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<p>(21) International Application Number: PCT/IL00/00130 (22) International Filing Date: 2 March 2000 (02.03.00) (30) Priority Data: 09/260,931 2 March 1999 (02.03.99) US (71) Applicant (for all designated States except US): CREATOR LTD. [IL/IL]; Gush Etzion Street 13, 54030 Givat Shmuel (IL). (72) Inventors; and (75) Inventors/Applicants (for US only): GABAI, Oz [IL/IL]; Klee Street 14, 62336 Tel Aviv (IL). GABAI, Jacob [IL/IL]; Klee Street 12, 62336 Tel Aviv (IL). SANDLERMAN, Nimrod [IL/IL]; Churgin Street 44, 52356 Ramat Gan (IL). (74) Agents: SANFORD, T., Colb et al.; Sanford T. Colb &amp; Co., P.O. Box 2273, 76122 Rehovot (IL).</p>	<p>(81) Designated States: AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>	

(54) Title: COMPUTER CONTROLLED TOYS THAT PROVIDE MESSAGES TO THE USER

(57) Abstract

A method (figs. 10-13, 16-20, 25-37, 66, 69, 71, 75, 78, 80, 82, 88, 91, 93 and 96) and apparatus (figs. 1-9, 14-15, 21-24, 38-65, 70, 72-74, 76-77, 81, 83-87, 89-90, 92 and 94-95) providing communication between a user and a computer network (120), audible at the location of a fanciful body (100), and providing oral motivational messages (fig. 29) to the user via this communication.

<Simultaneous with arm waving>  
"Yooohoo! Stuart! it's time to watch our favorite television show. Please turn the TV on to channel 7."

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## COMPUTER CONTROLLED TOYS THAT PROVIDE MESSAGES TO THE USER FIELD OF THE INVENTION

The present invention relates to toys, particularly computer controlled toys that provide messages to the user.

## BACKGROUND OF THE INVENTION

Printed television guides are known. A variety of advertising technologies are known.

Internet push technology is used to provide information, collated and collected from across the world wide web, to individual or corporate users who have requested such information. The types of information are selected by the user, however the particular informative items are not individually selected by the user. The informative items, which may include news, weather, sport, stock market updates etc. are sent directly over the Internet or an intranet to a user's computer. This technology benefits a user by providing selected types of information to a user without the user having to spend the time surfing the web to retrieve the information directly.

Information providers that utilize Internet push technology are listed by Frank Vaughan, 1997, in "Surfing the Internet: Push technology is one of the newest killer apps.", Computer Bits, Vol. 7, No. 10, and can be found at the following URL: <http://iago.computerbits.com/archive/19971000/surf9710.htm>.

The disclosures of all publications mentioned in the specification and of the publications cited therein are hereby incorporated by reference.

## SUMMARY OF THE INVENTION

The present invention seeks to provide methods and apparatus for toys, particularly computer controlled toys that provide messages to the user.

There is thus provided in accordance with a preferred embodiment of the present invention a toy including a fanciful body, a user motivational system located at least partially within the fanciful body and including a computer network communicator, and an annunciator providing a motivational message, including at least an audible

output, to a user, at least one of the content and timing of the motivational message being determined at least partially by communications received from a motivational content provider via a computer network by means of the computer network communicator.

There is further provided in accordance with another preferred embodiment of the present invention a toy including a fanciful body, a user motivational system located at least partially within the fanciful body and including a computer network communicator, and an annunciator providing a motivational message, including at least an audible output, to a user in a style matched to a fanciful persona matching the fanciful body based at least partially on communications received from a motivational content provider via a computer network by means of the computer network communicator.

There is also provided in accordance with another preferred embodiment of the present invention a toy including a fanciful body, a user motivational system located at least partially within the fanciful body and including a computer network communicator, and an annunciator providing a motivational message, including at least an audible output, to a user in a style at least partially determined by at least one known personal characteristic of the user, the at least one audible outputs being based at least partially on communications received from a motivational content provider via a computer network by means of the computer network communicator.

There is additionally provided in accordance with another preferred embodiment of the present invention an electronic purchasing system including a plurality of toys, each including a fanciful body, a user motivational system located at least partially within the fanciful body and including a computer network communicator, and an annunciator providing a purchase-motivating message, including at least an audible output, to a user, at least one of the content and timing of the purchase-motivating message being determined at least partially by communications received from at least one motivational content provider via a computer network by means of the computer network communicator, and a user purchase indication system located at least partially within the fanciful body and including a user purchase input device receiving an indication of the user's purchase/not purchase decision and

communicating information at least partially based on said user's decision via a computer network communicator to a recipient connected to a computer network.

Still further in accordance with a preferred embodiment of the present invention the system includes a purchase accounting system receiving via the computer network the information at least partially based on the user's decision from the plurality of toys and effecting purchase of goods indicated by the user.

There is also provided in accordance with another preferred embodiment of the present invention an electronic purchasing system including a plurality of toys, each including a fanciful body, a user motivational system located at least partially within the fanciful body and including a computer network communicator, and an annunciator providing a purchase motivating message, including at least an audible output, to a user, at least one of the content and timing of the purchase-motivating message being determined at least partially by communications received from at least one motivational content provider via a computer network by means of the computer network communicator, and a user response indication system located at least partially within the fanciful body and including a user response input device receiving an indication of the user's response and communicating information at least partially based on the user's response via a computer network communicator to a recipient connected to a computer network.

Further in accordance with a preferred embodiment of the present invention the system includes an accounting system receiving via the computer network information at least partially based on the user's response from the plurality of toys and providing an accounting output at least partially indicating at least the number of toys which received an acquiescence response to the communications received from the motivational content provider.

Still further in accordance with a preferred embodiment of the present invention the at least one motivational content provider includes a plurality of motivational content providers.

Additionally in accordance with a preferred embodiment of the present invention the motivational message is a multi-media message.

Further in accordance with a preferred embodiment of the present invention the multi-media message includes physical motion of the toy body.

Still further in accordance with a preferred embodiment of the present invention the annunciator includes a message processor operative to configure the message in accordance with characteristics of a user.

Additionally in accordance with a preferred embodiment of the present invention the user characteristics include at least one of age, sex, culture, use history, demographics.

Further in accordance with a preferred embodiment of the present invention the message processor is operative to translate the message into an appropriate language for an individual user.

Still further in accordance with a preferred embodiment of the present invention the computer network communicator is operative to secure at least one transaction over the computer network.

Additionally in accordance with a preferred embodiment of the present invention the computer network communicator is operative to encode credit card information before the information is communicated over the computer network.

Further in accordance with a preferred embodiment of the present invention the toy also includes a user response indication system located at least partially within the fanciful body and includes a user response input device receiving an indication of a user's response and communicating information at least partially based on the user's response via the computer network communicator to a recipient connected to the computer network.

Still further in accordance with a preferred embodiment of the present invention the indication of a user's response includes the user's response itself.

Additionally in accordance with a preferred embodiment of the present invention the toy also includes an electronic purchase accounting system receiving via the computer network the information at least partially based on the user's response from the plurality of toys and effecting purchase of goods indicated by the user.

Still further in accordance with a preferred embodiment of the present invention the accounting system additionally provides an accounting of various types of user's response.

Additionally in accordance with a preferred embodiment of the present invention the accounting system additionally provides an accounting of demographics of the user's response.

Further in accordance with a preferred embodiment of the present invention the accounting system additionally includes a billing subsystem which provides billing based on the accounting.

Additionally in accordance with a preferred embodiment of the present invention the accounting system provides separate accounting for a plurality of various types of user's response.

There is also provided in accordance with another preferred embodiment of the present invention a toy operative to provide communication between a user and a computer body, the toy including a body, a first informational interface enabling the toy to communicate a message to a user at least in an audible manner, a second informational interface enabling the toy to receive a message from a user at least in an audible manner, a third informational interface enabling the toy to receive a message from a computer network, and a fourth informational interface enabling the toy to transmit a message to a computer network.

Further in accordance with a preferred embodiment of the present invention the computer network communicator is operative to authenticate a user based on his/her voice.

There is further provided in accordance with another preferred embodiment of the present invention a system for purchasing over a computer network, the system including a purchasing interface via which a user effects purchases over the computer network, and a purchase limiter operative to block purchases having at least one predetermined characteristic.

Still further in accordance with a preferred embodiment of the present invention the predetermined characteristic includes a value parameter.

Additionally in accordance with a preferred embodiment of the present invention the purchase limiter is operative to limit the total value of purchases effected by the user so as to stay within a fixed periodical budget.

There is further provided in accordance with another preferred embodiment of the present invention informative toy apparatus for providing information via a toy, the apparatus including a toy body, a connection to an information network storing information regarding identity of, and on-screen time of, television programs to be broadcast, and a TV program herald operative to communicate an alert to a user regarding an impending broadcast of at least one television program, the TV program herald being in association with the toy body so as to create an impression that the toy body is personally communicating the alert to the user.

Still further in accordance with a preferred embodiment of the present invention the connection includes an automatic download connection.

Additionally in accordance with a preferred embodiment of the present invention the toy body is operative, responsive to a control signal from the TV program herald, to bodily express an emotion determined by the user's response to an alert.

Further in accordance with a preferred embodiment of the present invention the toy body is operative to bodily express a positive emotion if the user switches on a television program subject of an alert.

Still further in accordance with a preferred embodiment of the present invention the toy body is operative to bodily express a negative emotion if the user fails to switch on a television program subject of an alert.

Additionally in accordance with a preferred embodiment of the present invention the apparatus also includes apparatus for automatically determining the identity of a television program which is currently being watched.

Further in accordance with a preferred embodiment of the present invention the apparatus also includes a satisfaction statement elicitor operative to prompt a user to indicate his extent of satisfaction from the television program.

There is further provided in accordance with another preferred embodiment of the present invention an audible-information providing object including a fanciful body, and a personally-customized audible-information provider located at



least partially within the fanciful body and including a computer network communicator operative to provide communication between a user and a computer network, and an annunciator operative to provide oral personally customized information, including at least an audible output, to the user, via the computer network communicator, wherein the computer network communicator is operative to receive from the user an at least partial determination of at least one of the content, timing, type and style of the personally customized information.

Further in accordance with a preferred embodiment of the present invention the object also includes a user response acceptance system located at least partially within the fanciful body and operative to receive an indication of a user's response and to communicate information at least partially based on the user's response via the computer network communicator to a recipient connected to the computer network.

Still further in accordance with a preferred embodiment of the present invention the information provided by the annunciator to the user is in a style matched to a fanciful persona matching the fanciful body of the object.

Additionally in accordance with a preferred embodiment of the present invention the object includes a toy.

Also in accordance with a preferred embodiment of the present invention the information is translated into an appropriate language for an individual user.

Further in accordance with a preferred embodiment of the present invention the computer network communicator is operative to secure at least one transaction over the computer network.

Still further in accordance with a preferred embodiment of the present invention the computer network communicator is operative to encode credit card information before the information is communicated over the computer network.

Additionally in accordance with a preferred embodiment of the present invention the computer network communicator is operative to authenticate a user based on his/her voice.

Further in accordance with a preferred embodiment of the present invention the object includes at least one sensor operative to collect sensory information indicative of human proximity.

Still further in accordance with a preferred embodiment of the present invention, in the absence of the sensory information within a predetermined time window, the object refrains from providing the information.

Additionally in accordance with a preferred embodiment of the present invention the indication of the user's response includes a spoken verbal response.

There is further provided in accordance with another preferred embodiment of the present invention an audible-information providing method including providing communication from a computer network to a user, audible at the location of a fanciful body, receiving from the user an at least partial determination of at least one of the content, timing, type and style of desired personally customized information, and providing the desired personally customized information to the user, via the communication.

There is also provided in accordance with another preferred embodiment of the present invention a user motivation method including providing communication between a user and a computer network, audible at the location of a fanciful body, and providing an oral motivational message to the user, via the communication.

There is additionally provided in accordance with another preferred embodiment of the present invention a user motivation method including providing communication between a user and a computer network, audible at the location of a fanciful body, and providing an oral motivational message to the user, in a style matched to a fanciful persona matching the fanciful body, via the communication.

There is further provided in accordance with another preferred embodiment of the present invention a user motivation method including providing communication between a user and a computer network, audible at the location of a fanciful body, and providing an oral motivational message to the user, in a style at least partially determined by at least one known personal characteristic of the user, via the communication.

There is also provided in accordance with another preferred embodiment of the present invention an electronic purchasing method including providing communication between a user and a computer network, audible at the location of a fanciful body, providing a purchase-motivating message, including at least an audible output, to the user, at least one of the content and timing of the purchase-motivating message being determined at least partially by communications received from at least one motivational content provider via the computer network, via the communication, and receiving an indication of the user's purchase/not-purchase decision, and communicating information at least partially based on the user's decision to a recipient connected to the computer network.

There is additionally provided in accordance with another preferred embodiment of the present invention an electronic purchasing method including providing communication between a user and a computer network, audible at the location of a fanciful body, providing a purchase-motivating message, including at least an audible output, to the user, an at least partial determination of at least one of the content and timing of the purchase-motivating message being determined at least partially by communications received from at least one motivational content provider via the computer network, via the communication, and receiving an indication of the user's response, and communicating information at least partially based on the user's response to a recipient connected to the computer network.

There is further provided in accordance with another preferred embodiment of the present invention a communication method including providing communication between a user and a computer network, audible at the location of a toy with at least four informational interfaces, the toy communicating a message to the user at least in an audible manner at a first informational interface, the toy receiving a message from the user at least in an audible manner at a second informational interface, the toy receiving a message from the computer network at a third informational interface, and the toy transmitting a message to the computer network at a fourth informational interface.

There is also provided in accordance with another preferred embodiment of the present invention a method for purchasing over a computer network, the method

including providing a purchasing interface enabling a user to effect purchases over the computer network, and including blocking purchases having at least one predetermined characteristic.

There is additionally provided in accordance with another preferred embodiment of the present invention a method for providing information via a toy, the method including providing communication between a user and a computer network, audible at the location of a fanciful toy body, connecting to an information network storing audible information regarding identity of, and on-screen time of, television programs to be broadcast, and heralding TV programs by communicating an alert, audible at the location of the toy, to a user regarding an impending broadcast of at least one television program, via the communication so as to create an impression that the toy body is personally communicating the alert to the user.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be understood and appreciated from the following detailed description, taken in conjunction with the drawings in which:

Fig. 1 is a simplified semi-pictorial semi-block diagram illustration of a toy/marketing system constructed and operative in accordance with a preferred embodiment of the present invention, the toy communicating directly with the Internet;

Fig. 2 is a simplified block diagram of a preferred implementation of the network controller of Fig. 1;

Fig. 3 is a simplified semi-pictorial semi-block diagram illustration of a toy/marketing system constructed and operative in accordance with a preferred embodiment of the present invention, the toy communicating with the Internet via a household computer connected to the toy by wire;

Fig. 4 is a simplified block diagram of a preferred analog implementation of the computer networked controller of Fig. 3 and its audio communication link to the household computer;

Fig. 5 is a simplified block diagram of a preferred digital implementation of the computer networked controller of Fig. 3 and its audio communication link to the household computer;

Fig. 6 is a variation on the apparatus of Fig. 5 in which the computer networked controller of Fig. 3 is disposed adjacently to the computer rather than being disposed adjacently to the toy;

Fig. 7 is a simplified semi-pictorial semi-block diagram illustration of a toy/marketing system constructed and operative in accordance with a preferred embodiment of the present invention, the toy communicating with the Internet via a household computer connected wirelessly to the toy;

Fig. 8 is a simplified block diagram of a preferred implementation of the wireless controller and of the transceiver, both of Fig. 7, the transceiver being connected to the computer via its MIDI connector and its audio connectors;

Fig. 9 is a simplified block diagram of a preferred implementation of wireless controller and of transceiver, both of Fig. 7, the transceiver being connected to the computer via its serial or parallel ports;

Fig. 10 is a diagram of an example of a collection of script objects organized as a script;

Fig. 11 is a simplified flowchart illustration of a preferred method for processing any one of the "talk"-type script objects of Fig. 10;

Fig. 12 is a simplified flowchart illustration of a preferred method for processing a "listen and sense"-type script object such as the "listen and sense" script object of Fig. 10;

Fig. 13 is a simplified flowchart illustration of a preferred method for processing a "listen and sense"-type script object such as the "listen and sense" script object of Fig. 10.

Fig. 14 is a simplified semi-pictorial semi-block diagram illustration of a toy/marketing system including a plurality of toys associated via a network with a plurality of motivational content providers/servers;

Fig. 15 is a top-level diagram showing major hardware components located at various sites of a toy/marketing system constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 16 is a top-level dataflow diagram showing dataflow between the various sites of Fig. 15;

Fig. 17 is a diagram describing operation of two actors operating in an "at home" system operation site;

Fig. 18 is a diagram describing operation of two actors operating in an "advertisers headquarters" (also termed herein "motivational content provider") system operation site;

Fig. 19 is a diagram describing operation of four actors operating in an "at toy maker" system operation site;

Fig. 20 is a simplified functional breakdown of a portion of the toy/marketing system, which resides at the "at-home" site;

Fig. 21 is a simplified functional breakdown of a portion of the toy/marketing system, which resides at a site termed herein "coordinator of motivational content providers" site;

Fig. 22 is a simplified functional breakdown of a portion of the toy/marketing system, which resides at the "advertising headquarters" site;

Fig. 23 is a simplified functional breakdown of a portion of the toy/marketing system, including a server, which portion resides at the "toy maker" site;

Fig. 24 is a simplified functional breakdown of a portion of the toy/marketing system which resides at the "toy maker" site and which does not include a server;

Fig. 25 is a dataflow diagram illustrating dataflow relationships between the functional units of the "at home" site;

Fig. 26 is a dataflow diagram illustrating dataflow relationships between the functional units of the "advertising headquarters" site;

Fig. 27 is a dataflow diagram illustrating dataflow relationships between the functional units of the "toy maker" site;

Fig. 28 is a state diagram of the client logger of Fig. 20;

Fig. 29 is a state diagram of the LOCS (living object control software) of Fig. 20;

Fig. 30 is a state diagram of the push client unit of Fig. 20;

Fig. 31 is a dataflow diagram showing dataflow between the "home" site and the "motivational content provider" site, during a home software updating process operative in accordance with a preferred embodiment of the present invention;

Fig. 32 is a simplified flowchart illustration of a preferred implementation of a selling script or selling process for the network controller of Fig. 1 or Fig. 3 at home;

Fig. 33 is a simplified flowchart illustration of a preferred implementation of a selling script or selling process carried out by the motivational content provider server in conjunction with the network controller, both of Fig. 1, at home;

Fig. 34 is a semi-pictorial semi-data flow diagram illustration depicting a preferred method for processing user responses to motivational content, in order to provide the entities generating the motivational content with feedback and/or in order to bill the entities generating the motivational content;

Fig. 35 is a simplified flowchart illustration of a preferred method for generating TV program heralding messages which are a form of motivational prompt;

Fig. 36 is an example of a "script file";

Fig. 37 is an example of a feedback script file which is called by the script file of Fig. 36, and which is operative to prompt a user to provide feedback regarding television shows which s/he has been watching;

Fig. 38 is an example of a screen display, which may be generated by the web browser of the living object client of Fig. 20;

Fig. 39 is another example of a screen display, which may be generated by the web browser of the living object client of Fig. 20;

Fig. 40 is a table of functions supported by the system, which are typically actuated by a child user of the system;

Fig. 41 is a table of installation functions supported by the system which are typically actuated by a parent user of the system who is a parent of the child user of the system;

Fig. 42 is a table of registration functions supported by the system, which are typically actuated by the parent user of the system;

Fig. 43 is a table of billing functions supported by the system, which are typically actuated by the parent user of the system;

Fig. 44 is a table of purchasing functions supported by the system, which are typically actuated by the parent user of the system;

Fig. 45 is a table of registration configuration functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer;

Fig. 46 is a table of user profiling data gathering functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer;

Fig. 47 is a table of living object configuration update functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer;

Fig. 48 is a table of server update functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer;

Fig. 49 is a table of new living object configuration functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer;

Fig. 50 is a table of new living object update adding functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer;

Fig. 51 is a table of new living object update management functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer;

Fig. 52 is a table of webstore layout and styling functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer;

Fig. 53 is a table of server's purchase-related functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer;



Fig. 54 is a table of user management functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer;

Fig. 55 is a table of usage analysis functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer;

Fig. 56 is a simplified semi-pictorial semi-block diagram of an audible-information-providing system constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 57 is a simplified block diagram of sites and computing devices of a motivational information providing system constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 58 is a diagram of functions preferably performed at the at-home site of Fig. 57;

Fig. 59 is a preferred data flow diagram for the system of Fig. 57;

Fig. 60 is a diagram of preferred use cases for the commercial manager of Fig. 59;

Fig. 61 is a diagram of preferred use cases for the content provider/content manager of Fig. 59;

Fig. 62 is a diagram of preferred use cases for the NANI personalization manager of Fig. 59;

Fig. 63 is a diagram of preferred use cases for the NANI creative manager of Fig. 59;

Fig. 64 is a diagram of preferred use cases for the commercial manager of Fig. 59;

Fig. 65 is a table of use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 66 is a table of possible implementations of the use cases of Fig. 65;

Figs. 67 and 68 are tables of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 69 is a table of possible implementations of the use cases of Fig. 68;

Fig. 70 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 71 is a table of possible implementations of the use cases of Fig. 70;

Fig. 72 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 73 is a table of possible implementations of the use cases of Fig. 72;

Fig. 74 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 75 is a table of possible implementations of the use cases of Fig. 74;

Figs. 76 and 77 are tables of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 78 is a table of possible implementations of the use cases of Fig. 77;

Fig. 79 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 80 is a table of possible implementations of the use cases of Fig. 79;

Fig. 81 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 82 is a table of possible implementations of the use cases of Fig. 81;

Fig. 83 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 84 is a table of possible implementations of the use cases of Fig. 83;

Fig. 85 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 86 is a table of possible implementations of the use cases of Fig. 85;

Fig. 87 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 88 is a table of possible implementations of the use cases of Fig. 87;

Figs. 89 and 90 are tables of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 91 is a table of possible implementations of the use cases of Fig. 90;

Fig. 92 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention;

Fig. 93 is a table of possible implementations of the use cases of Fig. 92;

Fig. 94 is a simplified illustration of a screen display of the computer of Fig. 56 which enables a user to register to the audible-push service and to provide the service with his/her personal selection of information that he or she would like to receive from the service.

Fig. 95 is a simplified illustration of the typical textual content of a web-page; and

Fig. 96 is a script illustrating a possible manner of distribution of the web-page of Fig. 95.

#### DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Reference is now made to Fig. 1 which is a simplified semi-pictorial semi-block diagram illustration of a toy/marketing system constructed and operative in accordance with a preferred embodiment of the present invention, the toy communicating directly with a network such as the Internet, an intranet or a LAN.

The toy/marketing system of Fig. 1 includes a toy 100 having associated therewith, e.g. at least partly embedded therewithin, a network controller 110 operative to:

- a. Communicate via a network 115 with a motivational content provider 120 also associated with the network. This communication may employ any suitable protocol such as plain ASCII, mixed analog and digital, full digital, electronic mail messaging, Internet WWW (world wide web) site access, Internet FTP (file transfer protocol), Internet chat, Internet telephony (VOIP -- voice over IP (Internet protocol)). Electronic mail messaging may include transferring audible content e.g. as an attachment.
- b. Control all peripheral components within the toy such as microphones 140, loudspeaker 150, motors 160, lightbulbs 170, proximity sensor 175, and/or switches 180. Many other peripheral components, such as but not limited to motion sensors, light sensors, solenoids, and the like, may be provided; and
- c. Process motivational content received from the provider 120 which typically comprises a conventional network server.

The term "motivational content" is intended to include any message or other meaningful content which is designed to motivate a recipient of the message or content to perform an action which is desirable to the originator or provider of the message or meaningful content. For example, the following motivational message is operative to motivate a child to switch on a television show, thereby exposing the child to educational or commercial content which is desirable from the point of view of the originator or provider of the message:

"Yoohoo! Stuart! it's time to watch our favorite television show. Please turn the TV on to channel 7."

Fig. 2 is a simplified block diagram of a preferred implementation of the network controller of Fig. 1 which may reside entirely interiorly of the toy body 100.

Fig. 3 is a simplified semi-pictorial semi-block diagram illustration of a toy/marketing system constructed and operative in accordance with a preferred embodiment of the present invention, the toy 100 communicating with the Internet 115 via a household computer 200 connected to the toy by wire. In the embodiment of Fig.

3, preferably, most of the software operating the computer networked controller 210, such as software performing functions (a) - (c) listed above, resides in the computer 200 rather than interiorly of the toy 100.

Fig. 4 is a simplified block diagram of a preferred analog implementation of the computer networked controller of Fig. 3 and its audio communication link to the household computer. In Fig. 4, as well as in Figs. 5 and 6, the computer 200 operates the peripheral components of the toy 100 via the computer networked controller 210 by sending commands to the microprocessor 220 which in turn actuates the designated peripheral components via an appropriate one of interfaces 230 - 260. In the embodiment of Fig. 4, the commands are sent via the MIDI port 270 of the computer 200 and audio content is sent to the speaker 150 and is received from the microphones 140 in analog mode via the analog output and input of the computer's sound board.

Fig. 5 is a simplified block diagram of a preferred digital implementation of the computer networked controller of Fig. 3 and its audio communication link to the household computer. In Fig. 5, unlike in Fig. 4, the computer 200 sends both commands and audio content in digital form via its serial or parallel ports.

Fig. 6 is a variation on the apparatus of Fig. 5 in which the computer networked controller of Fig. 3 is disposed adjacently to the computer rather than being disposed adjacently to the toy. In Fig. 6, the computer network controller 210 is attached to the serial or parallel port of the computer 200 and is connected by wires 300 to connector 310 in the toy 100. The audio content and control (analog equivalent of commands) are both transmitted to the speakers 150 and other actuating peripherals, and from the microphones 140 and other sensing peripherals, as analog signals.

Fig. 7 is a simplified semi-pictorial semi-block diagram illustration of a toy/marketing system constructed and operative in accordance with a preferred embodiment of the present invention, the toy 100 communicating with the Internet 115 via a household computer 200 connected wirelessly to the toy 100. Transceiver 320 may be connected to the computer 200 via the sound board as shown in Fig. 4, or alternatively to the serial or parallel ports as shown in Fig. 5. Audio communication between the transceiver 320 and the wireless controller 330 residing within the doll 100 may be in analog mode or in digital mode.

Fig. 8 is a simplified block diagram of a preferred implementation of wireless controller 330 and of transceiver 320, both of Fig. 7, the transceiver 320 being connected to the computer 200 via its MIDI connector 270 and its audio connectors 280.

Fig. 9 is a simplified block diagram of a preferred implementation of wireless controller 330 and of transceiver 320, both of Fig. 7, the transceiver 320 being connected to the computer 200 via its serial or parallel ports 290.

Fig. 10 is a simplified flowchart illustration of a preferred method of operation of the network controller 110 of Fig. 1, or alternatively of computer 200 of Fig. 3. As shown, the network controller 110 or computer 200 preferably initially loads a user's profile and related behaviors from storage memory. The storage/memory is typically either the disk of the PC in PC based configurations of Figs. 3-9, or the memory 225 of the network controller 110 of Fig. 2.

The network controller 110 or computer 200 are operative in conjunction with either a fixed or a dial-up connection to the network. If the connection is a dial-up connection, the network controller or computer preferably initially dials up and connects to the motivational content provider 120 via the network 115. The controller or computer then uploads properties and a log file.

The term "properties" refers to information describing characteristics of the toy 100 ("persona") and of the end-user/s. For example, the toy's type may be stored, e.g. there may be animal-type toys, people-type toys, bird-type toys, etc. The end-user/s characteristics may include age, sex and mother tongue. The toy's properties preferably are programmed into the toy's software. The term "log file" refers to feedback data collected from and regarding the user, in the course of execution of all scripts processed since the previous upload. For example, the "log file" may include data on user's oral responses to motivational messages and/or data indicative of user actions such as an identification of a particular television show indicating that the user acquiesced to a motivational message to turn on that particular television show.

The file of the next script to be performed is then downloaded. The connection to the network 115 is terminated and the downloaded script is processed and the properties and log files are updated as necessary.

If the connection to the network 115 is fixed, then it is not necessary to receive an entire script. Instead, the script may be received and processed one object at a time. Similarly, it is not necessary to aggregate all feedback accumulating during execution of a script into a log file and instead, feedback may be sent back to the motivational content provider as it occurs.

In a preferred embodiment of the present invention, the toy is operative to collect sensory information indicative of human proximity to the toy. As shown in steps 485 and 505, if the motion/proximity sensor 175, which may comprise an infra-red or Doppler radar capable of detecting motion of large enough objects, detects human proximity to the toy within a predetermined time window, the toy processes the script object 490 or file 510 as scheduled. The toy preferably does not process the script object or file in the absence of such sensory information.

Fig. 11 is a diagram of an example of a collection of script objects organized as a script. Preferably, each sensed user response (YES or NO in the illustrated example) is fed back to the motivational content provider.

Fig. 12 is a simplified flowchart illustration of a preferred method for processing any one of the "talk"-type script objects of Fig. 10. In the illustrated embodiment, the script object can generate speech output in 3 modes: text-to-speech; playback of prerecorded, stored speech transferred as a file before playback begins; and streaming audio i.e., if the connection is fixed, immediate rendition of recorded speech, as it is received. As shown, at least one characteristic of speech output is adjusted. The characteristic may, for example, comprise speed, pitch, speech effects simulating emotions such as joy and sadness and/or simulating speech effects according to the persona of the toy. For example, a female fanciful figure typically speaks in a higher pitch than a male fanciful figure.

For example, defects such as stutter may preferably be provided and may be adjusted to fit the persona of the toy 100, which typically resides in the toy's software as described above. Other speech effects include a "yuk-yuk" noise interspersed between pronouncements of the toy, hoarseness, interspersing of colorful exclamations, etc.

As shown in step 695, the speech output generated by the fanciful figure preferably includes user-dependent content such as mention of the user's name (e.g.

Stuart) as illustrated in Fig. 1 or such as correct gender-language in languages such as French which differentiate between gender. Preferably, for each session, the fanciful figure 100 asks "What's your name?", and upon receiving a reply, e.g. "Stuart", the doll is operative to access Stuart's attributes.

Fig. 13 is a simplified flowchart illustration of a preferred method for processing a "listen and sense"-type script object such as the "listen and sense" script object of Fig. 10. In the illustrated embodiment, the script object can perform sensing operations in any of three different modes: sensor scanning to identify sensor states; recording of audio and transferring file (or transferring in streaming mode) to motivational content provider; and speech recognition and subsequent transfer of speech recognition results (not of the original audio) to the motivational content provider.

Fig. 14 is a simplified semi-pictorial semi-block diagram illustration of a toy/marketing system including a plurality of toys 100 associated via a network 115 with a plurality of motivational content providers/servers 120. As shown, the rabbit toy is a modification of the apparatus of Fig. 1 in that the rabbit toy is wirelessly associated with the motivational content provider/server.

Figs. 15 - 31, taken together, form a system analysis of a toy/marketing system constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 15 is a top-level diagram showing major hardware components located at various sites of a toy/marketing system constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 16 is a top-level dataflow diagram showing dataflow between the various sites of Fig. 15. It is appreciated that the "toy maker" may not necessarily be the actual manufacturer or designer of any specific toy participating in the system but rather may be a broadcaster or communication provider serving several toy makers and/or advertisers. Preferably, according to this embodiment, one or more computerized accounting systems are integrated into the system of the present invention such that information flowing through the system of the present invention which impacts on billing is automatically routed to the appropriate computerized accounting system or systems.



Figs. 17 - 19, taken together, describe a breakdown of a toy/marketing system into sites at which the system operates, and into actors operating at each site. Typically, the actors interact with the system by interacting with a computer located at their site, such as a workstation or terminal, on which software programs reside which provide or facilitate the functionalities described in Figs. 17 - 19.

Fig. 17 is a diagram describing the operation of two actors operating in an "at home" system operation site. The actors which operate "at home" are, in the illustrated embodiment, a parent and a child. For each actor, the diagram lists the actor's "responsibilities", i.e. tasks performed by the actor alone, and the actor's "collaborations", i.e. operations performed by the actor in conjunction with another actor who may or may not be located at the same site.

Fig. 18 is a diagram describing operation of two actors operating in an "advertisers headquarters" (also termed herein "motivational content provider") system operation site.

Fig. 19 is a diagram describing operation of four actors operating in an "at toy maker" system operation site.

