demand data (*e.g.*, during the download of primary content that the user is presently wanting to watch).

[0095] Once received by the feedback server 106, the feedback data may be integrated into a feedback profile either through an automated process (*e.g.*, in response to a particular data population format) or through certain inferences made by a knowledge base. Human interaction may also occur with regard to processing and utilizing the feedback record and the feedback profile. This information may be utilized as a basis for assessing fees due by or to various parties. For example, fees may be due to an advertiser for a successful advertisement campaign on behalf of a particular client. Fees may also be due by the user for viewing premium primary content.

[0096] Feedback data may also include information generated as a part of a question-answer session at the client via the feedback module 340. For example, the feedback server 106 may independently or as a part of a particular piece of ancillary (or primary) content attach a survey or some other interactive feedback data set. This data

set may be translated by the feedback module 340 to generate an interactive survey at the client device (*e.g.*, 'would you buy this product?' or 'was this movie too violent?').

[0097] All of the aforementioned feedback data may be integrated with or shared with the entity responsible for overseeing profile management server 108. In some embodiments, certain server functionalities may be integrated including feedback server 106 and profile management server 108. Feedback data entered into a feedback profile may be integrated with or observed with regard to the user profile at the profile management server 108. In this way, a user profile may be kept up-to-date to ensure that a particular user and/or device are receiving the most relevant and appropriate content (both primary and ancillary). For example, if in response to a survey rendered by the feedback module 340 a user indicates that they do not like a particular actor, that information may be used to update the user profile at the profile management server 108 to ensure that the user associated with a particular USER ID no longer receives movies starring that particular actor.

[0098] FIGURE 4 is an exemplary illustration of primary content including triggers associated with ancillary content. Ancillary content may include universal, targeted, and/or context-specific content. The block form of the primary content is for illustrative purposes only and is not meant to impose any formal structure in the data.

[0099] As noted above, primary content 410 may include movies, television programs, on-line video programming, Internet radio, any variety of audio files, video games (which may be accessed via a network or directly at a client device), and the like. Primary content may include a single title or selection (*e.g.*, a single song, a single video program, or a single video game title or portion thereof). Primary content may also include a collection of programs (*e.g.*, an entire album, several episodes of a television program, different 'chapters' of a single video as it might otherwise appear on a DVD, or various levels of a video game).

[00100] Primary content 410 may be intermittently 'tagged' by trigger data 450. Trigger data 450 is a data structure recognized by the advertisement selection module 330 as an indication to access and prepare particular ancillary content for playback. As

primary content 410 is processed by, for example, the AV decoder 250, the presence of the trigger data 450 will be processed by the advertisement selection module 330 so that the appropriate content may be retrieved from advertisement buffer 310 or some other storage medium. The advertisement selection module 330, in conjunction with the AV decoder 250, may then cause the appropriate ancillary content to be processed by the decoder 250 from the buffer 310 such that the ancillary content appears to be seamlessly 'inserted' within primary content 410.

[00101] For example, a user may be watching an episode of the aforementioned *Seinfeld* sitcom (*i.e.*, primary content 410) from a DVD on a portable media device. The sitcom would, on television, naturally have a series of commercial interruptions. Instead of permanently embedding a particular commercial on the DVD (which may soon become out of date) in these natural commercial interruption areas, the content provider may insert the aforementioned trigger data 450 reflecting that this is an appropriate place to insert a commercial (*e.g.*, ancillary content).

[00102] For example, an episode of a television program might be seven-minutes in at which point trigger data 450 is detected by media control 210 via the AV decoder 250 and advertisement engine 255, specifically the advertisement selection module 330. In this instance (assuming FIGURE 4 is reflective of the aforementioned episode of *Seinfeld*), the first trigger data 450 occurrence may reflect the need to load context-specific ancillary content 430. The advertisement selection module 330, in response to this particular trigger, may then access the advertisement buffer 310 to find a particular context-specific ancillary content 430 selection. Certain related calculations as to which selection of content-specific ancillary content 430 may also be made (*e.g.*, if there are two or more selections).

[00103] The particular piece of content-specific ancillary content 430 identified by the advertisement selection module 330 may then be loaded from the advertisement buffer 310 or other storage medium into the AV decoder 250 for decoding and rendering on the device by GPU 230. At the termination of the particular piece of content-specific

ancillary content 430, the primary content 410 may continue to be rendered as if a television program were returning from commercial.

[00104] The process may repeat itself through the rendering of a particular piece of primary content 410 wherein subsequent trigger data 450 indicates it is necessary to identify, load, and render other content such as universal ancillary content 420 and/or targeted ancillary content 440 as is reflected in FIGURE 4.

[00105] Context-specific ancillary content 430 may be representative of content that is somehow context-related to the primary content 410. For example, if the primary content 410 is a comedy, then the context-related ancillary content may be a movie trailer for an upcoming movie that is also a comedy. Alternatively, the ancillary content may be a commercial for a product in a product-line related to the primary content 410 (*e.g.*, another DVD in a series of that is presently being viewed such as an upcoming season of *Seinfeld* on DVD). Alternatively, the context-specific ancillary content 430 may be a preview for a movie with an actor who happens to appear in the presently viewed primary content 410. Context-specific content 430 may be any content that is somehow related to the primary content 410 currently being viewed or listened to on the client device.

[00106] Universal ancillary content 420, on the other hand, may be representative of content that is received regardless of personal preferences or the nature of the primary content 410. For example, universal ancillary content 420 may be a commercial advertisement related to the maker of the client device. Alternatively, the commercial may be from the provider of the network being used to communicate primary and ancillary content (*e.g.*, an ISP or wireless network provider). Alternatively, the universal ancillary content 420 may be a commercial from the movie studio that produced the primary content 410 that is about to be viewed (*e.g.*, a movie preview). Universal ancillary content 420 may be any content that is unrelated to a particular contextual decision or a user preference and that is provided at the election of a content provider versus an end-user.

