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## AUTOMATED MEDIA OVERLAY

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## **AUTOMATED MEDIA OVERLAY**

### **ABSTRACT**

A media overlay system provides user selectable media overlays. The system receives a user video of the user consuming a media item. Further, the system generates a video overlay for the media item from the user video so that the media item playing in the user video is aligned with the media item. The system provides the video overlay as an option with the media item. Further, the system causes the video overlay to be streamed with the media item in response to a request to play the media item and the video overlay.

### **PROBLEM STATEMENT**

Alternative commentary on TV shows and movies or videos on websites is limited to whatever is burned into the original medium (e.g., DVD/Blu-ray/Web channel). In case of DVDs/Blu-rays, the options of alternative commentary are limited and controlled by the DVD/Bluray company. In case of web channels, a user can record themselves while watching a movie or playing a game and overlay the recorded video on the consumed media. However, such approach is difficult and time consuming for a user to align the recorded video with the original media. Moreover, for a movie, TV series or other high-value media content, a commentator rarely has the rights to add their commentary to the original content and retransmit the two together. That is, even if the commentator has the tools and time to overlay commentary, they are not allowed to do this. A more advanced system for generating media overlays is described.

### **DETAILED DESCRIPTION**

The systems and techniques described in this disclosure relate to an automated media overlay system. The system can be implemented for use in an Internet, an intranet, or another client and server environment. The system can be implemented as program instructions locally on a client device or across a client device and server environment. The client device can be any electronic device, such as, a mobile device, a smartphone, a tablet, a handheld electronic device, and a wearable device.

Fig. 1 illustrates an example method 100 for generating media overlays. The method can be performed by a system that provides media overlays for TV shows, movies, live telecasts, or web channels, for example, the automated media overlay system. The system receives a user video of the user consuming a media item (102). The user video can be a video of the user watching another video, a live telecast, a game, or any other type of media. In an example, the user can record themselves providing his comments or reactions about a particular video that they are consuming. In another example, the user can record themselves providing commentary on a live telecast that they are watching. In yet another example, the user can record themselves providing instructions about playing a game while actually playing the game. The user can set up a camera to record themselves while watching the video, providing the commentary, or playing the game.

Further, the system generates a video overlay for the media item from the user video so that the media item playing in the user video is aligned with the media item (104). The video overlay can include one video window, e.g., playing the user video, over another video window, e.g., playing the media item. The system synchronizes the playback of the user video with the playback of the media item. The system aligns the media item playing in the user video with timestamps of the original media item and generates the video overlay for the media item from

the user video. The system aligns the user video with the media item so that the user's comments or reactions in the user video are in line with the timestamps of the content in the media item.

The system provides the video overlay as an option with the media item (106). The system can provide the video overlay as a selectable option to the user while the user is playing or is about to play the media item. In an embodiment, the system can provide the user with one or more options of video overlays from various users. Further, the system causes the video overlay to be streamed with the media item in response to a request to play the media item and the video overlay (108). The system causes the video overlay selected by the user to be streamed with the media item. The system displays the streamed video overlay as a sub-window or picture-in-picture (PIP) window at some part of the screen of the display device.

An alternate implementation of the system can also provide audio only overlay for various telecasts. The system can receive user audio corresponding to a media item. The user audio can be a user recorded audio associated with the media item. For example, the user audio can be an alternate commentary for the media item. The system can align the received user audio with the corresponding media item and provide the user audio as an alternate commentary option to the user. Further, the system can cause the user audio to be streamed with the media item in response to a request to play the media item and the user audio. The system can perform automatic alignment between the user audio and the media item. The system could perform the alignment by using audio-fingerprint matching process. To do audio-fingerprint matching, the system can extract background audio from the user audio, match the background audio to the media item's audio, and find the exact timing to be used for alignment. As any number of users can provide their user audios associated with the media item, it provides great flexibility to

various consumers around the world to listen to commentaries in various foreign languages and by various commentators.

Fig. 2A illustrates an example graphical user interface (GUI) 202 providing a video overlay 206 as an option with a media item 204 on an electronic device. The GUI 202 provides a user with options of multiple selectable video overlays 206-210. Video overlays 206-210 can be videos from various users aligned with the media item 204. The video overlays 206-210 can be commentaries from various commentators, movie stars, or other personalities that the user may like listening to instead of a default commentator. Alternatively, or additionally, the video overlays can be review or analysis by various content enthusiasts that the user may like watching or listening alongside the media item. The user can select any video overlay 206-210 based on their choice.

