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(54) **APPARATUS AND METHOD FOR ASSOCIATING AND DISPLAYING ICONS IN RELATION TO A FREQUENCY OF ICON SELECTION**

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USPC *715/811*

(76) Inventor: **HAROLD LEE PETERSON, SCOTTS VALLEY, CA (US)**

(57) **ABSTRACT**

A method, system and computer-readable medium are provided for enabling the organization, presentation and selection of icons related to information technology processes on the basis of frequency of launching of applications or use of services related the selected icons. In a first version, certain icons related to individual information technology processes are associated with an enclosing icon displayed by a computer at least partly on the basis of a history of frequency of use of applications software or related services. The user may direct the computer to display or cease displaying the icons by selecting the enclosing icon. In a second version the enclosing icon may be additionally or alternately associated with and/or disassociated from the enclosing icon at least partly on the basis of user instruction. In a third version, the selected icons may be personalized by associating textual, graphical and/or photographic data as provided by the user.

(21) Appl. No.: **13/472,463**

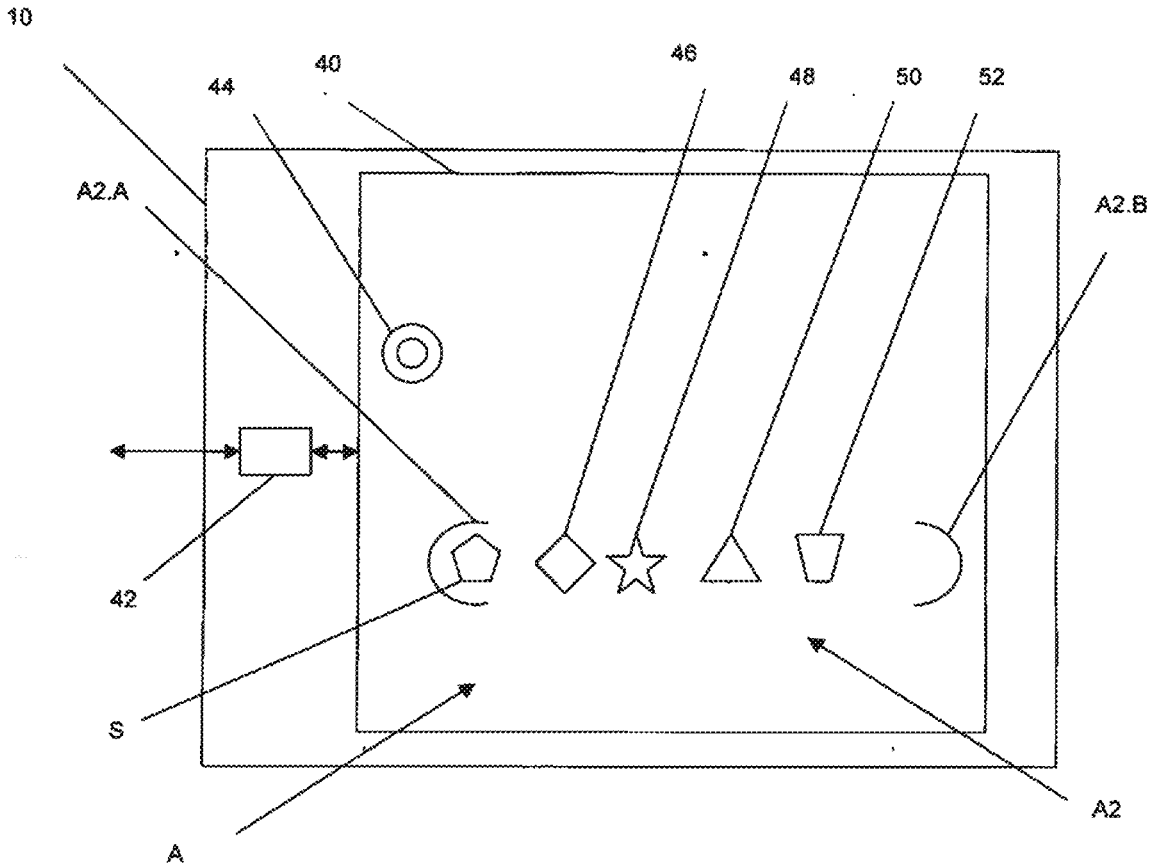
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Publication Classification

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G06F 3/0481 (2006.01)