[00107] Targeted ancillary content 440 may be representative of content that is delivered according to the particular likes and dislikes of a user. For example, if a user happens to like romantic comedies, then that user may be received targeted ancillary content 440 that is representative of movie previews that are also for romantic comedies. If the user happens to be a sports fan, the targeted ancillary content 440 may be an advertisement for season tickets for the local baseball team. Certain dislikes may also be taken into account with regard to targeted ancillary content. For example, if a particular user is offended by 'adult' entertainment, a user profile (as may be generated and/or controlled by profile management module 320, profile management server 108 and, in some instances, feedback module 340 and feedback server 106) may help ensure that no 'adult' related content is delivered to that user.

[00108] In some embodiments, primary content 410 may only be delivered with embedded trigger data 450 that is related to particular types of ancillary content (e.g., universal 420, context-specific 430, and targeted 440). In other embodiments, primary content 410 may have various forms of ancillary content embedded therein (e.g., a DVD with primary content 410 and a series of actual permanently embedded commercials). That permanently embedded ancillary content may eventually become out-of-date. In such an instance, the trigger data 410 may reflect that new ancillary content is to be inserted to effectively 'overwrite' the older ancillary content. This 'overwriting' of permanently embedded content may be subject to the availability of the newer ancillary content or the expiration of the original embedded ancillary content as might be identified by trigger data 450. In such an instance, the AV decoder 250 may be instructed to 'skip' the old ancillary content that was originally embedded with the primary content 410. Alternatively, the AV decoder 250 may be instructed to simply not decode and render the older content and to render the newer ancillary content instead.

[00109] Various means for the 'insertion' of new ancillary content are disclosed in the Kan Ebisawa family of patents: U.S. patent number 6,882,978 for an "Apparatus and Method for Executing a Game Program Having Advertisements Therein"; U.S. patent number 6,782,533 for an "Encrypted Start Signal for Game with Data Substitution in

Original Data and Means for Limiting Execution"; and U.S. patent number 6,640,336 for a "Game Machine System, Broadcasting System, Data Distribution System and Method, Program Executing Apparatus and Method." The disclosures of these patents are incorporated herein by reference.

[00110] Trigger data 450 may be embedded in the temporal middle or the beginning of a primary content 410 selection. Through early identification of trigger data 450, ancillary content may be selected from the advertisement buffer 310 by the advertisement selection module 330 in advance of when the content is actually needed such that the ancillary content is decoded and ready for display as soon as the primary content 410 comes to an end. If the ancillary content is not retrieved, decoded and buffered until it is actually needed, some devices may experience processing delays (*e.g.*, dead air) between the end of the primary content 410 and the display of the appropriate ancillary content. In some instances, all the trigger data 450 for a particular piece of primary content 410 may be identified at the very outset of the primary content 410. In other embodiments, the trigger data 450 may be identified and processed on an as-needed basis, which may include on-the-fly triggers or anticipatory triggers that load content in advance of actual rendering.

[00111] Trigger data 450 may also contain various other pieces of information related to the primary content 410 and/or ancillary content to be rendered in relation thereto. Trigger data 450 may indicate that the primary content 410 is only to be delayed for a particular period of time to allow for the display of ancillary content. For example, if a full-length feature film is being watched, the primary content 410 provider (*e.g.*, the movie distributor) may want a minimal delay between scenes. Thus, the trigger data 450 may reflect that a particular type of ancillary content is to be selected (*e.g.*, targeted ancillary content 440) and that the ancillary content is to be no longer than 20-seconds in length. Thus, if multiple selections of ancillary content are available—one being 45-seconds and another being 10-seconds—the advertisement selection module 330 may retrieve the ancillary content that is appropriate under the circumstances (*i.e.*, the content that is 10-seconds in length). Trigger data 450 may be instructive as to the

manipulation and insertion of certain ancillary content as much as it is indicative of need for that content.

[00112] Trigger data 450 may also reflect certain limitations on the type of content to be displayed. For example, one movie studio may not want a competing movie studio's products advertised during its movie. Thus, the trigger data 450 may reflect certain prohibitions on the advertisement selection module 330 selecting ancillary content.

[00113] Similarly, the advertisement selection module 330 may select or reject particular pieces of ancillary content for display based on, for example, data from the profile management module 320. If two users are associated with the device—a parent and child, for example—different types of content (primary and ancillary) may be received by the device (*e.g.*, child-related content such as G-rated movies and adult-related content such as R-rated movies). It is possible that an advertisement buffer 310 may have ancillary content related to both users in storage at the same time (*e.g.*, an R-rated movie preview and a G-rated movie preview). Based on the profile management data reflecting the present user of the device and as identified by profile management module 320, particular ancillary content selections will be made for the particular user. If trigger data 450 indicates the need to load targeted ancillary content 440, the advertisement selection module 330 may consult the profile management module 320 as to the present user of the device (or that information might have previously been communicated to the advertisement selection module 330) to determine which of the various targeted ancillary content 440 selections presently in the advertisement buffer 310 should be retrieved, decoded and rendered.

[00114] FIGURE 5 illustrates an exemplary user profile 500 in table form, which includes various preferred, predetermined, accepted, and rejected content preferences. The user profile 500 depicted in FIGURE 5 may be a profile stored at profile management server 108 (FIGURE 1) or in the context of a feedback profile at feedback server 106 (FIGURE 1). User profile 500 may be utilized in the context of selecting and delivering appropriate primary and ancillary content to a user.

[00115] User profile 500 may be developed through interactive selections or preference identifications by a user, through feedback data collected by the feedback server 106 or through third-party sources (e.g., purchasing records and the like). The exemplary user profile 500 of FIGURE 5 illustrates several exemplary categories of user preferences: preferred content 510, acceptable content 530, and rejected content 540. The fourth category: predetermined content 520 is less of a user-defined preference (e.g., likes or dislikes) but determined with regard to certain conditions of the user or their device.

[00116] For example, a user may receive predetermined ancillary content 520 related to a manufacturer of a device (e.g., commercials concerning various peripherals or add-ons) that the user utilizes to receive various forms of content. While there may be a series of other ancillary content packages for other devices (e.g., devices from other manufacturers), the user may only receive ancillary content packages related to that particular device because it is the device the user happens to own. Thus, while the content is customized—it may not be personalized by or for the user.

