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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	30160-0002P01
	Application Number	
Title of Invention	Play Control of Content on a Display Device	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
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Applicant Information:

Applicant 1

Applicant Authority ◉ Inventor ◯ Legal Representative under 35 U.S.C. 117 ◯ Party of Interest under 35 U.S.C. 118

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Residence Information (Select One) ◉ US Residency ◯ Non US Residency ◯ Active US Military Service

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All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

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For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	26211	
Email Address	apsi@fr.com	Add Email Remove Email

Application Information:

Title of the Invention	Play Control of Content on a Display Device		
Attorney Docket Number	30160-0002P01	Small Entity Status Claimed	☒
Application Type	Provisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	30160-0002P01
	Application Number	
Title of Invention	Play Control of Content on a Display Device	

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐	**Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S. C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	26211		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

			Remove
Application Number	Country[i]	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			◉ Yes ○ No

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Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	30160-0002P01
	Application Number	
Title of Invention	Play Control of Content on a Display Device	

If the Assignee is an Organization check here. ☐				
Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information:			
Address 1			
Address 2			
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Country		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the **Add** button.

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/Samuel Borodach/			Date (YYYY-MM-DD)	2011-04-21
First Name	Samuel	Last Name	Borodach	Registration Number	38388

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 C.F.R. §1.53(c).

INVENTOR(S)

Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)
David	Strober	Rye, NY

Additional inventors are being named on the 0 separately numbered sheets attached hereto

TITLE OF THE INVENTION (500 characters max)

Play Control of Content on a Display Device

CORRESPONDENCE ADDRESS

Direct all correspondence to:

☒ Customer Number: **26211**

OR

☐ Firm ***or*** Individual Name					
Address					
Address					
City		State	a FORMTEXT	ZIP	
Country		Telephone		Fax	

ENCLOSED APPLICATION PARTS *(check all that apply)*

☒ Application Data Sheet. See 37 C.F.R. § 1.76. ☐ CD(s), Number

☒ Specification *Number of Pages* ***14*** ☐ Other (specify):

☒ Drawing(s) *Number of Sheets* ***11***

Application Size Fee: If the specification and drawings exceed 100 sheets of paper, the application size fee due is $270 ($135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. § 41(a)(1)(G) and 37 C.F.R § 1.16(s)

METHOD OF PAYMENT OF FILING FEES AND APPLICATION SIZE FEE FOR THIS PROVISIONAL APPLICATION FOR PATENT

☒ Applicant Claims small entity status. See 37 C.F.R.§ 1.27.

☐ A check or money order is enclosed to cover the filing fees.

☐ Payment by credit card. Form PTO-2038 is attached.

☒ The Director is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number 06-1050 A copy of this form is enclosed for fee processing.

TOTAL FEE AMOUNT ($)

110.00

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.

☐ Yes, the name of the U.S. Government agency and the Government contract number are:

Respectfully submitted,

Signature: Date: April 21, 2011

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Docket No: 30160-0002P01

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PLAY CONTROL OF CONTENT ON A DISPLAY DEVICE

BACKGROUND

This disclosure relates to play control of content on a display device. Such display devices include, for example, television displays used by consumers in their home for viewing videos and other media that are either provided from the Web or previously stored. In particular, the disclosure relates to the creation, storage, manipulation and access of media playlists used in conjunction with display devices and control of the display devices.

Web media often is played on computers rather than television displays. Although it is known to connect a computer to a television set in order to watch Web media, it is difficult to control such a system within the typical scenario for television watching where the viewer is positioned some distance from the television. Furthermore, although a wireless device can enable the user to control the television from a distance, it can be difficult to view a web browser display on the television set and may interfere with normal television program viewing by other persons.

Given the desire to watch various World Wide Web media on a family's primary television set, and to control this operation from the comfort of one's couch, there is a need to operate a television set remotely from a personal computing device, such as a mobile phone. It also is desirable to allow a user to perform a general Web search to locate and capture Web media, and to control a television display remotely using the personal computing device.

BRIEF DECSRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram illustrating an example of a system according to the invention.

FIG. 2 illustrates various details of the flow of information and signals according to some implementations.

FIG. 3 illustrates an example of a transmission code incorporated into a message from a personal computing device.

FIG. 4 illustrates an example of look-up table that forms part of a server system.

FIG. 5 illustrates an example of entries in a universal API adapter.

FIG. 6 is a flow chart showing steps for display device to load a video player and video.

FIG. 7A illustrates an example of a display device including a synchronization code.

FIG. 7B illustrates an example of a synchronization code look-up table.

FIGS. 8-13 illustrate examples of various scenarios in which the invention can be used.

FIGS. 14 and 15 illustrated examples of display screens that may appear on a user's personal computing device in accordance with the invention.

DETAILED DESCRIPTION

As shown in FIG. 1, a system 10 facilitates synchronizing a connection between two or more devices 20, 22 connected to the Internet 21 or other network. The connection is designed to be made by a first device (e.g., a personal computing device) 20 that acts as a controller and a second device (e.g., a television set 22 with a display 23) that acts as a receiver to play content selected by a user of the first device and to respond to commands that originate at the personal computing device. The personal computing device 20 is operable to display an application or web site that contains information and links to content providers 30 on the Internet 21. The television set 22 is operable to link back to a server system 24 from which the television set receives commands. When a user makes a selection using the personal computing device 20 for particular content to be displayed on the television display 23, a signal is sent through the Internet (or other network) 21 to the server system 24. A corresponding command signal then is passed along to the connected television set 22, which acts on a transmission code contained within the signal and performs specified commands. For example, in some scenarios, the command instructs the television set 22 to access a content provider 30 through the Internet 21, load a specific media player, load the media player-specific content (e.g., a video) and play the content on the television display 23. The user can use the personal computing device 20 to control how the content is played on the television display 23. The user may subsequently visit the same or another Web site using the personal

computing device 20 to select different content (e.g., a second video) to be played on the television display 23. In that case, another signal would be sent through the server system 24 to the television set 22. A transmission code associated with this command signal instructs the television set 22 to load a new media player (if needed) over the Internet and to load the specified video file to be played on the display 23. Thus, the system 10 allows a personal computing device 20 to be used to select different content to be played on a remote display 23 even if different media players are required for the different content. The user also can control how the content is displayed (e.g., play, pause, stop, rewind, fast forward, etc.) on the display 23 using the personal computing device 20. The user-initiated play commands are passed from the user's personal computing device 20, through the server system 24, to the television set 22.

Although the following detailed discussion describes videos as an example of the type of content to be played on the display 23, the system 10 can be used for other types of content as well. Thus, depending on the implementation, the content may include one or more of the following: video, audio, interactive video game, streaming media, multimedia, images, slides (e.g., a PowerPoint presentation) or other types of dynamic content. Furthermore, in the following discussion, it is assumed that the personal computing device 20 is a mobile phone that includes a display, an internal microprocessor or other processing circuitry, a keypad, touchscreen, mouse or other device to receive user selections and other input, and a transceiver to establish communications to the Internet 21 or other communications networks. More generally, however, the personal computing device 20 can be any type of handheld or other Internet-enabled personal computing device, including personal computers, e-books, kiosks, tablets, smart phones, media players, and motion and touch sensory interfaces.