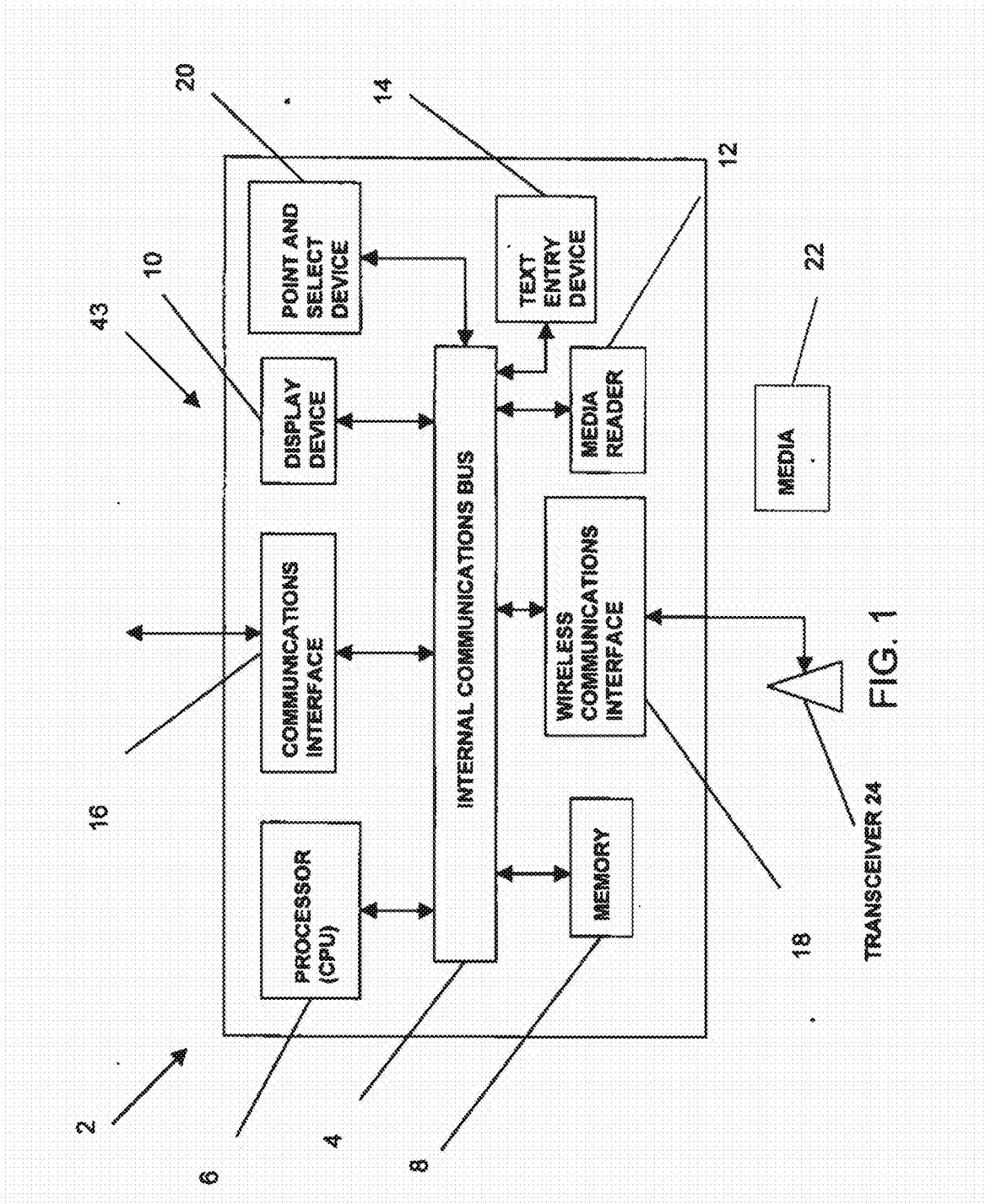


FIG. 1

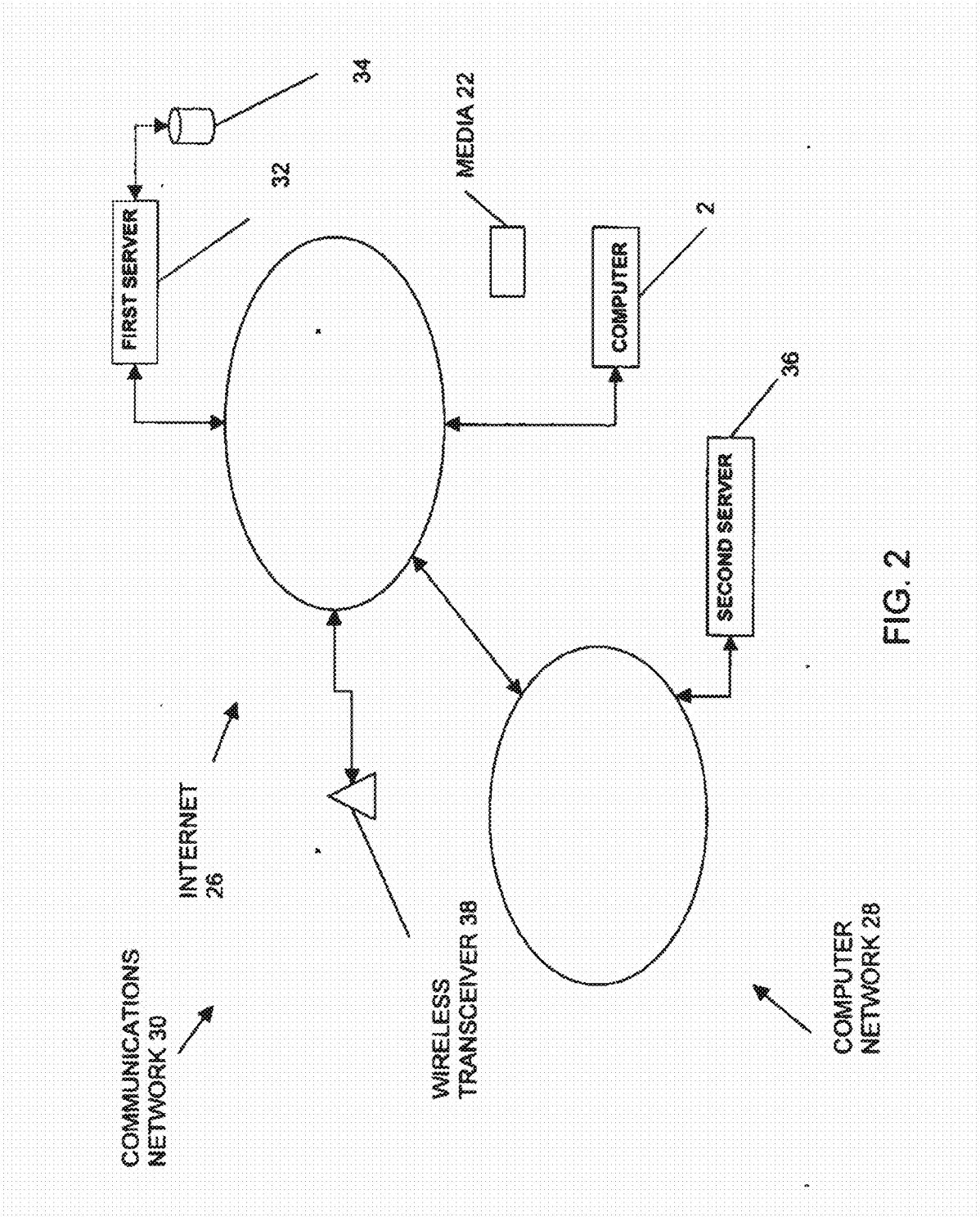


FIG. 2

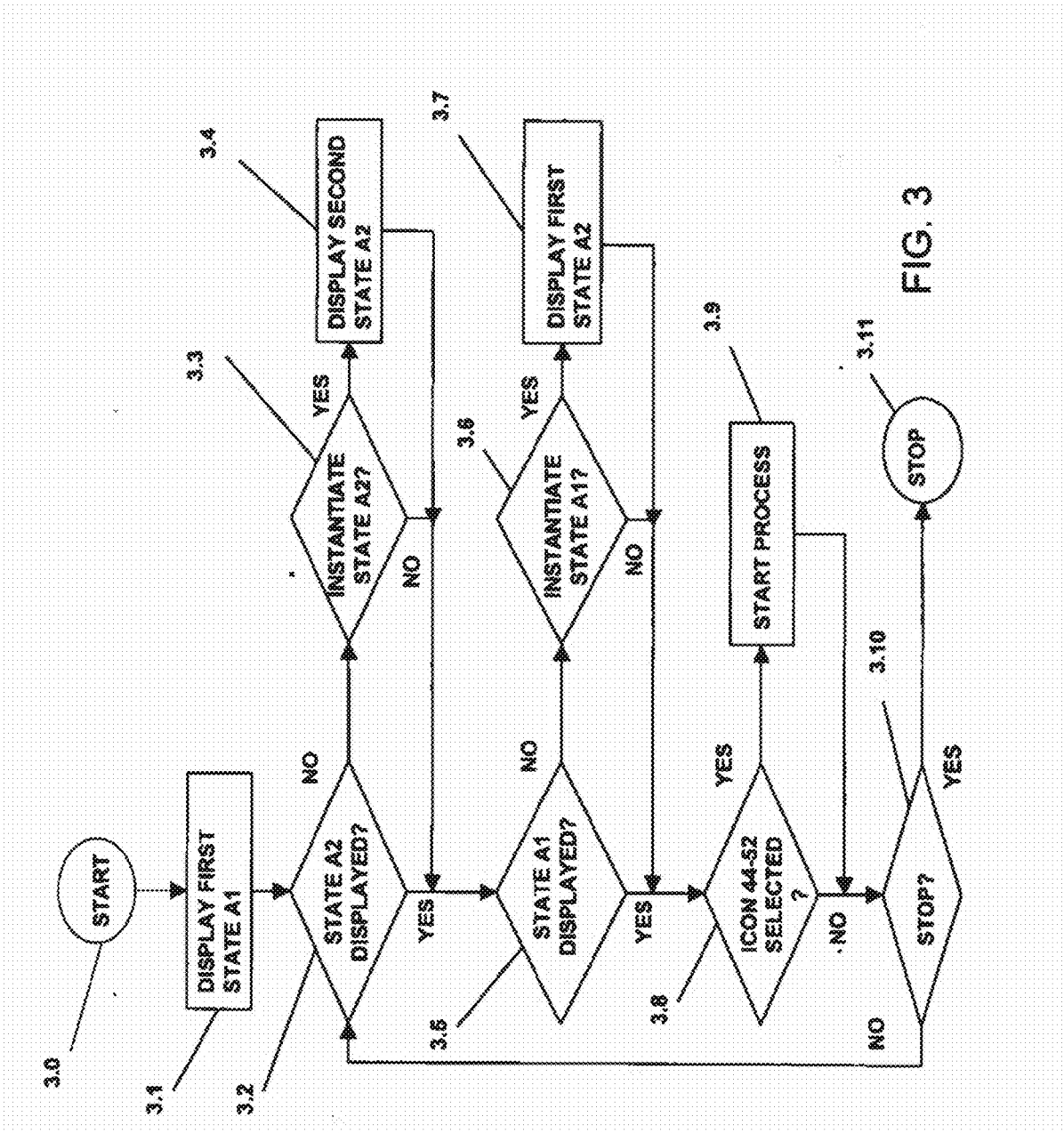


FIG. 3

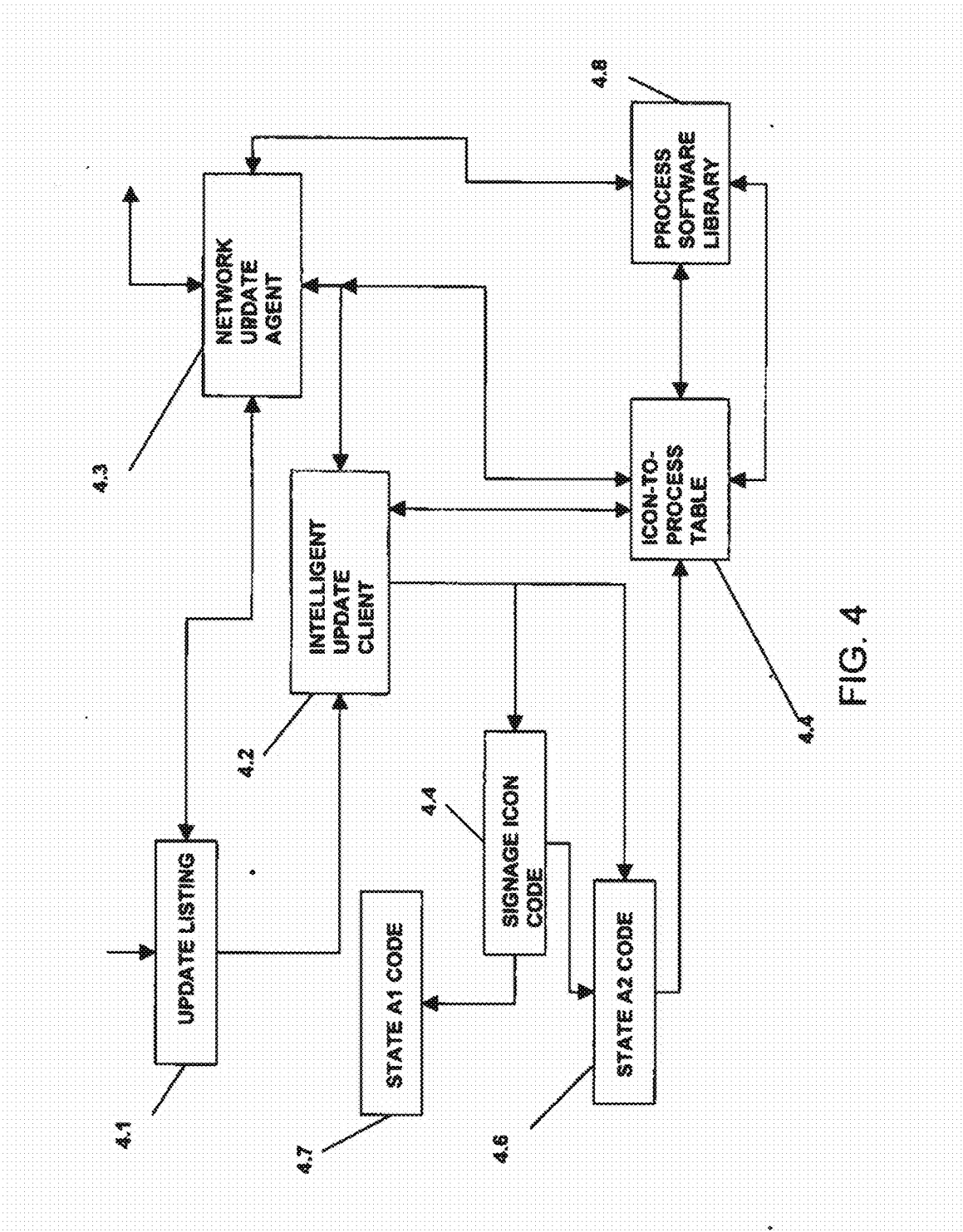


FIG. 4

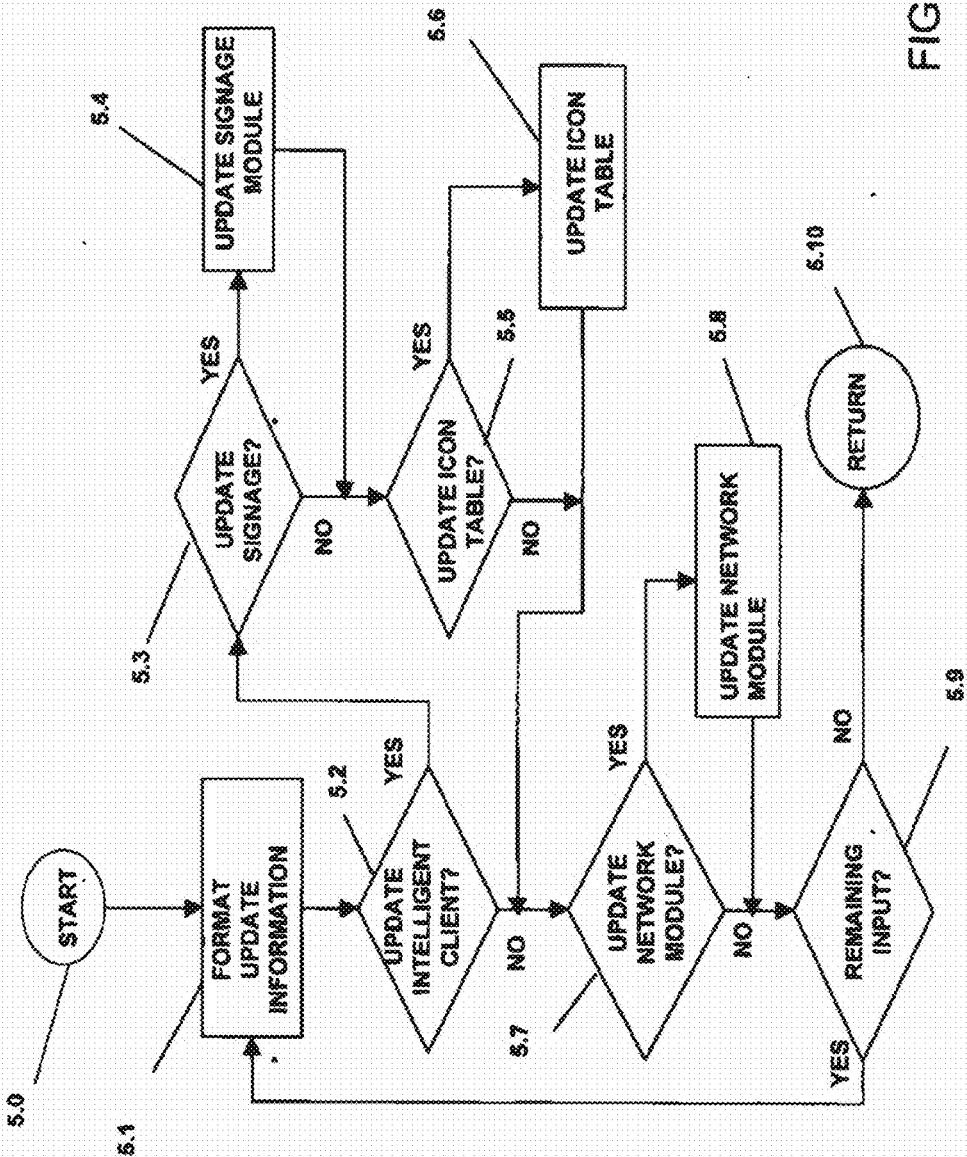
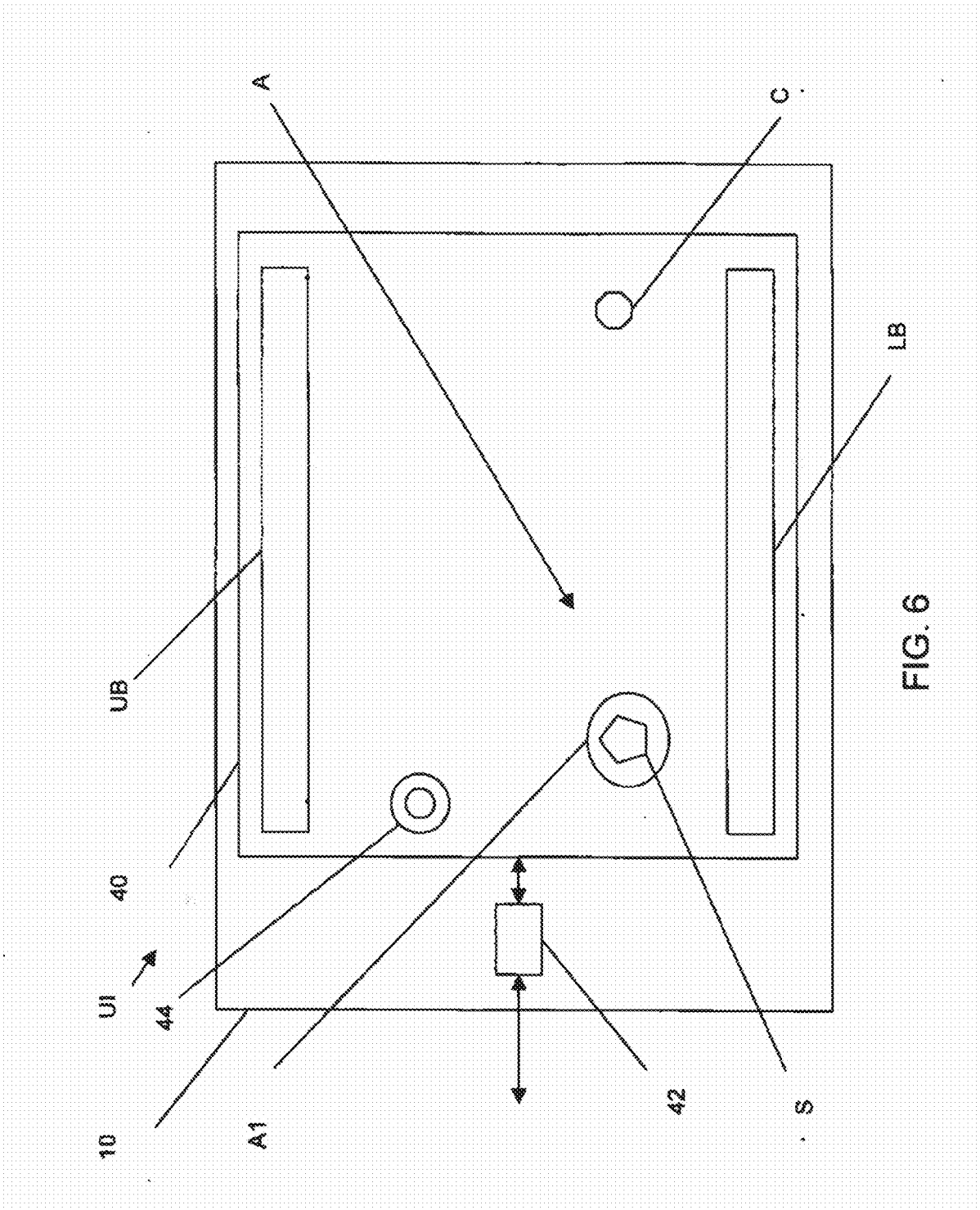
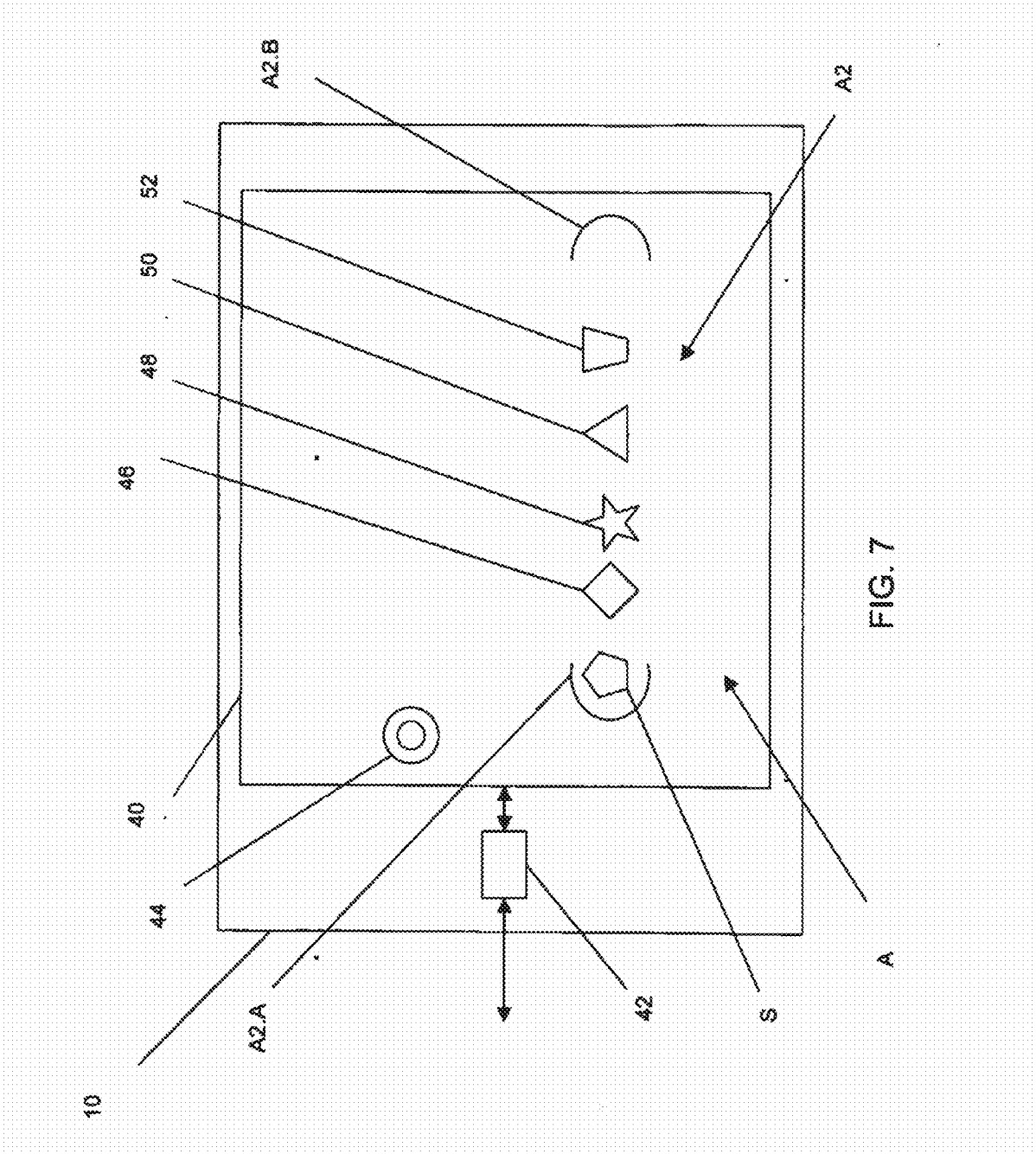