[00117] Preferred content 510 may be representative of that content that the user wants (i.e., prefers to receive). In many instances, preferred content 510 may be specifically identified by the user. Alternatively, certain inferences may be made over time based on, for example, viewing habits as identified through the assistance of feedback module 340 and feedback server 106 and certain identifying information or metadata associated with various content selections.

[00118] FIGURE 5 illustrates a series of content classifications 550, among them 'sports' and 'action.' Content classifications 550 may be inclusive of various types, brands or classes of content and may be defined by a variety of entities such as the actual content provider, a network provider, or an industry standards group. In the case of FIGURE 5, the user profile 500 indicates that a particular user likes sports content and action content. Thus, the user may receive primary and ancillary content related to sporting events and high-action or adventure activities as that content has been similarly identified at the appropriate server (e.g., primary content server 102 or ancillary content server 104).

[00119] Content classifications 550 may also be subject to subsidiary classifications 560. For example, 'sports' may represent a broad spectrum of different types of sports. Through the use of subsidiary classifications 560, broader classifications may be made more accurate. For example, 'sports' may be broken down into 'baseball,' 'football,' and 'basketball.'

[00120] There is no limit to the number of subsidiary classifications 560 that may be attached to a particular content classification 550. For example, 'sports' may be broken down into 'baseball' as referenced above. 'Baseball' may further be broken down into 'professional,' 'international,' 'minor league,' or 'NCAA®.' 'Professional' could be broken down even further into particular teams, for example, 'Texas Rangers' or 'San Francisco Giants.' The more detailed the subsidiary classifications 560, the more accurate the content ultimately delivered to a user based on a particular profile 500.

[00121] No particular organization, structure or hierarchy should be implied as to content classification 550 and subsidiary classifications 560 as illustrated through and discussed in the context of FIGURE 5. For example, subsidiary classifications 560 are not meant to be limited to a 'footnote' reference. FIGURE 5 is illustrative for the sake of discussion as to help provide a better understanding of the scope of the present invention.

[00122] Accepted content 530 may be representative of that content that the user may not necessarily want but otherwise does not have any objection as to receiving. Accepted content 530 may, however, also be inclusive of certain aspects of preferred content 510. Accepted content 530 may be further understood in the context of rejected content 540. Rejected content 540 may be representative of that content that a user does not want to receive either because they have no interest (*e.g.*, a single adult with regard to children's animated movies) or they have a particular objection as to the same (*e.g.* adult or pornographic content).

[00123] If a user identified particular content as rejected content 540, the user will not receive that content. A user may be limited, however, as to the total classifications of content the user may identify as rejected content 540. For example, a user who does not

want to receive any commercials could conceivably classify all content as rejected content 540 in an attempt to deny the receipt of any ancillary content. In this regard, a user may only be able to identify a particular number of content types as rejected content 540. Some embodiments may provide for an ancillary content denial option where, for an extra fee or some other form of consideration such as receipt of direct mailings or telephone surveys or lower-quality content (in terms of catalog and visual/audible quality), the user may be able to deny delivery of ancillary content (or specifically advertisements) to their particular client device. Such a feature may be controlled via the user profile 500 or some recognition at primary or ancillary content server 102/104.

[00124] Predetermined content 520 may be representative of that content that a user will receive regardless of personal preferences. As this content is universal with respect to recipients (*i.e.*, it may be universally received by all recipients in the network), predetermined content may generally relate to a very specific range of products or services (*e.g.*, the device that a user has accessed or the communications network that the user is utilizing for data exchanges). This narrow focus may be implemented in order to avoid crossing over into products or services that some users might deem offensive. For example, predetermined content may generally refrain from being associated with offensive content such as pornography or products or services that otherwise generate extreme and emotional opinions.

[00125] In some instances, certain entities may enter into co-branding opportunities with like-minded organizations. For example, a particular network provider (who normally provides network access to the device) may enter into a co-branding relationship with a company that develops wireless routers or 'network accelerators.' While these products may not be of particular interest to a user, they do have an identifiable common interest with the network provider (*i.e.*, improved network conditions) and thus the predetermined content 520 may be associated with this third-party manufacturer/service provider for delivery as universal content.

[00126] Specific types of predetermined content 520 (in the case of ancillary content) may include associated content, which may be representative of content that shares some relationship with the primary content 410 that is being displayed. As has been previously exemplified, a comedy is being watched and the user may receive predetermined ancillary content related to other comedies or other actors in that comedy. Network provider ancillary content may be representative of that ancillary content related to the network provider (*e.g.*, advertisements concerning new-rate plans) whereas device provider ancillary content may be representative of that ancillary content related to the particular device being used for the receipt of content.

[00127] The content ultimately delivered may be based on one or more of the data classifications 550 in the user profile 500. For example, the content delivered may be related only to preferred content 510 or may be accepted content 530 subject to rejected content 540. Various cross-references of different types of content may also occur such that certain subsidiary classifications 560 of rejected content 540 are not inadvertently delivered because they might also fall into a classification of accepted content 530. For example, a user might want action movies but not sexual content. If an action movie has sexual content, the user profile 500 and the intelligence manipulating that profile may determine if one factor overrides another with regard to content delivery.

Determinations as to content delivery may occur at the various content servers (102/104) or at the profile management server 108. Certain determinations may also be 'outsourced' to third-parties with data analysis returned to the various servers for implementation. The feedback module 340 (FIGURE 3) and its interaction with the feedback server 106 (FIGURE 1) may also affect the development of the user profile 500 and the resulting content delivered to a user by the content servers 102/104.

