

(19) World Intellectual Property Organization  
International Bureau



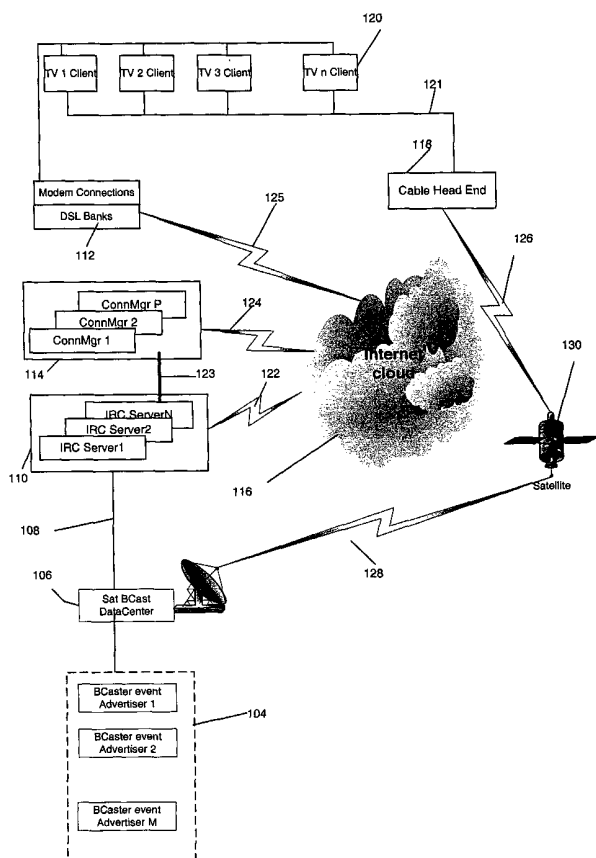
(43) International Publication Date  
16 August 2001 (16.08.2001)

PCT

(10) International Publication Number  
WO 01/60071 A2

- (51) International Patent Classification<sup>7</sup>: H04N 7/173
  - (21) International Application Number: PCT/IB01/00437
  - (22) International Filing Date: 14 February 2001 (14.02.2001)
  - (25) Filing Language: English
  - (26) Publication Language: English
  - (30) Priority Data:  
09/504,327 14 February 2000 (14.02.2000) US
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  - (81) Designated States (national): AU, JP.
  - (84) Designated States (regional): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).
- Published:**  
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: INTERACTIVE MULTIMEDIA USER INTERFACE USING AFFINITY BASED CATEGORIZATION



**(57) Abstract:** Computing devices capable of internet-networking and receiving, storing and viewing programmed (scheduled) television and multimedia content provide a platform for access to a combination of Internet and Television content and services. On this platform, a mix of character dialog and live interactive dialog (chat with offered responses) are broadcast by a connected server or servers to provide supplemental entertainment, information regarding programmed content, enhancements to scheduled television advertising, a community experience, and an interface to Internet applications and services. The dialog provides a "Social Interface" allowing fictional and non-fictional characters to interact with viewers. The fictional and non-fictional characters are each emblematic of a specific affinity group categorization, which a user personally identifies with and is drawn to. Selection of an affinity character also provides a filter for selecting internet and broadcast content associated with that character. Second level content is also associated with and mediated by each character. This provides e-commerce opportunities whereby sponsors can direct advertising content based upon factors such as the relative popularity of each character or the demographic group associated with each character.

WO 01/60071 A2

## INTERACTIVE MULTI MEDIA USER INTERFACE USING AFFINITY BASED CATEGORIZATION

### Field of the Invention

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The field of the invention relates generally to internetworking, television and television-based entertainment including prerecorded, recorded on request, and live broadcast television viewing, the Internet and television broadcast services including over-air broadcast, cable and satellite television systems. More particularly, the field of the invention relates to an interactive multi media user interface (MMUI), interacting with a user and conveying information through affinity character based presentations of Internet and broadcast media-based content. In addition, the MMUI is capable of aggregating second level content including e-commerce opportunities.

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### Background

Television is evolving into an enhanced experience where broadcast and scheduled programming is supplemented with interactive components typically using Internet related technologies such as HTML or JavaScript. The recent development of standards, such as ATVEF (Advanced Television Enhancement Forum) ATSC, DASE, and Europe's DVB, enable Internet technologies to synchronize the presentation of their content and software activities with broadcast content.

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Chat is a very popular medium on the open Internet Relay Chat (IRC) networks such as Undernet and at services like AOL and Yahoo!, Chat is a

mechanism for ad hoc communication between individuals and adds interactivity to Internet users.

5 TV Chat supports chat-based applications on the Web TV platform and provides a client platform to enable new user interfaces. Dialog is used to hide connection latency and connection state, to provide the viewer, in a mix of live and scripted dialog, with a seamless contextual dialog experience concurrent to television viewing, and to enhance advertising. Characters that entertain and inform as they communicate with the viewer are able to provide an interface to applications and services. This is described in U.S. Patent Application serial no. 10 09 / 415, 956, entitled "A Social Interface for Internet/Television" which is incorporated herein by reference.

Information regarding programmed content (television shows and internet 15 events), guidance through and supplemental enhancement of content, including advertising, messaging, online banking, educational applications and e-commerce, are among the applications and services that can be represented by the interface. Traditionally, information regarding programmed content has been available through an "Electronic Programming Guide." Interfaces to messaging 20 applications, online banking, educational applications, e-commerce and so forth have been static and driven by functional forms and so-called dialog boxes. Future interfaces may be more entertaining and transactions with the interface may be contextual conversations.

25 Four primary communication architectures are evolving in the industry upon which the current invention can be delivered. The first is the architecture represented by the first Web TV Plus deployments. This architecture combines an Internet client with a slow connection via a telephony modem with hardware that permits the reception of television broadcasts in which ATVEF triggers are

present. The second architecture is an extension of the first and permits the client to also receive broadband broadcasts of data, typically via satellite. The third architecture is broadband, a fast connection in both directions. The fourth architecture is wireless, permitting mobility. These communications architectures are complicated by the storage architecture of the clients. All clients enjoy a limited amount of random access memory (ROM, RAM and FLASH) while some carry a mass storage device such as a hard disk.

Two limiting characteristics of the foregoing communication architecture are connection state and latency. Connection state describes whether a network connection is established by the client. Latency is the time required to complete the delivery of the communication. What is needed are methods to provide the viewer a continuous, instant-on, dialog experience with the facilitation of a viewer selected affinity character, wherein high latency and a disconnected state are hidden, to the degree possible, from the viewer.

Social interfaces are a recent innovation (Nass and Reeves, "The Media Equation: How People Treat Computers, Television, and New Media Like Real People and Places", 1996, Cambridge Univ. Pr.; ISBN: 1575860538). However, attempts to implement social interfaces have not been effective, for example Microsoft's "Bob". The problem has been how to make the interface compelling enough that the user will return habitually.

What is needed is a method or system for adding depth to a social interface by providing a unique and evolving fictional universe in which social characters of the interface exist and interact. The interface would provide a viewer with a set of characters or affinity groupings that would reflect personality types to which a user would be attracted. Developing a character in the broadcast space that appeals to seniors or to a teen sports fan would determine what information, applications and

services to present to a selected class of viewer. Different characters and personalities would also determine how broadcast presentations would hold the viewer's interest.

5           Artificial intelligence and its branch, Natural Language, attempted a decade ago to build parsers that were based on English grammar. A few products were produced that provided "English speaking" interfaces to a variety of computer applications. The intent was to facilitate communication with computers for ease of use. These all failed to bring  
10           about the desired results.

            Interfaces have improved in the last decade to the current point and click Graphical User Interfaces (GUI) provided by MS Windows, Macintosh OS and others. On the TV side, Web TV browser interfaces are common.  
15           With the merging of TV with the PC and the Internet, technology is at a crossroads on how best to design a human interface.

            Conventional interfaces have been designed from the computer standpoint so that data stored in various forms can be sorted and retrieved.  
20           While the computer can retrieve data which have been programmed into the computer, the human mind can not only retrieve entire sentences, but also can reconstruct them as it pleases and attach words with emotion. The presentation of information can be more important to communication than the substance of the information. The presentation focuses and maintains  
25           the attention. While TV commercials draw immediate attention with an increase in volume, this is an insufficient mechanism to maintain user attention and interest. It is the fluctuation of sound volume, tone of voice, personal quirks and gesturers, or speaker delivery techniques that keep us absorbed and interested in media content.

Conventional interfaces are devoid of emotional content, yet there is a need to embed emotions into broadcast content. Users react positively when they receive even token emotional content in a broadcast message. Information flow is maximized when it makes an emotional impact on users. The transmission of emotional content is missing from a conventional multi media interface.

Many people have an aversion to new technology because they are not comfortable with the interface or the forced, pre-designed manner in which they must interact with computer-mediated broadcast content. It should be easy to learn a television interface, how it functions and how to interact with it. The more comfortable a user is with the interface, the quicker he implements the technology and becomes proficient in its use.