The term "toy maker" typically refers to the entity which manages the design, manufacture, and distribution of the client side of the toy/marketing system shown and described herein. The "toy maker" optionally also operates the toy/marketing system.

Figs. 20 - 24 are simplified functional breakdowns of five respective portion of the toy/marketing system which resides at five respective sites. Specifically:

Fig. 20 is a simplified functional breakdown of a portion of the toy/marketing system which resides at the "at-home" site. The at-home site preferably includes, as shown, a web browser 1120 which may comprise a conventional web-browser such as Microsoft Explorer or Netscape Navigator. Additionally, the at-home site of Fig. 20 preferably comprises a client logger 1130, living object control software (LOCS) 1140, and a client pusher 1150. State diagrams of functional units 1130, 1140 and 1150 are provided in Figs. 28 - 30 respectively.

Fig. 21 is a simplified functional breakdown of a portion of the toy/marketing system which resides at a site termed herein "coordinator of motivational content providers" site.

Fig. 22 is a simplified functional breakdown of a portion of the toy/marketing system which resides at the "advertising headquarters" site.

Fig. 23 is a simplified functional breakdown of a portion of the toy/marketing system, including a server, which portion resides at the "toy maker" site. The LOIS (Living Object Internet Services) are equivalent to Motivational Content Providing Services

Fig. 24 is a simplified functional breakdown of a portion of the toy/marketing system which resides at the "toy maker" site and which does not include a server. The GUI is the Graphical User Interface.

Figs. 25 - 27 describe dataflow relationships between functional units illustrated in Figs. 20, 22 and 23.

Fig. 25 is a dataflow diagram illustrating dataflow relationships between the functional units of the "at home" site.

Fig. 26 is a dataflow diagram illustrating dataflow relationships between the functional units of the "advertising headquarters" site.

Fig. 27 is a dataflow diagram illustrating dataflow relationships between the functional units of the "toy maker" site.

The dataflow between the functional units of the serverless motivation content provider are generally similar to the dataflow shown in Fig. 26 except that in the serverless motivation content provider no server is utilized.

Figs. 28 - 30 are state diagrams of various of the functional units illustrated in Figs. 20 - 24. Specifically:

Fig. 28 is a state diagram of the client logger of Fig. 20.

Fig. 29 is a state diagram of the LOCS of Fig. 20.

Fig. 30 is a state diagram of the push client unit of Fig. 20.

Fig. 31 is a dataflow diagram showing dataflow between the "at home" site and the "motivational content provider" site, during a home software updating process operative in accordance with a preferred embodiment of the present invention.

Fig. 32 is a simplified flowchart illustration of a preferred implementation of a selling script or selling process for the network controller 110 (Fig. 1) or 200 (Fig. 3) at home. As shown, the network controller 110 is operative to restrict items that the user can purchase based upon the type 1840 and the cost 1850 of the item, where such restrictions are actuated by a parent user of the system.

The network controller typically authenticates at least one of user ID, user password and user voice signature before permitting a purchase order message to be sent. Authentication of a user's voice signature may comprise the steps of requesting the user's voice signature 1930, recording the user's verbal response 1940, performing a speech recognition process on the recorded response 1950, and if positive 1960, the purchase order message is allowed to be sent.

The network controller 110 also ensures the privacy of the purchasing/selling interaction between the user and the toy maker by the at home encoding 1980 of purchase information, including credit-card information, before being sent 1990 to the toy maker.

Fig. 33 is a simplified flowchart illustration of a preferred implementation of a selling script or selling process carried out by the motivational content provider server 120 of Fig. 1, in conjunction with the network controller 110 at home. As shown the motivational content provider 120 receives (step 2120) a purchase order message from the toy, and (step 2130) decodes the encoded message 1980, which message is re-encoded before being sent on to the supplier of the item to be purchased. The server then sends purchase confirmation to the toy as shown in Fig. 33, step 2155, and in Fig. 32, step 2010.

Steps 2040, 2080 and 2120 are steps which characterize the latest interrupt or event as either receipt of a new selling list, or a subscriber login or arrival at a schedule time-trigger, or receipt of a purchase order from a logged-in subscriber. The method proceeds according to the characterization of the interrupt or event as one of the above possibilities and then returns to characterize the next interrupt or event and proceed accordingly.

Fig. 34 is a semi-pictorial semi-data flow diagram illustration depicting a preferred method for processing user responses to motivational content, in order to

provide the entities generating the motivational content with feedback and/or in order to bill the entities generating the motivational content.

As shown, a single prompt ("Let's watch Sycamore Street now, turn it on!") is being employed which is termed "motivating prompt #3". It is appreciated that other prompts might be employed to get across the same motivational content such as using the same text followed by crying sound effects unless the user acquiesces, or such as using a different text, e.g. ("Turn on Sycamore Street now or else I'll never talk to you again!") These prompts might be termed Motivating Prompts #4 and #5 respectively. As shown, many different users' responses to Prompt #3 are all recorded as the motivating prompt #3 is multicasted to the different users (only four users are shown for simplicity).

Acquiescence, in the illustrated embodiment, comprises turning on a designated television program and is measured by detecting preselected aspects of the television program such as by word-spotting keywords in the television program's theme song.

Preferably, a server report is generated including, for each motivating prompt and for each at-home site, an ID of the motivating prompt, demographic particulars of the user, and at least one parameter of user response such as whether or not the user acquiesced, and also preferably parameters of non-acquiescence such as whether or not the user made any response to the prompt and if so, at least one characteristic of that response such as identification of a competing option (e.g. another program such as "Funny Bunny") which the user preferred over the option being promoted by the motivating prompt (program entitled "Sycamore Street", in the illustrated embodiment).

The server report may be used to generate an accounting instruction in which an entity accepting billing for provision of the Sycamore Street prompt is billed differentially depending on the success of the Sycamore Street prompt. The server report also may be used to generate a prompt evaluation report useful in developing new prompts based on feedback regarding success of previously employed prompts.

Fig. 35 is a simplified flowchart illustration of a preferred method for generating TV program heralding messages which are a form of motivational prompt.

The "log file" typically comprises all records which have accumulated since the last upload, where each record typically comprises an individual server report pertaining to an individual at-home site and an individual occurrence of a motivational prompt, such as the server reports illustrated in Fig. 34.

The "TV herald table" is a table which stores a schedule of motivational prompts including a "script file" for each of a plurality of "time-points" or points in time. Each script file typically comprises a motivational prompt to be provided at that time and, preferably an indication of keywords which, if spotted, define acquiescence and/or other user responses.

Fig. 36 is an example of a "script file".

Fig. 37 is an example of a feedback script file which is called by the script file of Fig. 36 in block 2590, and which is operative to prompt a user to provide feedback regarding the his/her extent of satisfaction with the television shows which s/he has been watching. The terms "Storage in" and "Storage out" refer to store and retrieve operations. At several points in time, either pre-determined or event-driven, the system typically prompts the user to provide feedback. "Predetermined" points in time typically refer to points in time which are separated by a predetermined interval from the beginning of the program. "Event-driven" points in time typically refer to points in time which may be identified by an event, e.g. a prompt which is provided when the word "Sycamore" is first played by the television and is first recognized using speech recognition.

If the prompt is a closed question, the user's response may be processed on the fly by speech recognition and stored in a feedback file as a code. If the prompt is an open question, the user's response is typically recorded and stored as a recording in the feedback file.

Fig. 38 is an example of a screen display which may be generated by the web browser 1120 of living object client 1115. The web browser 1120 has a registration interface function, as shown in Fig. 20, which is typically performed by a parent actor at an at home site, as shown in Fig. 17. The registration screen display prompts for demographic information regarding the child user, which may include information on the user's sex, age, mother tongue, culture, address, relatives, friends and teacher.

Fig. 39 is another example of a screen display which may be generated by the web browser 1120 of living object client 1115. The screen display of Fig. 39, unlike the screen display of Fig. 38, is suitable for embodiments in which the user is allotted a periodic allowance which is paid periodically e.g. every Sunday. For example, a user may be entitled to spend no more than 5 dollars daily, no more than 10 dollars weekly, and no more than 50 dollars monthly.

The "Record voice signature" button allows a user to record a voice signature such as a password, which voice signature may be stored by the system and used for authentication, for security purposes and transaction authentication, as shown in steps 1930 - 1960 in Fig. 32.

Fig. 40 is a table of functions supported by the system which are typically actuated by a child user of the system.

Fig. 41 is a table of installation functions supported by the system which are typically actuated by a parent user of the system who is a parent of the child user of the system.

Fig. 42 is a table of registration functions supported by the system which are typically actuated by the parent user of the system who is a parent of the child user of the system.

Fig. 43 is a table of billing functions supported by the system which are typically actuated by the parent user of the system who is a parent of the child user of the system.

Fig. 44 is a table of purchasing functions supported by the system which are typically actuated by the parent user of the system who is a parent of the child user of the system.

Fig. 45 is a table of registration configuration functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer.

Fig. 46 is a table of user profiling data gathering functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer.

Fig. 47 is a table of living object configuration update functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer.

Fig. 48 is a table of server update functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer.

Fig. 49 is a table of new living object configuration functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer.

Fig. 50 is a table of new living object update adding functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer.

Fig. 51 is a table of new living object update management functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer.

Fig. 52 is a table of webstore layout and styling functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer.

Fig. 53 is a table of server's purchase-related functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer.

Fig. 54 is a table of user management functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer. The RDBMS is a Relational Database Management System.

Fig. 55 is a table of usage analysis functions supported by the system which are typically actuated by a corporate user of the system such as a toy manufacturer.

Figs. 40 - 55 each include the conditions under which each function included therein is performed.

Fig. 56 is a simplified semi-pictorial semi-block diagram of an audible-information-providing system constructed and operative in accordance with a preferred embodiment of the present invention.

In this preferred embodiment, the motivational content providing service is known as a personally-customized-information providing service, or as an audible information push service 2800, with audible information provided by an audible information push server. The audible information provided by the personally-customized-information providing service 2800 includes any types of information that has been at least partially specified by the user.

This preferred embodiment differs from Internet push technology by pushing audible rather than graphical textual information to a user via a "fanciful object" 2820, which may be separate from and typically distanced from the computer 2810. The audible information may be derived from sites having textual content by conventional text-to-speech conversion techniques which are preferably applied to only a portion of the screen display of the site. For example, the largest frame on each screen display may be derived from the HTML information provided by the website and the text-to-speech conversion may be applied only to text disposed interiorly of the largest frame.

Preferably, as shown in Fig. 56, the system of the present invention comprises an information providing object including a fanciful body 2820, a personally-customized-information provider 2800 located at least partially within the fanciful body and including a computer network communicator operative to provide communication between a user and a computer network 115 and an annunciator 150 providing oral personally customized information, including at least an audible output, to the user, via the computer network communicator, wherein the computer network communicator is operative to allow the user to at least partially determine at least one of the content, timing, type and style of the personally customized information.

The information providing object 2820 may be connected to the network 115 via a computer 2810 as shown in Fig. 56, or be directly connected to the network 115 by wire as shown in Fig. 1, or wirelessly as shown in Fig. 7. The object 2820, when connected through the computer 2810, may be connected via the computer's audio port, MIDI port, serial port or parallel port. When the object 2820 is connected via a digital



port, such as the MIDI port, serial port or parallel port, the analog-to-digital, and digital-to-analog conversions can be made either inside the object 2820 with digital transmission to the object, or adjacent to the computer 2810 with analog transmission to the object 2820.

The "content" of information refers to a specific reference to a source of information, the reference being defined by the user, such as a specific page of a specific website, which, when it is updated, is to be provided to the user.

The "timing" of information refers to the time at which information is to be sent.

The "type" of information refers to a categorization of information without indicating a reference to a specific source of information. For example, one "type" of information is: Information regarding the Chicago Bulls.

The "style" of information refers to the style of presentation of the information, such as the characteristics of the voice presenting the information (male/female, loud/soft, mimicking a particular celebrity, etc.).

Preferably, in the "push" embodiment, the system accepts feedback from a user e.g. by presenting all hypertext links associated with information being presented to the user in accordance with a "push" request made by her or him, and prompting the user to select one of the hypertext links. The system is also typically capable of receiving additional user feedback such as "stop", "back", "leave message" and "home".

Information may be provided either by searching, i.e. accessing all information relating to a specified cue, or a subset thereof, or by pushing, i.e. selecting websites or other sources of information relevant to a specified cue and providing an information update to a user each time one of the selected websites is updated.

It is appreciated that in this personally-customized-information providing embodiment of the present invention, the user of the system is not necessarily a child and that the toy/marketing system 2820 may not necessarily comprise a toy.

The responsibilities of a user also include specifying the type of information required by the user. The information type can be as specific as desired, e.g. requesting information about sport, requesting information about football, requesting

information about a specific team, requesting information about a specific player, requesting information about the goals scored by a specific player.

The personally-customized-information providing server 2800 collects and collates, from the Internet 115, or from an intranet, the information which is most closely related to that requested by the user. The personally-customized-information providing server converts this information into an audible format, which is transmitted, via a computer network 115, and via the user's computer 2810, to the fanciful object 2820, and is broadcast to the user as illustrated in the Figs. 10 and 12.

Fig. 57 is a simplified block diagram of sites and computing devices of a motivational information providing system constructed and operative in accordance with a preferred embodiment of the present invention. Fig. 57 includes three subsystems providing different information functions. The ADAM (advertising distribution and management) subsystem 2890 provides advertisement information. The NANI (natural access to network information) 2870 subsystem provides natural access to network information. The IRENA (Internet REtail Natural Access) 2850 is operative to provide e-commerce (electronic commerce) functions. The motivational information providing system also includes a "Content provider headquarters" site 2860, an "At home" site 2880, and an Advertiser/retailer headquarters" site 2900.

The IRENA subsystem of Fig. 57 is preferably an e-commerce company that provides a shopping experience based on a combination of personalized e-commerce and quality content. This combination is characterized in that it is delivered via a friendly toy using natural language, requiring no computer literacy. This preferably allows Internet users to more easily conduct e-commerce and become consumers. Receiving information on relevant products and purchasing is preferably easier using IRENA than using other channels in the real or virtual worlds. Users typically make purchases through IRENA, using an IRENA account, thus avoiding the need to get involved with any other aspects of e-commerce.

IRENA typically creates a virtual database of selected products from many vendors and retailers. Relevant product information is gathered from vendors and other relevant content sources.

Behaviors are attached to each product, the behavior forming a script presented to the user by the toy in order to convince him/her to buy the product. The behavior typically consists of information about the product, a comparison to other products, and advertising elements etc. The toy is preferably able to deliver the behavior, either alone, or in combination with the desktop.

Scheduling tips are typically attached to the behavior. Such tips typically determine when a user receive the behavior, during which other behaviors the specified behavior will be played etc.

The behavior is preferably interactive such that the user interacts with the behavior presented by the living toy.

Users are preferably able to issue a purchase order for a product, either orally, or through the web. The payment is typically taken from a preset IRENA account.

Fig. 58 is a diagram of functions preferably performed at the at-home site 2880 of Fig. 57.

Fig. 59 is a preferred data flow diagram for the system of Fig. 57.

Fig. 60 is a diagram of preferred use cases for the commercial manager 2970 of Fig. 59. The commercial manager 2970 typically markets IRENA's services to vendors and users. The commercial manager preferably also handles all financial and business aspects within IRENA, with external players and end-users.

Fig. 61 is a diagram of preferred use cases for the content provider/content manager (product manager) 2950 of Fig. 59. The product manager 2950 typically submits new vendors, the vendor being any firm interested in selling products through the IRENA framework, submits products with relevant product information and scheduling tips. The product manager 2950 also preferably manages a space on the server for download of new products, sets preferences for profiling reports and analyzes the reports when received, and processes orders received through IRENA.

Fig. 62 is a diagram of preferred use cases for the NANI personalization manager 2990 of Fig. 59. The personalization manager typically manages behavior space, e.g., attaches scheduling tips, and links behaviors to profiles etc. The personalization manager 2990 preferably also issues profiling reports to vendors.

Fig. 63 is a diagram of preferred use cases for the NANI creative manager 2960 of Fig. 59. The creative manager 2960 typically defined IRENA's product categories, manages a product web catalog, collects relevant product information from other sources, and creates behaviors for products.

Fig. 64 is a diagram of preferred use cases for the end user 3010 of Fig. 59. The end user 3010 is any person that is using a living toy that was installed while the relevant sub-systems were installed on the users desktop. A parent end-user typically interacts with a behavior, buys products, sets limits for child-users' exposure and expenses, and personalizes the experience. A child end-user typically interacts with a behavior, personalizes the experience, and buys products.

Fig. 65 is a table of use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 66 is a table of possible implementations of the use cases of Fig. 65.

Figs. 67 and 68 are tables of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 69 is a table of possible implementations of the use cases of Fig. 68.

Fig. 70 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 71 is a table of possible implementations of the use cases of Fig. 70.

Fig. 72 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 73 is a table of possible implementations of the use cases of Fig. 72.

Fig. 74 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 75 is a table of possible implementations of the use cases of Fig. 74.

Figs. 76 and 77 are tables of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 78 is a table of possible implementations of the use cases of Fig. 77.

Fig. 79 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 80 is a table of possible implementations of the use cases of Fig. 79.

Fig. 81 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 82 is a table of possible implementations of the use cases of Fig. 81.

Fig. 83 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 84 is a table of possible implementations of the use cases of Fig. 83.

Fig. 85 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 86 is a table of possible implementations of the use cases of Fig. 85.

Fig. 87 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 88 is a table of possible implementations of the use cases of Fig. 87.

Figs. 89 and 90 are tables of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 91 is a table of possible implementations of the use cases of Fig. 90.

Fig. 92 is a table of additional use cases of a motivational message providing system or service constructed and operative in accordance with a preferred embodiment of the present invention.

Fig. 93 is a table of possible implementations of the use cases of Fig. 92.

Fig. 94 is a simplified illustration of a screen display of the computer 2810 of Fig. 56 which enables a user to register to the audible-push service and to provide the service with his/her personal selection of information that he or she would like to receive from the service.

The screen form enables the user to select information by subjects and sub-subjects such as sport, basketball, NBA, etc. and by sources such as CNN, UK, business. The user is preferably able to set the relative priorities of the selected items, so that stock news is presented first, local weather news second, etc. The user preferably also sets the rate at which items are presented.

The service typically presents the information to the user in several size levels. The screen form example in Fig. 94 allows three levels: the first level is presented first and, in this example, will contain the first 15 word of the original information item. The system then typically asks the user if he or she would like to hear the next level. If the user approves the service presents the user with the next level containing the next 30 words. The system preferably then asks the user if he or she would like to hear the next level, in this case the entire item. If the user approves, the service presents the user with the next level containing the entire item.

Fig. 95 is a simplified illustration of the typical textual content of a web-page, in this case a page of the Anchordesk by Jesse Berst hosted by Zdnet at [http://www.zdnet.com/anchordesk/story/story\\_3050.html](http://www.zdnet.com/anchordesk/story/story_3050.html).

The graphical content of the page is omitted as well as some of the textual content that does not fit into the formal page size. The middle part 3200 of Fig. 95 contains most of the text in the web page and is selected for delivery to those subscribers that have selected to receive Anchordesk articles as they are presented over the Internet.

The service preferably retrieves the text, converts the text to several languages as requested by various subscribers using conventional machine translation engines. The service typically converts the text of each language to speech using conventional text to speech engines, and distributes the items to the appropriate subscribers.

For each subscriber, the item is typically divided into several levels according to the subscriber's requirements. In the example of user customization shown in Fig. 94, the first 15 words are presented first: "Berst Alert TUESDAY, FEBRUARY 02, 1999 Y2K Countdown: Will You Be in the Dark on". Then if the user decides to hear the next level the next 30 words are played: "Jan. 1, 2000? Jesse Berst, Editorial Director ZDNet AnchorDesk Residents of a rural island community here in Washington State are ordering 55-gallon barrels to collect rainwater and planning bulk purchases of". If the user selects to continue the rest of the item is played.

Fig. 96 is a script illustrating a possible manner of distribution of the web-page of Fig. 95.

It is noted that throughout this specification the term "audible" is used as meaning "capable of being perceived and understood by the human ear".

It is appreciated that the software components of the present invention may, if desired, be implemented in ROM (read-only memory) form. The software components may, generally, be implemented in hardware, if desired, using conventional techniques.

It is appreciated that various features of the invention which are, for clarity, described in the contexts of separate embodiments may also be provided in combination in a single embodiment. Conversely, various features of the invention which are, for brevity, described in the context of a single embodiment may also be provided separately or in any suitable subcombination.

It will be appreciated by persons skilled in the art that the present invention is not limited to what has been particularly shown and described hereinabove. Rather, the scope of the present invention is defined only by the claims that follow:

## CLAIMS

What is claimed is:

1. A toy comprising:
  - a fanciful body;
  - a user motivational system located at least partially within the fanciful body and including:
    - a computer network communicator; and
    - an annunciator providing a motivational message, including at least an audible output, to a user, at least one of the content and timing of said motivational message being determined at least partially by communications received from a motivational content provider via a computer network by means of said computer network communicator.
2. A toy according to claim 1 and also comprising a user response indication system located at least partially within the fanciful body and including:
  - a user response input device receiving an indication of said user's response and communicating information at least partially based on said user's response via the computer network communicator to a recipient connected to the computer network.
3. A toy comprising:
  - a fanciful body;
  - a user motivational system located at least partially within the fanciful body and including:
    - a computer network communicator; and
    - an annunciator providing a motivational message, including at least an audible output, to a user in a style matched to a fanciful persona matching the fanciful body based at least partially on communications received from a motivational



content provider via a computer network by means of said computer network communicator.

4. A toy comprising:  
a fanciful body;  
a user motivational system located at least partially within the fanciful body and including:

a computer network communicator; and

an annunciator providing a motivational message, including at least an audible output, to a user in a style at least partially determined by at least one known personal characteristic of the user, said at least one audible outputs being based at least partially on communications received from a motivational content provider via a computer network by means of said computer network communicator.

5. An electronic purchasing system comprising:  
a plurality of toys, each comprising:

a fanciful body;

a user motivational system located at least partially within the fanciful body and including:

a computer network communicator; and

an annunciator providing a purchase-motivating message, including at least an audible output, to a user, at least one of the content and timing of said purchase-motivating message being determined at least partially by communications received from at least one motivational content provider via a computer network by means of said computer network communicator; and

a user purchase indication system located at least partially within the fanciful body and including:

a user purchase input device receiving an indication of said user's purchase/not-purchase decision and communicating information at least partially based on said user's decision via a computer network communicator to a recipient connected to a computer network.

6. A system according to claim 5 and also comprising a purchase accounting system receiving via said computer network said information at least partially based on said user's decision from said plurality of toys and effecting purchase of goods indicated by said user.
7. A toy according to claim 1 and wherein said motivational message is a multi-media message.
8. A toy according to claim 3 and wherein said motivational message is a multi-media message.
9. A toy according to claim 4 and wherein said motivational message is a multi-media message.
10. An system according to claim 5 and wherein said purchase-motivating message is a multi-media message.
11. An electronic purchasing system comprising:
  - a plurality of toys, each comprising:
    - a fanciful body;
    - a user motivational system located at least partially within the fanciful body and including:
      - a computer network communicator; and
      - an annunciator providing a purchase-motivating message, including at least an audible output, to a user, at least one of the content and timing of said purchase-motivating message being determined at least partially by communications received from at least one motivational content provider via a computer network by means of said computer network communicator; and
      - a user response indication system located at least partially within the fanciful body and including:

a user response input device receiving an indication of said user's response and communicating information at least partially based on said user's response via a computer network communicator to a recipient connected to a computer network.

12. A system according to claim 11 and also comprising an accounting system receiving via said computer network said information at least partially based on said user's response from said plurality of toys and providing an accounting output at least partially indicating at least the number of toys which received an acquiescence response to said communications received from said motivational content provider.

13. A system according to claim 12 and wherein said accounting system additionally provides an accounting of various types of user's response.

14. A system according to claim 12 and wherein said accounting system additionally provides an accounting of demographics of said user's response.

15. A system according to claim 12 and wherein said accounting system additionally comprises a billing subsystem which provides billing based on said accounting.

16. A system according to claim 11 and wherein said at least one motivational content provider comprises a plurality of motivational content providers.

17. A system according to claim 12 and wherein said accounting system provides separate accounting for a plurality of various types of user's response.

18. A system according to claim 11 and wherein said purchase-motivating message is a multi-media message.

19. A system according to claim 18 and wherein said multi-media message includes physical motion of said toy body.
20. A system according to claim 6 and wherein said accounting system additionally provides an accounting of various types of user's response.
21. A system according to claim 6 and wherein said accounting system additionally provides an accounting of demographics of said user's response.
22. A system according to claim 6 and wherein said accounting system additionally comprises a billing subsystem which provides billing based on said accounting.
23. A system according to claim 5 and wherein said at least one motivational content provider comprises a plurality of motivational content providers.
24. A system according to claim 6 and wherein said accounting system provides separate accounting for a plurality of various types of user response.
25. A system according to claim 11 wherein said annunciator comprises a message processor operative to configure said message in accordance with characteristics of a user.
26. A system according to claim 25 wherein said user characteristics include at least one of the following: age, sex, culture, use history, demographics.
27. A system according to claim 25 wherein said message processor is operative to translate the message into an appropriate language for an individual user.
28. A toy according to claim 1 and wherein said computer network communicator is operative to secure at least one transaction over the computer network.

29. A toy according to claim 28 wherein said computer network communicator is operative to encode credit card information before said information is communicated over the computer network.

30. A toy according to claim 2 wherein said indication of a user's response comprises the user's response itself.

31. A toy according to claim 2 and also comprising an electronic purchase accounting system receiving via said computer network said information at least partially based on said user's response from said plurality of toys and effecting purchase of goods indicated by said user.

32. A system according to claim 31 and wherein said accounting system additionally provides an accounting of various types of user's response.

33. A system according to claim 31 and wherein said accounting system additionally provides an accounting of demographics of said user's response.

34. A system according to claim 31 and wherein said accounting system additionally comprises a billing subsystem which provides billing based on said accounting.

35. A system according to claim 31 and wherein said accounting system provides separate accounting for a plurality of various types of user's response.

36. A toy according to claim 3 and also comprising a user response indication system located at least partially within the fanciful body including:

a user response input device receiving an indication of a user's response and communicating information at least partially based on said user's response

via the computer network communicator to a recipient connected to the computer network.

37. A toy according to claim 36 and also comprising an electronic purchase accounting system receiving via said computer network said information at least partially based on said user's response from said plurality of toys and effecting purchase of goods indicated by said user.

38. A system according to claim 36 and wherein said accounting system additionally provides an accounting of various types of user's response.

39. A system according to claim 36 and wherein said accounting system additionally provides an accounting of demographics of said user's response.

40. A system according to claim 36 and wherein said accounting system additionally comprises a billing subsystem which provides billing based on said accounting.

41. A system according to claim 36 and wherein said accounting system provides separate accounting for a plurality of various types of user's response.

42. A toy according to claim 4 and also comprising a user response indication system located at least partially within the fanciful body and including:

a user response input device receiving an indication of a user's response and communicating information at least partially based on said user's response via the computer network communicator to a recipient connected to the computer network.

43. A toy according to claim 42 and also comprising an electronic purchase accounting system receiving via said computer network said information at least

partially based on said user's response from said plurality of toys and effecting purchase of goods indicated by said user.

44. A toy according to claim 43 and wherein said accounting system additionally provides an accounting of various types of user's response.

45. A toy according to claim 43 and wherein said accounting system additionally provides an accounting of demographics of said user's response.

46. A toy according to claim 43 and wherein said accounting system additionally comprises a billing subsystem which provides billing based on said accounting.

47. A toy according to claim 43 and wherein said accounting system provides separate accounting for a plurality of various types of user's response.

48. A toy operative to provide communication between a user and a computer network, the toy comprising:

a body;

a first informational interface enabling the toy to communicate a message to said user at least in an audible manner;

a second informational interface enabling the toy to receive a message from said user at least in an audible manner;

a third informational interface enabling the toy to receive a message from said computer network; and

a fourth informational interface enabling the toy to transmit a message to said computer network.

49. A toy according to claim 28 wherein said computer network communicator is operative to authenticate a user based on his/her voice.

50. A system for purchasing over a computer network, the system comprising:

a purchasing interface via which a user effects purchases over the computer network; and

a purchase limiter operative to block purchases having at least one predetermined characteristic.

51. A system according to claim 50 wherein the predetermined characteristic comprises a value parameter.

52. A system according to claim 51 and wherein the purchase limiter is operative to limit the total value of purchases effected by the user so as to stay within a fixed periodical budget.

53. Apparatus for providing information via a toy, the apparatus comprising:

a toy body;

a connection to an information network storing information regarding identity of, and on-screen time of, television programs to be broadcast; and

a TV program herald operative to communicate an alert to a user regarding an impending broadcast of at least one television program, the TV program herald being in association with the toy body so as to create an impression that the toy body is personally communicating the alert to the user.

54. Apparatus according to claim 53 wherein the connection comprises an automatic download connection.

55. Apparatus according to claim 53 wherein the toy body is operative, responsive to a control signal from the TV program herald, to bodily express an emotion determined by the user's response to an alert.



56. Apparatus according to claim 55 wherein the toy body is operative to bodily express a positive emotion if the user switches on a television program subject of an alert.
57. Apparatus according to claim 55 wherein the toy body is operative to bodily express a negative emotion if the user fails to switch on a television program subject of an alert.
58. Apparatus according to claim 53 and also comprising apparatus for automatically determining the identity of a television program which is currently being watched.
59. Apparatus according to claim 53 and also comprising a satisfaction statement elicitor operative to prompt a user to indicate his extent of satisfaction from the television program.
60. An audible-information providing object comprising:  
a fanciful body; and  
a personally-customized audible-information provider located at least partially within the fanciful body and including:  
a computer network communicator operative to provide communication between a user and a computer network; and  
an annunciator operative to provide oral personally customized information, including at least an audible output, to the user, via the computer network communicator,  
wherein the computer network communicator is operative to receive from the user an at least partial determination of at least one of the content, timing, type and style of said personally customized information.
61. An object according to claim 60 and also comprising a user response acceptance system located at least partially within the fanciful body and operative to

receive an indication of said user's response and to communicate information at least partially based on said user's response via the computer network communicator to a recipient connected to the computer network.

62. An object according to claim 60 and wherein the information provided by the annunciator to the user is in a style matched to a fanciful persona matching the fanciful body of said object.

63. An object according to claim 60 and where the object comprises a toy.

64. An object according to claim 60 wherein said information is translated into an appropriate language for an individual user.

65. An object according to claim 60 and wherein said computer network communicator is operative to secure at least one transaction over the computer network.

66. An object according to claim 65 wherein said computer network communicator is operative to encode credit card information before said information is communicated over the computer network.

67. An object according to claim 65 wherein said computer network communicator is operative to authenticate a user based on his/her voice.

68. A system according to claim 60 wherein said object comprises at least one sensor operative to collect sensory information indicative of human proximity.

69. A system according to claim 68 wherein, in the absence of said sensory information within a predetermined time window, the object refrains from providing said information.

70. An object according to claim 61 wherein said indication of said user's response comprises a spoken verbal response.
71. An audible-information providing method comprising:  
providing communication from a computer network to a user, audible at the location of a fanciful body;  
receiving from the user an at least partial determination of at least one of the content, timing, type and style of desired personally customized information; and  
providing said desired personally customized information to said user, via said communication.
72. A user motivation method comprising:  
providing communication between a user and a computer network, audible at the location of a fanciful body; and  
providing an audible oral motivational message to said user, via said communication.
73. A user motivation method comprising:  
providing communication between a user and a computer network, audible at the location of a fanciful body; and  
providing an oral motivational message to said user, in a style matched to a fanciful persona matching the fanciful body, via said communication.
74. A user motivation method comprising:  
providing communication between a user and a computer network, audible at the location of a fanciful body; and  
providing an oral motivational message to said user, in a style at least partially determined by at least one known personal characteristic of said user, via said communication.
75. An electronic purchasing method comprising:

providing communication between a user and a computer network, audible at the location of a fanciful body;

providing a purchase-motivating message, including at least an audible output, to said user, at least one of the content and timing of said purchase-motivating message being determined at least partially by communications received from at least one motivational content provider via said computer network, via said communication; and

receiving an indication of said user's purchase/not-purchase decision, and communicating information at least partially based on said user's decision to a recipient connected to said computer network.

76. An electronic purchasing method comprising:

providing communication between a user and a computer network, audible at the location of a fanciful body;

providing a purchase-motivating message, including at least an audible output, to said user, an at least partial determination of at least one of the content and timing of said purchase-motivating message being determined at least partially by communications received from at least one motivational content provider via said computer network, via said communication; and

receiving an indication of said user's response, and communicating information at least partially based on said user's response to a recipient connected to said computer network.

