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## Displaying Summary for Skipped Advertisements

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## **Displaying Summary for Skipped Advertisements**

### **ABSTRACT**

Online audio and video playback services often include advertisements that are played before content requested by a user. Advertisements can be on a substantial duration, e.g., 30 seconds. Many services provide an option for the user to skip the ad after a shorter duration, e.g., 5 seconds. In such situations, a user may not see the advertised product or brand if it isn't included in the initial portion of the advertisement. This disclosure describes techniques to display an advertisement summary, e.g., one or more video frames or a portion of audio, for a short duration of time, e.g., 100-250ms when a user skips an advertisement. The advertisement summary can be provided by the advertiser, or determined automatically from the frames from the advertisement by applying one or more classifiers.

### **KEYWORDS**

video streaming; online advertising; skippable ads; advertisement summary

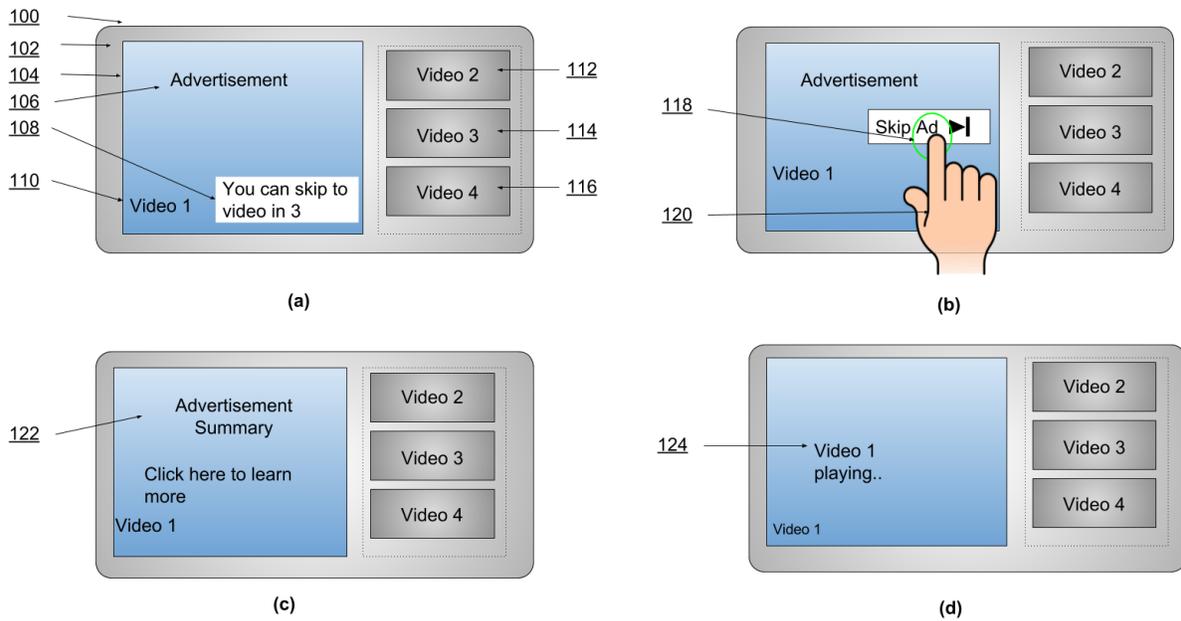
### **BACKGROUND**

Online audio and video playback services often include advertisements that are played before or interspersed during playback of content requested by a user. Advertisements can be on a substantial duration, e.g., 30 seconds. The advertisements delay or interrupt the video and last for a short period, e.g., 15 seconds, 30 seconds, etc. Advertisements that run before content are referred to as pre-roll while mid-roll ads are displayed during content playback.

In many services, an advertiser is charged for advertisement display only when a user watches the advertisement for a minimum time duration of time, watches the entire advertisement, or takes an action such as clicking on the advertisement. When a user skips an

advertisement, the advertising network that inserts the advertisement may not earn revenue. However, many services provide an option for the user to skip the ad after a shorter duration, e.g., 5 seconds. In practice, advertisements, e.g., video advertisements, often include a story and include content that is produced to evoke a desired customer response. Such advertisements often include a display of the advertised brand or product towards the end of the advertisement itself. In such situations, a user may not see the advertised product or brand if it isn't included in the initial portion of the advertisement. Also, the advertising network that inserts the advertisement may not earn revenue from the advertiser.