[00128] Feedback data generated by the feedback module 340 and delivered to the feedback server 106 may play a role in remuneration by advertisers to certain content or network providers (*e.g.*, if content is viewed, then appropriate payment is made). This record, too, may influence the development of the aforementioned user profile 500 wherein if a particular user continuously views certain content (*e.g.*, movies with a

particular actor), that information may begin to influence the status of the user profile 500 in terms of that repeated viewing constitutes an implicit acceptance or rejection of content (as may be the case) or even an implicit indication of preferred content 510. These changes to the profile 500 may be automated or subject to a user giving explicit permission on a change-by-change basis or subject to some other cycle for inquiring as to changes of the user profile 500. A user may also grant permissions going forward such that the user profile 500 may be manipulated without inquiring as to the propriety of the same or, alternatively, grant certain permissions as to the types of changes that may be made. For example, changes to accepted content 530 may be permitted automatically but no changes to rejected content 540 may be made without express authorization from the user.

[00129] FIGURE 6 illustrates an exemplary method 600 for the selection and delivery of content to a device in accordance with one embodiment of the present invention. In step 610, a user and/or device is identified via a USER ID, device ID, or some other form and/or combination of identifying information. The identified user may be associated with a user profile that may be stored at the profile management server 108 (FIGURE 1).

[00130] The user profile at the profile management server 108 may reflect various preferences of a user as seen in the exemplary user profile 500 in FIGURE 5. Based on the user profile, particular content (primary and/or ancillary) may be identified for delivery to that user in step 620. For example, if a user prefers sports as reflected by their user profile 500, the user may receive sports-related ancillary content from an ancillary content server 104 (FIGURE 1). While a user may normally explicitly identify the primary content that they wish to view, the user profile 500 may be used for the automated delivery of random primary content or to provide a 'suggested' list of primary content for selection by the user,

[00131] In step 630 the content corresponding to a user profile 500 may be delivered to the user at their respective client device 130 (FIGURE 1). This content may be viewed immediately as may be the case with primary content or stored in a buffer or some other storage device for subsequent rendering at an appropriate time as may be the case with

ancillary content. The ancillary content may be rendered subject to various advertisement rotation control as governed by the advertisement engine 255 (FIGURE 2). The delivery step (630) may also include the replacement of certain expired or less relevant content, which may be primary (*e.g.*, replacement of the downloaded 5PM news with the 6PM news) or ancillary (*e.g.*, various advertisements) in nature.

[00132] In optional step 640, feedback data may be generated based on various viewing and access activities in addition to certain impression determinations previously described. That feedback data may be delivered to a feedback server 106 (FIGURE 1) for further analysis. In optional step 650, a user profile 500 may be updated in accordance with the aforementioned feedback data and/or other profile management data as is appropriate. This updated user profile 500 may be used to identify future selections of content for delivery to the user.

[00133] In one embodiment, the advertisement engine 255 may be pre-installed software module on a client device that is delivered by an Original Equipment Manufacturer (OEM). In some instances, however, a user may seek to enjoy advertisement rotation functionality on a legacy device such as an older portable media device, older home entertainment system, or a cellular device.

[00134] In these instances involving a legacy client device, the advertisement engine 255 may constitute a downloaded software application that may accompany an initial access of a primary content server 102 (FIGURE 1). For example, a user may attempt to contact the primary content server 102 for a particular primary content title. The primary content server 102 may recognize during the initial data exchange or through access to a profile management server 108 that the requesting device does not presently have an advertisement engine 255 in that a profile does not exist or that certain identifying data has not been received by the primary content server 102. In these instance, the advertisement engine 255 software application may be appended to the delivery of primary content (or a portion of the primary content) such that the rendering of the content also results in the automatic installation of the software module (*e.g.*,

through a self-executing script) or requires the manual execution and installation of that module prior to the actual content being rendered.

[00135] While the profile management module 320, advertisement selection module 330, and feedback module 340 may all be downloaded as software components, buffer memory (*i.e.*, advertisement buffer 310) cannot be 'downloaded.' In an embodiment of the present invention where the advertisement engine 255 and associated advertisement rotation functionality is downloaded after manufacture of the device, the software download may include instructions noting that certain portions of memory in the device are to be reserved for advertisement rotation, specifically, storage of advertisements for rotation.

[00136] Legacy device downloads may provide the device with limited or minimal functionality whereby a complex profile of a user may not be developed via the device. In these instances, a user may be required to access to a profile management server 108 via an Internet interface from a workstation separate from the client device. The functionality offered by such a device may, in various instances, be subject to the various hardware and software limitations of the device at issue although it is envisioned that the present invention may be introduced to the fullest extent possible in various legacy devices subject to memory availability and certain hardware specification limitations. In that regard, the present invention envisions the possibility of firmware upgrades to allow for increased or full advertisement rotation functionality in certain legacy devices.

[00137] While the present invention has been described with reference to exemplary embodiments, it will be understood by those skilled in the art that various changes may be made and equivalents may be substituted for elements thereof without departing from the true spirit and scope of the present invention. In addition, modifications may be made without departing from the essential teachings of the present invention. Various alternative systems may be utilized to implement the various methodologies described herein and various methods may be used to achieve certain results from the aforementioned systems. Additionally, various functionalities discussed in the context

of ancillary content may also be applied to primary content and vice-versa dependent upon the particular needs of content providers and/or the devices at issue.

[00138] For example, an embodiment of the present invention may provide for a content decoder for use in a content display device. The content decoder may be configured to retrieve and decode ancillary advertisement content from memory accessible to a media display device hosting the decoder. The decoder may further provide instructions to a graphics processing unit coupled to the content decoder, the instructions identifying how to render decoded ancillary advertisement content with respect to primary content. In this regard, the decoder may handle or be involved with some or all aspects of advertisement decoding, selection, and rendering.

CLAIMS

WHAT IS CLAIMED IS:

1. An apparatus for the display of primary and ancillary content, comprising:
 - at least one source of primary content, the
 - primary content including multiple trigger data points, each trigger data point indicating a point for the identification, retrieval, and insertion of ancillary advertisement content with respect to the primary content;
 - an advertisement selection module configured to identify ancillary advertisement content stored in memory, the identification occurring in response to processing of trigger data in the primary content and based upon information associated with a user profile of a current user of the apparatus, wherein a subsequent processing of the trigger data point results in identification of different ancillary advertisement content and the user profile includes user preferences with regard to primary or ancillary content;
 - a decoder configured to retrieve and decode the ancillary advertisement content in the memory and identified by the advertisement selection module for insertion with respect to the primary content; and
 - a graphics processing unit coupled to the decoder, the graphics processing unit configured to render the primary content and the decoded ancillary advertisement content, wherein the ancillary advertisement content is inserted relative to the primary content in accordance with an indication of the trigger data.