FIG. 5





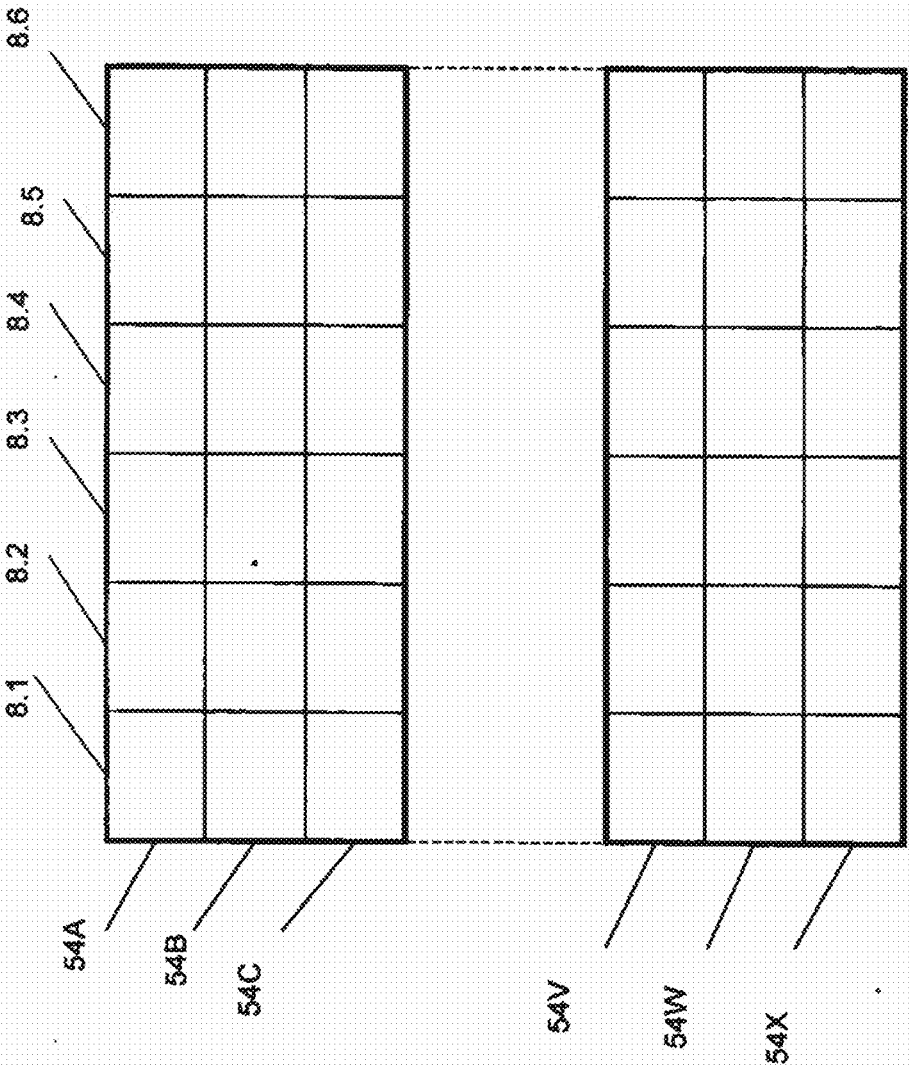


FIG. 8

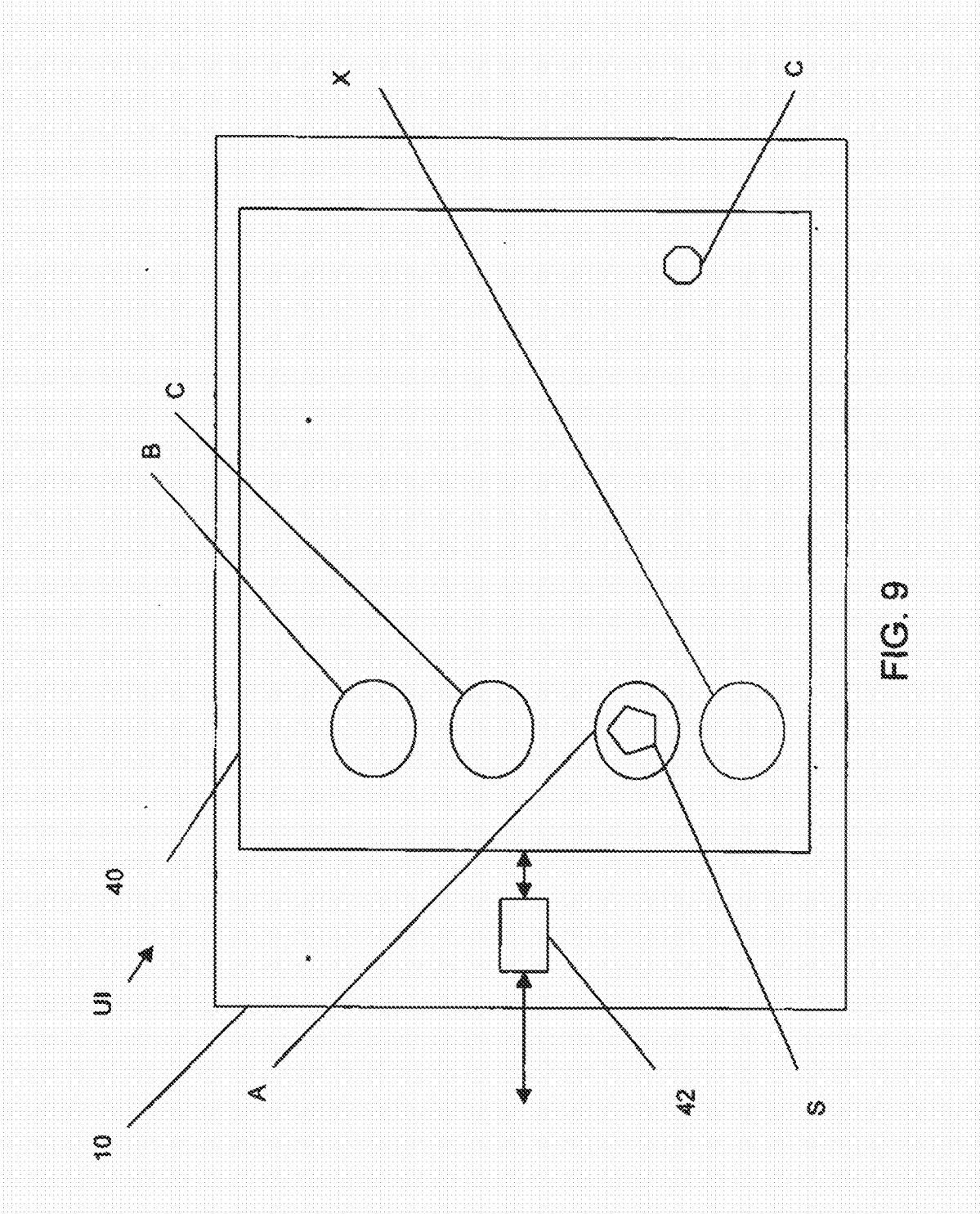


FIG. 9

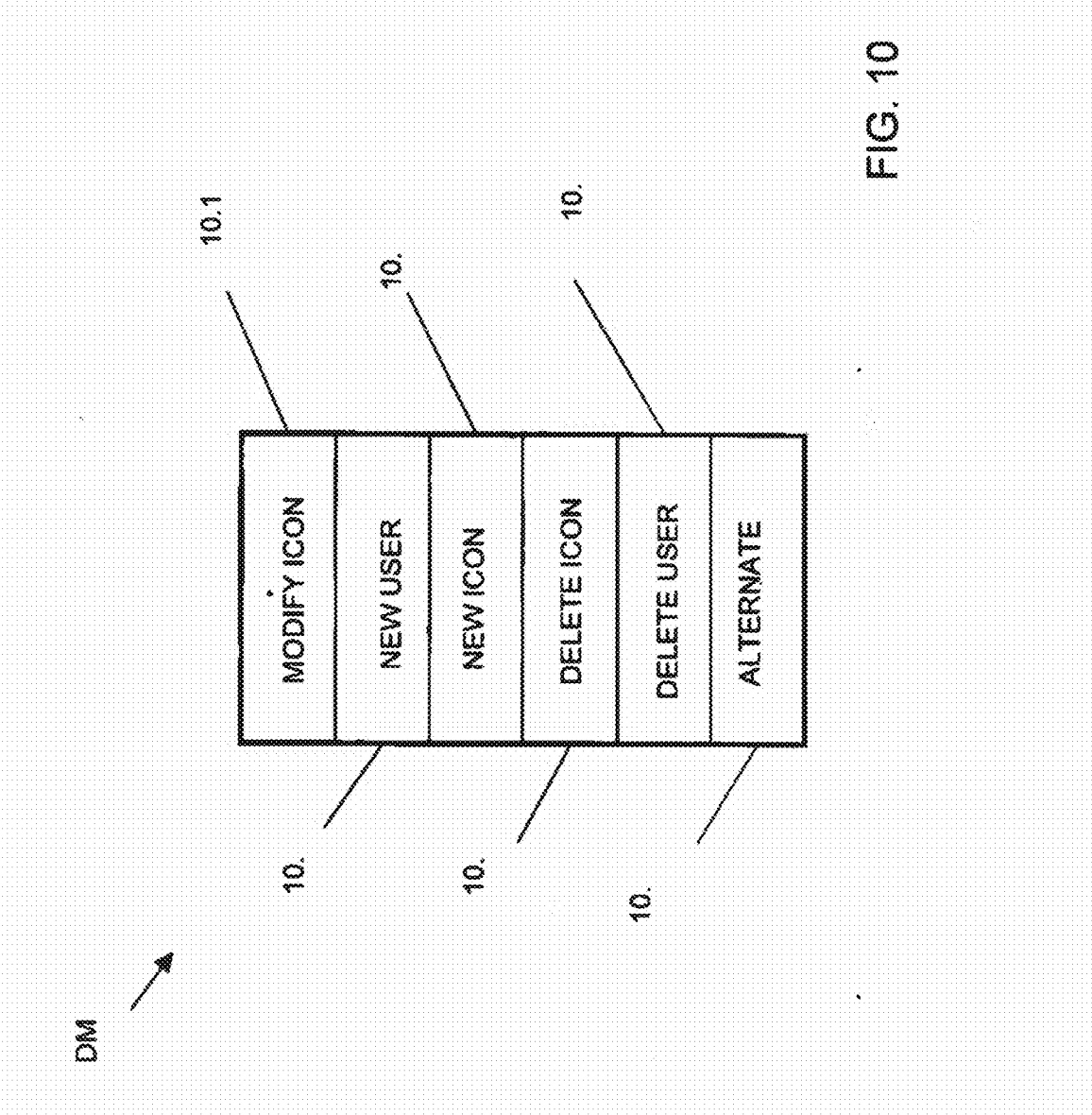


FIG. 10

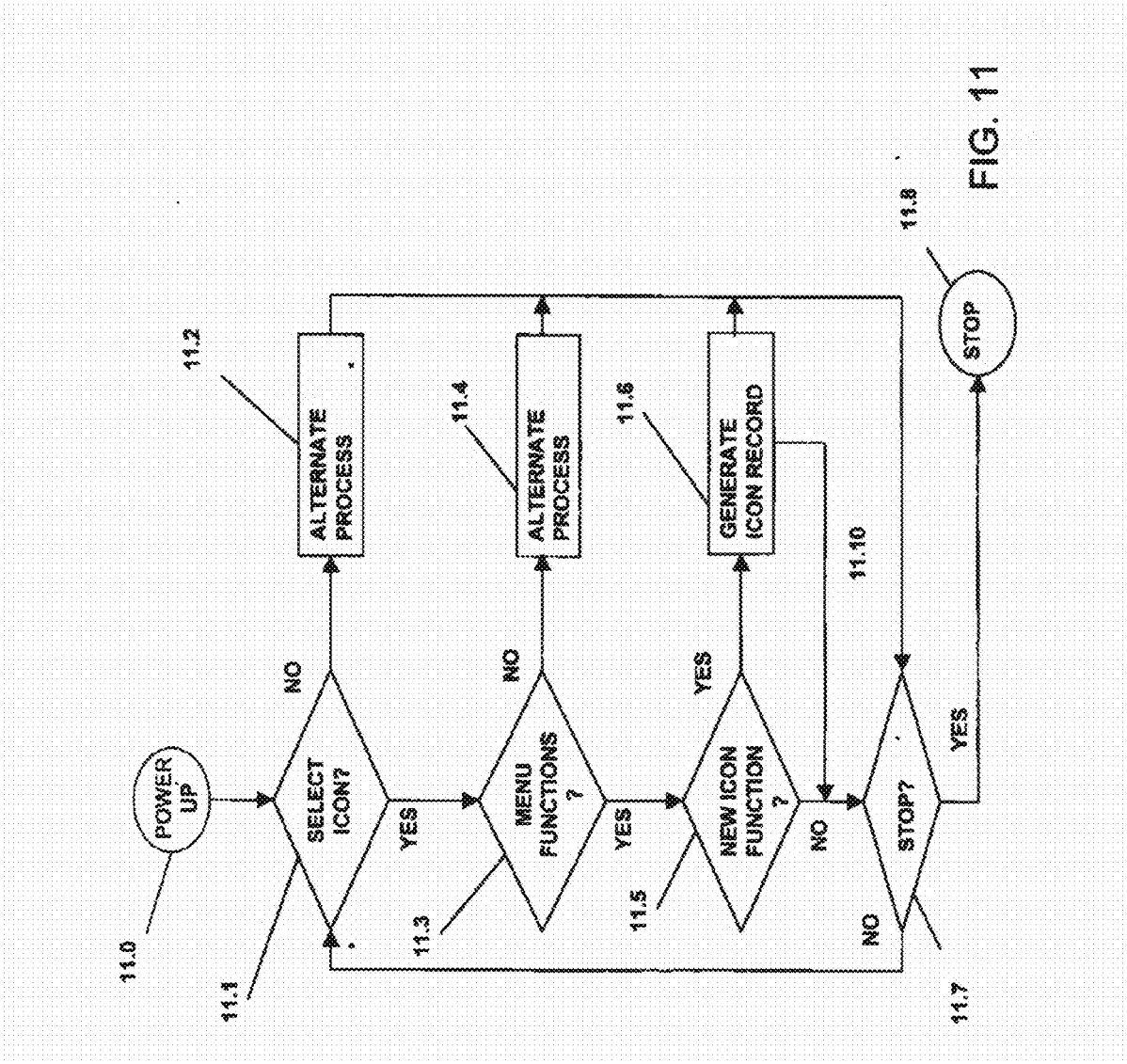


FIG. 11

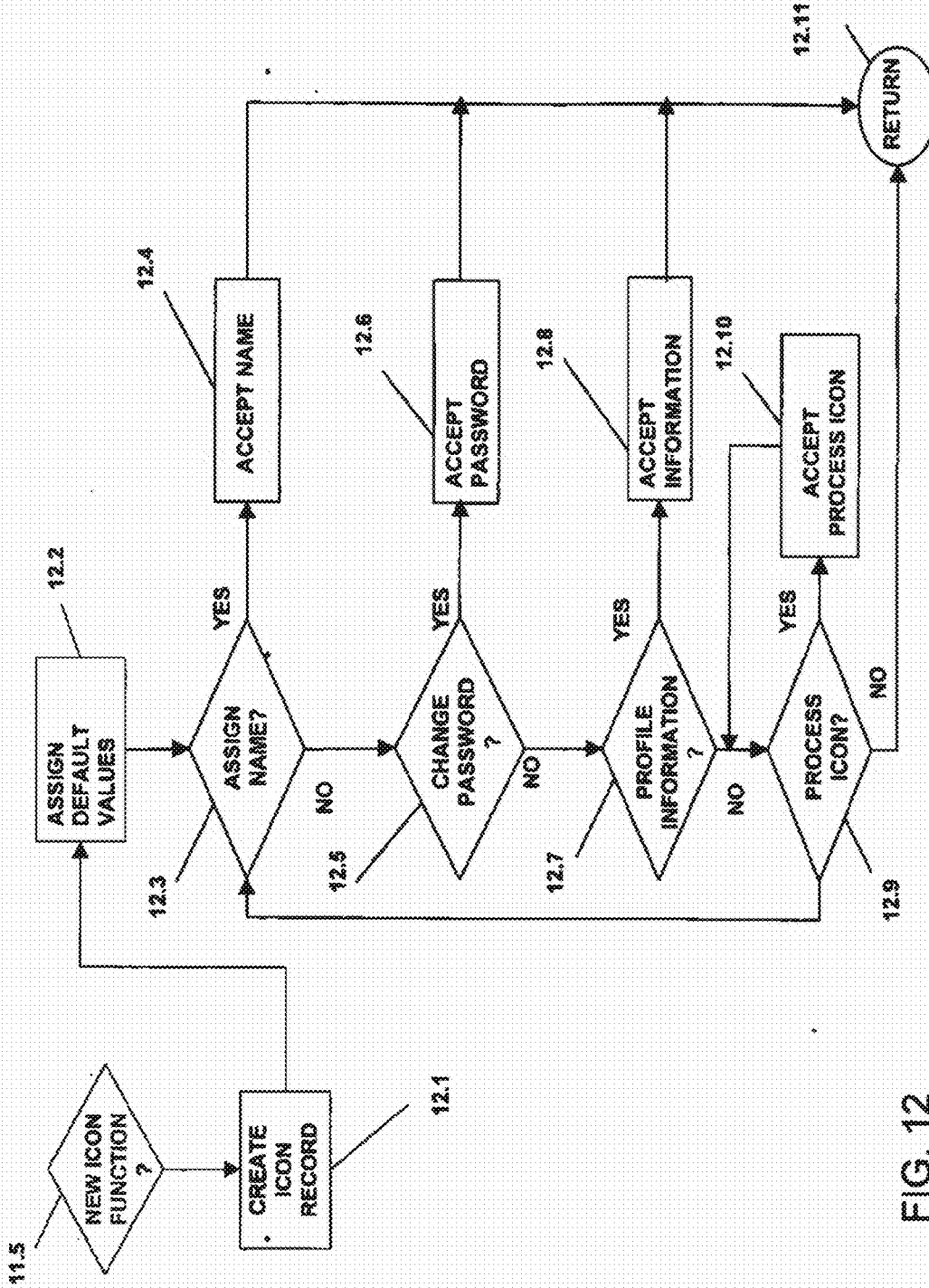


FIG. 12

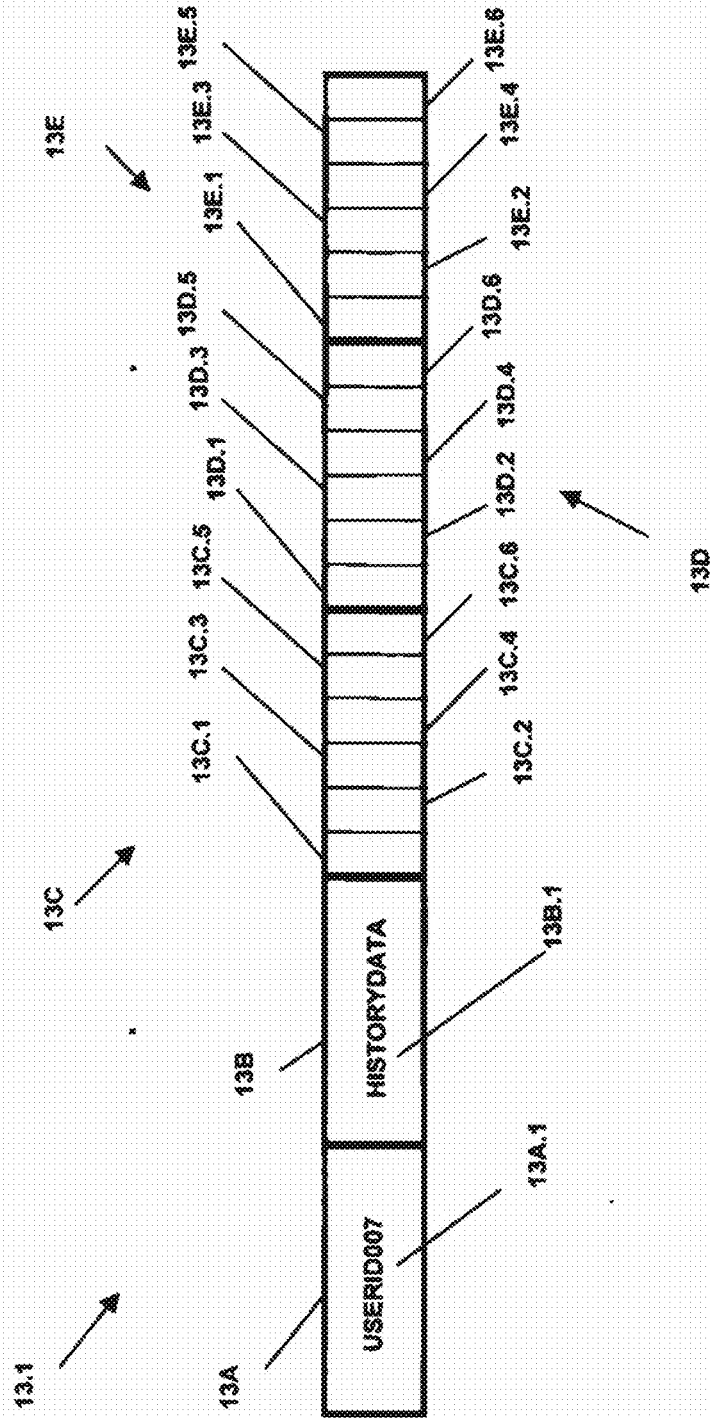
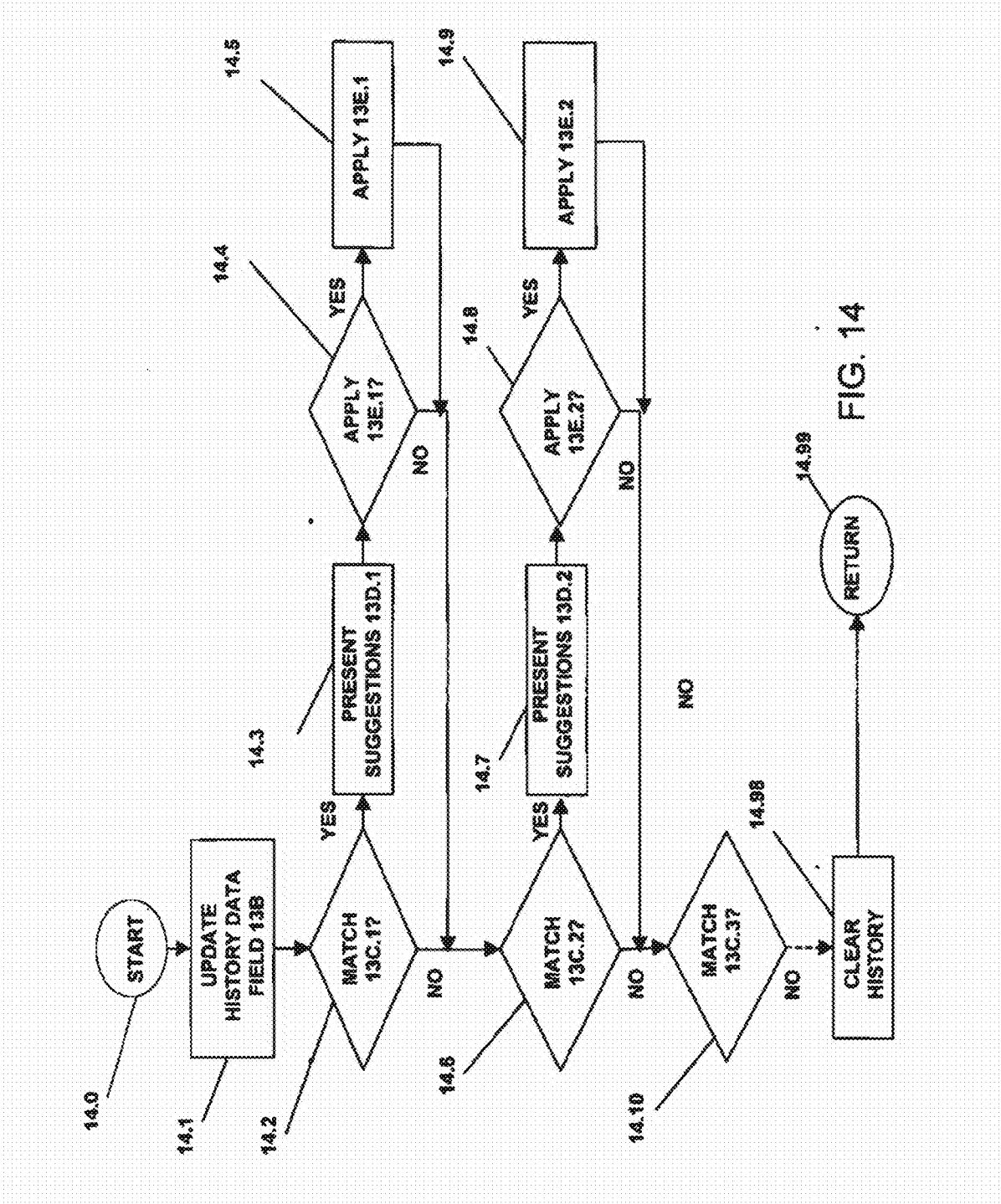