What is needed is a way to add emotional content to a graphical user interface to achieve sustained participation, concentration and maintenance of user attention. What is also needed is a way to embed emotional content and user identification into a multi-media user interface which extends the broadcast experience beyond sight and sound.

What is needed is a way to convey information which can be presented in a manner of the user's own choosing, in the form of a character provided from a list of celebrities, historical personalities or stereotypical personalities. These characters bring with them knowledge, culture, mannerisms, attributes, methods of speaking, personality or presentation techniques with which a user can be comfortable and identify in interacting with web TV and PC technology. Thus, the integration of media content

with the presentation from a character of a user's choice can contain emotional content that is missing from a conventional GUI.

### **Consumer Behavior Data Collection**

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Present interfaces raise substantial privacy issues when gathering information on users to learn how best to present the user with content or advertising of interest to the user. This has the disadvantage of implementing an extensive database of record keeping and may constitute a severe invasion of individual privacy.

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What is needed are unobtrusive methods by which advertisers can identify a user's preferences and needs. In providing an interface in which a user selects broadcast content by choosing a character affiliated with a specific affinity group, a user defines his or her behavior associations, personal preferences, market segments, purchasing behavior, dislikes, interests and needs.

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### **SUMMARY**

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A multi media user interface (MMUI) is provided, which comprises a plurality of characters, each character being emblematic of a specific affinity group with which a user identifies. The user selects an affinity-based character, which is communicatively linked with a domain or body of broadcast media or Internet content. This content can be recalled, selected, translated and presented to a user in the format of that particular character's presentation style.

25

An aspect of the invention provides a user friendly MMUI with a way to automatically segregate viewers into affinity groups with like preferences as this would greatly streamline content scanning and filtering of information.

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Another aspect of the invention provides a MMUI which provides a user friendly way for a viewer to select content of particular interest and at the same time enables program sponsors, internet service providers and other media advertisers to target specific audiences with advertising content tailored to the preferences of that audience.

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A further aspect of the invention provides a multimedia user interface (MMUI) capable of integrating broadcast and Internet content and mediating that content in a user friendly fashion. The MMUI also provides a means for scanning the enormous quantity of broadcast content and Internet information and programs, and filters that content to provide each viewer with selected and specialized content of interest to an individual viewer.

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In accordance with an aspect of the invention, a MMUI provides a display interface comprising a plurality of affinity based categorizations, each categorization represented by a specific fictional or real life character capable of generating significant public appeal, user interest and / or personal identification with the character or with the affinity group represented by the character. Each character is emblematic of an affinity-based category. For example, the affinity character may be a controversial political figure, popular recording artist, sports figure, movie actor/ actress, or the like. Each character represents a specific interest or affinity group to which a class of users are naturally drawn to and identify with .

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The user then selects a particular character that he identifies with or is drawn to. The character that the user selects acts as a demographic filter, scans incoming broadcast content and defines the subset of programs or channels to be provided to users selecting that character. The character functions as a means for filtering internet and / or broadcast content and provides the user with a pre-selected but richer set of available programs which are tailored to the selected affinity group category .

Content is immersive because a user is interacting with a character he finds interesting, stimulating and/or provocative. This interaction takes place with a character on the multi media device through visual, audio and emotional dimensions. The mechanisms for visual and audio are well known, but the emotional dimension is carried via the character's attributes, personality and delivery style. These together provide immersion in the media interface.

In another aspect of the invention, a history of interaction between a user and one or more affinity characters can be recorded over time and provided through existing means over the Internet to broadcast sponsors in order to optimize the allocation of advertising resources.

Another aspect of the invention provides e-commerce applications, since an affinity based character is capable of merging broadcast media with internet business opportunities by filtering second level or sponsor/commercial content through users' preferences or users' choices based on knowledge about the users' selected character based affinity group. The character conveys content from a plurality of secondary information sources selected and filtered through character's affinity group.



**FIG 3** illustrates the functional relationship of the affinity character in the Client and server architecture in accordance with an aspect of the invention.

**FIG 4** illustrates an example of an affinity character multimedia user interface and its components in accordance with an aspect of the invention.

### DETAILED DESCRIPTION

A method and apparatus for providing a multimedia user interface (MMUI) over a network, supplemental to and concurrent with television or any similarly broadcast content are described. The MMUI comprises a plurality of characters, each character representing a specific affinity group with which a user identifies. The user selects an affinity-based character, which is communicatively linked with a domain or body of broadcast media or Internet content. This content can be recalled, selected, translated and presented to a user in the format of that particular character's presentation style.

The following description sets forth a typical context for providing the affinity characters with a dialogue. This also illustrates the context for enabling the affinity characters to filter and mediate programming.

Referring to **Figure 1**, viewers watch and listen to audio and video entertainment and informational programming using a multiplicity of individual enhanced television devices shown as clients 120. These enhanced devices, also termed clients, include computers with television tuners, games machines, portable enhanced television devices, enhanced recording devices, and televisions enhanced with "set-top-box" devices supporting an enhanced TV standard (e.g., ATVEF) or any similar

capability for the display and presentation of content concurrent to an audio/video viewing capability. These devices are connected either permanently or intermittently to a network such as the Internet. Each client contains some amount of data storage implemented by software, memory and/or other Mass Storage Device.

As shown in **Figure 1**, network architecture includes clients 120, which may be intermittently connected to the network via a wireless or modem connection, mobile devices, including those devices using Java technology, such as Jini or the like. Clients may be permanently connected to the network via Ethernet or cable modem. Clients also are able to receive broadcast data from a satellite or other wireless broadcast. Clients can be connected also via a narrow band back channel, or any combination of the foregoing with data storage.

Sets of connection managers 114, Internet Relay Chat (IRC) servers 110, satellite broadcast data center 106, provide sources of data and services, including a transient and permanent storage service, to the clients over the network architecture shown in **Figure 1**. In particular, the foregoing data sources include a system for the delivery of formatted media such as ATVEF, a system capable of providing support for scheduled and unscheduled synchronization of data with the clients, and a system capable of delivering a real-time text, or audio, or audio/video chat stream. These data sources optionally can include a system capable of providing deferred short messaging support, or a database system containing information such as a viewer's identity and characteristics of value for or about the viewer. Alternatively, a database system may contain content programming data and other information about television, or a system capable of providing any other application such as email messaging or service such as online banking.

Referring to **Figure 1**, a production service produces Internet Relay Chat (IRC) dialog through a plurality of IRC Servers 110 for delivery to the clients. Chat is contextual to programmed content and can provide  
5 information about programming, and/or is scripted to provide an interface to the other services available.

Concurrent with the entertainment and information presented by the clients, a user interacts with the text, audio, or audio/video broadcast via  
10 chat stream dialog 123. Dialog is overlaid on the primary content or is displayed alongside the primary content. The chat stream provides supplemental entertainment and informational programming and acts as an interface to available applications and services.

Dialog in the form of interactive transcripts may be delivered to the clients ahead of playback, or delivered on demand. Dialog also can be  
15 triggered by time-scheduled playback, trigger events attached to the content being viewed by the viewer (for example, using ATVEF triggers), or in response to an interaction with the viewer. To provide the viewer with a  
20 continuous and instant-on dialog experience, dialog is played to hide the connection state and high communication latency.

Viewer's responses to chat dialog are delivered in real-time or are deferred for subsequent delivery. For example, if the viewer's client is  
25 disconnected a response can be collected by the client and delivery deferred until the client next connects or participates in a scheduled synchronization with the service. Viewer responses are also deferred when a viewer is connected – for example, if the response is prompted by a broadcast

response request (say to an advertisement) then, to avoid high traffic spikes on the network, the response is deferred.

5 Referring to **Figure 3**, dialog is associated with content, service or application. The dialog can provide information pertaining to programmed content, thereby supplementing the role of a conventional entertainment programming guide (EPG). The dialog can refer the viewer to other content; provide links or reminders to other available programmed content – for example, while watching one television program the dialog can refer the  
10 viewer to other content. The dialog similarly may capture a response from the viewer that expresses an interest in later viewing of supplemental content, permitting the dialog to present supporting material in subsequent interaction with the viewer, either during the same “session” of interaction or in subsequent “sessions.”

15 The dialog provides support to programmed advertising and product placement services, for example, offering to purchase or provide additional information on an advertised product or service on a user’s behalf, thus acting as the viewer’s agent. The dialog also provides notifications of events  
20 of interest to the viewer. These events include notification of availability of new program content, e.g., the start of a television program, incoming email, availability of an offer for a product the viewer has expressed an interest in, acting upon the viewer’s personal preferences. Where content viewing is deferred, recorded in products such as TiVo or Replay, the dialog is  
25 similarly deferred.

