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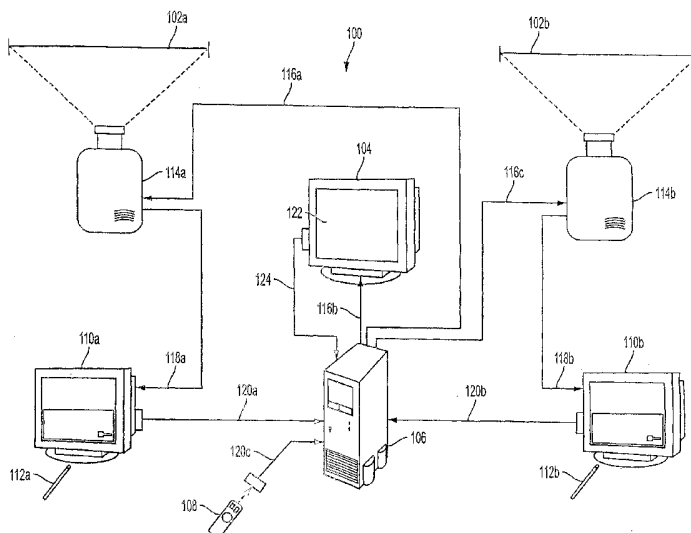
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 - (71) Applicant (for all designated States except US): **LEARNING TREE INTERNATIONAL, INC.** [US/US]; 6053 West Century Blvd., Suite 200, Los Angeles, CA 90045 (US).
 - (72) Inventors; and
 - (75) Inventors/Applicants (for US only): **O'NEAL, David, Sheldon** [US/US]; 3136 Antrim Circle, Dumfries, VA 22026 (US). **SMITH, Sean, Dare** [GB/US]; Oak Cottage, South Street, Ropley, Alresford SO2 40DY (GB). **ACKERMAN, Stuart** [US/US]; 6366 West 85th Street, Los Angeles, CA 90045 (US).
 - (74) Agents: **CULLEN, Lawrence, T.** et al.; McDermott, Will & Emery, 600 13th Street, N.W., Washington, DC 20005-3096 (US).
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(54) Title: SYSTEM AND METHOD FOR ELECTRONIC PRESENTATIONS



(57) Abstract: An electronic presentation system and method provides multiple display screens for presentation materials as well as permits dynamic annotations to presentation materials that do not permanently alter the presentation materials. The presentation materials can easily be directed to any one of the display screens and any annotations can be saved for future use or simply deleted. A single interface screen allows simple annotation of either the left or right screen images while a zoom feature allows slides to be presented in a variety of different ways. Additional features include tracking and displaying an indication of how a presentation is progressing relative to a pre-set timeline, identifying and tracking slides of a presentation which need correction or updating, and permitting a presenter to annotate slides of a presentation while located remotely from the presentation system.

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SYSTEM AND METHOD FOR ELECTRONIC PRESENTATIONS

This application is a continuation in part of the U.S. patent Application (Attorney Docket No. 36080-046) filed May 27, 2003 which, itself, is a continuation-in part of the U.S. patent Application Serial No. 10/153,859, filed May 24, 2002, entitled SYSTEM AND METHOD FOR ELECTRONIC PRESENTATIONS, which relates to and claims priority from U.S. Provisional Application Serial No. 60/293,179, filed May 25, 2001, entitled ELECTRONIC INSTRUCTIONAL DELIVERY SYSTEM AND METHOD, the disclosure of which are hereby incorporated in their entirety by reference.

10 Field of the Invention

The present invention relates to group presentations systems and methods and, more particularly, to an electronic presentation system and method having multiple screens.

Background of the Invention

15 One traditional method for making presentations to relatively small groups, such as in an educational or training environment, includes the use of an overhead projector and view foils or transparencies. According to this familiar method, the presenter has a series of view foils that are manually placed on, and then removed from, an overhead projector in a predetermined order. While blank view foils are sometimes inserted to allow the presenter to dynamically present material during the presentation, the presenter is unlikely to annotate a previously prepared view 20 foil because such an annotation would likely ruin the foil for future use.

Recent advances in automation have addressed some of the shortcomings of this traditional presentation method. In one instance, a computer's video output can now be connected to a projector so that a computer generated slide show can be shown on a screen, sometimes with animation. However, this introduction of automation does not change the limited and static nature of the presentation materials and methods.

Accordingly, there remains a need for a dynamic presentation system and method that allows a presenter to effectively and dynamically present material that can easily be modified and augmented according to each environment in which the presentation is made.

0 Summary of the Invention

The present invention addresses these and other needs with a system and method that provides multiple display screens for presentation materials as well as permits dynamic annotations to presentation materials that do not permanently alter the presentation materials. The presentation materials can easily be directed to any one of the display screens, and any annotations can be saved for future use or simply deleted.

One aspect of the present invention relates to a system for providing electronic presentations in which the system includes, for example, a plurality of presentation slides stored in a first memory accessible by a programmable computer; a first display screen coupled with the programmable computer and having a first video input signal; a second display screen coupled with the programmable computer and having a second video input signal; and a third display screen coupled with the programmable computer and having a third video input signal. The presentation system also includes a presentation control software application that is stored in a second memory accessible by the programmable computer wherein the programmable computer

is configured to execute the presentation control application to provide an interface, displayed on the third display screen, by which each of the plurality of slides is dispatched for display to either one of the first or second display screens. The third display screen includes a multi-windowed display interface that simultaneously depicts the current right-side image, the current left-side
5 image and an image of the next slide to be dispatched. Using the presentation control system a presenter can selected either the right-side or left-side image and perform real-time annotation of that image.

Another aspect of the present invention relates to a software application and method for providing an electronic presentation of a plurality of slides using multiple display screens that
10 provides a presentation control interface on a center display screen; displays a slide, from among the plurality of slides, in a preview window within the presentation control interface; receives input via the presentation control interface indicating whether to direct the slide to a right display screen or a left display screen; dispatches the slide for display on the indicated display screen; and retrieves a next slide for display in the preview window. In addition to the display on the
15 separate screens, the presentation control interface simultaneously displays, in separate sub-windows, on the center display screen the slide from the right side, the slide from the left side, and the next presentation slide to be dispatched. From this center display screen either slide can be selected and annotated so as to modify the presentation in real-time.

Further aspects of the present invention include tracking and displaying an indication of
20 how a presentation is progressing relative to a pre-set timeline, identifying and tracking slides of a presentation which need correction or updating, and permitting a presenter to annotate slides of a presentation while located remotely from the presentation system.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example and not by way of limitation, in the figures of the accompanying drawings and in which like reference numerals refer to similar elements and in which:

5 FIG. 1 illustrates an exemplary presentation system according to an embodiment of the present invention.

 FIG. 2 illustrates an exemplary presentation system according to another embodiment of the present invention.

10 FIG. 3 illustrates additional connections useful in the presentation system according to the embodiment of FIG. 2.

 FIG. 4 illustrates rear panel connectors of an exemplary computer according to an embodiment of the present invention.

 FIG. 5 depicts a logical flowchart of an exemplary presentation method according to an embodiment of the present invention.

15 FIG. 6 illustrates an exemplary screenshot of a presentation application interface according to an embodiment of the present invention.

 FIG. 7 illustrates an exemplary toolbar of an annotation application for touch-screen monitors according to an embodiment of the present invention.

20 FIG. 8 illustrates an exemplary remote control according to an embodiment of the present invention.

 FIG. 9 illustrates an exemplary presentation system incorporating a single touch-screen display.

FIG. 10 illustrates an exemplary multi-window interface according to the embodiment of FIG. 9.

FIG. 11 illustrates an exemplary annotation screen interface according to the embodiment of FIG. 9.

5 FIG. 12 illustrates an exemplary split-screen mode for displaying a presentation slide according to an embodiment of the present invention.

FIG. 13 illustrates an exemplary zoom mode for displaying a presentation slide according to an embodiment of the present invention.

10 FIG. 14 illustrates the zoom mode display of FIG. 13 after a portion of the presentation slide has been selected for magnification.

FIG. 15 illustrates an exemplary presentation control interface screen-shot according to another embodiment of the present invention.

FIG. 16 illustrates an exemplary logical flowchart for tracking timeline information according to an embodiment of the present invention.

15

Detailed Description

In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be apparent, however, to one schooled in the art that the present invention may be practiced without these specific details. In other instances, well-known structures and devices are shown in block diagram form in order to avoid unnecessarily obscuring the present invention.

20

Various embodiments of the present invention are presented and discussed below. In particular, many embodiments are described in reference to the specific environment of

instructional or training presentations. This specific environment is helpful in describing many of the aspects of the present invention. However, the present invention is not limited to only this specific environment, but rather contemplates within its scope other presentation environments in which multiple screens and dynamic annotation capability are beneficial.

5 FIG. 1 illustrates an exemplary presentation system **100** according to one embodiment of the present invention. According to this embodiment, a computer system **106** controls the data flows and presentation materials used by the other components. In particular, the computer **106** provides a graphical interface **122** on the monitor **104** to assist the presenter in controlling a presentation. The video data displayed on the interface monitor **104** is provided by video output
10 **116b** of the computer **106**. Although not shown in its entirety, computer system **106** is a conventional system in that it comprises a keyboard, mass storage devices, and network, parallel, and serial interfaces as well as the many other peripherals and components known to be part of a typical computer system.

The computer system **106** also includes separate video outputs **116a**, **116c** that
15 respectively provide video output to the left-hand projector **114a** and right-hand projector **114b**. The video output can be SVGA formatted video signals as well as other conventional video formats. Within the present description, the left/right hand convention is from the perspective of the presenter. The video data that is output over each of the video outputs **116a**, **116c** is determined by the presenter using the interface **122**. Using the interface **122**, the presenter
20 retrieves presentation material from storage (not shown) accessible by the computer system **106** and then directs that material to one, or both, of the video outputs **116a**, **116c**. The projectors **114a**, **114b** then display the respective presentation materials on a respective screen **102a**, **102b**.

The video outputs **116a, 116b**, in addition to being directed to projectors **114a, 114b**, also are directed via respective paths **118a, 118b** to touch-screen monitors **110a, 110b**. In practice, the monitors **110a, 110b** would be located near the presenter while the screens **102a, 102b** would be located for convenient viewing by an audience receiving the presentation. Each of the touch-screen monitors **110a, 110b** are connected to the computer system **106**. In FIG. 1, these connections **120a, 120b** are depicted as serial connections, but other functionally equivalent feedback connection paths are contemplated by the present invention as well. These connection paths can be other types of input/output protocols and hardware and are not limited to RS-232 serial communication paths. The connections **120a, 120b** are used to provide feedback from a respective touch-screen monitor **110a, 110b** that indicates any tactile interaction that may be taking place with the monitors **110a, 110b**. While FIG. 1 depicts an exemplary stylus **112a, 112b** for each monitor **110a, 110b**, tactile interaction with the monitors **110a, 110b** can occur using the same stylus or even no stylus at all.

The interface **122** can be controlled using a keyboard, mouse or other input device connected to the computer **106**. However, to provide the presenter some flexibility in movement and location around a room, a remote control device **108** is also connected **120c** to the computer system **106** to control the interface **122** as well. This remote control device **108** could include a transmitter (and receiver on the computer **106**) that utilizes USB, FireWire, IrDA, serial or many other types of input/output conventions to connect with the computer **106**. Additionally, the display device **104** can also be a touch-screen device that allows the presenter to control the presentation using tactile initiated commands and such a device will need its own feedback path **124**.

Within the exemplary presentation system **100** of FIG. 1, the computer system **106** controls the operation of the presentation by concurrently executing: a) a presentation interface **122** that is used to retrieve and direct (or dispatch) presentation materials to one of two video outputs **116a, 116c**; b) an annotation tool for the left-hand screen **102a** that receives tactile
5 feedback from a touch-screen monitor **110a** and adjusts the video output **116a** accordingly; and
c) an annotation tool for the right-hand screen **102b** that receives tactile feedback from a touch-screen monitor **110b** and adjusts the video output **116c** accordingly.

Within the embodiment just described, as well as other embodiments described herein, the exemplary components are not intended to limit the scope of the present invention. For
10 example, the touch-screen monitors **110a, 110b** can include LCD display panels or other types of displays; and the computer **106** does not necessarily have to be physically located with the other components but can be connected through network or other longer-range cabling techniques to the various other components of the presentation system **100**.

FIG. 2 illustrates another exemplary presentation system **200** according to another, more
15 preferred embodiment of the present invention. The system **200** utilizes many conventional components to achieve the inventive presentation systems and methods described below. For example, the video switch **240** can be a conventional, controllable 4x4 video switch that includes its own driver software and application programming interface (API) routines for easy
integration. Similarly, the monitors **212, 238, 234** can be conventional touch-screen monitors
20 that include their own driver software and calibration routines that easily integrate with other components of the system **200**. Modern operating systems, such as the one executing on computer **204** typically allow defining of multiple video displays so that no modification of the

operating system is needed to support operation and interaction of multiple video cards within the computer 204.

Within this embodiment, as compared to system 100, additional video displays are possible and a video switch 240 is used to provide additional functionality. However, because
5 many aspects of the system 200 are similar to those of the system 100 of FIG. 1, detailed explanation of some features are not repeated when describing FIG. 2.

The system 200 includes a computer 204 used by a presenter to provide a multi-screen presentation to an audience using left 232 and right 236 projectors. The presenter has available three monitors: a left screen monitor 234 which shows the material being presented from the left
10 projector 232, a right screen monitor 238 which shows the material being presented from the right projector 236, and the center monitor 212 which provides a graphical user interface to the presentation software application running on the computer 204.

