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3D Face Messaging On A Watch

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3D FACE MESSAGING ON A WATCH

ABSTRACT

A system and method are disclosed that may send a video-like message to a receiver even when the receiver is offline. The system includes a user smart device incorporating an application, and a receiver smart device incorporating the similar application. The method captures a single 2D image of the user's face using a camera incorporated in the communication device. The 2D image of the user's face is then recreated as a 3D model. The message to be sent to a receiver is recorded as an audio message and sent along with the 3D model. At the receiver end the audio message is played back with facial movements of the user that correspond to the speech signals sent by the user. The method is incorporated as an application in a smart-watch. The method offers video-like messaging experience at a low computational cost and requires low bandwidth.

KEYWORDS: voice messaging, smart-watch, low bandwidth, video-like messaging

BACKGROUND

Communication technology is fast developing. At present, users can communicate over text messages, audio call or video call. Text messaging is fast, easy and convenient. But reliability and versatility need to be compromised while using text messages. Video call is not asynchronous. Both the users have to be present for the communication to happen. Also a video message may include the mesh of the image along with the compressed audio signal to be carried over the network. This increases bandwidth consumption.

DESCRIPTION

A system and method are disclosed that may send a video-like message to a receiver even when the receiver is offline. The system as shown in FIG. 1 includes a user smart device

incorporating an application that would send and receive a video-like message, and a receiver smart device incorporating the similar application. The message to be sent is recorded in the user's device and sent to a receiver along with a 3D model of the user's image. The receiver may receive the message as a video-like message, where the 3D face of the user with facial movements corresponding to the recorded audio signal can be seen.

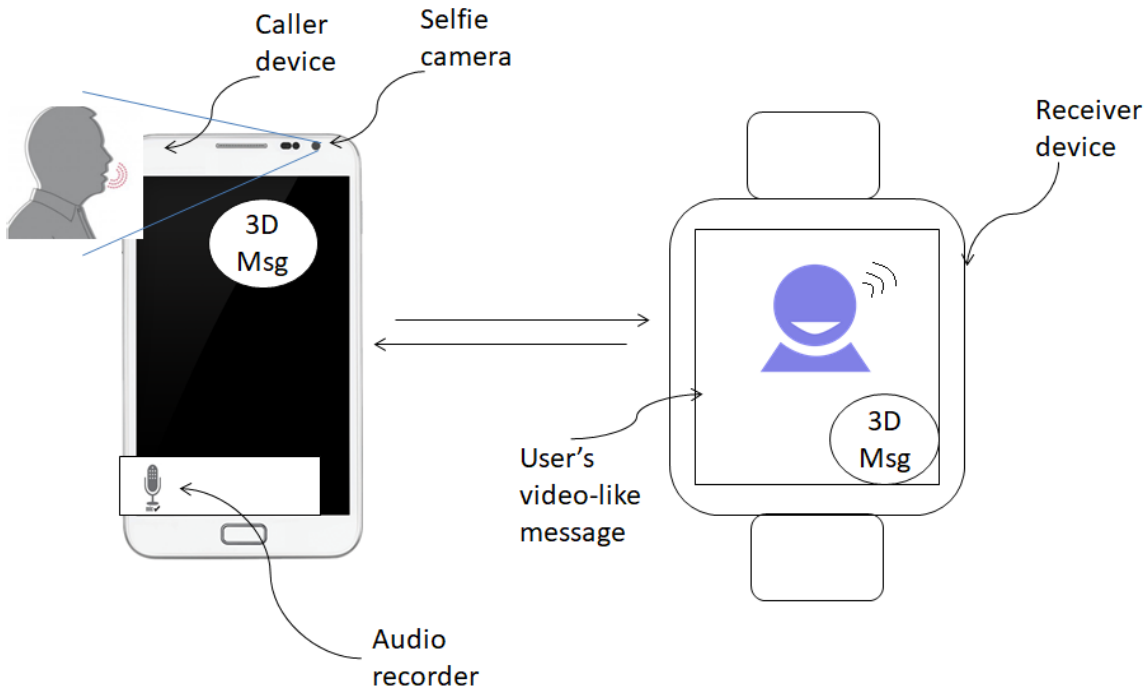

FIG. 1: System to send and receive video-like messages

The method as shown in FIG. 2 includes capturing a single 2D image of the user's face in step A using a camera incorporated in the user's communication device. This is done only once during setup. The 2D image of the user's face is recreated as a 3D model in the system in step B. In step C the message to be sent to a receiver may be recorded as an audio message and sent to the receiver along with the 3D model of the user's image. At the receiver end in step D, the audio message is played back with facial movements of the user that correspond to the speech signals from the user. This method may give a video-like experience to the receiver.

The method is incorporated as an application in a smart-watch, or other wearable device, a smartphone, tablet or other computing device, suitably. The method may also be incorporated in chat messaging. The method offers video-like messaging experience at a low computational cost and requires low bandwidth.

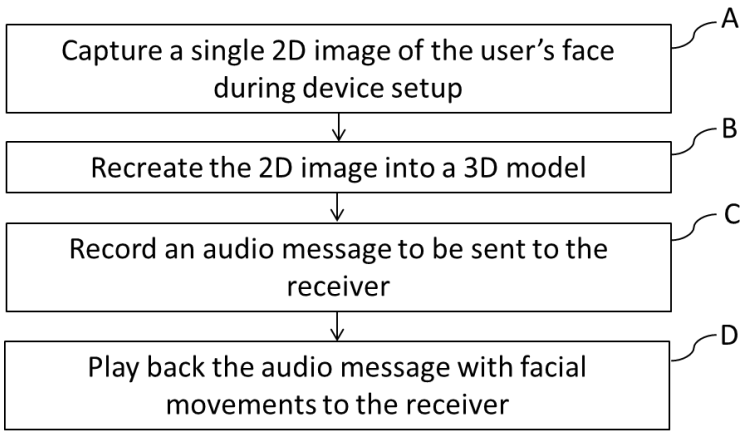

FIG. 2: Method of sending a video-like message to a receiver