2. The apparatus of claim 1, wherein the indication of the trigger data identifies a break between two scenes in the primary content for the insertion of the ancillary advertisement content.
3. The apparatus of claim 1, wherein the indication of the trigger data identifies a portion of the primary content for the simultaneous overlay of the ancillary advertisement content.
4. The apparatus of claim 1, wherein the indication of the trigger data includes instructions for execution by the graphics processing unit to rescale the primary content whereby the primary content is simultaneously displayed adjacent to the ancillary advertisement content.
5. The apparatus of claim 1, wherein the indication of the trigger data includes instructions for execution by the graphics processing unit for coordinate-based placement of the ancillary advertisement content in the primary content.
5. The apparatus of claim 1, wherein the ancillary advertisement content includes header data, the header data identifying a preferred placement of the ancillary advertisement content with respect to the primary content.
6. The apparatus of claim 5, wherein the insertion of the ancillary advertisement content relative to the primary content occurs as a result of a determination of priority with respect to the ancillary advertisement header data and the indication of the trigger data.
7. The apparatus of claim 1, further comprising a profile management module configured to exchange profile management data with a profile management server over a network connection, wherein one or more selections of the ancillary advertisement content in the memory are received by the apparatus over the network.

8. The apparatus of claim 7, wherein the profile management data includes a USER ID.
9. The apparatus of claim 7, wherein the profile management data includes a device identifier.
10. The apparatus of claim 7, wherein the profile management server associates the user profile with the profile management data.
11. The apparatus of claim 10, wherein the ancillary content server delivers ancillary advertisement content to the apparatus over the network in response to one or more user preferences.
12. The apparatus of claim 1, wherein the trigger data is associated with universal ancillary advertisement content.
13. The apparatus of claim 1, wherein the trigger data is associated with targeted ancillary advertisement content.
14. The apparatus of claim 1, wherein the trigger data is associated with context-specific ancillary advertisement content.
16. The apparatus of claim 7, further comprising a feedback module configured to generate feedback data in response to user interaction with the identified ancillary advertisement content.
17. The apparatus of claim 16, wherein the feedback data is used to update a feedback profile at a feedback server.

18. The apparatus of claim 17, wherein the feedback profile is used to update a user profile including user preferences with regard to content.

19. The apparatus of claim 1, wherein the apparatus for the display of primary and ancillary content is a portable media device.

20. The apparatus of claim 1, wherein the apparatus for the display of primary and ancillary content is a home entertainment system.

21. A method for the selection and display of content, comprising:
- delivering profile management data from a content display device to a profile management server, where the profile management data is associated with a user profile;
 - receiving identified ancillary advertisement content at the display device, wherein the ancillary advertisement content is identified based on the user profile; and
 - storing the ancillary advertisement content at the content display device for subsequent display in response to trigger data processed by the display device, wherein a different selection of ancillary advertisement content is displayed in response to subsequent processing of the trigger data by the display device.
22. The method of claim 21, further comprising generating feedback data in response to user interaction with the ancillary advertisement content.
23. The method of claim 21, further comprising updating a feedback profile in response to the feedback data.
24. The method of claim 23, further comprising using the feedback profile to update the user profile, including user preferences with regard to future identification of ancillary advertisement content for delivery to the display device.

25. A computer-readable storage medium having embodied thereon instructions executable by a processor, the instructions corresponding to a method for selection and display of content, comprising:

delivering profile management data from a content display device to a profile management server, where the profile management data is associated with a user profile;

receiving identified ancillary advertisement content at the display device, wherein the ancillary advertisement content is identified based on the user profile; and

storing the ancillary advertisement content at the content display device for subsequent display in response to trigger data processed by the display device, wherein subsequent processing of the trigger data results in display of a different selection of ancillary advertisement content.

26. A content delivery network, comprising:

a client device configured for the receipt and storage of content;

a primary content server configured for the delivery of primary content to the client device, wherein the primary content comprises trigger data;

an ancillary content server configured for the delivery of ancillary content to the client device; and

a profile management server configured to receive profile management data from the client device, the profile management data associated with a user profile for determining the ancillary content delivered to the client device, wherein the ancillary content is displayed by the client device in response to the processing of the trigger data and each subsequent processing of the trigger data results in the display of a different selection of ancillary content.

27. The content delivery network of claim 26, wherein the trigger data is associated with universal ancillary content.
28. The content delivery network of claim 26, wherein the trigger data is associated with targeted ancillary content.
29. The content delivery network of claim 26, wherein the trigger data is associated with context-specific ancillary content.
30. A content decoder for use in a content display device, the content decoder configured to:
- retrieve and decode ancillary advertisement content from memory accessible to the media display device, the ancillary advertisement content identified by an advertisement selection module, the ancillary advertisement content for insertion with respect to primary content being rendered on the content display device; and
 - provide instructions to a graphics processing unit coupled to the content decoder, the instructions identifying how to render the decoded ancillary advertisement content with respect to the primary content, wherein the instructions correspond to an indication of trigger data in the primary content.
31. The content decoder of claim 30, wherein the indication of the trigger data identifies a break between two scenes in the primary content for the insertion of the ancillary advertisement content.
32. The content decoder of claim 30, wherein the indication of the trigger data identifies a portion of the primary content for the simultaneous overlay of the ancillary advertisement content.

33. The content decoder of claim 30, wherein the indication of the trigger data includes instructions for execution by the graphics processing unit to rescale the primary content whereby the primary content is simultaneously displayed adjacent to the ancillary advertisement content.

34. The content decoder of claim 30, wherein the indication of the trigger data includes instructions for execution by the graphics processing unit for coordinate-based placement of the ancillary advertisement content in the primary content.