In the exemplary system 200, there is also a demonstration computer 216, demonstration monitor 202, and video splitter 214. The video splitter 214 provides the video output 218 from
15 the demonstration computer 216 to both the demonstration monitor 202 and the video switch 240. The demonstration computer 216 is typically under the control of the presenter and can be used to create simulations and other demonstrations that further augment or explain the presentation materials being viewed by an audience. Consequently, the graphical user interface also allows the presenter to direct the video output of the demonstration computer 216 to one of
20 the projectors 232, 236 so that the audience has the benefit of the simulations and demonstrations.

The video switch 240 is a conventional video switch as is known to one of ordinary skill and can be controlled to direct a data signal received at one of its inputs to one or more of its data

outputs. As shown, the video switch 240 receives at least three video signals: a) 208 (from the computer 204); b) 210 (from the computer 204); and c) 220 (from the demonstration computer 216 via the video splitter 214). Depending on the settings of the video switch 240, these various input signals are then directed to one or more of the following outputs: a) 224 (the left projector 232); b) 226 (the left monitor 234); c) 228 (the right projector 236); and d) 230 (the right monitor 238).

Similar to the system 100 described before, the system 200 of FIG. 2 provides a presentation system that allows a presenter to use a graphical user interface that executes on computer 204 and displays on the center monitor 212. This user interface permits the presenter to retrieve presentation materials, preview them on the center monitor 212 and then dispatch the materials to either the left projector 232, the right projector 236, or both. To control what is presented to the audience, the presenter uses the interface to send materials out of one of two video outputs 208, 210 and to configure the video switch 240 to direct its different video inputs to appropriate video outputs.

As shown in FIG. 3, the serial path 310 is one exemplary method for the computer 204 to selectably configure the video switch 240. In particular, using the communications link 310, the presenter interacts with the presentation system software to send a command from the computer 204 to the video switch 240. Based on this command, the video switch 240 controls the coupling between video inputs and outputs.

The right monitor 238, left monitor 234, and the center monitor 212 in a preferred embodiment are all touch-screen monitors. In addition, the computer 204 is executing three instances of an annotation tool (e.g., a software application) wherein each instance of the annotation tool allows modification or augmentation of the video data displayed on a respective

one of the monitors 212, 234, 238. This augmented video data is overlaid onto any presentation slides that are currently being displayed. As shown in FIG. 3, these monitors are connected to respective inputs of the computer 204. The exemplary feedback paths 304-308 of FIG. 3 are shown as serial communication paths that provide responses to the computer 204 that are
5 dependent on tactile interaction with a respective touch-screen monitor. The feedback data is routed to the appropriate instance of the annotation tools in order to appropriately adjust the video data displayed on the appropriate monitor.

In operation, the presenter will touch one monitor for example, right monitor 238 which brings the "focus" of the operating system to the instance of the annotation tool associated with
10 the right monitor 238. Using the annotation tool and the touch screen monitor 238 (along with its driver software), the presenter is able to draw such things as text, boxes, free-hand diagrams and other annotations that can be overlaid onto the video data that is being output by the computer 204 for display on the right presentation screen. Accordingly, the audience has the benefit of static presentation material that can be easily augmented in real-time in response to the
15 individual needs of that particular audience.

FIG. 4 displays an exemplary view of a computer 204. As shown, this computer can include multiple video output ports 410-414 as well as multiple input/output ports 402-408. The present invention is not limited to the specific computer arrangement and port types of FIG. 4, but rather contemplates alternative, functionally equivalent arrangements as well.

20 FIG. 5 depicts a high-level logical flowchart of an exemplary presentation method according to an embodiment of the present invention. According to this flowchart, the presenter can utilize a system such as that depicted in FIG. 2 to provide effective and dynamic multiple-screen presentations to an audience. The method can be embodied as one or more software

applications that can run on one or more computers that when executed perform the presentation method as herein described.

In step 502, a list of available presentations are presented to a presenter to allow the presenter to make a selection. Once a presentation file is selected, the method continues, in step 504, by providing a list of the slides that comprise the selected presentation. Once the presentation file is selected, the presentation system can proceed with the later steps of displaying images under the control of the presenter. However, a preloader is one useful tool that preloads images and the accompanying data files so that they are cached prior to the start of the presentation. In operation, the preloader tool may or may not be used at the discretion of the presenter; however, use of the cached images will allow faster display of different screens as compared to performing the presentation with uncached images.

The first slide among the slides is automatically presented in a preview window, in step 506, so that the presenter can see what the next slide is and decide how it can best be displayed. At this point, the presenter might determine that the slide should be annotated, in step 508, before being displayed.

Next, in step 510, the method determines which of many possible alternatives the presenter selects for the display of the preview slide. For example, the presenter might select, in step 514, to send the preview slide to the left screen or, in step 516 to send the preview slide to the right screen. Alternatively, the method can include an automatic dispatch feature that refers to a preference file to determine, in step 518, which screen to automatically forward the preview slide to. Other display options can be selected in step 519, these options can include such things as blanking the left or right screen, going back one slide in the presentation, skipping the current preview slide without displaying it, jumping to a slide out of order, jumping to a slide from

another presentation file, or sending a blank template to one of the display screens. The presenter can also select, in step 512, to display the output of a demonstration computer on either the left screen (step 522) or the right screen (step 524). The presenter can also elect, in step 520, to annotate the slide that is displayed on either the left screen (in step 526) or the right screen (in step 528). By annotating a slide, the presenter is able to interactively augment the presentation in a customized manner appropriate for the audience at hand. As the annotations may be useful in later slide presentations and in order to preserve annotations to more than one displayed slide, step 530 of the method saves any annotations for future use. Based on the presenter's selection for displaying or annotating a presentation slide, step 532 results in the next slide being retrieved and displayed in the preview window. Step 534 represents that the method then repeats itself from step 510 until the last slide of the presentation file is displayed. The details of this method are presented below in relation to a specific interface and software application for controlling a slide presentation.

FIG. 6 shows an exemplary screen shot 600 of the presentation software application that executes on the computer 204 that allows the presenter to control the presentation made to an audience. Graphical user interface components such as drop-down menus, selection boxes, icons, display windows, toolbars, and manipulations thereof are well known in the art and will not be described in great detail.

The foundation for a presentation can consist of, for example, a number of PowerPoint slides arranged together in what can be referred to as a presentation file. Other slide formats are also contemplated within the present invention. The PowerPoint files, or slide shows, and their individual frames, can be stored on the hard disk drive of the computer 204. For example, the presentation software can be set to look for a presentation files in a default directory such as

"D:\courses". Within that directory would be a number of different presentation files that the presentation software automatically scans and displays to the presenter for selection thereof.

In one embodiment, the presentation system also permits user-defined preference data to be associated with any one of the presentation files. This preference data can take the form of preference files using a predetermined extension (e.g., ".ipf") so that the presentation software can easily associate a preference file with its similarly named presentation file. In a preferred embodiment, the preference file can contain a number of entries having three fields:

<Slide Number>, <Direction Tag>, <Memory Jogger Text>

10

Thus, a preference file could resemble:

14, R, Mention all three aspects
2, L,
...
16, R, Tell joke about the three programmers

15

As shown, there is no need for the slide numbers to be in numerical order, although following such a convention may prove helpful under certain circumstances. Furthermore, there is no requirement that each slide have an entry nor that each entry have data in every field.

20

Alternatively, the preference information can be included in slides of the presentation file itself. Using the "notes" section of a PowerPoint slide, or similar features for other presentation file formats, the preference information does not need to be stored in a separate preference file but can be included within the presentation file.

The presentation software interface provides a drop-down box **616** that assists the presenter in selecting a presentation. In FIG. 6, for example, the presenter has selected a file named "503-CH00US" which, in one embodiment, can be meaningful and indicate that the presentation pertains to chapter 00 of lesson 503. On the hard drive this file could be stored as a
5 PowerPoint file "503-Ch00US.ppt". In a preferred embodiment, the first slide of a selected presentation is automatically displayed in the preview window **602**.

The window **612** shows the 13 slides within the selected presentation file and their respective titles. One slide title **614** is shown as selected (as indicated by the reverse video) and this slide **604** is displayed in the preview window **602**. From this window **602** the presenter can
10 direct (or dispatch) the slide **604** to one of the video outputs of the computer **204**.

The monitor on which the screen **600** is displayed can be a touch-screen monitor **212** but the presenter can also interact with the presentation software's interface using a keyboard or mouse in addition to tactile input.

There are three icons in screen **600** that determine the destination of the preview slide
15 **604**. The term "destination" refers to which video output of computer **204** the slide is sent so that it is displayed on either the left or right screen. According to one embodiment, the set-up and cable connections of the video switch are configured in a predetermined manner such as that shown in FIG. 2. The presentation software knows of this predetermined configuration and is itself configured to provide slide to the appropriate video output based on which icon is selected
20 by the presenter. The specific cabling connections can be different than that shown in FIG. 2 as long as the presentation software is configured to direct video output accordingly.

The icon **620** causes the presentation software to send the preview slide **604** to the left screen, while the icon **644** causes the presentation software to send the preview slide **604** to the

right screen. If the preview slide 604 has a direction preference specified in an associated preferences file, then the icon 632 becomes active and, by selecting that icon 632, the presenter can send the slide to the preferred screen based on the direction preference found in the preference file. Once the preview slide 604 is sent to its appropriate screen for display, the presentation software automatically displays the next slide in the sequence of slides within the window 602. The preference tag can be overridden by using either icon 620 or 644 instead of the automatic icon 632. The window 618 is used for displaying any memory jogger text from the preference file to assist the presenter with the presentation.

According to one embodiment of the present invention, a slide's entry in the preference file can have a direction entry such as "LR". This double entry will have the effect of automatically displaying the one slide on the left screen and then displaying the next slide on the right screen so that both slides appear to be displayed substantially simultaneously. As a result, the eventual new preview slide is two removed from the initial preview slide.

Slides can be selected out of sequence from the display window 612 and then displayed in the preview window 602.

The interface screen 600 also provides a "go-back" icon 630 and a "go-forward" icon 634. The icon 630 allows the presenter to proceed in a reverse direction in the preview window 602 and the icon 634 allows the current preview slide 604 to be skipped and the next slide in the presentation to be displayed in the preview window 602.

The icons 626 and 638, respectively, provide a left screen and right screen "slide jog" feature that allows a slide to appear to be slid up the display screen. This activity mimics the traditional action of a presenter who slides a view foil up on the projector so that the bottom half

of the foil is emphasized. These icons act as toggles such that successive selection of the icon flips between normal presentation of a slide and "jogged" presentation of the slide.

In order to focus students on one screen or the other, and for additional reasons within a presentation, the presentation software interface provides icon 624 to blank the left display and
5 icon 640 to blank the right display. Selecting either of these icons again will result in the appropriate display being "unblanked".

As shown in the environment of FIG. 2, the video output from the demonstration computer 216 is provided to the video switch 240. The presentation software can effect the display of this video output to one of the display projectors 232, 236 by appropriate control of
10 the video switch 240 via the communications link 310. When the presenter wants to direct the output from the demonstration computer 216 to the left projector, the icon 628 is selected. This selection causes the presentation software to control the video switch 240 to display the video signal 218 on the left screen. Similar functionality with the right projector 236 is accomplished using the icon 636. A second selection of either of the icons 628, 636 will restore the displayed
15 slides to the respective screen instead of the output from the demonstration computer 216. A second demonstration computer can be included that takes advantage of the unused fourth input of video switch 240. In such an alternative, manual control of the video switch 240 can prove useful in selecting appropriate video signal routing.

Using the buttons 650, 652, respectively, the current slide displayed on the left or right
20 display screen can be added to a "favorites" list displayed in window 610. This list can be named something meaningful such as "favorites.fvt" and located in the default directory "D:\courses". Other file names and locations could also be used.

In a preferred embodiment, the format of the file is:

<Presentation File>, <Slide Number>: <Descriptive Text>

5 Accordingly, one entry may resemble:

409-Ch05, 14 : Free Threading

10 which refers to the fourteenth slide of the presentation file 409-Ch05.ppt (for example, if PowerPoint slides are being used). The descriptive text can be any text, but the slide title is one useful example.

By selecting either of the buttons 650 or 652, a new entry is appended to, or otherwise inserted into, the favorites file. In a preferred embodiment, this file is useful among different presentation files and is not specific to a particular presentation file. The presenter selects a slide from the window 610 similar to the manner in which a slide is selected from the window 612. One difference, is that the presentation software must open the referenced presentation file, extract the appropriate slide and display that in the preview window 602. The slide can then be dispatched to the left or right screen using the icons 620 and 644 respectively. Once the slide is dispatched, the presentation reverts back to the slide location within the original presentation file in order to select the next slide to place in the preview window 602.

The presentation software cooperates with three different instances of a slide annotation application (i.e., an annotation tool). The slide annotation tool can be a vector-based drawing tool that generates graphics that can be overlaid onto a presentation slide. Each of these instances

of the annotation tool correspond to a different one of the monitors 212, 234, 238. The execution of an annotation tool instance results in an annotation toolbar being displayed on each of the different monitors 212, 234, 238. The annotation toolbar 608 associated with the annotation tool for the center monitor 212 is depicted at the bottom of the preview window 602. Using this
5 toolbar, the presenter can annotate the slide 604 before it is dispatched to either the left or right display screens. Each of the left and right monitors 234 and 238 have their own associated annotation tools and similar toolbars.

The clock icon 606 opens a timer window that allows a presenter to select a time period and display a countdown screen that indicates remaining time within that period. This time
10 period can reflect the time left to complete an exercise or the time left until the end of a break in the presentation.