77. A communication method comprising:

providing communication between a user and a computer network, audible at the location of a toy with at least four informational interfaces,

the toy communicating a message to said user at least in an audible manner at a first informational interface;

the toy receiving a message from said user at least in an audible manner at a second informational interface;

the toy receiving a message from said computer network at a third informational interface; and

the toy transmitting a message to said computer network at a fourth informational interface.

78. A method for purchasing over a computer network, the method comprising:

providing a purchasing interface enabling a user to effect purchases over said computer network, and including blocking purchases having at least one predetermined characteristic.

79. A method for providing information via a toy, the method comprising:

providing communication between a user and a computer network, audible at the location of a fanciful toy body;

connecting to an information network storing audible information regarding identity of, and on-screen time of, television programs to be broadcast; and

heralding TV programs by communicating an alert, audible at the location of said toy, to a user regarding an impending broadcast of at least one television program, via said communication so as to create an impression that the toy body is personally communicating the alert to the user.

FIGURE 1

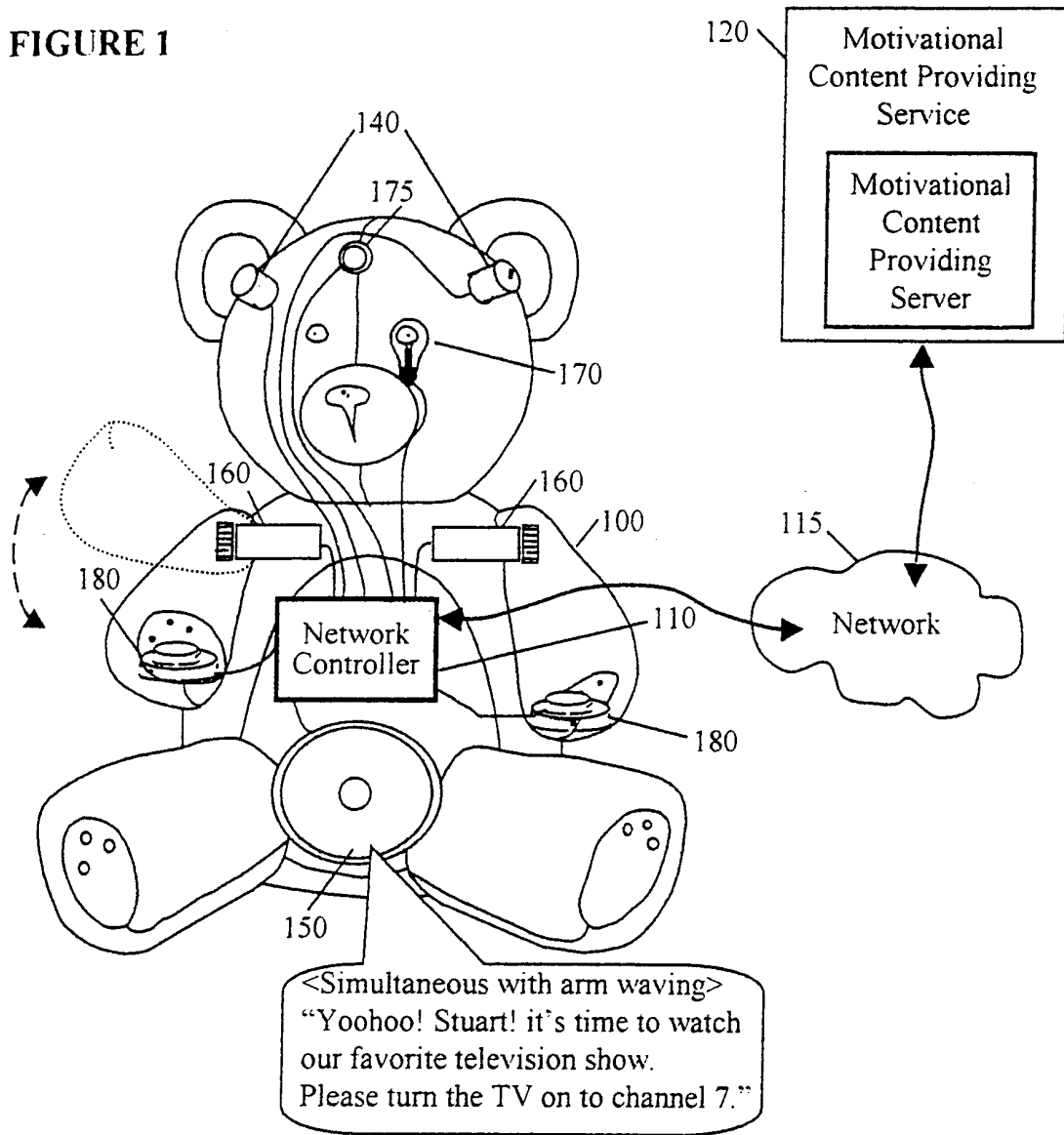
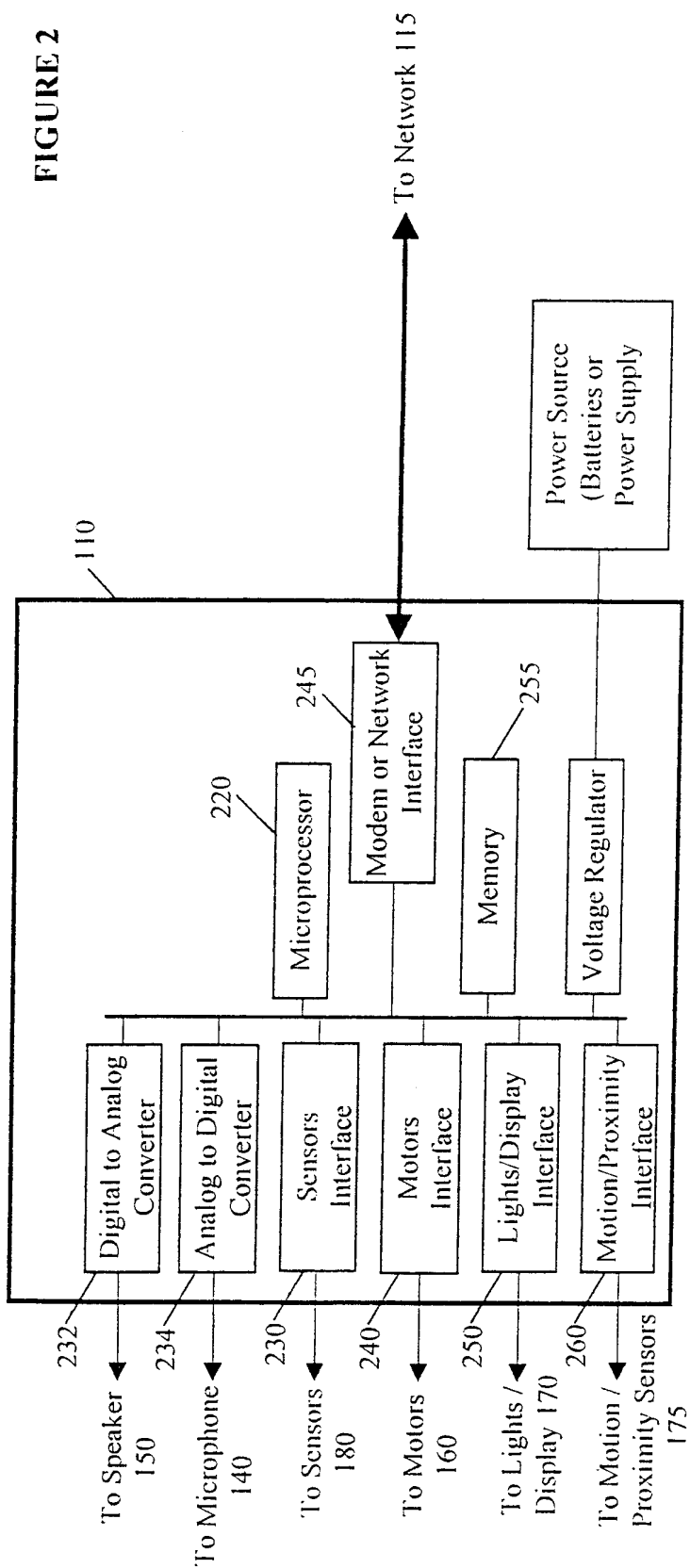


FIGURE 2



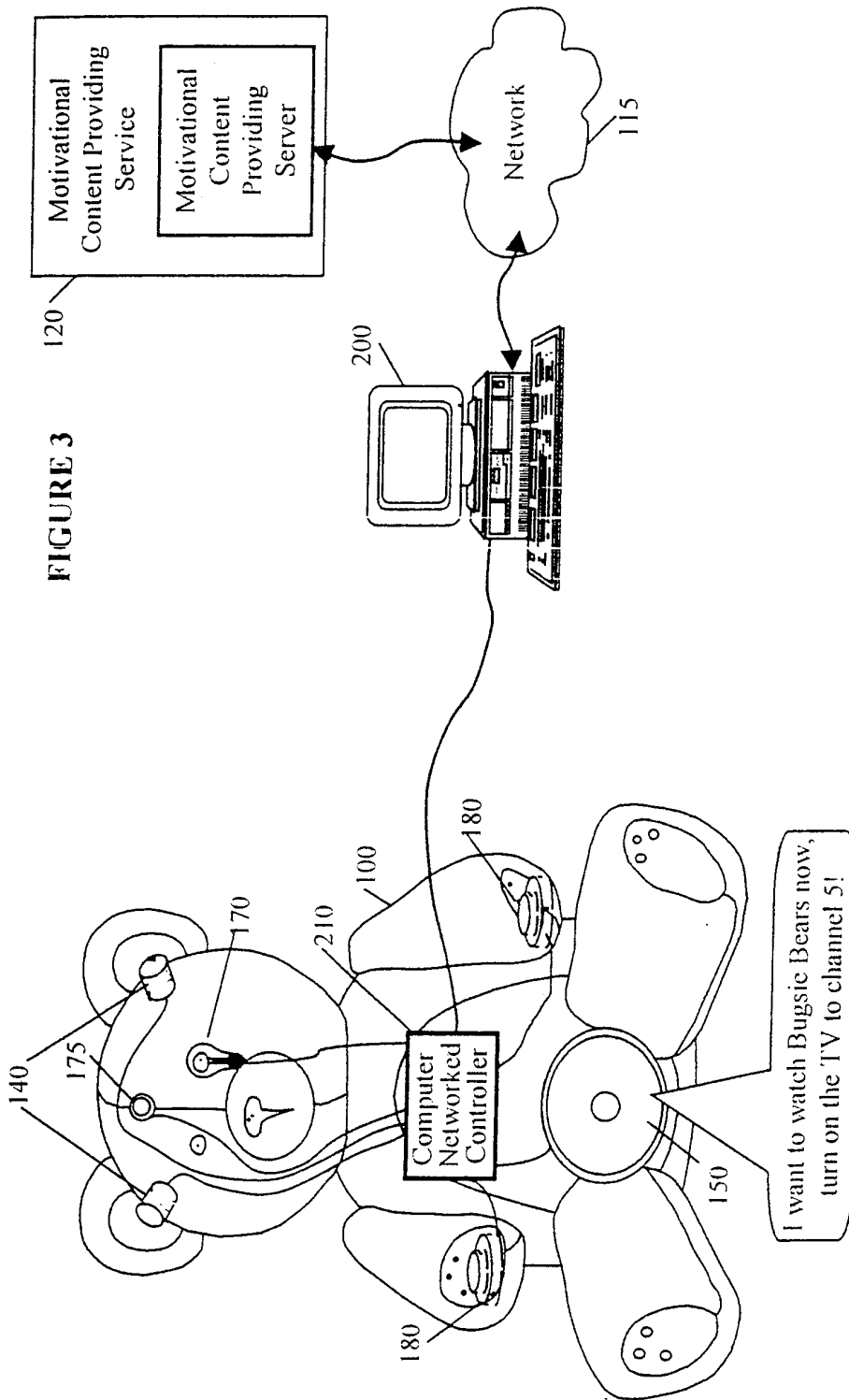


FIGURE 3



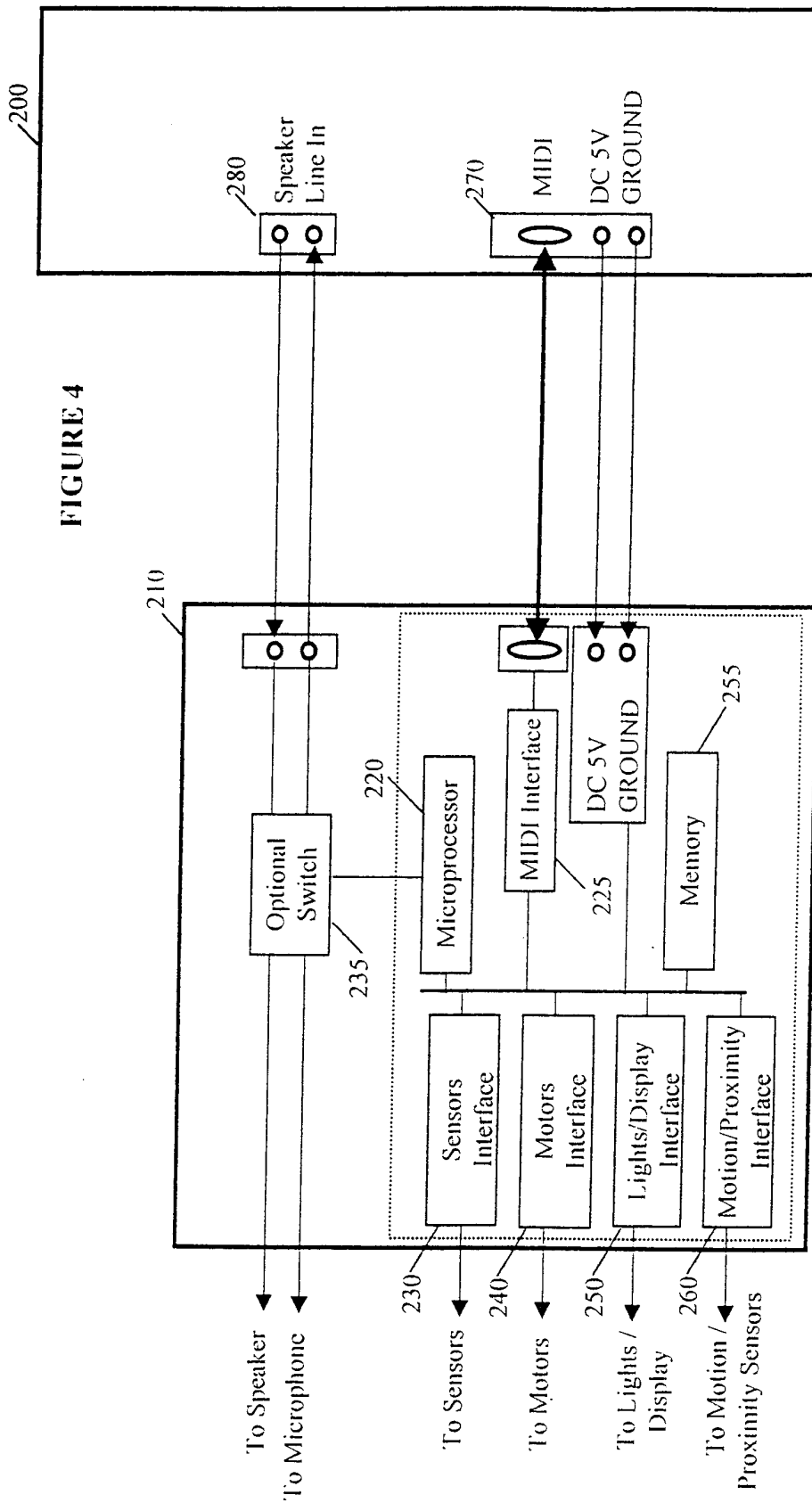
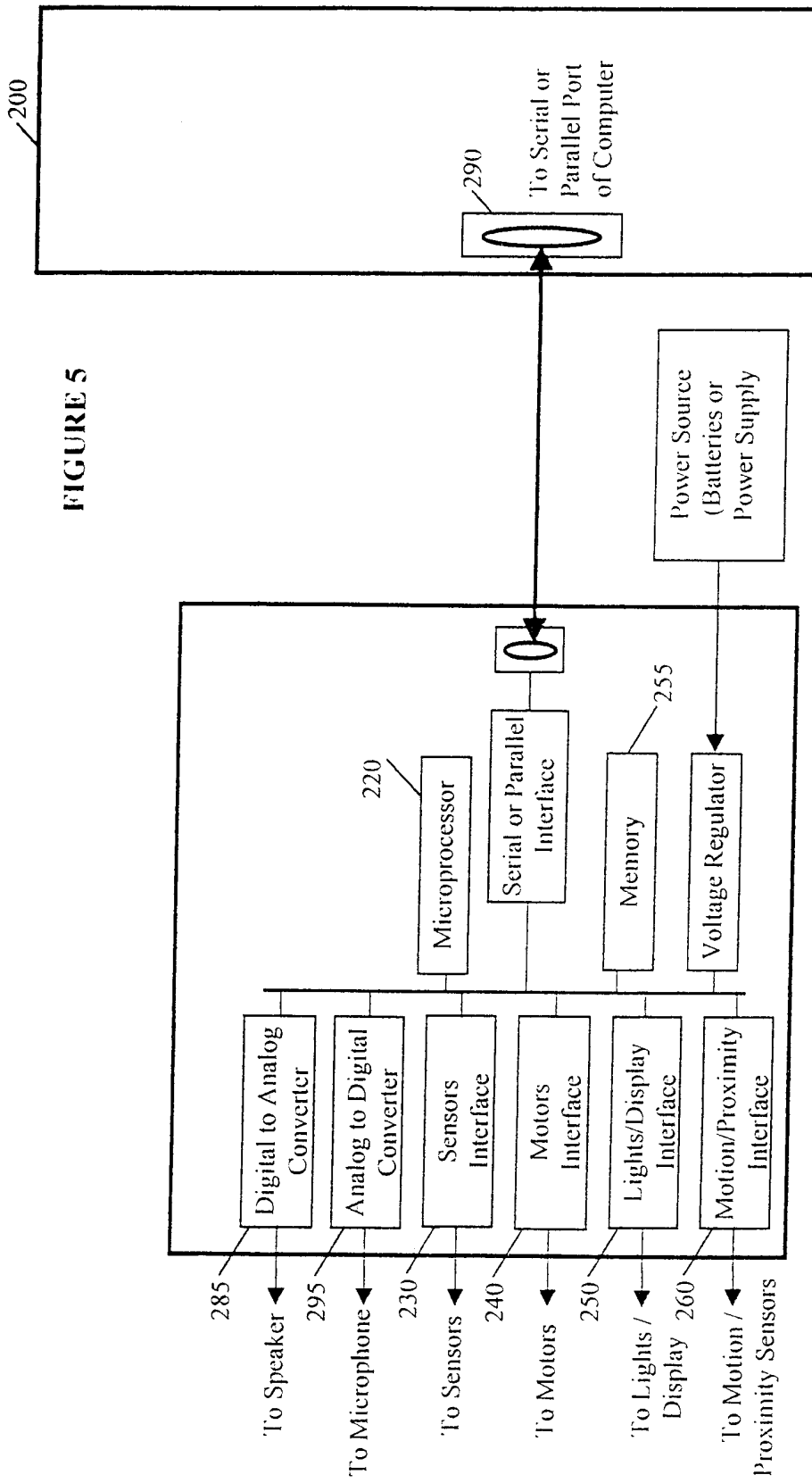


