(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification⁷: G06F 17/30

(21) International Application Number:
PCT/GB2004/001000

(22) International Filing Date: 8 March 2004 (08.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0305718.9   13 March 2003 (13.03.2003)   GB

(71) Applicant (for all designated States except US): COM-MENCE COUNTDOWN SOFTWARE LTD [GB/GB]; 7 Hepton Court, York Road, Leeds LS9 6PW (GB).

(72) Inventor; and
(75) Inventor/Applicant (for US only): MAUDE, Peter [GB/GB]; Commence Countdown Software Ltd, 7 Hepton Court, York Road, Leeds LS9 6PW (GB).

(74) Agent: BAILEY WALSH & CO; 5 York Place, Leeds LS1 2SD (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DATA PROCESSING

(57) Abstract: A data processing system (1) is provided which in one configuration includes storage means (10), display means (30), and presentation input means (40, 45) to allow a user to arrange and edit media files sequentially in a desired order, and processing means (20) to run a presentation containing said media files in said desired order.

Data Processing

The present invention relates to data processing apparatus and methods, and is concerned particularly with data processing apparatus and methods to facilitate multimedia presentations.

Multimedia presentations are widely used for many different purposes. They may be used to promote business products and services, or to educate and entertain audiences, in many different ways. Very often, to provide a multimedia presentation apparatus or method, a computer software program is employed to configure a general data processing apparatus.

At one extreme, bespoke multimedia presentations are prepared in studios by production companies. The customer receives a product on a presentation medium (typically, these days, a DVD or CD-ROM), which can then be played to run the presentation. The content of the presentation is generally fixed.

At another extreme, an individual user can put together a multimedia presentation, using prepared audio and/or visual items that are arranged to run in sequence. Several programs are available to facilitate the assembly of such audio and visual items.

However, there are a number of limitations in current data processing apparatus and methods for assembling multimedia presentations. For example, a user often has to construct a "design stage" – that is, a backdrop against which multimedia items are played.

Also, auto-run presentations generally require the use of multimedia items that have a temporal dimension – that is, that they must have a run time (which may be varied but nevertheless must exist). Additionally, it is not always desirable to play the

full length of multimedia items which do have temporal dimensions. The manipulation of different kinds of multimedia items can require considerable skill, with the associated time cost of learning that skill.

Certain aspects of multimedia presentations need to be "fixed", that is not capable of being changed by the user. For example, a corporate brand image may need to be preserved. In regulated industries, such as medical and financial services for example, it may be required to impart important information to viewers in each presentation, by way of safeguarded information which needs to be ensured to be displayed during the presentation.

This often means that, when it is desired to modify a multimedia presentation, there is an expensive time and skill cost in reconstructing and/or re-arranging multimedia items, to provide the modified presentation.

There is also a need for an audit function, such that a head office may keep track of the presentations being displayed, to maintain control, provide statistics, ensure that up to date and standardised information is being presented and help improve customer satisfaction. Conventionally such organisations have no way of ensuring that these requirements are being met and/or adhered to by the persons presenting the display.

A further feature of many present-day multimedia presentations is that they can seem very similar, especially when they have been prepared by means of apparatus and methods controlled by popular software programs.

The present invention aims to provide data processing apparatus and methods to facilitate multimedia presentations, which may be generally improved in any one or any combination of the foregoing respects.

According to one aspect of the present invention, there is provided a data processing system in which there is provided a storage means arranged to store a plurality of media files; display means arranged to display a directory window and a sequence display window and display icons representing said media files; presentation input means operable to permit a user to selectively transfer said icons to said sequence window in a desired order; and processing means arranged to execute the media files represented by said selected icons simultaneously or sequentially to construct a presentation and/or display generated from the selected media files.

In one embodiment, said media files include files with visual content and, when said presentation is run, said visual content of such files is displayed on a display means. Preferably, when displayed the same are displayed in full screen mode.

In a preferred embodiment, said media files, in said presentation, can be further defined with respect to the content to be presented by additional parameters, with the particular parameters selected being dependent on the media type.