Dialog is fixed or variable. A richer experience is provided if the dialog stream provides multiple paths. For example, dialog should vary when viewing repeat showings of content. A client records the path taken

through a previous viewing to avoid repetition. This real-time dialog mix can form a single experience that is conversational in nature and hides connection latency and connection state.

5           In one embodiment, steps according to an aspect of the invention are embodied in machine-executable software instructions, and invention is carried out in a processor executing the instructions, as will be described in detail below. In other embodiments, hardwired circuitry may be used in place of, or in combination with, software instructions to implement the present invention.

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          An aspect of the present invention shown in **Figure 2** shows a system in which a computing device is integrated with an enhanced television receiver and ITV display 222. It is understood that interactive player 209 comprises a typical architecture for client 120 (**Figure 1**). The client architecture shown as interactive player 209 includes a processing system that executes browser software integrates broadcast media and enhanced television features. As will be described below, the client provides a platform to deliver an interactive dialog (chat) interface for viewers, a.k.a. users, that provides supplemental entertainment, information regarding content, programmed and otherwise, enhancements to advertising, a community experience, and an interface to applications on the clients and available by access to the Internet and television broadcast services.

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25           In one embodiment shown in **Figure 3**, an aspect of the invention is implemented as a system known as Future Radio on a platform known as Microsoft TV Pak with TV Chat. Microsoft TV Pak uses a standard television display to view enhanced television. An example of a Future Radio system is set forth in U.S. Patent Application 09 / 415, 956 entitled

“A Social Interface for Internet Television”, which is incorporated herein by reference. Microsoft TV Pak permits the construction of consumer electronic devices supporting enhanced television standards. TV Chat is a TV Pak application that permits the presentation of chat and the playback of pre-scripted dialog. The Microsoft TV Pak client permits television broadcasts to be overlaid with HTML and JavaScript functionality, for triggers (references to JavaScript functions) embedded in the broadcast television signal to be received. TV Chat manages the network connection to a chat server and permits real-time chat dialog and chat dialog to be displayed using the TV Pak client.

The Future Radio client is implemented as an application written in HTML and JavaScript, it uses the Application Program Interface (API) provided by TV Chat and the Internet to make connections to Future Radio servers, receive chat and playback dialog. Triggers embedded in the broadcast content synchronize and coordinate dialog with content. In accordance with the present invention, a viewer of a Microsoft TV Pak client with TV Chat can use Future Radio network applications and services provided by one or more remote Future Radio servers. The Future Radio network services are used in conjunction with software running on the Microsoft TV client system to provide, through an evolving dialog, supplemental entertainment, information regarding programmed content, for example television shows and internet events, guidance through and supplemental enhancement of content, including advertising. The evolving dialog provides an interface to applications such as messaging services, online banking services, educational applications, and e-commerce. The evolving dialog incorporates notifications of various kinds. Dialog enhancements, applications and services are coordinated in the context of



broadcast content that contains triggers to direct the course of the dialog.  
Dialog is also directed by interaction with the viewer.

### System Overview

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Viewers associate with developed characters permitting Future Radio to develop affinity based categorization of content and services. Transcripts that represent a given character apply rules of theatre discussed in the previously mentioned work of Nass and Reeves.

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Future Radio can be implemented on a Multimedia Personal Computer where it becomes a desktop supplement or replacement.

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Future Radio transcripts allow viewers to become more than spectators. When viewers (TV Clients 120) wish to contribute to the ongoing dialog, they can call in via the Internet 116 over a or DSL line 112 or conventional modem connection 125, connecting to the Future Radio or IRC server 110, and contribute chat dialog via Connection Manager 114 which performs the function of moderator or editor, who previews the dialog before it is communicatively transmitted over link 124 via Internet 116.

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Thus, the interaction stream can be broken down into atomic interactions whereby the viewer can finish the program and the character can give notification of new information. An example of how the dialog interacts with a viewer is in the presentation of second level content. Dialog of the character and viewer can continue concurrently with the dialog and program on screen. Dialog provides for the introduction of the advertisement. An advertisement can be displayed on the MMUI and a character then can make comments about the content on the screen. This

mechanism allows the viewer to become an active participant in the advertisement at his own choosing. The freedom to choose removes any subconscious or conscience sales pressure and enables a more personal connection to be made. The character can then continue dialog with viewer  
5 regarding the content and the advertising content can be linked directly to the character's dialog. Chat can also refer to the advertisement where the user selects an icon expressing preferences for affinity group.

### 10 Clients

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Clients can come on many devices including WebTV, ITV, wireless, cable set top boxes, satellite receivers, PDA's etc. This embodiment will discuss the ITV client which is expected to appear on the market shortly. The current embodiment nearest in technology is WebTV clients.

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Referring to **Figure 1**, cable transmission CATV is the typical anticipated connection 121 to consumer ITV clients 120. 120 represents generally clients with ITV, set top boxes with connectivity to the broadband broadcast media from Satellite broadcast data center 106 sources via satellite  
20 130 or alternate terrestrial based broadband broadcast transmitters. This is typically known as the downstream side. The upstream side is the modem or DSL connections 112 which provide connectivity from the ITV clients to the Internet 116. The connectivity from 112 modem/DSL, connection manager bank 124 and IRC servers 122 are all typical conventional Internet  
25 connections which include telephone, wireless, cable and all other modes.

One of the main objectives for a successfully interactive interface is to provide a consistent, flowing and sufficiently responsive environment. Whether the user is hard wired or wireless connected to Internet, when ITV

users enter text messages, they will always see their own contribution instantly, which helps preserve viewers consistency of interactive experience. ITV Client connects into Internet via the telephone/modem 112, which is typically a high latency connection. An aspect of the invention architecture is designed to minimize any and all interruptions to viewer experience and to reduce latencies while connecting into and remaining connected to the chat service. The users will be able to input text or speech in the client ITV, which will be displayed locally and without the awareness of the status of modem/DSL Bank 112 connection, which will be done in background and virtually for the user.

### **Connection Managers and Load Following**

Connection managers give sessions reliable connections in several ways. A bank of connection managers 114 will guarantee connection to a chat server 110 via the internet 116 through the typical and conventional Internet links 124 and 122. The use of IT redirection will enable multiple connect managers 114 to handle same client 120 requests. Clients may request service from a particular affinity character. The client may need a particular affinity character downloaded to facilitate the interaction from the affinity characters universe of available content. If client 120 cannot load message immediately, the connection manager 114 functions to defers message in a wait queue, but the viewer never knows message was deferred because the input is displayed immediately on the local client 120. Connection managers 114 distribute load across chat servers 110. Chat servers 110 always connect to a known number of client 120 connections and load balance across a set of connection managers 114. Thus the connection managers 114 keep an account of the network and cpu bandwidth available between themselves and also of the IRC servers 110.

Since the connection managers 114 are aware of available bandwidth resources, the total available resources are always known and they can signal to bring more connection managers 114 or chat servers 110 on-line as there is need and demand from clients 120. This is novel and different  
5 from the way chat servers operate today, as there is no way to dynamically grow available chat space with chat demand. These services provide the means to obtain client input and facilitate interactions with affinity characters and chat peers.

10 Any message from a client 120 will be posted by a responding connection manager 114 to the appropriate chat server 110 via a high-speed link 110. In the event that the connection manager posts cannot get through, the message is placed in a connection manager 114 which includes deferred response functionality, as is well known. Thus,  
15 connection manager 114 would attempt to deliver the message at preset time intervals. Concurrently, the connection manager will broadcast the notification that client 120 No. "n" is trying to send message to client 120 No. "m" Notification is broadcast to box of client "m" if not plugged in/turned on in attempt to trigger a response to connection manager 114, so  
20 that the connection manager can deliver the message. The deferred response server is thus used to support client chat to hide latency, defer response without interrupting viewer's experience even when recipient is not available to receive the message

25 A bank of Chat Servers 110 are made available to provide a means to facilitate interactivity between clients and also provide a means to increase the interactive feel of the primarily unidirectional broadcast streams through various methods such as the synchronization between chat and TV programmed event. The producer takes chat contributions 110 sent in

synchronization with Broadcast 106. Chat and voice chat are synchronized in to the programmed event. This is novel because this is a combination of technologies; Broadcasts in real-time and deferred response provided to TV viewer; provides a seamless and synchronized response to each view in the context of Broadcast environment; defers responses to provide viewing experience continuity; hides system congestion and latencies and enables clients to carry on communication in concert with mutually scheduled programmed or broadcast content.

Broadcaster Events and Advertisers 104 are embedded into the response stream at the Broadcast Data center 106. This infrastructure to broadcast scripts to chat 110 or affinity characters 123 are enabled by triggers embedded in Broadcast content 128. In addition, the return leg 126 includes response triggers to play transcripts from clients 120.

For example, a General Motors (GM) advertising transcript associated with a GM advertisement within Broadcast event 104 maybe embedded at the Satellite Broadcast Center 106 for eventual transmission 128 to the client 120. ATVEF triggers inserted command the GM ad 104 is inserted into broadcast 128. Ad is broadcast to viewers 120. Then ATVEF trigger restarts the Chattercast or whatever programming was occurring at client 120.