FIGURE 4

FIGURE 5



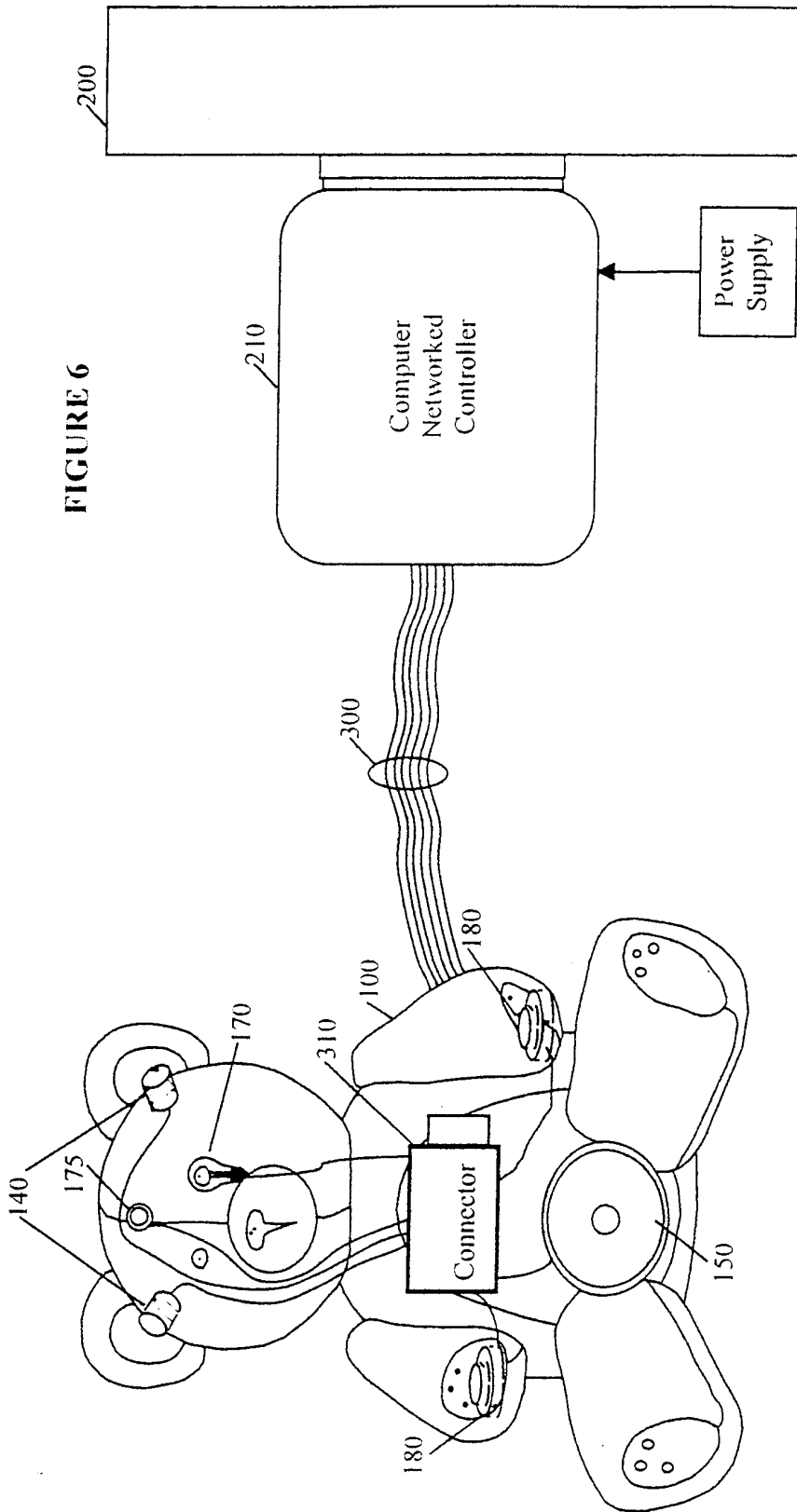


FIGURE 6

FIGURE 7

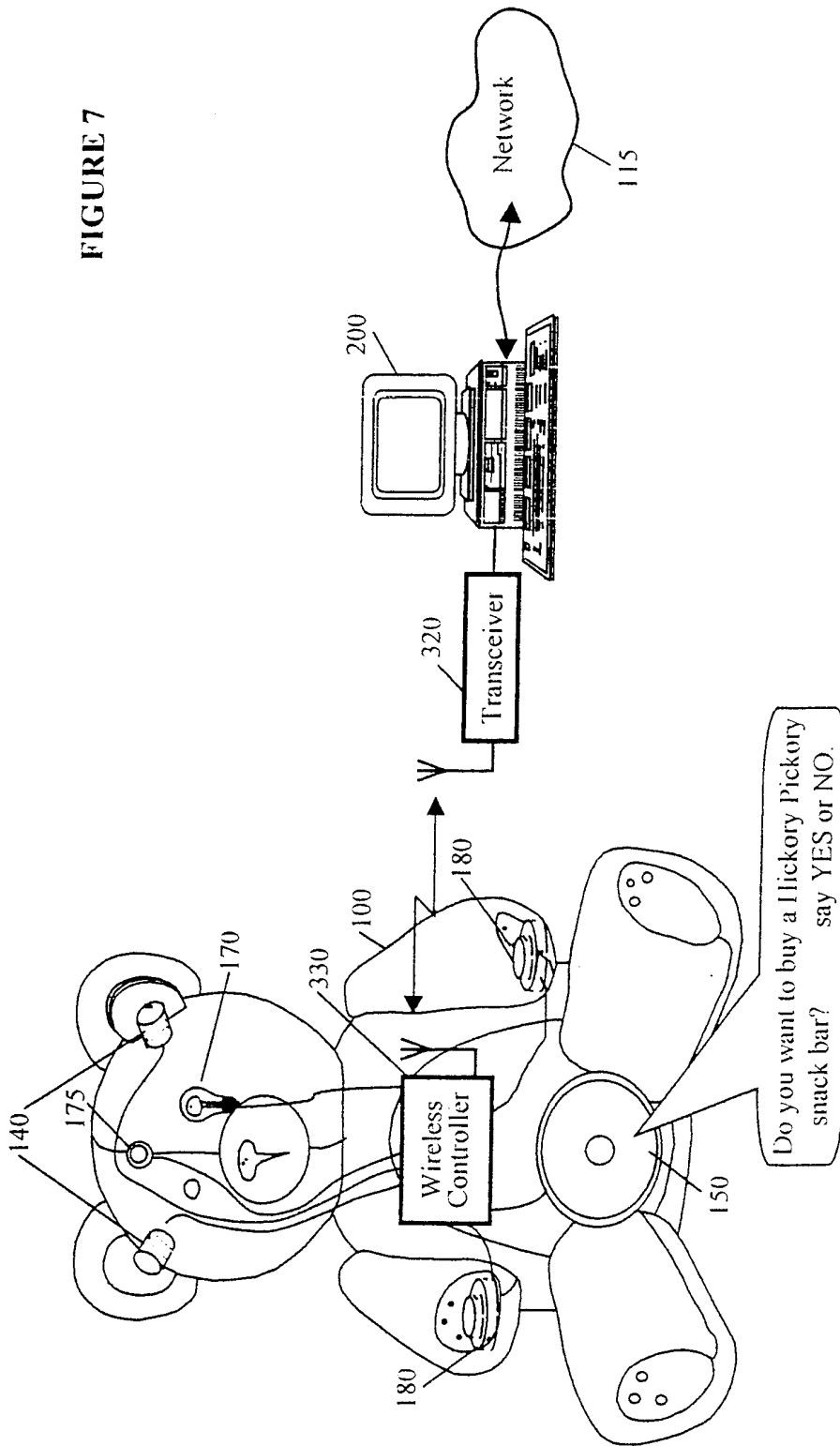


FIGURE 8

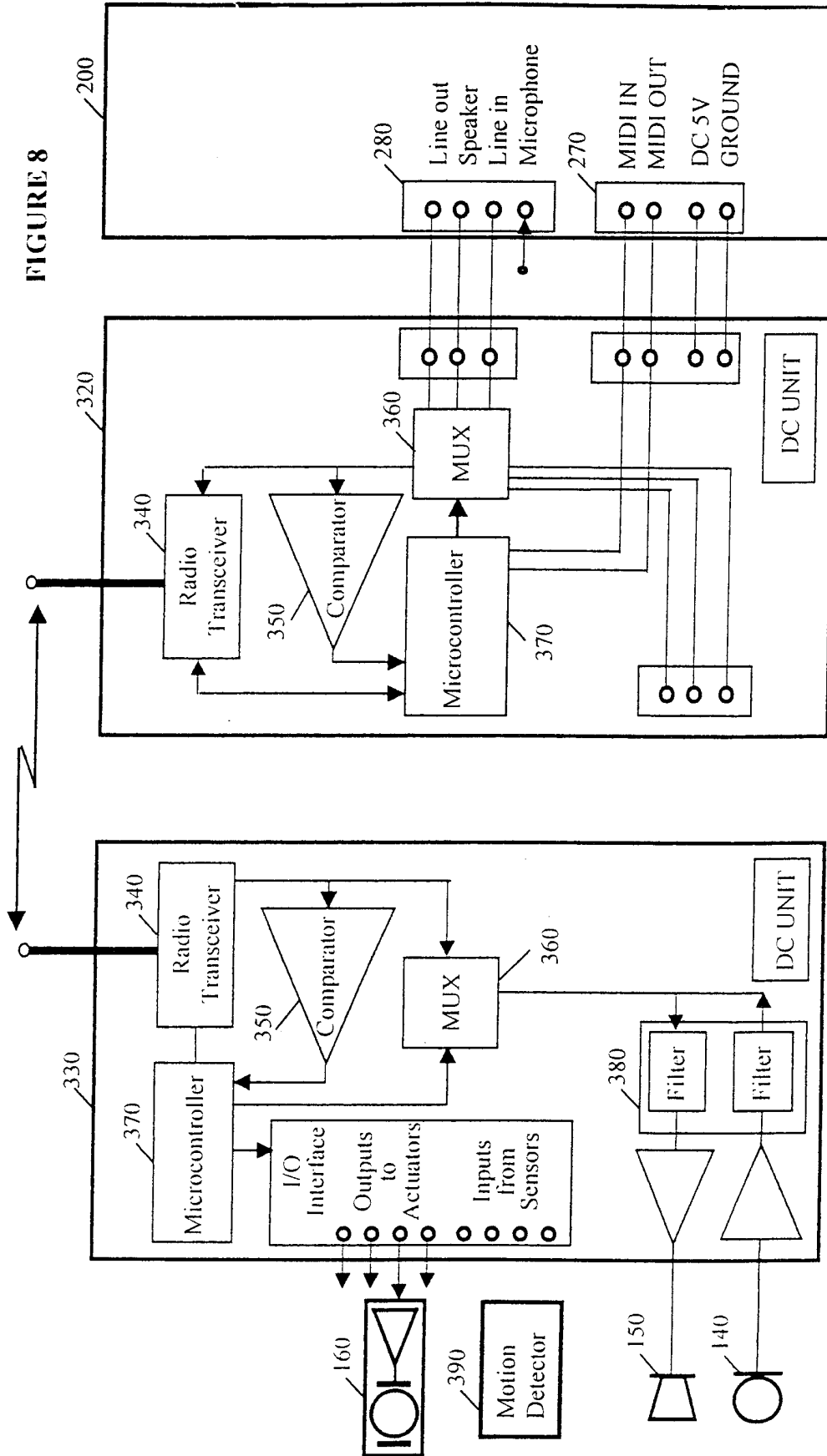


FIGURE 9

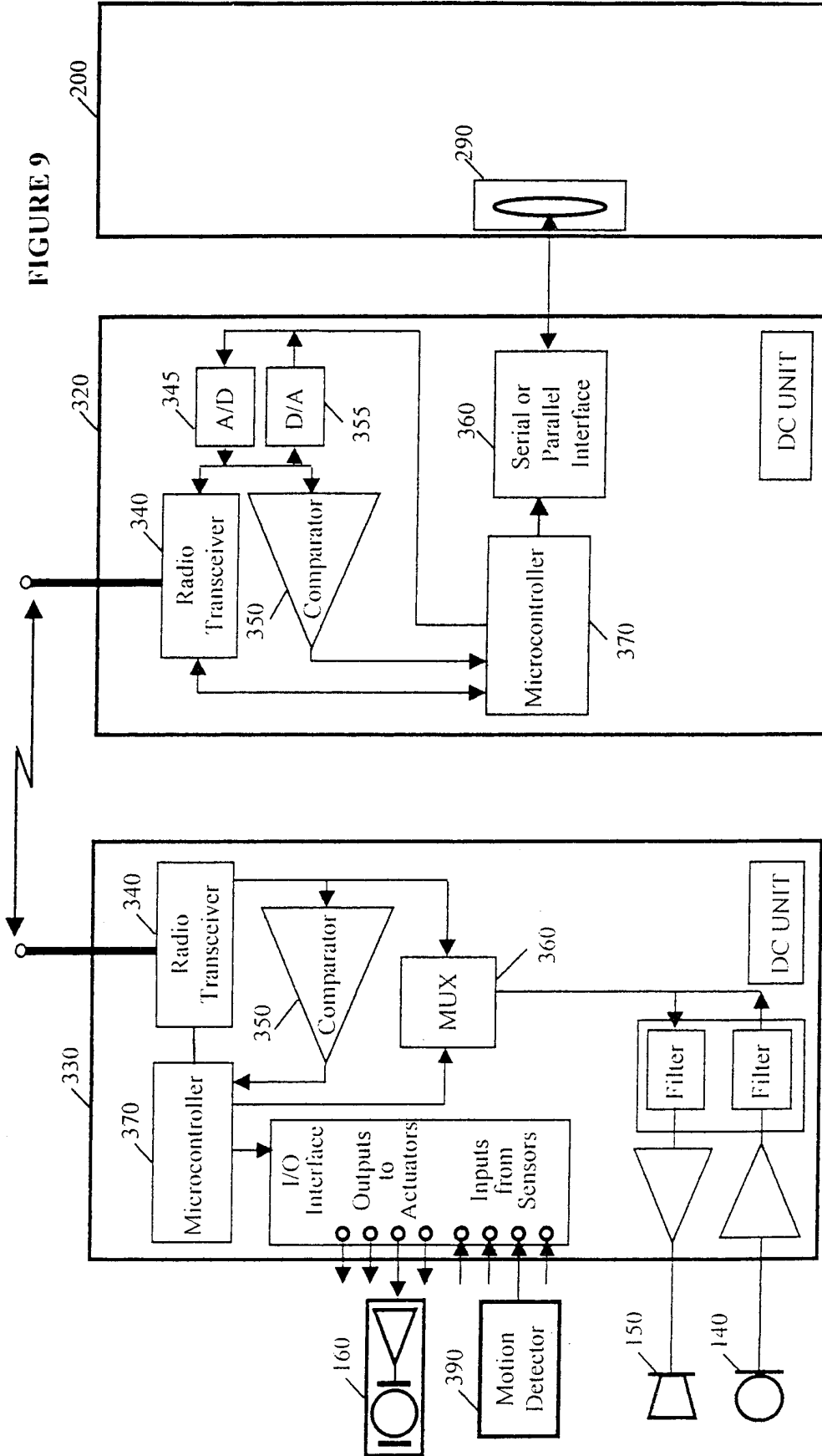


FIGURE 10

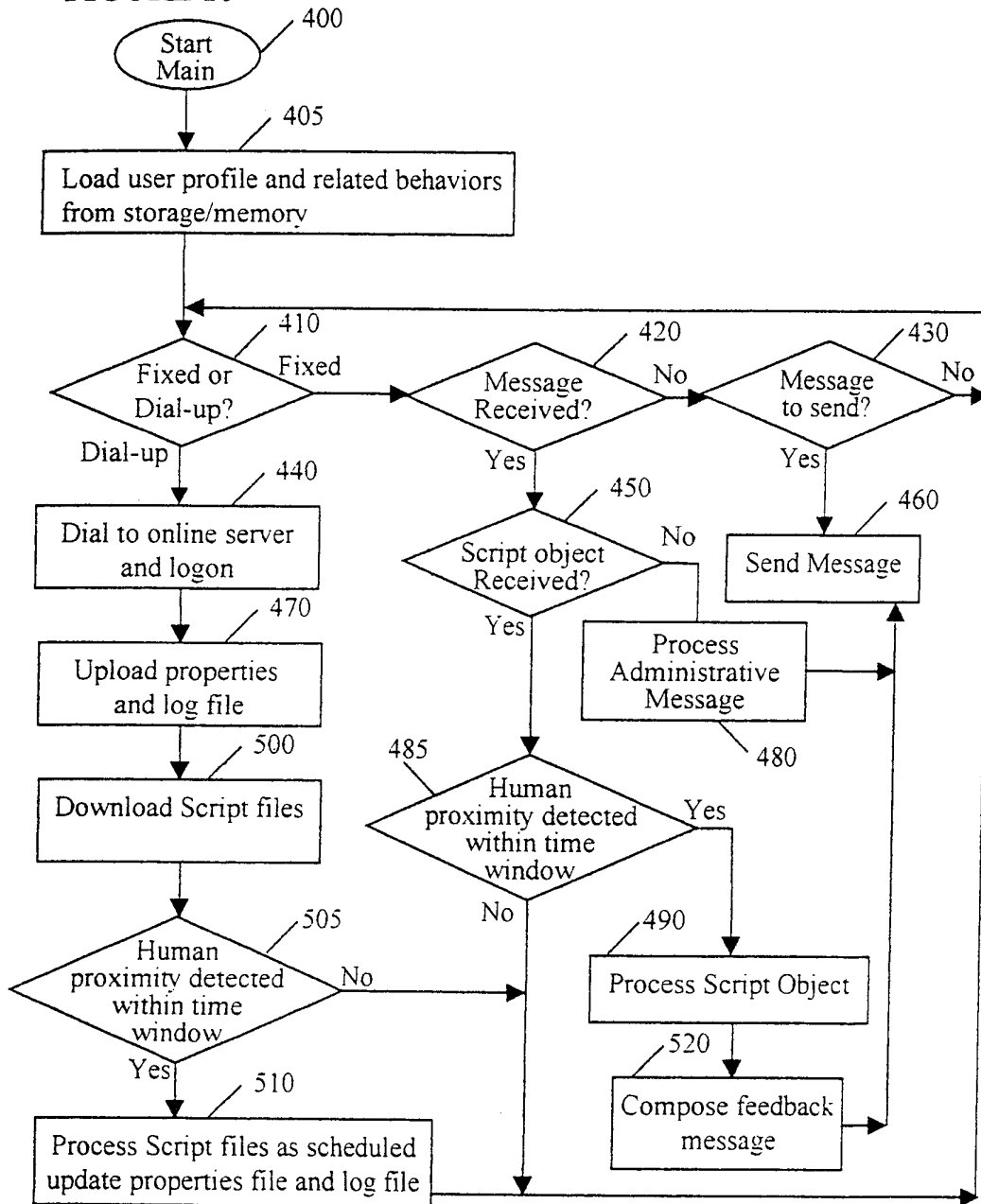


FIGURE 11

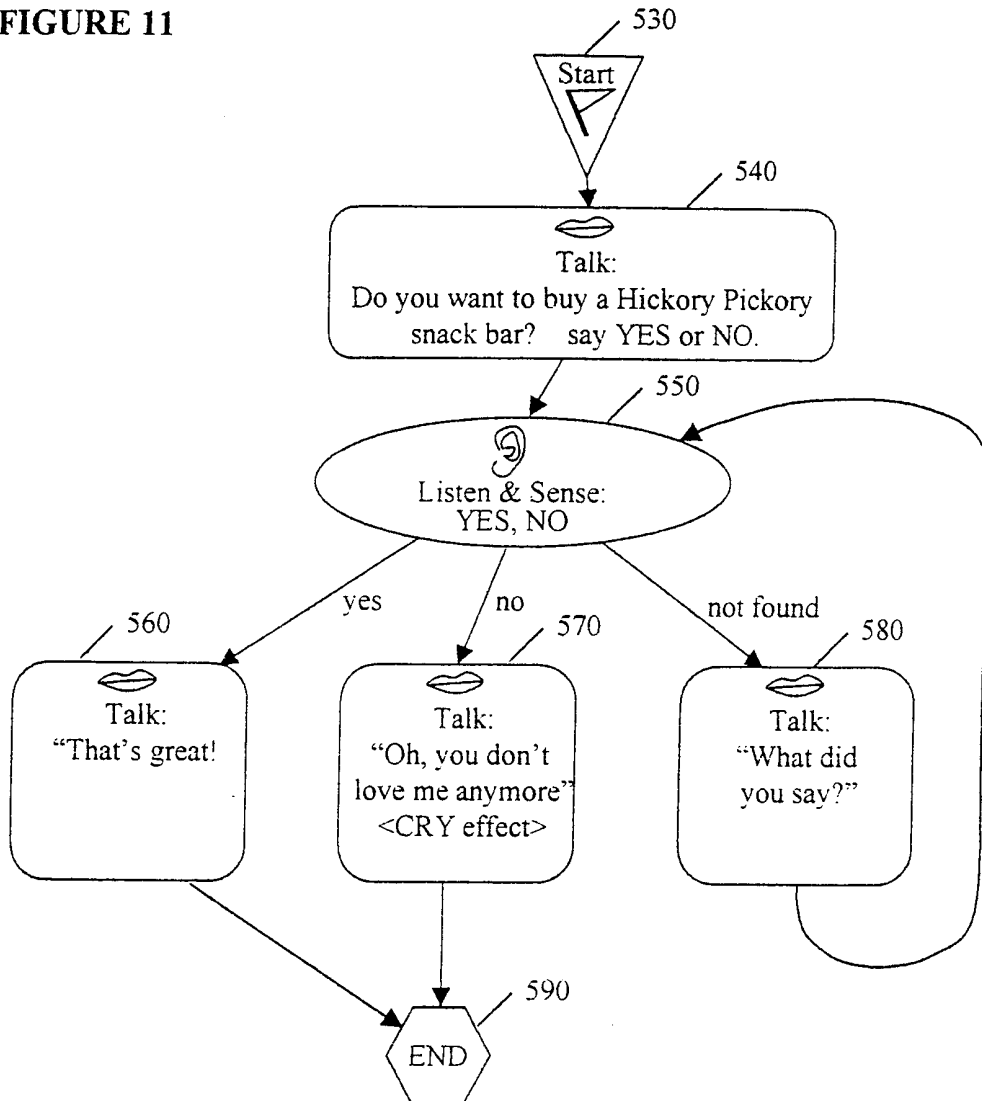




FIGURE 12

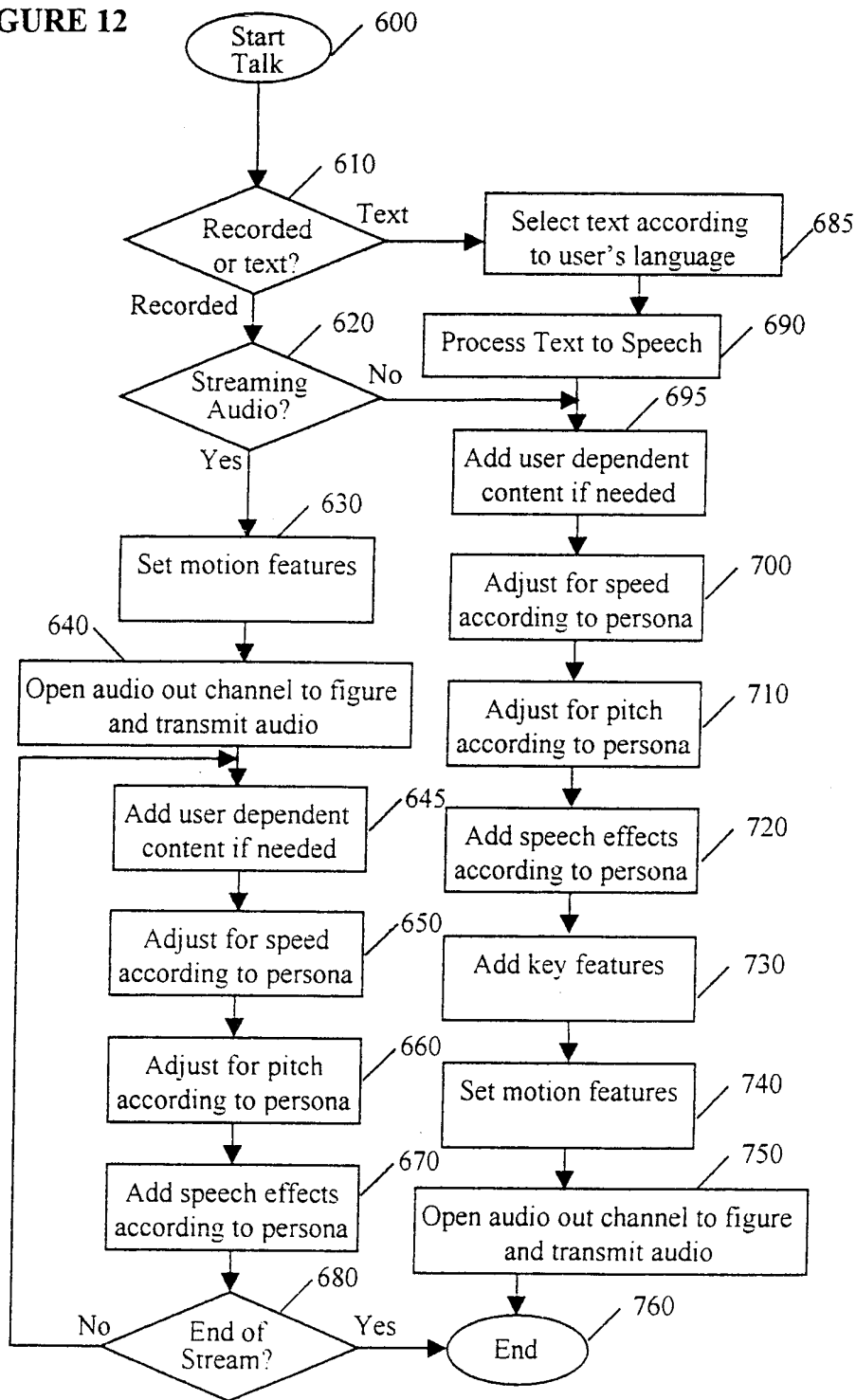


FIGURE 13

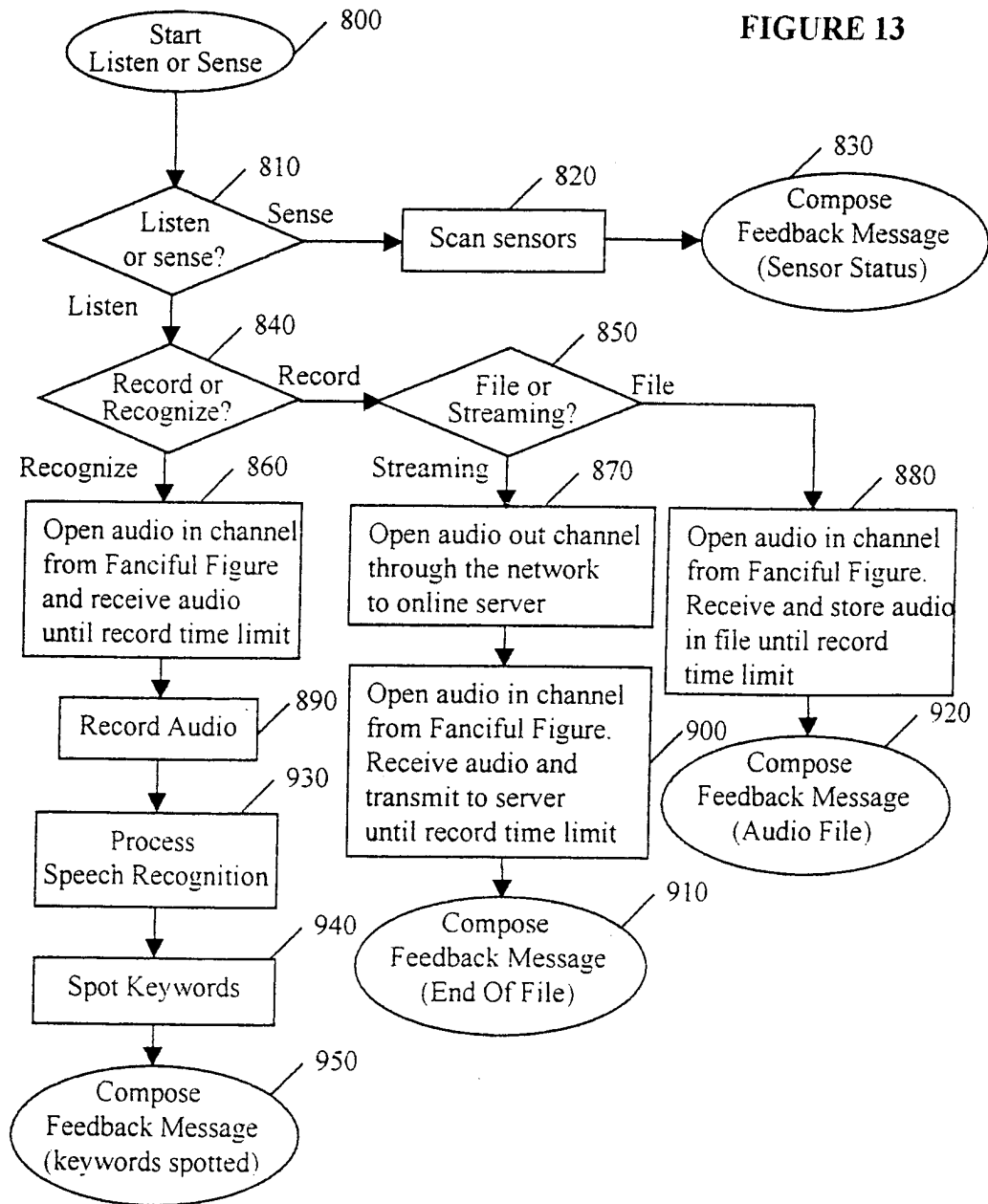
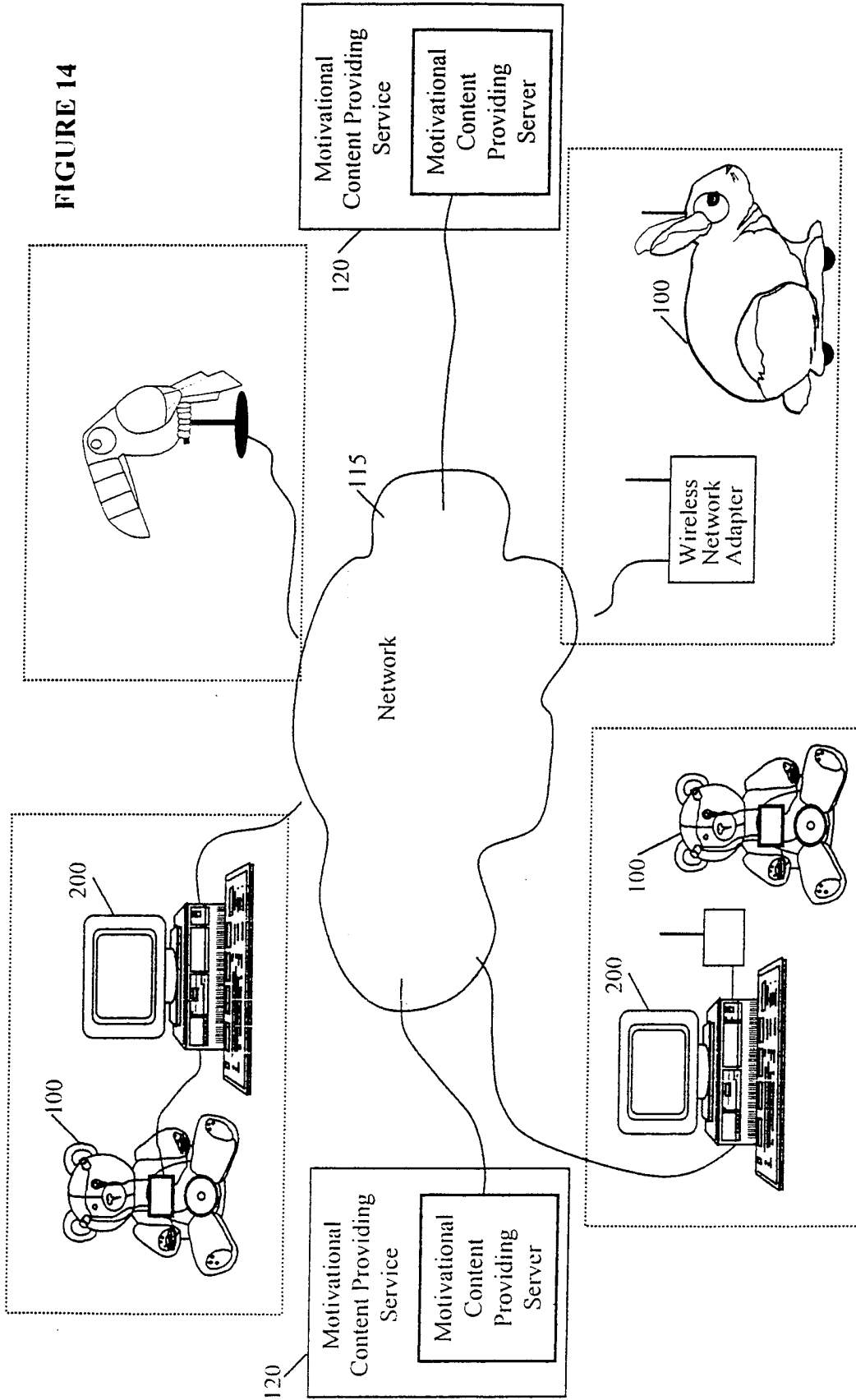