**DESCRIPTION**



**Fig. 1:** (a) Advertisement playing before a requested video starts playing; (b) User opts to skip ad after 3 seconds; (c) Advertisement summary displayed when user chooses to skip ad; (d) Video starts playing after advertisement summary is displayed

Fig. 1 illustrates an example of a mobile device on which advertisements are displayed. As shown in Fig. 1 (a), device (100) is a smartphone where a video streaming app (102) is in use. The user interface includes a video steaming window (104). In the example shown in Fig. 1(a), a user has requested playback of Video 1 (110). The app also displays thumbnails of other videos such as Video 2 (112), Video 3 (114), and Video 4 (116).

Before initiating playback of Video 1, a pre-roll in-stream advertisement (106) starts playing. The user interface includes an option for the user to skip to the advertisement (108) after a short duration of time, e.g., in 3 seconds.

Fig. 1 (b) illustrates that the option to skip the advertisement has been activated, e.g., after 3 seconds. The user can select (118) the skip option. In response, the advertisement is skipped. Per techniques of this disclosure, after the user selects the skip option, a summary of the advertisement, e.g., one or more video frames and/or audio, is displayed for a short time duration, e.g., 100-250ms. Fig. 1(c) illustrates the advertisement summary (122). After display of the advertisement summary, the playback of Video 1 is initiated (124) as shown in Fig. 1 (d).

### *Example*

A beverage brand “Brand H” includes a pre-roll in-stream advertisement to be displayed prior to user-requested video. Upon user selection, a video for playback, playback of the advertisement for Brand H is initiated. The user is provided with an option to skip the ad after a short time duration, e.g., 3 seconds. The advertisement video, however, does not include the brand or product name for Brand H in the initial portion. Therefore, if an advertisement summary is not displayed as described herein, the user proceeds to view the video without learning about Brand H.

Per techniques described herein, if the user chooses to skip the advertisement, an advertisement summary is displayed. For example, an advertiser-selected or automatically determined set of frames from the advertisement can be displayed as the summary. For example, the advertiser-selected summary can include a separate image or one or more frames in the video advertisement. In this manner, the advertiser can choose to provide a brand summary to the user.

#### *Automatic generation of advertisement summary*

The advertisement summary can be automatically generated using various techniques. For example, the advertisement video is analyzed by applying classifiers and one or more “candidate frames” are determined for use as summary frames. Various classifiers can be used. For example, an optical character recognition (OCR) classifier is used to recognize text that is included in the advertisement. A logo detection classifier is used to detect the presence of a logo in the advertisement. A blurriness/sharpness classifier is used to score the readability of a video frame when the frame is displayed for a very short interval of time, e.g., 100 - 250 ms. An image classifier can also be used to predict the likelihood that particular frames of the advertisement are chosen as the summary. Further, a motion detector can be used to determine an amount of motion within different portions of an advertisement. A sounds classifier is used to extract audio from the advertisement and to determine if it is suitable for an advertisement summary, e.g., if it is a well-known tune.

One or more of the classifiers described above can be used to select video frames (or audio) for the advertisement summary. For example, a fusion classifier can be used. The fusion classifier receives signals from the various classifiers as input and chooses frame(s) that are to be used for the advertisement summary. In some implementations, the summary can include audio

in addition to or instead of video. For example, audio summaries can be useful when a brand is associated with a well-recognized tune. For example, automatically generated advertisement summary of the advertisement for the beverage of Brand H can include details such as name of the brand, available flavors and other attributes of the beverage, information about retail availability, etc. In this manner, information about the brand or product is presented to the user when the user skips the advertisement.

When an advertisement summary is displayed, the advertisement can be treated as part of a brand advertising campaign, and not a click-through campaign. Billing for the advertisement can be updated accordingly, e.g., the advertiser can be charged for the brand impression based on display of the advertisement summary.

Presentation of the advertisement summary enables the brand to be shown to the user even when a user skips an advertisement. Such presentation can be useful, e.g., if a brand is known to create enjoyable advertisements, users that have previously viewed the advertisement summary can choose continue to watch the advertisement at a subsequent time when the advertisement is presented.

## CONCLUSION

The techniques described herein enable easier branding in skippable in-stream advertisements. Skippable ads are more user friendly than non-skippable ads and viewers who do watch the advertisement for the entire duration in a skippable ad are more likely to be genuinely interested in the message of the advertisement. However, in order to make the brand imprint on a viewer within the short duration that the viewer views the ad before being allowed to skip to the requested video, a brand summary frame is displayed when the viewer chooses to skip the ad.

The display of the advertisement summary frame helps in easier branding in skippable ads making it a win-win situation for both the marketer and the viewer.