Connection managers 114 will handle thousands of transitory connections by clients 120. Connection Manager hands an IP address to chat server, which It knows can connect to promptly, based on load and bandwidth resources available and load and bandwidth required with additional connection. Connections are virtual to client, not permanent. The Connection manager may service an affinity character request as well.

The message from client maybe destined for virtual room, associated with the Broadcast (sports, news, education, etc) event. The viewer need not select a chat room associated with a Broadcast event. Thus, viewer is not permanently connected to a chat room.

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In contrast to current chat, any content and multicast IP is virtualized by system. Chat rooms are ad hoc created by convention or by user request. In an aspect of the instant invention chat rooms are strongly bound to broadcast contents such as: Website (programmed event), Broadcast event, Sporting event or some Internet event. Affinity character universe of content is also brought to limit the available content to a manageable set of sources.

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Forward traffic, also know as downstream traffic, is handled by the “head end” 118 injected into the cable system and ultimately into the cable “trunk” 121 for subscribers. Alternatively, a Local Multipoint Distribution Service LMDS can function in parallel to provide a conduit return path for the downstream leg of the packaged broadcast 126 content to the subscribers 120 where cable is not available. The combined downstream video traffic to the ITV clients emanates from the head end 118 and into a trunk cable 121, splitters, feeder cables and finally drop cable to subscribers 120.

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Satellite Data or head end, ATVEF: triggers can be inserted in signal before data center head end or at the data center head end or advertisement may have been inserted in advertisement, varies according to standard. Second level content in response to clients request can likewise be handled.

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**Figure 2** shows a high level view of an embodiment of interactive TV

(ITV) client architecture for supporting affinity group characters according to an aspect of the invention. The transport of the broadcast stream occurs using any multicast or broadcast protocol, for example Broadcast Protocol, ATVEF Transport B (protocol stream 206) from the TV broadcaster with potentially additional in-band or out-of-band content. The unidirectional broadcast protocol stream 206 also carries embedded triggers, such as ATVEF triggers with the same syntax as in triggers in Type A transport, in the broadcast data stream. These triggers provide hooks used in tandem with the interactive packaged IRC stream 208 at the interactive player end 209 to merge these two streams by time shifting and splicing them at element 219 into one data stream. This protocol includes HTTP style headers to package the file, which also includes information describing the content type, content location in the form of a URL, and meta-information such as date/time stamping. The interactivity received in the IRC session or interactive package stream is then integrated 219 with the associated parallel unidirectional broadcast stream ultimately to be viewed 222 to provide a truly interactive experience, hiding all latencies. This enables chat users to experience a simulated creation of broadcast stream content due to the time shifting of the chat into the broadcast stream.

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The interactive TV show also can be recorded by the Storage Manager 220 and played back at a later time by the Playback Manager 210. The Storage Manager 220 facilitates the operations of saving the incoming data streams to storage media (DVRs are currently using disk storage) and intelligently manages the storage space allocation, prediction of sufficient space for integrated program data streams, and copying integrated streams to other users for synchronized playback at a later time. This same technology can use typical floppy, DVD, CD-ROM devices and the DVR to connect and download to other web clients.

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Cable transmission also may provide a connection to consumer ITV clients, but it is not the only transmission method. Satellite broadcasts 204 provide a source for broadcast ITV programs for clients 209. Clients  
5 typically are provided with ITV coupled with set top boxes with connectivity to the broadband broadcast media. Broadcast media include satellite broadcast data center 204 sources via satellite, or alternate terrestrial based broadband broadcast transmitters. The transport of data typically is provided over a multi cast or broadcast protocol such as ATVEF Transport  
10 B provided with triggers such as ATVEF triggers. The upstream side comprises a modem or DSL connections 208 which provide connectivity from the ITV clients to the Internet and ultimately to IRC servers 202.

One of the main objectives for a successfully interactive interface is  
15 to provide a consistent, flowing and sufficiently responsive environment. Whether the user 209 is hard wired or has a wireless connection to the Internet, when an ITV user 209 enters text messages, he always will see his own contribution on screen 222 instantly. This advantageously preserves a viewer's consistency of the interactive experience. To preserve and  
20 enhance the user's interactive experience, a user can input text or speech in the client ITV 222, which will be displayed locally and without the awareness of the status of the connection. The transmission of chat text from user 209 to the server 202 is done in the background, virtual to the user and establishes a virtual channel for the user without further inputs  
25 from the user. This is accomplished at 219 by a means for integrating the various data streams using the intelligent scheduler and affinity character function 216, and timer function 218. The means for integrating can be any conventional means for integrating triggers inserted with time stamps and qualifiers for merging data streams, in various techniques known to those



skilled in the art of data stream manipulation. Streams of data are stored in Storage Manager 220 in a conventional manner. The streams of data can be played back at a later time by Playback Manager 210 in various modes. Further editing can be accomplished for modifying the data using the video object selection 212

Chat and voice chat are synchronized into the programmed event 219 with use of tags, such as ATVEF triggers, in the multicast or broadcast data protocol. This aspect of the invention offers a combination of technologies not previously employed in this manner. TV broadcast in real-time can be provided by Playback Manager 210 and a synchronized deferred response is provided to TV viewers 222, to achieve a seamless and synchronized response to each viewer 222 in the context of a broadcast environment. Alternatively, an aspect of the invention defers responses to provide viewing experience continuity. This advantageously hides system congestion and latencies and provides apparent interactivity by time shifting of the parallel broadcast program and chat session interactive packages and buffering the integrated streams via the storage 220 and the playback functions in the DVR 215.

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### **Broadcaster Events**

Current chat rooms are created ad hoc by convention or by user request. This infrastructure provides broadcast scripts to chat by interactive package triggers embedded in broadcast content 206. The message from client interactive player 209 is destined for a virtual room or a remote interactive player, closely associated with the broadcast content of the event 206 (sports, news, education, etc). The viewer need not select a chat room associated with a broadcast event and also the viewer is not

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permanently connected to a particular chat room. These functions can be intelligently chosen via the affinity group associations 216 or broadcast event/chat group associations. The interactive player scheduler component 216 provides a database with programmed schedule capability using  
5 embedded triggers and action events. This player capability is multi source, in that it can be scheduled to download, process, time shift, display and store programs as well as programmed download interactive programs from remote web players. This programmed download of interactive program content adds the advantage the not all wanted programs need be  
10 stored locally, but shared on demand. In contrast to conventional chat, any content and multicast IP is virtualized by the system.

An aspect of the invention provides chat rooms which are strongly coupled to broadcast content such as a Website (programmed event),  
15 Broadcast event, Sporting event, and so forth. ATVEF triggers as well as in-band and out-of-band tags can be inserted in the signal 206 at the data center head end or may be inserted in advertisement content.

### **DVR Framework**

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The DVR Box components, Playback Manager 210 and Storage Manager 220 contain the following functions and hardware architecture:

a) Capability to record multiple streams of data of differing format  
25 (broadcast or chat) from a range of broadcast channels (1-500) and a range of IRC chat groups concurrently.

b) Capability to integrate the different data streams (channel and formats) together; using multicast or broadcast protocol Transport B

triggers, using imbedded triggers such as ATVEF Triggers and software functionality.

5 c) Capability to offer basic features for the integrated data, such as storage, playback in different modes, Click on Pause, Fast Forward, Fast Reverse, editing features, timer, selections stored programming 220, programming interface or the like. Thus, this capability comprises all the usual DVR recording features plus enhancements for the composite broadcast/IRC interactive data stream 219 media. Regardless of the run  
10 mode, interactive integrated or stored programs are synchronized with chat and the broadcast data stream, such that they appear together in time.

### **Component Functions**

15 The Gatekeeper 217 establishes connections from the web or broadcaster sources using accepted protocols, such as a multicast or broadcast protocol, for example, ATVEF Transport B, and provides basic functions such as security, initialization, handshaking, connection formats and establishment, format selection, or the like.

20 The data stream time shifter/ splicer 219 provides a means for integrating, time shifting, and splicing of the broadcast data streams 206 which are preferably in a format such as multicast or broadcast Transport B, having embedded triggers such as ATVEF triggers. The foregoing data  
25 streams are integrated with the associated IRC data stream 208 from the servers 202.

The time shifting and integration of the two streams at 219 are done by placing the chat dialog 208 which corresponds to the broadcast TV

program 206 inside the same window so that it appears to be occurring simultaneously interactively in one program. Synchronization and continuity smoothing are done using the time stamp and various resource tags embedded in the broadcast stream and the IRC commands embedded in the IRC stream. The available announcement protocol, tags, data transfer features, header details and extension, delivery, content format, UHTTP extensions, resource packaging (IETF RFC 2387), URL schemes and triggers can be found in the ATVEF content specification and the IRC commands can be found in the associated IRC server manuals.