FIGURE 14



**FIGURE 15**

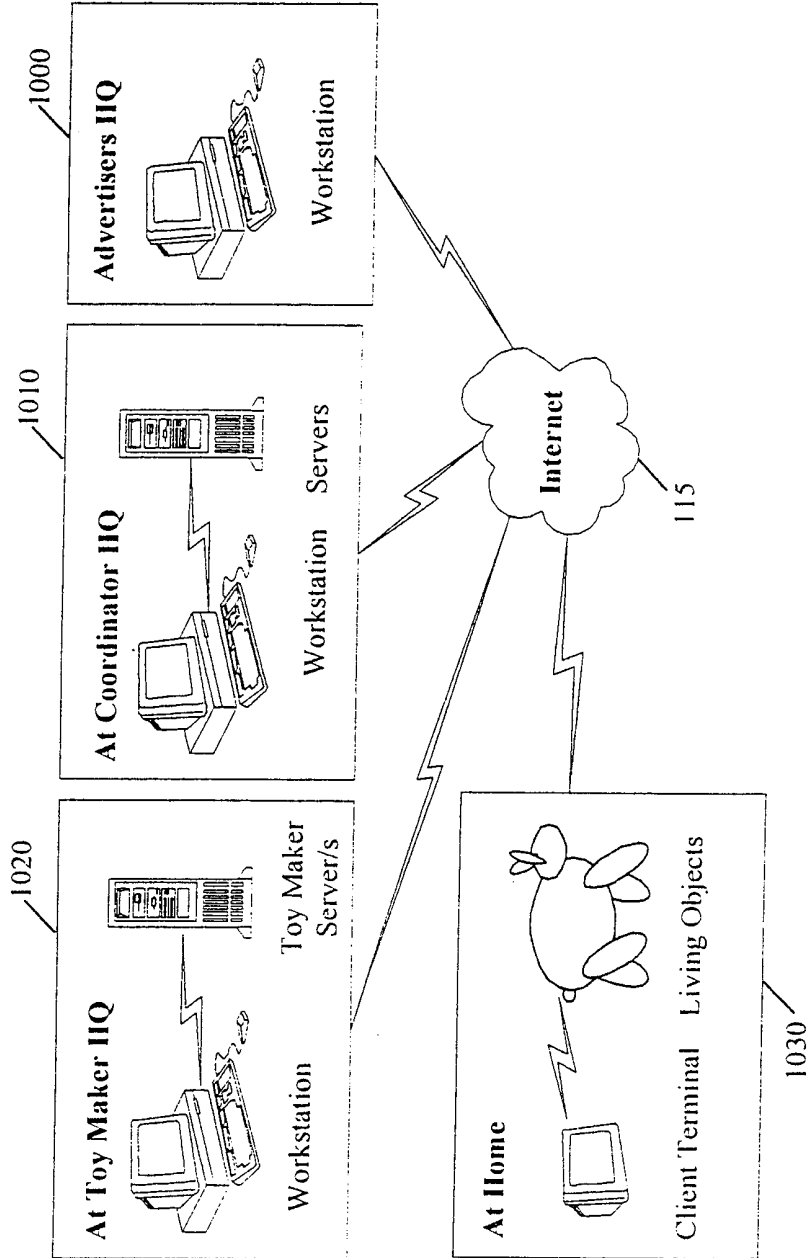


FIGURE 16

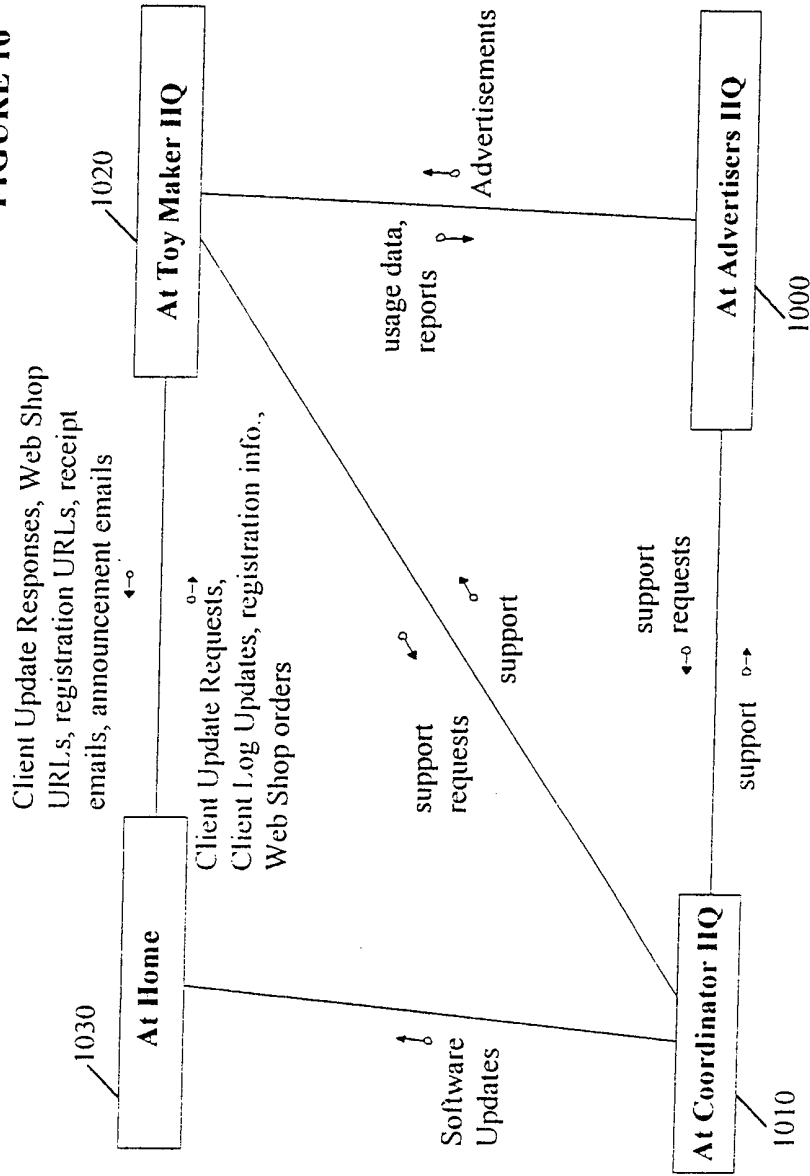


FIGURE 17

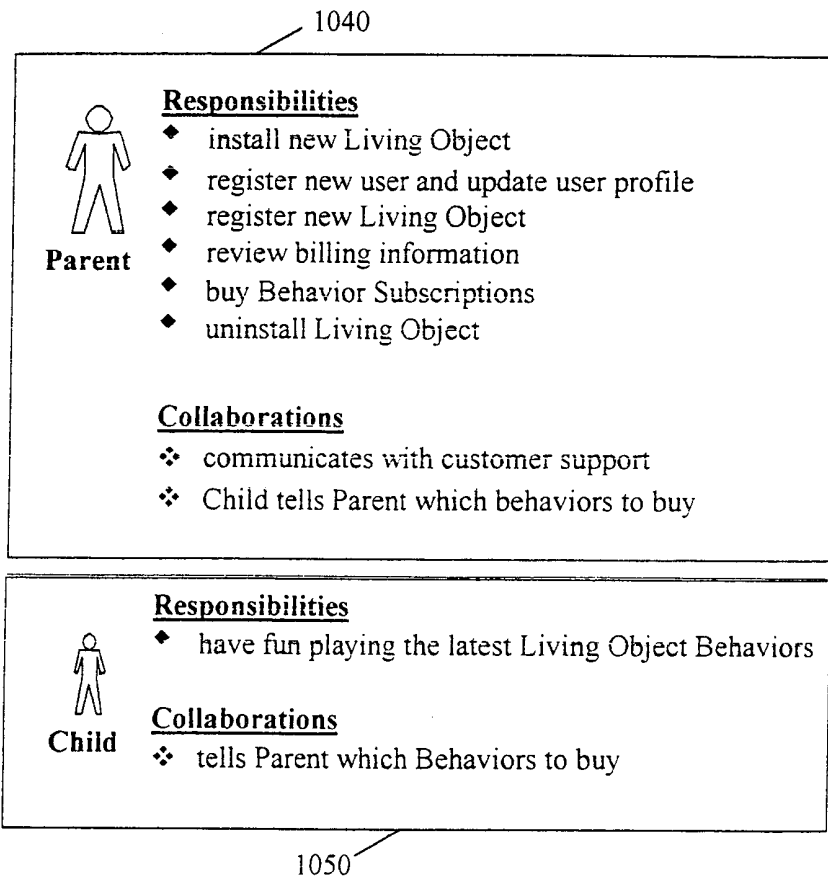


FIGURE 18

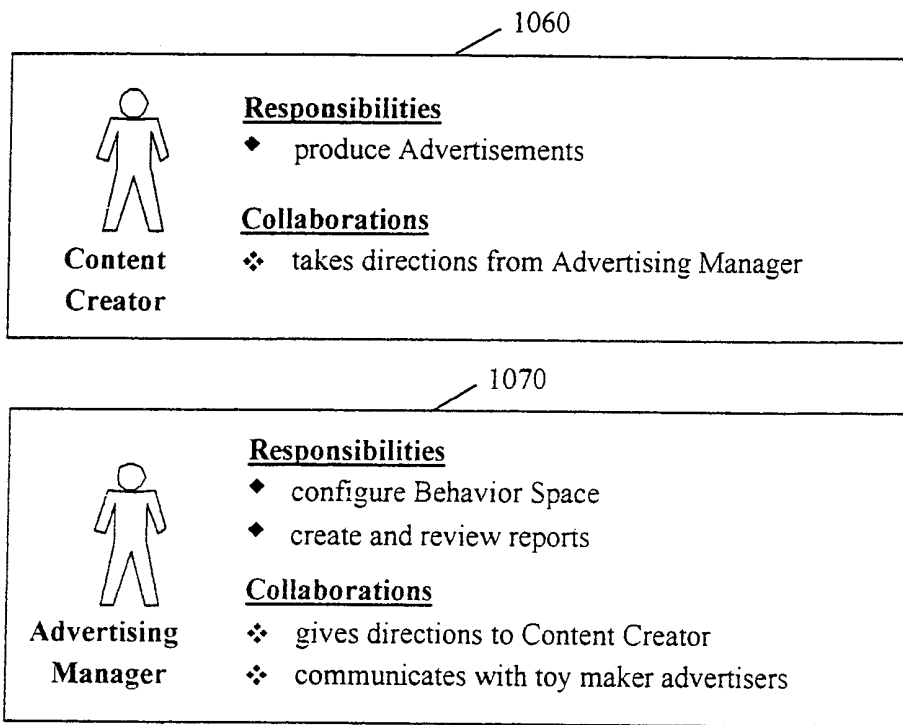
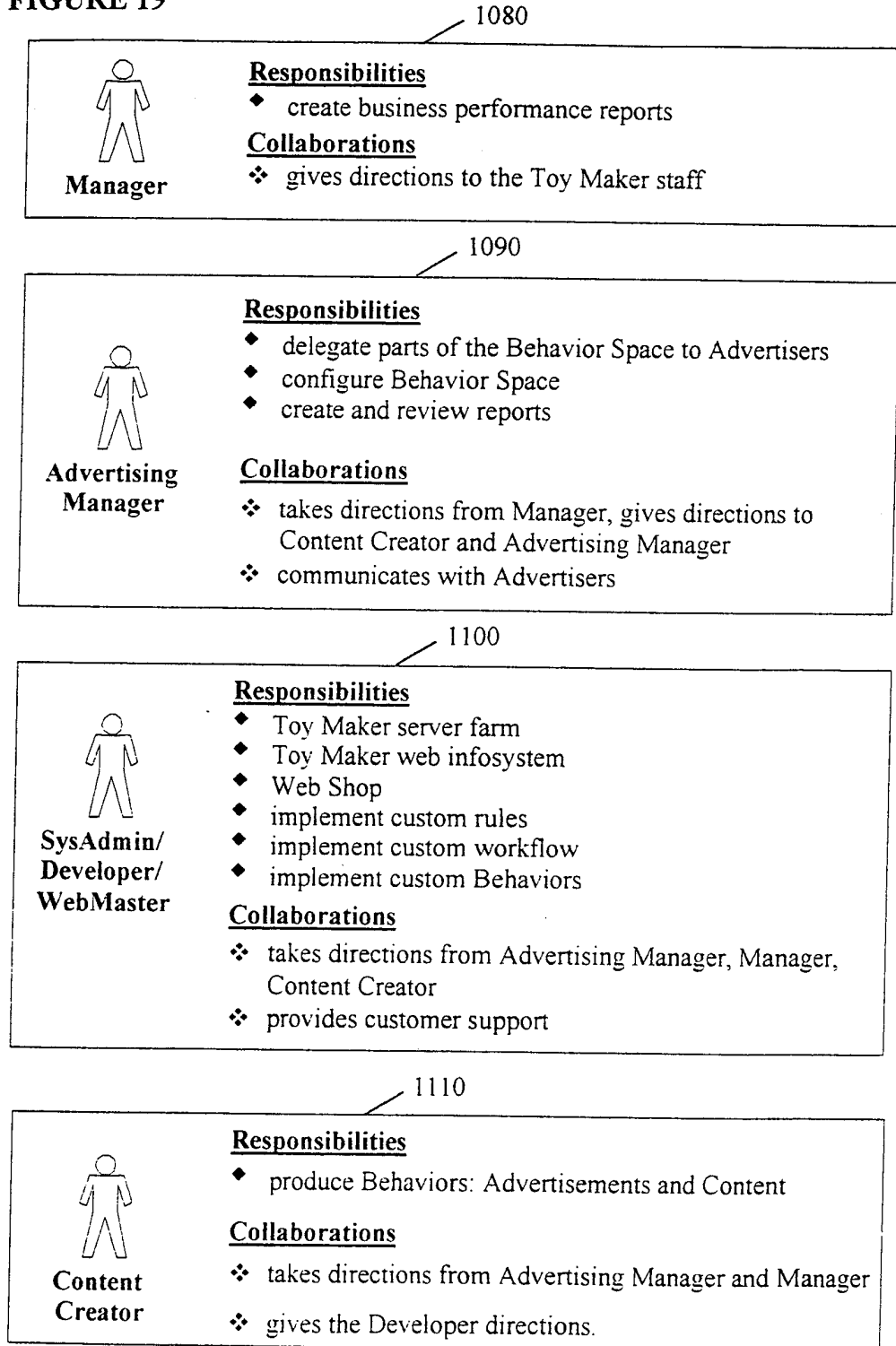
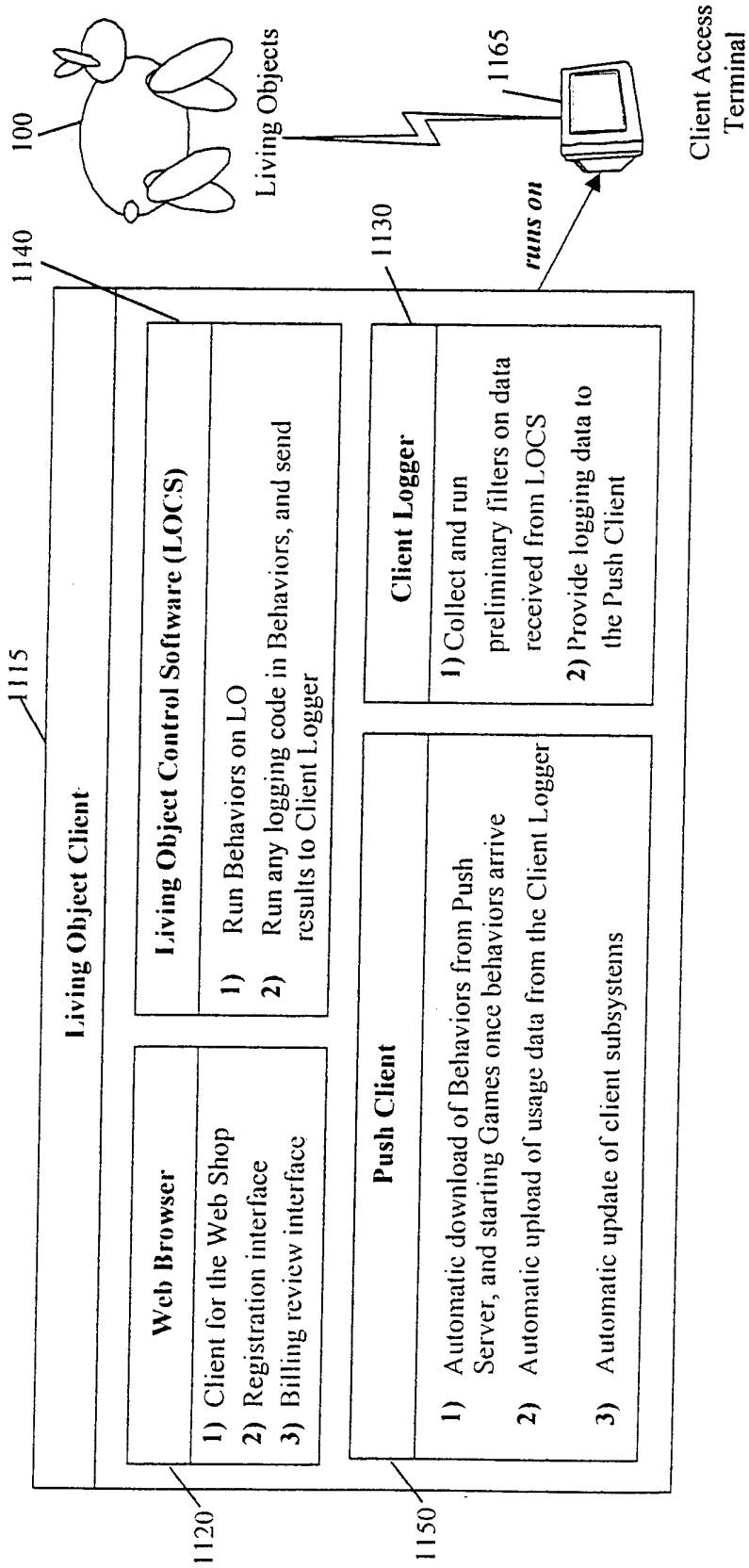