Preferably said media files within said presentation may allow interaction to display further aspects of said media files when said presentation is run.

Preferably said media files in said presentation can be edited via interaction with the sequence window within the present invention, without the requirement to run the program normally associated with the file. The stored media files as depicted within the directory window are not affected by such editing such that the "base" media file remains the same. Thus the integrity of the stored media files is maintained while allowing editing of a presentation without the need for additional

4

programs. In one embodiment the extent of editing and which can be undertaken by a person and their general access to the files can be controlled with regard to that persons security status. The security settings may relate to files as a whole or to parts of any given file.

In another embodiment, a rules engine is provided, containing rules by which media files may or may not be combined in a presentation. By providing these features so a controlling organisation can exert control on their employees in terms of the subject matter which they are showing to customers. As a result they can ensure that, for example, certain media files are always shown in a particular presentation, or that certain media files or parts thereof, if selected to form part of the display, are shown with the content which the organisation provided and cannot be edited by the person actually showing the presentation. Thus, particular legal or ethical requirements can be ensured to be met.

Preferably a Re-index Control function is provided to control access to media files. To add new media files to the media library depicted by the directory window, the new media files should be moved to the correct directory as denoted by the path of the directory window, but will not be accessible within the directory window until the re-index control is actuated. This function thereby allows control over the content of the media library.

Preferably, access to the re-index control is controlled by the rules engine. For example, access may be denied in situations where it is undesirable to allow users to add additional external content to a presentation.

In one embodiment the presentations can be exported as small text-based files, which can be emailed to colleagues with the

same or similar system and stored in a media library for their own use. In comparison, the equivalent traditional presentation with embedded files would be much less transportable due to the size of the embedded files.

Preferably, when a presentation is run, an audit file is generated, the contents of which indicate the various parameters of the presentation and preferably including a timestamp. The audit files can be passed to the controlling organisation and used to trace a user's actions, both to ensure that it is possible to identify the media files included in the presentation and hence ensure that they are using correct procedures, and as a tool to establish which presentations elicit the best responses.

In one embodiment, the data apparatus has an open architecture with respect to the types of media it is able to present. In other words, the processor will accept third party drivers to support additional media.

In another embodiment, a plurality of "skin" or display files are provided and said directory and sequence windows are displayed and/or said presentation is run with an appearance determined by a respective one of said skin or display files.

Preferably, said skin or display files are associated with respective presentations such that, upon composing or running a selected presentation, a respective skin or display file can be automatically selected and executed.

A data processing apparatus or method as above may be realised by way of a computer program that controls a general-purpose data processing apparatus (e.g. a computer) to operate as defined above. The invention extends to a computer program, and to a medium on which such a program is recorded or carried.

6

For a better understanding of the invention, and to show how embodiments of the same may be carried into effect, reference will now be made, by way of example, to the accompanying diagrammatic drawings, in which:

Figure 1 is a block schematic diagram of one example of a data processing apparatus, in accordance with the invention, for multimedia presentations;

Figure 2 illustrates one screen view of the apparatus of Figure 1, in composition mode;

Figure 3 illustrates another screen view of the apparatus of Figure 1, in play mode; and

Figure 4 is a block schematic diagram to illustrate processing of a skin file.

The data processing apparatus 1 that is illustrated in Figure 1 to 3 comprises a memory store 10 having a plurality of locations 11, 12 and 13 at which are stored respectively media files M1 to Mn, skin or display files and presentation media files.

The various items of data are processed by a main processor 20, which controls a visual display unit (VDU) 30 and receives user input from a keyboard 40 and mouse 45. The processor 20 also interacts with a rules engine 50.

The media files M1 to Mn are of various different types and formats – for example, representing video clips, still pictures, audio clips, web pages, spreadsheets etc.

In order to compose a multimedia presentation, the user can select the desired media files by way of the keyboard 40 and/or mouse 45 to cause the processor 20 to enter a composition

mode which results in the display of a composition screen 60 on the VDU 30. In this embodiment, the composition screen 60 contains a directory window 61, a sequence or timeline window 62 and a preview window 63.