FIG. 2 illustrates further details of the flow of information and signals according to some implementations. The personal computing device (e.g., mobile phone) 20 is operable to display an application or web site that contains information and links to content providers 30 on the Internet 21. The user operates the mobile phone 20 so as to start the application or access the web site (block 100). In some implementations, a logo appears on the mobile phone's display. By selecting the logo, the user causes a menu to expand and present various options. The options can include, for example: (i) add new

content to a playlist, (ii) play a listed item on a secondary device, (iii) play a listed item on the mobile phone 20. If the user selects to add new content to the playlist, the user is presented with a screen that allows him to enter user-defined search parameters or o select predefined search parameters to request video data. The search parameters are sent from the mobile phone 20 as part of a request for video data that satisfy the search parameters (block 102). The request is transmitted via the Internet 21 and through the server system 24 to the appropriate content provider web site. In response, the content provider 30 provides metadata (e.g., titles, links to the videos) for one or more video files that satisfy the search parameters (block 104). The metadata can be provided to the mobile phone 20, for example, in the form of an XML data file. Upon receiving the data file, the mobile phone 20 displays a list of one or more videos based on the information received from the content provider 30 (block 106).

If desired, the user can take one several actions, including a selecting one of the videos from the displayed list to be played on the television display 23 or initiating a command with respect to a video that already has been loaded to the television set 22 (block 108). The mobile phone 20 then formats and transmits a message to the server system 24 (block 110). The message from the mobile phone 20 contains a transmission code that includes data regarding the user information (e.g., user identification or account number), the secondary display it wants to connect to (e.g., television set 22 with display 23), the location and name of the media player for the selected video, the command (e.g., play, pause, rewind, etc.), and the video file to be acted upon. An example of the format of a transmission code from the mobile phone 20 to the server system 24 is illustrated in FIG. 3. Different formats and/or different information may be appropriate for other implementations.

The message from the mobile phone 20 is transmitted over the Internet 21 and is received by the server system 24 (block 112). Based on information in the message from the mobile phone 20, the server system 24 verifies that the user has an account (block 114), and the contents of the message, as well as the date and time of receipt of the message, are added to a personal computing device database 32 (block 116) which forms parts of a switchboard 28. In general, all messages from a particular user's personal computing device 20 are stored in the database 32 corresponding to an account for the

particular user. Thus, the database 32 stores a record of all messages received from a user's personal computing device 20, as well as the user's identification, an indication of the target device 22, an identification of the media player that is required for the selected video, and an identification of the selected video.

The switchboard 28 also includes a look-up table 34 that stores a correspondence between a particular personal computing device (such as mobile phone 20) and target devices (e.g., the television set 22) to which the user command is directed. An example of the look-up table 28 is illustrated in FIG. 4. In this example, it is assumed that, at most, a single connection is established at any given time between a particular mobile phone and a display device. However, as explained below, other scenarios are also possible to establish group connections (e.g., multiple mobile phones connected to the same display device). The server system 24 performs a target verification (block 118), which includes checking whether a connection to a particular display device already is established for the mobile phone 20 and, if so, checking the identification of the display device. During the target verification, if the look-up table indicates that there is no connection established between the mobile phone 20 and a particular display device, then the server system 24 sends a message to the mobile phone 20 to prompt the user to identify the device on which the video is to be displayed.

A user can identify the device on which the video is to be displayed in one of several ways, depending on the implementation. In some implementations, the user can select the display device from a list of devices displayed on the mobile phone 20. The list can include a field populated with names or identifications of display devices that previously have been initialized for connection. Alternatively, the user can select the display device by entering a synchronization code associated with the particular display device. As illustrated in FIG. 7A, the synchronization code 48 can be displayed, for example, on a splash page of the display device as text on the screen or as an image such as a QR code and can be entered into the mobile phone 20, for example, manually by the user or by scanning the code into the mobile phone. The code can be scanned, for example, using optical scanning or RFID techniques. Preferably, the synchronization code is different from the IP address associated with the device 22. For example, in some implementations, the synchronization code is generated randomly and assigned to the

display device 22 each time it connects to the server system 24. Thus, a particular display device 22 may have an IP address, a web or browser cookie, and a synchronization code ("sync code") assigned to it at any given time. This information can be stored, for example, in a look-up table in the server system 24. An example of entries in such a look-up table are illustrated in FIG. 7B.

Once the synchronization code is entered into, or captured by, the mobile phone 20, it is sent from the mobile phone 20 to the server system 24, which stores the information in the look-up table 36 so as to establish a connection between the mobile phone 20 and the display device 22 through the server system 24.

Once a connection is established between the mobile phone 20 and the display device 22, signals sent from the mobile device 20 to its associated database 32 are copied to a database 34 associated with the target device (e.g., television set 24) based on the correspondence between the mobile device and the target device listed in the look-up table 36 (block 122). Thus, the database 32 entries associated with a particular display device (e.g., television set 24) provide a record of the messages received for that display device, as well as an indication of the identification of the device that sent each message, an indication of the media player required to play the video, and an indication of the selected video.

In the illustrated implementation, the command in the transmission code (see FIG. 3) contains a JavaScript reference to control the media player needed to play the selected video. Various types of video players may use different JavaScript commands to control their respective playback. Therefore, in the illustrated implementation, a universal adapter 26 is provided to interpret and convert a standard or universal command (e.g., play, pause, etc.) into the specific command recognized by the media player. Each time a signal is received from the mobile device 20, the API adapter 26 checks and identifies the specific media player that is being requested. Based on this information, the system loads the appropriate set of protocols or application programming interfaces (APIs) from its library and converts the incoming commands from the mobile device 20 into the correct JavaScript code used by the target device 22 to control the specific player (block 120). The server system 24 then copies the converted version of the message to the database 34 associated with the target device 22, as indicated in above in connection with block 122.

The universal adapter 26 can be implemented, for example, as a look-up table. Examples of entries in such a look-up table are illustrated in FIG. 5. Thus, for a universal command "New Video," the universal adapter 26 provides the corresponding command for each of several specific media players (e.g., "yt_loadVideo" for YouTube). Similarly, for a universal command "Pause," the universal adapter 26 provides the corresponding command for each of several specific media players (e.g., "pauseVideo" for Ted.com). Other universal commands and the corresponding command(s) for one of more media players also can be stored by the universal adapter 26.

The display device 22 periodically checks the entries in the database 34 to determine if there are any new messages/commands directed to it (block 124). For example, in some implementations, the display device 22 polls the associated database 34 at some predetermined time interval. In some implementations, instead of the display device 22 periodically checking whether there are any messages for it in the database 34, the server system 24 can push the messages to the display device 22. In any event, the system is arranged so that the display device 22 receives the messages intended for it.

When the display device 22 receives a message from the server system 24 (block 126), the display device executes the message (block 128). In some cases, the media player required to play the video indicated in the message is not presently loaded in the display device 22. For example, the received command may be to "play" a particular video. As indicated by FIG. 6, if the media player needed to play the video is not already loaded in the display device 22, the display device 22 requests and obtains a copy of the appropriate media player 40 and a copy of the video file 42 from a content provider 30, loads the media player and then presents the video on the display 23 (FIG. 2, block 130). Likewise, as indicated by FIG. 6, if the appropriate media player already is loaded in the display device, but the particular video is not, then the display device 22 requests and obtains a copy of the video file 42 from the content provider 30 and proceeds to play the video. To allow the display device 22 to switch between different video players (i.e., to load and unload different video players), a software program can be stored on the display device and/or the web site to establish a secure connection back to the server system 24.