FIGURE 19





**FIGURE 20**



**FIGURE 21**

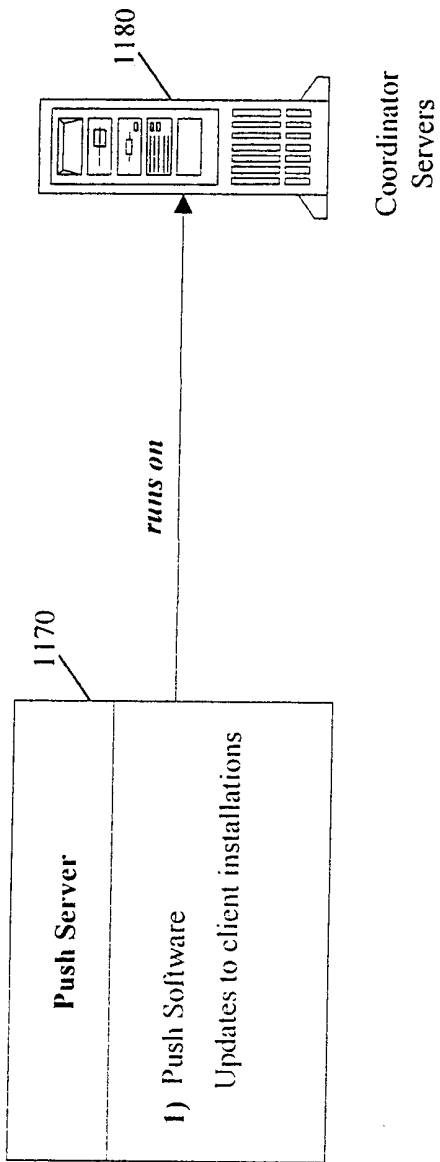


FIGURE 22

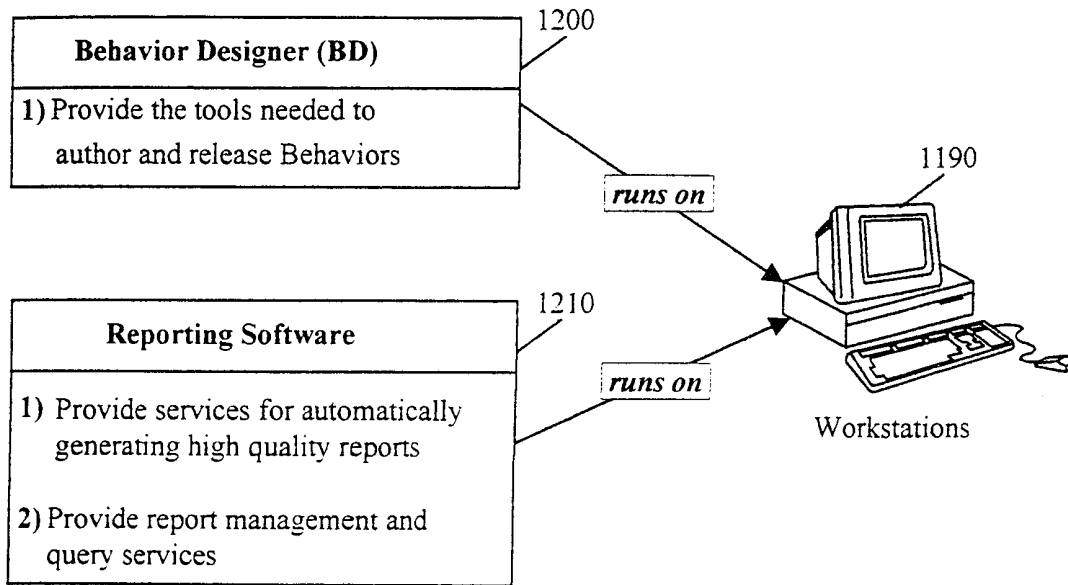


FIGURE 23

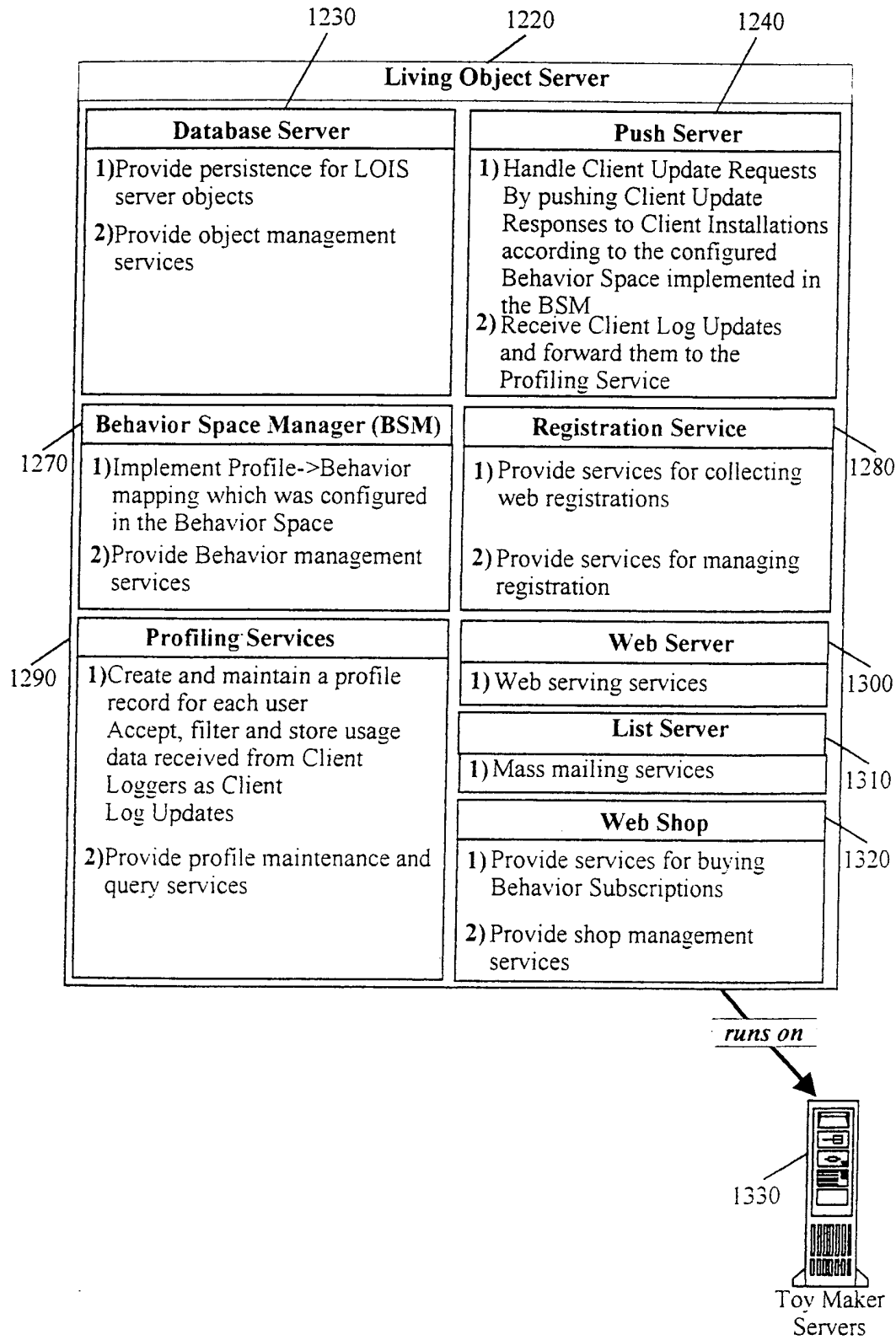


FIGURE 24

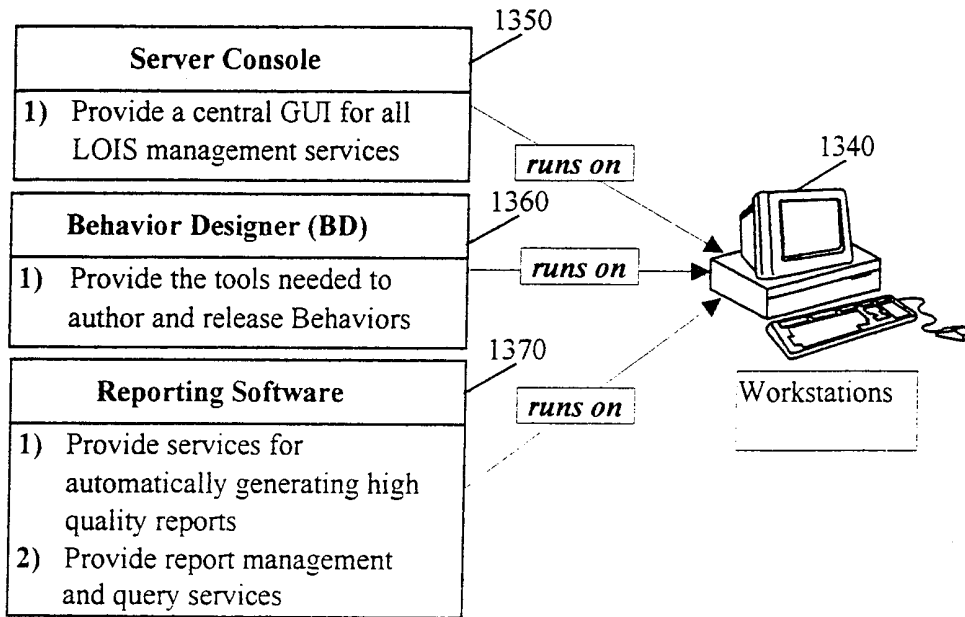


FIGURE 25

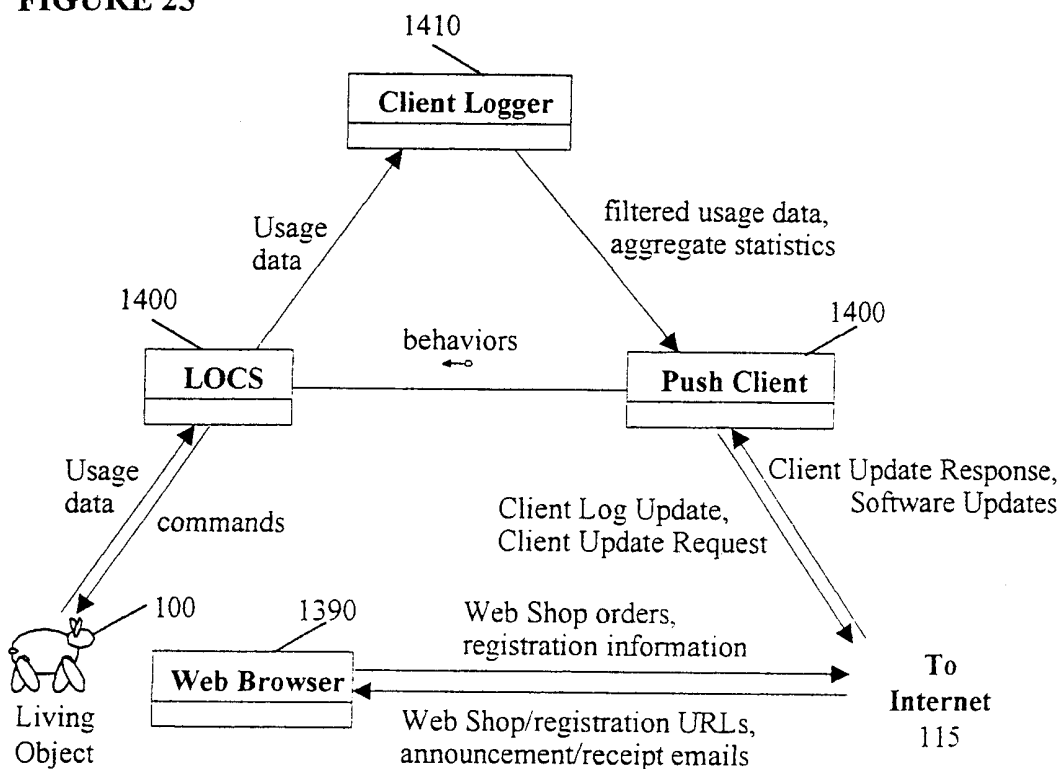


FIGURE 26

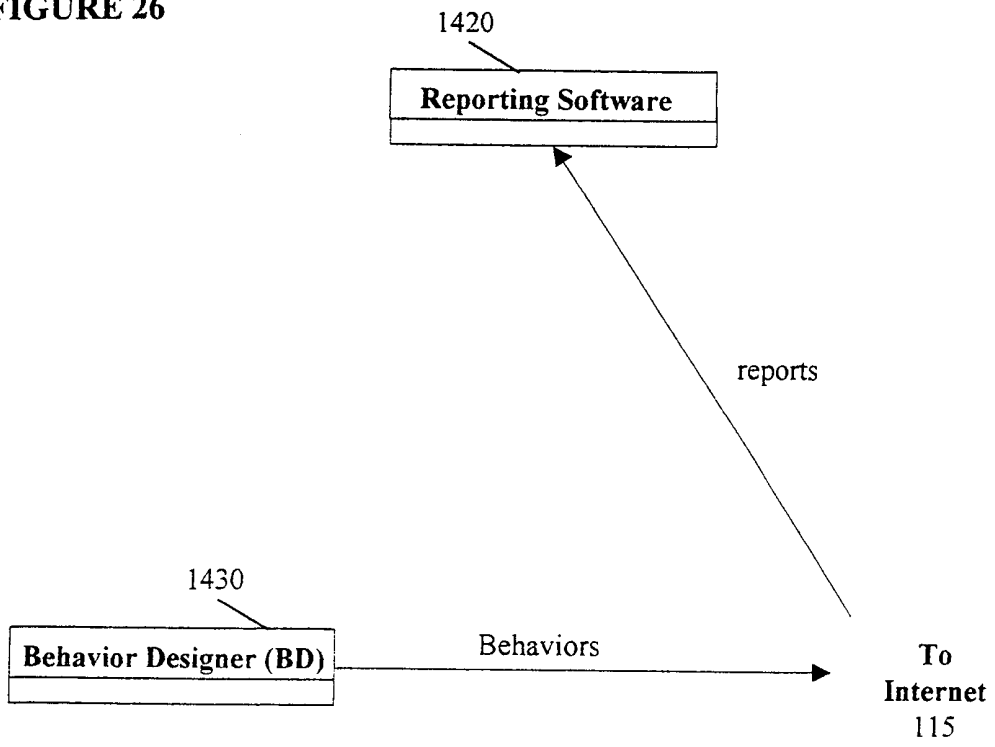


FIGURE 27

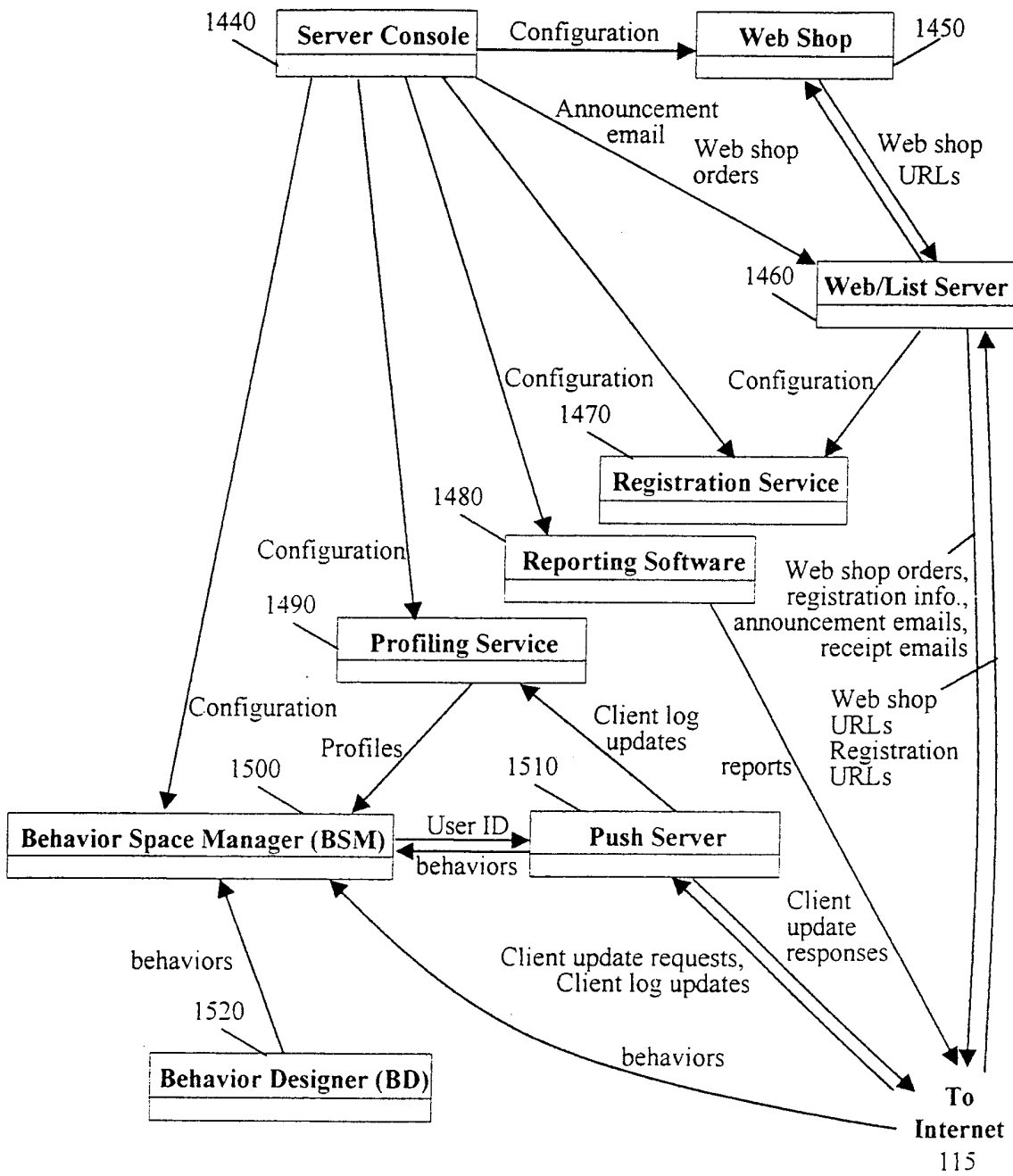




FIGURE 28

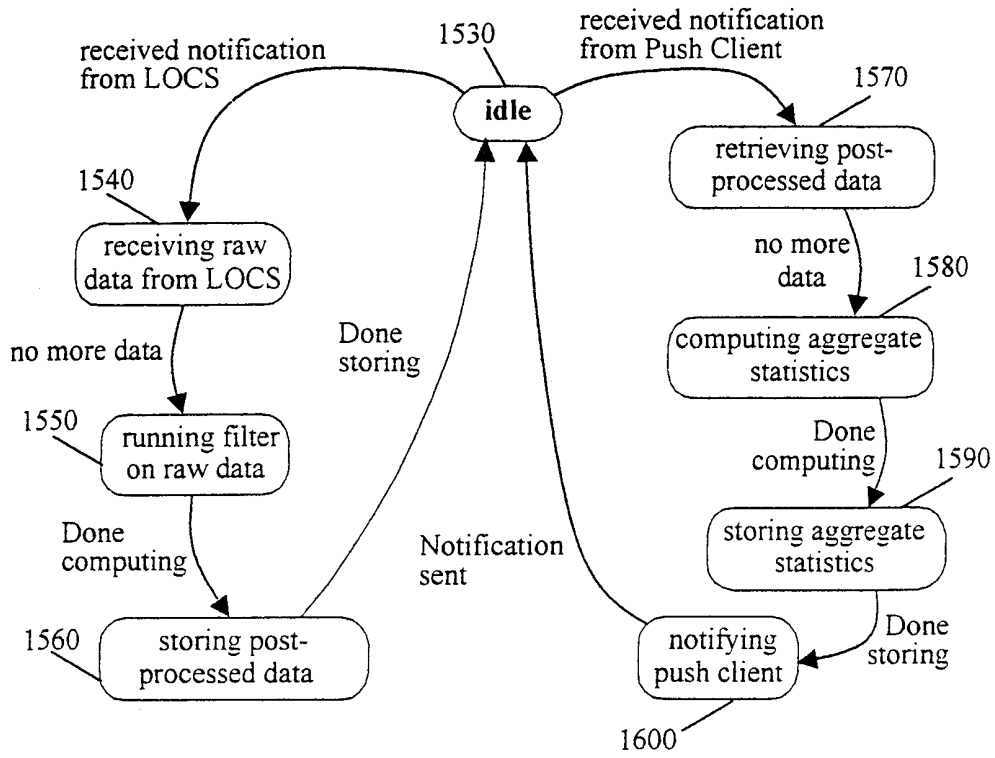


FIGURE 29

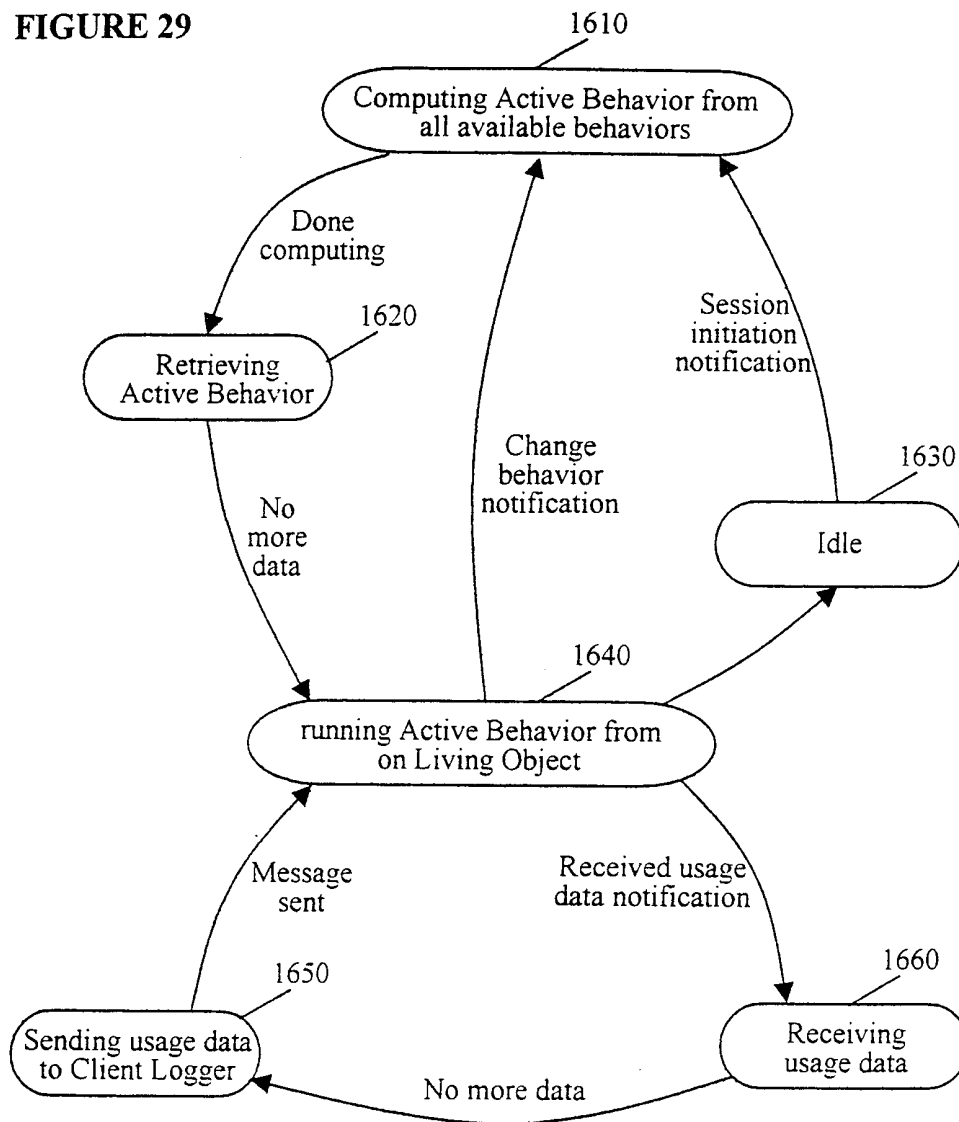


FIGURE 30

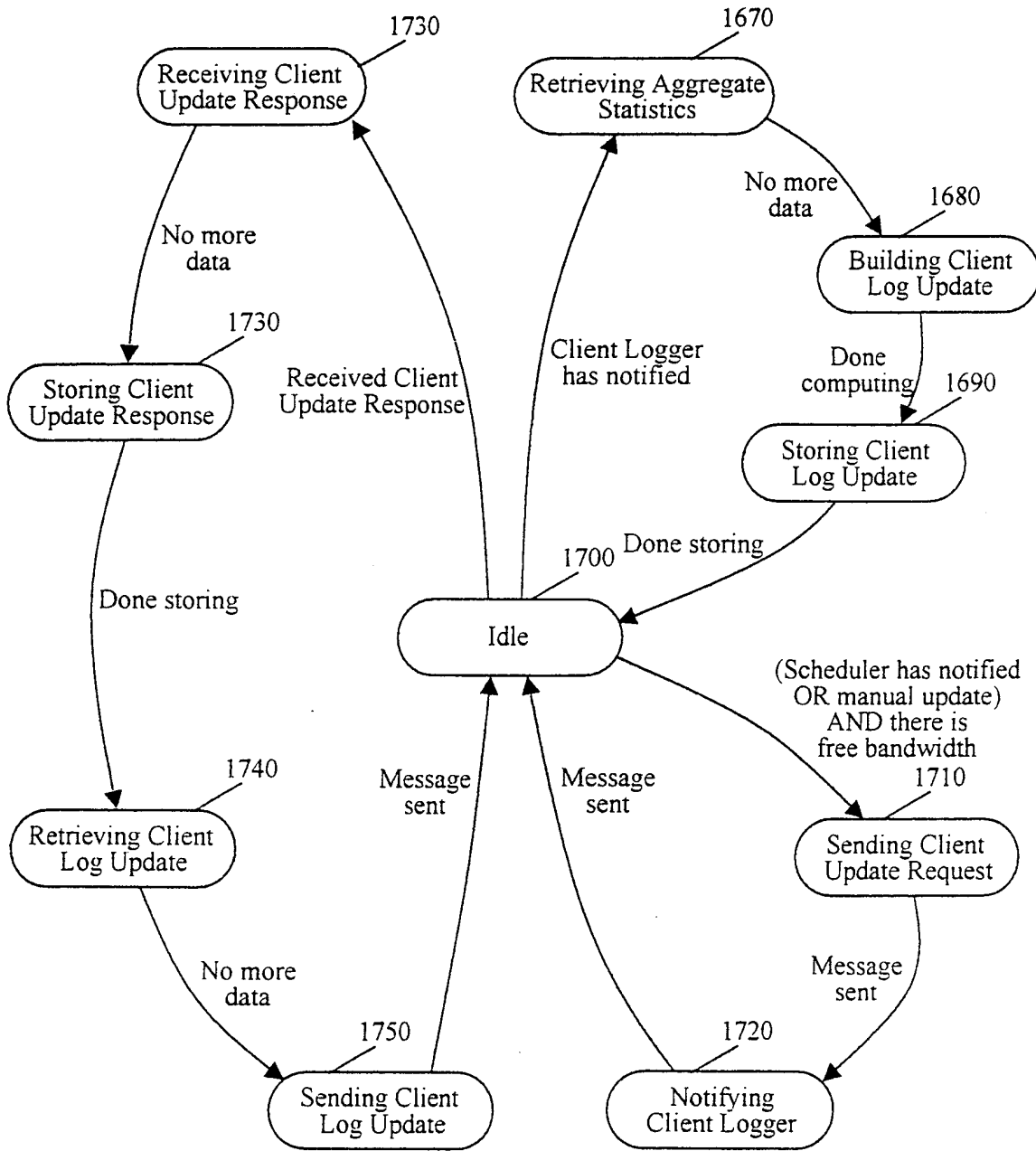


FIGURE 31

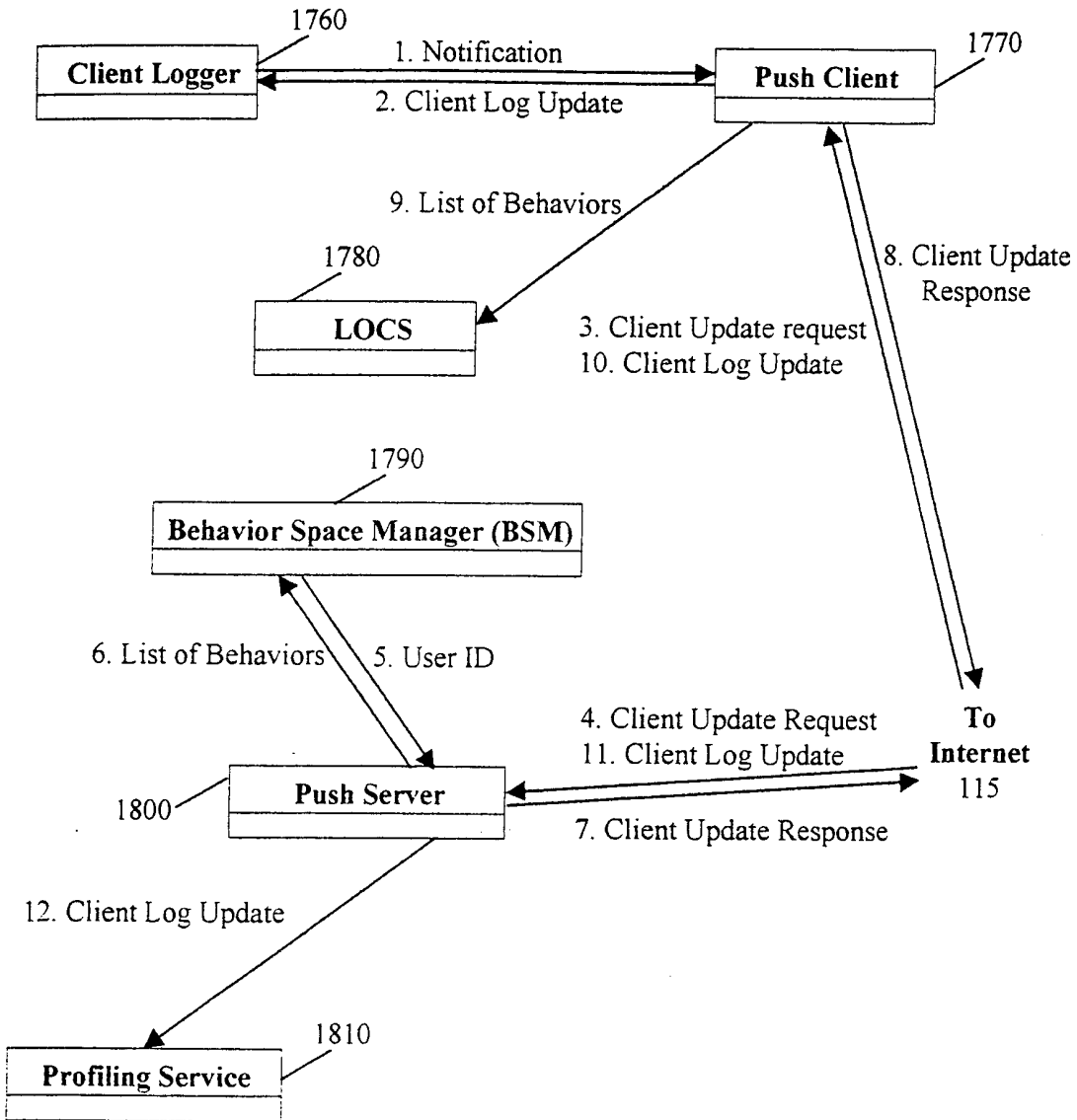


FIGURE 32

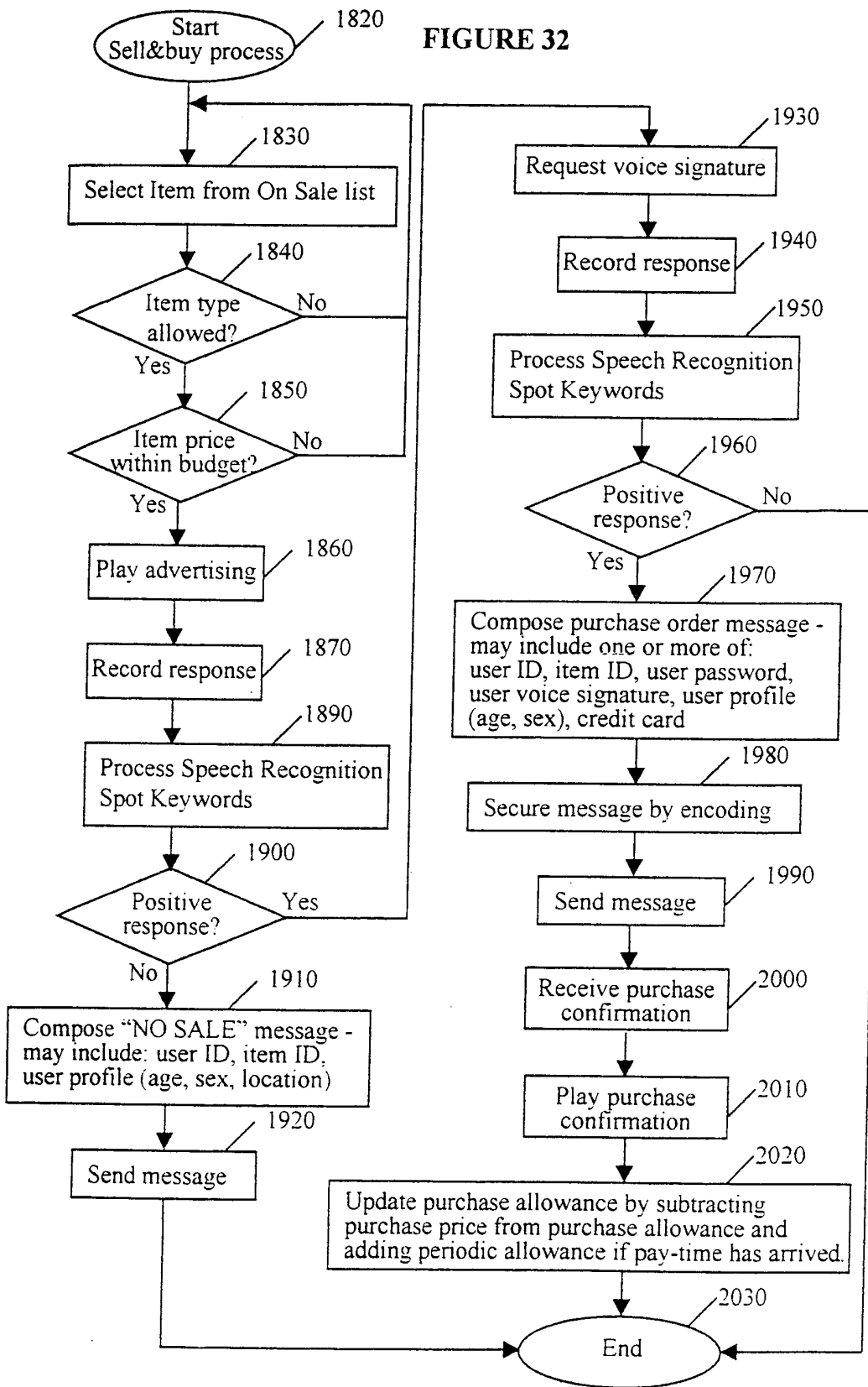


FIGURE 33

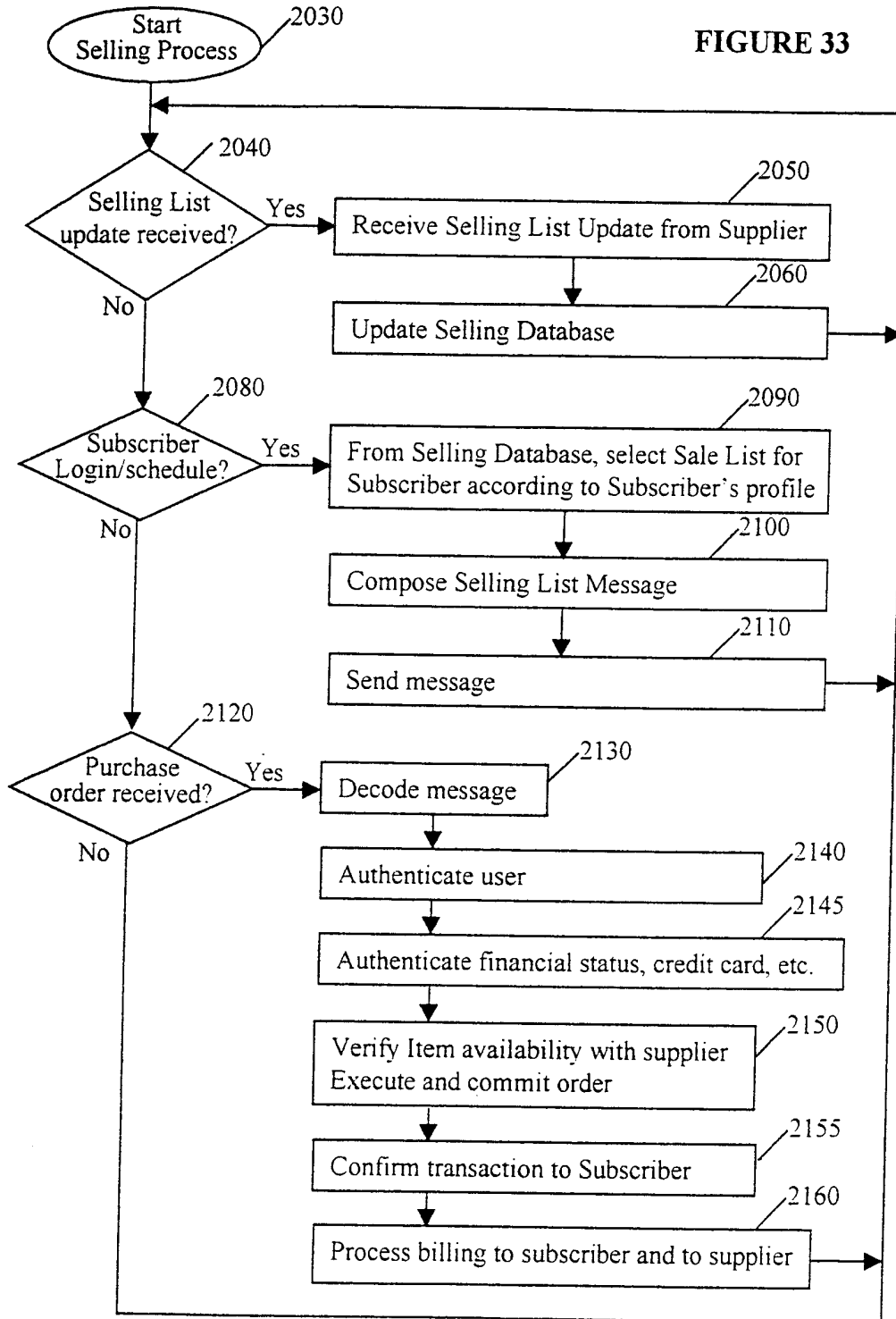


FIGURE 34

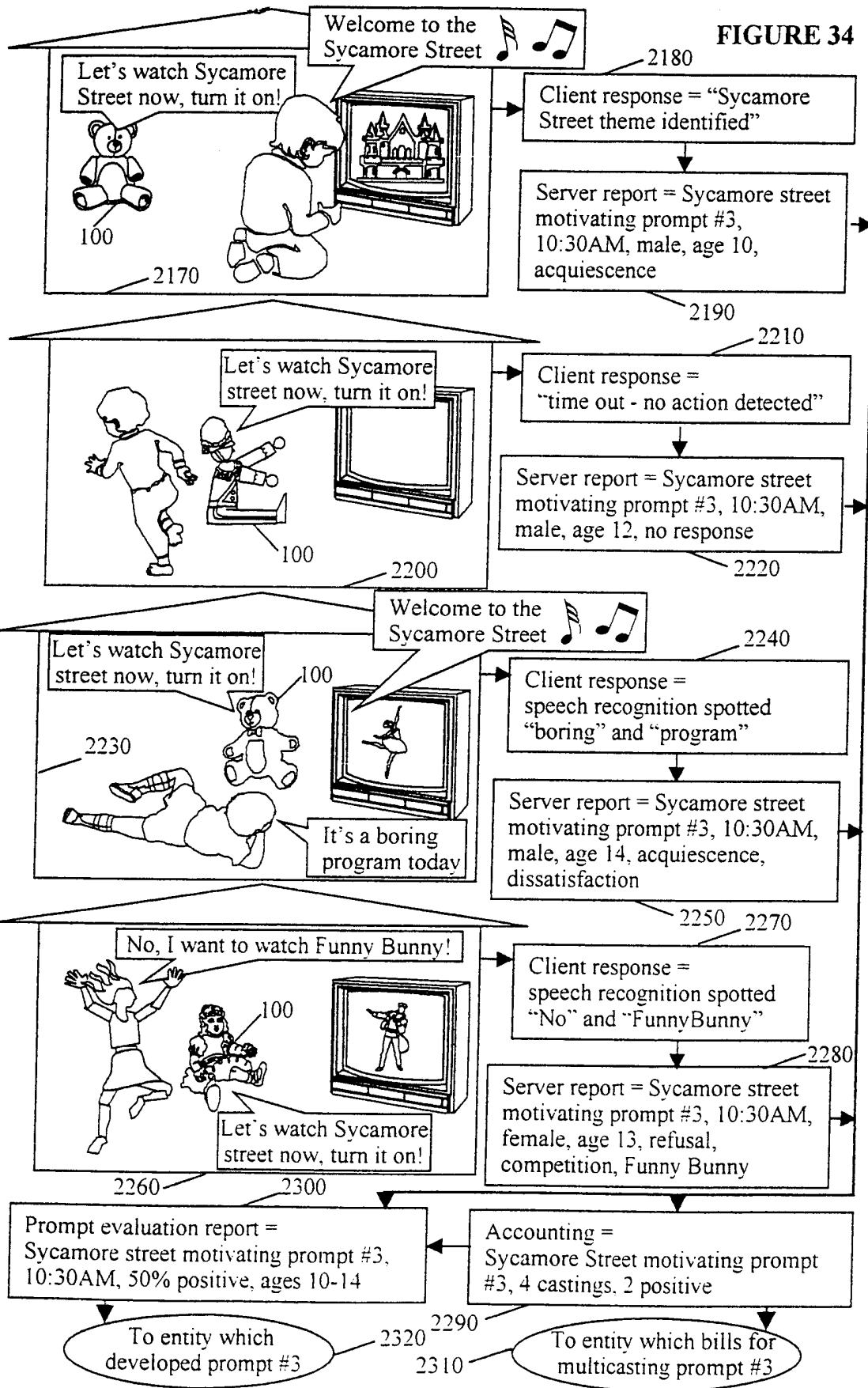


FIGURE 35

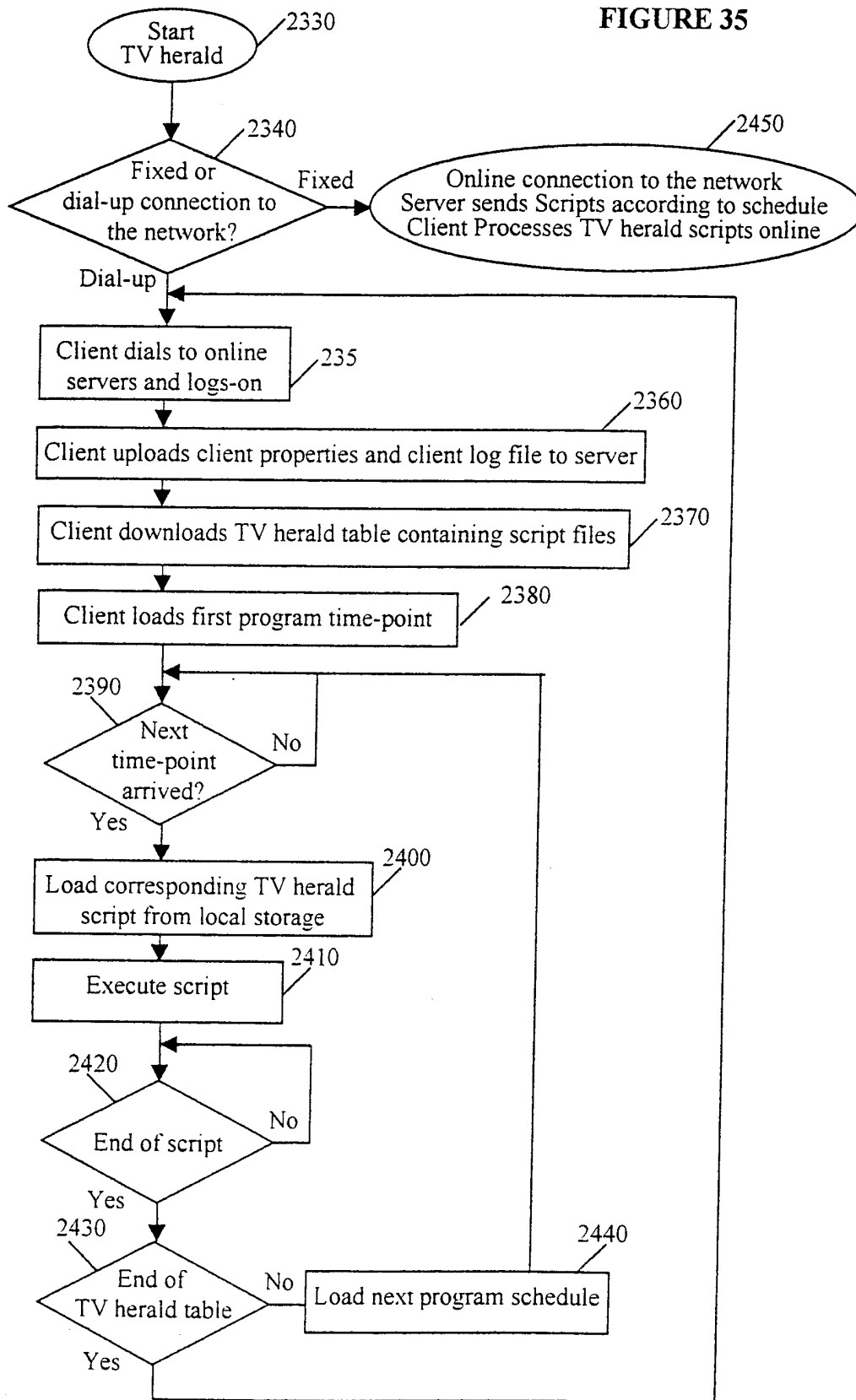




FIGURE 36

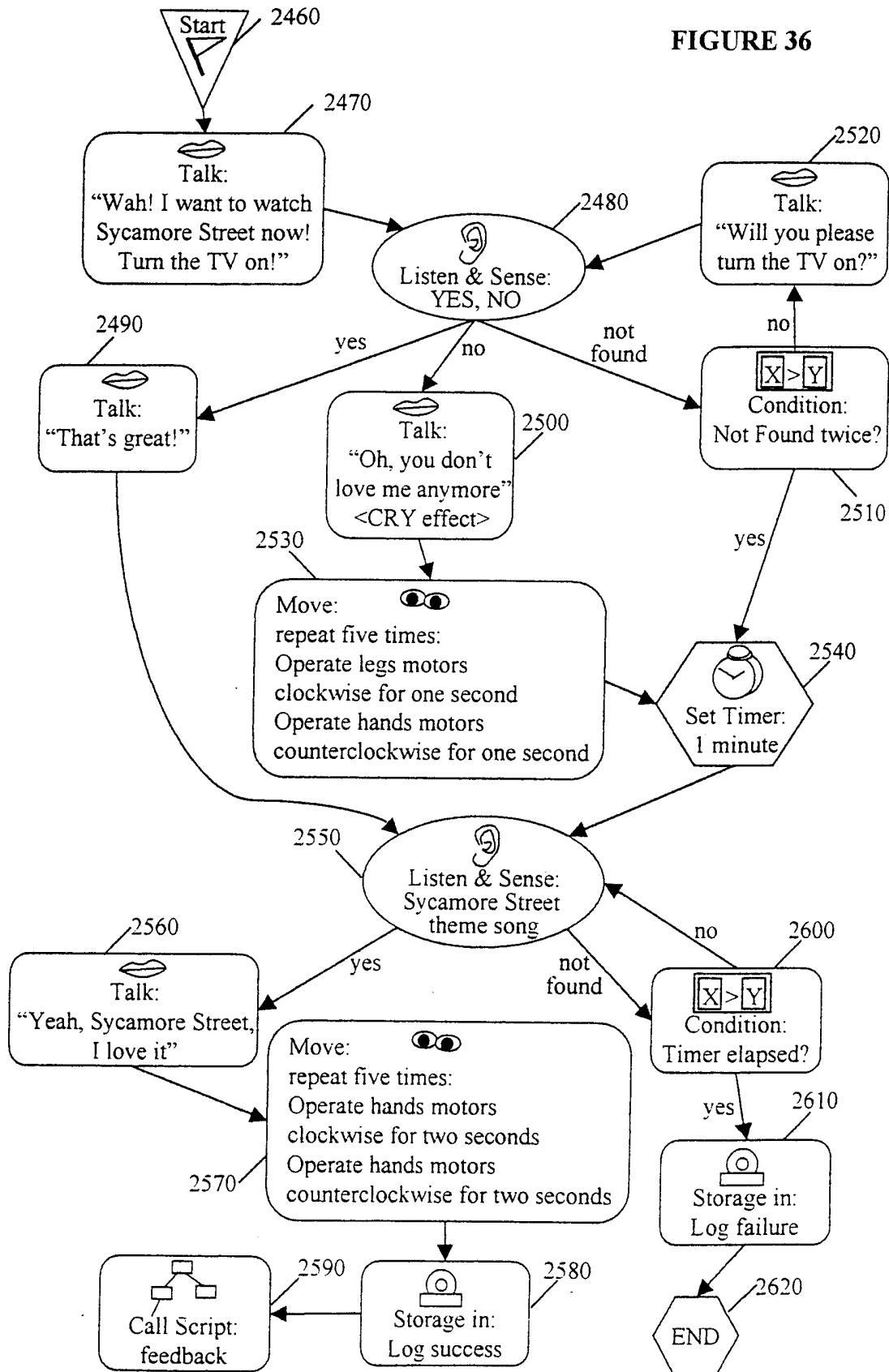


FIGURE 37

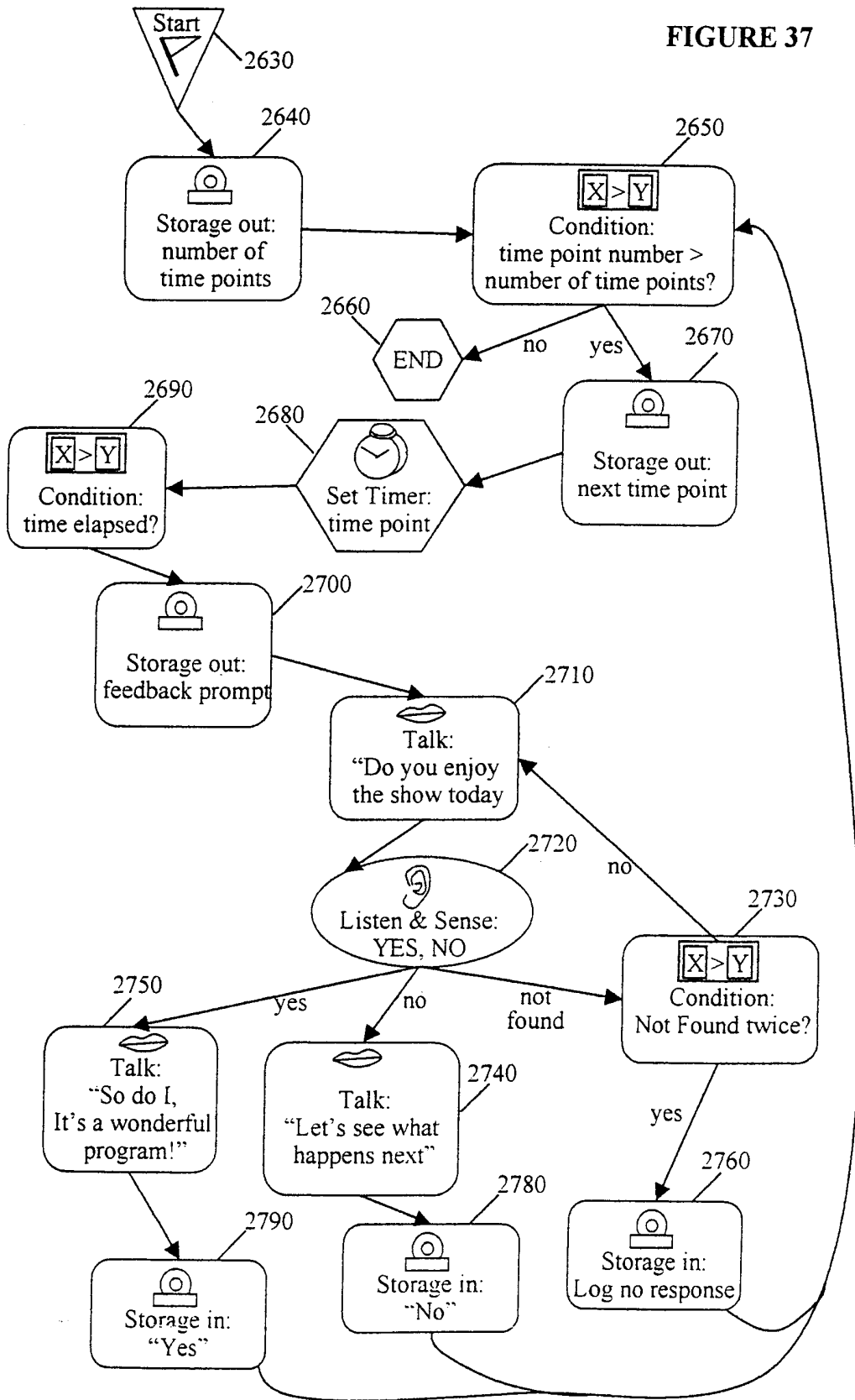


FIGURE 38

File Edit View Tools Window Help

### User Registration





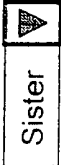

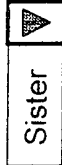
Name	Stuart		Record name
Secret name			Record secret name
Age	10		
Gender	<input checked="" type="radio"/> Boy <input type="radio"/> Girl		
Language	English		
Grade	D		Name Beverly
Relatives	Sister		Name
Friends	Sister		Name
Teacher	Sister		


FIGURE 39

File Edit View Tools Window Help

### User Registration - Financial Data

Name

Password

 Record voice signature

Monthly allowance    Updates on

Weekly allowance    Updates on

Daily allowance    Updates on

Credit Card

Current budget status

FIGURE 40

<b>Name</b>	<b>Client side of living object update</b>
<b>Actors</b>	The child is involved only in that s/he may trigger the use case, but there are other ways for it to be triggered. The child is the actor the use case is servicing.
<b>Goal</b>	That the living object be updated automatically.
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Automatic, transparent</li> <li>2) Graceful, silent handling of errors</li> <li>3) Error correction, guaranteed delivery</li> <li>4) Bandwidth 'niceness'</li> <li>5) Security, privacy</li> <li>6) Several providers per toy</li> </ol>
<b>Trigger</b>	<p>Depends on exact configuration.</p> <ol style="list-style-type: none"> <li>1) Generally users will configure the push client to run updates at specific intervals, so the trigger is the scheduler</li> <li>2) Users may manually initiate a download</li> </ol>
<b>Summary</b>	<p>This use case captures the scenario where the client requests and receives a new living object update.</p> <ol style="list-style-type: none"> <li>1) client asks server for new updates</li> <li>2) new updates are sent to the client</li> <li>3) at the end of each complete living object update the operating client software is notified</li> </ol>
<b>Pre-conditions</b>	<ol style="list-style-type: none"> <li>1) No download will occur if the client is completely refreshed</li> <li>2) The push client must be installed first</li> <li>3) The client must be registered first</li> </ol>
<b>Post-conditions</b>	<ol style="list-style-type: none"> <li>1) There is now a new complete living object update on the user's hard disk drive</li> <li>2) the operating client software is notified</li> </ol>
<b>Related use cases</b>	<ol style="list-style-type: none"> <li>1) <b>Registration</b> is a requirement</li> <li>2) <b>Configuring the living object update process</b> determines what is updated</li> </ol>

FIGURE 41

<b>Name</b>	<b>Installation of push client</b>
<b>Actors</b>	Parent
<b>Goal</b>	That the push client be installed correctly, so that registration can commence.
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Installshield type installation</li> <li>2) There could have been previous installation, i.e. this could be a 2nd, 3rd, etc. Living Object</li> <li>3) There are several different types of win32 OSs</li> <li>4) The client itself must look unique and reflect some corporate identity, definitely not the 3rd party push software maker identity</li> </ol>
<b>Trigger</b>	User manually starts the installation process from CD, or from a downloaded file
<b>Summary</b>	<p>This use case captures the first, and later installations of the LOIS client.</p> <ol style="list-style-type: none"> <li>1) User is asked several configuration parameters, or if this is not a first toy, old parameters are used</li> <li>2) User advances to the registration use case</li> </ol>
<b>Pre-conditions</b>	User downloaded the package, or has a CD
<b>Post-conditions</b>	Everything is setup for registration
<b>Related use cases</b>	1) <b>Registration</b> should follow immediately, or be deferred to a later time at the users convenience

FIGURE 42

Name	Registration
Actors	Parent
Goal	That the specific living object, recently purchased, be registered at the central database, or that information previously entered in registration be modified
Forces in Context	<ol style="list-style-type: none"> <li>1) Should be similar in feel (to the user) to web site registrations</li> <li>2) Security, privacy</li> <li>3) The exact nature of the registration info connected is not fixed, and is determined by the big corporation</li> <li>4) Layout and styling are important</li> <li>5) There is probably optional, and required, registration information"</li> <li>6) Changing registration information should be the same type of experience for the user</li> <li>7) There is some information which needs to be passed to the server which should not be generated manually, but which is burnt on the installation CDROM</li> </ol>
Trigger	<ol style="list-style-type: none"> <li>1) User has completed the installation of push client, and moves on to registration immediately or at a later time</li> <li>2) User wishes to refresh any of his registration attributes</li> </ol>
Summary	<p>This use case captures the scenario where the user registers, or modifies his registration information.</p> <ol style="list-style-type: none"> <li>1) User is taken to the registration web site automatically</li> <li>2) User fills in form, or changes a form with existing values</li> <li>3) User submit form</li> <li>4) If form is complete user is shown a thank you</li> <li>5) User is emailed a receipt</li> </ol>
Pre-conditions	That the push client be installed
Post-conditions	Living object is now registered, user has received receipt
Related use cases	<ol style="list-style-type: none"> <li>1) <b>Installation of push client</b> should be completed</li> <li>2) <b>Configuring the registration process</b> determines the specifics of the process</li> </ol>

