



(22) Date de dépôt/Filing Date: 2003/12/31

(41) Mise à la disp. pub./Open to Public Insp.: 2005/06/30

(51) Cl.Int.⁷/Int.Cl.⁷ H04L 12/16, G06F 19/00

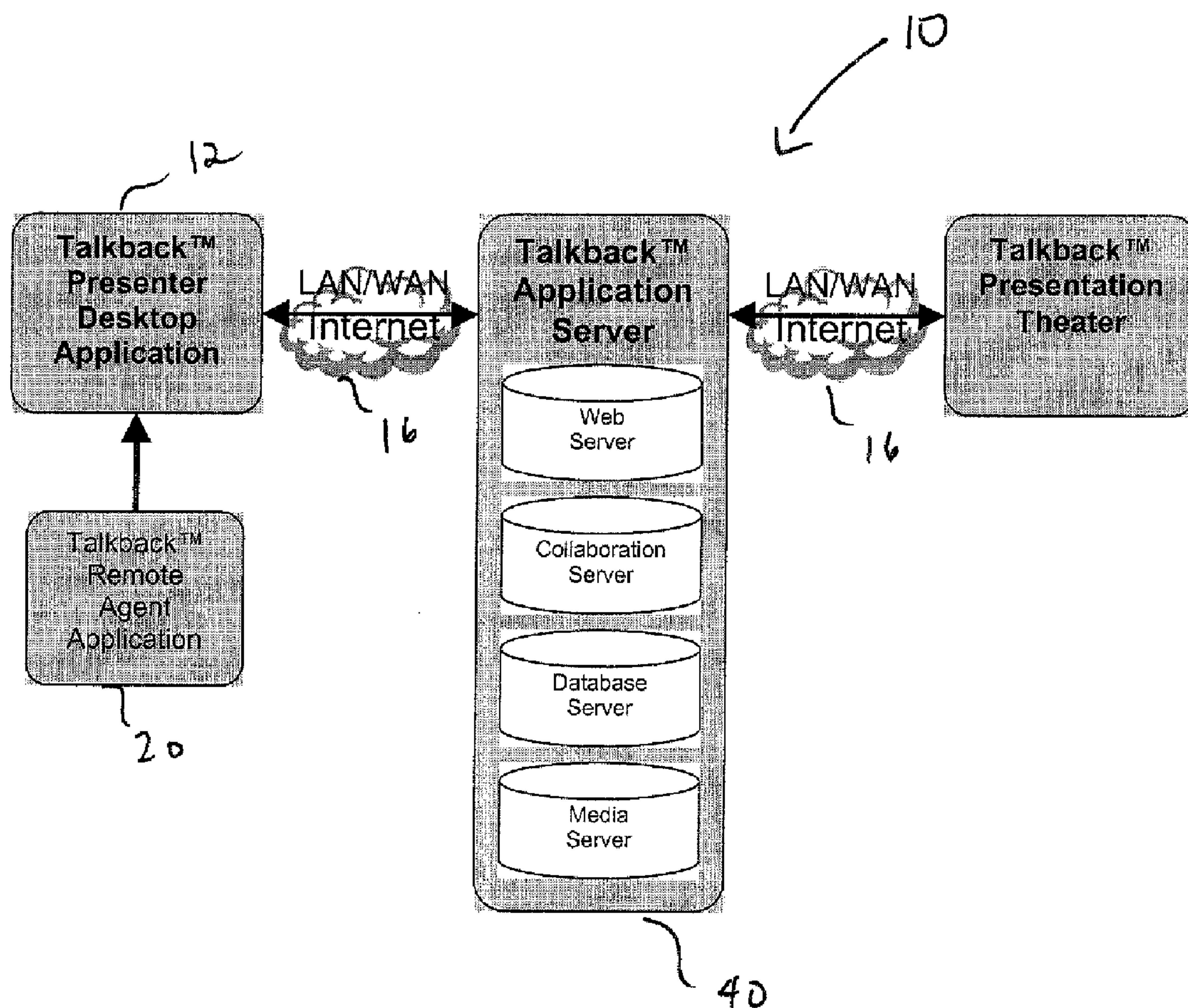
(71) Demandeur/Applicant:
EYEDLE TIME MEDIA NETWORKS INC., CA