The directory window 61 displays available media items in the shown "directory tree" structure, in which sub-directories "branch off" from a patent directory and items in the sub-directory are shown below the sub-directory, the sub-directory structure being expanded to any desired level. In this simplified illustration, the directory window 61 shows a number of video clips, still pictures and sound clips. The directory items that are displayed can be scrolled vertically and/or horizontally, as will be well understood by present-day computer users.

In order to compose a desired multimedia presentation, the user carries out a "drag and drop" operation on a desired item to move the icon representing a selected file from the directory window 61 to the sequence window 62. Typically, a user places a screen cursor on a desired icon in the directory window, clicks a button on the mouse 45 and holds the button whilst the curser is dragged by the mouse to a desired position in the sequence window 62, whereupon the button is released. This leaves a copy of the icon of the media file in the sequence window, as illustrated in Figure 2. The order of the various media items in the sequence window 62 determines the order in which they are brought together and processed and as a result the order in which the same are shown in the subsequently generated presentation. If required the user can subsequently rearrange the files into a different order within the sequence window – for example, by further drag and drop operations. A further feature to note is that even once the presentation has been prepared and the presentation may in fact be being shown, the user can still select media files and insert them for display during the remainder of the presentation. This feature allows the person to

8

react to specific occurrences which may happen during the presentation such as, for example, reaction to a question from the floor.

The preview window 63 provides a visual representation of the material which will be generated of a media file or files which are highlighted in the sequence window 62 - the highlighting being achieved by, for example, carrying out a mouse-click on the item.

The sequence window 62 (or any other window) may indicate the total runtime of a presentation, and/or the runtime of a currently highlighted item, elapsed presentation time, remaining presentation time, etc.

As indicated, the view of the composition screen 60 is simplified in the interests of clarity. Many more commands may be available from the composition screen 60, either directly or via sub-menus or windows that are accessed from the main screen 60. For example, these may be "transport" controls to control playing of the presentation, either in whole or in part.

Once a presentation has been composed in the composition screen 60, it may be played in full-screen mode in a play screen 70, as shown in Figure 3. Figure 3 shows optional transport controls 71, to control, play, stop, pause, forward wind, rewind, functions etc of the presentation. In Figure 3, the transport controls 71 are shown in a band 72 at the foot of the screen 70. The panel may be transparent, for minimum overlay on the display.

The composition and play modes of the apparatus 1 have a number of distinctive features. Firstly, media items of mixed type and format can be included in the sequence window 62. Thus, for example, movie clips (with and without sound) can be

mixed with still pictures, text slides and sound clips. The processor 20 is arranged to play each media item in its own format, without requiring each media item to have a "streaming" capability.

For example, a still picture will not normally have a temporal parameter. That is, a still picture will not normally have an associated runtime or duration of play. Either there is an image or there is not. However, the processor 20 associates with each such "non-temporal" item a meaningful temporal parameter that is interpreted as a respective runtime of the item. For example, the processor 20 may allocate a default runtime of 10 seconds to each still picture, with the facility to edit the actual Runtime to any desired value. That is, in its respective place in the presentation, a still picture will be displayed for 10 seconds between the proceeding and succeeding items, or for whatever desired value is alternatively input by the user via the keyboard 40 and/or mouse 45. It should also be appreciated that files may be selected to be processed simultaneously to provide a combined presentation.

Other files such as video clips can also be allocated temporal parameters by the processor 20 to denote the start and stop points of playback within the clip, such that only the desired part between the start and stop points is played when the presentation is run.

Similarly, a specified part of an existing paginated presentation file can be played by denoting the first and last pages desired when the presentation is run.

An alternative temporal value represents that the next media item is to be progressed manually, rather than automatically after a predetermined time. Manual progression of a succeeding

media item may be attached to any media item, whether or not it is naturally temporal.

Media files within the presentation may also allow interaction to display further aspects of the media files when the presentation is run.

For example, a web page or component thereof may be displayed when the presentation is run which will display further aspects of the web page or component thereof when interacted with by a user via the keyboard 40 and/or mouse 45. The presentation can be progressed in the normal fashion with or without such interaction.