FIGURE 43

<b>Name</b>	<b>Reviewing billing information</b>
<b>Actors</b>	Parent
<b>Goal</b>	That the actor be able to review his/her billing status anytime, i.e. his subscriptions, history etc.
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Should be a simple web page</li> <li>2) Should include the option to communicate with technical, and billing support of the big corporation</li> <li>3) Security, privacy</li> <li>4) Support of multiple currencies</li> </ol>
<b>Trigger</b>	User initializes the use case by going to a secure URL. This may be done by clicking the 'review billing' button in the push client, or on the big corporations web site
<b>Summary</b>	<p>This use case captures the scenario where the user checks his/her billing status</p> <ol style="list-style-type: none"> <li>1) User logs in to the billing page</li> <li>2) All information is displayed on one page</li> <li>3) User may cancel any outstanding subscriptions</li> <li>4) User may contact billing or technical support through the page</li> </ol>
<b>Pre-conditions</b>	That the user have at least one living object installed and registered
<b>Post-conditions</b>	User is now aware of the exact details concerning any billing he/she was involved with
<b>Related use cases</b>	1) <b>Registration</b> should have been completed



FIGURE 44

Name	Buying behaviors
Actors	Parent
Goal	That the actor be able to purchase behaviors for his/her living object
Forces in Context	1) Security, privacy 2) Should have the look and feel of normal web store fronts 3) Behaviors might be available as a single update, subscription, or a group of updates 4) Support of multiple currencies
Trigger	User may reach the web store through the big corporations web site, by clicking on a 'check out new behaviors' button in the push client, or by interacting with the living object
Summary	This use case captures the scenario where the user buys behaviors. 1) User logs in to the web store 2) User surfs the store, and adds to shopping bag wanted items 3) User is presented with billing information 4) User reviews billing, and once he/she approves the central server is notified about a change in policy concerning the user
Pre-conditions	That the user have at least one living object installed and registered
Post-conditions	Server should now attempt to push the new behaviors to the user
Related use cases	1) <b>Registration</b> should have been completed

**FIGURE 45**

<b>Name</b>	<b>Configuring the registration process</b>
<b>Actors</b>	Big corporation
<b>Goal</b>	That the actor be able to configure the registration process
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Security</li> <li>2) Corporation wants to know as much as possible about users</li> <li>3) Corporations don't want users to be totally aware of item 2</li> <li>4) Corporations want to layout and style the process to their liking</li> <li>5) Each corporation requires different registration information</li> <li>6) There are some universally common aspects of such questionnaires, such as 'user name', 'user email' etc. Thus can give the users a jump start by providing several default questionnaires</li> </ol>
<b>Trigger</b>	Big corporations have a button which takes them to the web page which configures the process
<b>Summary</b>	<p>This use case captures the scenario where the user determines the specifics of registration</p> <ol style="list-style-type: none"> <li>1) User adds/removes an existing question from the registration form</li> <li>2) User edits an existing question: is it optional or required? What is its text? Is it a choice question, or a text box? Must it be numeric?</li> <li>3) User can loop back to step 1</li> <li>4) User designs an HTML template for the questionnaire, starting from the automatically generated template defined by the registration details</li> </ol>
<b>Pre-conditions</b>	That the big corporation server software is installed
<b>Post-conditions</b>	Big corporation now has a registration web page for its users of living objects
<b>Related use cases</b>	<ol style="list-style-type: none"> <li>1) The <b>Registration</b> is determined by the results of this use case</li> <li>2) <b>Configuring the living object update process</b> uses the registration information</li> </ol>

FIGURE 46

<b>Name</b>	<b>Gathering user profiling data</b>
<b>Actors</b>	Big corporation server
<b>Goal</b>	That the actor be able to automatically gather <i>all</i> profiling data, and place it in the correct context, i.e. the user object which represents the user generating the data
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Privacy</li> <li>2) Corporation wants to know as much as possible about users</li> <li>3) Corporations don't want users to be totally aware of item 2</li> <li>4) Profiling data may come from: server logs of behavior downloads, living objects, registration, purchases of behaviors</li> <li>5) This data may be potentially huge. Must allow some filtering, compression, or summaries to control the volume</li> <li>6) The data must be placed in the correct context in the central database to support analysis</li> </ol>
<b>Trigger</b>	<ol style="list-style-type: none"> <li>1) Server registers a download</li> <li>2) Living object sends profiling data</li> <li>3) Registration data has been accepted</li> <li>4) A purchase in the web store has occurred</li> </ol>
<b>Summary</b>	This use case captures the scenario where the server automatically gathers and sorts profiling data from a variety of sources. It is an automated process, where the user can only control which data is gathered (should be <i>all</i> by default), i.e. there is a form with checkboxes where the user may stop the server from gathering data from a specific aspect of the system
<b>Pre-conditions</b>	That registration be configured
<b>Post-conditions</b>	Big corporation now has all possible data about all its users
<b>Related use cases</b>	<ol style="list-style-type: none"> <li>1) The <b>Configuring the registration process</b> use case determines which data is available from registration</li> <li>2) The <b>Server side of update process</b> use case contributes data</li> <li>3) The <b>Handle the server side of a purchase</b> use case contributes data</li> </ol>

**FIGURE 47**

<b>Name</b>	<b>Configuring the living object update process</b>
<b>Actors</b>	Big corporation
<b>Goal</b>	That the actor be able to configure the living object update
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Security</li> <li>2) Corporation want to match users with behaviors according to their ideas of 'match'</li> <li>3) Corporations can have very different ideas on what 'match' means exactly</li> <li>4) There is something in common among all 'match' ideas, namely that they can be best described as a vector of rules, and several rules which probably everybody will use, such as: 'decide by age', 'decide by subscription information', 'decide by locale', etc.</li> <li>5) The match should be made (if needed) against all available profile data</li> <li>6) Non-technical users should be able to configure a pretty good update process using rules which should be provided in the base package</li> <li>7) Each living object should have its own set of configured rules</li> <li>8) There are several views (by profile, toy, living object update) for designing an update process, users want to be able to choose</li> </ol>
<b>Trigger</b>	Big corporations have a button which takes them to the web page which configures the process
<b>Summary</b>	<p>This use case captures the scenario where the user determines the specifics of the living object update process. Here is an example:</p> <ol style="list-style-type: none"> <li>1) User chooses a specific living object to configure</li> <li>2) User adds/removes rules from the process. Rules are chosen from available rule classes</li> <li>3) User modifies existing rules. Each available rule class has configuration parameters</li> <li>4) User rearranges, copies and pastes rules</li> <li>5) User can loop back to step 2</li> <li>6) User tests the update process he/she has configured for the living object, and views prototypical results</li> </ol>
<b>Pre-conditions</b>	<ol style="list-style-type: none"> <li>1) That the living object has been defined in the central server</li> <li>2) That registration format is configured</li> </ol>

FIGURE 48

<b>Name</b>	<b>Server side of update process</b>
<b>Actors</b>	Big corporation server
<b>Goal</b>	That the actor be able to implement the update process previously defined
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Security, privacy</li> <li>2) There could be up to 100,000 users, where 100s of them are updating at once</li> <li>3) Servers are expensive, so the process should be as optimal as (practically) possible</li> <li>4) Corporations should be able to increase their load capacity in a scalable manner, i.e. without a lot of work</li> <li>5) The update process itself could be configured in any number of ways</li> <li>6) Everything should be logged</li> <li>7) The process could be interrupted while running (e.g. user disconnects, etc.) so saving exact state is important</li> <li>8) There has to be built in default behavior when overloaded, so we never end up in a limbo state</li> </ol>
<b>Trigger</b>	LOIS push client connects to the server and requests an update
<b>Summary</b>	<p>This use case captures the scenario where the server is refreshing the clients</p> <ol style="list-style-type: none"> <li>1) Server receives an update request</li> <li>2) Server runs through the rules configured earlier, resulting in any number of updates which are now to be passed to the client</li> <li>3) Server passes updates to the client</li> </ol>
<b>Pre-conditions</b>	<ol style="list-style-type: none"> <li>1) That registered clients exist</li> <li>2) That the living object update process has been completely defined</li> </ol>
<b>Post-conditions</b>	Clients have been updated, or have been partially updated
<b>Related use cases</b>	<ol style="list-style-type: none"> <li>1) <b>Add new living object updates</b> is a requirement</li> <li>2) <b>Configuring the living object update process</b> is a requirement</li> </ol>

FIGURE 49

<b>Name</b>	<b>Add new living object to the database</b>
<b>Actors</b>	Big corporation
<b>Goal</b>	That the actor be able to add new living objects to the living objects database on the server
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Security</li> <li>2) Living objects can be very different from each other</li> <li>3) There is much that all living objects share- they are all controlled by many living object updates, but only one at a time</li> </ol>
<b>Trigger</b>	Actor pushes a button which takes him to the 'add living object' wizard
<b>Summary</b>	<p>This use case captures the scenario where the actor tells the system that it must recognize a new living object</p> <ol style="list-style-type: none"> <li>1) User fills in the minimum details needed to define a new living object</li> <li>2) Server creates a new object modeling the living object</li> </ol>
<b>Pre-conditions</b>	That the big corporation server software is installed
<b>Post-conditions</b>	The server is now aware of the new living object
<b>Related use cases</b>	1) <b>Add new living object updates</b> is the next logical step

FIGURE 50

<b>Name</b>	<b>Add new living object updates</b>
<b>Actors</b>	Big corporation and their advertisers
<b>Goal</b>	That the actor be able to add new living objects updates to the server
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Security</li> <li>2) There can be many types of updates: text, scripts, multimedia, executables, etc.</li> <li>3) This is one the most common processes, so it should be as streamlined as possible</li> <li>4) This is the simplest place to interface between the software elements that produce behavior packs</li> <li>5) This may be done at different places in the Internet</li> </ol>
<b>Trigger</b>	Actor pushes a button which takes him to the 'add living object update' wizard
<b>Summary</b>	<p>This use case captures the scenario where the actor tells the system that to add a new living object update to a specific living object</p> <ol style="list-style-type: none"> <li>1) User chooses a living object</li> <li>2) User uploads the update package</li> <li>3) Server should notify all relevant observing objects of this new update</li> </ol>
<b>Pre-conditions</b>	<ol style="list-style-type: none"> <li>1) That the living object has been defined in the central server</li> <li>2) That the actor has specific files from which to create the living object update. The creation of these updates is beyond the scope of this document</li> </ol>
<b>Post-conditions</b>	The server is now aware of the new living object update, and it will be available in the web store, rules manager, and analysis subsystems
<b>Related use cases</b>	1) <b>Add new living object to the database</b> is a requirement

FIGURE 51

<b>Name</b>	<b>Manage living object updates</b>
<b>Actors</b>	Big corporation
<b>Goal</b>	That the actor be able to manage living object updates
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Security</li> <li>2) There can be many types of updates: text, scripts, multimedia, executables, etc.</li> <li>3) This is one the most common processes, so it should be as streamlined as possible</li> <li>4) There could be 100s of living object updates, so users must be able to quickly find the update they need to manage</li> <li>5) There is no capability to manage the internals of an update pack, but it is important to provide a basis for interfacing with the operating client software in this use case</li> </ol>
<b>Trigger</b>	Actor pushes a button which takes him/her to the 'manage living object update' wizard
<b>Summary</b>	<p>This use case captures the scenario where the actor tells the system that to remove a living object update, change its properties, or replace it by another update</p> <ol style="list-style-type: none"> <li>1) User chooses a living object</li> <li>2) User chooses a living object update</li> <li>3) User removes the living object update or edits its properties or replaces it by another he/she has previously prepared</li> </ol>
<b>Pre-conditions</b>	That the living object update has been defined in the central server
<b>Post-conditions</b>	The living object is now different in one update from what it was
<b>Related use cases</b>	1) <b>Add new living object updates</b> is a requirement



FIGURE 52

<b>Name</b>	<b>Layout and style the web behaviors store</b>
<b>Actors</b>	Big corporation
<b>Goal</b>	That the actor be able to determine what the store where living object updates are sold will look like
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Security</li> <li>2) Big corporations want their stores to look unique</li> <li>3) There is much in common among all stores: they are basically a searchable, easy to navigate catalog</li> <li>4) Thus it is possible to provide default templates</li> <li>5) The templates must be simple to work with, with only HTML knowledge as a requirement</li> <li>6) Users will want to integrate the store with the rest of their WWW infosystem</li> <li>7) Users might already (and probably <i>will</i> already) have some kind of store, billing system, etc. of their own, as part of their web site</li> </ol>
<b>Trigger</b>	Actor pushes a button which takes him to the 'style the web behaviors store' wizard
<b>Summary</b>	<p>This use case captures the scenario where the actor manages all aspects of the web store</p> <ol style="list-style-type: none"> <li>1) User chooses a page in the store, i.e. search results page, product page, etc.</li> <li>2) User chooses a template</li> <li>3) User reviews the effect of the template on the system by previewing</li> <li>4) User replaces the current template with the new one and submits the change</li> </ol>
<b>Pre-conditions</b>	<ol style="list-style-type: none"> <li>1) That living object updates are configured</li> <li>2) That users have HTML files to use as templates for the store. Note that these could have originated from our default templates, or they could have been written according to our documentation</li> </ol>
<b>Post-conditions</b>	The store is now styled according to the users preferences
<b>Related use cases</b>	<ol style="list-style-type: none"> <li>1) <b>Manage living object updates</b> is where big corporations determine prices, subscription information, etc. for living object updates</li> <li>2) <b>Handle the server side of a purchase</b> is where the server interpolates the store templates into complete HTML pages sent to the users web browser</li> </ol>

FIGURE 53

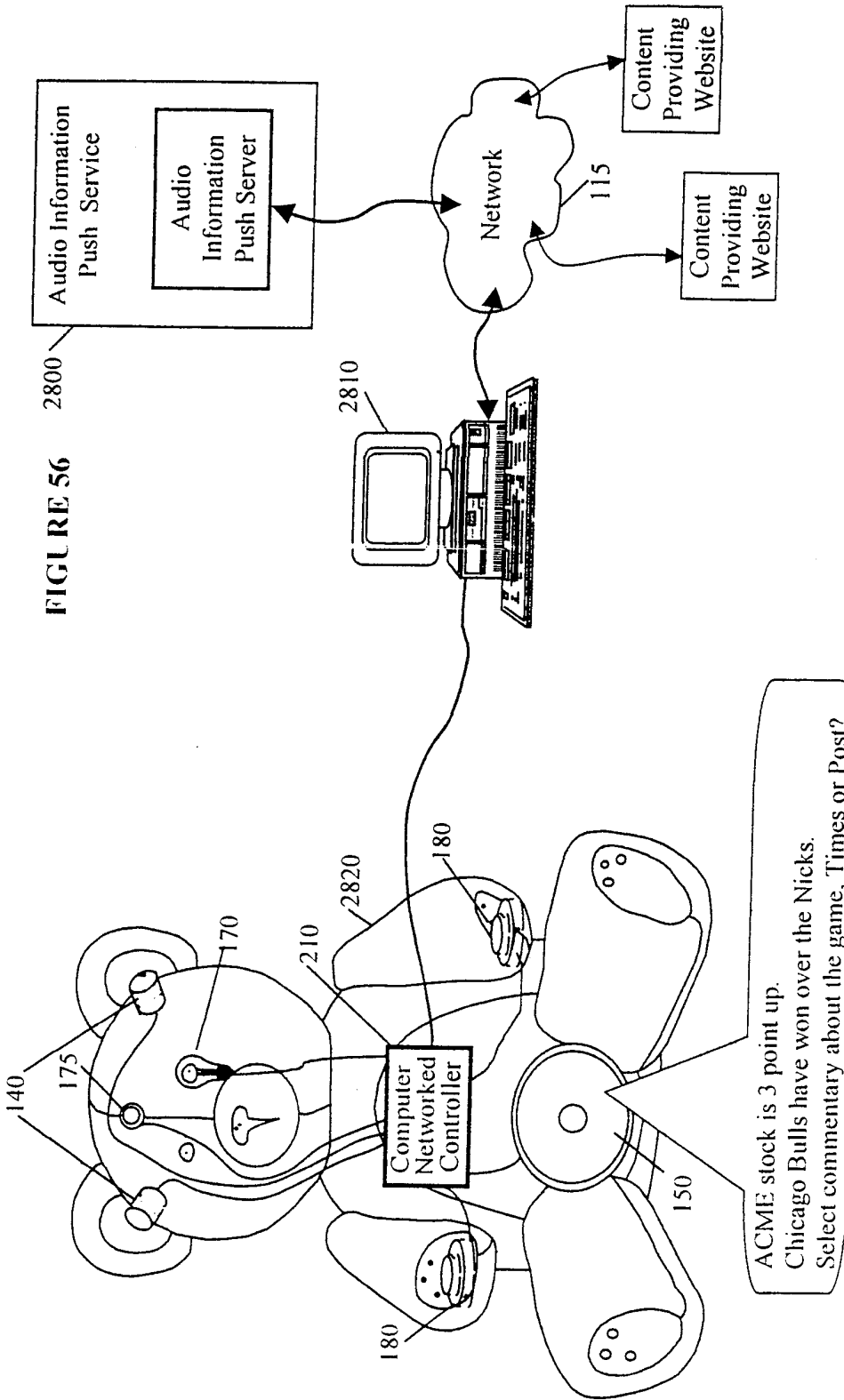
<b>Name</b>	<b>Handle the server side of a purchase</b>
<b>Actors</b>	Big corporation server
<b>Goal</b>	That the actor be able to respond correctly to web orders of living object updates, and to page requests for the catalog
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Security</li> <li>2) Many users could purchase at once, probably 100s</li> <li>3) Billing, taxes</li> </ol>
<b>Trigger</b>	Web browser client enters the store and starts interacting with it
<b>Summary</b>	This is just a normal web store process, like many others
<b>Pre-conditions</b>	<ol style="list-style-type: none"> <li>1) That templates for the web store are configured</li> <li>2) That living object updates exist</li> <li>3) That registered users exist</li> </ol>
<b>Post-conditions</b>	The purchase is logged, billing details updated, living object update
<b>Related use cases</b>	<ol style="list-style-type: none"> <li>1) <b>Layout and style the web behaviors store</b> is where big corporations determine what the HTML pages will look like</li> <li>2) <b>Manage living object updates</b> is where big corporations determine prices, subscription information, etc. for living object updates</li> </ol>

FIGURE 54

<b>Name</b>	<b>Manage users</b>
<b>Actors</b>	Big corporation
<b>Goal</b>	That the actor be able to manually control the user database
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Security</li> <li>2) 100,000 users</li> <li>3) Big corporations have people who can work with RDBMSs through Access</li> <li>4) Users are objects which need to encapsulate many different types of information, which can not be known in advance. This includes all profiling data</li> </ol>
<b>Trigger</b>	Actor presses button which takes him to the user management application
<b>Summary</b>	This is just a normal add/delete/modify type of use case
<b>Pre-conditions</b>	That users were registered
<b>Post-conditions</b>	User objects have been modified
<b>Related use cases</b>	<ol style="list-style-type: none"> <li>1) <b>Configuring the registration process</b> determines a lot of the properties of the corporations user object</li> <li>2) <b>Almost every other use case</b> dumps logs into the user object</li> </ol>

FIGURE 55

<b>Name</b>	<b>Analyzing usage</b>
<b>Actors</b>	Big corporation
<b>Goal</b>	That the actor be able to generate and view sophisticated reports about system usage
<b>Forces in Context</b>	<ol style="list-style-type: none"> <li>1) Big data</li> <li>2) Corporations have standard report formats and tools</li> <li>3) It is impossible to know in advance all the report that may be required but it is possible to design the most common reports</li> </ol>
<b>Trigger</b>	Advertising management executive from big corporation starts the reporting tool
<b>Summary</b>	<p>This depends on the tool used. Generally it should be:</p> <ol style="list-style-type: none"> <li>1) Define a time period</li> <li>2) Define a segment of users</li> <li>3) Run a query on them, refine</li> <li>4) Put query results in template and send to manager</li> </ol>
<b>Pre-conditions</b>	1) That there is usage data in the database
<b>Post-conditions</b>	A report has been generated
<b>Related use cases</b>	<ol style="list-style-type: none"> <li>1) <b>Server side of update process</b> is where the data we post-process here gets created</li> <li>2) <b>Gathering user profiling data</b> also determines what gets logged</li> </ol>



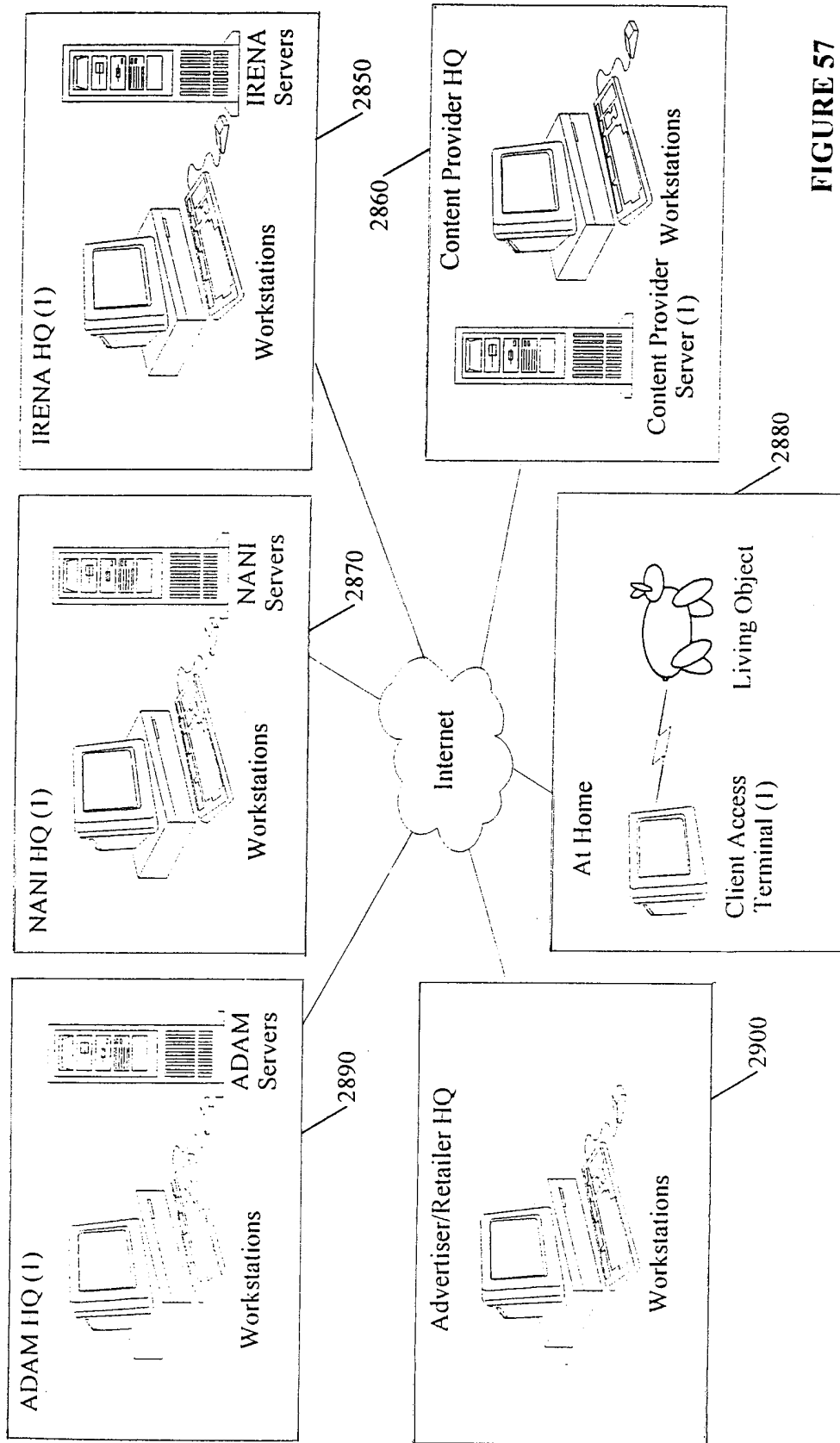
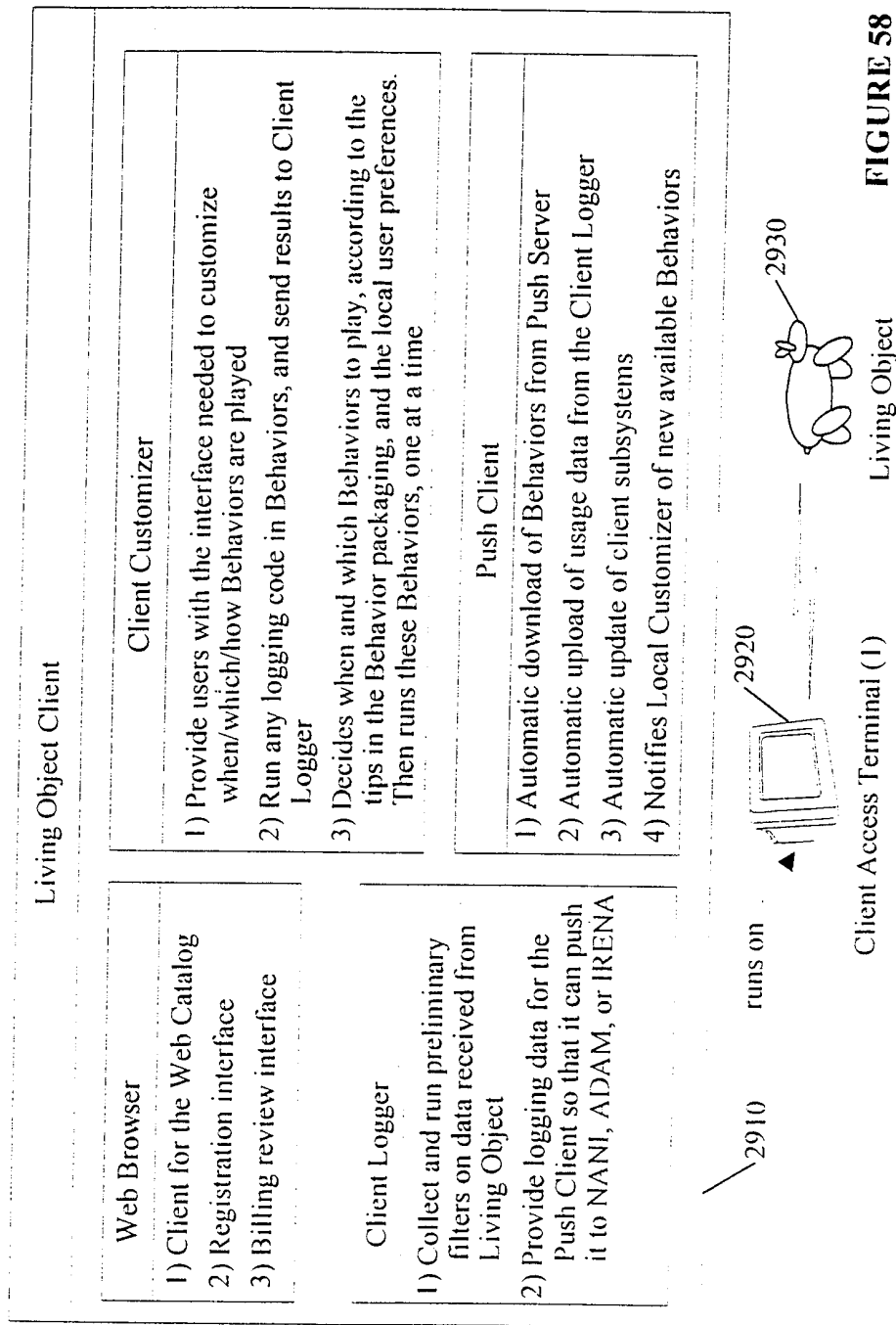
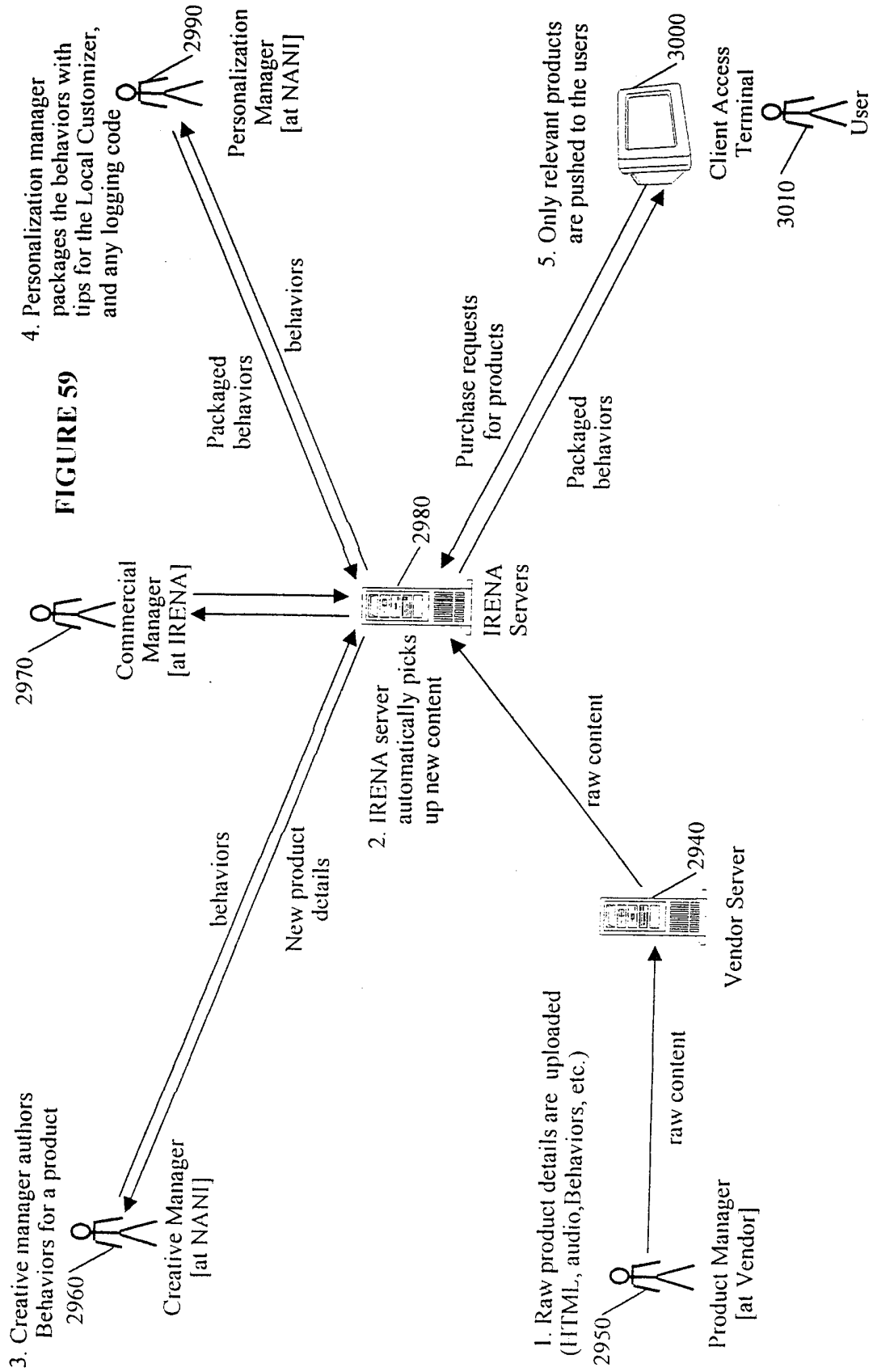