FIG. 13



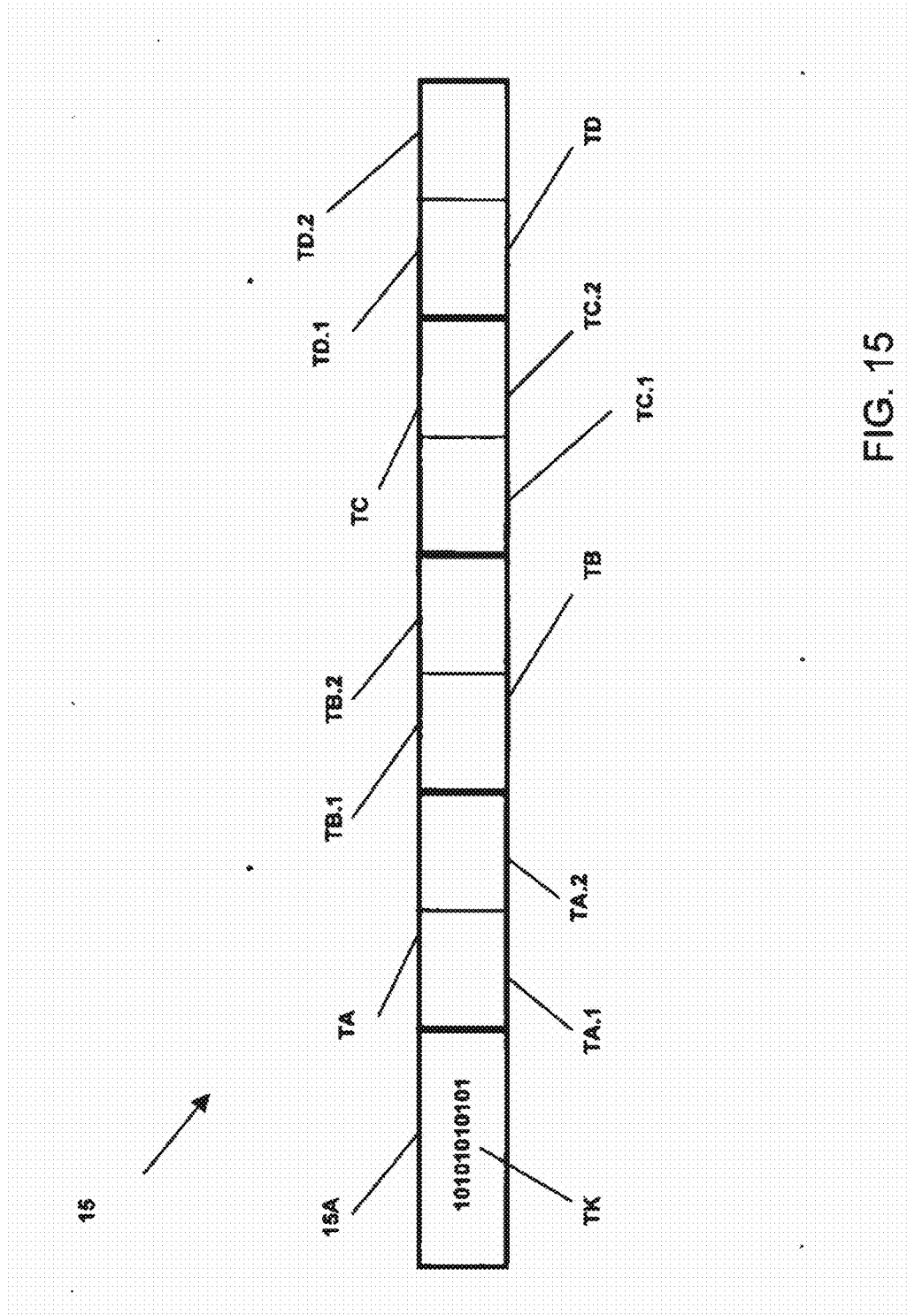


FIG. 15

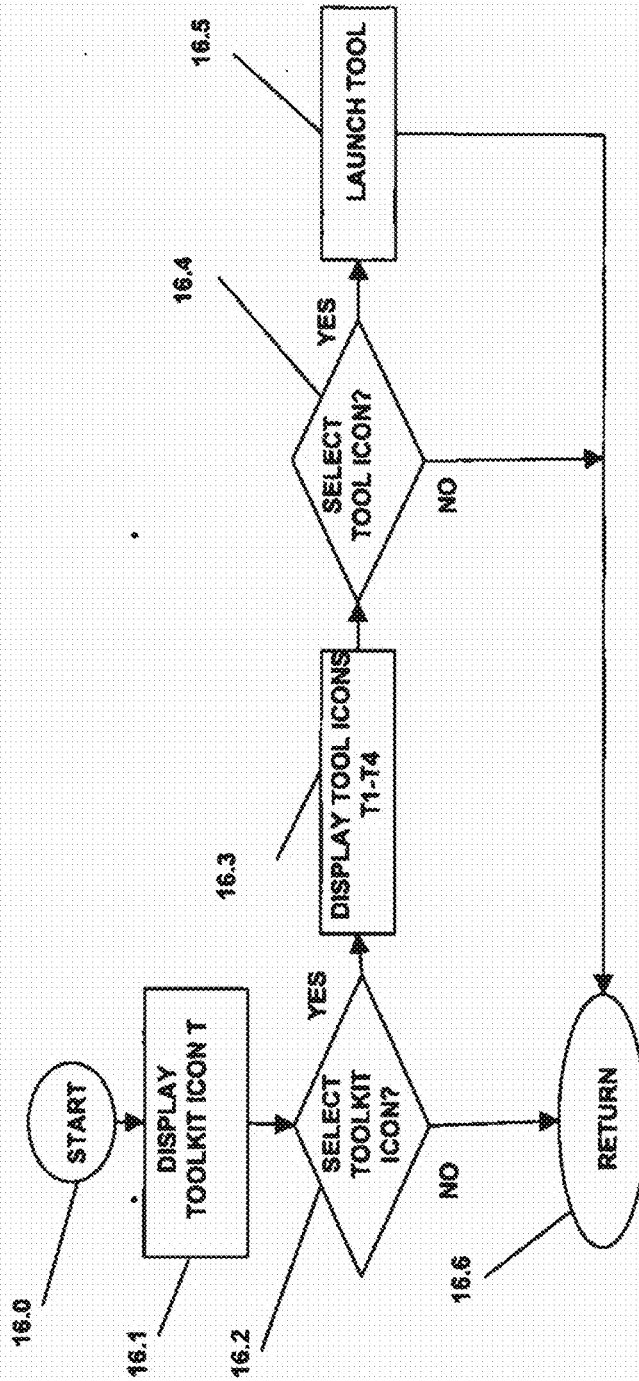
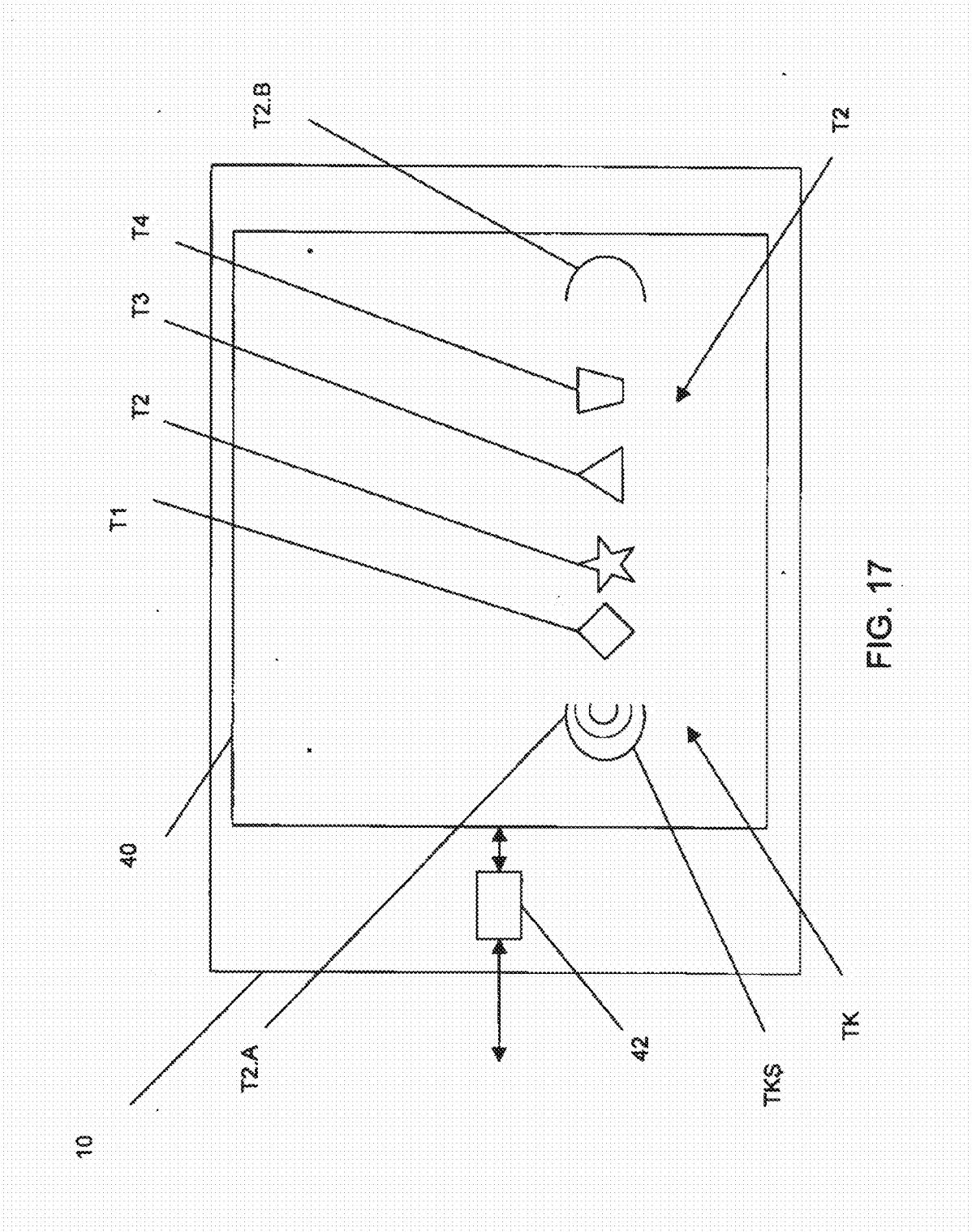


FIG. 16



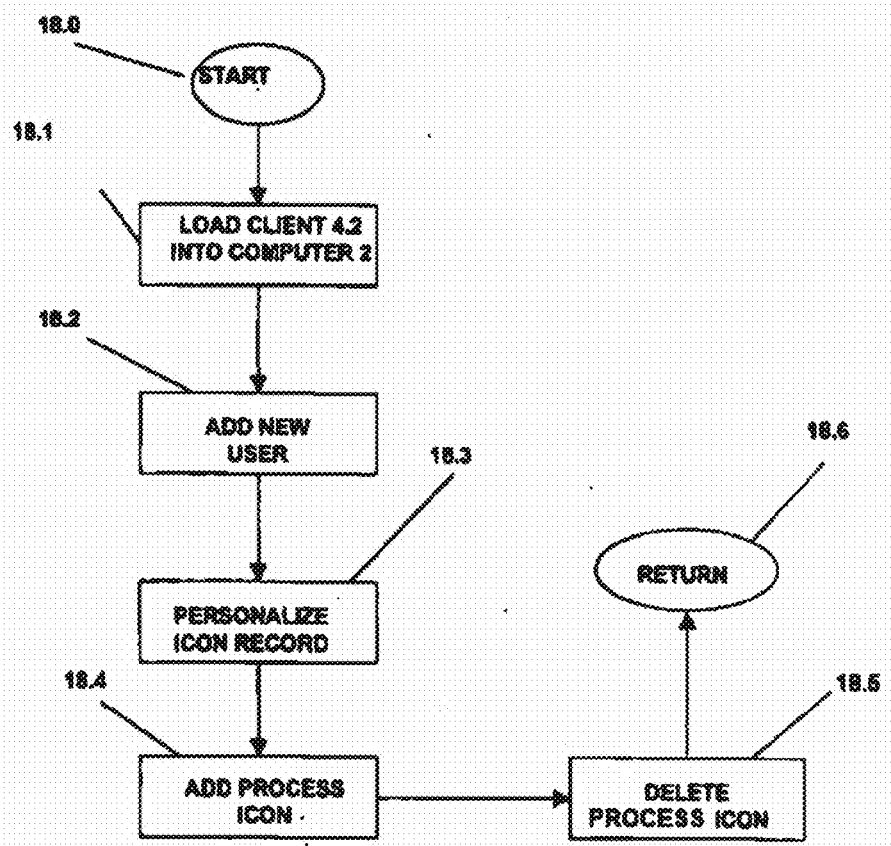


FIG. 18

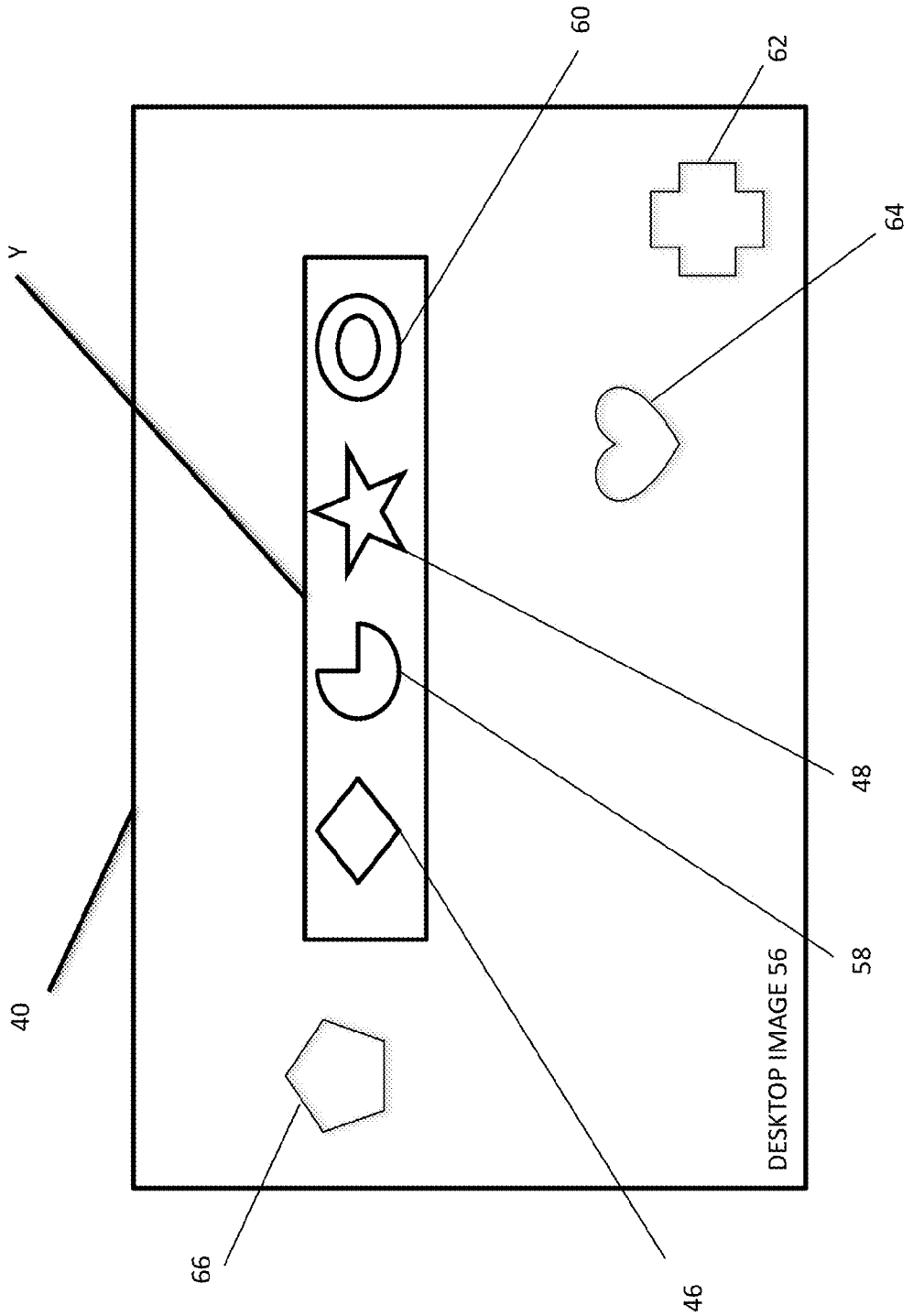


FIGURE 19

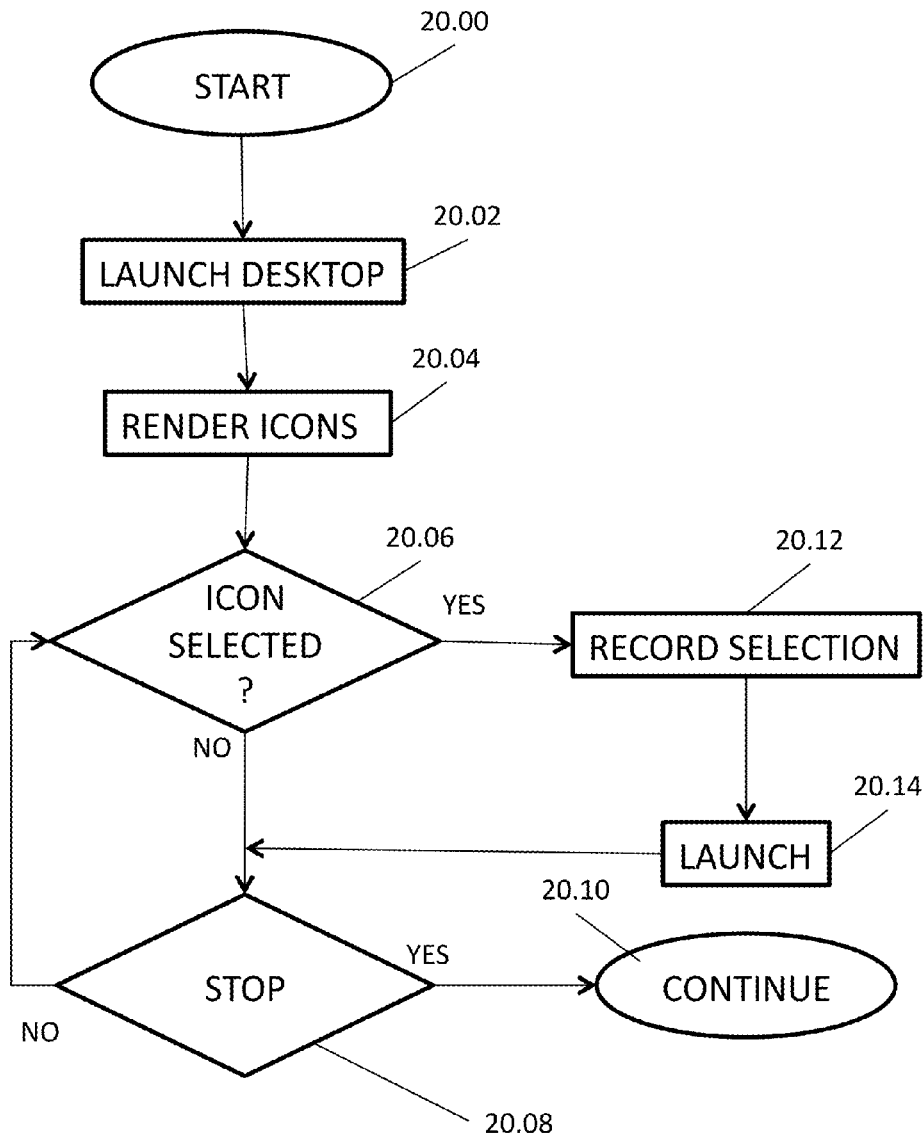


FIGURE 20

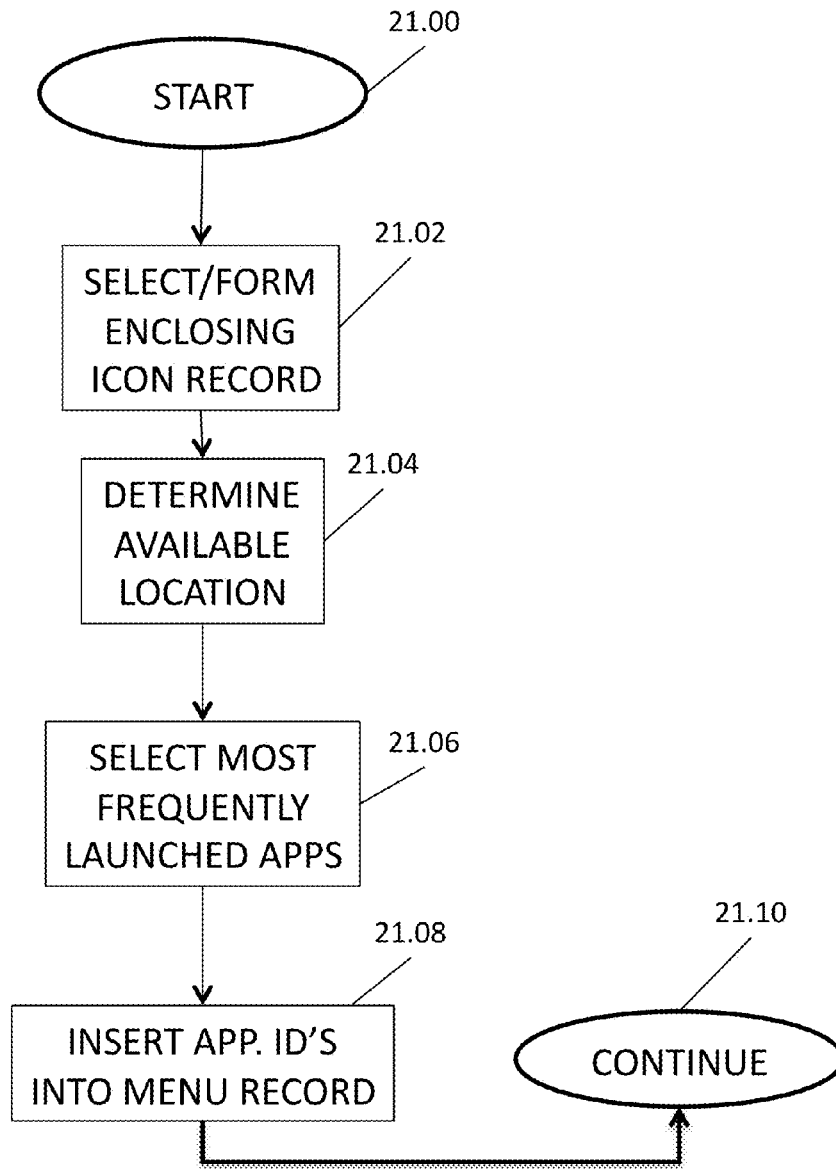


FIGURE 21

FREQUENCY TABLE FT.1

FR.1	APP. ID.1	TD1.1	TD1.N
FR.2	APP. ID.2	TD2.1	TD2.N
FR.3	APP. ID.3	TD3.1	TD3.N
FR.4	APP. ID.4	TD4.1	TD4.N
FR.N	APP. ID.N	TDN.1	TDN.N

FIGURE 22

ENCLOSING ICON RECORD Y.REC

REC ID	M.ID	A.ID.1	A.ID.2	A.ID.3	A.ID.4	A.1D.N	CLP
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FIGURE 23

APPLICATION REFERENCE RECORD A.ID.1

A.REC. ID.1	APP. ID.1	ICON INCLUDE I.1	P.1	ICON EXCLUDE E.1	TD.1	TD.N
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FIGURE 24