(72) Inventeurs/Inventors:
SMITH, ROBERT N., CA;
ZHENG, ZHI Q., CA

(74) Agent: DE FAZEKAS, ANTHONY

(54) Titre : SYSTEME, PRODUIT INFORMATIQUE ET METHODE DE CREATION ET DE DISTRIBUTION DE MEDIA ENRICHIS

(54) Title: SYSTEM, COMPUTER PRODUCT AND METHOD FOR CREATION AND DISTRIBUTION OF ENHANCED RICH MEDIA



System, Computer Product and Method for Creation and
Distribution of Enhanced Rich Media Presentations

This invention relates generally to the creation and distribution of rich media presentations over IP networks. This invention further relates to a system, computer product and method for enabling a rich media communication platform.

Background of the Invention

Rich media presentations generally incorporate text, still images, animated images, video images, and audio. Rich media generally enables enhancement of presentation value. Increased learning value generally accompanies improved presentation value.

It is generally desirable to distribute such rich media presentations via IP networks. This enables, among other things, broad distribution to a variety of network-connected devices. Distribution over IP networks also enables flexibility in regard to predetermined distribution rules thereby permitting, for example, access to the rich media presentations on demand, or in real time. Furthermore, distribution over IP networks also enables efficient distribution of rich media content on a charge-out model, whether based on pay per view, or subscription.

The creation of rich media presentations is generally a time consuming and therefore expensive exercise using conventional techniques. Conventional techniques include the creation of presentations using FLASH™ or HTML and JAVA based authoring tools to create webcasts.

SOFT TV™ provides a relatively simple solution for combining POWERPOINT™ content with other media such as video or audio. However, this prior art solution is an authoring tool only and does not enable the creation of enhanced presentations with features such as Q&A, polling, indexing, conditional access, or tools for dynamically controlling the distribution of the presentation created, over IP networks.

There is a need therefore, for a solution that enables relative automation of the creation of rich media presentations. There is a further need for a solution that permits the distribution of rich media presentations over IP networks in accordance with dynamically predetermined distribution rules. There is a still further need for a system, computer product and method for creating rich media presentations associated with dynamically selected presentation enhancements for distribution over IP networks.

Brief Description of the Drawings

A detailed description of the preferred embodiment is provided herein below by way of example only and with reference to the following drawings, in which:

Figure 1 is a system resource chart illustrating the resources of the system of the present invention.

Figure 2 is a program resource chart illustrating the resources of the desktop application of the present invention.

Figure 3 is a further program resource chart illustrating the resources of the server application of the present invention.

Figure 4 is a representative illustration of the user interface of the desktop application of the present invention.

Figure 5 is a representative illustration of the user interface of the administration facility of the present invention.

Figure 6 is another representative illustration of one aspect of the user interface of the administration facility of the present invention.

Figure 7 is a still other representative illustration of the user interface of the administration facility of the present invention, in another aspect thereof.

Figure 8 is another representative illustration of the user interface of the administration facility of the present invention, in another aspect thereof.

Figure 9 is a still other representative illustration of the user interface of the administration facility of the present invention.

Figure 10 is another representative illustration of the user interface of the administration facility of the present invention.

Figure 11 is a representative illustration of the web interface presented to members of the intended audience of an enhanced rich media presentation provided in accordance with the present invention.

Figure 12 is a representative illustration of a reporting facility of the present invention.

Figure 13 illustrates the practice of the method of the present invention for creating an enhanced rich media presentation on an on demand basis.

Figure 14 illustrates the practice of the method of the present invention for creating a live enhanced rich media presentation.