10

Interactive packages embody interactive components that are played back concurrently with video objects, time shifted together to form one composite stream. The time tags are used to synchronize the integration of the two streams, wherein the time shifting of packages into one stream are done at a sufficiently small granularity to produce a smoothly flowing resultant integrated stream. The Timer 218 and Scheduler/Affinity filter 216 provide a Future Radio affinity range of selections which are used to record selected programming while the viewer is away from the client 209. Reminders established by others in a DVR application can change the affinity group selection or "bias" of the affinity filter 216 in a manner to permit a range of content to be recorded that meets the interests of an entire family.

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Manual Program Record Selector 214 provides non-scheduled viewing. However, in a DVR application framework, Chat on Television programming can be scheduled for synchronous playback, thereby permitting a show to be broadcast as normal and the interactive version of the show scheduled to be played back synchronously with interactive packages subsequent to the original broadcast. This time shifted scheduled

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interactive chat on television feature is useful for programming such as a sports event in which a game can be recorded and subsequently replayed synchronously by the audience in an interactive mode. In the interactive mode, the original broadcast program has been merged with the interactive packages of the IRC chat, Chattercast, Future Radio or other interactive packaged content and provides the interactive look and feel to a typical unidirectional broadcasted program.

The Video Object Selector 212 works in conjunction with an interactive packet selector display device 224, which may be a light pen, keyboard, remote device, light pointer wireless device or any other device with the capability of enabling the user to select broadcast video screen 222 segments which would be manipulated interactively. This advantageously can exploit the properties of the MPEG-4 format standard to allow interactive segments to be decoupled and modified in broadcast data streams, and in like manner providing another dimension for user interactivity.

The Storage Manager 220 can be deployed using a modified DVR device, such as TiVo to provide data stream storage allocation, space capacity availability, storage estimation and prediction for programmed storage, web content copy facility and efficient stream merging and management. These functions readily can be enhanced from current DVR functions, to handle the composite broadcast/IRC data streams. The ATVEF Transport Type B provides the underlying protocol to accomplish the data transport functions and information which can be used in the storage management of the interactive ITV streams.

The Playback Manager 210 also can be deployed using a modified DVR such as TiVo to provide typical operating modes such as normal viewing, fast forward, fast reverse, rewind, timer, speed select, and pause on click functions. Time shifted playback in Chattercast enables Chattercast scripts associated with a recorded show to be maintained until the show is played. Viewers can choose to watch either the regular show or the Chattercast. Using DVR features during Chattercast and Future Radio, Chattercast can be authored to be consistent when a viewer utilizes the Pause, FForward, and Rewind features of the DVR application framework.

### Application Overview

In one embodiment of the invention, an interactive contextual chat experience termed Chattercast is provided current with television programming. Chattercast contextual dialogue enhances program sponsorship and paid advertising, is designed to enhance the viewer's TV viewing experience and works both online and offline. Viewers, using only a remote control to respond, are led down a path of interactive dialogue that prepares them for interaction with the show's producers, advertisers and sponsors. Chattercast dialogue is a combination of dialog and real-time chat – dialogue is delivered to Microsoft TV clients before it is required. Triggered mass responses (for example, to advertising) are collected on a deferred basis. In one embodiment, affinity characters provide a mix of live and pre-scripted dialog for the purpose of delivering a social interface to community, entertainment, or information, services and applications that run concurrent to broadcast content.

Affinity characters, fictional or real, provide dialog which is supported by episodic stories presented in the available media – these stories

may be presented using conventional television broadcast or an Internet based media. A fundamental problem facing attempts to build social interfaces for computers in the past has been how to make the interface compelling enough that the user will return habitually to use the agent as the interface to any given computer system.

The affinity character based MMUI can be implemented on a Multimedia Personal Computer where it becomes a desktop supplement or replacement. An example of how an affinity character can interact with a viewer is in the presentation of second level content. Dialog of the character and viewer can continue concurrently with the dialog and program on screen. Dialog can provide for the introduction of an advertisement. The advertisement can be displayed on the MMUI and the character then can make comments about the advertisement on the screen. This mechanism allows the viewer to become an active participant in the advertisement. The character can then continue a dialog with a viewer regarding the program content. Or, advertising content can be linked directly to the character's dialog. A Chat dialog also can refer to the advertisement when the user selects an icon expressing preferences for an affinity group.

Referring to **Figure 3**, Internet cloud 300 represents all available content on the Internet and some broadcast TV content. This source of content is accessed by the invention server 302 which also communicates bi-directionally with the content broadcaster 304 using the available transmission media and industry standard formats. The content is received by the enhanced content broadcaster 306.

The enhanced content broadcaster 306 provides the Future Radio service after integrating the broadcast content using the enhanced television

standard. The current standard used in the embodiment is the ATVEF standard, and enables the embedding of triggers in the broadcast by the content broadcaster in real-time or in advance of content type triggers. The Future Radio service is then available to Future Radio clients 310.

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Further referring to **Figure 3**, a plurality of affinity group characters 314 are displayed to a service client 310 on a multimedia display 320. The user then selects a particular affinity group character based upon the user's own preferences and personality. The selected affinity group character is then displayed on the multimedia display 320. Also shown on the display 320 are the text 316, web or ITV content 318 and any broadcast content. The selected character acts as a filter and scans incoming content by selecting channels, programming, or second level content for the viewer to receive. The affinity character also provides a simple and effective means for filtering and selecting programs to be recorded for later playback 210 to a viewer 222. The content is naturally preferred by the user, because the selection of program content is based in accordance with the selected affinity group category and the predetermined preferences of the user that the affinity character represents. For example, a Winston Churchill affinity character will have interests in current events, conservative politics, perhaps golf, and entertainment preferences. These would comprise affinity character parameters through which available broadcast content would flow to the client upon request. For example, the Churchill character attributes and preferences would be used in parsing the Electronic Programming Guides( EPG) applicable to a client's area for broadcast content which is defined within these parameters. This would enable a client to filter thousands of programs into a specific subset matching the Churchill parameters. An example of a filter would be the use of one or more string searches on the EPG which would discard all programming that did not fall

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within the parameters and interests defined by the Churchill affinity character. As internet and broadcast space implement MPEG 4 format, video objects will be searchable. Thus, objects in broadcast content also can be parsed in accordance with techniques which are well known. Such searches  
5 can be further qualified or refined by the client with the character dimension option 420, or the character operator functions 422 and 424 to enable content to be further defined using standard Boolean techniques. For example, this would enable a client to obtain the union or intersection of the subsets of one or more affinity characters. Thus, a bounded set of desired  
10 programming content can be derived through the parameters of the affinity character .

Although content selection and collection 309 and filter content refinement into affinity category 311 are shown to be resident on the client  
15 for this embodiment, this may not be the structure for other embodiments. These functions could very well be resident on the service servers to provide the means to more efficiently select, collect and filter affinity group content from Internet 300 and content broadcasters 304. The embodiment shown in Figure 3 may be used to define the “universe of content” comprising TV  
20 broadcast channels wherein each character is associated with a subset of the “universe” of 500 plus broadcast TV channel content. It is expected that soon more house holds will have 500 or more channels of TV broadcast content to choose from and with half hour increments of possible discrete programs over 24 hours one is faced with a sizable task to determine which  
25 shows from a universe of 24,000 (500 channels \* 24 hours \* 2 shows/hour) show broadcasts they would choose to watch. The affinity character would be associated with a subset which the viewer could then rely on to quickly reduce the number of options so that the viewer could more quickly find and

select the show or shows that the viewer will wish to watch on any particular day.

5 The affinity group character acts as a demographic filter, which optimizes the selection of content presented to a viewer. Each affinity group character represents a lifestyle, personality type, presentation style and corresponding broadcast content with which a user can identify. In accordance with an aspect of the invention, the selection of a particular affinity group character provides pre selected broadcast content for real time  
10 or delayed recording and playback to a user.

The affinity group character facilitates the selection of internet content and broadcast content by exploiting the viewer's preferences. Each affinity group character is associated with a corresponding set of channels  
15 carrying specific broadcast content related to the lifestyle, personality, preferences or other characteristics represented by the affinity group character. The viewer's preferences are known by the viewer's selection of a particular character. Thus, broadcast content for a user can be pre selected automatically through selection of a particular affinity group  
20 character. When different content appears in the character's universe of content, the interaction history of the affinity group character with a viewer can provide direction for selection of content based on prior indication of interest and non-interest in any particular area.

25 This aspect of the invention advantageously can create e commerce opportunities as well as provide second level content tailored to a specific audience. This also provides the sponsor of programming content with crucial information concerning where to allocate advertising resources.