35. The content decoder of claim 30, wherein the ancillary advertisement content includes header data, the header data identifying a preferred placement of the ancillary advertisement content with respect to the primary content.

36. The content decoder of claim 35, wherein the insertion of the ancillary advertisement content relative to the primary content occurs as a result of a determination of priority with respect to the ancillary advertisement header data and the indication of the trigger data.

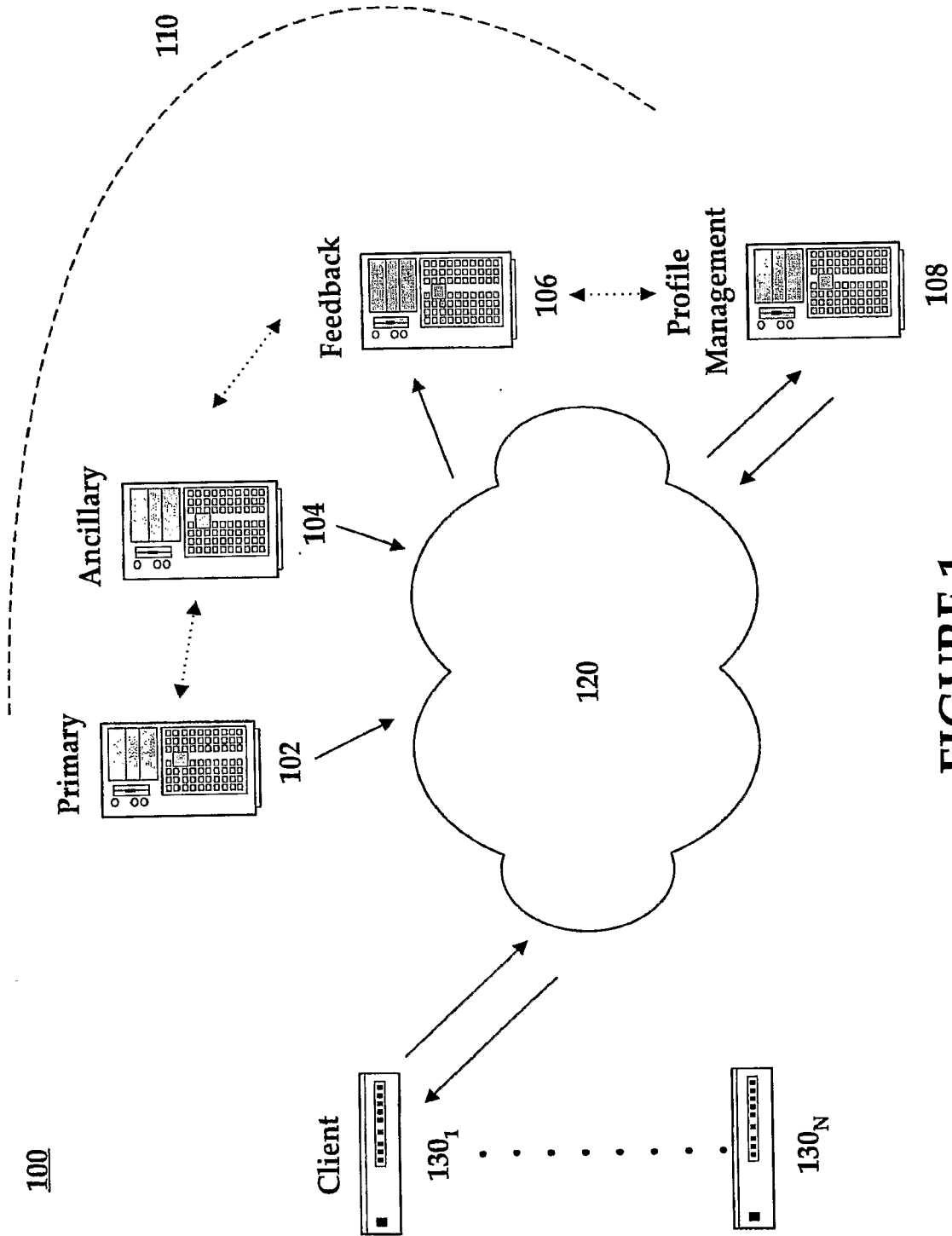


FIGURE 1

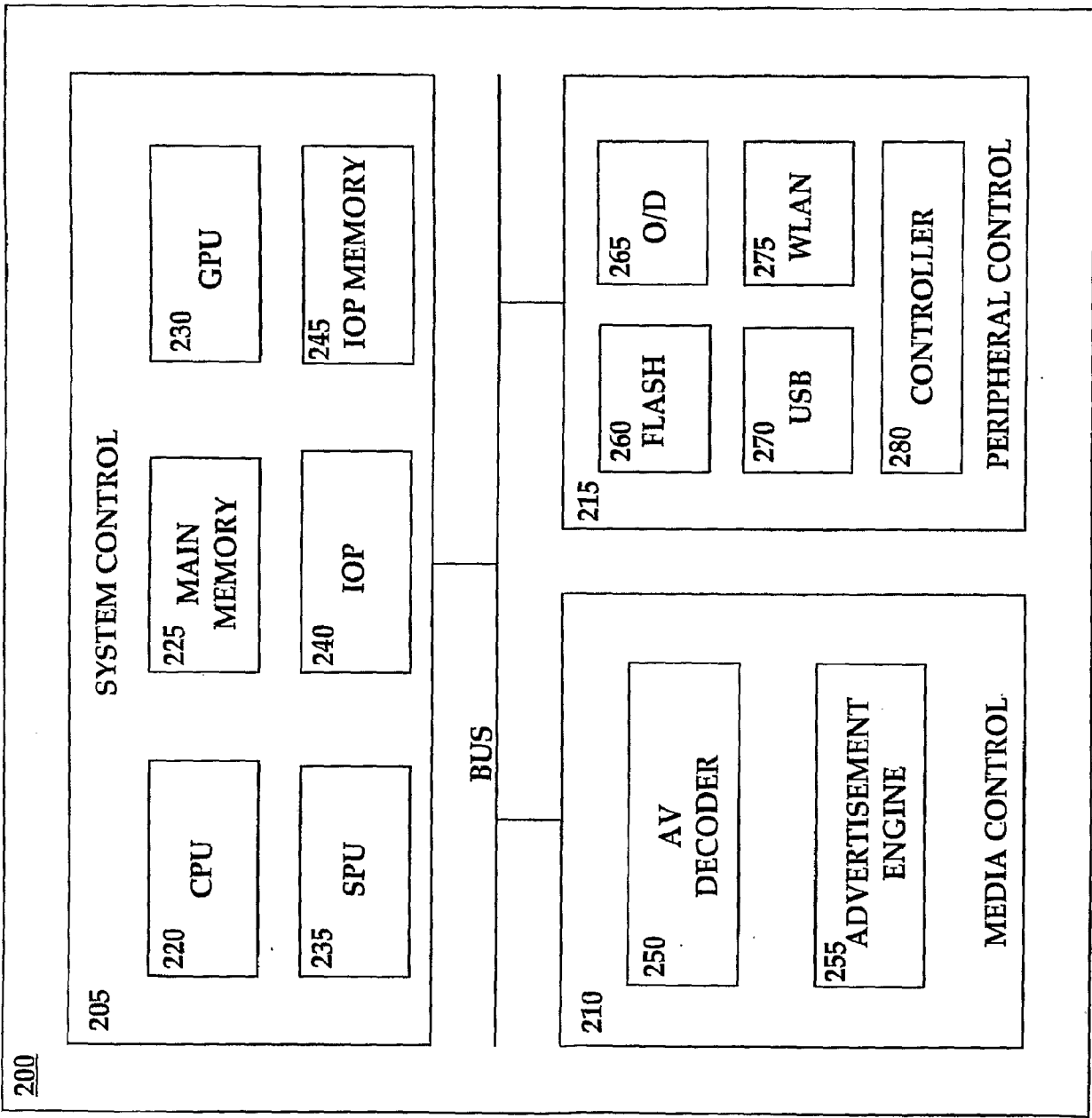


FIGURE 2

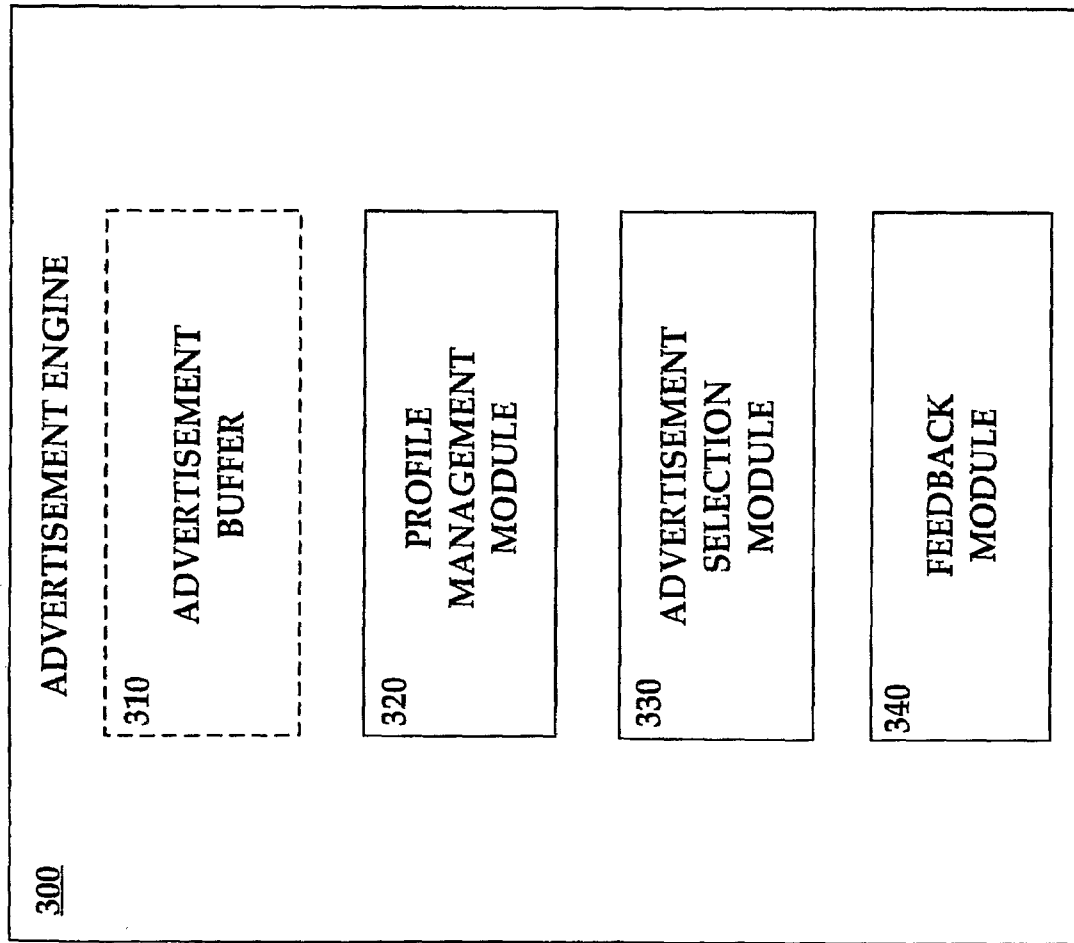


FIGURE 3

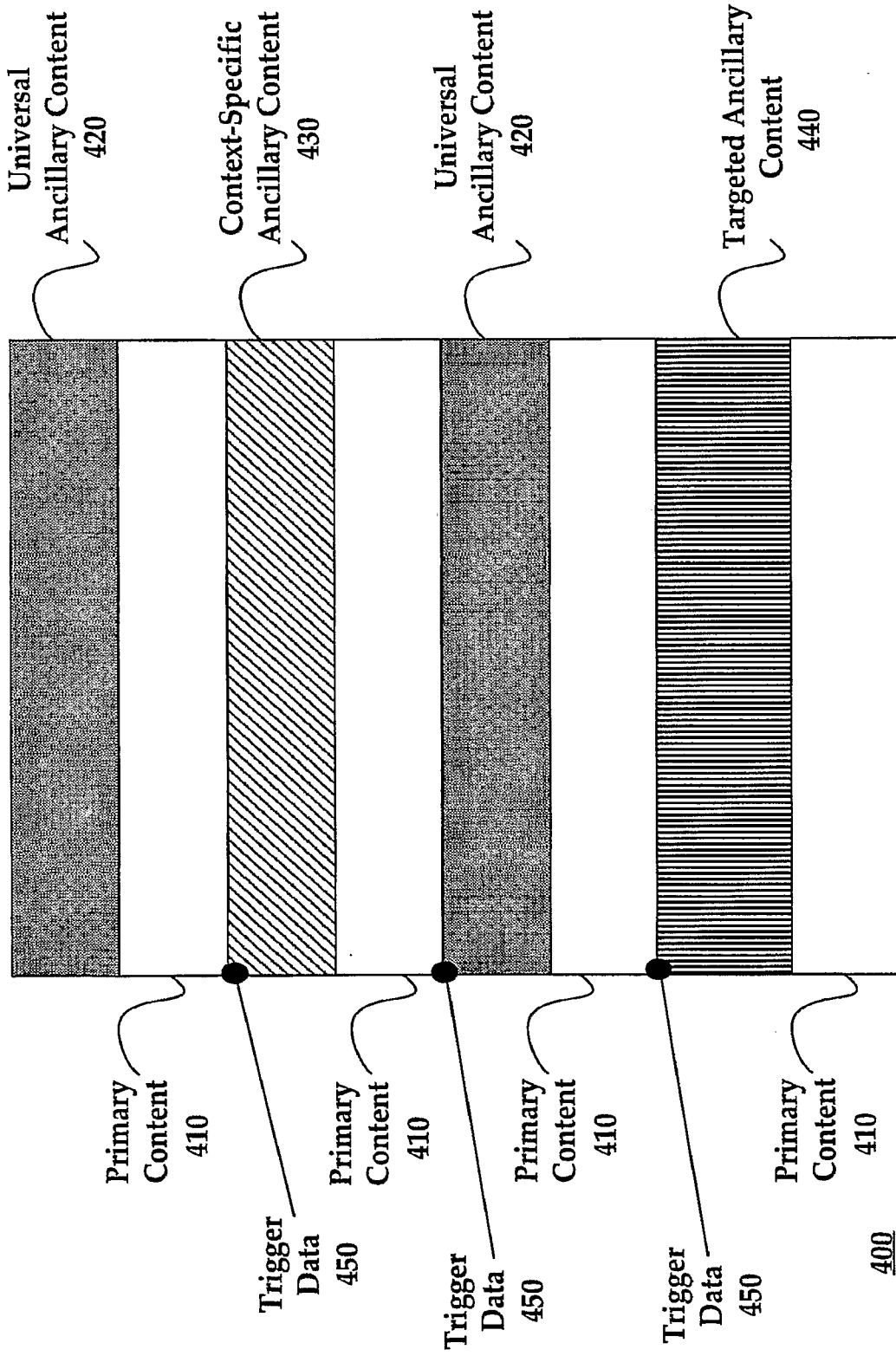