In the drawings, preferred embodiments of the invention are illustrated by way of example. It is to be expressly understood that the description and drawings are only for the purpose of illustration and as an aid to understanding, and are not intended as a definition of the limits of the invention.

Detailed Description of the Preferred Embodiment

Fig. 1 illustrates the resources of the system of the present invention. The system of the present invention is best understood as a distributed rich media communication platform 10.

The user interface **22**, in one particular embodiment thereof, is comprised of a number of distinct areas or windows, as illustrated in Fig. 4.

The first window **24** is functionally linked to a preferences facility (not shown). The first window **24** includes a series of buttons or equivalent for accessing the functions of the preferences facility. The preferences available to the user include audio and video capture devices, record bit rates and presentation meta data such as title, author and copyright information, control function such as "New Presentation", "Publish Presentation" or "Preferences"

The second window **28** generally includes an interface for simultaneously viewing more than one presentation slide, once such presentation slides have already been imported via the third window **30** described below. In one particular embodiment of the invention, the presentation slides are view in the form of thumbnails, which can then be clicked to view at full size of a particular presentation slide.

The third window **30** is functionally linked to an import facility **32** that enables presentation slides to be selected and imported to the presentation file, using an "IMPORT" button or equivalent. In a particular embodiment thereof, third window **30** enables POWERPOINT™ slides to be imported. The third window **30** also includes means for navigating between different presentation slides, including for example "PREVIOUS" and "NEXT" buttons or equivalent. The third window **30** also enables a user to access the functions of the collaboration facility **60** of the present invention.

The fourth window **34** is also functionally linked to the import facility **32** that enables audio/video content to be selected and imported to the presentation file using an "IMPORT" button or equivalent. One aspect of the fourth window **34** is that it permits

a audio/video preview. Various audio/video content is supported including digital video in various formats such as AVI, QT, MPEG, and so on. The fourth window **32** is linked to a media player loaded on the network-connected device **14** such as WINDOWS MEDIA PLAYER™ or equivalent, for displaying and selecting digital audio/video content, as well as attributes thereof such as audio levels (using the "MIXER" button or equivalent), system audio controls for adjusting record levels. The present invention also contemplates the integration of such a media player with the desktop application **14** in a manner that is known.

The fourth window **34** also includes a recording or synchronization tool. This synchronization tool **36** enables creation of a rich media presentation that incorporates content selected by the user, as well actions of the user in relation to such content, including selection of slides, playing of audio/video content, recording of narration, and so on. In one particular implementation of the present invention, this is achieved by recording meta data against the selected media files to define a run sheet file that includes the sequence of media events that comprise the rich media presentation file. The operation of the synchronization tool is illustrated below. For the sake of clarity, it should be understood that the import facility **32** synchronizes to the audio/video content by operation of the synchronization tool.

In one particular aspect of the present invention, the audio/video content is best understood as a "control track". The appearance of particular presentation slides is recorded to a meta data file as a series of index points in relation to the control track, in a manner that is known. It should be understood that the present invention is described that in relation to a representative interface, namely first window **24**, second window **28**, third window **30** and fourth window **34**. It should be understood that this is a representative interface only and many other possible interfaces exist for enabling the user to interact with the facilities described.

In one aspect of the present invention, the desktop application interfaces with a software utility that generates presentation slides such as POWERPOINT™. In another aspect of the present invention, however, the functions of the present invention are accessed from within such a software utility by integrating the functions of the desktop application with said software utility, in a manner that is known. In one particular integration of such functions, the synchronization of the presentation slides with the audio/video content is achieved using a realtime whiteboard overlay or application sharing.

The desktop application **2** further includes a communication facility (not shown). The communication facility enables access to the remote application server **40** illustrated in Fig. 1, and specifically the server application (not shown) loaded on the server **40**. The communication facility generally includes a browser which is configured to know the location of the application server **40**. The application server **40** includes known hardware and software utilities required to provision the network-connected devices **14** via the IP network **16**, provided and integrated in a manner that is known.