As illustrated in Fig. 2B, once a user requests to stream the video overlay 206 and the media item 204, the system streams the video overlay 206 along the media item 204. The user can initiate the request by selecting the video overlay 206. Depending upon which video overlay 206-210 is selected by the user, the system causes the selected video overlay to be streamed with the media item 204. The selected video overlay can be streamed anywhere on the GUI 202 along with the media item 204. In the example of Fig. 2B, the selected video overlay 206 is streamed and displayed as a sub-window or picture-in-picture (PIP) window at the bottom left corner of the GUI 202 while media item 204 is streamed and displayed over major part of the GUI 202. The selected video overlay 206 and media item 204 can be displayed and streamed anywhere across the GUI 202. The user can reposition or resize the PIP window using well known repositioning/resizing operations such as dragging a border line of the sub-window etc.

In an example, a user selected video overlay is turned on automatically when a commentator in the selected video overlay shows a big reaction to the content, and can stay off otherwise. In another example, the system automatically mutes the audio of the media item when the video overlay is being streamed along with the media item. Alternatively, or additionally, the user can control muting/unmuting of audio pertaining to the video overlay and the media item.

Fig. 3 is a block diagram of an exemplary environment that shows components of a system for implementing the techniques described in this disclosure. The environment includes client devices 310, servers 330, and network 340. Network 340 connects client devices 310 to servers 330. Client device 310 is an electronic device. Client device 310 may be capable of requesting and receiving data/communications over network 340. Example client devices 310 are personal computers (e.g., laptops), mobile communication devices, (e.g. smartphones, tablet computing devices), set-top boxes, game-consoles, embedded systems, and other devices 310' that can send and receive data/communications over network 340. Client device 310 may execute an application, such as a web browser 312 or 314 or a native application 316. Web applications 313 and 315 may be displayed via a web browser 312 or 314. Server 330 may be a web server capable of sending, receiving and storing web pages 332. Web page(s) 332 may be stored on or accessible via server 330. Web page(s) 332 may be associated with web application 313 or 315 and accessed using a web browser, e.g., 312. When accessed, webpage(s) 332 may be transmitted and displayed on a client device, e.g., 310 or 310'. Resources 318 and 318' are resources available to the client device 310 and/or applications thereon, or server(s) 330 and/or web pages(s) accessible therefrom, respectively. Resources 318' may be, for example, memory or storage resources; a text, image, video, audio, JavaScript, CSS, or other file or object; or other

relevant resources. Network 340 may be any network or combination of networks that can carry data communication.

The subject matter described in this disclosure can be implemented in software and/or hardware (for example, computers, circuits, or processors). The subject matter can be implemented on a single device or across multiple devices (for example, a client device and a server device). Devices implementing the subject matter can be connected through a wired and/or wireless network. Such devices can receive inputs from a user (for example, from a mouse, keyboard, or touchscreen) and produce an output to a user (for example, through a display). Specific examples disclosed are provided for illustrative purposes and do not limit the scope of the disclosure.