FIGURE 4

500

<u>PREFERRED</u>	<u>PREDETERMINED</u>	<u>ACCEPTED</u>	<u>REJECTED</u>
SPORTS ₁	ASSOCIATED PRIMARY ₁	SPORTS _{1,2}	ROMANCE
SPORTS ₂	NETWORK PROVIDER	ACTION	ADULT
ACTION ₁	DEVICE PROVIDER	ACTOR ₅	CHILDREN
ACTION ₂	ASSOCIATED PRIMARY ₂	REGION ₃	ACTOR ₄

FIGURE 5

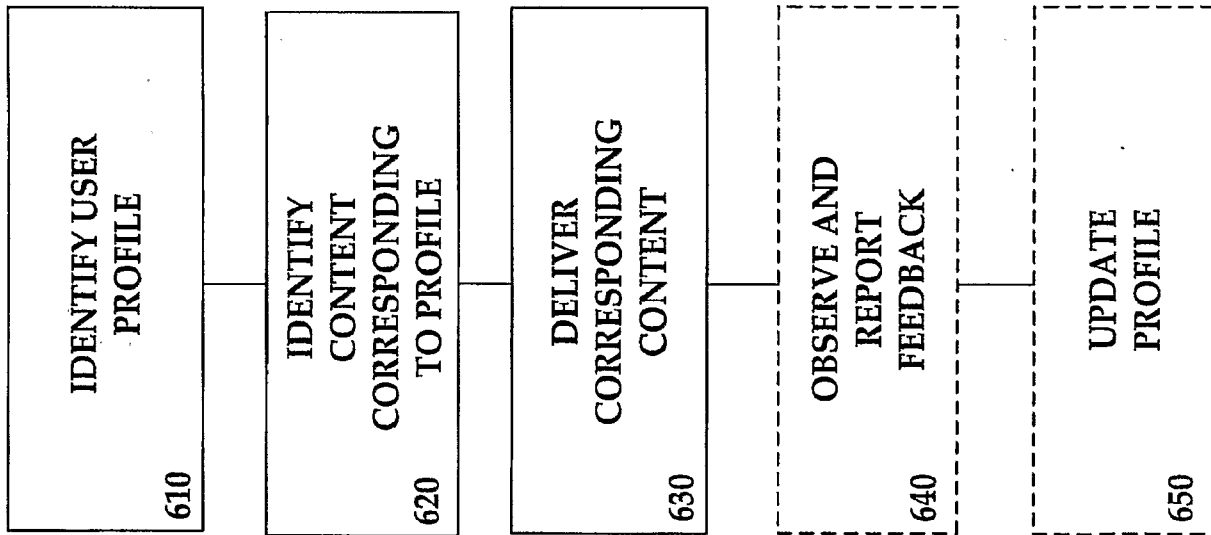


FIGURE 6