The desktop application **12** also includes a presentation viewer that enables a rich media presentation to be viewed locally at the network-connected device **14**.

The rich media presentation files are uploaded to the application server **40** by means of the communication facility **38**. The user of the desktop application **14** then accesses a number of functions associated with the server application **42**, which as particularized below enable the creation and distribution via the IP network **16** of enhanced presentation files based on the described rich media presentation files. The resources of the server application **42** are best illustrated by Fig. 3.

In yet another particular aspect of the present invention, the desktop application **12** is used to assemble the elements of the rich media content. The server application **42** is utilized to enhance the rich media, as described below, and also distribute the enhanced rich media content. If any changes are required to be made to the presentation slides, for example, to alter the synchronization thereof with the presentation slides, or alter features of the presentation slides, then these changes are made in association with the server application **42**.

The server application **42** is linked to a database **48**. The server application also includes a web publication tool **50** that enables publication of rich media presentations to the IP network **16** as described below.

The server application **42** further includes an administration facility **52**. Different aspects of the operation of the administration facility are illustrated in Figs. **5** to **12**.

The administration facility **52** enables an authorized user to administer the various functions of the resources provided by the server application **42** that permit the creation of enhanced rich media presentations and their distribution, in accordance with the present invention. In this manner, the administration facility **52** in cooperation with the web publication facility **50** and the database **48** create within the application server environment an area dedicated to the authorized user. In another aspect of the present invention, the administration facility **52** enables the authorized user to select and associate functions of the server application **42** detailed below with particular rich media presentations to create the enhance rich media presentations of the present invention.

The general user interface associated with the administration facility **52** is illustrated in Fig. 5.

The administration facility **52** enables the authorized user to enable a plurality of functions described below by means of known interfaces, in a manner that is also known. (1) Edit the authorized user's profile on the application server **40**. This enables, among other things the display of information regarding the authorized user in the presentation web interface **54** that is made accessible to the authorized audience of the authorized user. (2) The uploading of a photo gallery to the database **48** comprising, for example, photos for use in presentations. (3) The administration facility **52** enables the authorized user to organize presentations in channels or tracks. The channels are publish points that organize content into groups based on themes or departmental requirements. (4) The administration facility **52** also enables the authorized user to select public links to publish the presentation to a remote web site for viewing by an intended audience, in association with the web publication facility **50**.

(5) The administration facility **52** enables selection of a wide variety of presentation "skins" stored to the database **48** for association with rich media presentations uploaded to the application server **40** from the desktop application **12**. The maintenance of the skins at the application server **40** as opposed to at the desktop application **12** enables the update of the content of such skins on a more regular basis, and also permits the desktop application file to be of a relatively small size. (6) The administration facility **52** also enables access to a "SKIN BUILDER" for creating customized presentation skins in a manner that is known.

(7) The administration facility **52** also permits various other content to be associated with a particular rich media presentation (thereby providing access thereto to the intended audience) such as presentation attachments, resource files and hyperlinks.

(8) The administration facility **52** supports email communications from the server application **42**, including in support of particular email functions of authorized users described below.

(9) The administration facility **52** provides an e-commerce facility **56** that enables an authorized user to charge its intended audience for access to one or more enhanced rich media presentations, whether on a pay per view, or subscription basis.

(10) The administration facility **52** also permits the authorized user to establish the access parameters to a particular enhanced rich media presentation. Examples of these access parameters include the following. (a) The time at which a live presentation will be published, or the time during which an on-demand presentation will be accessible. (b) Establishing free and unrestricted access to an enhanced rich media presentation. (c) Establishing access to an enhanced rich media presentation limited to registered users, whereby registration is facilitated by an audience registration facility provided by the server application **42**. Presentation authors determine which registration fields they wish to capture and those mandatory data fields are required before an audience members can view the presentation (d) Establishing access to enhanced rich media presentation to users who have been previously given a password, distributed via email by the server application **42** based on email addresses or email lists provided to the server application **42** by the authorized user in a manner that is known. The administration facility **52** enables the authorized user to set expiry parameters of such passwords.