Another distinctive feature is that, when a presentation is run, each visual item is displayed full-screen in the play screen 70. This obviates the need for a "design stage" or backdrop upon which each media item is displayed, which makes use of the apparatus 1 much easier, especially for the unskilled user.

As mentioned above, the appearance of the composition screen 60 is dictated by a respective skin file in the memory store 10. the skin file allows such feature as placement, size, background, fonts, colours, style etc of all screen elements to be varied, for the purpose of creating different looks and feel.

The ability to provide different skins is important in a presentation environment. For example, a particular brand image may be conveyed by an appropriate skin. Although an audience may see full-screen images for most of the time, as indicated above, there may be periods when the presentation is idle – for example either before or after a presentation, at which time a default screen is displayed and this advantageously has the features of the current skin. Also, in the course of presentations, it is common for pauses to occur between visual

images for live input from the presenter and, again a default screen of the current skin is advantageously displayed.

A skin is created with a skin editor, which reacts to user input from the keyboard 40 and/ or mouse 45 to choose and vary parameters to compose a desired skin. The skin is then stored as a skin file as mentioned above. Figure 4 illustrates this process, together with a particularly convenient means of implementing the skin in a particular presentation.

As may be seen in Figure 4, various presentations are stored in respective directories for companies Smiths and Jones. The various presentations are stored in presentation files which, in the illustrated example, have the file extension "bop".

Additionally, there is a skin file associated with each company – in this example we have Smiths-skin.bsf and Jones-skin.bsf. Each skin file is stored in the same directory as the presentation files of the respective company.

Thus when a presentation is run, the processor 20 locates the respective skin file in the same directory and causes the correct skin to be applied.

A major advantage of this arrangement is that, in the event of a change to corporate branding (or other theme), the respective skin can be edited and stored in the respective skin file, whereupon all future presentation using that skin have the updated appearance. Also, the content of each presentation (and any media item) may be modified as desired by a user, without the risk of altering the appearance of the corporate brand (or other theme).

In other embodiments, skin files need not be in the same directory as the presentation files. For example, a skin file can

12

be activated by means of a command line statement at the same time as a main application is activated to provide data processing as described, for multimedia presentation purposes. A presentation file may provide an explicit path to a skin file.

A skin change may be implemented at any desired point in a presentation.

Referring again to Figures 1 to 3, the processor 20 may interact with the rules engine 50 to implement rules by which various media items M1 to Mn may be combined. The rules engine may be specify that a particular media item cannot be used without specifying the order in which the media items are played. For example, if a user chooses to present media item M47, the rules engine may specify that this requires the use of media item M63 immediately afterwards. In a medical situation, for example, media item M47 should not be applied. In a financial situation, media item M63 may provide a warning as to the volatility of a scheme proposed in media item M47. There may be no requirement for the two media items to run consecutively or in any particular order, so long as they are both present in the presentation.

Use of the rules engine 50 provides a way of applying rules, without altering the media files M1 to Mn themselves. The rules engine 50 may prescribe that certain files may not be combined in the same presentation.

Where a multimedia presentation can be exported as complete file or set of files, the rules attaching to the required combination of media items may be incorporated in the exported file or files, so that they are present even when the processor 20 is not connected to the rules engine 50. The rules engine 50 may comprise a look-up table.

13

In this specification, the verb "comprise" has its normal dictionary meaning, to denote non-exclusive inclusion. That is, use of the word "comprise" (or any of its derivatives) to include one feature or more, does not exclude the possibility of also including further features.

The reader's attention is directed to all and any priority documents identified in connection with this application and to all and any papers and documents which are filed concurrently with or previous to this specification in connection with this application and which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.

All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of my method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.

Each feature disclosed in this specification (including any accompanying claims, abstract and drawings), may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

The invention is not restricted to the details of the foregoing embodiments(s). The invention extends to any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

14

Claims

1   A data processing system (1) in which there is provided a
     storage means (10) arranged to store a plurality of media
     files; display means (30) arranged to display a directory
     window (61) and a sequence window (62) and display icons
     representing said media files; presentation input means (40,
     45) operable to permit a user to selectively transfer said
     icons to said sequence window (62) in a desired order; and
     processing means (20) arranged to execute the media files
     represented by said selected icons simultaneously or
     sequentially to construct a presentation and/or display
     generated from the selected media files.