Once the video is playing on the display device 22, the user of the mobile phone 20 can control the playing of the video by entering appropriate commands (e.g., pause,

fast forward, rewind, stop, play, etc.) through the mobile phone. Each command is incorporated into a message including a transmission code (FIG. 3) as described above. The message is transmitted to the server system 24, which copies the message into database entries associated with the particular display device 22 (i.e., after performing any conversion of the command by the API adapter 26). Once the message is retrieved by or sent to the display device 22, the display device proceeds to execute the command.

The system and methods described here allow a user of a mobile phone or other personal computing device to create a playlist based on videos (or other types of content) from multiple sources and to play back each video using a single interface that can be used to control different media players.

As mentioned above, the system and methods described above also can be used with types of content other than video. In that case, different types of user-initiated commands may be available to control the content displayed on the display 23. For example, for interactive video games, the user-initiated commands can include control commands appropriate for the particular game.

The systems and methods can be used in various scenarios to play back videos (or other content). Examples of several scenarios that can be implemented using the system described above are described in the following paragraphs. For example, a first scenario involves a single user's smartphone connecting to a single display device (FIG. 8). In this scenario, the user turns on, for example, her display device (e.g., personal computer with a display monitor), opens up a browser and accesses a website associated with the server system 24. The user then clicks on a link that launches the software program to establish a secure connection back to the server system 24. The software program opens a splash page, and a sync-code is displayed on the monitor. The user then opens the appropriate application on her smartphone. In the smartphone application, the user clicks on a "Connect" screen button and enters the sync-code displayed on the computer monitor. The user can use a search tool in the smartphone application to find a video. In response to the search, a list of videos satisfying the search appears on the smartphone. When the user selects a video from the list displayed on the smartphone, the information is provided through the server system 24 to the personal computer. The personal computer obtains a copy of the required video player and the selected video from an

appropriate content provider over the Internet and begins to play the video on the monitor. The user can control playing of the video (e.g., pause, fast forward, rewind, play, etc.) from her smartphone.

A second scenario involves saving a selected video to a playlist on a single user's smartphone, and subsequently playing the video on a display device (FIG. 9). In this scenario, the user opens the appropriate application on his smartphone and searches for videos using the search tool displayed in the application. When a list of videos is displayed on the smartphone in response to the search request, the user selects one or more videos to add to his playlist. At that time, or at a later time, the user can connect to a display device through the server system 24. To do so, the user opens the playlist on his smartphone and selects a video. The information is provided through the server system 24 to the display device, which obtains a copy of the required video player and the selected video from an appropriate content provider over the Internet and begins to play the video. The user can control playing of the video (e.g., pause, fast forward, rewind, play, etc.) from his smartphone.

A third scenario involves multiple users' smartphones and a single display device (FIG. 10). For example, a user may want to share and watch videos with a group of friends watching together on a single display device. In this situation, the user can access the application or web site to set up a group and serve as the moderator for the group. The user then can send out a request to other members of the group, or other users can send a request to the moderator to join the group. Users can search for other users based, for example, on username or from a contact list. The moderator then can select a user in the group to control the display device. Alternatively, the moderator can set it up so that control is passed to each member of the group in turn automatically, or so that the next turn can be determined by consensus of the entire group, via some form of voting. Regardless of who has control of the display device 22, each user in the group retains control of his own smartphone.

A fourth scenario involves one user's smartphone and multiple display devices (FIG. 11). In this example, a user opens the application on his smartphone to establish a connection to a first display device and then repeats the process for multiple display devices. A list of devices that the user's smartphone is connected to is displayed on the

smartphone. The user can choose to control all devices simultaneously or one at a time. To do so, the user selects from the list the display device(s) he wants to control. The user then can search for videos using his smartphone. In response to the user selecting a particular video, the selected video is played on the selected display device(s).

A fifth scenario involves multiple users' smartphones and multiple connected display devices (FIG. 12). For example, a user may want to share and watch videos with a group of friends, who may be in different locations each of which has a separate display device. Each user establishes a connection from her smartphone to the display device where she is located. One of the users uses the application or web site to establish a group, with the user who establishes the group serving as the group moderator. The user can send out a request to other users to join the group or other users can send a request to the moderator to join the group. In some implementations, users can search for other users based on username or from a contact list. The moderator chooses which member of the group has control of the display device. Alternatively, the moderator can set it up control is passed to each member of the group in turn automatically, or so that the next turn can be determined by consensus of the entire group, via some form of voting. The signal sent from the smartphone of the group member who has control is sent (via the server system 24) to all display devices within the group. Regardless of which group member has control of the display devices, each user retains control of her own smartphone.

A sixth scenario involves sharing video links and a playlist (FIG. 13). For example, a user within a group can share a video playlist and video links via an Instant messaging system built-in to the application. Users also can post video links or a video playlist to third-party web sites (e.g., social networking sites). Other users can view the video link and playlist within the application. When a video from the list is selected, it plays on the selected device.

The system and methods can be used by a wide variety of users in addition to individual viewers. For example, companies that provide on-line video platforms that host videos for other individuals or companies can obtain useful advantages by integrating the platforms with the server system 24. Programming hooks can be created in the API so that the on-line video platform's media player can communicate with the

server system 24. When media player commands for an on-line video platform are added to the system 24, the media player's API is placed in an API library and is stored in the API adapter 26. The on-line video platform can then offer customers the ability to add videos to their own mobile web sites that are enabled to operate with the server system 24.

The system and methods also can be used by content providers. For example, the content provider may want to deliver its media on-line. The content provider can use an on-line video platform that is enabled to operate with the server system 24. In some implementations, the content provider is allowed to add links to videos for that web site (i.e., mobile site or an application). The link facilitates synchronization to the secondary device 22 (e.g., a television set) and allows the end-user to load and control the video on the secondary device.

FIGS. 14 and 15 illustrated examples of display screens that may appear on a user's personal computing device in accordance with the invention.

Implementations of the subject matter and the operations described in this specification can include digital electronic circuitry, or in computer software, firmware, or hardware, including the structures disclosed in this specification and their structural equivalents, or in combinations of one or more of them. Implementations of the subject matter described in this specification can include one or more computer programs, i.e., one or more modules of computer program instructions, encoded on computer storage medium for execution by, or to control the operation of, data processing apparatus. Alternatively or in addition, the program instructions can be encoded on an artificially-generated propagated signal, e.g., a machine-generated electrical, optical, or electromagnetic signal that is generated to encode information for transmission to suitable receiver apparatus for execution by a data processing apparatus. A computer storage medium can be, or can be included in, a computer-readable storage device, a computer-readable storage substrate, a random or serial access memory array or device, or a combination of one or more of them. Moreover, while a computer storage medium is not a propagated signal, a computer storage medium can be a source or destination of computer program instructions encoded in an artificially-generated propagated signal.

The computer storage medium can also be, or be included in, one or more separate physical components or media (e.g., multiple CDs, disks, or other storage devices).

The operations described in this specification can include operations performed by a data processing apparatus on data stored on one or more computer-readable storage devices or received from other sources. The term "data processing apparatus" encompasses all kinds of apparatus, devices, and machines for processing data, including by way of example a programmable processor, a computer, a system on a chip, or multiple ones, or combinations, of the foregoing. The apparatus and execution environment can realize various different computing model infrastructures, such as web services, distributed computing and grid computing infrastructures.