## **DRAWINGS**

100

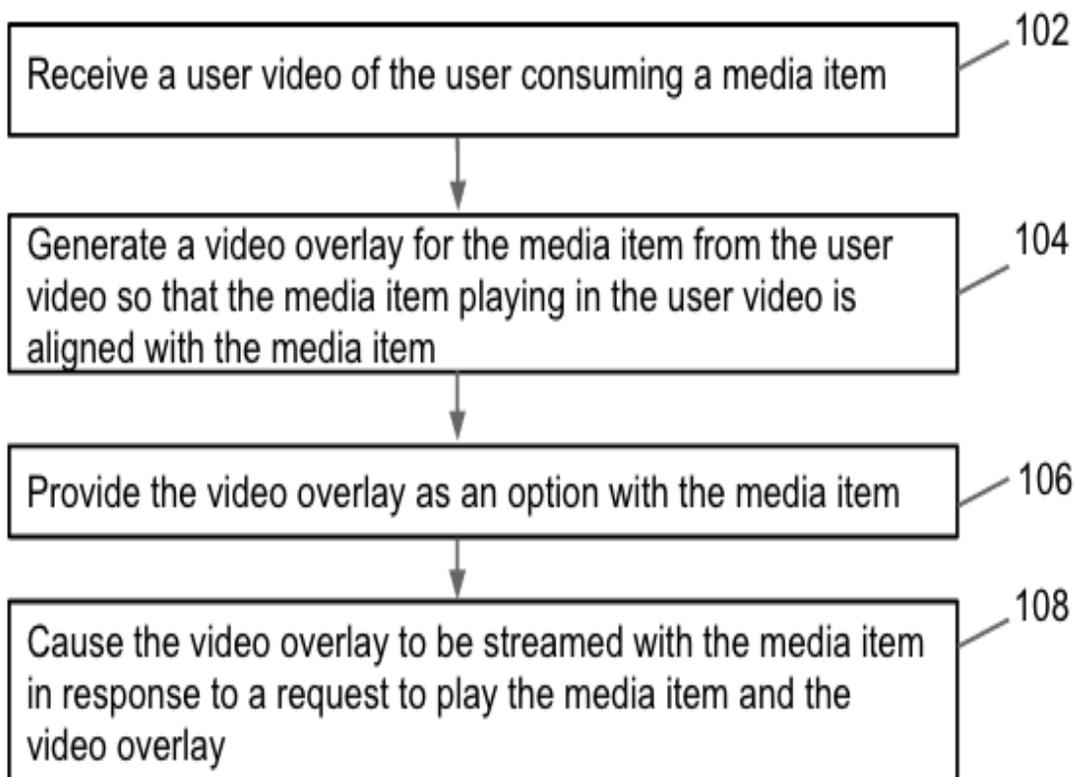


Fig. 1

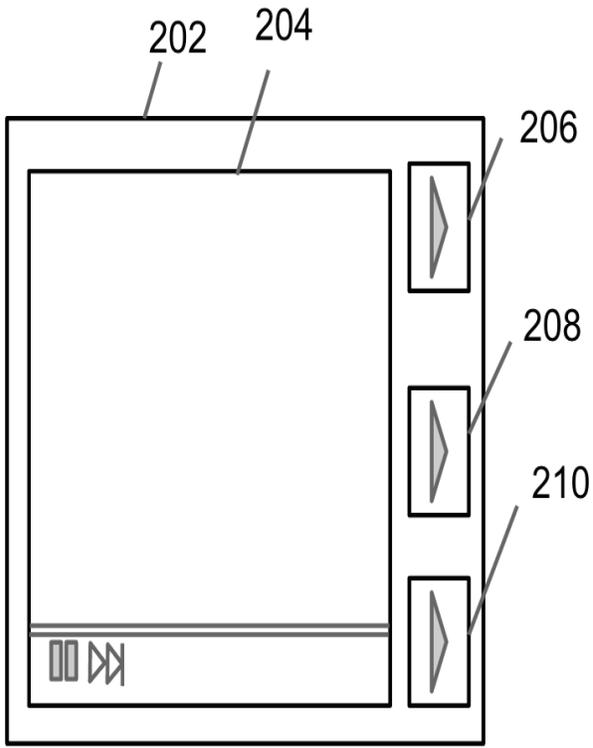