FIG. 7 depicts an exemplary annotation toll toolbar such as that shown in FIG. 6. The different functions of the toolbar are selected by tapping or selecting the appropriate icon. From left to right, the icons include:

15 **702:** A hide/unhide button that expands or contracts the display of the toolbar.

704: A text function that is used by tapping on the presentation slide where text should appear and then using the keyboard (of the computer 204) to enter text.

706: A free-hand drawing tool that allows drawing on the slide, preferably using a stylus or other similar implement.

20 **708:** A rectangle draw function that allows selecting a starting corner and dragging to an ending corner to define a rectangle.

710: An ellipse draw function similar to the rectangle function but an ellipse is drawn in the defined "boundary" box.

~~In a preferred embodiment, both~~ the rectangle and ellipse tools automatically activate a text entry function so that the created shape can have text entered without requiring the selection of any additional icons.

5 **712:** A straight line draw function that is used by selecting the starting and ending points of the line.

714: A "callout" function that creates a text entry box that resembles a comic strip dialogue balloon.

716: A highlighter tool that creates a rectangle on the screen that is highlighted in
10 transparent yellow.

718: A pointer tool that allows an indicator to be displayed on the presentation slide at a desired location. In a preferred embodiment, the indicator is a bright red arrow. This arrow will move to any location on the presentation slide that is tapped by the presenter.

720: A progressive revelation function that covers portions of the presentation slide to
15 prevent its display. The first tap on the screen sets the starting vertical location and each successive tap repositions the overlay to display more and more of the presentation slide.

722: An eraser tool that erases any annotations on a presentation slide.

724: An undo function that removes each annotation in a reverse order.

726: A color selection tool that selects from among different colors the color for future
20 annotation operations.

Annotations can be taking place on the left, right and center monitors in any particular order; therefore, in a preferred embodiment, annotations are saved every time a presenter navigates away from a presentation slide. For example, slide 14 can be displayed on the left

monitor 234 and be annotated while slide 13 is displayed on the right monitor 238. If the presenter touches the right monitor 238, then the operating system of computer 204 detects that focus has now shifted to the right monitor 238 and any further input will be interpreted by the annotation tool associated with that monitor 238. The presentation software also saves any current annotations for slide 14 before proceeding. If the presenter then navigates back to slide 14, the current annotations for slide 13 are saved and further input is interpreted by the annotation tool associated with the left monitor 234.

In a preferred embodiment, the vector graphics files created by each annotation tool are stored in the "C:\courses" directory. For example, as annotations are made to the slides within presentation file 409-Ch05.ppt, a directory 409-Ch05.ann can be created and populated with a file "xxx" wherein the "xxx" refers to the slide within that presentation file.

When the presentation software presents a slide in the preview window 602 it can automatically search for the existence of any annotation files and automatically augment the slide accordingly. As a result, annotation files can be saved and moved to another computer to augment a presentation from that computer while still utilizing the presentation slides that reside on the second computer. Also, the re-display of an annotated slide is not dependent on the display screen on which the slide was originally annotated. For example, a slide displayed and annotated while on the right display screen can be later recalled for display and dispatched to the left display screen and any previous annotations will be displayed on the left display screen without any need for modification.

Returning briefly to the interface screen 600 of FIG. 6, there are two complementary icons 622 and 642. These icons, respectively, start a blank slide on the left and right display screens. This blank slide can then be annotated as desired. In a preferred embodiment, a dialog

box appears that asks for a name for the blank slide and can provide a suggested default name as well. If the newly named slide is not saved as a favorite, then it will be deleted upon ending the current presentation. If it is saved, then it will be available for recall later. In a similar manner, individual slides may be created and copied into the "C:\courses" directory and manually added
5 to the favorites file. In this manner, additional, extrinsic slides that augment a presentation file can easily be made available for selection and display during a pre-scripted presentation.

The presentation system is not limited to presenting viewable content from only a single document file format. The presentation system, for example, can work with two or more different document file formats such as PowerPoint presentations and Adobe Acrobat PDF files.
10 In a preferred embodiment, the PowerPoint presentations are used to deliver screens of information in landscape layout, while Acrobat files display information from portrait layout paginated documents.

According to this embodiment, both the PowerPoint and Acrobat presentations can be treated in exactly the same way by the presentation system, including the incorporation of any
15 annotation files associated with each screen of the document being displayed. Because of the aspect ratio difference between landscape and portrait documents, there may be instances in which only two-thirds of a portrait-mode page (e.g., an Acrobat page) is displayed on each screen and projector. The 'nudge up' buttons 626, 638 on the interface 600 are used to make the lower two-thirds of an Acrobat page visible.

20 The functionality and benefits of the "favorites" mechanism remain the same for either PowerPoint or Acrobat pages, as both formats can be saved and then recalled for display on any display screen 212, 234, 238.

An exemplary remote control 108 of FIG. 1 is shown in more detail in FIG. 8 as element 800. For example, the remote control 800 can connect to the computer 204 using an input/output port that is not being used by another component of the system 200. The remote control does not need to have the entire tool suite that is shown in FIG. 6 but rather can include a button 802 for automatically advancing a slide; a button 804 for skipping the current preview slide; a button 806 for sending the preview slide to the right screen; a button 808 for blanking/unblanking the right screen; a button 810 for blanking/unblanking the left screen; and a button 812 for sending the preview slide to the left screen.

FIG. 9 depicts an alternative presentation system arrangement 900 as compared to the system 100 of FIG. 1 or the system 200 of FIG. 2. However, there are many common components in each of the systems that have previously been described in detail with respect to the earlier figures. Accordingly, so as not to obscure the differences between the various arrangements, detailed description of those common features shared by each arrangement are not repeated with reference to FIG. 9. Instead, the distinctions between the various arrangements are highlighted and a detailed description of those differences is provided.

In FIG. 9, the computer 902 controls the data flows and presentation materials used by the other components. This computer 902 includes a communications port 904 for interfacing with input devices such as trackball, keyboards (standard or miniature) and mice. The computer 902 provides a graphical user interface, via the video port 908, on the touch screen 918 to assist a presenter or instructor in controlling a presentation. The communications port 906 receives feedback from the touch screen 918 such as provided by a stylus.

While any conventional touch screen terminal can be used, an exemplary touch screen 918 is the 18-inch Wacom Cintiq computer-aided design terminal. This particular terminal

includes a tailored stylus that allows a user to rest their hand on the display screen while writing. This functionality improves the accuracy of annotation.

Video ports 910 and 912 provide the video output for display on the right and left projectors 924, 926. As described earlier, the presentation system alternates or otherwise
5 controls the electronic display of information by directing display screens to a particular projector under the control of a presenter using the graphical user interface provided on touch screen 918.

As other video sources 920 may be occasionally displayed on either projector 924 or 926, the video outputs from the ports 910 and 912 are routed through a video switch 922 that is
10 controlled via signals from a port 914 on the computer 902. Thus, using the graphical user interface to produce control signals from the port 914, the presenter can control the directing of slides from video ports 910 and 912 as well as control the selection and deselection of alternate video signals from sources 920.

Although the video switch 922 is depicted as a single $n \times 2$ video switch (i.e., having n
15 inputs and 2 outputs), other configurations, such as a pair of 2×1 switches, could also be used. Alternatively, the switch 922 can be omitted if the projectors 924 and 926 have multiple input ports. In this alternative, the control signal from port 914 would directly control the appropriate projector to display a selected input.

One significant difference between the system 900 of FIG. 9 and the earlier-described
20 systems is that a single touch screen 918 is used instead of a center display 104 and left and right displays 110a, 110b. To accommodate this simplification, the presentation control software running on the computer 902 uses a multi-windowed, tabbed interface on the single touch screen 918.

FIG. 10 depicts an exemplary graphical user interface 1000 for the single screen.

alternative of FIG. 9. The interface 1000 includes a main display area 1024 that includes three sub-windows 1006, 1008, 1010. The center window 1006 displays the current instructor's screen that will be directed to either the left or right projector. The left window 1008 displays the currently displayed left projector screen and the right window 1010 displays the currently displayed right projector screen.

The interface 1000 includes the icon tool bar 1004 across the top as well as respective left and right toolbars 1020 and 1022 along each side. These toolbars provide functionality as described previously that permit a presenter to, for example, direct pages to one screen or the other, skip pages, send blank pages, scroll pages jump between pages, select an alternative video source (e.g., a demo computer), and save or select "favorites". Along the top of the interface 1000 is the memory jogger bar 1002 that displays a brief note about the current instructor screen 1006.

Along the bottom of the interface 1000 are three tabs 1012-1016 corresponding to a respective one of the sub windows in the display area 1024. Using the left screen tab 1012, a user can select the left projector screen for annotation, and using the right screen tab 1010, the user can select the right projector screen for annotation. Using the center tab 1014, the user can return to the composite, multi-windowed screen 1024 shown in FIG. 10.

The graphical user interface 1000 is displayed on the touch screen display 918 that provides feedback to the computer 902 through the communications port 906. Annotations and toolbar selections can be performed from the composite screen 1024; however, selecting one of the current display screens 1008, 1010 will allow finer control over any annotations. One of the

display screens can be selected using the appropriate tab (1012 or 1016) or simply by selecting one of the windows (1008 or 1010) using one of the input devices 916.

FIG. 11 depicts an exemplary snapshot 1100 of the graphical user interface 1000 once the left screen 1008 (for example) is selected for annotation. As shown in FIG. 11, the screen tabs 1012-1016 remain at the bottom of the snapshot 1100 and the left screen side toolbar 1020 remains to the left side of the snapshot 1100. Instead of the composite screen 1024, however, the current left projector screen is displayed 1008 so as to nearly fill the display area. Along the top of the snapshot 1100 is the memory jogger area 1102 for the current left projector screen and near the bottom of the snapshot 1100 is the annotation toolbar 1104. The details of the annotation toolbar were described earlier with respect to FIG. 7, and its icons provide tools and functions that simplify annotating the currently displayed screen. These annotations appear in real time during the presentation in order to enhance the dynamic nature of a presentation provided using the system 900.

The layout of the snapshot 1100 and the interface 1000 are exemplary in nature. Of course, other functionally equivalent toolbars, screen layout, icon labels, and features are contemplated within additional embodiments of the present invention.

There is much similarity between the tools and facilities available in the alternative presentation system of FIGS. 9-12 and those described and explained with respect to FIGS. 1-8. However, in the alternative arrangement, there is preferably one touch screen for controlling the three video outputs. Thus, a presenter switches from image to image on the touch screen rather than annotating three separate touch screens.

A typical use of this system would start with selecting the "Chapter" button to load a chapter of multiple screens for presentation. Using the instructor screen as the control interface

for the presentation application, pages are sent alternately left and right using the left and right buttons of the toolbar. Alternatively, default preferences could be stored that automatically control how the screens are directed for presentation. To annotate a particular projected image, the annotation tools can be used on the smaller display windows found on the instructor screen interface of FIG. 10. Alternatively, should the presenter select one of the current projector screens (by clicking on the window or using the tab button), then the corresponding left or right screen image is magnified to nearly fill the touch screen area as shown in FIG. 11. This allows annotation to be applied much more accurately to the magnified window. Once any annotation is completed, clicking on the "Instructor Screen" tab will cause the composite, multi-windowed instructor screen to reappear so that the presentation can continue.

Figures 12, 13 and 14 illustrate a "zoom" functionality that can be utilized within the multi-display environment of FIG. 1 or the single-screen display environment of FIG. 9. As the functionality is substantially the same in both environments the exemplary embodiment depicted in figures 12-14 is simply that of the single screen display environment. In addition to the scenarios described earlier involving multiple slides displayed on the left and right side screens, the zoom functionality permits displaying a single slide, in different ways, on both the right and left side screens.

FIG. 12 depicts a screen view of an instructor screen as indicated by the tab 1210 at the bottom of the screen. As previously described, this screen displays a next slide 1204 and also a copy 1206 of what is being displayed on the right-hand screen and a copy 1208 of what is being displayed on the left-hand screen.

In the particular situation depicted in FIG. 12, known as split-screen mode, a current slide is displayed on both the left-hand and right-hand screens. For example, the window 1206 shows

the upper portion of the current slide while the window 1208 shows the lower portion of the current slide. There is some overlap portion 1212 that appears in both windows and this portion 1212 can be shaded or otherwise visually distinguished to help an observer recognize that this information is in both windows.

5 A "zoom" tool 1202 is available to the presenter that allows further control of how the current slide is displayed. FIG. 13 depicts how the display windows change once the zoom tool 1202 is selected. While the window 1204 remains the same, the display windows 1304 and 1302 change their behavior.

10 In the right-hand window 1302, the entire current slide is shown as being displayed on the right side display screen. In a preferred embodiment, the left side display screen is blank. However, the left-hand window 1304 can include helpful instructions for the presenter that suggest, for example, that a portion of the slide should be selected so as to permit "zooming-in". In practice, the presenter would then use the select tool 1306 to select a portion of the slide displayed in window 1302. This tool preferably utilizes a click-and-drag operation that is
15 familiar to most computer users.

FIG. 14 depicts how the windows change once a portion 1404 of the slide 1402 has been selected with the tool 1306. In particular, the left side display screen is no longer blank but displays a "zoomed-in" portion of the slide as shown in the left-hand window 1406. The display of the slide in window 1402 also changes to include some visual cues, such as shading, that
20 highlight the selected portion 1404. The window 1204 continues to show the next slide in the presentation.

As for annotation, both the left-hand window 1406 and the right-hand window 1402 can be annotated using the tools and methods described earlier.

FIG. 15 illustrates a screen shot of one embodiment of the present invention that includes features not yet described in previous embodiments.