## Second Level Content

5 It will be appreciated that an aspect of the invention significantly  
enhances e-commerce opportunities since the user identifies with and  
naturally wants to view and assimilate the content mediated through the  
corresponding affinity group character which the user has selected. This  
also establishes a virtual relationship between a viewer and the specific  
10 affinity character the viewer has selected from the list of affinity-based  
characters. Referring to Figure 3, the affinity group characteristics filter  
311 filters the universe of broadcast content and Internet information,  
taking only the programming, content or channels relevant to the selected  
affinity group. From the implementation point of view, the producer of  
15 each character makes an editorial decisions and hueristics about broadcast  
content that fits the character's affinity group. This may include the  
characters demographics, personality, known and celebrated quirks or  
penchants, social class, demeanor, preferences, know proclivities,  
interests and the like. Each character is unique and commands a certain  
20 "universe" of content, elements of which are linked to by various methods  
like intelligent search engines, available libraries and sources, pre-search  
lists with links and pointers and custom software developed for the  
individual affinity group.

25 This provides e-commerce advantages, wherein the producer may  
bias or preferentially select content for mediation through the character on  
the basis of sponsorship. This content stream is then engaged with a  
regulation means 312 which provides a means for switching information  
stream content from chat to commercial, called second level content,  
which can be directed by users. The sponsors can also link advertising

content based on affinity group characters and associated content such that audiences selecting those characters would more likely purchase the sponsor's products.

5           For example, a user could select on a displayed feature of a female affinity group character to ascertain what brand of coat, lipstick, tooth  
paste, hair coloring etc, the character is using or which appears on the  
screen. The response then could be displayed on the text portion 316,  
vocalized by the affinity group character or displayed on web TV 318  
10           portion with additional purchase or ordering information. In accordance with an aspect of the invention, any item can be selected for secondary information. Note that the secondary information is mediated or filtered through the affinity group parameters and reflects the preferences and content of the selected affinity group and thus the user.

15           This advantageously enables program sponsors and advertisers to optimize advertising resources by directing advertising content to those viewers who are most likely to support the sponsors. Using methods that are well known, the sponsors also can determine the relative popularity of  
20           each affinity group character. In accordance with an aspect of the invention, the sponsors then can target the largest possible receptive viewer audience with advertising content by filtering that content through the most popular affinity group character.

25           For example, a viewer watching "Private Ryan" could select a feature such as a tank and activate a dialogue with the corresponding affinity group character concerning tank battles of World War II, such as El Alemain, Kursk-Orel and so forth. The affinity group character doesn't overly distract the viewer; he simply can register interest. The affinity

character also can present second level content at a later time for playback after it has been selected by user 309. In this way, the affinity character acts as a filter for mediating content based on a user's expressed interest. The service affinity characters would recognize viewer preferences and pass  
5 information on to content broadcasters for future display of content. From a service point of view, affinity group characters have popularity through use, which provides sponsors with valuable market and e commerce information.

In accordance with another aspect of the invention, an active  
10 feedback loop is provided at 322 (Fig 3) from the subscriber Client 310 to the service Server 302. This provides a means for determining a viewer's personal preferences, while securing the viewer's privacy. Tracking each affinity group character's popularity with multiple viewer's provides  
15 information about a viewer's preferences without the need to resort to record keeping on a user's interactions with his computer or other intrusive or covert means for gathering personal information. The aspect of gathering information about an audience by tracking the affinity group character's popularity provides a non invasive, non intrusive means to collect  
20 information on a user's needs and wants without having to collect, assemble, store and mine large databases to determine consumer needs and preferences.

**Figure 4** illustrates an example affinity character multimedia user interface and its components. The affinity group categories 402 can be  
25 displayed by many modes, one being the a display button 404 which unrolls a list or universe of characters 406 from which a user can select a character emblematic of a particular affinity group. This can also be accomplished aurally via a wireless pickup 410 using a wireless technology such as Blue Tooth. This adds to and extends the multimedia interface to other control

devices. A microphone 412 which will respond to voice commands can be used as well. A possible screen layout is shown at 400 with the affinity character displayed in a smaller window 414 on the upper right of the screen 400. For example, when selecting a character associated with MTV, the MTV "show" is displayed at 418 on the major portion of the display screen with the text 416 displayed on the bottom of the screen. Sub categorizations of affinity can further subdivide the affinity characters universe of associated content. These sub categorizations or character dimensions can enable a user to more quickly narrow down and rank the options of interest without the arduous task of parsing lengthy lists. For example, selecting an affinity character 408 can bring up a submenu of affinity characters dimensions 420 from which the viewer can choose some particular aspect of an affinity character such as preferences, peer associations, relationships, sports interests, hobbies, politics, other interests, business associations, affiliations and the like. These higher dimensions, characteristics or attributes of an affinity character narrow the search over the sub universe of content and return a richer, smaller set of alternatives to the viewer quicker.

Feedback loop 322 signals which affinity group characters are preferred. This provides a non-intrusive, non-invasive method of determining a character's popularity, which is useful in determining not only users' preferred viewing content, but also producer, sponsor and advertiser content. The affinity character interface itself is provided with a means for storing each character's interactions with the user. Thus, it is the character's actions that are tracked, not the user, thereby protecting the user's privacy. It can be appreciated that the affinity group character provides sponsor information and e-commerce opportunities with respect to a to user without burdening the user with myriad choice overload. The facilitation works both ways, servicing the user's needs for entertainment and information without

information overload or loss of privacy, while enabling producers, sponsors and market researchers to obtain information to obtain valuable information concerning each demographic group associated with the selection of a specific affinity character.

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It is foreseeable that viewer's will wish to combine two or more affinity character associated content in various ways. A GUI widget, scroll button, combo box etc, can be provided to allow the selection 422 and operation 424 on affinity character content to produce the intersection, union, inverse, reverse etc of the combination of affinity characters selected. This provides ways to broaden or narrow the selection universe through the finite set of affinity characters available.

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While this invention has been described in connection with what are considered to be the most practical and preferred embodiments, it is to be understood that the invention is not limited to the disclosed embodiments, but on the contrary is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.

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For example, interaction between the viewer and the affinity group character can be spoken, initiated by a mouse click, or by any other convenient means of initiating communication. For the purpose of explanation, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be evident, however, to one skilled in the art that the present invention may be practiced without these specific details. In other instances, well-known structures and devices are shown in block diagram form in order to facilitate description.

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Therefore, persons of ordinary skill in this field are to understand that all such equivalent arrangements are included within the scope of the following claims.



**Claims:**

1. A multi media user interface for providing affinity based categorization of internet or broadcast content comprising:

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a plurality of affinity based categorizations, each associated with a display character representing a personality type, historical personality, caricature, stereotypical character, celebrity, social class, or like category that a user identifies with or is drawn to;

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a universe of broadcast content existing on the Internet or media broadcast space, wherein each display character is associated with and communicatively links to a subset of the universe of broadcast content, such that the character's intrinsic characteristics and qualities define the subset of broadcast content associated with each character;

15

means for selecting an affinity group character, and

means for displaying the selected character and the broadcast content associated with the selected character on a multimedia display device such as a web TV display, headset display, PDA or the like.

20

2. An interface as claimed in claim 1 wherein said Internet and broadcast media content is filtered through the affinity group character such that selection of a particular character accesses a subset of the internet and broadcast media content defined by the affinity character's characteristics, personality, attributes, preferences, social class, politics, cast or interests.

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3. An interface as claimed in claim 1 or claim 2 wherein means for selecting the affinity character provides sub categorizations, such as the affinity character's preferences, peer associations, interests, relationships, hobbies, sports interests, or the like, which are selectable and further sub divide the character's associated  
5 subset of broadcast content.
4. An interface as claimed in any of claims 1-3 further comprising means for targeting broadcast programming to a desired audience by associating the broadcast programming with the affinity group character selected by that audience.  
10
5. An interface as claimed in any of claim 1-4 further comprising record keeping means responsive to affinity group selection and communicatively linked over the internet with one or more broadcast sponsors for enabling advertising content to be directed to a target audience by associating the advertising content  
15 with the affinity group character most often selected by the target audience.
6. A multi media user interface including a plurality of affinity based characters for display to users comprising:
- 20 a plurality of affinity based categorizations, each associated with a display character emblematic of a specific category, such that each category appeals to an affinity group of users having like preferences; and
- each character is associated with and communicatively linked with a  
25 specific subset of a universe of content existing on the Internet or media broadcast space;

feedback means associated with each character for storing character / user interaction information, such as the number of times the character is selected for viewing by users and the duration of time for each selection;

5 means responsive to said feedback means for determining allocation of advertising content based on said stored character / user interaction information ; and

means for displaying the affinity characters and content associated with the  
10 character on a multimedia display device such as a web TV display, headset display, PDA, or the like.

7. An interface as claimed in claim 6 wherein said interaction information includes: number of times each affinity group character is selected, time viewers  
15 spend interacting with each character, number of users selecting each character.

8. An interface as claimed in claim 6 or claim 7 wherein feedback means includes active feedback means for recording a character's history of interactions with a user for implementing like interactions such that a virtual relationship  
20 between an affinity character and user is established.