(d) Establishing access to an enhanced rich media presentation based on secured access based on biometrics, smart cards, DRM or other security means.

(e) Establishing a hyperlink associated with a particular enhanced media presentation, and distributing this hyperlink to members of the intended audience via e-mail.

(f) Establishing access to an enhanced rich media presentation from specific hyperlinks only.

(g) Establishing restrictions for preventing unauthorized use of content which is derived from emailing or posting hyperlinks to unauthorized websites. This ensures the posted link is accessed from the site it was intended to be accessed from and no other site will be authorized.

The administration facility **52** also permits the association of a Q&A function with an enhanced rich media presentation, whereby members of the intended audience can open a webmail box and send questions to an email address selected by the authorized user.

The administration facility **52** also permits testing or polling of the intended audience by permitting the creation of true/false, multiple choice or long answer questions and associating these questions with an enhanced rich media presentation, based on parameters defined by the authorized user. The presentation author can create a synchronous or asynchronous test or audience poll.

The administration facility **52** further enables the creation of a table of contents with links to key segments within an enhanced rich media presentation.

The administration facility **52** further enables the deletion of specific enhanced rich media presentations.

The administration facility **52** also permits the user the recovery of deleted items by using a recovery utility. In one particular embodiment of the recovery utility, deleted presentations can be recovered for a specified period of time.

In a still other aspect of the administration facility **52**, the administration facility enables the generation of reports regarding enhanced rich media presentation distribution in accordance with the invention, as best illustrated in Fig. **12**.

It should be understood that the collaboration facility **60** is a known utility that enables two or more users to book a meeting in cooperation with the present invention and by operation of the collaboration facility **60** to show the same rich media presentation to each of such users accessing the server **40** in a matter that is known.

Another aspect of the collaboration facility **60** is a known utility for setting up contact list for administering the booking of such live meetings using rich media presentation in accordance with this invention. One aspect of such a contact utility, for example permits users to import contact list from other software program, such as for example OUTLOOK.

In one aspect of the method of the present invention, the user of the desktop application **14** will generally launch the desktop application and access the application server **40**. This generally assumes that the following steps have occurred:

- (1) The user associated with the desktop application is known to the application server, and specifically the server application **42**. This is generally accomplished by registering the user with an authorization facility **44** provided by the server application **42**. The authorization facility **44** is linked to a database **46** connected to the application server **40**. The authorization facility **44** enables the collection of information required to register users with the application server **40**, and restrict access to the resources of the server application **42** to only authorized users. The present invention also contemplates charging out for provisioning in accordance of the present invention. The registration process managed by the authorization facility **42** may require therefore the provision by the user of billing information. The authorization facility **44** generally provides a username/password combination to the user that enables the authorized user to log on to the application server **40**. The term "authorize user" used throughout has the meaning ascribed to herein.
- (2) The authorized user launches the desktop application **12**. Where the network-connected device **14** is connected to the IP Network **16**, the communication facility **38** accesses the application server **40**.
- (3) The application server **40** presents a log-in page to the user associated with the network-connected device **14**, in co-operation with the authorization facility **44**.

- (4) The user supplies his/her username/password. The desktop application **12** is launched once the communication facility **38** has received confirmation from the application server **40** that the user is an authorized user.

The user of the desktop application **12** will then create a rich media presentation by accessing the functions of the desktop application described above. The desktop application **12** of the present invention enables the creation of "ON DEMAND" presentations and also "LIVE" presentations, using the user interface **22** described above.