FIGURE 57

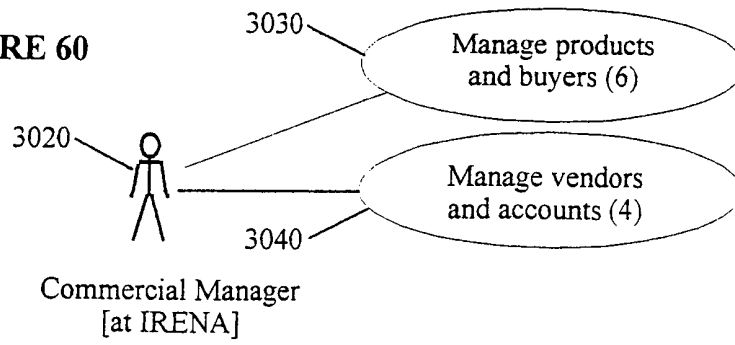


**FIGURE 58**

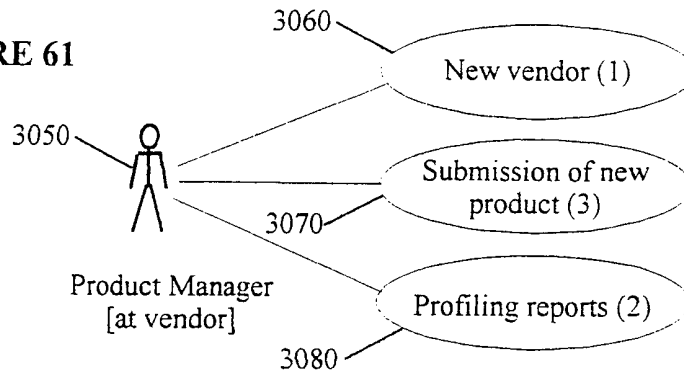




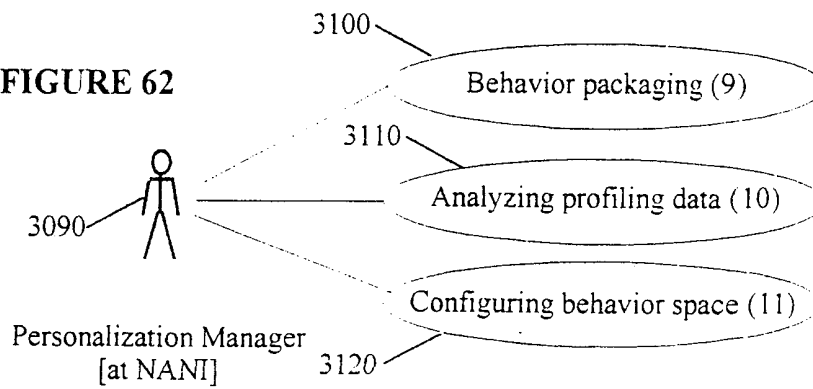
**FIGURE 60**

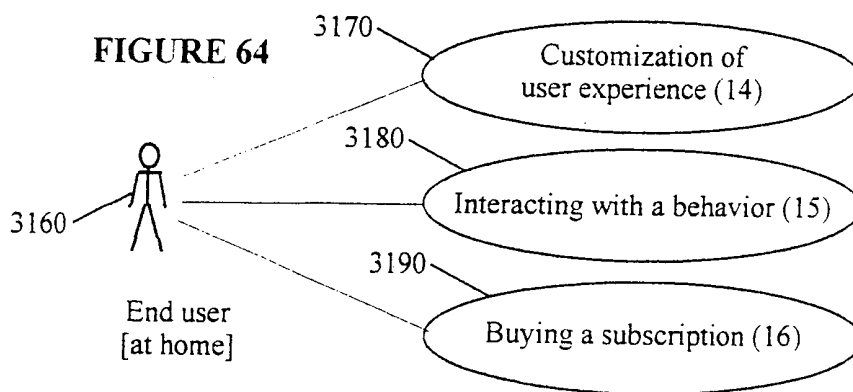
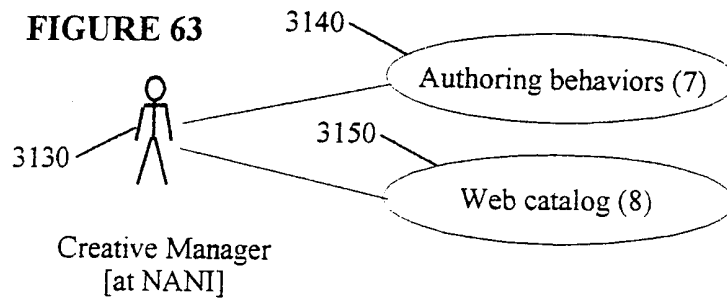


**FIGURE 61**



**FIGURE 62**





**FIGURE 65**

<b>Goal In Context:</b>	Add a new vendor to IRENA's products suppliers and submit all it's relevant info
<b>Pre-Condition:</b>	IRENA marketed it's services to vendors and issued general info about the services
<b>Success End Condition:</b>	New vendor info is submitted to the IRENA server
<b>Primary Actor:</b>	Vendor's products manager
<b>Trigger Event:</b>	New vendor wants to sell products through IRENA
<b>Forces in context:</b>	A new vendor must provide some essential info in advance in order to join IRENA services
<b>General comments:</b>	More negotiation might be needed in order to close specific details of the deal.
<b>Open issues:</b>	

**FIGURE 66**

Step	Actor	Action Description
1	product manager	Decides to join IRENA services
2	Product manager	Submits all relevant vendor info (including reporting preferences) to IRENA
		<ul style="list-style-type: none"> <li>• Vendor name</li> <li>• Vendor contact info</li> <li>• Product description</li> <li>• Preferred category</li> <li>• Transaction preferences</li> <li><i>Reporting preferences</i></li> <li>• Schedule</li> <li>• Type</li> <li>• Received as</li> </ul>

FIGURE 67

<b>Goal In Context:</b>	Receive and analyze customized profiling reports from IRENA
<b>Pre-Condition:</b>	Set report preferences
<b>Success End Condition:</b>	Vendor has a clear and up to date picture on IRENA users
<b>Primary Actor:</b>	Vendor's product manager
<b>Trigger Event:</b>	IRENA sends a new profiling report
<b>Forces in context:</b>	The vendor wants to know as much as possible about IRENA users and their buying habits in order to improve advertising effectiveness by submitting the right products with the right tips
<b>General comments:</b>	The vendor can receive profiling info also from other sources
<b>Open issues:</b>	Will IRENA limit the profiling info the vendor can receive?, if so can the vendor pay for more detailed data?

FIGURE 68

<b>Goal In Context:</b>	Submit a new service with all it's relevant info into IRENA server
<b>Pre-Condition:</b>	The vendor is a member of IRENA services and has information on IRENA users
<b>Success End Condition:</b>	All relevant product info is submitted to IRENA
<b>Primary Actor:</b>	Vendor's product manager
<b>Trigger Event:</b>	Vendor decides to deliver a new product
<b>Forces in context:</b>	The vendor has the option to influence diferent aspects in pushing the products – scheduling, related info, recommended profiles, etc.
<b>General comments</b>	The vendor can either submit the product details through the submission form or designate a space on his server for IRENA to download the details in their original structure
<b>Open issues:</b>	

**FIGURE 69**

Step	Actor	Action Description
1	Product manager	Decides to deliver a new product
	<i>Example:</i>	Decided to submit a new product model
2	Product manager	Places the relevant product details in a designated space on his server
	<i>Example:</i>	Places the new product details in a HTTP accessible directory on his server
4	Product manager	Submits relevant product additional information and scheduling tips (some of the information might be available on the vendor's server and need not to be submitted again
	<i>Fields</i>	<ul style="list-style-type: none"> <li>• Product name</li> <li>• General description</li> <li>• Preferred time for advertising</li> <li>• Relevant profiles</li> <li>• Key words</li> <li>• Recommended product categories</li> <li>• Scripting tips</li> <li>• Product pricing and Discount plan</li> <li>• Other comments</li> </ul>

**FIGURE 70**

<b>Goal In Context:</b>	Transfer vendors revenues from products sold
<b>Pre-Condition:</b>	Pre-set arrangements concerning payment policies. Business results report.
<b>Success End Condition:</b>	Vendors get paid for products ordered by users
<b>Primary Actor:</b>	Commercial manager at IRENA.
<b>Trigger Event:</b>	IRENA received revenues for products sold
<b>Forces in context:</b>	IRENA can either charge a commission on each product sold or can get discounts from vendors
<b>General comments:</b>	IRENA will set the prices for end users

**FIGURE 71**

Step	Actor	Action Description
1	IRENA commercial manager	Processes new vendor registration and contacts him to close the details of the deal if necessary.
		<ul style="list-style-type: none"> <li>• Example deal options:</li> <li>• IRENA gets 5% commission on all dell computer sales</li> <li>• Dell charges IRENA 5% under the official price, IRENA is free to set it's own price</li> </ul>
2	IRENA commercial manager	Opens an account for each vendor <ul style="list-style-type: none"> <li>• No. Of products sold.</li> <li>• Revenues generated from products sale</li> <li>• Balance</li> </ul>
3	IRENA commercial manager	Transfers monthly payment to vendor

FIGURE 72

<b>Goal In Context:</b>	Receive payment from end-users
<b>Pre-Condition:</b>	Set prices for all of IRENA products
<b>Success End Condition:</b>	Sales revenues from end-users transferred to IRENA.
<b>Primary Actor:</b>	IRENA commercial manager
<b>Trigger Event:</b>	End-user bought a product
<b>Forces in context:</b>	IRENA will provide high value, targeted products through a revolutionary media. Users will do their on-line shopping through IRENA
<b>Open issues:</b>	

FIGURE 73

Step	Actor	Action Description
1	Commercial manager	Sets and updates price for each product. (Price is set according to the vendor terms and other parameters) <i>Example Fields</i> <ul style="list-style-type: none"> <li>• Price</li> <li>• Discount</li> </ul>
2	Commercial manager	Receives order reports from the profiling service
3	Commercial manager	Receives payment from end users through the transaction sub-system.
4	Commercial manager	Notify vendors on orders



FIGURE 74

<b>Goal In Context:</b>	Turn “raw” product items into behaviors. Create behaviors type for each product
<b>Pre-Condition:</b>	<ul style="list-style-type: none"> <li>• Updated profiling service data (Synchronized with other companies data)</li> <li>• Tips from the vendor</li> </ul>
<b>Success End Condition:</b>	Full behaviors and behaviors type (teaser, promo) are ready for interacting with users
<b>Primary Actor:</b>	IRENA creative manager
<b>Trigger Event:</b>	New product item is downloaded from vendor’s server
<b>Forces in context:</b>	The authoring process is meant to turn the product items into behaviors that can bring the best results within our new special framework. They should give the user the best experience and give IRENA the best possible business results.
<b>General comments:</b>	<ul style="list-style-type: none"> <li>• The user can buy the product at any point in the behavior.</li> <li>• The interaction with some of the behaviors will be entirely by means of the toy, with others it will proceed on the desktop.</li> </ul>
<b>Open issues:</b>	

FIGURE 75

Step	Actor	Action Description	
1	Creative manager	Analyzes the relevant profile service data and vendor tips	
2	Creative manager	Author behaviors	
		<b>Behavior Type</b>	<b>Example</b>
		<ul style="list-style-type: none"> <li>• “promo/teaser” for product</li> </ul>	<ul style="list-style-type: none"> <li>• An interactive script, in which the toy gives describes the product, talk about the advantages, etc.</li> </ul>
4	Creative director and personalization manager	Set checkpoints within the behaviors (In order that varied logging info about the interaction progress can be supplied to the profiling service).	

FIGURE 76

<b>Goal In Context:</b>	Keeping all relevant products in a personalized web catalog /shop format Presenting all of IRENA custom categories and vendors
<b>Pre-Condition:</b>	Profiling service data
<b>Success End Condition:</b>	Users can view all products and vendors through a web interface. Can buy a product. Can register to a vendor or to a IRENA custom category
<b>Primary Actor:</b>	IRENA creative manager
<b>Trigger Event:</b>	New vendor is signed up, new product is submitted
<b>Forces in context:</b>	<ul style="list-style-type: none"> <li>• It is impossible to push all the subscriptions to the users. They should have the option to pull subscriptions, independently or as part of a behavior that brings them to the computer.</li> <li>• Users can register to a vendor or an IRENA category. By doing so they agree to get all their teasers and they get discount for certain products. (club members)</li> <li>• The user must submit a password and than get a customized interface generated by using the profiling service. (Targeted products, limited products for children, limited expenses for children etc.)</li> </ul>
<b>General comments:</b>	Products can be located by a search mechanism. (sorted by category or by vendor)
<b>Open issues:</b>	It is possible also to choose a strategy in which products are only pushed to users and there is no option of a web catalog.

FIGURE 77

<b>Goal In Context:</b>	Keeping all relevant products in a personalized web catalog /shop format Presenting all of IRENA custom categories and vendors
<b>Pre-Condition:</b>	Profiling service data
<b>Success End Condition:</b>	Users can view all products and vendors through a web interface. Can buy a product. Can register to a vendor or to a IRENA custom category
<b>Primary Actor:</b>	IRENA creative manager
<b>Trigger Event:</b>	New vendor is signed up, new product is submitted
<b>Forces in context:</b>	<ul style="list-style-type: none"> <li>• It is impossible to push all the subscriptions to the users. They should have the option to pull subscriptions, independently or as part of a behavior that brings them to the computer.</li> <li>• Users can register to a vendor or an IRENA category. By doing so they agree to get all their teasers and they get discount for certain products. (club members)</li> <li>• The user must submit a password and than get a customized interface generated by using the profiling service. (Targeted products, limited products for children, limited expenses for children etc.)</li> </ul>
<b>General comments:</b>	Products can be located by a search mechanism. (sorted by category or by vendor)
<b>Open issues:</b>	It is possible also to choose a strategy in which products are only pushed to users and there is no option of a web catalog.

**FIGURE 78**

Step	Actor	Action Description
1	IRENA creative manager	Forms all IRENA product categories and sub categories
	<i>Example:</i>	Category – Computers Sub category – desktops, notebooks, modems etc.
2	IRENA creative manager	<ul style="list-style-type: none"> <li>• Places a list of all vendors under the appropriate categories with an option to register to each vendor. (If a user registers to a vendor, he gets all his teasers and ads and special discounts for his behaviors). Under each vendor will appear also list of all its products</li> <li>• Places all subscriptions under the appropriate IRENA categories and sub-categories with an option to buy a product and register to a IRENA category.</li> </ul>
	<i>Example:</i>	Places a computers vendor under: <ul style="list-style-type: none"> <li>• Categories – Computers</li> </ul> Places the new notebook computer under: <ul style="list-style-type: none"> <li>• The computer vendor</li> <li>• What's new?</li> <li>• Computers/notebooks</li> </ul>
3	IRENA personalization manager	Customize a catalog for each user. <ul style="list-style-type: none"> <li>• Relevant products and vendors</li> <li>• Special pricing for the user</li> <li>• Limited product for children</li> <li>• The shop will prevent a child from exceeding his expense limit</li> </ul>

**FIGURE 79**

<b>Goal In Context:</b>	Attaching behaviors scheduling tips for client customizer
<b>Pre-Condition:</b>	<ul style="list-style-type: none"> <li>• Updated operational profile service data</li> <li>• Vendor tips</li> </ul>
<b>Success End Condition:</b>	All relevant scheduling tips are attached to the behavior
<b>Primary Actor:</b>	Personalization manager
<b>Trigger Event:</b>	New behavior in the system (After the authoring process)
<b>Forces in context:</b>	The scheduling tips are instructions and recommendations for the client customizer that needs to combine tips from many behaviors. The tips should be sufficient for the client customizer to schedule the behaviors, using it's very simple, preset set of rules.
<b>General comments:</b>	The term scheduling a behavior refers to – time, with what other behavior etc. Usually product behaviors will not be pushed independently but during other behaviors. (Unless users set their preferences differently)
<b>Open issues:</b>	

**FIGURE 80**

Step	Actor	Action Description
1	IRENA personalization manager	Analyze the behavior using the parameters – <ul style="list-style-type: none"> <li>• type of the behavior</li> <li>• profiling service data</li> <li>• relevant vendor tips and demands</li> </ul>
2	IRENA personalization manager	Attach scheduling tips: <ul style="list-style-type: none"> <li>• Priority</li> <li>• Key words (In order to link to other behaviors)</li> <li>• Time</li> <li>• Other relevant tips</li> </ul>

FIGURE 81

<b>Goal In Context:</b>	Collect and analyze profiling data and determine groups of profiles.
<b>Pre-Condition:</b>	Updated operational profile service sub-system (synchronized with the other companies profiling servers)
<b>Success End Condition:</b>	All data on each user is stored in the profiling service Profiles are sorted into groups
<b>Primary Actor:</b>	Personalization manager
<b>Trigger Event:</b>	New data arrives from client logger. The data is obtained automatically or actively submitted by the user.
<b>Forces in context:</b>	The profile service logs all info about users – orders, buying habits, users preferences etc. The profiles will be sorted into groups that will make it easier to attach a behavior to users.
<b>Open issues:</b>	

FIGURE 82

Step	Actor	Action Description
1	Personalization manager (Profiling service sub-system)	All profile data is sorted by specific users
2	Personalization manager	Creating group of profiles <i>Example:</i> <ul style="list-style-type: none"><li>• University graduates</li><li>• Subscribers to the computers vendor's service</li><li>• Early adopters</li><li>• Spending over \$1,000 per month on IRENA products</li></ul>
3	Personalization manager	Creating unified groups <i>Example:</i> <ul style="list-style-type: none"><li>• University graduates that subscribed to the specific computer vendor's service</li></ul>

**FIGURE 83**

<b>Goal In Context:</b>	Match the behaviors and the groups of profiles
<b>Pre-Condition:</b>	Behaviors are “packaged” The profiles are updated and sorted into groups
<b>Success End Condition:</b>	Each profile group contains a list of behaviors
<b>Primary Actor:</b>	Personalization manager
<b>Trigger Event:</b>	A new packaged behavior A new profile
<b>Forces in context:</b>	This is a critical and complex stage. The personalization manager has considered many parameters in order to make the right matches.
<b>Open issues:</b>	

**FIGURE 84**

Step	Actor	Action Description	
1	Personalization manager	Deciding which behaviors belong to which groups and sub groups. <i>Example:</i>	
		<i>Group</i>	<i>Behaviors</i>
		<ul style="list-style-type: none"> <li>• All users that are subscribes to the specific computer vendor’s service</li> <li>• IT professionals that subscribed to computer vendor’s service</li> </ul>	<ul style="list-style-type: none"> <li>• All of the specific computer vendor’s products</li> <li>• All computer vendor’s products and specific publisher books</li> </ul>



FIGURE 85

<b>Goal In Context:</b>	Deliver the behaviors to end users
<b>Pre-Condition:</b>	The behavior space is configured
<b>Success End Condition:</b>	Each user gets the behaviors that are most suitable for him
<b>Primary Actor:</b>	Personalization manager. (The delivery subsystem)
<b>Trigger Event:</b>	Connection to end client opens.
<b>Forces in context:</b>	
<b>Open issues:</b>	<ul style="list-style-type: none"> <li>• The connection with a client can be opened by more than one entity.</li> <li>• The connection with a client can be set to open at a specific time.</li> <li>• When there is a permanent internet access Irena can initiate a connection without requesting explicit consent of the user</li> </ul>

FIGURE 86

Step	Actor	Action Description
1	Personalization manager	Receives user I.D of each of the end users on a certain client
2	Personalization manager	Matches the user I.D with the relevant profiling groups
3	Personalization manager	Checks the behavior space for new behaviors added to the relevant groups since last connection
4	Personalization manager	Delivers the new behaviors to client

**FIGURE 87**

<b>Goal In Context:</b>	Routinely Issue limited customized profile reports for each vendor
<b>Pre-Condition:</b>	Profiling data
<b>Success End Condition:</b>	
<b>Primary Actor:</b>	Personalization manager
<b>Trigger Event:</b>	
<b>Forces in context:</b>	Erena wants to issue effective but limited profiling reports. Much of this data is key business info that is very valuable
<b>Open issues:</b>	Irena will charge the vendors for more in-depth, valuable reports

**FIGURE 88**

Step	Actor	Action Description
1	Personalization manager	Set, according to the vendor's preferences and Erena's policy, the form of report and the time of issue.
2	Personalization manager	Process relevant profiling service data into a report
3	Personalization manager	Issue the report to a vendor

**FIGURE 89**

<b>Goal In Context:</b>	Identify users
<b>Pre-Condition:</b>	Each user gets a "key" for identification
<b>Success End Condition:</b>	The toy knows who is the user he interacts with
<b>Primary Actor:</b>	User
<b>Trigger Event:</b>	A user is about to interact with a toy
<b>Forces in context:</b>	Users must be identified in order that <ul style="list-style-type: none"> <li>• Suitable behaviors can be delivered</li> <li>• Payment is drawn from the right account</li> <li>• No unauthorized usage of accounts</li> <li>• Preset limitations on child's expenses and exposure are inflicted</li> </ul>
<b>General comments</b>	Different technologies can be used in this context – proximity smart cards, voice authentication etc. In any case the process should be automatic and immediate
<b>Open issues:</b>	

FIGURE 90

<b>Goal In Context:</b>	Set preferred time for receiving behaviors, limit certain behaviors from reaching children, limiting children expenses and other preferences.
<b>Pre-Condition:</b>	An interface to configure the client customizer
<b>Success End Condition:</b>	The user gets the behaviors according to his preferences
<b>Primary Actor:</b>	End user
<b>Trigger Event:</b>	User decides to change the preferences of receiving certain or all behaviors
<b>Forces in context:</b>	All customization data also reaches the profiling service (through the client logger), thanks to that, local customization preferences also effect the customized web catalog.
<b>General comments:</b>	The client customizer will prevent a child from buying a product if he exceeded the level of expenses allowed by the parent.
<b>Open issues:</b>	Will the client customizer interface be used also for collecting profiling info from user such as: age, income, field of interest and other personal characters. This should be done only once when first receiving the toy and registering

**FIGURE 91**

Step	Actor	Action Description
1	Parent	<p>Configures his customization preferences for all the behaviors or certain behaviors:</p> <p><i>Example fields:</i></p> <ul style="list-style-type: none"> <li>• Preferred time to receive a behavior</li> <li>• Child can spend x\$ every month</li> <li>• Do not present child teasers for products rated x,y,z</li> <li>• Receive independent product behaviors (sort of a shopping channel) or just during other behaviors</li> <li>• Choose or change password for him self or for child</li> <li>• Latest hour to deliver a behavior to child?</li> </ul>
2	Child	<p>Configures his customization preferences for all the behaviors or certain behaviors (except of the preferences pre-configured by parent):</p> <p><i>Example fields:</i></p> <ul style="list-style-type: none"> <li>• Preferred time to receive a behavior</li> </ul>

**FIGURE 92**

<b>Goal In Context:</b>	Buy a product through the Erena company
<b>Pre-Condition:</b>	An account enabling user to make a secure purchase automatically without filling any forms. (Involving an electronic wallet technology)
<b>Success End Condition:</b>	Product delivered to the User
<b>Primary Actor:</b>	End User
<b>Trigger Event:</b>	User decided to buy a certain product
<b>Forces in context:</b>	One of the foundations of the framework is the simplicity of the buying process. The user needs to choose his payment method only once. All he needs to do in order to buy a product is a short oral authorization. The fact that all transactions go through Erena, enables the user to have only one account for all his purchases.
<b>General comments:</b>	Orders go to the profiling service, and from there they are transferred through the commercial manager to the vendors.
<b>Open issues:</b>	

**FIGURE 93**

<b>Step</b>	<b>Actor</b>	<b>Action Description</b>
1	End user	Chooses his preferred payment method (once)
2	End user	Interacts with a behavior presenting the new notebook
3	End user	Decides to buy the notebook
4	End user	Tells the toy that he wants to but the notebook
5	End User	Receives the notebook

FIGURE 94

File Edit View Tools Window Help

## Audio Push Registration and Customization

User name	Stuart	Select Information Subjects and Sources	
Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female	Subjects Business	Sources ABC
Language	English	Set priorities of selected information subjects and sources	
Age	25	Stock	
Living Object	Pooh bear	Rate: 2	Items every 10 minutes
Vocals	Marilyn Monroe	First level 15	words
Record name		Second level 30	words

FIGURE 95

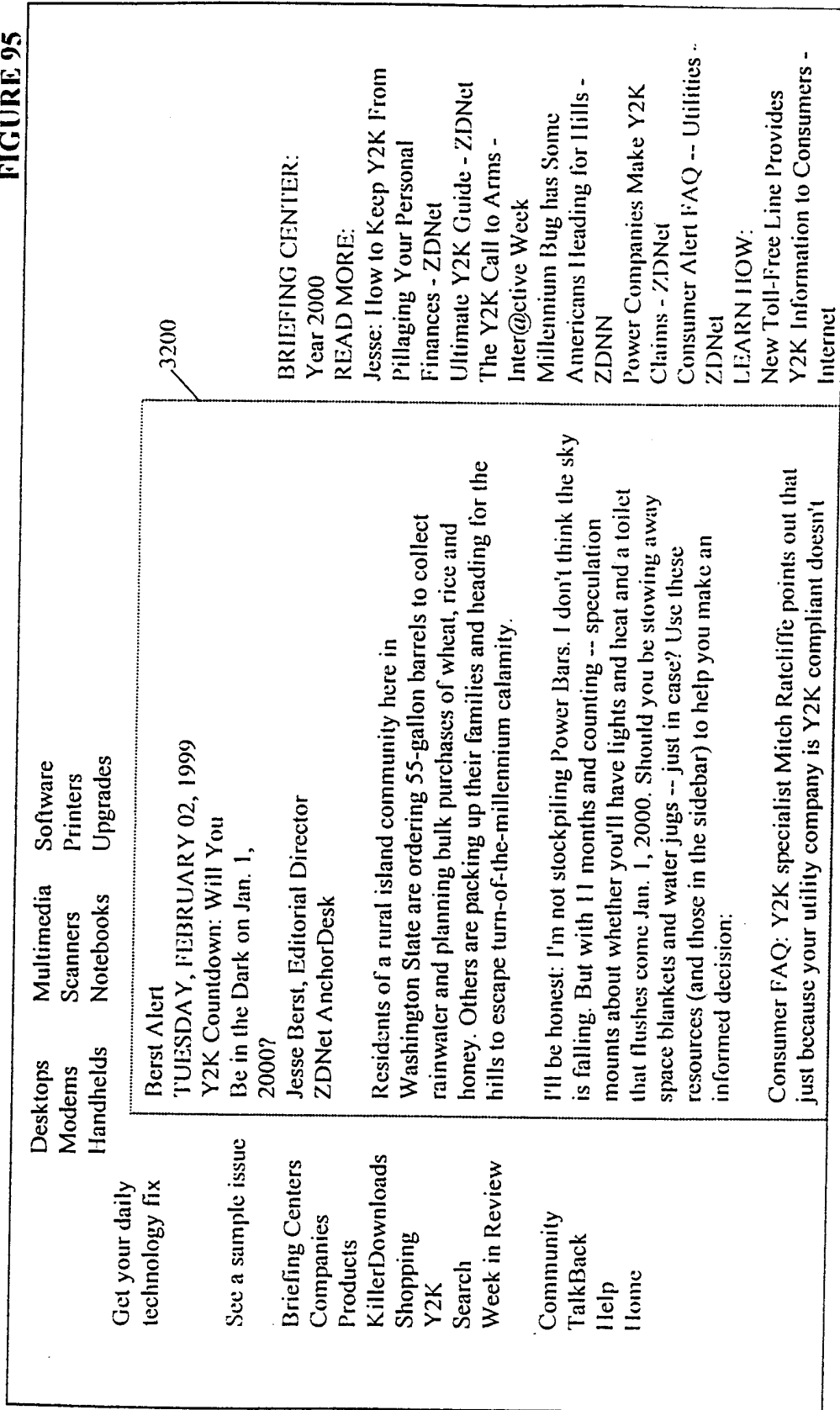
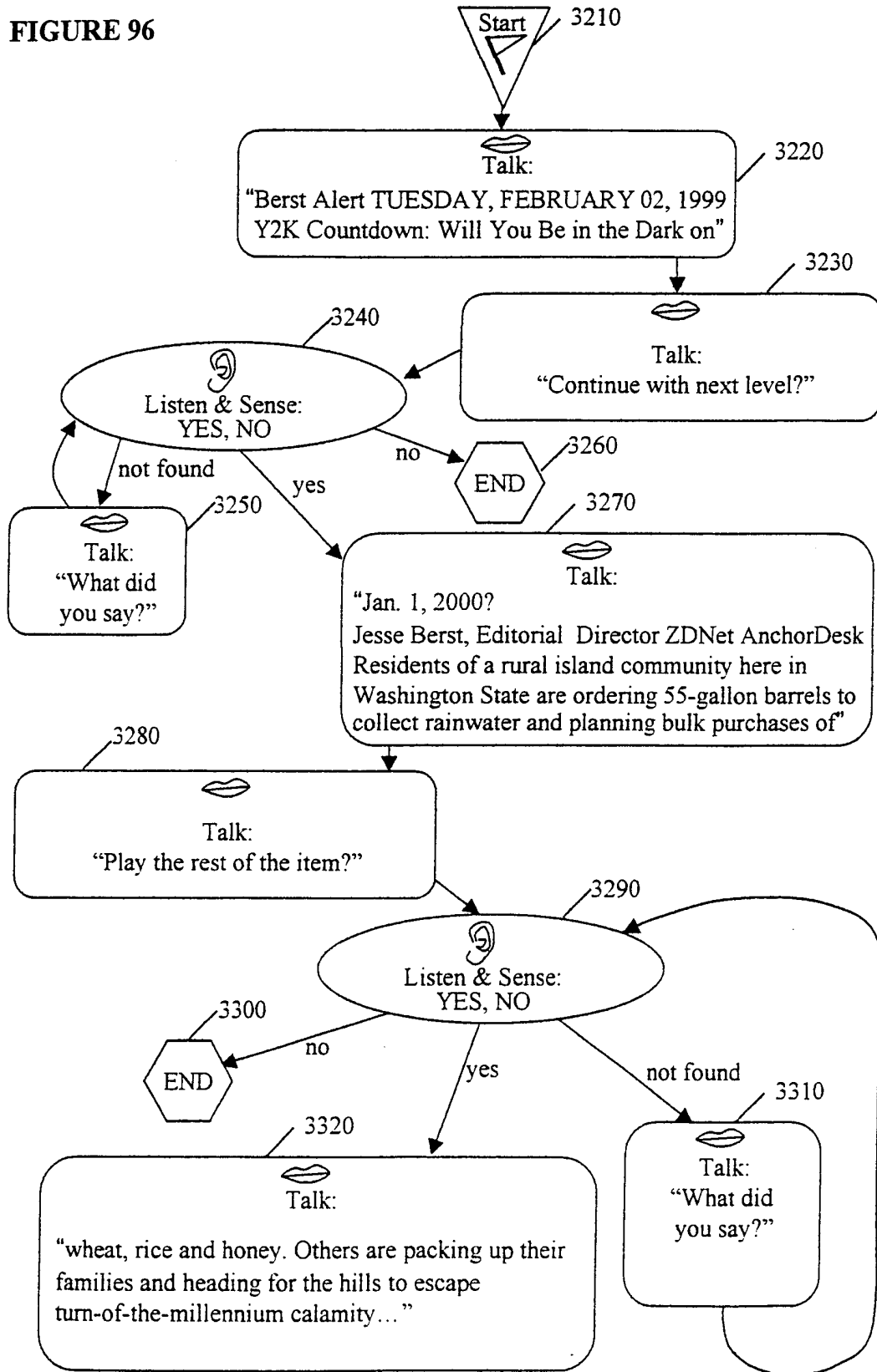




FIGURE 96



INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IL00/00130

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(7) :A63F 9/24; G06F 9/00; G09B 5/06 US CL :463/39-40, 42; 434/308, 175; 446/301, 298 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 463/39-40, 42; 434/308, 319, 323, 335, 175; 446/301, 297-298 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched NONE Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) NONE		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,923,428 A ( <i>CURRAN</i> ) 08 May 1990, See entire document.	1-4, 7-9, 28-49, 60-71 and 77
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier document published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed	
Date of the actual completion of the international search	Date of mailing of the international search report	
25 JULY 2000	11 AUG 2000	
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer M. SAGER	
Facsimile No. (703) 305-3230	Telephone No. (703) 308-1148	

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 Paralegal Specialist  
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INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IL00/00130

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
1-4, 7-9, 28-49, 60-71 and 77

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.  
No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IL00/00130

**BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING**

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claims 1-4, 7-9, 28-49, 60-71 and 77, drawn to toy or method of communicating behavioral or motivational messages.

Group II, claims 5-6, 10-27, 50-52 and 75-76, drawn to electronic purchasing system or method.

Group III, claims 53-59 and 79, drawn to apparatus or method for providing information.

Group IV, claims 72-74, drawn to motivation method.

Group V, claim 78, drawn to method of purchasing over a network.

The inventions listed as Groups I-V do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the special technical features of each grouping is not defined in subsequent inventions such that special technical features of Groups II-V are not in Invention I claims; special technical features of Groups I and III-V are not in Group II claims, special technical features of Groups I-II and IV-V are not in Group III claims, special technical features of Group I-III and V are not in Group IV claims and special technical features of Groups I-IV are not in Group V claims; therefore, unity is lacking.