Abstract

Door phone embedded system for voice and face based user recognition is mainly used for security purpose. A natural way to identify a person is through their voice and face. Voice characteristics are different among individuals due to differences in their sound dynamics, vocal chords etc. A practical problem is voice can be trap by anyone. This proposed system is to recognize user password through voice and user recognize face at the door based on ARM processor. Speech technology is not 100% reliable but using an embedded microphone array increases speech in very noisy environments. Face Recognition is the process of matching the detected face to one of many faces known to the file system. The system consists of three parts. First users pronounce a password through MIC which he enrolled and the MIC is present on ARM 9 board. Secondly, using an usb camera interface images is captured and the image is processed with help of Opencv and compared with existing database. And finally if the current image is match with any of existing image the system forwards user password to owner mobile through GSM module. The main aim of this project is to recognize the voice and face of the user at the door based on ARM processor. The algorithms were implemented in the system using C++. The system uses the Intel OpenCV library for image processing. However, when we use OpenCV library to detect a frontal face in an image using its Haar Cascade classifier face Detector, this will increase the human computer
interaction by using real time face recognition. Phonon multimedia framework is used to display the image of the user. So that when user place face in front of camera it display recognize image of the user.

References


Index Terms

Computer Science
Circuits And Systems

Keywords

Voice Recognition  Face Detection  Face Recognition  Qt GUI Framework  OpenCV.