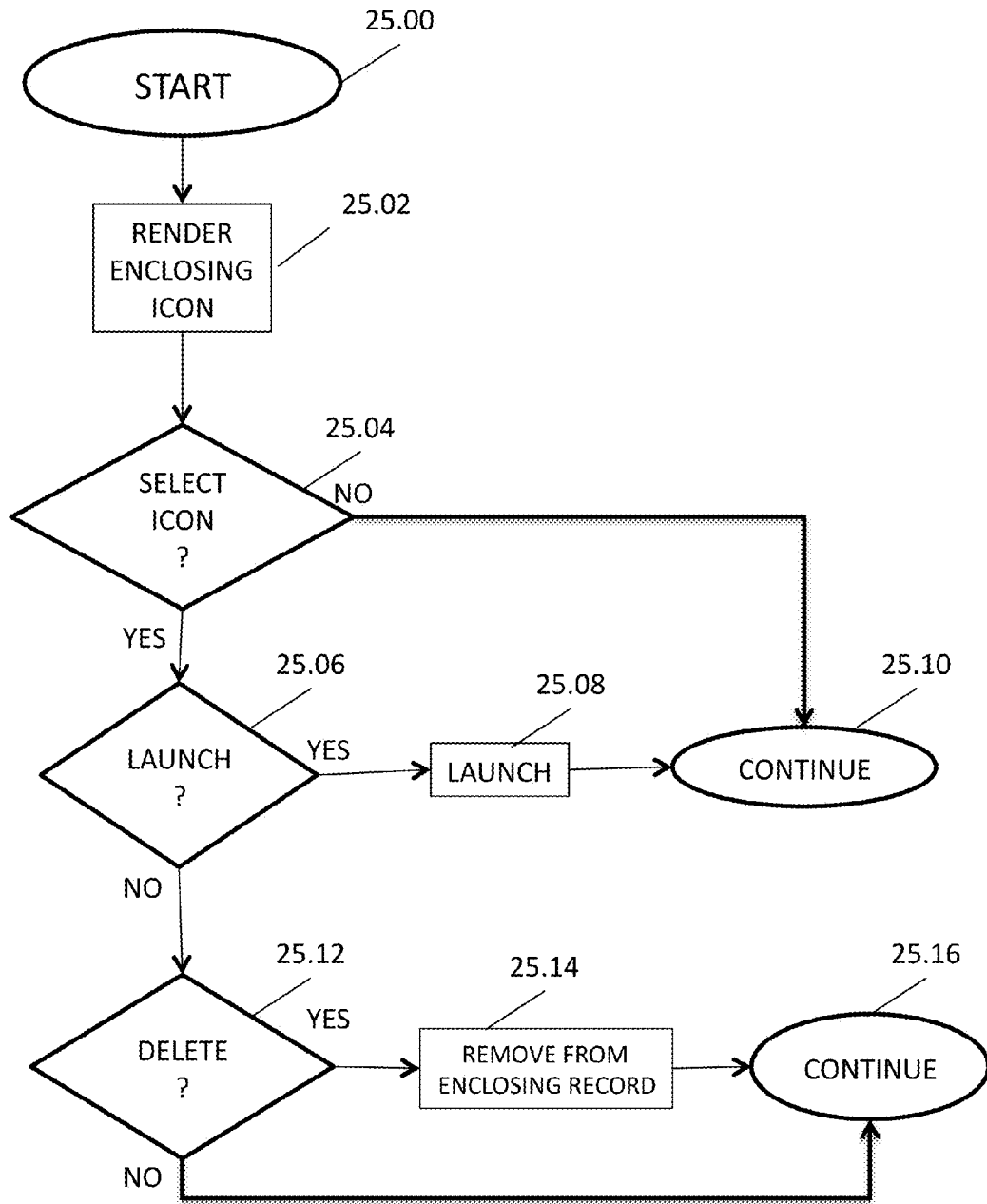
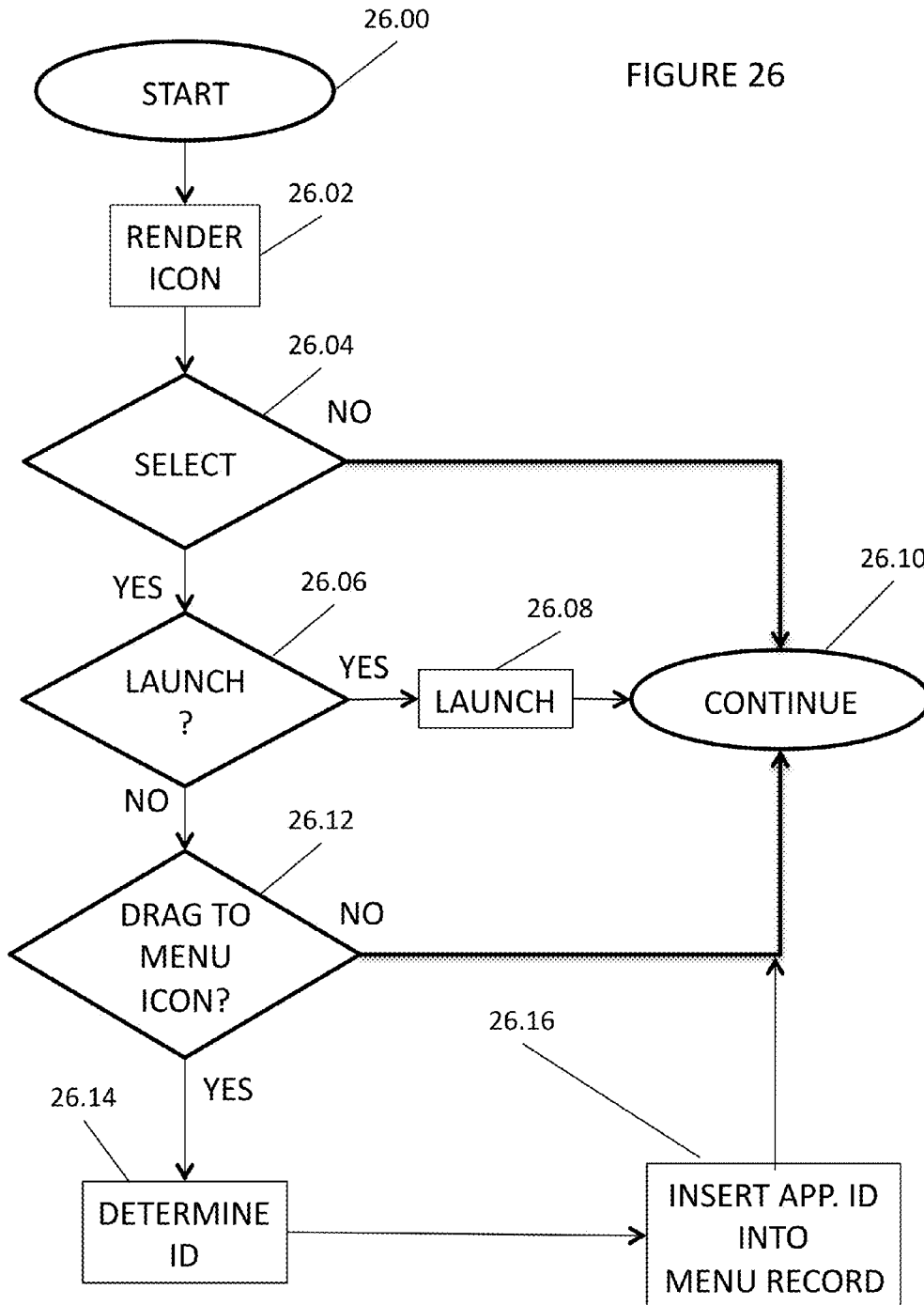
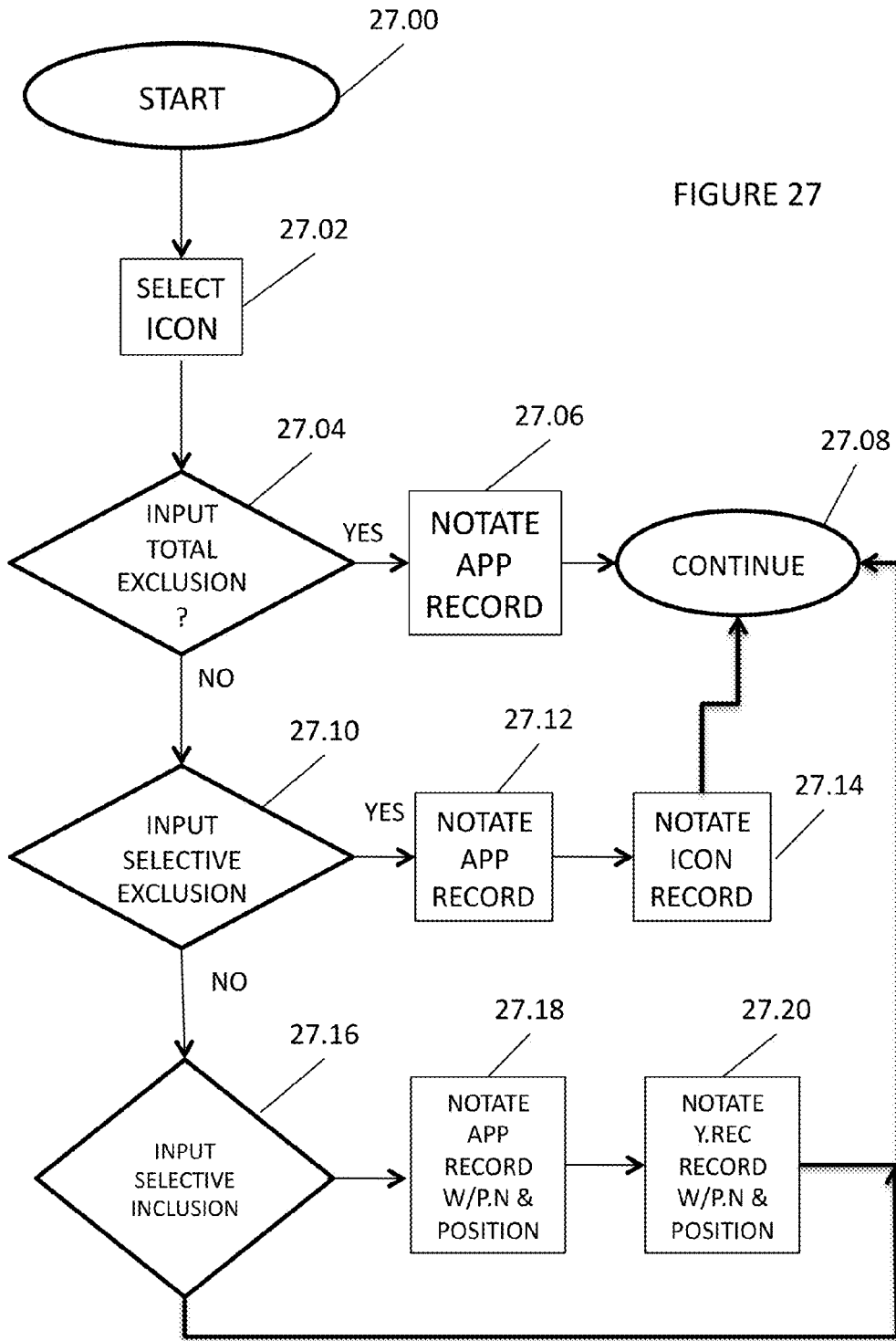
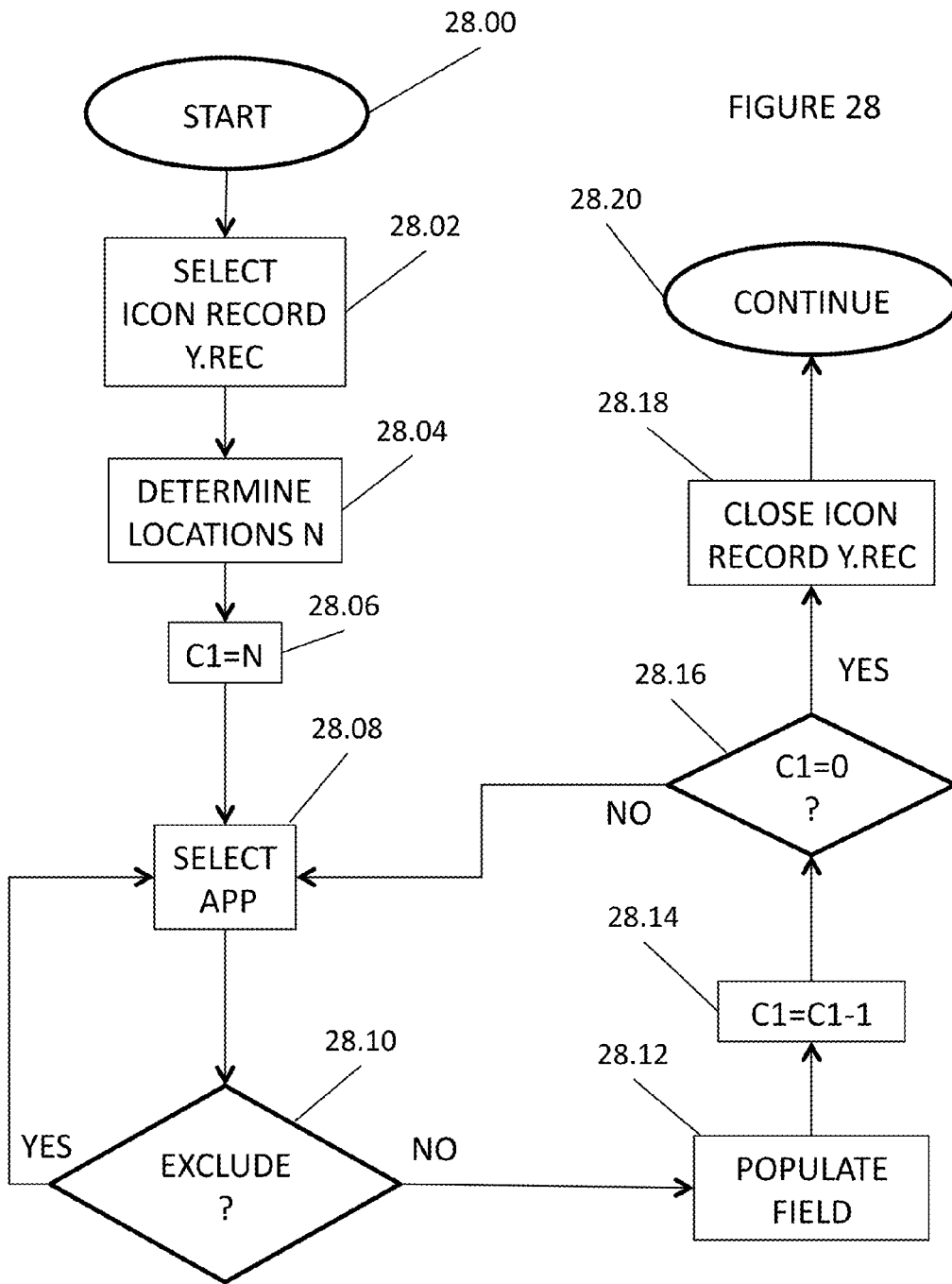


FIGURE 25

FIGURE 26







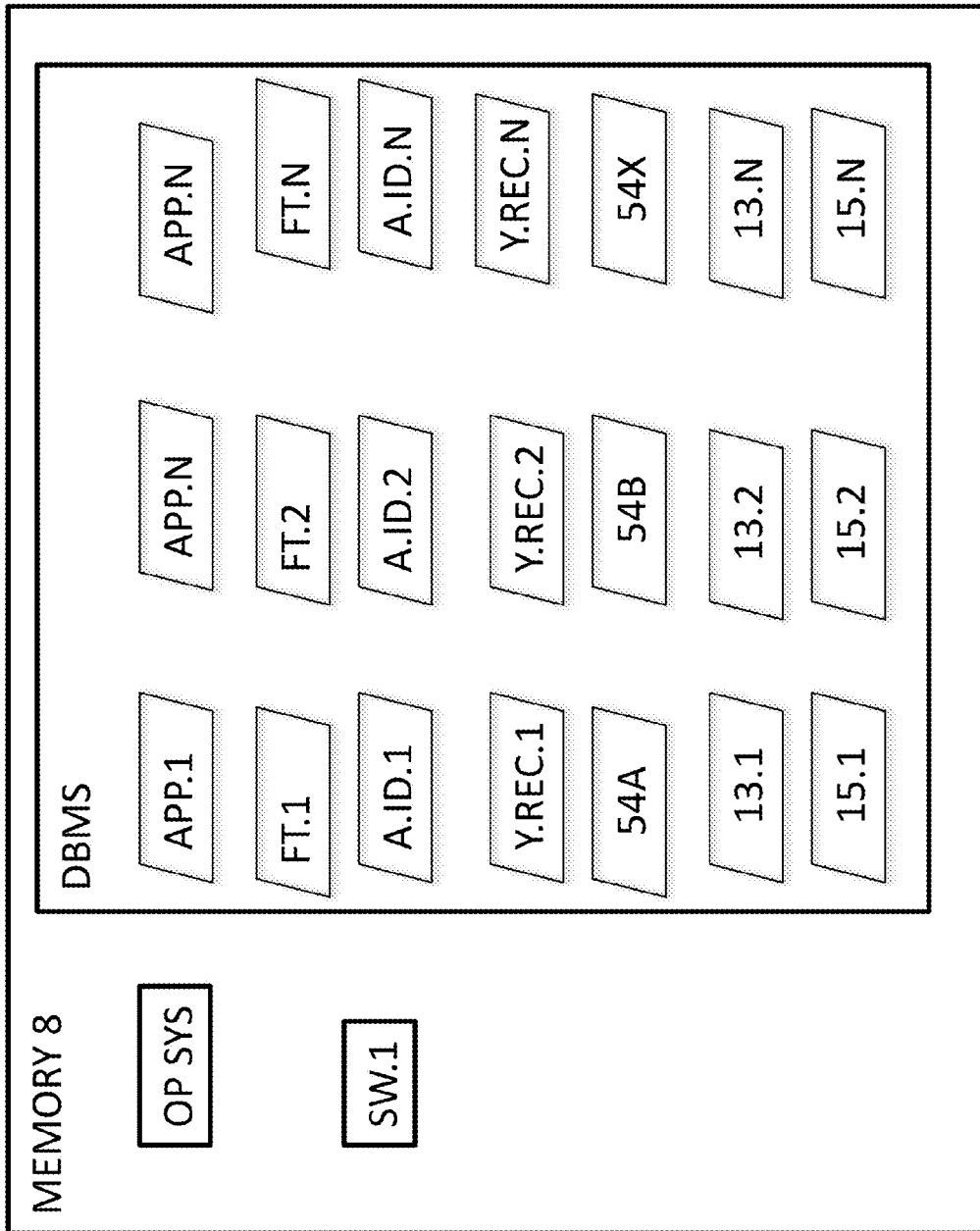


FIGURE 29

**APPARATUS AND METHOD FOR
ASSOCIATING AND DISPLAYING ICONS IN
RELATION TO A FREQUENCY OF ICON
SELECTION**

CONTINUATION-IN-PART APPLICATION

[0001] The present application is a Continuation-in-Part Application of U.S. patent application Ser. No. 13/270,169 filed on Oct. 10, 2011 and titled APPARATUS, METHOD AND COMPUTER-READABLE MEDIUM FOR ORGANIZING ICONS ASSOCIATED WITH INFORMATION TECHNOLOGY PROCESSES, wherein the present application claims benefit of the priority date of the filing of U.S. patent application Ser. No. 13/270,169 filed on Oct. 10, 2011. Furthermore, the U.S. patent application Ser. No. 13/270,169 filed on Oct. 10, 2011 and titled APPARATUS, METHOD AND COMPUTER-READABLE MEDIUM FOR ORGANIZING ICONS ASSOCIATED WITH INFORMATION TECHNOLOGY PROCESSES is incorporated in its entirety with the present application in its entirety and for all purposes.

FIELD OF THE INVENTION

[0002] The present invention relates generally to methods and systems for managing the selection and initiation of information technology processes by a computer system, and more particularly, to a user interface system and method that enables a user to selectably direct a computer system to display icons used to initiate software processes and/or Internet services.

BACKGROUND OF THE INVENTION

[0003] Many corporations that market their goods and services to consumer and other mass markets attempt to create on-going relationships with their customers and the public. In particular, corporations that supply information technology systems and services often desire to create and expand an awareness of users of computer systems of the corporate identity supplying the instant system or service. Yet consumers are increasingly bombarded with advertising and brand messaging. In addition, computer users typically prefer to maintain simplicity in the visual layout of the user interface presented on a display device of a computer.

[0004] A user interface bridges the gap between a user who seeks to control a device and the software and/or hardware that actually controls that device. The user interface for a computer is typically a software program running on the computers central processing unit (hereafter "CPU") which responds to certain user-typed commands. As computers have increased in popularity, the quality of the user interface has become an ever more important consideration in the development of a computer, since many of these users are not familiar with and/or comfortable with many of the typed commands that are required to operate the computer. One popular type of user interface that simplifies the operation of a computer is provided by a VAIO FS8900™ notebook computer marketed by Sony Corporation of America, of New York City, N.Y. Other prior art personal computers known in the art may comprise user interfaces integrated with or within an XP™ or VISTA™ personal computer operating system marketed by Microsoft Corporation of Redmond, Wash.

Other popular types of user interface are include in Macintosh computers marketed by Apple Computer, Inc., of Cupertino, Calif.

[0005] Certain prior art computer user interfaces employ what is referred to as a desktop metaphor for the basis of its user interface. Through use of a point and select device, such as a mouse or trackball, in communication with the computer, the user can select and/or move certain conic objects on the screen of the computer to control its operation. The desktop metaphor refers to the fact that: (1) the screen of the computer often looks somewhat like the blotter of a desktop, with a menu bar across the top of the blotter from which the user can select various control features; (2) there may be a trash can icon in the lower right hand corner of the blotter which can be used to remove items from the computer; and (3) programs and documents created with the software programs or services provided in synergy with a computer network are represented by iconic images of pages which can be placed in iconic images of folders and arranged on the blotter for easy access and organization, like the files of a filing cabinet in an office. The prior art teaches that these icons can be arranged—on the screen in a number of different manners, such as according to their type, size and color, and the user can search for files by searching for words listed in the title bar associated with each icon.

[0006] The prior art fails, however, to provide an apparatus, method or computer-readable medium that enables an associated display of a plurality of process icons wherein at least one or more of the associated process icons has been selected at least partly on the basis of frequency of launching or instantiation of an applications software associated with a selected process icon. There is, therefore, a long felt need to enable an at least partially automated method to associate a plurality of icons at least partly on the basis of frequency of launching or instantiation of applications software associated with one or more of the selected icons.

SUMMARY OF THE INVENTION

[0007] Towards this object, and other objects that will be made obvious in light of the present disclosure, a method is provided for selectably associating and presenting a plurality of icons related to information technology processes by means of a computer system.

[0008] In a first aspect of the invented method, a computational system is programmed to track the frequency of use of a plurality of applications programs and Internet services, and to associate a plurality of icons at least partially on the basis of a history or record of frequency of execution, launching, use and/or instantiation of each of the plurality of applications programs, software and/or Internet services.

[0009] In a second optional aspect of the invented method, plurality of software records are maintained that each indicate a frequency of use of a computational process and may alternatively inhibit or authorize the association of an icon representing the referenced computational process with an identified icon that that associates two or more images or icons.

[0010] In a third optional aspect of the invented method, cover flow or an animated graphical user interface may be applied in the rendering of one or more icons.

[0011] In a first preferred embodiment of the method of the present invention, or first method, an enclosing icon presents a signage related to a corporate identity.

[0012] In one exemplary preferred embodiment of the method of the present invention, a corporation, such as a

computational device manufacturer, may reinforce brand awareness with a user of a computer system by maintaining and providing a useful organizing utility and wherein the visual aspect of this utility comprises a signage that may be trademarked and/or copyrighted and further associated with the corporation by advertising and other promotional means and methods.

[0013] In accordance with other optional aspects of the invented method, a user of the computer system may use the enclosing icon for alternatively and selectably instantiating a first enclosing state and a presenting state. The invented method further includes or provides the optional alternate or additional steps of (a.) displaying the enclosing icon in the enclosing state upon start up of the computational device and until the enclosing icon is selected; and (b.) displaying the enclosing icon in the presenting state and at least two process icons upon selection of the enclosing icon by means of the point and select device, wherein each process icon initiates a unique information technology process when selected by means of the point and select device.