"ON DEMAND" presentations are created as follows, in accordance with the present invention, in an example provided for illustration only. The user interface **22** includes a known task bar. (1) The user selects "NEW PRESENTATION" from the task bar. (2) The preferences dialogue appears. The preferences dialogue enables the selection from one or more known drop down menus of preferences and settings regarding the rich media content, such as photographs, digital stills etc. (3) The user is prompted to "Select audio/video source". (4) The user is prompted to "Choose a record profile" – audio only, video for narrowband, or video for broadband. (5) The user is prompted to enter presentation meta data, including Title, Description, Author, Copyright notices etc. (6) The user is prompted to import slides or graphics into the slide navigator. (7) The user is prompted to import slides, collaborative tools, and other applications. Selection of a slide such as a .PPT slide launches the import facility **32** to import selected slides. (8) User is prompted to import desired graphics in JPG or GIF formats. The user chooses the folder that contains the desired graphics (JPG or GIF, for example.). (9) The user is prompted to adjust audio levels using the Mixer button. (10) System audio controls will launch and user can adjust the record levels. The audio meter associated with the user interface **22** provides a visual guide for accurate level

adjustment. (12) The user is prompted to import digital audio and video content. (13) The user is prompted to record the presentation. The status bar of the user interface **22** indicates when a presentation is being recorded. Once the record function has been initiated, the actions taken by user in relation to the associated media, as well as the media themselves are recorded as a rich media presentation. This includes playing of video content, recording or playing audio content, and navigation through slides. Once the recording is complete, the "STOP" button that is part of the user interface **22** stops the recording. The channel guide feature allows you to 'stitch together' multiple presentations into one track.(14) The user is prompted to preview the presentation. If the "PLAYBACK" button or equivalent is selected, the presentation viewer **46** is engaged to permit viewing of the rich media presentation, in accordance with the selected parameters and media content. (15) The user is prompted to "SAVE" the presentation, or "RE-RECORD". (16) The presentation is stored locally on the network-connected device **14**, or uploaded to the application server **40** if the network-connected device is connected to the application server **40** via the IP network **16**. The application server **40** stores the rich media presentation to a database **48** linked to the application server **40**.

"LIVE" presentations are generally created by following steps (1) through (12) set out above. (13) The user selects the "ENABLE LIVE" option from the task bar. (14) The communication facility **38** obtains an IP address from the application server **40** that is displayed in the task bar. The user will pre-publish the presentation to the server and set up the event in the same manner as the on demand version. A link is generated and the link will broadcast the live feed based on the time parameters created by the presentation author. (15) Connection is established with the application server **40** whereby the communication facility **38** uploads to the application server **40** the media files selected in steps (1) through (12). The "BROADCAST" button or equivalent is selected after which recording of a presentation as explained above is broadcast live to the IP address in cooperation with the web publication facility **50**.

It should be understood that one aspect of the present invention is a computer architecture for facilitating authoring, publication and distribution of rich media presentations over IP networks.

A further aspect of the present invention is that it inter-operates with known technologies for delivering web provisioning to the network-connected devices 14, such as the .NET™ platform of MICROSOFT™. The .NET platform enables the use of ASP scripting in a manner that is known to “turn on” functions described in the present invention associated with a web server.

It should be understood that the present invention enables the distribution of enhanced rich media content from one to one, and also one to many. In other words, the communication platform of the present invention enables enhanced enriched media presentation from one authorized user to another authorized user, but also multicast presentations from one authorized user to multiple other authorized users.

The present invention is implemented in manner that is known. This can be achieved in either WINDOWS™ or MAC/UNIX™ platforms. For WINDOWS, the rich media communication platform of the present invention, in one implementation thereof, leverages WINDOWS MEDIA technologies, including the WM Encoder, WM Player, WM Server and the .NET architecture framework.

For Mac/Unix, the platform leverages Apple's QuickTime Media Technologies including QT Player, QT Pro, QT Server and open source standards.

The key technology issues that mandate separate implementations include: WINDOWS uses their own encoding schema that include CODEC's (Compression/Decompression) based on a version of the MPEG-4 standard. WINDOWS uses a proprietary syntax for their .ASX pointer files which is similar to an XML document. The application server **40**, in one implementation thereof, uses WINDOWS MMS transport which is a proprietary streaming protocol for Windows Media Technologies. The eco-system is based on the Windows Operating System and the .NET web services framework which does not support any other OS.