Similar to previous screen shots of the presentation control interface, FIG. 15 includes a sub-window 1506 for displaying the next slide in the presentation as well as sub-windows 1504, 5 1508 for displaying the slides presently being displayed on the left and right projections screens, respectively.

During a presentation, the presenter may become aware of an error or other inappropriate content on a slide. Additionally, from audience feedback, the presenter may learn of additional information that might be added to a slide. In these instances, the presentation system and 10 method, herein described, provides a tool 1502 to mark a slide, during the presentation, as needing correction.

While the slide is still being displayed during the presentation, the presenter can use the annotation tool to create annotations 1510a, 1510b that are depicted on the window 1508 but preferably not on the display screen seen by the audience. Alternatively, the presenter can 15 simply click on the tool 1502 to mark the slide for later revision. After a slide has been marked, the presentation can continue until it is completed. The instructor can then review the slides and annotate any marked slides at a more convenient time. To assist the presenter in recognizing which slides have been marked using tool 1502, a visual indicator 1512 can be added to each such slide.

20 If the computer system (e.g., 902) on which the presentation control interface executes is connected to a network, then the slides which are marked and annotated by the presenter can easily be forwarded to other individuals to perform correction or updating of the slides. In a

preferred embodiment, the presentation control system automatically locates recently annotated slides and forwards them on for updating.

Another feature of the screen shot **1500** involves a timeline tracking indicator **1514**. This indicator **1514** displays an indication of how the current presentation is progressing in comparison to a pre-set timeline. To help the presenter maintain a predetermined schedule during the presentation, each slide can have associated meta-information that indicates how long the slide should preferably be displayed during the presentation. As discussed earlier, each slide can have associated metadata such as screen preference and memory-jogger text, etc. The timing meta-information, now being described, is used to determine how closely the presenter is following the expected timeline of a presentation.

The logical flow diagram of FIG. 16 depicts an exemplary method for providing timeline information to a presenter. Once a presentation is started, a clock or timer is started in step **1602**. Next a slide is retrieved for presentation, in step **1604**, and timing information for the slide is extracted, in step **1606**, regarding when that slide should be displayed during the presentation. Eventually, in step **1608**, the presenter will display the slide to the audience. At this point in time a timestamp is created indicating when that particular slide was displayed based on the running clock or timer. If associated timing meta-information cannot be located for a presentation, the system can simply use a default time for each slide instead of generating an error message or otherwise affecting the presentation.

In step **1610**, the time that has expired since the start of the presentation (i.e., the timestamp from the previous step) is compared to the expected time that the slide should have been displayed. A number of alternatives are contemplated for performing this comparison. For example, each slide can have meta-information that indicates how long it should be displayed

during a presentation. In this instance, then, the expected display time for a slide is simply the sum of all the previous slides "display times". Alternatively, the meta-information could be a point-in-time relative to the start of the presentation (e.g., 5:15 minutes). In this instance, the expected display time is explicitly identified and does not have to be calculated using
5 information about the previous slides. Other functionally equivalent methods for tracking when a slide is presented and when it should have been presented are also contemplated by the present invention.

In step 1612, the timestamp information (see step 1608) is stored in a log file, either remotely or locally, in order to record the progress of the presentation as it is occurring. If a slide
10 is skipped, then this log file can preferably include such an annotation rather than an associated timestamp.

An indicator of the comparison that occurred in step 1610 can be displayed for the presenter in step 1616. As shown in FIG. 15, a gauge 1514 indicating timing information about the current presentation is provided on the interface 1500 for the presenter. Although this timing
15 information can be displayed in a variety of equivalent graphical formats, FIG. 15 depicts one exemplary display indicator 1514. In this example, a time bar includes region 1516 (which can be red) that indicates being behind schedule, a center region 1517 (which can be black) that indicates being substantially on schedule, and another region 1518 (which can be green) that indicates being ahead of schedule. A bar 1519 is also present which overlays the appropriate
20 region 1516, 1517, 1518 of the timebar depending on how the presentation is progressing relative to the predetermined schedule. As shown, the text "2 minutes ahead" can also be present to more specifically indicate the timeline information to the presenter.

If there are more slides in the presentation, then a decision in step 1618 returns logical flow to step 1604 so that the next slide can be retrieved. Once the presentation is over, however, the accumulated timestamp information, such as the log file, can be further analyzed. For example, the log file can be automatically forwarded in step 1614 to a remote location in order to
5 determine how closely the presentation followed the prescribed timeline. Historical data can thus be collected to permit such activities as evaluating presenters' conformance or adjusting the prescribed timelines.

Additionally, the "Tools" menu bar can include an option for timeline-related information that provides more detailed information to a presenter. For example, one option may be to
10 display a list of all remaining slides in the presentation along with their expected display times. Another option may be to display a list of exercises that accompany the presentation and a calculation, based on the remaining time and the remaining slides, of how much time can be allocated by the presenter to the hands-on exercises.

The stylus 1520, or highlighter tool, is typically used by the presenter to highlight
15 portions of a slide during its presentation. Usually manipulation of the stylus 1520 after it has been selected is accomplished using a mouse or other input device attached to the computer 902 (see FIG. 9). In addition to such an input device, recent advances in wireless technologies permit an additional mouse or other input device to be located remotely from the computer 902. For example, the presenter can carry a hand-held input device that controls the stylus 1520 though an
20 interface with any of the interface ports on the computer 902. In this manner, the presenter can highlight and otherwise annotate a slide while being physically located somewhere else than at the keyboard of the computer 902.

understood that various different modifications are possible and are contemplated within the true spirit and scope of the appended claims. There is no intention, therefore, of limitations to the exact abstract or disclosure herein presented.

1. A method for providing an electronic presentation of a plurality of slides using multiple display screens, comprising the steps of:

providing a presentation control interface on a center display screen;

displaying a slide, from among the plurality of slides, in a preview window within

5 the presentation control interface;

receiving input via the presentation control interface indicating whether to direct the slide to a right display screen or a left display screen;

dispatching the slide for display on the indicated display screen;

displaying simultaneously with the slide in the preview window within the

10 presentation control interface, a first window corresponding to any slide currently

displayed on the right display screen and a second window corresponding to any slide currently displayed on the left display screen, and

retrieving a next slide for display in the preview window.

2. The method according to claim 1, further comprising the steps of:

outputting the slide as right-side video data if the slide is dispatched to the right display screen; and

5 outputting the slide as left-side video data if the slide is directed to the left display screen.

selecting one of the first window and second window via the presentation control interface;

receiving input from a device located remotely from the presentation control

interfaces;

10 adjusting the right-side video data based on the received input, if the selected window corresponds to the right display screen; and

adjusting the left-side video data based on the received input, if the selected window corresponds to the left display screen.

3. The method according to the claim 2, wherein either of the conditional adjusting steps include highlighting a portion of the selected window.

4. The method according to claim 1, further comprising the step of:

marking a selected slide from among the plurality of slides to indicate a revision of the selected slide is needed.

5. The method according to claim 4, further comprising the step of:

adding one or more annotations to the marked selected slide.

6. The method according to claim 5, further comprising the step of:

if said marked selected slide is dispatched for display on the indicated display screen, then displaying the annotations within the presentation control interface but not on the indicated display screen.

5

7. The method according to claim 5, further comprising the step of:

forwarding the marked selected slide to a remote location.

8. The method according to claim 1, further comprising the steps of:

starting a timer when a first of the plurality of slides is dispatched for display;

determining a timestamp for when a current slide is dispatched for display;

comparing the timestamp to a predetermined timeline associated with the plurality

5 of slides; and

indicating within the presentation control interface whether the current slide was dispatched behind, in conformance with, or ahead of the predetermined timeline.

9. The method according to claim 8, further comprising the steps of:

dispatching for display each of the plurality of slides;

storing the timestamp for each current slide when it is dispatched for display; and

forwarding the stored timestamps to a remote location.

5

10. A system providing electronic presentations comprising:

a plurality of presentation slides stored in a first memory accessible by a programmable computer;

a first display screen coupled with the programmable computer and having a first

5 video input signal;

a second display screen coupled with the programmable computer and having a second video input signal;

a third display screen coupled with the programmable computer and having a third video input signal;

10 a presentation control application stored in a second memory accessible by the programmable computer; and

the programmable computer being configured to execute the presentation control application to provide an interface, displayed on the third display screen, by which each of the plurality of slides is dispatched for display to either one of the first or second display
15 screens, wherein said interface is configured to simultaneously display:

a first window displaying a first image corresponding to the first video input signal;

a second window displaying a second image corresponding to the second video signal; and

20 a third window displaying an image of a next presentation slide.

11. The system according to claim 10, further comprising an input device located remotely from the programmable computer.

12. The system according to claim 11, wherein the presentation control application is further configured to modify either the first or second image based on input received from the input device.

13. The system according to claim 10, wherein the presentation control application is further configured to mark a selected slide from among the plurality of slides and to add one or more annotations to the marked selected slide.

14. The system according to claim 13, wherein if the marked selected slide is dispatched for display on either the first or second display screens, then the presentation control application is configured to display the annotations within the interface but not on either the first or second display screens.

5

15. The system according to claim 10, further comprising:

wherein the plurality of slides are arranged in a presentation file; and
respective timing information, stored in the first memory, associated with each slide related to a prescribed timeline for the presentation file.

5

16. The system according to claim 15, wherein the presentation control application is further configured to:

determine a start time since a first slide in the presentation file was dispatched for display;

5

determine a time relative to the start time when a current slide in the presentation file is dispatched for display; and

determine if the current slide was dispatched behind, in conformance with, or ahead of the prescribed timeline.

The system according to claim 15, wherein the presentation control application is further configured to:

generate a respective timestamp for each of the plurality of slides when each slide is dispatched for display; and

5 store the respective timestamps in the first memory.

18. The system according to claim 17, wherein the presentation control application is further configured to:

forward the stored respective timestamps along with identifying information about the presentation file to a remote location.

5

19. The method according to claim 16, wherein the presentation control application is further configured to:

display on the third display screen and indication of whether the current slide was dispatched behind, in conformance with, or ahead of the prescribed timeline.

5

20. A method for providing an electronic presentation of a plurality of slides using multiple display screens, comprising the steps of:

providing a presentation control interface on a center display screen;

displaying a slide, from among the plurality of slides, in a preview window within

5 the presentation control interface;

receiving input via the presentation control interface indicating whether to direct the slide to a right display screen or a left display screen;

dispatching the slide for display on the indicated display screen; and
retrieving a next slide for display in the preview window.

10

21. The method according to claim 20, further comprising the steps of:

outputting the slide as right-side video data if the slide is dispatched to the right
display screen; and

outputting the slide as left-side video data if the slide is directed to the left display
5 screen.

selecting one of the first window and second window via the presentation control
interface;

receiving input from a device located remotely from the presentation control
interfaces;

10 adjusting the right-side video data based on the received input, if the selected
window corresponds to the right display screen; and

adjusting the left-side video data based on the received input, if the selected
window corresponds to the left display screen.

22. The method according to the claim 21, wherein either of the conditional adjusting
steps include highlighting a portion of the selected window.

23. The method according to claim 20, further comprising the step of:

~~marking a selected slide from~~ among the plurality of slides to indicate a revision of the selected slide is desired.

24. The method according to claim 23, further comprising the step of:
adding one or more annotations to the marked selected slide.

25. The method according to claim 24, further comprising the step of:
if said marked selected slide is dispatched for display on the indicated display screen, then displaying the annotations within the presentation control interface but not on the indicated display screen.

5

26. The method according to claim 24, further comprising the step of:
forwarding the marked selected slide to a remote location.

27. The method according to claim 20, further comprising the steps of:
starting a timer when a first of the plurality of slides is dispatched for display;
determining a timestamp for when a current slide is dispatched for display;
comparing the timestamp to a predetermined timeline associated with the plurality
5 of slides; and

indicating within the presentation control interface whether the current slide was dispatched behind, in conformance with, or ahead of the predetermined timeline.

28. The method according to claim 27, further comprising the steps of:

dispatching for display each of the plurality of slides;

storing the timestamp for each current slide when it is dispatched for display; and

forwarding the stored timestamps to a remote location.

5

29. A system providing electronic presentations comprising:

a plurality of presentation slides stored in a first memory accessible by a programmable computer;

a first display screen coupled with the programmable computer and having a first

5 video input signal;

a second display screen coupled with the programmable computer and having a second video input signal;

a third display screen coupled with the programmable computer and having a third video input signal;

10 a presentation control application stored in a second memory accessible by the programmable computer; and

the programmable computer being configured to execute the presentation control application to provide an interface, displayed on the third display screen, by which each of the plurality of slides is dispatched for display to either one of the first or second display
15 screens.

30. The system according to claim 29, further comprising an input device located remotely from the programmable computer.

31. The system according to claim 30, wherein the presentation control application is further configured to modify either the first or second image based on input received from the input device.

32. The system according to claim 29, wherein the presentation control application is further configured to mark a selected slide from among the plurality of slides and to add one or more annotations to the marked selected slide.

33. The system according to claim 32, wherein if the marked selected slide is dispatched for display on either the first or second display screens, then the presentation control application is configured to display the annotations within the interface but not on either the first or second display screens.

5

34. The system according to claim 29, further comprising:

wherein the plurality of slides are arranged in a presentation file; and

respective timing information, stored in the first memory, associated with each slide related to a prescribed timeline for the presentation file.

5

35. The system according to claim 34, wherein the presentation control application is further configured to:

determine a start time since a first slide in the presentation file was dispatched for display;

5 determine a time relative to the start time when a current slide in the presentation file is dispatched for display; and

 determine if the current slide was dispatched behind, in conformance with, or ahead of the prescribed timeline.