2   A system according to claim 1 characterised in that said
     media files include files with visual content.

3   A system according to claim 2 characterised in that when
     said presentation is run, said visual content of said files is
     displayed on said display means (30) in full screen-mode.

4   A system according to claim 1 characterised in that said
     media files in said presentation can be further defined with
     respect to the content presented by additional parameters.

5   A system according to claim 1 characterised in that said
     media files within said presentation may allow interaction
     to display further aspects of said media files when said
     presentation is run.

6   A system according to claim 1 characterised in that said
     media files in said presentation can be edited in said
     sequence window (62).

7   A system according to claim 6 characterised in that said
        stored media files as depicted within the directory window
        (61) are not affected by said editing.

8   A system according to claim 1 characterised by the
        inclusion of a rules engine (50), provided to define the
        allowable combinations of said media files within said
        presentation.

9   A system according to claim 1 characterised by the
        inclusion of a control means to control access to media
        files.

10   A system according to claim 9 characterised in that said
        control means is actuated to add media files to the
        directory window (61).

11   A system according to claims 8-10 characterised in that
        access to said control means is controlled by said rules
        engine (50).

12   A system according to claim 1 characterised in that the
        presentations may be exported as text files.

13   A system according to claim 1 characterised in that an
        audit file is generated when a presentation is run, said file
        indicating the parameters of the presentation and media
        files therein.

14   A system according to claim 1 characterised in that the
        processing means (20) will accept third party drivers to
        support additional media file types.

15   A system according to claim 1 characterised in that a
        plurality of skin files are provided and said directory

window (61) and said sequence window (62) are displayed and/or said presentation is run with an appearance determined by a respective one of said skin files.