[0014] The invented method further provides or includes the following optional, alternate or additional steps and aspects:

[0015] a. visually associating and rendering a plurality of process icons in an order that is at least partly derived from, or affected, by a frequency history of user selection and/or execution or launch of a software application associated with a process icon;

[0016] b. denoting at least one process icon as being continuously associated with a specified enclosing icon regardless of previous frequency of user selection of the at least one process icon or of launching or execution of an applications software associated with the at least one process icon;

[0017] c. adding user personalized information, e.g., visually imagery or representations of textual information, to the signage of the enclosing icon;

[0018] d. collecting user personalized information by an intelligent client executable by the computer system;

[0019] e. initiating at least one information technology process upon selection of the associated process icon by means of the point and select device.

[0020] f. Presenting an icon associated with an one information technology process selected from the group of information technology processes that include a web based service, an Internet service, a web browser, a word processor, an address book, a calendar, an email client, and a visual image presenter;

[0021] g. receiving an update information related to a unique informational technology process associated with at least one process icon;

[0022] h. logging an update information in an update listing via an intelligent client executable by means of the computer system;

[0023] i. associating an update listing with at least one process icon via the intelligent client executable, and displaying the associated process icon concurrently with the display of the enclosing icon in the presenting state; and

[0024] j. executing at least one command associated with an update information after selection of the update information from an update listing.

[0025] Certain alternate preferred embodiments of the method of the present invention provide an apparatus for enabling selection and initiation of information technology processes by a computer, the computer including a display

and a point and select device with which a user selects an icon visually presented on the display. The apparatus may comprise (1.) a memory that stores an enclosing icon software, a plurality of icon software and a plurality of application programs; (2.) an enclosing icon software including signage information; (3.) at least two icon software modules, each module associated in a one-to-one correspondence with a unique information technology process; and (4.) a display logic coupled with, and/or partially or fully comprised within, the display. The display logic is configured for drawing icons on the display, wherein at system start-up the display logic instantiates an enclosing state icon and renders a signage derived from the enclosing icon software, and upon selection of the enclosing state icon by the point and select device the display logic instantiates a presenting state icon and the signage derived from the enclosing icon software and a plurality of process icons derived from the plurality of icon software.

[0026] Certain still alternate preferred embodiments of the method of the present invention provide a computer readable medium comprising machine readable instructions which direct a computational device to implement the actions of (1.) generating an enclosing icon, the enclosing icon presenting a signage, and the enclosing icon for alternatively and selectably instantiating a first enclosing state and a presenting state; (2.) displaying the enclosing icon in the enclosing state upon start up of the computational device and until the enclosing icon is selected; (3.) displaying the enclosing icon in the presenting state and at least two process icons upon selection of the enclosing icon, wherein each process icon is associated with a unique information technology process; (4.) updating an association of a plurality of process icons at least partially on the basis of the frequency of user selection of tow or more, or each, each of the plurality of process icons; (5.) removing a process icon from an association with an enclosing icon due to a low frequency of user selection; (6.) on the basis of a frequency of user selection of a process icon and/or the frequency of launching or execution of an applications software associated with the process icon, automatically suggesting to the user that the process icon be newly associated with an enclosing icon; and (7.) automatically monitoring frequency of user selections of each of a plurality of process icons and ordering the visual rendering of the plurality of process icons at least partially on the basis of relative frequency of user selection of individual icons of the plurality of icons.

[0027] In certain yet other alternate preferred embodiments of the method of the present invention a software program enables a user to generate one or more additional enclosing icons, wherein a computer maintains two or more enclosing icons and each icon may be personalized in functionality, content and/or appearance. In one exemplary embodiment, a computer may be used to generate plurality of enclosing icons wherein each enclosing icon is personalized to at least one user, whereby functionalities enabled by means of each enclosing icon may be unique.

[0028] The foregoing and other objects, features and advantages will be apparent from the following description of the preferred embodiment of the invention as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0029] These, and further features of the invention, may be better understood with reference to the accompanying specification and drawings depicting the preferred embodiment, in which:

[0030] FIG. 1 is a schematic diagram of a computer system by which the first method may be instantiated;

[0031] FIG. 2 is a schematic diagram presenting an electronic communications network that includes the computer system of FIG. 1;

[0032] FIG. 3 is a flow chart of the first method that may be executed by means of the electronic communications network of FIG. 2;

[0033] FIG. 4 is an entity diagram illustrating the relationships maintained among certain software modules 4.1-4.8 designed in accordance with the first method of FIG. 3 and that may be instantiated by means of the electronic communications network of FIG. 2;

[0034] FIG. 5 is a flow chart of the interactivity of the software modules of FIG. 4;

[0035] FIG. 6 is a representation of the a user interface generated in accordance with the first method of FIG. 3 and executed by means of the computer of FIG. 1 and/or the electronic communications network of FIG. 2, wherein an enclosing icon is presented in a first enclosing state;

[0036] FIG. 7 is a representation of the user interface of FIG. 6 generated in accordance with the first method of FIG. 3 and executed by means of the computer of FIG. 1 and/or the electronic communications network of FIG. 2, wherein the enclosing icon of FIG. 6 is presented in a second, or presenting, state;

[0037] FIG. 8 is an illustration of a plurality of data records used by the computer of FIG. 2 to generate a plurality of enclosing icons of FIGS. 6 and 9;

[0038] FIG. 9 is an illustration of the display screen of FIG. 1 displaying a plurality of process icons of FIG. 6;

[0039] FIG. 10 is an illustration of an optional drop down menu of the first method of FIG. 3 and that may be generated by means of the computer of FIG. 1;

[0040] FIG. 11 is a flow chart of optional steps of the first method of FIG. 3;

[0041] FIG. 12 is a flow chart of optional steps of the first method of FIG. 3 and the process of FIG. 11;

[0042] FIG. 13 is a schematic of an alternate preferred embodiment of the intelligent update client of FIG. 4;

[0043] FIG. 14 is a flowchart of an interaction of the intelligent client of FIG. 13 with the user and in accordance with certain alternate preferred embodiments of the method of the present invention;

[0044] FIG. 15 presents a toolkit data structure of a software toolkit icon that is included in certain other still additional alternate preferred embodiments of the method of the present invention

[0045] FIG. 16 is a flowchart of an interaction of and the computer of FIG. 1 with the user, and employing the toolkit data structure of FIG. 15 in accordance with certain alternate other preferred embodiments of the method of the present invention; and

[0046] FIG. 17 is an illustration of the display screen of FIG. 16 displaying a toolkit icon and a plurality of tool icons of FIG. 6;

[0047] FIG. 18 is a flowchart of a second method that is in accordance with certain yet additional preferred embodiments of the method of the present invention;

[0048] FIG. 19 is an illustration of a desktop image displayed on the display screen of FIG. 6 that comprises an alternate enclosing icon;

[0049] FIG. 20 is a flowchart of invented aspects of execution of the alternate enclosing icon of FIG. 19 that is in

accordance with certain yet additional preferred embodiments of the method of the present invention;

[0050] FIG. 21 is a flow chart of additional optional aspects of the invented method;

[0051] FIG. 22 illustrates a plurality of frequency records presented as forming a first frequency table, wherein each frequency record of the first frequency table may include one or more time date stamps that denote an instance of a user-initiated launching of a particular applications software;

[0052] FIG. 23 illustrates an enclosing icon record that includes a finite list of application reference records, wherein each application reference record associates the alternate enclosing icon of FIG. 19 with an icon of FIG. 19 that is rendered when the alternate enclosing icon is in the presenting state;

[0053] FIG. 24 illustrates an exemplary application reference record of FIG. 23 that is associated with the first exemplary icon of FIG. 19;

[0054] FIG. 25 is a flow chart of other additional optional aspects of the invented method of the alternate enclosing icon of FIG. 19;

[0055] FIG. 26 is a flow chart of yet other additional optional aspects of the invented method, wherein an icon of FIG. 19 may be associated with the alternate enclosing icon of FIG. 19 by the computer system of FIG. 1 in response to a drag and drop instruction input by the user;

[0056] FIG. 27 is a flow chart of even other additional optional aspects of the invented method, wherein the computer system of FIG. 1 receives and implement user instructions related to constraining the interaction of the exemplary icons and the alternate enclosing icon Y of FIG. 19;

[0057] FIG. 28 is a flow chart of still other additional optional aspects of the invented method, wherein the computer system of FIG. 1 automatically updates the associations of the exemplary icons with the alternate enclosing icon of FIG. 19 at least partially on the basis of recorded instances of the selection of individual exemplary icons to cause a launching of applications software that are generally pre-associated with individual exemplary icons; and

[0058] FIG. 29 is a schematic of the memory of FIG. 1 and illustrating a storage of various software of FIGS. 8, 13, 15, 22, and 23.

DETAILED DESCRIPTION

[0059] In describing the preferred embodiments, certain terminology will be utilized for the sake of clarity. Such terminology is intended to encompass the recited embodiment, as well as all technical equivalents, which operate in a similar manner for a similar purpose to achieve a similar result.

[0060] Referring now generally to the Figures and particularly to FIG. 1, FIG. 1 is a schematic diagram of a computer system 2 by which the first method may be instantiated. The computer system 2 may be a computational device, such as a network-communications enabled THINKSTATION WORKSTATION™ notebook computer marketed by Lenovo, Inc. of Morrisville, N.C.; (b.) a NIVEUS 5200 computer workstation marketed by Penguin Computing of Fremont, Calif. and running a LINUX™ operating system or a UNIX™ operating system; (c.) a network-communications enabled personal computer configured for running WINDOWS XP™, VISTA™ or WINDOWS 7™ operating system marketed by Microsoft Corporation of Redmond, Wash.; (d.) a PowerBook G4™ personal computer as marketed by Apple,

Inc. of Cupertino, Calif.; (e.) an IPAD™ tablet computer as marketed by Apple, Inc. of Cupertino, Calif.; (f.) an IPHONE™ cellular telephone as marketed by Apple, Inc. of Cupertino, Calif.; or (g.) other suitable computational system, to include suitable portable electronic devices and cellular telephones known in the art, and configured for wireless and/or landline connectivity with the Internet and/or the world wide web and optionally having Bluetooth wireless communications functionality. The computer system 2, or computer 2, includes an internal communications bus 4 that bi-directionally couples a central processing unit 6, a memory 8, a display device 10, a media reader 12, a text entry device 14, a network communications interface 16, and/or a wireless communications interface 18. The internal communications bus 4 additionally communicatively couples a point and select device 20 with the central processing unit 6 (hereafter “CPU” 6). A system software SW.1 is comprised within the computer system 2, optionally in the memory 8. The system software SW.1 enables the computer system 2 to execute and instantiate the steps and aspects of the invented method as disclosed herein and particularly including the flowcharts and data structures disclosed herein.

[0061] A user may communicate commands, selections and information to the computer 2 by means of the point and select device 20 and the text entry device 14. In certain other alternate preferred embodiments of the present invention the point and select device 20 may be or comprise a computer mouse such as (a.) a Targus™ Bluetooth capable computer mouse coupled with a AdapterspacerVS-AMBOIUS™ Bluetooth adapter, (b.) Apple Mighty Mouse™ computer mouse, (c.) an Apple Wireless Mouse™ computer mouse, or (d.) other suitable computer mouse or other suitable icon selection device known in the art configured to enable a user to select an icon as presented on a visual display device 10 of the computer 2. In certain still alternate preferred embodiments of the present invention the text entry device 14 may be or comprise a computer keyboard peripheral, such as an Apple Wireless Keyboard™, or other suitable keyboards known in the art and configured to enable a user to provide text input to the computer 2. In certain yet other alternate preferred embodiments of the present invention the display device 10 may be or comprise a touch screen module whereby the user may communicate commands, selections and information to the computer 2 by manually or physically pressing against a touch sensitive of a display surface of the display device 10.

[0062] The CPU 6 may include an on-chip and or and off-chip cache memory that increases the processing effectiveness of the CPU 6 in executing and running information technology processes. The media reader 12 is configured to read computer-readable and machine executable instructions stored in a computer-readable medium 22 and transmit the read instructions to the CPU 6 and the memory 8.

[0063] The term “computer-readable medium” as used herein refers to any suitable medium known in the art that participates in providing instructions to the network for execution. Such a medium may take many forms, including but not limited to, non-volatile media, volatile media, and transmission media. Non-volatile media includes, for example, optical or magnetic disks, tapes and thumb drives. Volatile media includes dynamic memory. Transmission media 10 includes coaxial cables, copper wire and fiber optics. Transmission media can also take the form of acoustic or light waves, such as those generated during radio-wave and infra-red data communications. Common forms of computer-

readable media include, for example, a floppy disk, a flexible disk, hard disk, magnetic tape, or any other magnetic medium, a CD-ROM, any other optical medium, RAM, a PROM, and EPROM, a FLASH-EPROM, any other memory chip or cartridge, a carrier wave as described hereinafter, or any other suitable medium known in the art from which a computer can read machine executable instructions.

[0064] Various forms of computer readable media may be involved in carrying one or more sequences of one or more instructions to the network for execution. For example, the instructions may initially be carried on a magnetic disk of a remote computer. The remote computer can load the instructions into its dynamic solid-state electronic memory 8 and send the instructions over a telephone line using a modem. A modem local to or communicatively linked with the network can receive the data on the telephone line and use an infra-red transmitter to convert the data to an infra-red signal. An infra-red detector can receive the data carried in the infra-red signal and appropriate circuitry can provide the data to the network.

[0065] The memory 8 both stores software instructions needed by the CPU 6, and the computer 2, to execute and instantiate the commands, processes and actions described herein, and provides these software encoded instructions via the internal communications bus 4 to the CPU 6 and generally within the computer 2. The memory may further store a plurality of applications software APP.1-APP.N and associated software records Y.REC.1-Y.REC.N, FT.1-FT.N & A.ID. 1-A.ID.N.

[0066] The software instructions stored and provided by the memory 8 may be, comprise, or be comprised within a web based service software, an Internet service software, a web browser software, a word processor software, an address book software, a calendar software, an email client software, and a visual image presenter software. It is understood that the computer 2 may partially or fully execute or instantiate an information technology process, e.g., a software program, a web based service, and an Internet based service in accordance with a software instruction sequence that is partially stored, instantiated and/or executed outside of the computer 2.

[0067] The communications interface 16 may comprise a modem configured to enable connectivity between the computer 2 and the Internet 26 (as per FIG. 2) and/or a computer network 28 (as per FIG. 2) via a landline connection of a telephony network.

[0068] The wireless communications interface 18 is paired and configured to bi-directionally communicatively couple the computer 2 to a communications network 30 via the wireless transceiver 24.

[0069] Referring now generally to the Figures and particularly to FIG. 2, FIG. 2 is a schematic diagram presenting an electronic communications network 30 that includes the computer system 2 of FIG. 1 within the Internet 26. The electronic communications network 30 may be or comprise the Internet 26, the computer network 28, a telephony network, a wireless communications network and/or other suitable electronic communications equipment and systems known in the art. A first server 32 is comprised within the Internet 26 and is configured to bi-directionally communicative with the computer 2. The computer 2 and the first server 32 are each assigned a unique and distinguishable network address in accordance with the Transmission Control Protocol and Internet Protocol. The first server 32 is configured to provide, and

provides, a web service, and/or other suitable Internet service known in the art, to the computer 2. A database 34 of the first server 32 stores information related to the provided web service and may optionally enable at least partial access to this information and other information to the computer 2. The computer 2 includes a web browser and an email client that may be used to harvest and deliver information, commands and selections to the first server 32.

[0070] A second server 36 is comprised within the computer network 28 and is bi-directionally communicatively coupled with the Internet 26 (to include computer 2) by means of the computer network 28. The second server 36 is configured to provide, and provides, an information technology functionality, and/or other suitable information technology service known in the art, to the computer 2.

[0071] A wireless transceiver 38 is comprised within the Internet 26 and is configured, tuned and paired to enable bi-directional communications between the computer 2 and the first server 32 and the second server 36 by means of the electronic communications network 30 and the transceiver 24 and the wireless communications interface 18.

[0072] In certain alternate preferred embodiments of the method of the present invention, the computer 2 may be an isolated computational system, having no communicative coupling with either any electronic communications network 26 28 & 30 nor any other computational devices 32 & 36.

[0073] Referring now generally to the Figures and particularly to FIGS. 3, 6, 7, FIG. 6 illustrates an enclosing icon A shown in an enclosing state A1, whereas FIG. 7 illustrates the enclosing icon A in a presenting state A2. FIG. 3 is a flow chart of the first method, wherein the enclosing icon A alternates between the enclosing state A1 and the presenting state A2, that may be executed by means of the electronic communications network 30 of FIG. 2. In step 3.0 the computer 2 is powered up. In step 3.1 the computer 2 renders the enclosing icon A in the first enclosing state A1. In the loop 3.2-3.4 the computer 2 determines whether the enclosing icon A shall be rendered in the presenting state A2. In loop 3.5-3.7 computer 2 determines whether the enclosing icon A shall be rendered in the enclosing state A1. In step 3.8 the computer 2 determines whether a process icon 44-52 (see FIG. 7) has been selected by the user by means of the point and select device 20. It is understood that the computer 2 may be presenting the icon A in the enclosing state A1, with no process icons 44-52 presented, when the computer executes step 3.8; in these instances of the first method the computer 2 proceeds from step 3.8 onto step 3.10. When the computer 2 determines in step 3.8 that a process icon 44-52 has been selected by the user, the computer 2 proceeds on in step 3.9 to initiate the execution, or a session of, an information technology process associated with the process icon 44-52 determined in step 3.8 to have been selected. In step 3.10 the computer 2 determines whether the computer 2 shall continue to determine whether the enclosing icon A shall be maintained as rendered in a current state A1 or A2, or alternatively rendered in an alternate state A1 or A2.

[0074] Referring now generally to the Figures and particularly to FIG. 4, FIG. 4 is an entity diagram illustrating the relationships maintained among certain software modules 4.1-4.8 stored within the computer 2 and designed in accordance with the first method of FIG. 3, and that may be instantiated by means of the electronic communications network of FIG. 2. An update listing module 4.1 receives and stores information originated from the media 22, the communica-

tions network 30, the text entry device 14, and/or the point and select device 20 that is to be integrated into the process of the first method. An intelligent update client 4.2 receives information from the update listing module 4.1 and provides update information to a network update module 4.3, an icon-to-process table 4.4, to a signage icon software 4.5, and/or to a second state A2 code 4.6 of the enclosing icon A. Examples of update information might include personalized information that is added to the signage icon software 4.5, or the introduction of a new process icon 44-52 into the presenting state A2 software code.

[0075] The network update software agent 4.3 is configured to inform other elements of the communications network 30, e.g., the first server 32 and the second server 36, of information received by the update listing software module 4.1.

[0076] The second present state A2 code 4.6 comprises machine readable software encoded instructions that enable the computer 2 to render the second presenting state A2 of the enclosing icon A, whereas a first enclosing state A1 code 4.7 comprises machine readable software encoded instructions that enable the computer 2 to render the first enclosing state A1 of the enclosing icon A. A process software library 4.8 includes a plurality of computer-readable instruction sets, e.g., software programs, that enable the computer 2 to initiate an information technology process associated with each process icon 44-52. The icon-to-process table 4.4 associates each process icon 44-52 with at least one of the computer-readable instruction sets that may be used by the computer 2 to execute, run, request, or initiate a session of an information technology process.

[0077] Referring now generally to the Figures and particularly to FIG. 5, FIG. 5 is a flow chart of the interactivity of the software modules 4.1-4.8 of FIG. 4. In step 5.0 information is received by the update listing module 4.1. In step 5.1 the information received in step 5.0 is formatted for use by one or more of the entities 4.1-4.8. In step 5.2 the computer 2 determines whether any of the information formatted in step 5.1 shall be integrated by the intelligent update client 4.2. In step 5.3 the computer 2 determines whether any information received by the intelligent update client 4.2 shall be used by or integrated into, the signage icon module 4.5, and in step 5.4 information is used by or integrated into the signage icon module 4.5, whereby the rendering of the signage S within the user interface UI may be affected.

[0078] In step 5.5 the computer 2 determines whether any information received by the intelligent update client 4.2 shall be used by, or integrated into, the icon-to-process table 4.4, and in step 5.6 information is used by integrated into the icon-to-process table 4.4, whereby the association of one or more process icons 44-52 with one or more computer-readable instruction sets of the process software library 4.8 may be affected.

[0079] In step 5.7 the computer 2 determines whether any information received by the intelligent update client 4.2 shall be used by, or integrated into, the network update software agent 4.3, and in step 5.8 information is used by, or integrated into, the intelligent update client 4.2, whereby the interactivity of the computer 2 and the electronics communications network 30 may be affected.