36. The system according to claim 34, wherein the presentation control application is further configured to:

 generate a respective timestamp for each of the plurality of slides when each slide is dispatched for display; and

5 store the respective timestamps in the first memory.

37. The system according to claim 36, wherein the presentation control application is further configured to:

 forward the stored respective timestamps along with identifying information about the presentation file to a remote location.

5 38. The system according to claim 35, wherein the presentation control application is further configured to:

 display on the third display screen and indication of whether the current slide was dispatched behind, in conformance with, or ahead of the prescribed timeline.

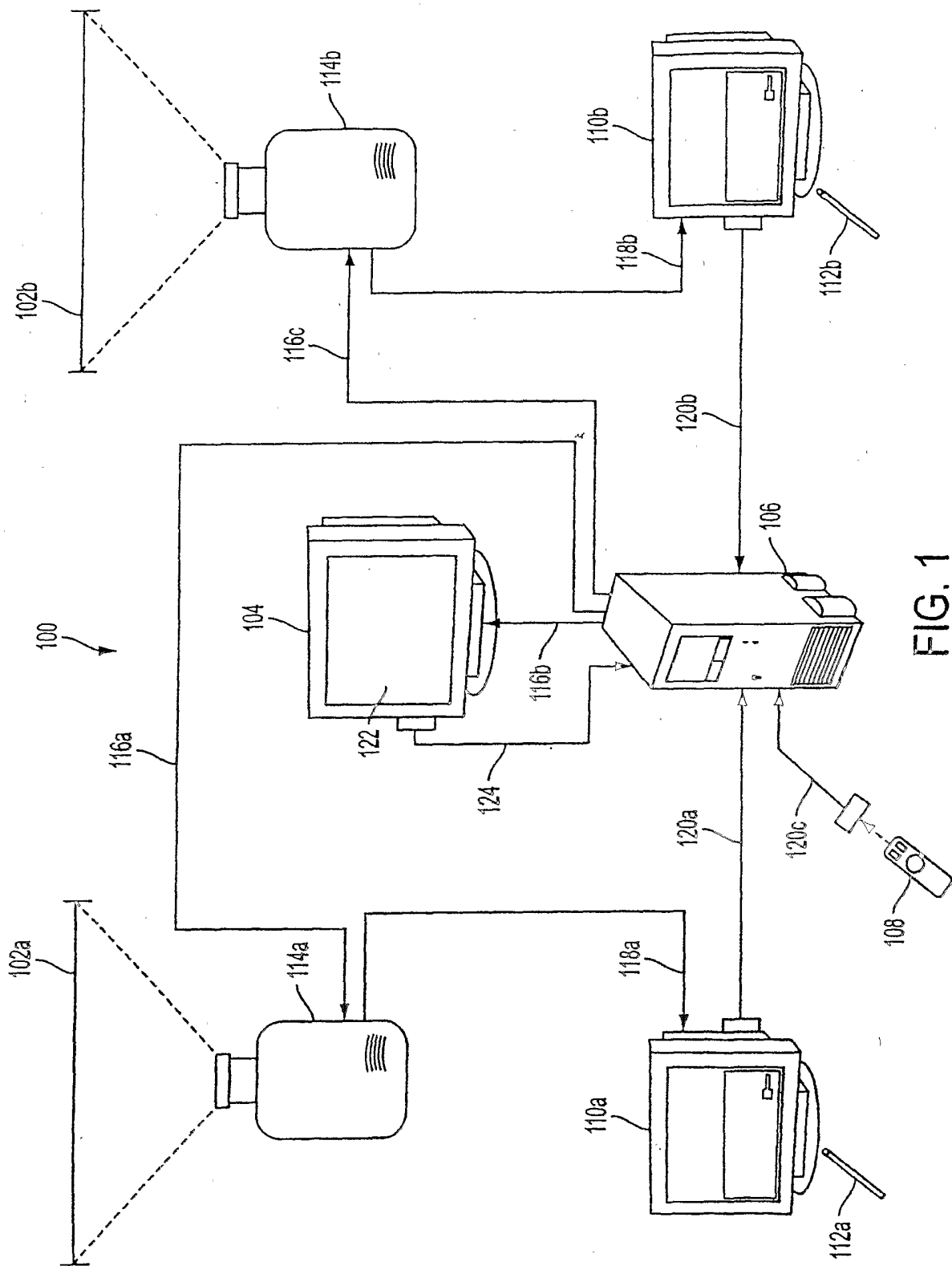


FIG. 1

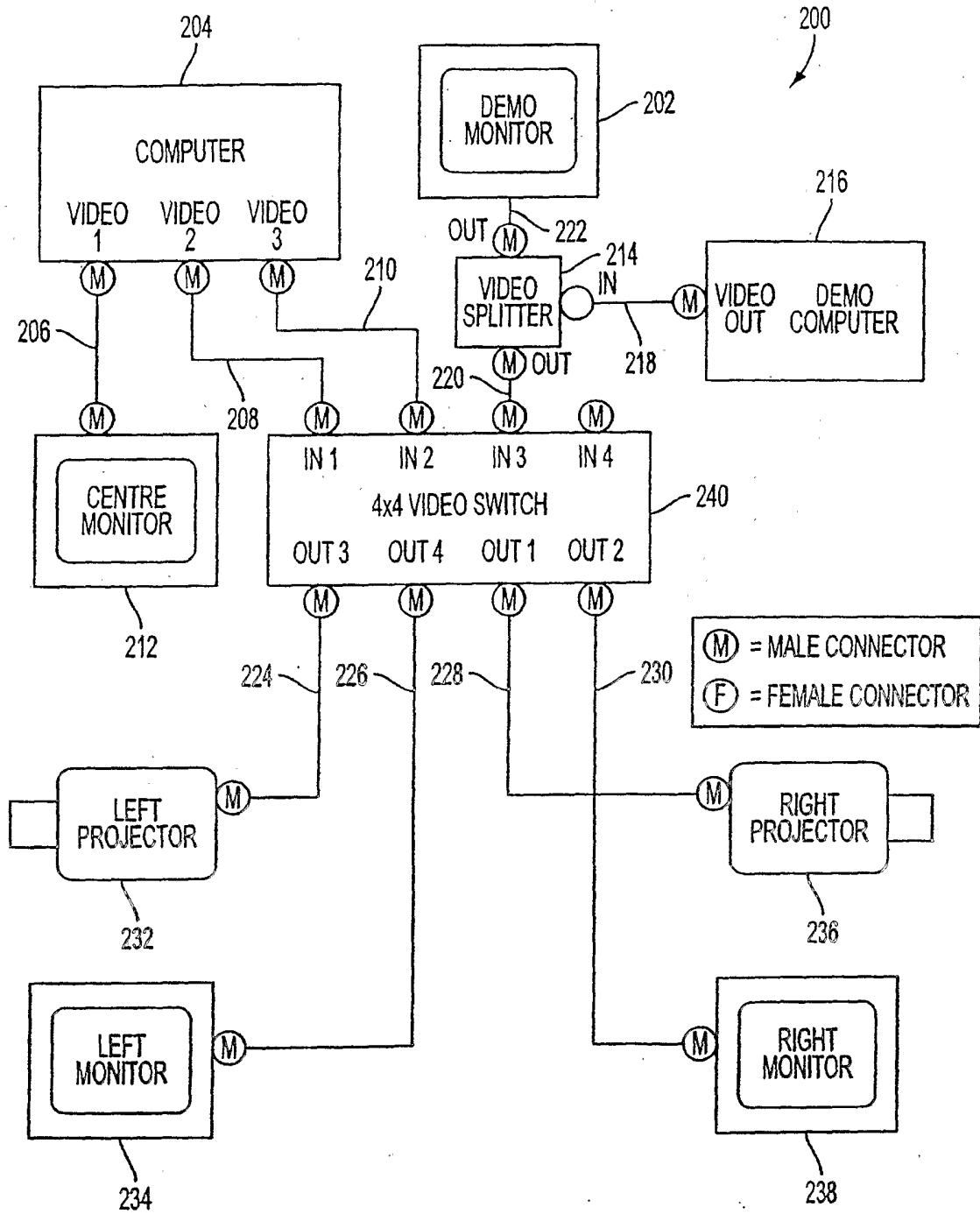


FIG. 2

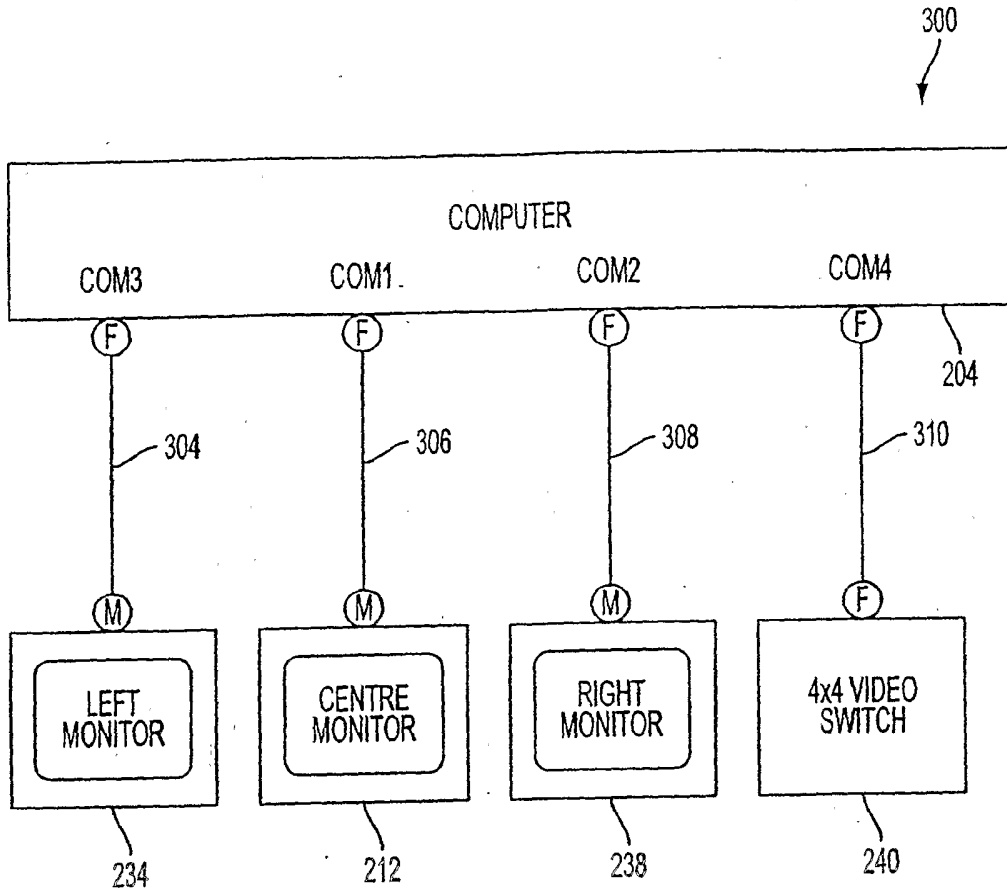


FIG. 3

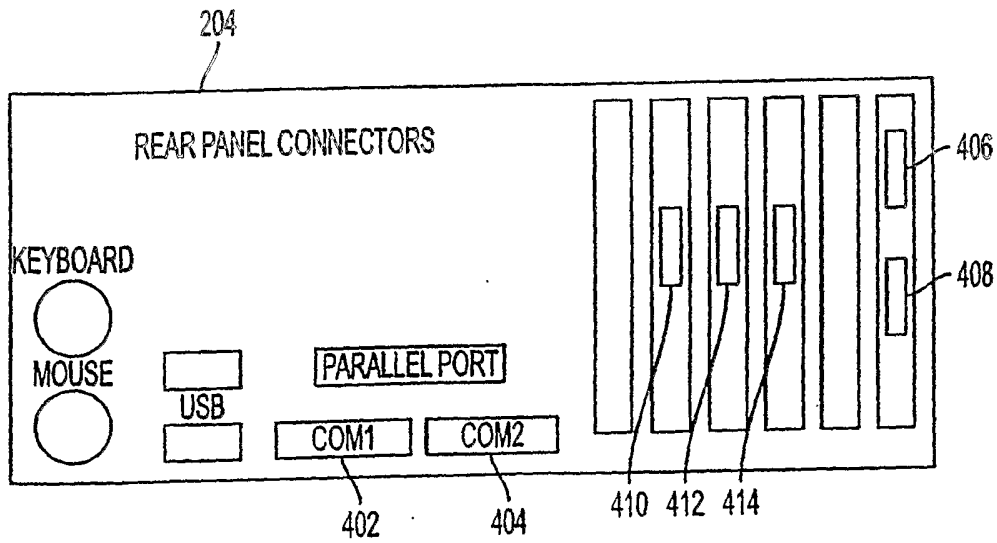


FIG. 4

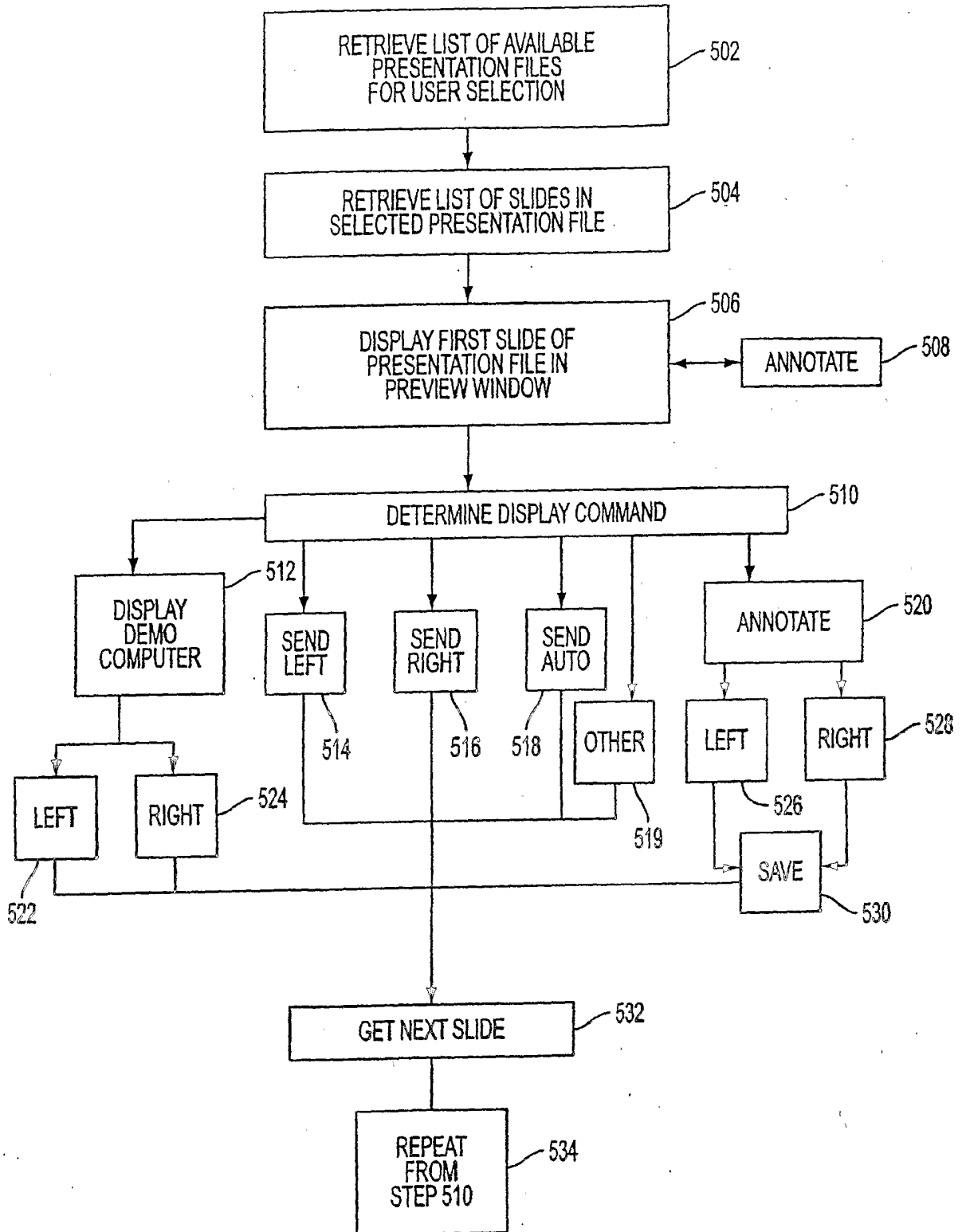


FIG. 5

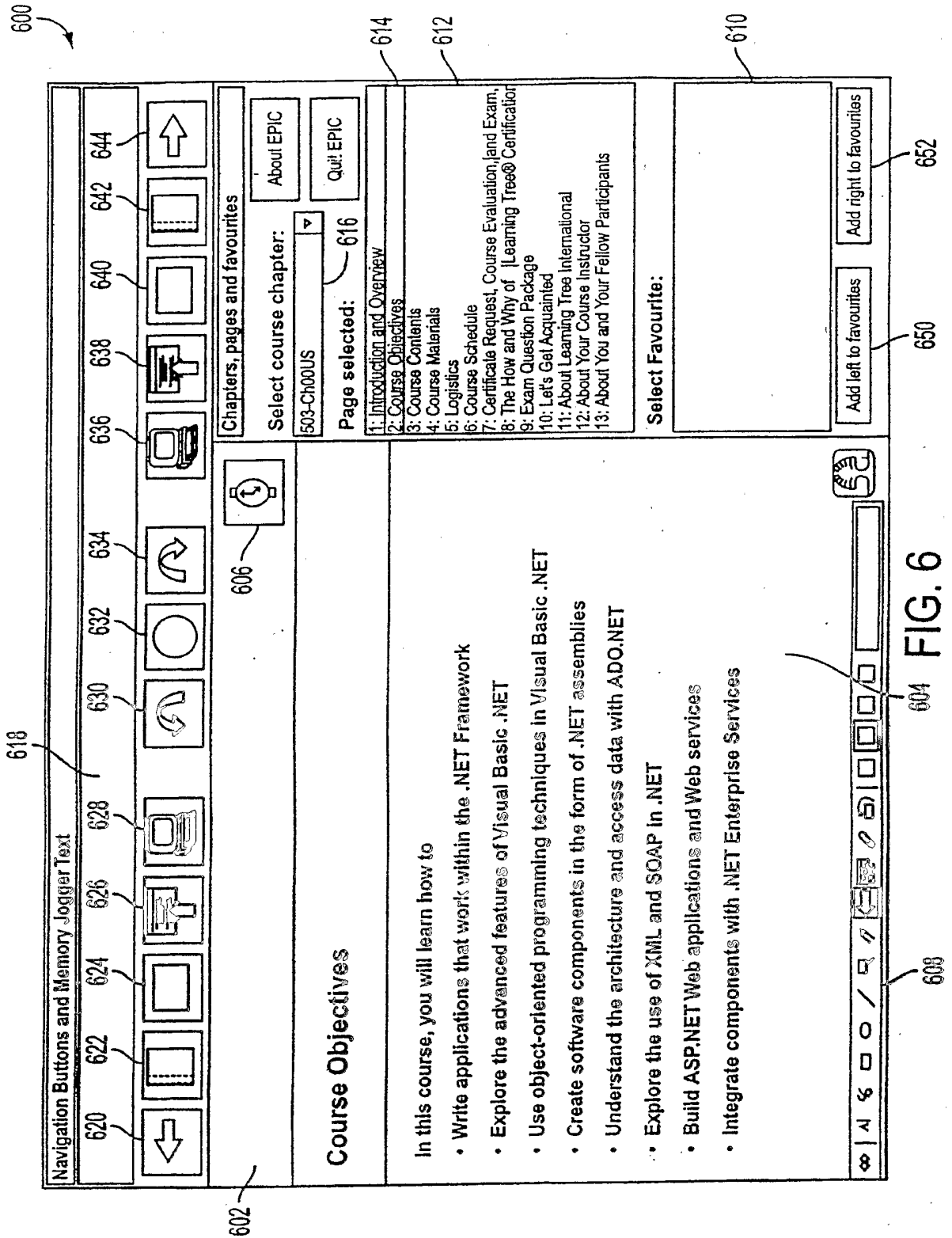


FIG. 6

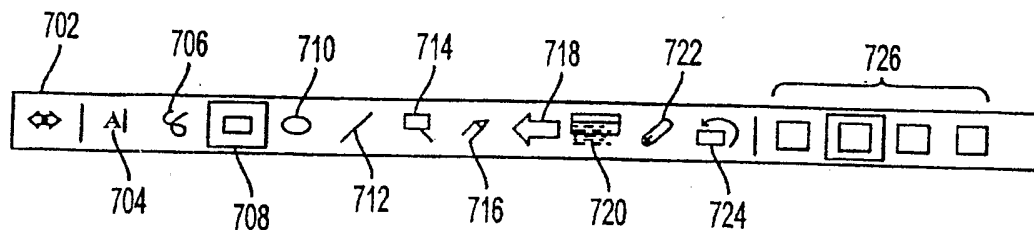


FIG. 7

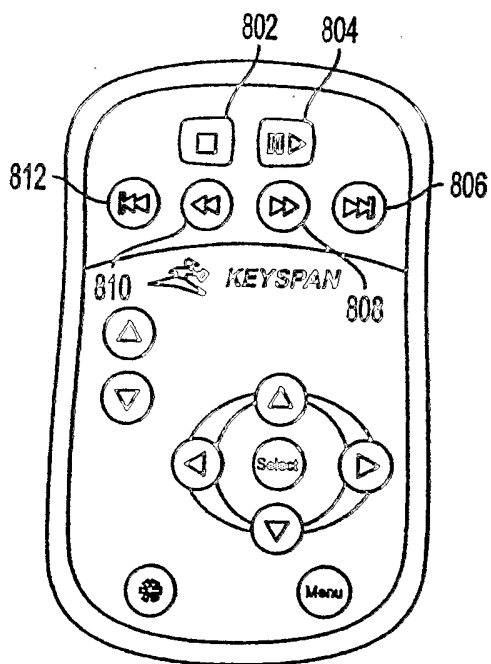


FIG. 8

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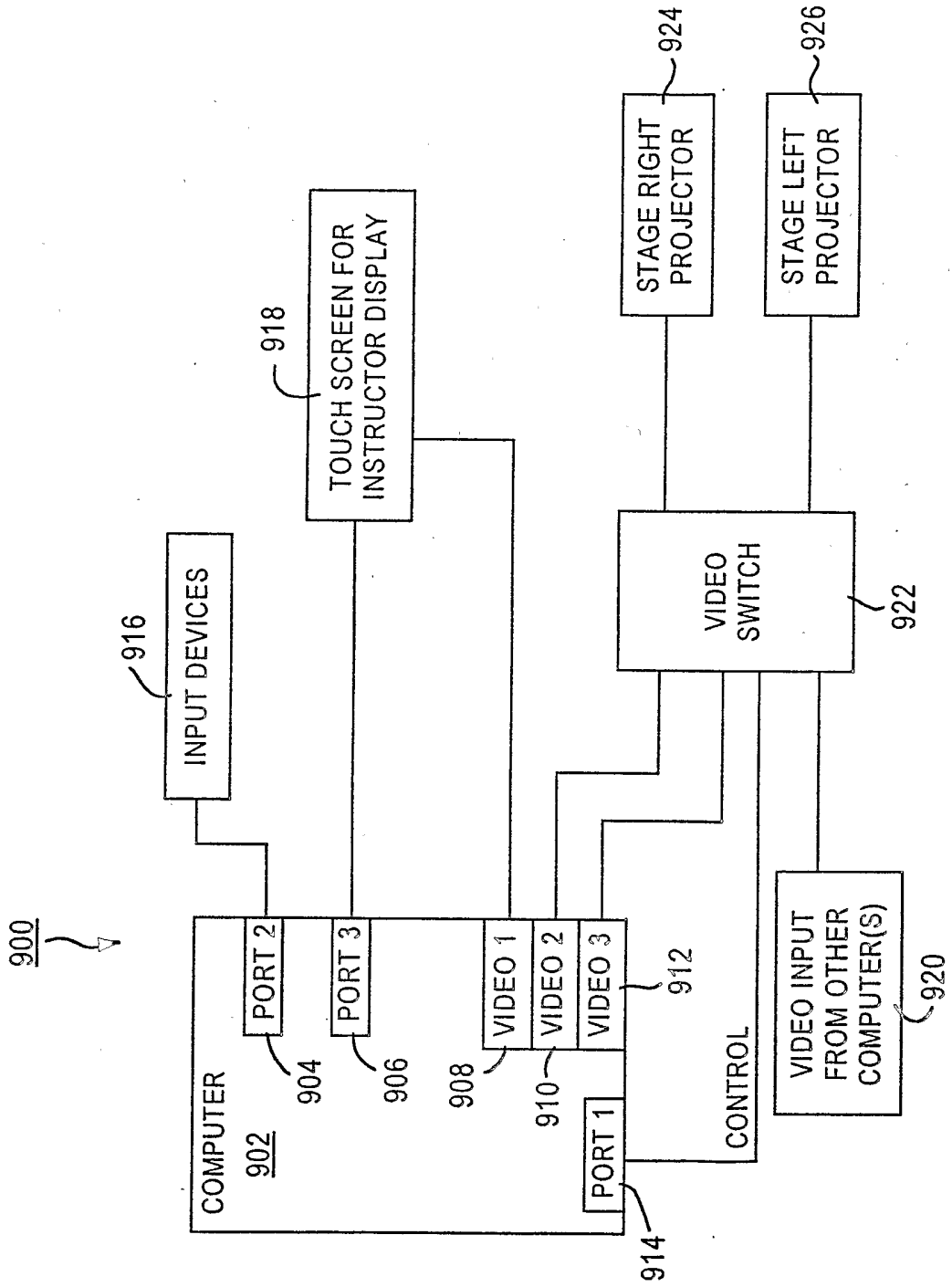


