Technical Disclosure Commons

May 15, 2017

Synchronizing Closed Captioning With Dialogue

Brant Candelore

Mike Nejat

Peter Shintani

SYNCHRONIZING CLOSED CAPTIONING WITH DIALOGUE

IPD #201605719

ABSTRACT

Systems and methods are disclosed for synchronizing closed captioning with dialogue in a video. The synchronization may be carried out in a couple of ways, the first involving having the user adjust the CC forward or backward in video time to sync. The second method includes an automatic rendering application that may use voice-to-text to match up the CC segments to display them simultaneously. Synchronization of closed captioning with dialogue may assist hearing impaired users who depend on CC to gain meaning from videos.

BACKGROUND

Currently devices may at times provide closed captioning (CC) that is out-of-synchronization with the dialogue. Hearing impaired users depend entirely upon CC, and may find it difficult to follow the video with an out-of-synchronization CC.

DESCRIPTION

Systems and methods are disclosed for synchronizing closed captioning with dialogue in a video. The methods may include parameters and controls such as, forward or backward adjustment of the CC or automatic rendering by the system, or determination of the time offset. The system provides access to settings on the video device that may enable adjusting the aforementioned parameters. The synchronization of closed captioning with dialogue may be carried out in a couple of ways as illustrated in FIG. 1. This may be carried out by the user request or by the rendering device periodically. The first method involves having the user adjust the CC forward or backward in video time to sync. A video buffer and a CC buffer with two or three seconds duration may be used for the adjustment. According to the user input, the CC

maybe applied to video that appears slightly before or after the CC in the buffer. The CC may often appear later in the buffer.

The second method includes an automatic rendering application that may use voice-to-text to match up the CC segments to display them simultaneously. This method includes creating a video buffer and a CC buffer. The audio part of the video maybe remotely or locally processed for recognition. The recognized text is then matched with the CC.
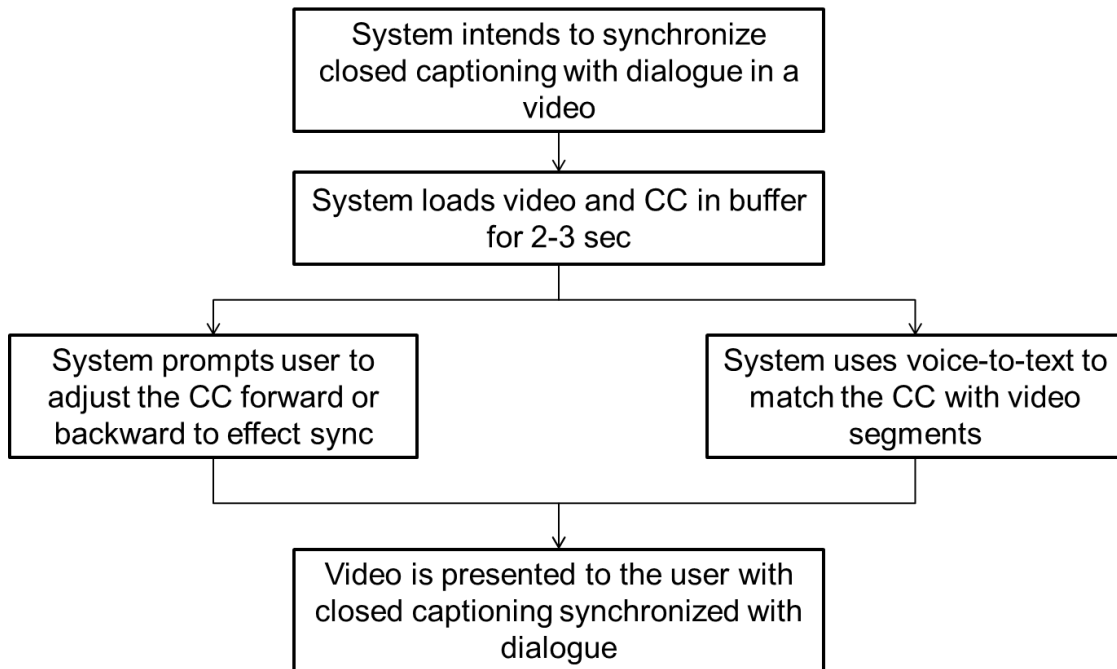

FIG. 1: Method to synchronize closed captioning with dialogue

Alternative implementations of the method may include automation, and may require a server for audio recognition (this may also be done locally as recognition gets better and ICs get more powerful). The server may possibly recognize the viewer's location in the playback with audio recognition and may send synchronized CC snippets to the rendering device. The local CC buffer may not be used.

The system and method to synchronize closed captioning with dialogue may assist hearing impaired users who depend on CC to gain meaning from videos.