Fig. 2A

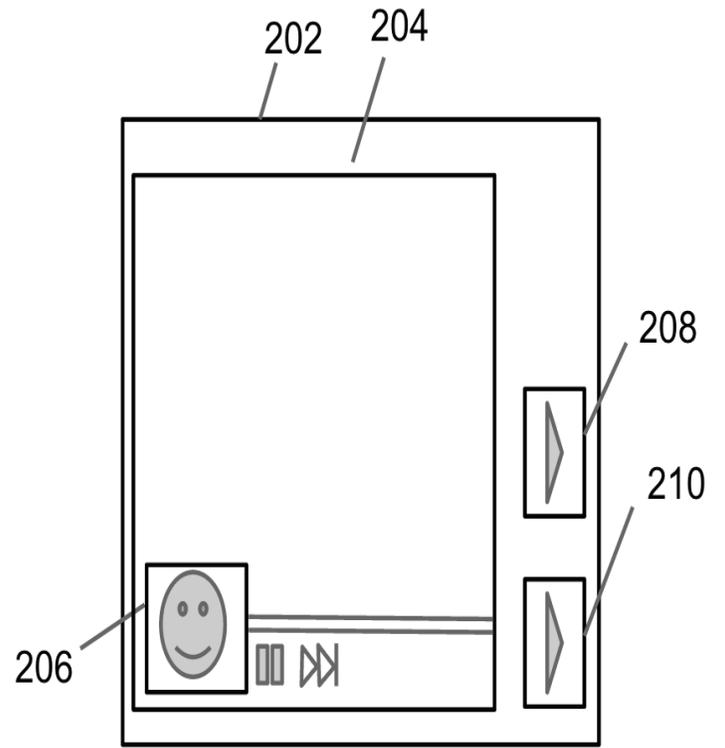


Fig. 2B

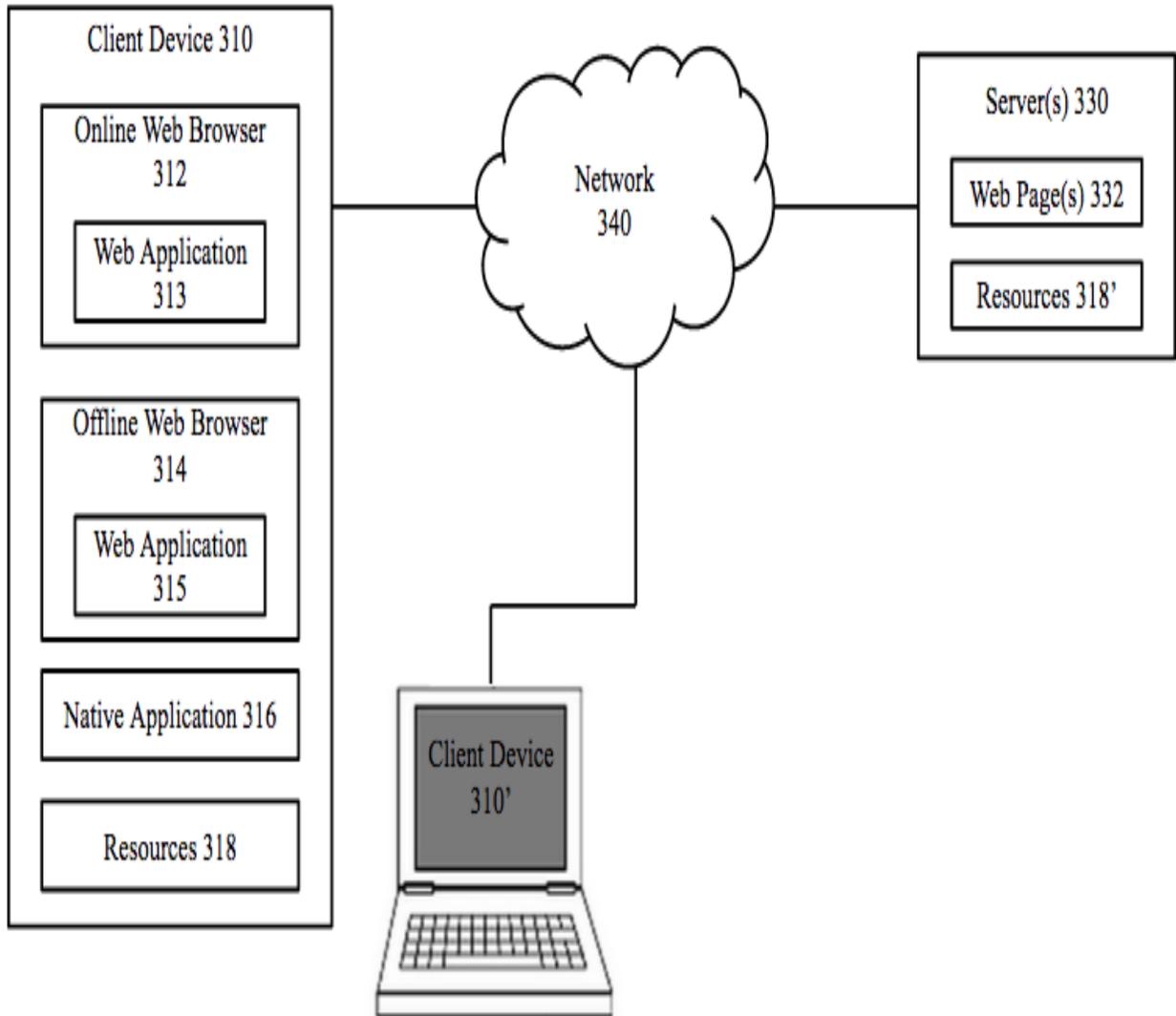


Fig. 3