A computer program (also known as a program, software, software application, script, or code) can be written in any form of programming language, including compiled or interpreted languages, declarative or procedural languages, and it can be deployed in any form, including as a stand-alone program or as a module, component, subroutine, object, or other unit suitable for use in a computing environment. A computer program may, but need not, correspond to a file in a file system. A program can be stored in a portion of a file that holds other programs or data (e.g., one or more scripts stored in a markup language document), in a single file dedicated to the program in question, or in multiple coordinated files (e.g., files that store one or more modules, sub-programs, or portions of code). A computer program can be deployed to be executed on one computer or on multiple computers that are located at one site or distributed across multiple sites and interconnected by a communication network.

Processors suitable for the execution of a computer program include, by way of example, both general and special purpose microprocessors, and any one or more processors of any kind of digital computer. Generally, a processor will receive instructions and data from a read-only memory or a random access memory or both. Elements of a computer include a processor for performing actions in accordance with instructions and one or more memory devices for storing instructions and data.

Generally, a computer will also include, or be operatively coupled to receive data from or transfer data to, or both, one or more mass storage devices for storing data, e.g., magnetic, magneto-optical disks, or optical disks. However, a computer need not have

such devices. Moreover, a computer can be embedded in another device, e.g., a mobile telephone, a personal digital assistant (PDA), a mobile audio or video player, a game console, a Global Positioning System (GPS) receiver, or a portable storage device (e.g., a universal serial bus (USB) flash drive), to name just a few. Devices suitable for storing computer program instructions and data include all forms of non-volatile memory, media and memory devices, including by way of example semiconductor memory devices, e.g., EPROM, EEPROM, and flash memory devices; magnetic disks, e.g., internal hard disks or removable disks; magneto-optical disks; and CD-ROM and DVD-ROM disks. The processor and the memory can be supplemented by, or incorporated in, special purpose logic circuitry.

Although this specification contains many specific implementation details, these should not be construed as limitations on the scope of any inventions or of what may be claimed, but rather as descriptions of features specific to particular implementations of particular inventions. Certain features that are described in this specification in the context of separate implementations can also be implemented in combination in a single implementation. Conversely, various features that are described in the context of a single implementation can also be implemented in multiple implementations separately or in any suitable subcombination. Moreover, although features may be described above as acting in certain combinations and even initially claimed as such, one or more features from a claimed combination can in some cases be excised from the combination, and the claimed combination may be directed to a subcombination or variation of a subcombination.

Similarly, while operations are depicted in the drawings in a particular order, this should not be understood as requiring that such operations be performed in the particular order shown or in sequential order, or that all illustrated operations be performed, to achieve desirable results. In certain circumstances, multitasking and parallel processing may be advantageous. Moreover, the separation of various system components in the implementations described herein and the attachments hereto should not be understood as requiring such separation in all implementations, and it should be understood that the described program components and systems can generally be integrated together in a single software product or packaged into multiple software products.

Thus, although particular implementations of the subject matter have been described, other implementations are within the scope of the invention.

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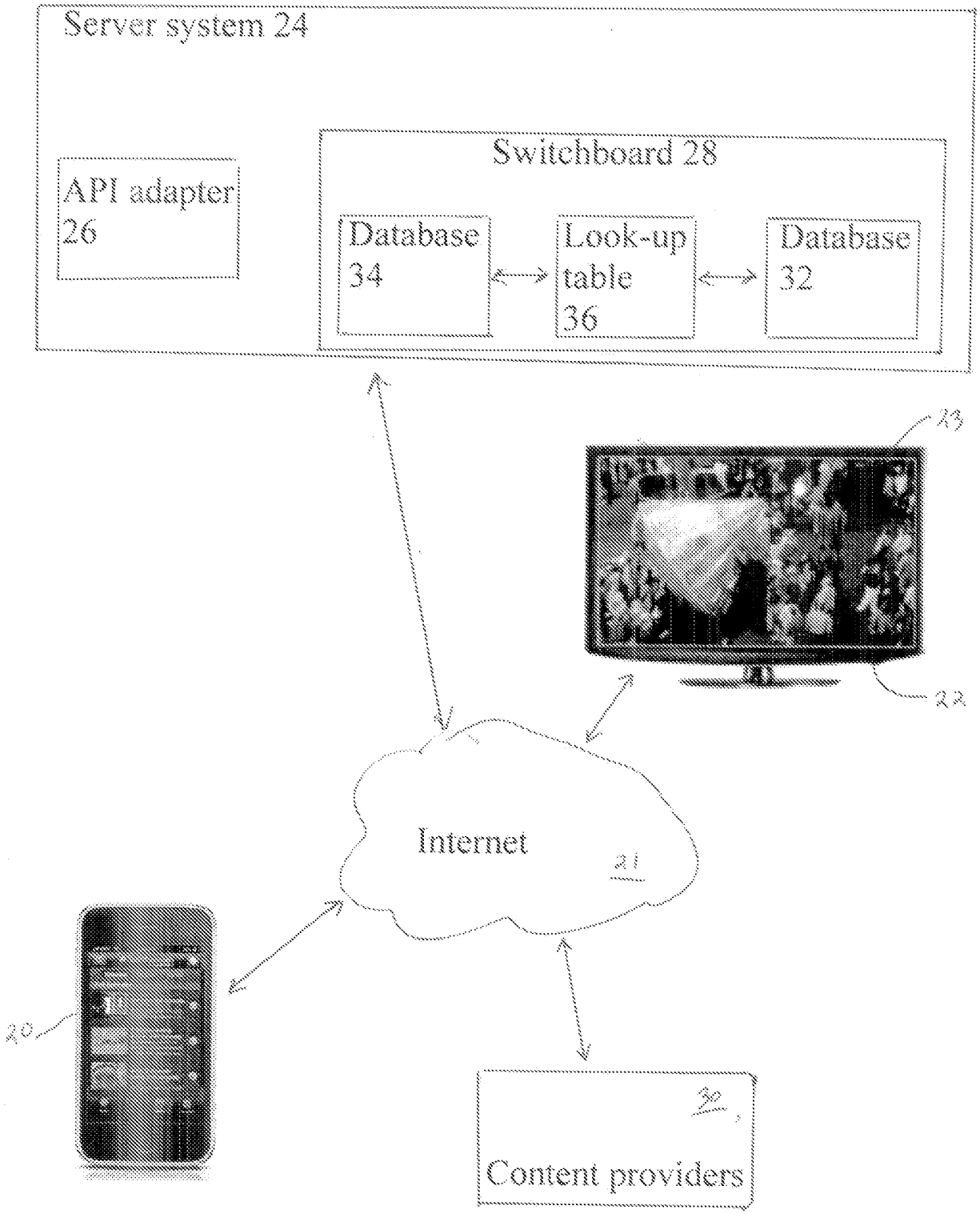

Server system 24
API adapter 26
Switchboard 28
Database 34
Look-up table 36
Database 32
23
22
Internet
21
20
30
Content providers