Quicktime uses industry standard CODEC's based on the MPEG-4 standards. QT uses an industry standard .SMI (synchronized multimedia integration language) pointers to manage media files. The QT server supports industry standard RTSP which is the Real Time Streaming Protocol used by both Real & QT.

Various enhancements of the present invention are possible. For example, collaborative functions can be integrated with the present invention to enable more than one authorized user to collaborate in creating and sharing resources within an enhanced rich media presentations.

Another aspect of the invention is a reporting facility **62** which enables the administrative user of the present invention to track who signed into to view rich media presentations, manage access to the present invention and oversee usage thereof. This reporting facility **62** cooperates with any commerce facility to enable users viewing rich media presentations in accordance with the invention to be charged for such viewing.

Application number / numéro de demande: 2454792

Figures: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12,

Pages: _____

Unscannable items
received with this application
(Request original documents in File Prep. Section on the 10th floor)

Documents reçu avec cette demande ne pouvant être balayés
(Commander les documents originaux dans la section de préparation des dossiers au
10^{ème} étage)

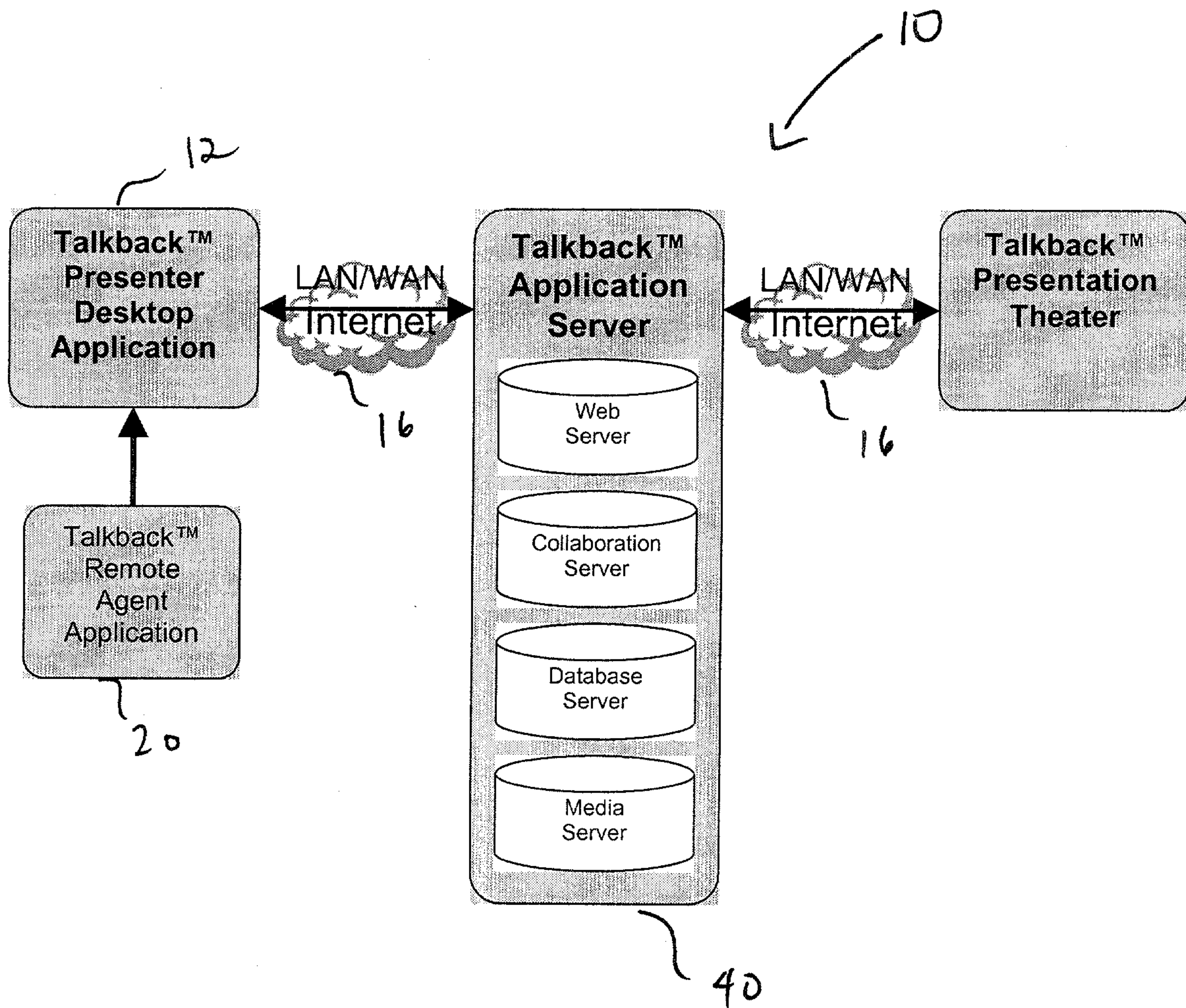
FIG. 1

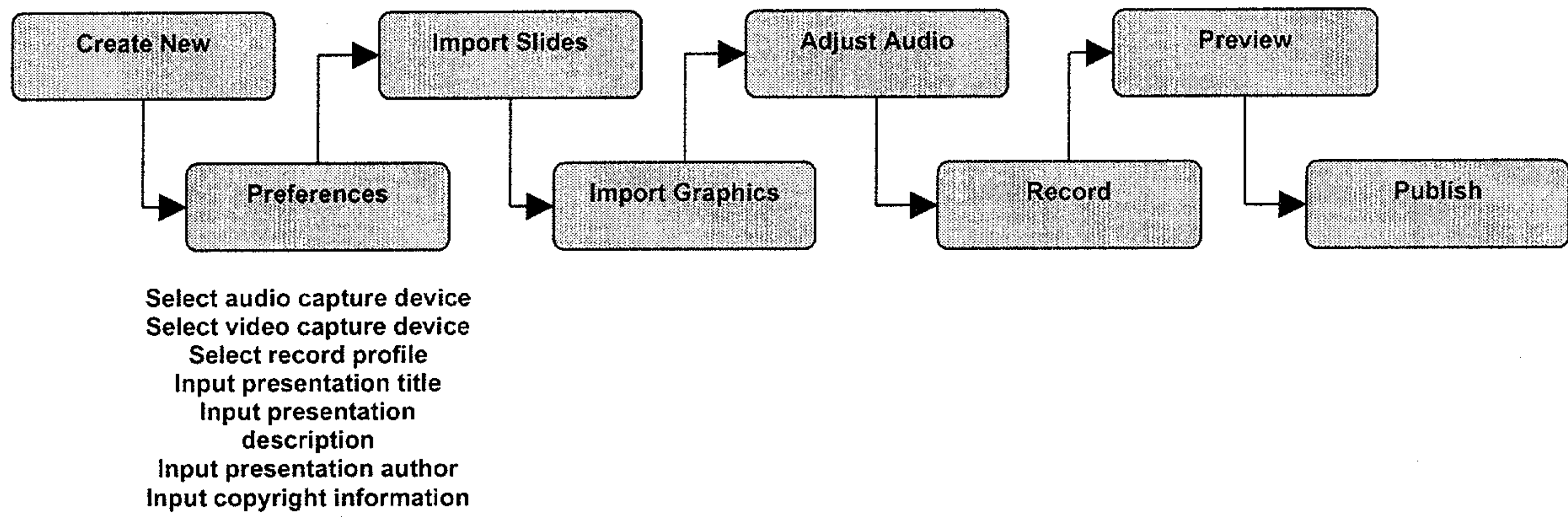
FIG. 13

FIG. 14