FIG. 9

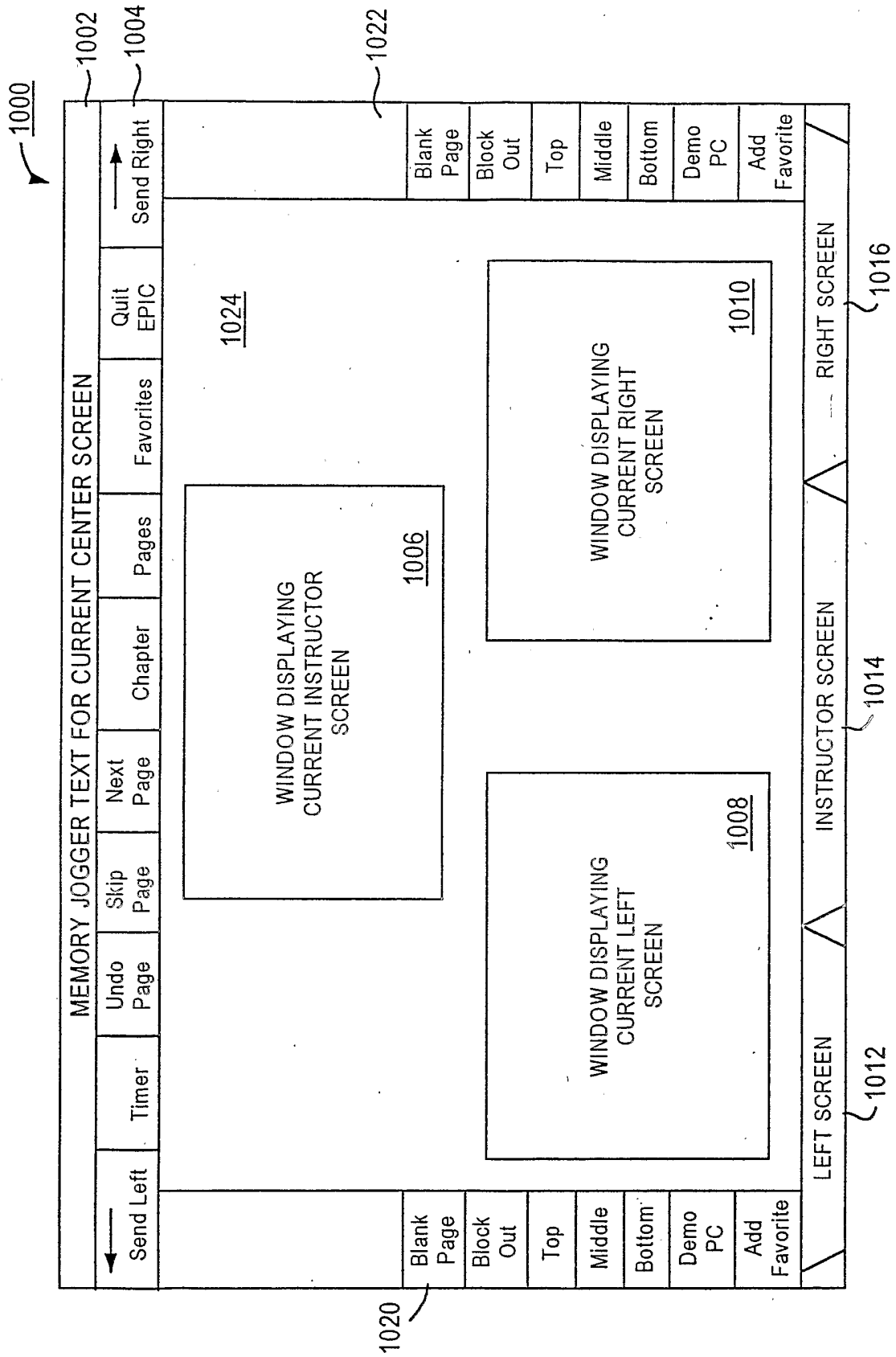


FIG. 10

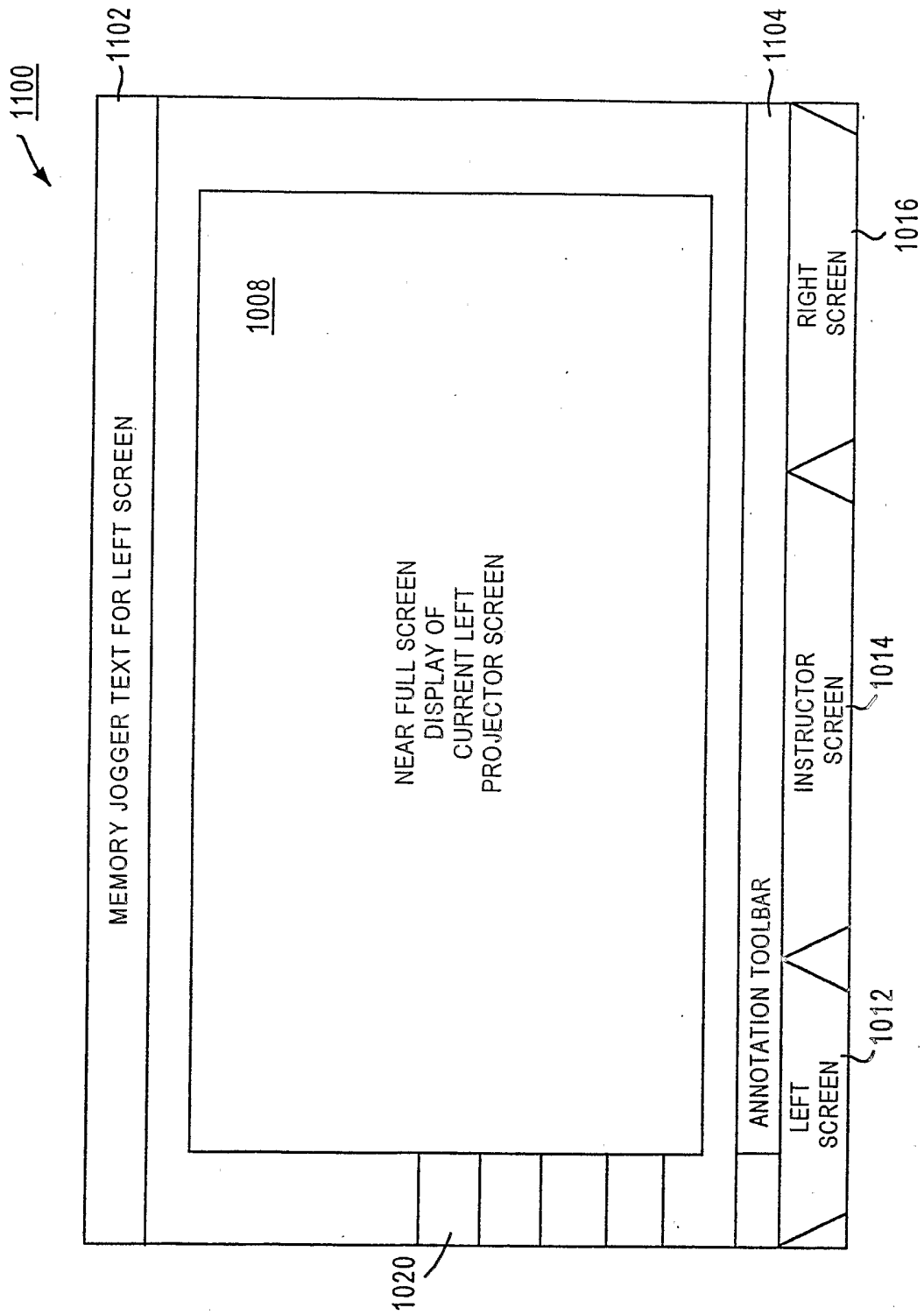
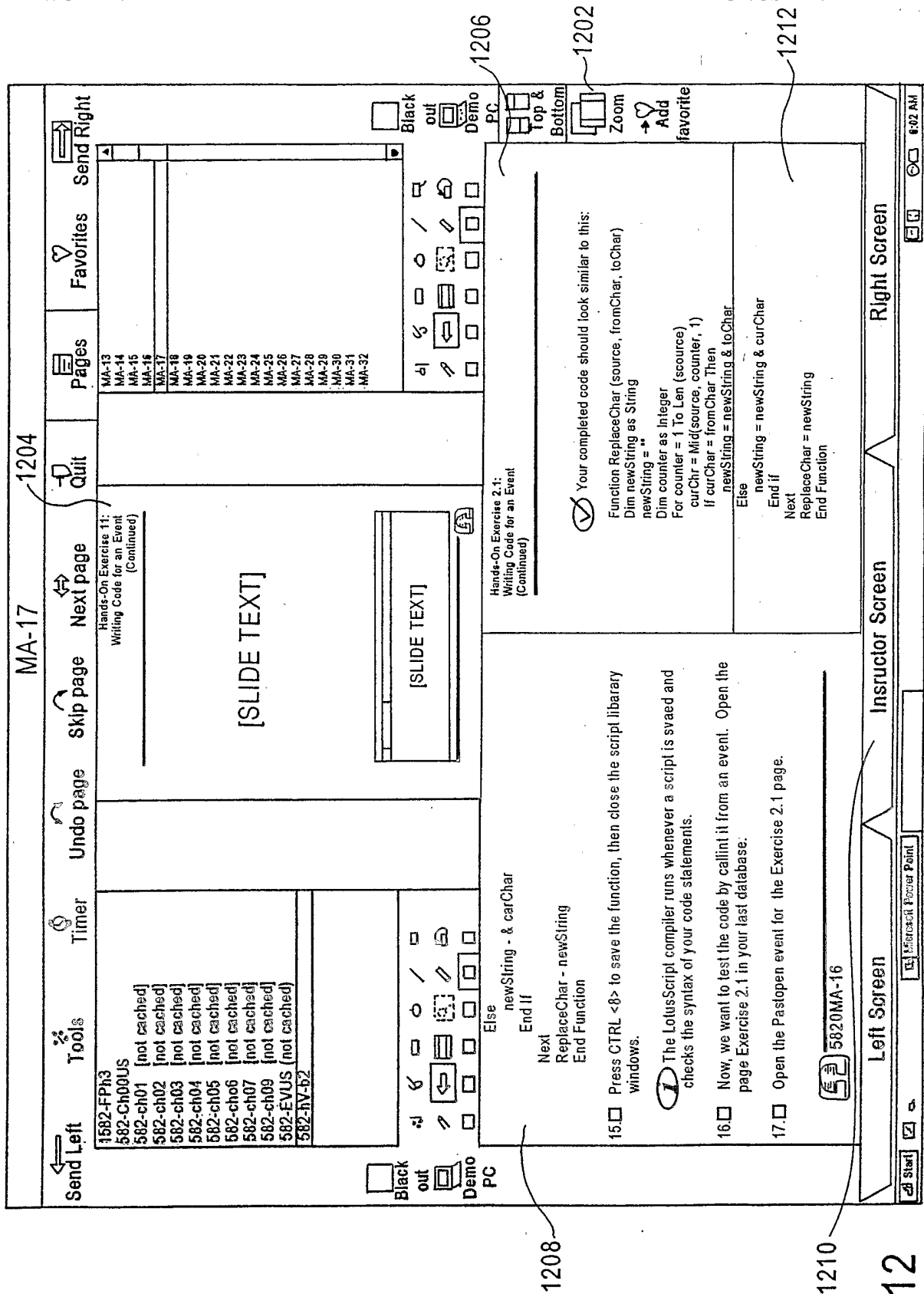