FIG. 1

Flowchart

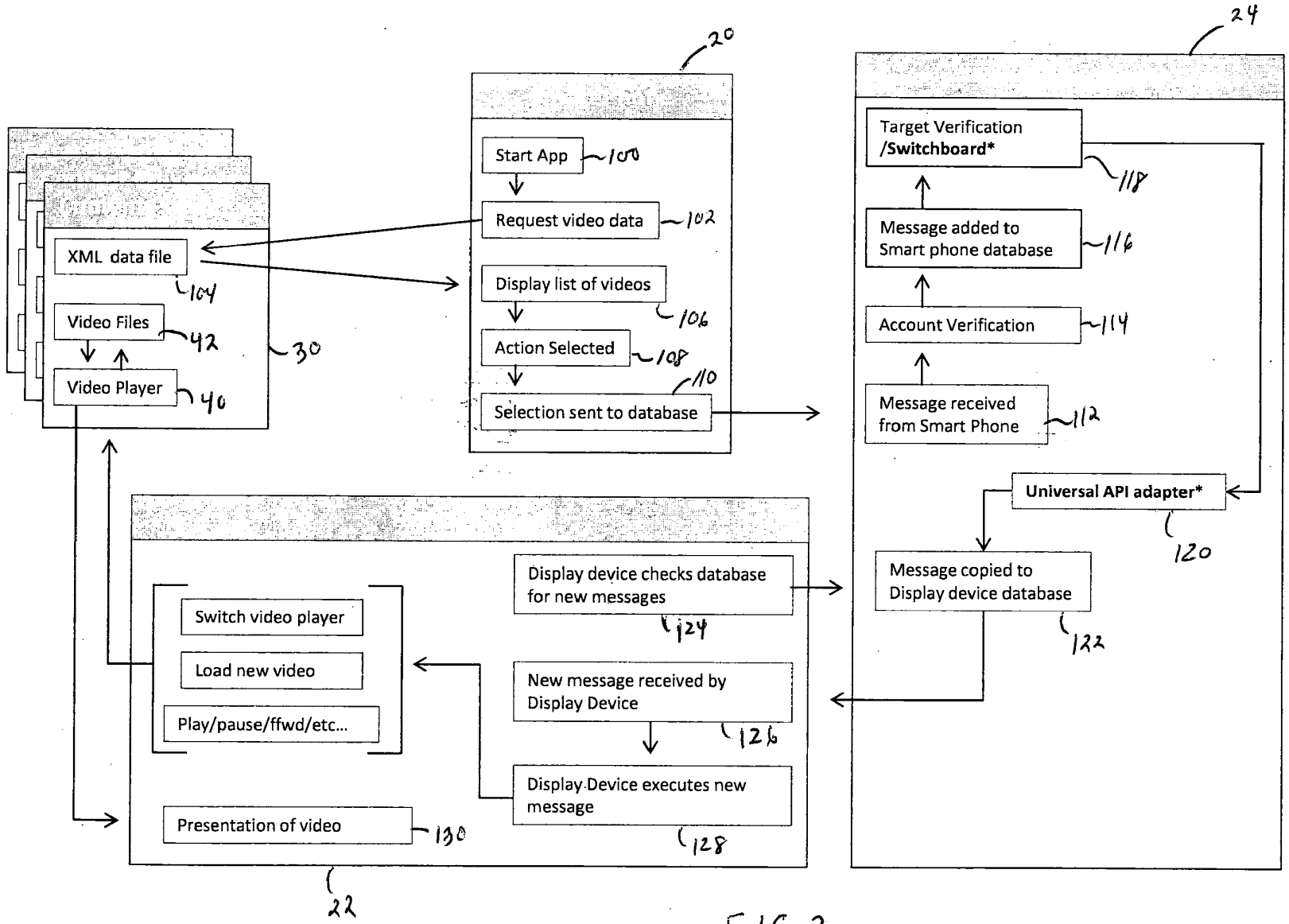


FIG. 2

FIG. 3

UserID	TargetID	MediaPlayerID	Command	Data

26

Universal Command	MediaPlayerID	Specific player Command
New Video	YouTube	yt_loadVideo
	Ted.com	getVideo
	Vimeo	loadNewVideo
Pause	YouTube	yt_pauseVideo
	Ted.com	pauseVideo
	Vimeo	pause

FIG. 5

Single connection look-up table

Display device	User - Smartphone
2	A
1	C
3	D
4	B

FIG. 4

Group connection look-up table

Display device	Group	User – Smartphone
2	X	A",C*,D
1,3	Y	B"*,E

" = group moderator, * = control of display device

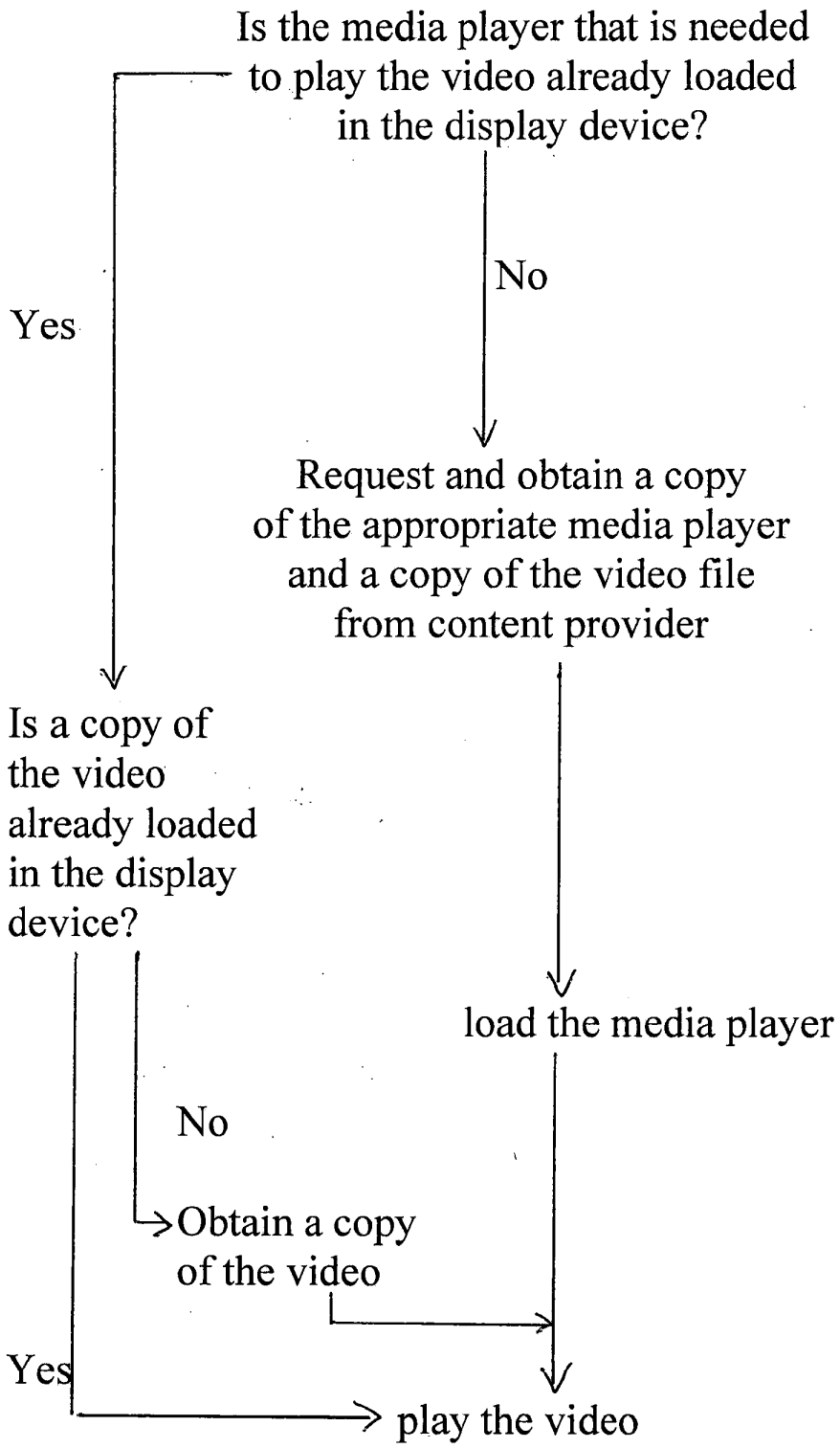
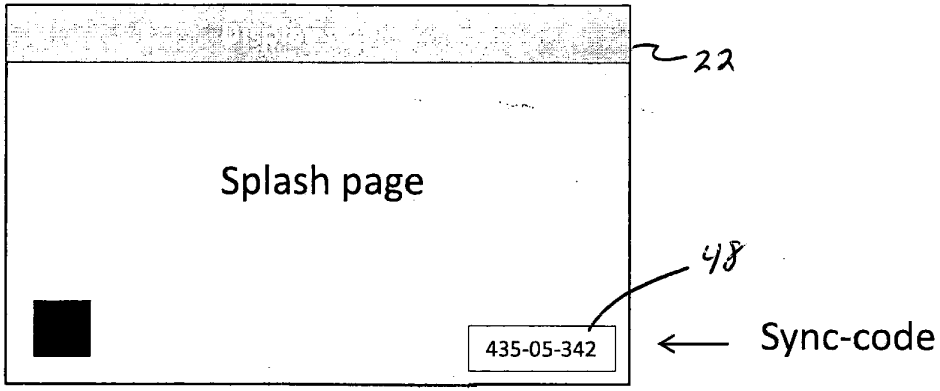