[0080] Referring now generally to the Figures and particularly to FIG. 6, FIG. 6 is a representation of a graphical user interface UI generated in accordance with the first method of FIG. 3 and executed by means of the electronic communications network 30 of FIG. 2, wherein an enclosing icon A is

presented in a first enclosing state A1. The display device 10 includes a display screen 40 and a display logic 42, or display interface circuit 42. The display interface circuit 42 is communicatively coupled with the internal communications bus 4 of the computer 2 and provides information received from the computer 2 and to the display screen 40 to enable the display screen 40 to visually present the user interface UI. Where the display screen 40 is a touch screen, the display interface circuit 42 accepts pressure sensing information from the display screen 40 and provides the received pressure sensing information to the internal communications bus 4 for evaluation and computation by the CPU 6.

[0081] Referring now generally to the Figures and particularly to FIGS. 1, 5, 6 and 7, the CPU 6, the memory 8, the internal communications bus 4, and the display device 10 are comprised within a system logic 43, the system logic 43 configured to visually present icons 44-52 (as per FIG. 7) associated with unique software programs stored within, or accessible by, the computer 2.

[0082] Referring now generally to the Figures, and particularly to FIGS. 6 and 7, the cursor C is positioned in accordance with positioning and movement information transmitted from the point and select device 20 via the internal communications interface 4 and to the display device 10, optionally in accordance with commands or additional information provided by the CPU 6 to the display device 10. When the cursor C is positioned over the enclosing icon A in the first enclosing state A1 and a select command is generated by the user via the point and select device 20, e.g., by depressing a button on a computer mouse of the point and select device 20, the computer 2 will direct the display device 10 to cease visually presenting the enclosing icon A in the first enclosing state A1, and to initiate displaying the enclosing icon A in a second state A2, or present state A2, as discussed below in reference to FIG. 7.

[0083] An information technology process icon 44, or process icon 44, is also provided by the computer 2 and within the user interface UI. An information technology process related to the process icon 44 is initiated, executed or run when the user selects the process icon 44 by placing the cursor C over the process icon 44 and depressing, clicking, or double clicking, a select feature, such as a select button, on the point and select device 10. Where the point and select device 20 is or comprises a computer mouse, the user shifts the position of the cursor within the user interface UI by manipulating the computer mouse along a substantially planar two dimensional surface, e.g., a mouse pad.

[0084] An upper band UB and a lower band LB of the user interface UI may further comprise or present a plurality of process icons 44, each process icon 44 associated with a unique information technology process, such as a software program, a web based service, and/or an Internet based service.

[0085] Software enabling the functionality of the enclosing icon A as described herein may be stored within the computer 2 and/or made available to the computer 2 by means of the electronic communications network 30. In the first enclosing state A1 a signage S is visually presented with the enclosing icon A. The signage S may be associated with an entity, such as a corporation. The term "corporation" is defined herein to include a person, a partnership, an association of persons or corporations, a team, a sports team, a political party, an ethnicity, a nation, a legally recognized corporation, and/or an idea.

[0086] Referring now generally to the Figures and particularly to FIG. 7, FIG. 7 is a representation of the user interface UI of FIG. 6 generated in accordance with the first method of FIG. 3 and executed by means of the electronic communications network 30 of FIG. 2, wherein the enclosing icon A is presented in a second state A2 (hereafter "presenting state" A2). The presenting state A2 visually presents the signage S, a first shell half A2.A, a plurality of process icons 44-52, and a second shell half A2.B.

[0087] The shell halves A2.A & A2.B provide a visual context to the paradigm that the enclosing icon A provides a location in the user interface UI where plurality of presented process icons 44-52 reside or can be easily located. The user may direct the computer 2 to change the state of the enclosing icon A from the presenting state A2 to the enclosing state A1 by manipulating the point and select device 10 to position the cursor C over the signage S or either shall half A2.A & A2.B and actuating a select feature on the point and select device 10, e.g., by clicking a mouse button.

[0088] Alternatively, the user may direct the computer 2 to initiate an information technology process associated with any one of the plurality of the presented process icons 44-52 by manipulating the point and select device 10 to position the cursor C over a selected presented process icon 44-52 and then actuating a select feature on the point and select device 10.

[0089] A first presented process icon 46 is associated with a first information technology process, where the first information technology process is instantiated by a first software program that is stored within the computer 2. User selection of the first process icon 46 directs the computer 2 to launch the associated first software program and make the first information technology process available to the user. Examples of functionalities that might be provided by the first information technology process include a word processor program, an electronic calendar program, a database, an educational program, and a game program.

[0090] A second presented process icon 48 is associated with a second information technology process, where the second information technology process is instantiated by a second software program that is stored partially within the computer 2 and partially within the first server 32. User selection of the second process icon 48 directs the computer 2 to launch, or initiate an execution or a session, of the associated second software program. Examples of functionalities that might be provided by the second information technology process include a network distributed game suite, a web-based email client and server pair, or a calendar accessible for updating by multiple parties.

[0091] A third presented process icon 50 is associated with a third information technology process, where the third information technology process is instantiated by a third software program that is stored partially within the computer 2 and partially within the media 22. User selection of the third presented process icon 50 directs the computer 2 to launch, or initiate an execution or a session, of the associated third software program. Examples of functionalities that might be provided by the third information technology process include an applications software process that requires information readable from the media 22, such as a database, an encryption key, an account designator, a user identification, a password, and/or a permission.

[0092] A fourth presented process icon 52 is associated with a fourth information technology process, where the

fourth information technology process is instantiated by a web browser software program that is stored wholly within the computer 2. User selection of the fourth presented process icon 52 directs the computer 2 to launch, or initiate an execution or a session, the web browser software program.

[0093] Referring now generally to the Figures and particularly to FIG. 8, FIG. 8 is a schematic diagram of a plurality of enclosing icon data records 54A-54X, wherein each enclosing icon data record 54A-54X includes information useful to the computer 2 in instantiating one or more enclosing icons A-X. The plurality of enclosing icon data records 54A-54X may be stored in the memory 8 of the computer system 2. Each enclosing data record 54A-54X includes an identification data field 8.1, a name data field 8.2, a visual image data field 8.3, a password data field 8.4, a process icon data field 8.5, and a user profile data field 8.6. The identification data field 8.1 contains a unique identifier of the instant enclosing icon data record 54A-54X. The remaining enclosing icon data fields 8.2-8.6 contain data that is associated with a single enclosing icon A-X associated with the unique identifier of the identification data field 8.1, wherein each enclosing data record 54A-54X is separately associated in a one-to-one correspondence with a single enclosing icon A-X. The name data field 8.2 contains a name associated with the enclosing icon data record 54A-54X that is associated with the identifier of the identification data field 8.1 of the same enclosing data record 54A-54X, wherein the name may be visually presented on the display screen 40 of the computer system 2. The visual image data field 8.3 contains data used by the computer to display the enclosing icon A-X that is associated with the instant enclosing icon data record 54A-54X, to include two or more states of the enclosing icon A-X. The password data field 8.4 includes a password that may be necessary for a user to provide in order to execute the associated enclosing icon A-X. The process icon data field 8.5 contains data used by the computer system 2 to display one or more process icons 44-52 that are associated with the instant enclosing icon data record 54A-54X. The user profile data field 8.6 contains information related to one or more users of the computer system 2, such as credit card account information, or authorization to use processes or services of the computer system 2.

[0094] Referring now generally to the Figures and particularly to FIG. 9, FIG. 9 is an illustration of the display screen 40 showing a plurality of enclosing icons A-X, wherein each enclosing icon A-X may present in the enclosing state A1 or the presenting state A2. One or more users may use the point and select device 20 to direct the computer system 2 to display each icon A-X in either state A1 or A2. The enclosing icons A, B, C & X are illustrated in FIG. 9 in the enclosing state A1, and it is understood that each enclosing icon record 54A-54X enables the computer system 2 to display the associated enclosing icon A-X in either the enclosing state A1 or the presenting state A2, and with a unique or personalized signage S presented in either or both states A1 & A2.

[0095] Referring now generally to the Figures and particularly to FIG. 10, FIG. 10 is an illustration of a drop down menu DM that may be presented on the display screen 20 upon a command issued by the user by means of the point and select device 20. In one embodiment, the user may use the point and select device to place the cursor C over the first enclosing icon A, or optionally any icon A-X, and then double-click a select button of the point and select button 20 to direct the computer system 20 to display the drop down menu DM. The user may then select a function 10.1-10.5 of

the means of manipulating the point and select device 20 and a select feature of the point and select device 20. A first function 10.1 enables the user to edit and modify data stored or associated with an existing enclosing icon data record 54A-54X. A second function 10.2 enables the user to add a new user to be authorized to use an existing enclosing icon data record 54A-54X. A third function 8.3 enables the user to create a new enclosing icon data record 54A-54X for use by the computer 2 in generating an additional enclosing icon A-X. A fourth function 8.4 enables the user to direct the computer system 2 to delete an existing icon data record 54A-54X. A fifth function enables the user to delete a user from an existing enclosing icon data record 54A-54X, whereby an identified user may lose authorization by the computer system 2 to control the functionality of an icon A-X associated with an associated enclosing icon data record 54A-54X. A sixth functionality 10.6 is presented to clarify that the drop down menu DM may include additional suitable functionalities known in the art.

[0096] Referring now generally to the Figures and particularly to FIG. 11, FIG. 11 is a flow chart of optional steps of the first method, wherein the computer system 2 may be directed by the user to create or modify an existing enclosing icon data record 54A-54X. In step 11.0 the computer system 2 is powered up and the computer system 2 consequently boots up and displays enclosing icons A-X. In step 11.1 the computer system 2 determines whether the user has selected an enclosing icon A-X by means of the point and select device 20. In step 11.2 the computer system 2 may execute an alternate process. In step 11.3 the computer system 2 determines whether the user has directed the computer system 2 by means of the point and click device 20 to display the icon drop down menu DM. In step 11.4 the computer system may proceed on to execute an alternate process. In step 11.5 the computer system 2 may execute an alternate process. In step 11.3 the computer system 2 determines whether the user has directed the computer system 2 by means of the point and click device 20 to enable the third function 10.3 of the drop down menu DM, whereby a new enclosing icon data record 54A-54X may be generated. In step 11.6 the computer interacts with the user to generate a new enclosing data record 54A-54X, as per FIG. 12. In step 11.7 the computer system determines whether to proceed back to step 11.1 or to power down in step 11.8.

[0097] Referring now generally to the Figures and particularly to FIG. 12, FIG. 12 is a flow chart of optional steps of the first method of FIG. 6 and optional steps of FIG. 11, wherein the computer system 2 may be directed by the user to create or modify an existing enclosing icon data record 54A-54X. Steps 12.1 through 12.11 may optionally be included within the step 11.6 of the software process described in FIG. 11. The computer 2 may, as directed by the user, move from step 11.5 to step 12.1, wherein a new enclosing data record 54A-54X is generated by the computers system 2. In step 12.2 the computer system 2 may fill the data fields 8.1-8.6 of the new enclosing icon data record 54A-54X. In step 12.3 the computer system 2 determines whether the user is inputting a name to be associated with the new enclosing icon data record 54A-54X. In step 12.4 the computer system 2 writes the name information received from the user into the name data field 8.2 of the new enclosing icon data record.

[0098] In step 12.5 the computer system 2 determines whether the user is inputting a password to be associated with the new enclosing icon data record 54A-54X. In step 12.6 the computer system 2 writes the name information received

from the user into the password data field 8.4 of the new enclosing icon data record 54A-54X.

[0099] In step 12.7 the computer system 2 determines whether the user is inputting other information to be associated with the new enclosing icon data record 54A-54X. In step 12.8 the computer system 2 writes the name information received from the user into the visual data field 8.3 and/or the profile data field 8.6 of the new enclosing icon data record 54A-54X. Information provided by the user and written into the visual data field 8.3 in step 12.8 may include image information that is displayed in the first enclosing state A1 and/or the second presenting state A2 of the instant and associated enclosing icon A-X. In addition, information provided by the user and written into the profile data field 8.6 in step 12.8 may include image information that is displayed in the first enclosing state A1 and/or the second presenting state A2 of the instant and associated enclosing icon A-X.

[0100] In step 12.9 the computer system 2 determines whether the user is directing the computer system 2 to include process icon identifiers, and optionally, other information related to selected process icons 44-52. In step 12.10 the computer system 2 writes information into process icon data field 8.5 of the new enclosing icon data record 54A-54X, wherein the information written into the process icon data field is accessed by the computer system 2 to display one or more associated process icons 44-52 when the enclosing icon A-X identified by information contained within the identification field 8.1 of the instant enclosing icon data record 54A-54X is in the presenting state A2.

[0101] Referring now generally to the Figures and particularly to FIG. 13, FIG. 13 is a schematic of a data structure names a user behavior record 13.1 of the intelligent update client 4.2 of FIG. 4. The intelligent update client 4.2, or intelligent client 4.2, uses the user behavior record 13.1 to maintain a record of user interaction with the computer 2, to present suggestions to the user for modification of the associated enclosing icon data record to the user, to present suggestions to the user for modification of the operations of the computer 2, and to enable the application of suggestions as directed by the user. A client ID field 13A contains a user identifier 13A.1 that identifies a registered user associated with each separate user behavior record 13.1, and is used by the computer to assign an individual user record 13.1 to a specific enclosing icon data record 54A-54X in a one-to-one unique correspondence. A history field 13B stores history records 13B.1 of the user's activity with the computer 2. A behavior signature field 13C includes a plurality of behavior patterns 13C.1-13C.6 against which the interaction history of the user stored in the history field 13B are occasionally compared; where a match is found between the history stored in the history field 13B and one or more behavior patterns 13C.1-13C.6, the intelligent client will query the user via the display device 10 whether to make a modification to the content of the enclosing icon data record 54A-54X associated with the instant user record 13.1, as described below in reference to FIG. 14. A query logic data field 13D comprise query instructions 13D.1-13D.6 that direct the computer 2 to present suggestions to the user for modifications to an enclosing icon record 54A-54X and other aspects of the computer 2 and to accept and interpret user responses to the presented queries. A modification logic data field 13E comprise modification instructions 13E.1-13E.6 that direct the computer 2 to

implement the user responses to the suggestions as interpreted by the query instructions 13D.1-13D.6 of the query logic data field 13D.

[0102] Referring now generally to the Figures and particularly to FIGS. 13 and 14, FIG. 14 is a flowchart of an interaction of the intelligent client 4.2 with the user that is comprised within certain other still additional alternate preferred embodiments of the method of the present invention. In step 14.1 the intelligent client 4.2 updates the history data field 13B of the user data record 13.1 associated with an individual enclosing data record 54A-54X. In step 14.2 the intelligent client 4.2 compares the informational contents of the history data field 13B with information stored in a first behavior signature data field 13C.1, whereby the computer 2 determines whether each individual process icon 44-52 referenced in the enclosing data record 54A-54X has been selected by the user within a certain period of time. For example, if the comparison of step 14.2 might determine whether the user has not selected a particular process icon presented by the enclosing icon A in the presenting state A2 within 30 days. The intelligent client 4.2 may then query the user in step 14.3 in accordance with a first query instructions 13D.1 whether that particular process icon 44-52 shall be deleted from the enclosing data record 54A-54X. Upon user direction as interpreted in step 14.4 and in accordance with the first query instructions 13D.1, the computer 2 deletes the process icon 44-52 from the enclosing data record 54A-54X in step 14.5 and in accordance with a first modification instructions 13E.1.

[0103] The computer then proceeds from steps 14.2, 14.3, 14.4 or 14.5 to step 14.6, wherein the computer 2 compares the informational contents of the history data field 13B with information stored in a second behavior signature data field 13C.2, whereby, for example, the computer 2 might determine whether an individual process icon 44-52 not referenced in the enclosing data record 54A-54X has been selected by the user repeatedly within a certain period of time. For example, if the user has selected a particular process icon 44-52, and one that is not presented by the enclosing icon A in the presenting state A2, more than ten times within the previous 48 hours, the intelligent client may the user in step 14.7 in accordance with a second query instructions 13D.2 whether that particular process icon 44-52 shall be added to the enclosing data record 54A-54X. Upon user direction as received and interpreted in step 13E.2 and in accordance with the second query instructions 13D.2, the computer 2 adds a reference to the frequently selected process icon 44-52 from the enclosing data record 54A-54X associated with the user ID 13A.1 in step 14.9 and in accordance with a second modification instructions 13E.2.

[0104] Computer 2 compares the informational contents of the history data field 13B with the information stored in a third through sixth behavior signature data fields 13C.3-13C.6 in executing steps 14.10 through 14.97, whereupon in step 14.98 the information stored in the history data field 13B that is aged later than a set time period, exemplary aged time periods including one hour, two days or six weeks, is deleted to free up writeable memory capacity in the history data field 13B. In step 14.99 the computer 2 return to performing other computational operations.

[0105] It is understood that the behavior signature data fields 13.1-13.6 may alternatively include suitable algorithms known in the art to compare user interaction with the computer 2 and or communications network 30. For example, an

algorithm at least partially stored in a behavior signature data field 13C.1-13C.6 may be implemented by the intelligent client 4.2 to direct the computer 2 to suggest to the user that a certain process icon 44-52 be presented in the enclosing icon's A presenting state when an appropriate pattern of interaction is detected by the computer 2. In another example, the intelligent client 4.2 may direct the computer 2 to suggest an alternate web browser, or an updated version of a web browser. In another example, the intelligent client 4.2 may suggest a downloading from the communications network 30 of an update to a word processor software program, e.g. Microsoft's WORD™ word processing program. The intelligent client may alternatively or additionally suggest an uploading of a new software program, or an update of a software program, from an electronic media 22 by means of the electronic media reader 12, in response to the analysis of the informational content of the history data field 13B by application of an algorithm at least partially stored in a behavior signature data field 13C.1-13C.6. In another example, the computer 2 may suggest an acceptance of a process icon 44-52 related to a webservice as directed by the intelligent client 4.2.

[0106] Referring now generally to the Figures and particularly to FIGS. 7, 15 and 16, FIG. 15 presents an exemplary first toolkit data structure 15.1 of a software toolkit icon T that is included in certain still additional alternate preferred embodiments of the method of the present invention. The first toolkit data structure 15.1 includes (1.) a toolkit identification data field 15A containing a toolkit icon information TK, and (2.) a plurality of tool data fields TA-TD. Each tool data field TA-TD is uniquely associated with an information technology process, such as a webservice or a software utility program. Machine-readable instructions that enable the computer 2 to launch, execute, initiate or run the related information technology process may be at least partially stored within the computer 2, or made available in whole or in part to the computer 2 via the communications network 30 or the media reader 12. Each tool data field TA-TD includes a tool icon data TA.1-TD.1 and a tool ID data TA.2-TD.2. Each tool icon data TA.1-TD.1 includes information that enables the computer to present an associated tool icon T1-T4 that is visually associable by the user with a software utility. Each tool icon T1-T4 is associated with a unique software program that is executable by reference to the tool ID data TA.2-TD.2 stored in the tool data field TA-TE of the toolkit data structure 15.1.

[0107] The toolkit icon information TK enables the computer 2 to visually present an icon T visually associable by the user with the function of providing access to a plurality of software utilities.

[0108] In practice, and as described now in particular reference to FIG. 16, the toolkit icon T is displayed in step 16.1 wherein the enclosing icon A is displayed in the presenting state A2. In step 16.2 the toolkit icon T may be selected and in step 16.3 the toolkit icon T is placed in a presenting state T.2 and the tool icons T1-T6 are displayed by the display screen 40. In step 16.4 a tool icon T1-T6 may be selected and in step 16.5 a utility software program, webservice, or other suitable information technology process known in the art and associated with a tool icon T1-T6 selected in step 16.4 is launched, instantiated, initiated or otherwise run or initiated.

[0109] Referring now generally to the Figures and particularly to FIG. 17, the toolkit icon TK is displayed in a presenting state T2, and displaying state icons elements T2.A and

T2.B and toll icons T1, T2, T3 & T4. A toolkit signage TKS visually identifies the presenting state T2 as an aspect of the toolkit TK to the user. The information stored in the toolkit data structure enables the computer 2 to generate the toolkit TK in both an enclosing state, a presenting state T2, as well as the tool icons T1-T4 and the toolkit signage TKS on the display screen 40.

[0110] Information technology processes that may be made available to the user by means of the toolkit icon T and the toolkit data structure 15.1 may provide one or more of the functions of (a.) desktop clean-up, (b.) clearing of historical records of web browsers and other software programs, (c.) clearing temporary files and documents, (d.) defragging operations of an electronic, magnetic or optical disk device.