16 A system according to claim 15 characterised in that said skin files are associated with respective presentations such that, upon composing or running a selected presentation, a respective skin file is executed.
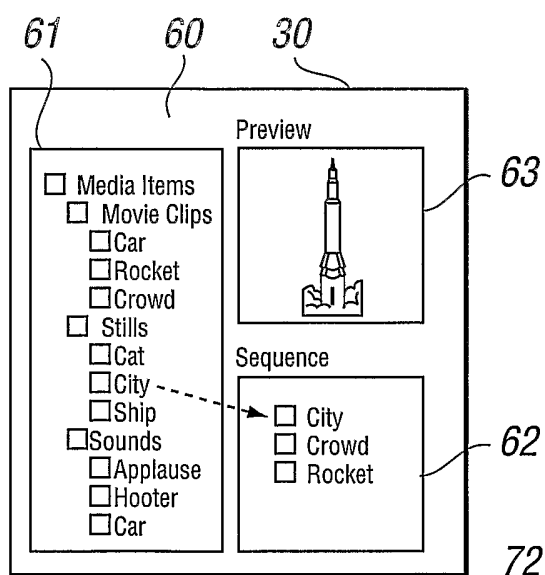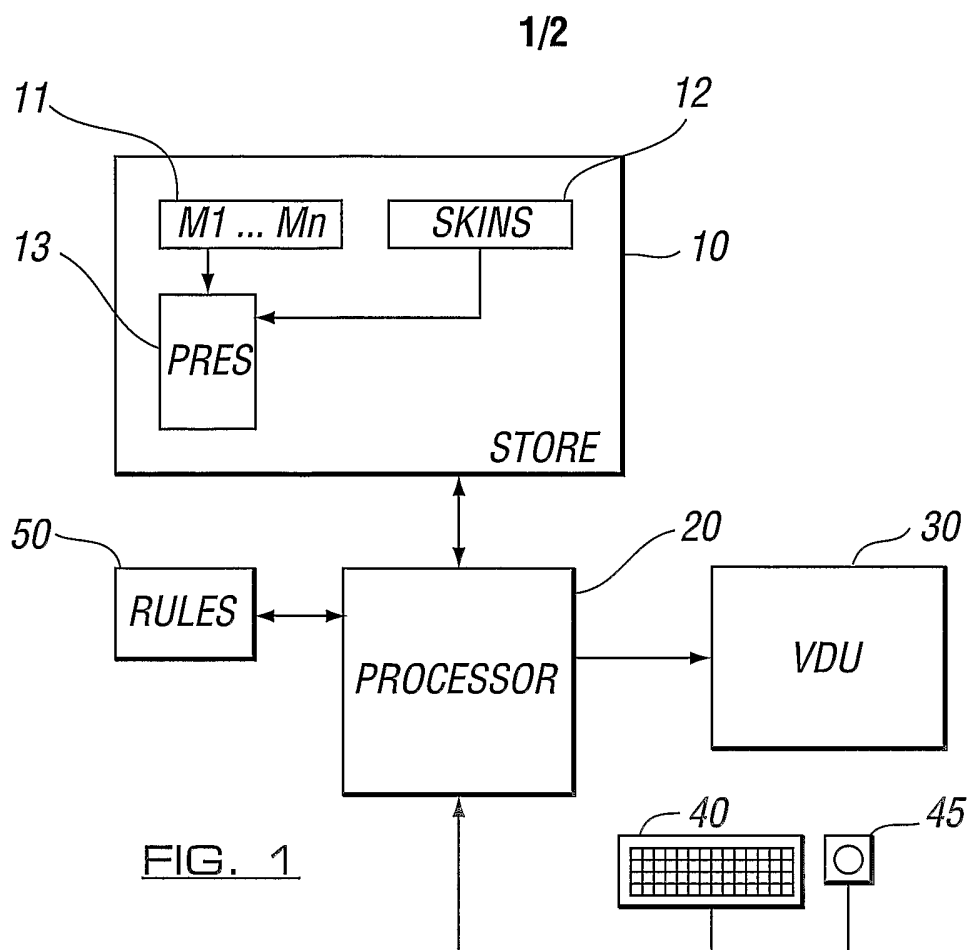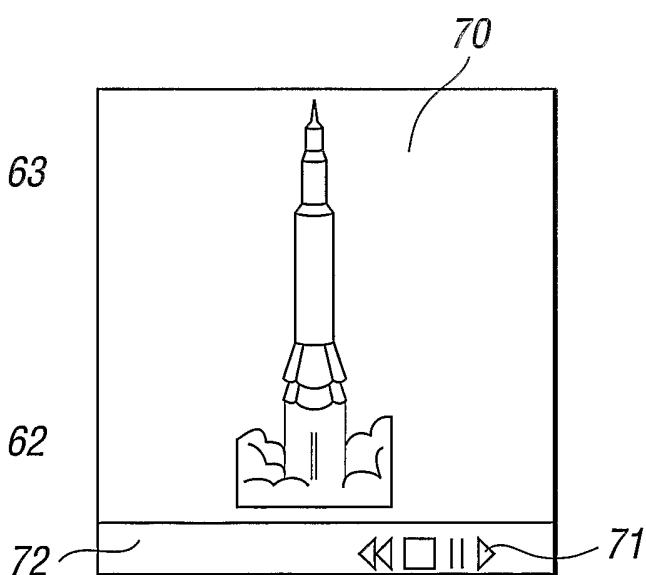
1/2
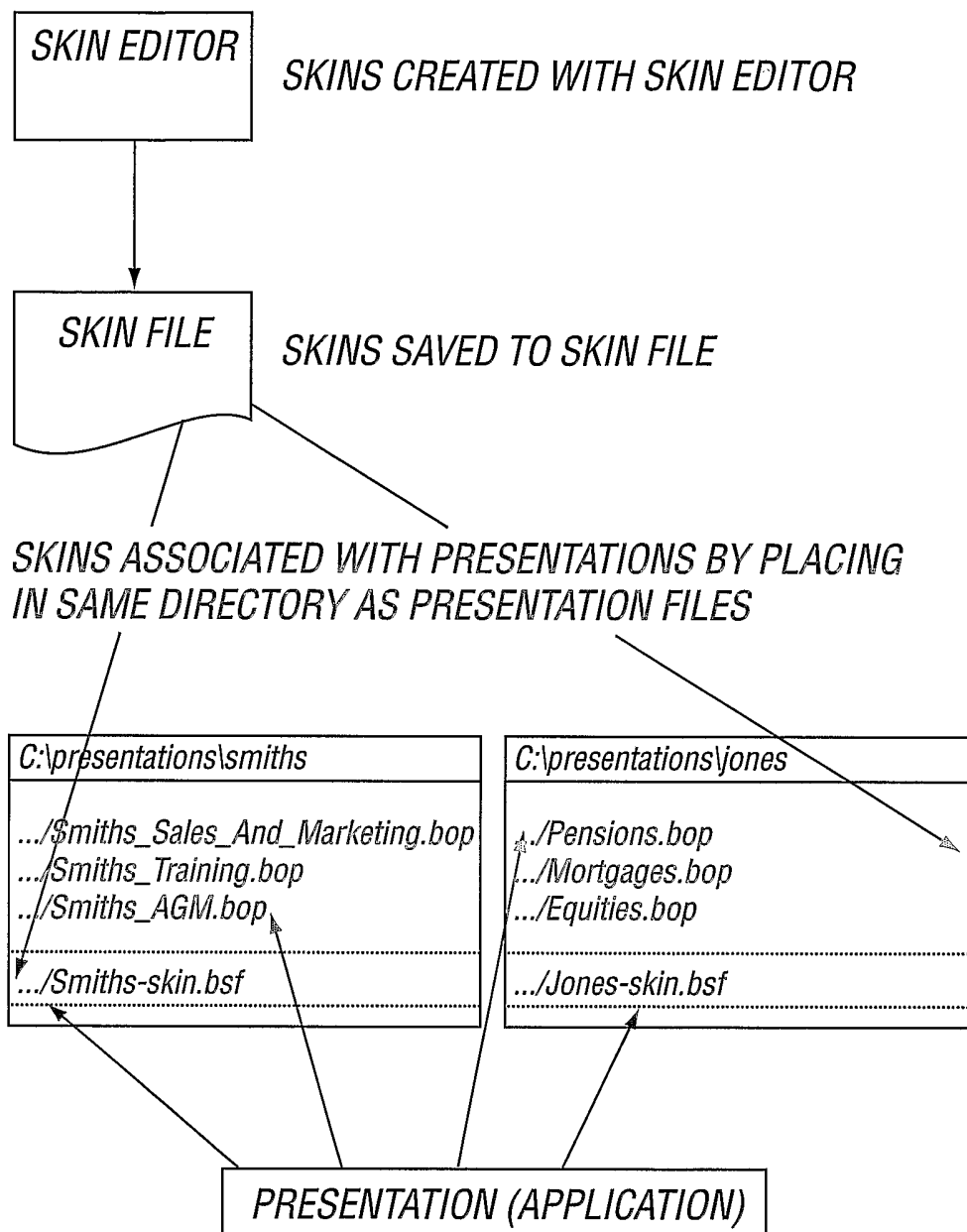

FIG. 1

FIG. 2

FIG. 3

2/2

SKIN EDITOR   SKINS CREATED WITH SKIN EDITOR

SKIN FILE   SKINS SAVED TO SKIN FILE

SKINS ASSOCIATED WITH PRESENTATIONS BY PLACING
IN SAME DIRECTORY AS PRESENTATION FILES

C:\presentations\smiths	C:\presentations\jones
.../Smiths_Sales_And_Marketing.bop .../Smiths_Training.bop .../Smiths_AGM.bop	.../Pensions.bop .../Mortgages.bop .../Equities.bop
.../Smiths-skin.bsf	.../Jones-skin.bsf

PRESENTATION (APPLICATION)

SKIN FILES ARE AUTOMATICALLY OPENED WHEN
LOADING A PRESENTATION FILE

FIG. 4