Is the media player that is needed to play the video already loaded in the display device?
No
Yes
Request and obtain a copy of the appropriate media player and a copy of the video file from content provider
Is a copy of the video already loaded in the display device?
load the media player
No
Obtain a copy of the video
Yes
play the video

FIG. 6

FIG. 7A



Sync-code look-up table		
IP Address	Cookie	Sync-code
169.343.231.234	erjg988dhuj	435-05-342

FIG. 7B

Scenario 1

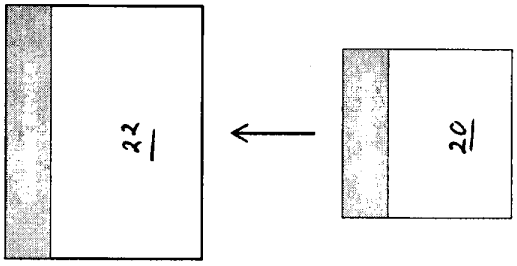
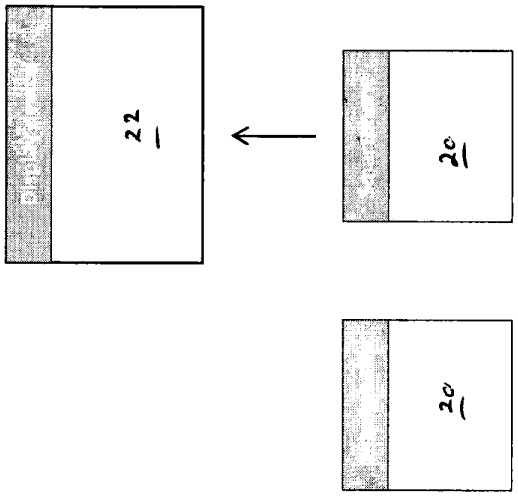