9. An interface as claimed in claim 6 or claim 7 wherein feedback means provides information about the content preferences of users selecting a particular affinity group character such that user privacy is protected.  
25

10. An interface as claimed in claim 6 or claim 7 wherein feedback means provides sponsors with commercial preferences of users selecting a particular affinity group character.

11. An interface as claimed in claim 6 or claim 7 wherein the feedback means further comprises means for enabling a user to interact with an affinity character during the display of advertising content and through said interaction, effects alteration of the advertising content display.

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12. An interface as claimed in claim 6 or claim 7 wherein feedback means comprises means for tracking an affinity character's interaction with a user, such that tracking interactions of the affinity character acts as a buffer to protect user privacy and anonymity.

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13. An interface as claimed in any of claims 6-12 wherein feedback means further comprises means for providing sponsors with information of commercial value by user selection, while safeguarding user privacy

14. An interface as claimed in any of claims 6-13 wherein feedback means further comprises means for directing advertising content to an affinity group most likely to be receptive to the advertising content.

15. An interface as claimed in any of claims 6-14 wherein the selection of the affinity character further comprises a means for selecting and storing broadcast content for later playback to the user making the selection.

16. A multi media user interface comprising:  
a display for displaying internet and broadcast media content;

a plurality of affinity group characters, provided on said display for viewer selection such that a viewer selects a character he identifies or is otherwise drawn to, and the selected character then hosts the broadcast media content for the user;

means for associating one or more subsets of broadcast and media content with each affinity group character, such that selection of that character enables viewing of corresponding broadcast and media content associated with the selected character;

5

means for enabling interaction between the viewer and the selected affinity group character wherein the interaction relates to and further amplifies the broadcast and media content hosted by that character..

10 **17.** An interface as claimed in claim 16 wherein said interaction with the affinity group character comprises the display of advertising content relating to what is seen on the display.

**18.** A multi media user interface for providing affinity based categorization of broadcast content comprising:

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a plurality of affinity based categorizations, each associated with a character emblematic of a specific category, and based on a personality type, historical personality, caricature, stereotypical character, celebrity, social class, cast, or personality that a user identifies with or is drawn to;

20

a universe of content comprising a plurality of TV broadcast channels, wherein each affinity character is associated with a subset of said broadcast channels, the subset bounded by the affinity character's known characteristics, personality, attributes, preferences, social class, politics, or interests;

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means for selecting the affinity group character; and

means for displaying the selected character and the content associated with the selected character on a multimedia display device such as a web TV display, headset display, PDA or the like.

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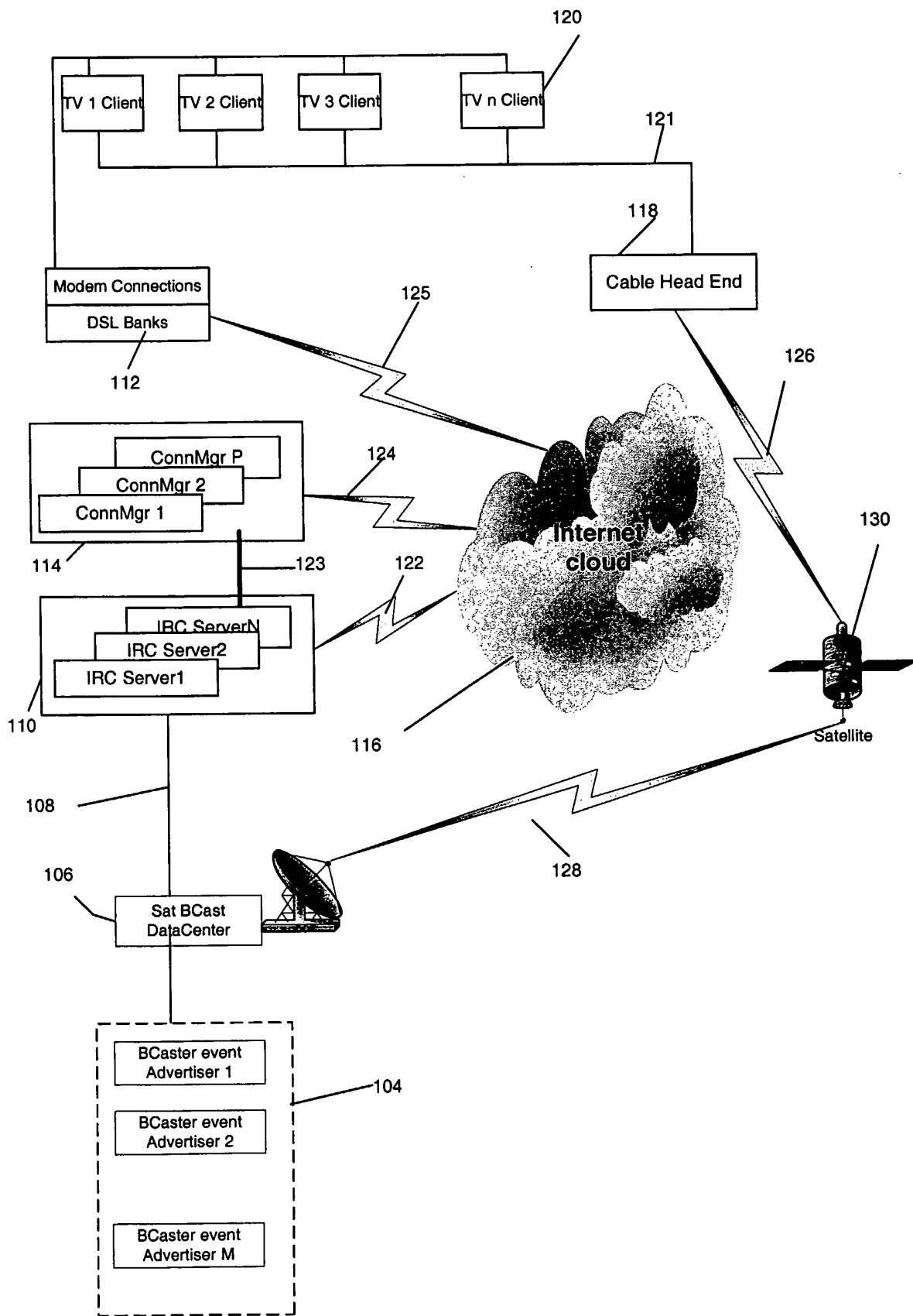