FIG. 11



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FIG. 12

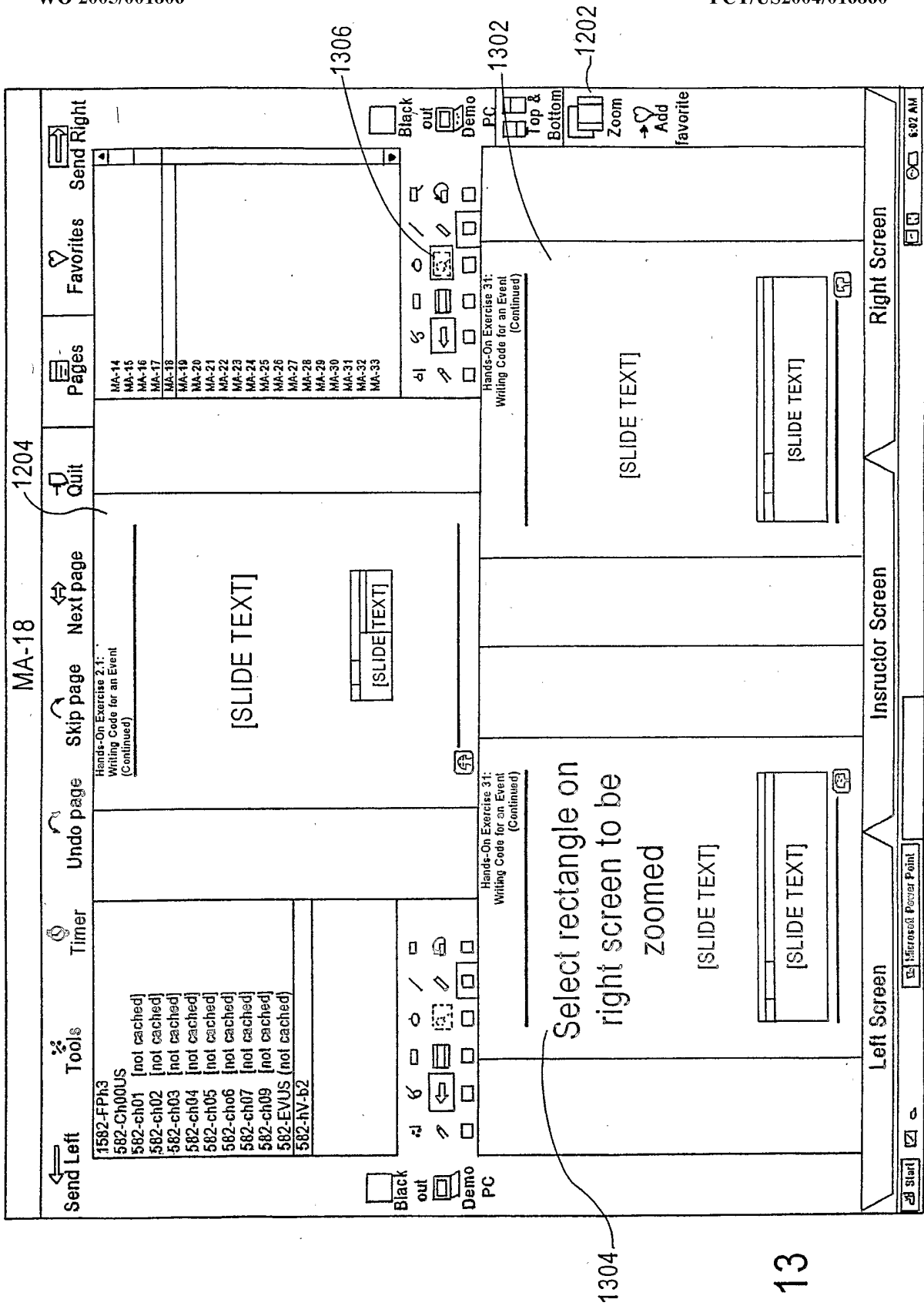


FIG. 13

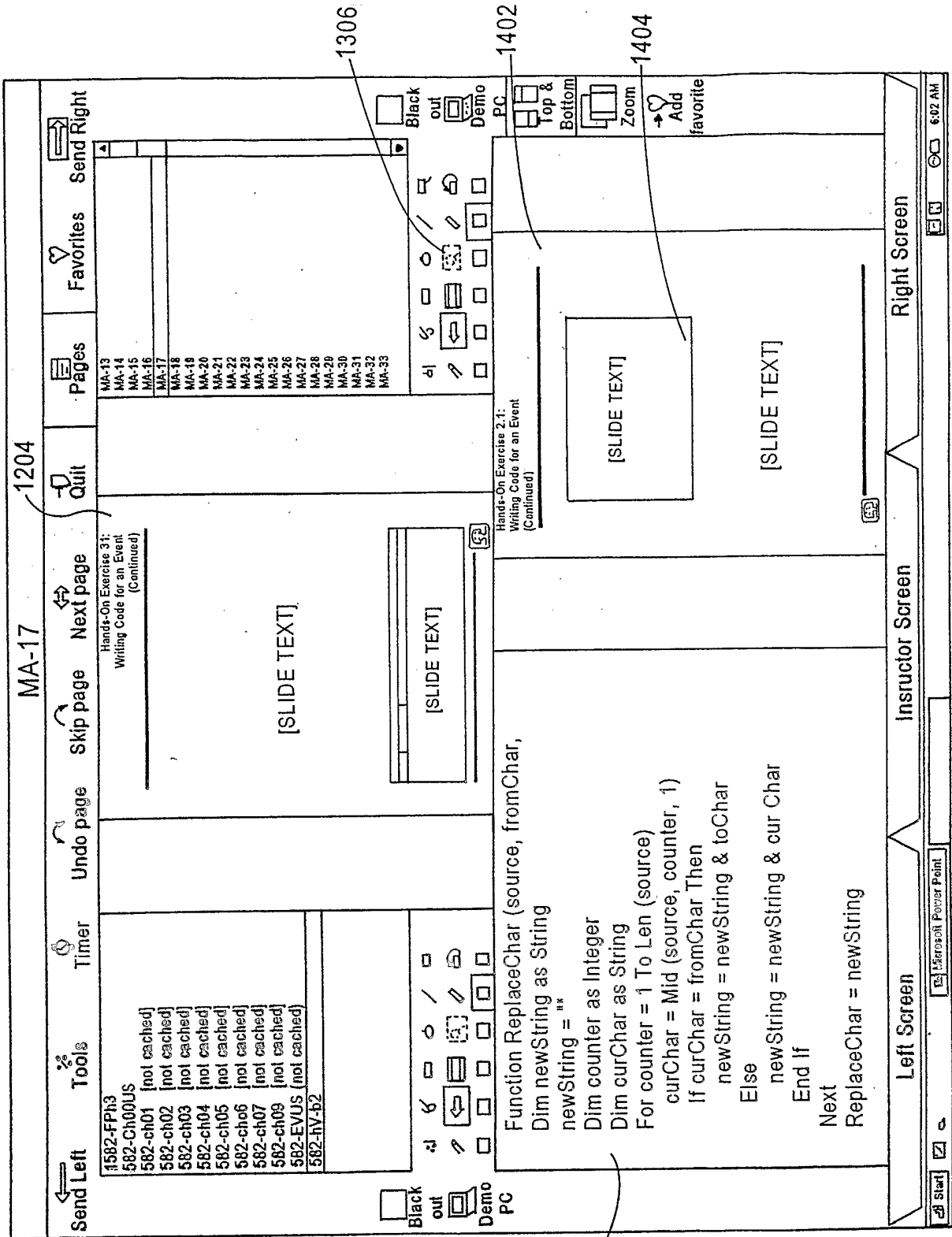


FIG. 14

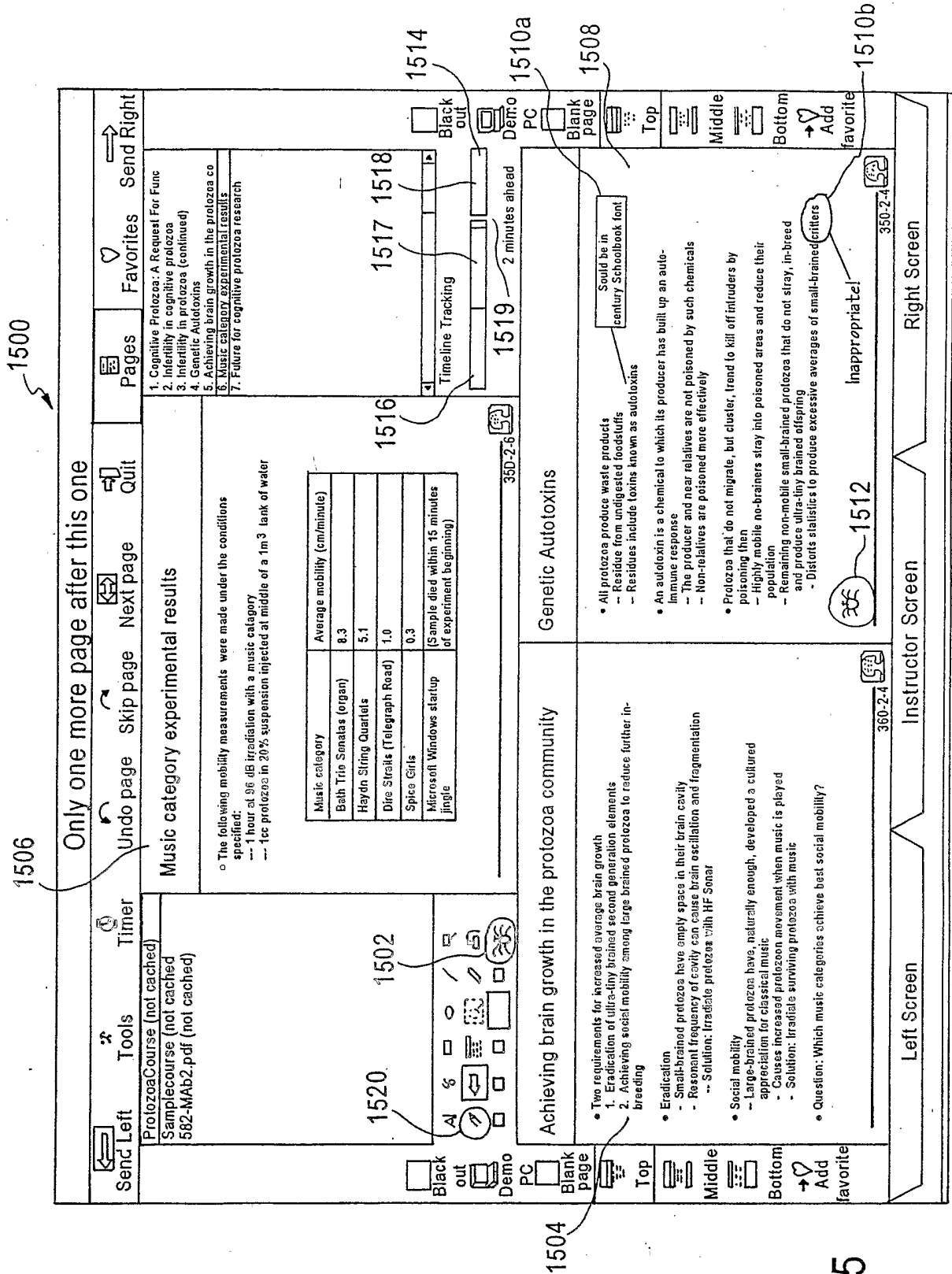


FIG. 15

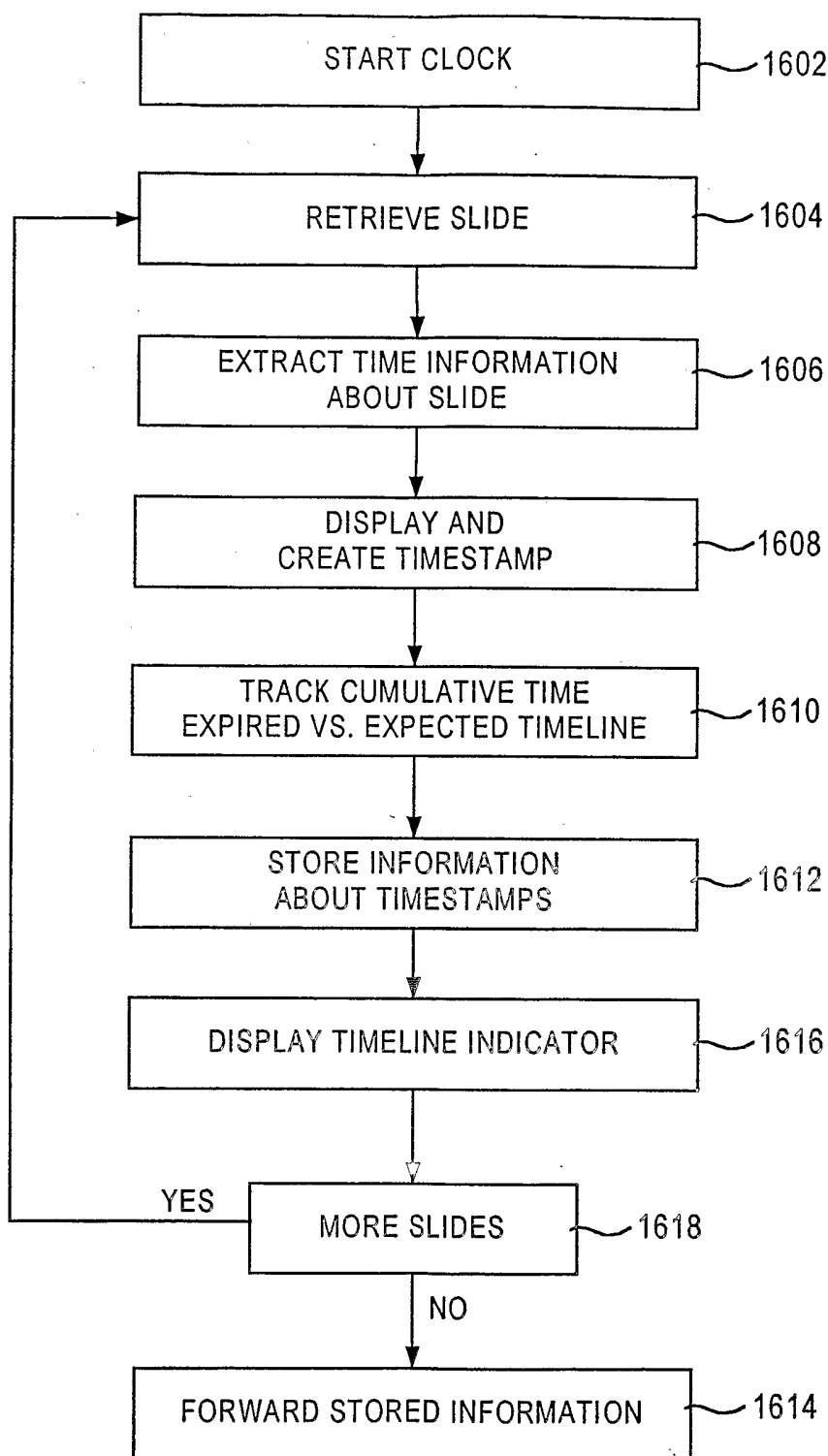


FIG. 16

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US04/16860

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : G09G 005/00 US CL : 345/732 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 345/732, 716-719, 723, 730, 732-733, 740, 751, 753, 764, 778, 970 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 5,767,897 A (HOWELL) 16 June 1998 (16.06.1998), see abstract; fig. 1; col. 1, lines 26-67; col. 2, lines 1-50; col. 3, lines 1-2, 10-27.	1-2, 4-7, 10, 13-14, 20-21, 23-26, 29, 32-33 ----- 3, 8-9, 11-12, 15-19, 22, 27-28, 30-31, 34-38
Y	TIN ALBANO, SPC Shines a spotlight on presentations, October 1994, PC Magazine, v13, n17, page p54 (1), see pages 5-6.	3, 8-9, 16-19, 22, 27-28, 35-38
Y	PR NEWSWIRE, AT&T Combines Internet and Teleconferencing Through Interactive Web Meeting Service, August 2000, see page 4.	11-12, 15, 30-31, 34
A	US 6,008,087 A (BRETSCHNEIDER et al.) 28 December 1999 (28.12.1999)	1-38
A, P	US 6,728,753 B1 (PARASNIS et al.) 27 April 2004 (27.04.2004).	1-38
<input type="checkbox"/> Further documents are listed in the continuation of Box C <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 30 November 2004 (30.11.2004)		Date of mailing of the international search report 03 DEC 2004
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No (703) 305-3230		Authorized officer <i>for Michelle K Eichen</i> Vincent Trans Telephone No (703)305-9750

INTERNATIONAL SEARCH REPORT

International application No
PCT/US04/16860

Continuation of B. FIELDS SEARCHED Item 3:
EAST
business, chain, multiview