FIG. 8

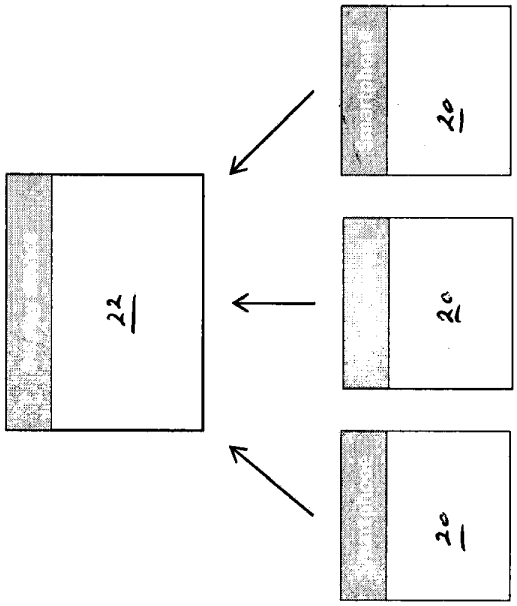
Scenario 2



a b

FIG. 9

Scenario 3



Moderator

Control of display

FIG. 10

Scenario 5

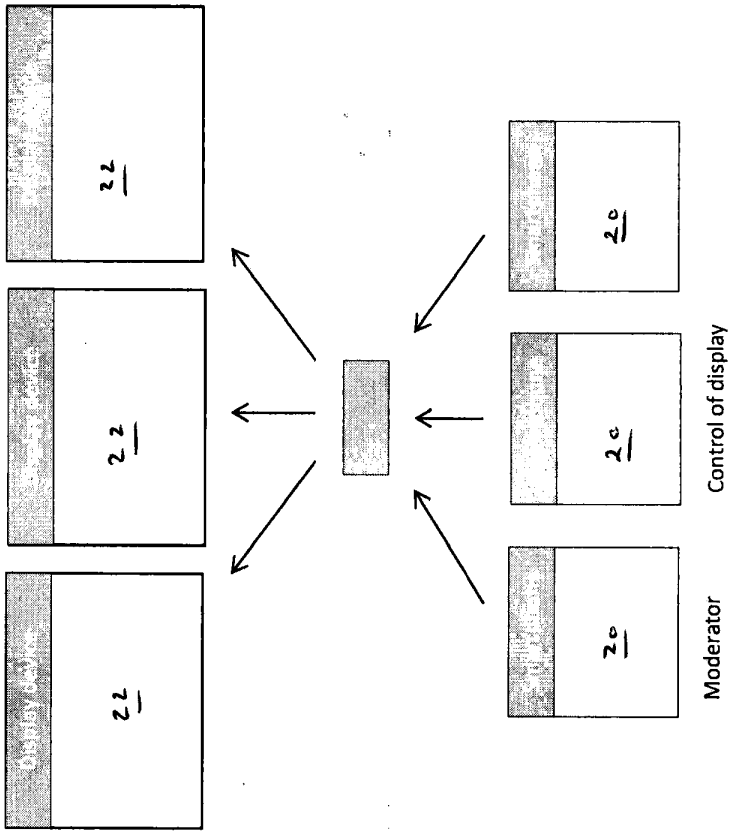


FIG. 12

Scenario 4

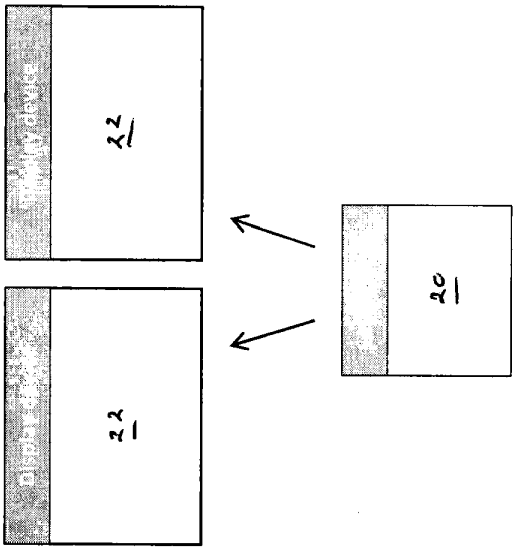


FIG. 11

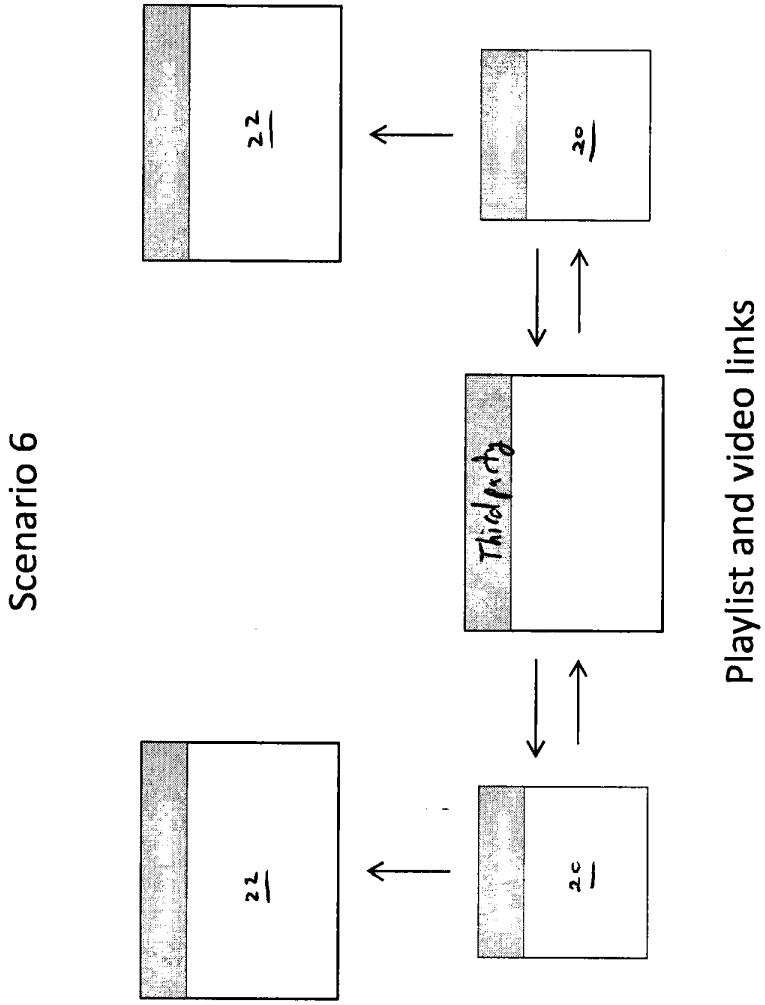
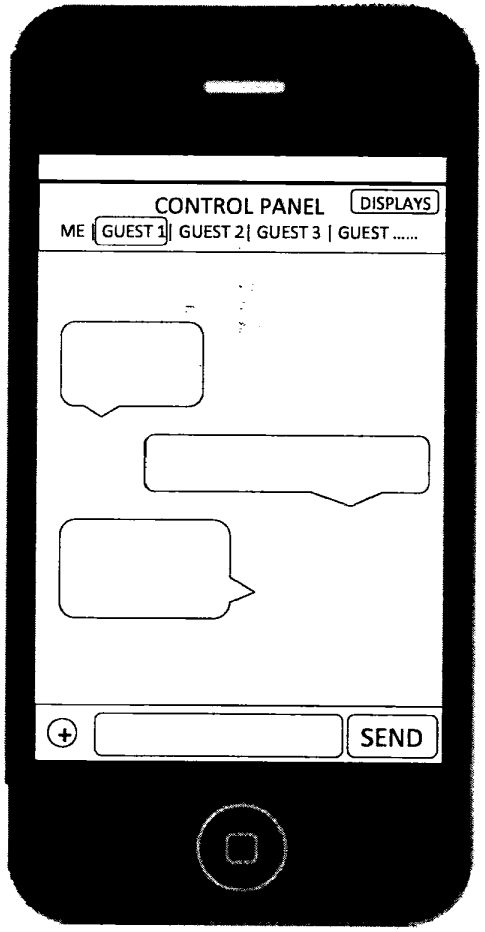


FIG. 13

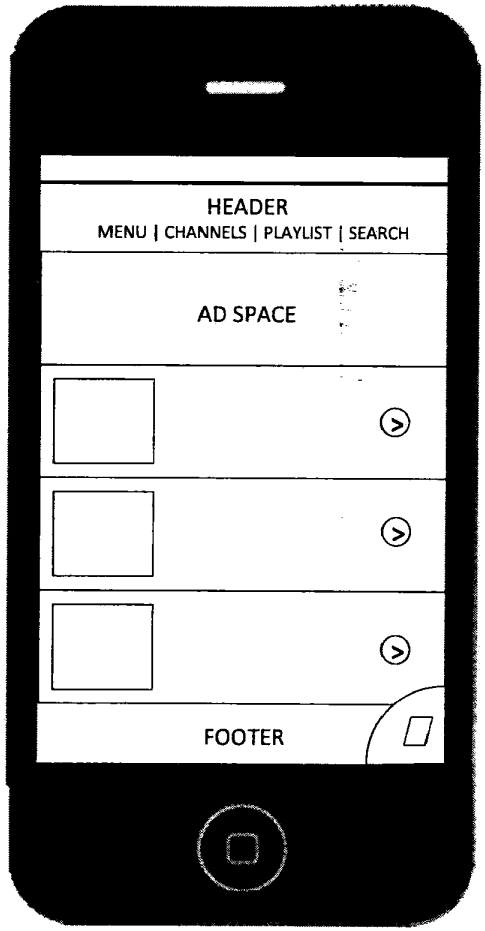
touchstreamTV / / DATE

Connect screen – is where yours can connect and moderator the users in their group. Instant message other members in the group and share video. **Discover screen** – Users search for videos, view their playlist and select videos to watch **Interact screen** – indicates what video is being displayed and on the display device and any other additional information.