[0111] Referring now generally to the Figures and particularly to FIG. 18, a yet additional preferred embodiment of the method of the present invention, or second method, is described. It is understood that one or more steps of the second method may be included with one or more steps or aspects of the first method in other various alternate preferred embodiments of the method of the present invention. In step 18.1 the intelligent client 4.2 is provided to the computer 2 by downloading from the communications network 30 or alternatively by uploading from the electronic media 22. In step 18.2 a new user is added and a new user icon record 54A-54X is generated. In step 18.3 personalized information, such as music data, passwords and shortcuts to selected information technology tools may be added to a user icon record 54A-54X. In step 18.4 a process icon 44-52 may be newly associated with a selected enclosing icon A by selecting the enclosing icon A, placing the selected enclosing icon A into a presenting state A2, and dragging a process icon 44-52 onto the enclosing icon A and dropping the selected process icon 44-52 while the cursor C is over the enclosing icon A. In step 18.5 a process icon 44-52 may be deleted from an icon record 54A-54X by placing the enclosing icon into the presenting state A2, selecting the process icon 44-52 from enclosing icon A, dragging the selected process icon 44-52 away from the enclosing icon A and then dropping the selected process icon 44-52 while the cursor C is distal from the enclosing icon A.

[0112] Referring now generally to the Figures and particularly to FIG. 19, FIG. 19 presents a desktop image 56 that includes an alternate enclosing icon Y in an enclosing state and displaying a plurality of icons 46, 48, 58 & 60. It is understood that additional icons 50 & 52 may be associated with the alternate enclosing icon Y, but that the system software SW.1 may limit the number icons 44-54, 58-66 that may be simultaneously presented when the alternate presenting icon Y is in the presenting state. The user may vary which icons 44-54 & 56-66 that are simultaneously displayed within the alternate enclosing icon Y by a swiping action of the cursor C, or where the display screen 4 is a touch screen, by swiping a finger across the alternate enclosing icon Y in a sweeping motion.

[0113] Various operations of selecting, dragging and dropping enclosing icons A, process icons 44-52 & 56-66 and tool icons T, T1-T6, are enabled in certain various alternate preferred embodiments of the method of the present invention by manipulation the point and select device 20 that is coupled or comprised within the computer 2.

[0114] Referring now generally to the Figures and particularly to FIG. 19, FIG. 19 presents a desktop image 56 that includes an alternate enclosing icon Y in an enclosing state and displaying a plurality of icons 46, 48, 58 & 60. An

additional plurality of icons 62-66 are presented within the desktop image 56 and outside of the alternate enclosing icon Y.

[0115] It is understood that additional icons 50, 52 & 62-66 may be associated with the alternate enclosing icon Y, but that the system software SW.1 may limit the number icons 44-52, 58 & 60-66 that may be simultaneously presented when the alternate presenting icon Y is in the presenting state. The user may vary which icons 44-54 & 58-66 that are simultaneously displayed within the alternate enclosing icon Y by a swiping action of the cursor C, or where the display screen 4 is a touch screen, by swiping a finger across the alternate enclosing icon Y in a sweeping motion.

[0116] Referring now generally to the Figures and particularly to FIG. 20, FIG. 20 is a flow chart of aspects of the invented method of the alternate enclosing icon Y that may be executed by the computer system 2. In step 20.02 the computer system 2 renders the desktop image 56 in the display screen 40 and further renders both (a.) a plurality of icons 62-66 and (b.) the enclosing icon Y in a presenting state in step 20.04. The computer system 2 determines in step 20.06 whether the user has selected an icon 44-52, 58-66. When the computer 2 does not detect an icon selection in step 20.06, the computer system 2 proceeds on to step 20.08 to determine if a user command to cease rendering the enclosing icon Y in a presenting state. When the computer system 2 determines in step 20.08 that a user command to cease rendering the enclosing icon Y in a presenting state has not been received, the computer system 2 proceeds from step 20.08 back to an additional execution of step 20.06. When the computer system 2 determines in step 20.08 that a user command to cease rendering the enclosing icon Y in a presenting state has been received, the computer system 2 proceeds to step 20.10 and thereupon ceases rendering the enclosing icon Y in a presenting state and additional computational operations. When the computer system 2 determines in step 20.06 that the user has selected an icon 44-52 or 58-66, the computer system 2 proceeds on to step 20.12 wherein the system software SW.1 directs the computer system 2 to record the icon selection detected in step 20.06 and then to launch an applications software APP.1-APP.N associated with the selected icon 44-52 and 56-66 in step 20.14.

[0117] Referring now generally to the Figures and particularly to FIG. 21, FIG. 21 is a flow chart of additional optional aspects of the invented method, wherein icons 48-54 & 58-66 linked with applications software APP.1-APP.N are automatically selected for association with the alternate enclosing icon Y on the basis of frequency of user selection. It is understood that the system software SW.1 directs the operations of the computer system 2 in steps 21.02 through 21.10. In step 21.02 the computer system 2 selects or forms an enclosing icon record M.REC.1-M.REC.N. In step 21.04 the computer system 2 proceeds to determine if any icon data fields of the selected enclosing icon record M.REC.1-M.REC.N are available for overwriting with an alternate icon association. In step 21.06 the computer system 2 determines which software applications have been most frequently selected. The computer system 2 then in step 21.08 inserts identifiers of the most frequently selected software applications as determined in step 21.06 into the available icon data fields of the enclosing icon data field of step 21.02. The computer system 2 proceeds from step 21.08 to step 21.10 and to perform additional computational operations.

[0118] Referring now to FIG. 22, FIG. 22 illustrates a plurality of frequency records FR.1-FR.N presented as forming a first frequency table FT.1. Each frequency record FR.1-FR.N may include one or more time date stamps TD1.1-TDN.N that are records of an instance of a launching of an applications software APP.1-APP.N identified by an application identifier APP.ID.1-APP.ID.N of each frequency record FR.1-FR.N. Each application identifier APP.ID.1-APP.ID.N is further uniquely associated in a one-to-one correspondence with an icon 48-54 & 58-66. It is understood that the time date stamps TD1.1-TDN.N may optionally, additionally or alternatively be associated with specific applications software APP.1-APP.N and individual icons 48-54 & 58-66 in several suitable ways known in the art and made obvious in light of the present disclosure.

[0119] Referring now to FIG. 23, FIG. 23 illustrates an additional optional aspect of the alternate enclosing icon Y, wherein an exemplary first enclosing icon record Y.REC.1 maintains a finite list of application reference records A.ID.1-A.ID.N. The number of application reference records A.ID.1-A.ID.N simultaneously comprised within, or associated with, the first icon record Y.REC.1 may be specified by the schema of the first enclosing icon record Y.REC.1 and/or by an optional count limit parameter CLP included within, or associated with, the enclosing icon record Y.REC.

[0120] Referring now to FIG. 24, FIG. 24 illustrates an exemplary application reference record A.ID.1 that is associated with the first exemplary icon 48. A first application reference record identifier A.REC.ID.1 uniquely identifies the instant application reference record A.ID.1 within the computer system 2. An applications identifier APP.ID.1 uniquely associates the application reference record A.ID.1 with a specific software application. Each application reference record A.ID.1-A.ID.N is preferably uniquely associated with an individual applications software APP.1-APP.N.

[0121] An optional icon include marker 1.1 directs the system software SW.1 to continuously associate the first exemplary icon 48 with the alternate enclosing icon Y regardless of any determinations by the computer system 2 of frequency of either (a.) user selection of the first exemplary icon 4 or (b.) launching of the software applications program identified by the applications identifier APP.ID.1. A position marker P.1 may indicate to the system software SW.1 that rendering position of the first exemplary icon 48 within the first enclosing icon record Y.REC.1 shall not be altered despite any determinations by the computer system 2 of frequency of either (a.) user selection of the first exemplary icon 4 or (b.) launching of the software applications program identified by the applications identifier APP.ID.1. An optional icon exclude marker E.1 indicates to the system software SW.1 that the first exemplary icon 48 shall not be associated with the alternate enclosing icon Y. A plurality of time date stamps TD.1-TD.N record the time and date of individual instances of launchings of the applications software APP.1-APP.N identified by the application reference record A.ID.1. Alternatively or additionally, the system software SW.1 may add a time and date stamp TD.1-TD.N upon the occurrence a user selection of the first exemplary icon 48.

[0122] Referring now generally to the Figures and particularly to FIG. 25, FIG. 25 is a flow chart of other additional optional aspects of the invented method, wherein an icon 44-52 or 58-60 may be removed from association with the alternate enclosing icon Y by the computer system 2 conforming to a drag and drop direction affected by the user. In step

25.02 the computer system 2 renders the enclosing icon Y within the desktop image 56 in the presenting state A2. The computer system 2 determines in step **25.04** whether an icon **44-52** or **58-60** displayed within the image of the enclosing icon Y has been selected by the user. The computer system 2 determines in step **25.06** whether the user has input a command to the computer system 2 to launch an applications program associated with the icon selected in step **25.04**. When the computer system 2 determines in step **25.06** that a user command to launch an applications program associated with the icon selected in step **25.04** has been received, the computer system 2 proceeds on to step **25.08** to launch the relevant applications program and therefrom to step **25.10** to perform additional computational operations.

[0123] The computer system 2 determines in step **25.12** whether a user command to remove an icon **44-52** or **56-66** from association with the alternate enclosing icon Y has been received. The user may input a drag and drop user command into the computer system 2 by means of the point and select device 20 in a drag and drop action, by selecting a delete option associated with the icon selected in step **25.04**, and/or by detection of finger motions when the display screen 40 is a touch screen. When the computer system 2 determines in step **25.12** that a user command to remove an icon **44-52** or **56-66** from association with the alternate enclosing icon Y has been received, the computer system 2 proceeds on to step **25.14** and to remove the inclusion of the selected icon **44-52** or **56-66** within the enclosing icon record Y.REC. The computer system 2 then proceeds from step **25.14** to step **25.16** and thereupon to perform additional computational processes.

[0124] Referring now generally to the Figures and particularly to FIG. 26, FIG. 26 is a flow chart of yet other additional optional aspects of the invented method, wherein an icon **44-54** & **58-66** may be associated with the alternate enclosing icon Y by the computer system 2 in response to a drag and drop instruction input by the user. In step **26.02** both an exemplary icon 62 and the alternate enclosing icon Y are displayed within the desktop image 56. The computer system 2 determines in step **26.04** whether a selection command has been received from the user by means of the point and select device 20. When computer system 2 determines in step **26.06** that a command to launch the software application associated with the exemplary icon 62 has been received, the computer system 2 proceeds on to step **26.08** to launch the associated software application and then onto execute step **26.10** and to perform additional computational operations.

[0125] When computer system 2 determines in step **26.06** that a command to launch the software application associated with the exemplary icon 62 has not been received, the computer system 2 proceeds from step **26.06** to step **26.12** and to determine whether a user instruction to associate the exemplary icon 62 with the alternate enclosing icon Y has been received by the computer system 2. When the computer system 2 determines in step **26.12** to not have detected a user instruction to associate the exemplary icon 62 with the alternate enclosing icon Y, the computer system 2 proceeds onto step **26.10** and to perform additional computational operations. The input of a command to associate the exemplary icon 62 with the alternate enclosing icon Y may be accomplished by the user applying the point and select device 20 to (a.) select the exemplary icon 62 in step **26.04**; and (b.) then performing a drag and drop action having a direction toward the alternate enclosing icon Y. When the computer system 2

determines in step **26.12** to have received a user instruction to associate the exemplary icon 62 with the alternate enclosing icon Y, the computer system 2 proceeds step **26.14** and to determine an icon identifier associated with the exemplary icon 62 in step **26.14** and then to add the instant identifier associated with the exemplary icon 62 into the first enclosing icon record Y.REC.1 in step **26.16**. The computer system 2 proceeds from step **26.16** and into execute step **26.10** and thereupon perform additional computational operations.

[0126] Referring now generally to the Figures and particularly to FIG. 27, FIG. 27 is a flow chart of even other additional optional aspects of the invented method, wherein the computer system 2 receives and implements user instructions related to constraining the interaction of the exemplary icons **44-54** & **58-66** with the alternate enclosing icon Y. The computer system 2 determines in step **27.02** that a user selection command of an individual icon **44-54** & **58-66** has been received. The computer next determines in step **27.04** whether a user command has been received to exclude an applications software APP.1-APP.N associated with the icon selected in step **27.02** (hereinafter, "exemplary icon 48") from association with all enclosing icons A & Y, and proceeds to add a total exclusion notation to the relevant applications software record APP.REC.1 in step **27.06** when such a command is detected by the computer system 2 in step **27.04**. The computer system proceeds from step **27.06** to step **27.08** to perform additional computational operations.

[0127] The computer determines in step **27.10** whether a user command has been received that directs the computer system 2 to exclude an applications software APP.1-APP.N associated with exemplary icon 48 from association with the alternate enclosing icon Y, and proceeds to add a specific exclusion notation to the relevant applications software record APP.REC.1 in step **27.12** when such a command is detected by the computer system 2 in step **27.10**. Optionally, alternatively or additionally, the computer system 2 may notate within the icon record FR.1-FR.N a flag, such as the exclusion flag E.1, that will direct the computer system 2 to not associate the exemplary icon 48 with the alternate enclosing icon Y. The computer system proceeds from step **27.14** to step **27.08** to perform additional computational operations.

[0128] The computer determines in step **27.16** whether a user command has been received that directs the computer system 2 to include an applications software APP.1-APP.N associated with exemplary icon 48 in association with the alternate enclosing icon Y, and proceeds to add a specific inclusion notation to the relevant applications software record APP.REC.1 in step **27.18** when such a command is detected by the computer system 2 in step **27.16**. Optionally, alternatively or additionally, the computer system 2 may, in step **27.20**, notate within the applications software record APP.REC.1 an indicator that will direct the computer system 2 to not alter relative rendering position of the exemplary icon 48 relative to the rendering positions of additional icons **50-54** & **58-66** within the rendering of the alternate enclosing icon Y in the presenting state. The computer system proceeds from step **27.20** to step **27.08** to perform additional computational operations.

[0129] Referring now generally to the Figures and particularly to FIG. 28, FIG. 28 is a flow chart of still other additional optional aspects of the invented method, wherein the computer system 2 automatically updates the associations of the exemplary icons **48-54** & **58-66** with the alternate enclosing icon Y at least partially on the basis of recorded instances of

the selection of individual exemplary icons 48-54 & 58-66 that typically cause a launching of applications software APP. 1-APP.N that are generally uniquely pre-associated with individual exemplary icons 48-54 & 58-66. The process of the flow chart of FIG. 28 may be initiated by a routinely achieved state or routinely instantiated process of the computer system 2, such as the power up or a power down process of the computer system 2. The computer system 2 selects the alternate first enclosing record Y.REC.1 in step 28.02 and in step 28.04 determines that N locations within the first enclosing record Y.REC.1 are available for population with application reference records A.ID.1-A.ID.N. In step 28.06 the computer system 2 sets a counter CI to be equal to the integer value of N. The computer system 2 applies the loop of steps 28.08 through 28.16 to sequentially select application reference records A.ID.1-A.ID.N in a descending order of frequency of launch within a time period T. In step 28.10 the computer system 2 selects the application reference record A.ID.1-A.ID.N of associated with most frequently launched software application. The computer system 2 examines the application reference record A.ID.1-A.ID.N selected in step 28.08 to determine whether the exclusion flag E.1 of the selected application reference record A.ID.1-A.ID.N is set to prohibit the computer system 2 from associating the selected application reference record A.ID.1-A.ID.N with the enclosing icon record Y.REC. In step 28.12 the computer system 2 populates the first enclosing icon record Y.REC.1 when the criteria of step 28.10 permit, and the first counter CI is decremented in step 28.14. The computer system 2 determines in step 28.16 whether the first counter CI has zeroed out. When the computer system 2 determines in step 28.16 that the first counter CI indicates that there remain locations available within the first enclosing record Y.REC.1 to populate with at least one application reference record A.ID.1-A.ID.N, the computer system 2 proceeds from step 28.16 to step 28.08 and to initiate another iteration of the loop of steps 28.08 through 28.16.

[0130] When the computer system 2 determines in step 28.16 that the first counter CI indicates that no more locations remain available within the first enclosing record Y.REC.1 to populate with application reference records A.ID.1-A.ID.N, the computer system 2 proceeds to step 28.18 to close the first enclosing icon record Y.REC.1 selected in step 28.02, and further proceeds from step 28.18 to step 28.20 and to perform additional computational processes.

[0131] Referring now to FIG. 29, FIG. 29 is a schematic of the memory 8 and illustrating a storage of an operating system OP SYS, the system software SW.1, and a data base management system DBMS storing pluralities of applications software APP.1-APP.N, frequency tables FT.1-FT.N, application reference records A.ID.1-A.ID.N, alternate enclosing icon records Y.REC.1-Y.REC.N, enclosing icon data records 54A-54X, user behavior records 13.1-13.N, and toolkit data structures 15.1-15.N.

[0132] The foregoing disclosures and statements are illustrative only of the Present Invention, and are not intended to limit or define the scope of the Present Invention. The above description is intended to be illustrative, and not restrictive. Although the examples given include many specificities, they are intended as illustrative of only certain possible embodiments of the Present Invention. The examples given should only be interpreted as illustrations of some of the preferred embodiments of the Present Invention, and the full scope of the Present Invention should be determined by the appended claims and their legal equivalents. Those skilled in the art will

appreciate that various adaptations and modifications of the just-described preferred embodiments can be configured without departing from the scope and spirit of the Present Invention. Therefore, it is to be understood that the Present Invention may be practiced other than as specifically described herein. The scope of the Present Invention as disclosed and claimed should, therefore, be determined with reference to the knowledge of one skilled in the art and in light of the disclosures presented above.

What is claimed is:

1. A system for managing information processing, the system including:

an interface for allowing a user to select each icon of a plurality of icons, and the interface adapted to visually render the plurality of icons in accordance with a rendering order; and

a processor responsive to the interface and adapted to revise the rendering order at least partially on a basis of a history of user interaction with the system.

2. The system of claim 1, wherein the system is further adapted to render an enclosing icon and to display the plurality of icons in accordance with the rendering order when the enclosing icon is placed into a presenting state.

3. The system of claim 1, wherein the interface is adapted to accept and implement user commands that constrain revisions of the rendering order.

4. The system of claim 3, wherein the system is adapted to accept and implement a user command to not alter the ordering of at least one user-specified icon.

5. The system of claim 1, wherein the system does not alter the ordering of at least one icon on the basis of the history of user interaction with the system.

6. The system of claim 1, wherein at least one icon is not visually displayed upon a first rendering of the plurality of icons, and the interface is further adapted to visually render the at least one icon in response to user interaction.

7. The system of claim 1, wherein the interface is an animated graphical user interface.

8. The system of claim 1, wherein at least one icon is associated with an applications software, and the system is further adapted to launch the applications software upon user selection of the at least one icon.

9. The system of claim 1, wherein the processor is adapted to add an icon to the plurality of icons at least partly on the basis of the history of user interaction with the system.

10. The system of claim 1, wherein the processor is adapted to remove an icon from the plurality of icons at least partly on the basis of the history of user interaction with the system.

11. The system of claim 10, wherein the system is adapted to accept and implement a user command to not delete at least one icon, wherein the at least one icon is identified by the user command.

12. A computer-implemented method for managing information processing, where the method, when implemented in a computer system, causes the computer system to:

render a plurality of icons in accordance with a rendering order;

enable a user to select each icon of the plurality of icons;

record a history of user interaction with the system; and

revise the rendering order at least partially on a basis of a history of user interaction with the system.

- 13.** The method of claim **12**, further comprising:
rendering an enclosing icon in an enclosing state; and
upon receipt of a user selection of the enclosing icon,
visually rendering the plurality of icons.
- 14.** The method of claim **13**, further comprising returning
the enclosing icon to the enclosing state upon receipt of a user
command, wherein the visual rendering of the plurality of
icons is ceased.
- 15.** The method of claim **12**, the method further comprising
accepting and implementing a user command to constrain
revising the rendering order.
- 16.** The method of claim **15**, the method further comprising
accepting and implementing a user command to not alter the
ordering of at least one user-specified icon.
- 17.** The method of claim **12**, the method further comprising
imposing a constraint to not alter the ordering of at least one
icon.
- 18.** The method of claim **12**, the method further comprising
visually rendering at least one icon only in response to user
interaction.
- 19.** The method of claim **12**, wherein the plurality of icons
is visually rendered by an animated graphical user interface.
- 20.** The method of claim **12**, the method further comprising
associating at least one icon with an applications software,
and launching the applications software upon receipt of a user
selection command.
- 21.** The method of claim **12**, the method further comprising
adding an icon to the plurality of icons at least partially on the
basis of the history of user interaction with the system.
- 22.** The method of claim **12**, the method further comprising
removing an icon from the plurality of icons at least partially
on the basis of the history of user interaction with the system.

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