Fig. 1

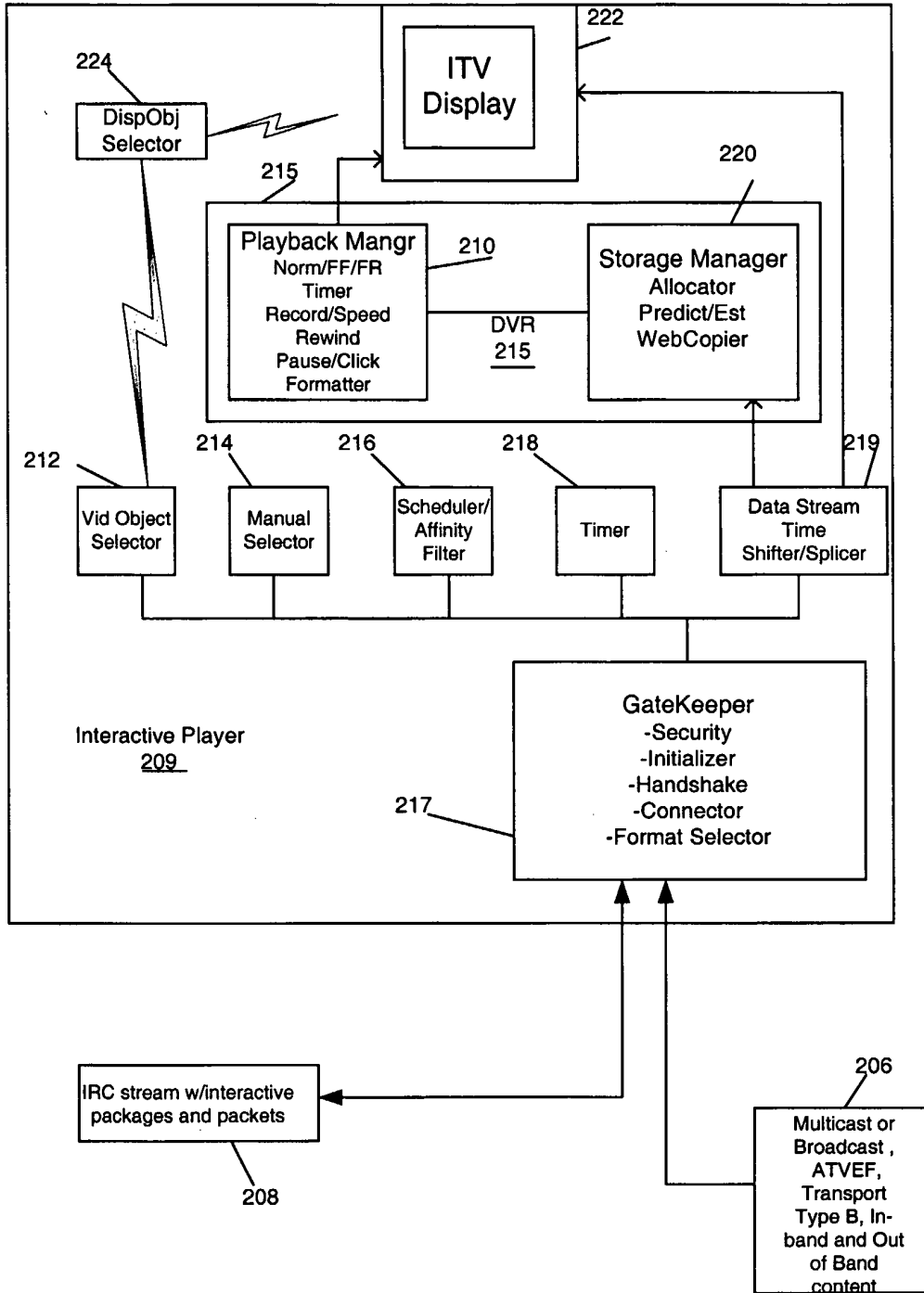


Fig. 2



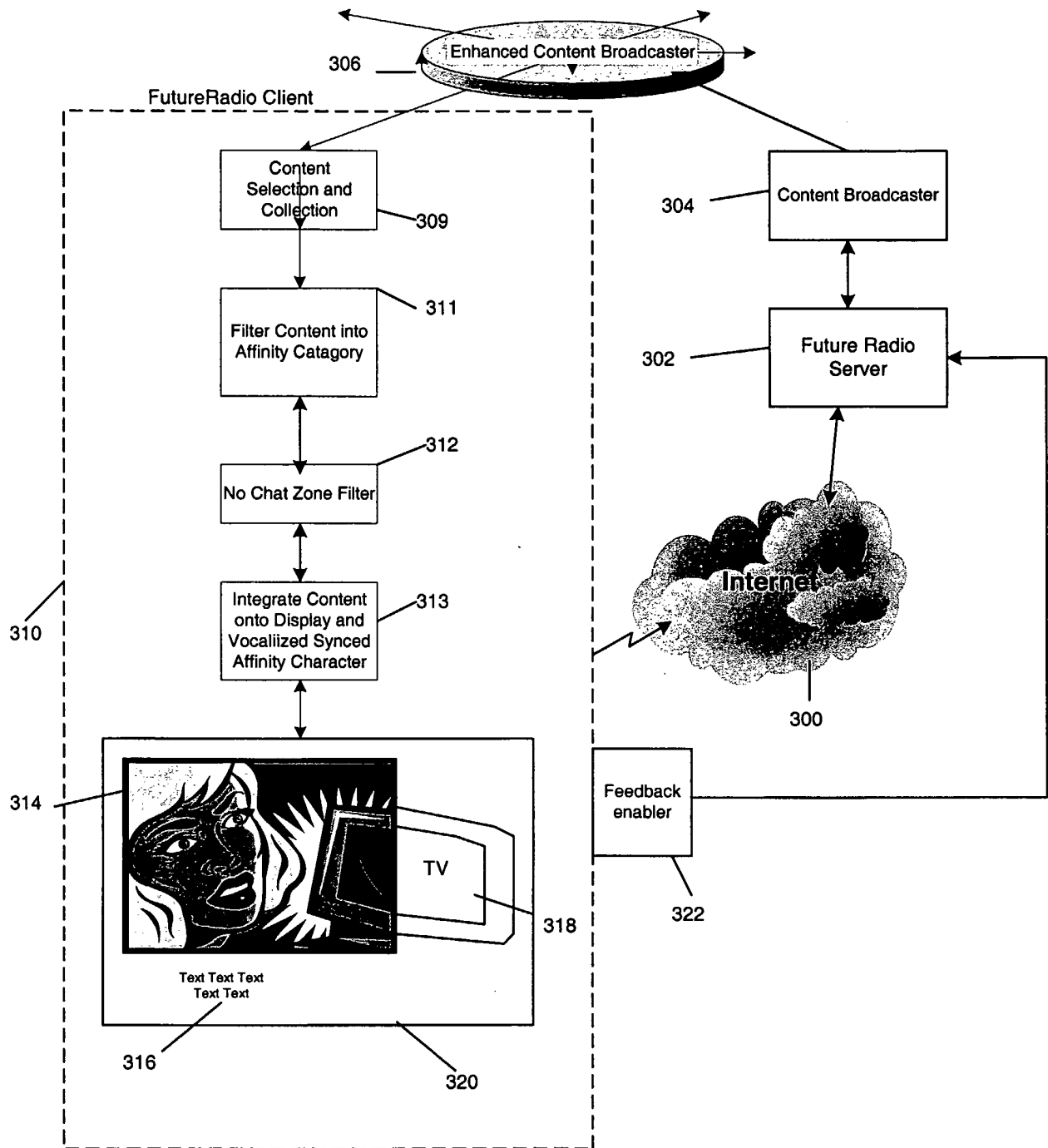


Fig. 3

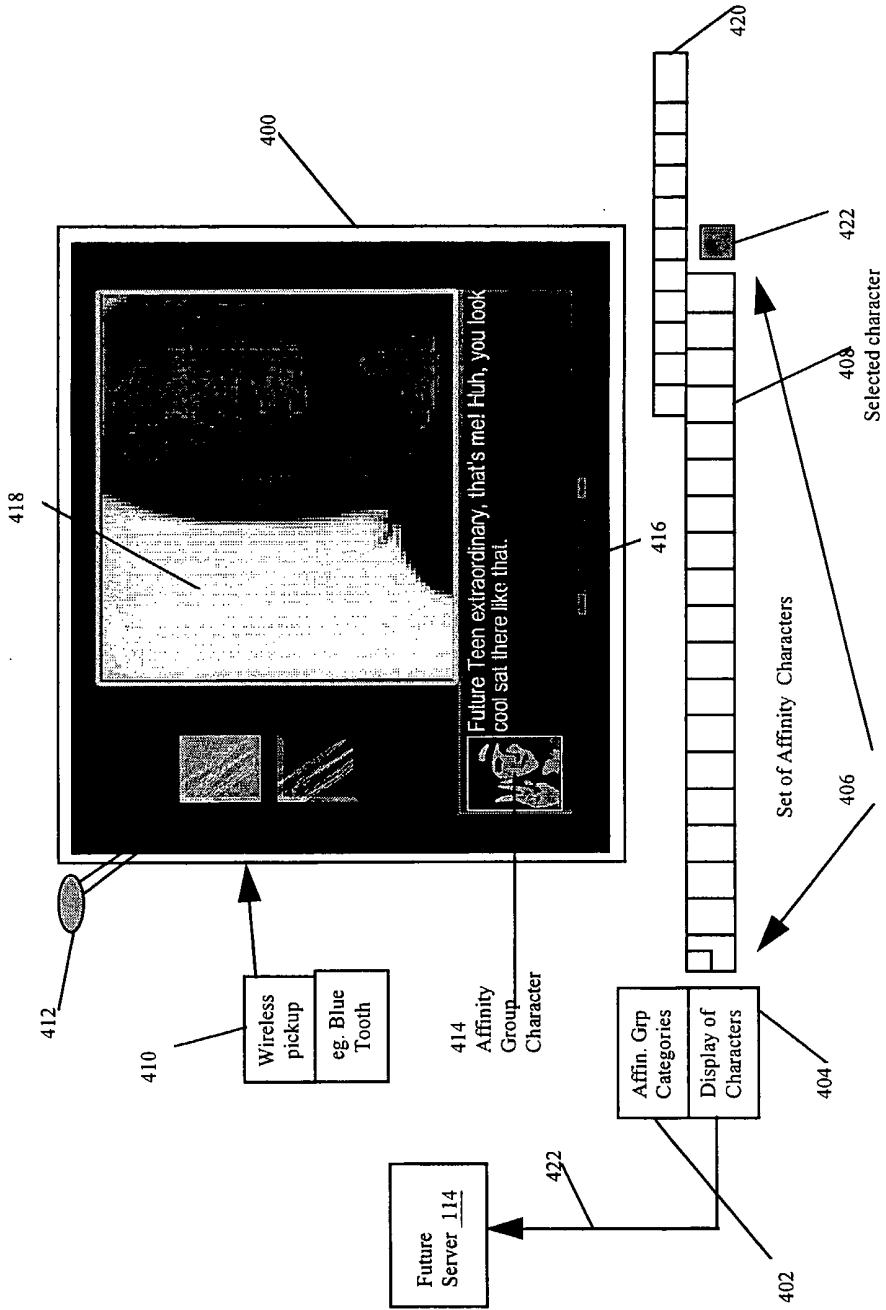


Fig 4