Connect screen
SCREEN



Discover screen
SCREEN



Interact screen
SCREEN

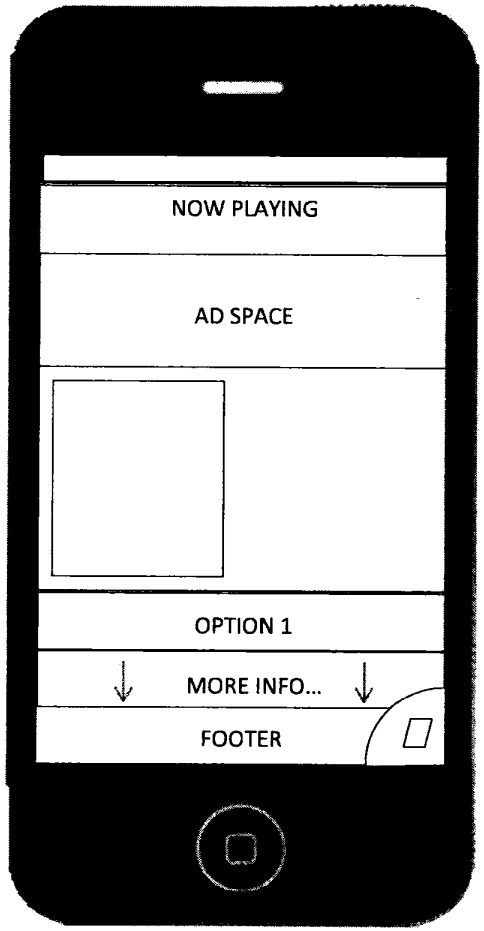
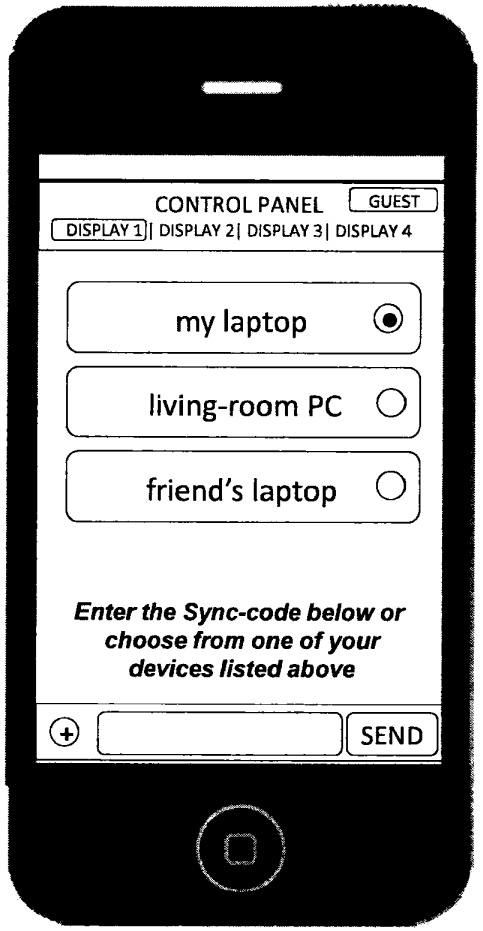


FIG. 14

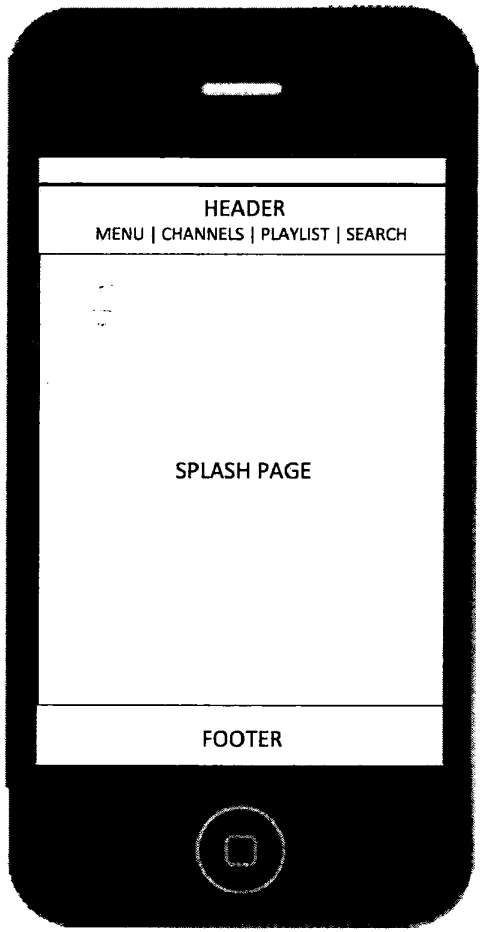
touchstreamTV / / DATE

Connect screen – On this page you see that the connect screen is now used to connect to different display device.

Connect screen
SCREEN



Discover screen
SCREEN



Interact screen
SCREEN

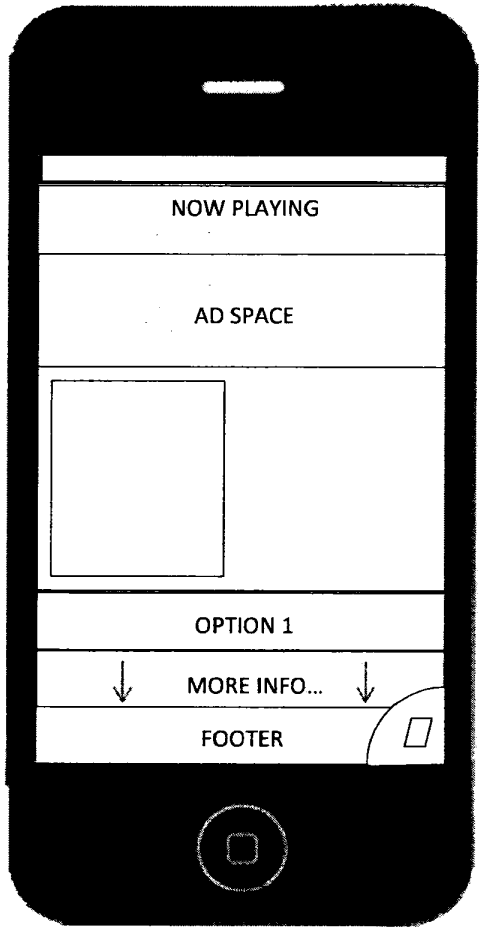


FIG. 15

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	Play Control of Content on a Display Device
First Named Inventor/Applicant Name:	David Strober
Filer:	Samuel Borodach/Paula Romeo
Attorney Docket Number:	30160-0002P01

Filed as Small Entity

Provisional Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Provisional Application filing fee	2005	1	110	110
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**110**

Electronic Acknowledgement Receipt

EFS ID:	9933852
Application Number:	61477998
International Application Number:	
Confirmation Number:	5701
Title of Invention:	Play Control of Content on a Display Device
First Named Inventor/Applicant Name:	David Strober
Customer Number:	26211
Filer:	Samuel Borodach/Susan Williams
Filer Authorized By:	Samuel Borodach
Attorney Docket Number:	30160-0002P01
Receipt Date:	21-APR-2011
Filing Date:	
Time Stamp:	18:46:42
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$110
RAM confirmation Number	5497
Deposit Account	061050
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Application Data Sheet	301600002P01ADS.pdf	225236 af6da30a5c783706c10e8002d65fe402f26ef966	no	4
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
2		301600002P01provisionalapplication.pdf	1616872 55b92146a01c89bd010e17f0a0350ea094ef67d1	yes	26
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Provisional Cover Sheet (SB16)		1	1	
	Specification		2	15	
	Drawings-only black and white line drawings		16	26	
Warnings:					
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3	Fee Worksheet (PTO-875)	fee-info.pdf	29025 ccf42fcc35968f26d4de3f7d51da654a7a91c769	no	2
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
61/477,998	04/21/2011		110	30160-0002P01		

CONFIRMATION NO. 5701

26211
FISH & RICHARDSON P.C. (NY)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

FILING RECEIPT

OC000000047465029

Date Mailed: 05/06/2011

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Applicant(s)

David Strober, Rye, NY;

Power of Attorney:
Samuel Borodach--38388

If Required, Foreign Filing License Granted: 05/02/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 61/477,998**

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

Play Control of Content on a Display Device

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