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ANDROID APPLICATION FOR VISUALLY IMPAIRED AS A MEDICINE GUIDE

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ABSTRACT : *This system is an application which helps the blind people to find medicine and take them according to the prescription. This android application is used when blind people want to take their system and there is no assistance for the medicines. In this application, alarm is set which tells the user when to take the medicines, as a voice output. The image of the medicine strip held in the hand is captured by the inbuilt camera of the mobile. The image is processed and the name of the medicine is identified.It also tells the time of the medicine as well the quantity of the medicine to be taken. On receiving the voice output from the mobile, the user intakes the medicines according to the prescription given by the doctor.*

KEYWORDS : *Image Processing , visually impaired, medicine identification ,Text localization and Extraction, Firebase, TTS,QR code scanning.*

I. INTRODUCTION

Blind people face a lot of adverse challenges in their day to day life. Most of the time they are perplexed in a new environment or surrounding due to issues related to accessibility. So, this prevents them from experiencing the world in the same way as others do. Identifying and accessing things is something many of us may take it for granted. But the visually challenged people are curbed by their disability. Especially in a medicine taking scenario, it is difficult for them to find whether they have identified the medicine correctly or not. They will have to seek others help for it. Moreover a mobile application will be easy to use and the hardware needed is very limited. In this paper we propose an image processing and QR code based android mobile application that provides top guidance and assistance to the visually impaired user for taking their medicines.Throughout the process the user is guided using the voice output rather than text. The Android platform has been used to build this app mainly because of its wide popularity and cost effectiveness in the smart phone market. Among people there are some that are unable to read, either because of blindness (complete or partial), or for other reasons. Therefore, initially for this category of people, there is a need for computer-generated speech, namely the conversion of written texts into acoustic files .In the market, there already are different solutions to synthesize speech from text written in different languages. However, these solutions cannot be used for generating speech in other languages, because for every language, specific algorithms should be used to synthesize speech, since each language is different during the speech. Therefore, for the English language too, there is a need to design a particular algorithm and to create the system to synthesize speech in this language. Even doctors can keep watch on their health record of the patient so it would be easy to keep patient health record.

II. EXISTING SYSTEM

In this system they offer an application for medicine taking scenario for the visually impaired people to take them according to Doctor prescription to provide assistance in the medicine taking scenario through label reading.in this system there was no QR code scanning which made the system more complex and there also was no multiple login for patient.

III. PROPOSED SYSTEM

In this system we have proposed an android application for visually impaired as well as people who suffers memory issue to remember and identify medicine according to doctors prescription.in this system we are also adding the QR code scanning which is on medicine so that even if medicine name gets erased due to some reason the patient can scan the QR code and take medicine on time and also we are adding multiple patient login method on device . Optical Character Recognition (OCR) gives a computer the ability to read text that appears in an image, letting applications make sense of signs, articles, flyers, pages of text, menus, or any other place that text appears as part of an image. The Mobile Vision Text API gives Android developers a powerful and reliable OCR capability that works with most Android devices and won't increase the size of your app and build an app that shows a live camera preview and speaks any text it sees there.
Initializing the Mobile Vision TextRecognizer. Setting up a Processor to receive frames from a camera as they come in and look for text. Rendering out that text to the screen at its location. Sending that text to Android's TextToSpeech engine to speak it aloud.

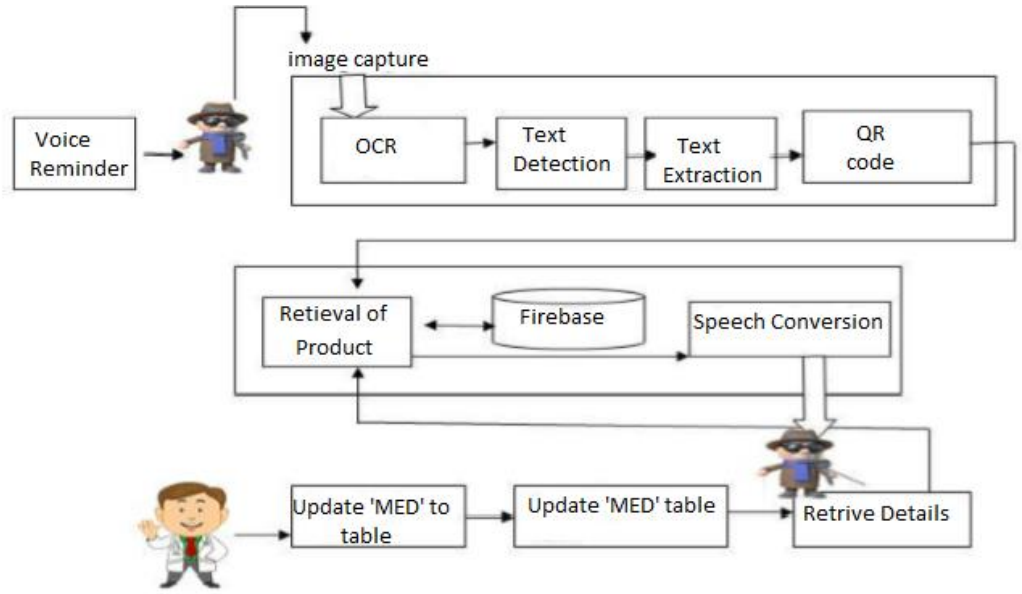


Fig. 1 Block Diagram

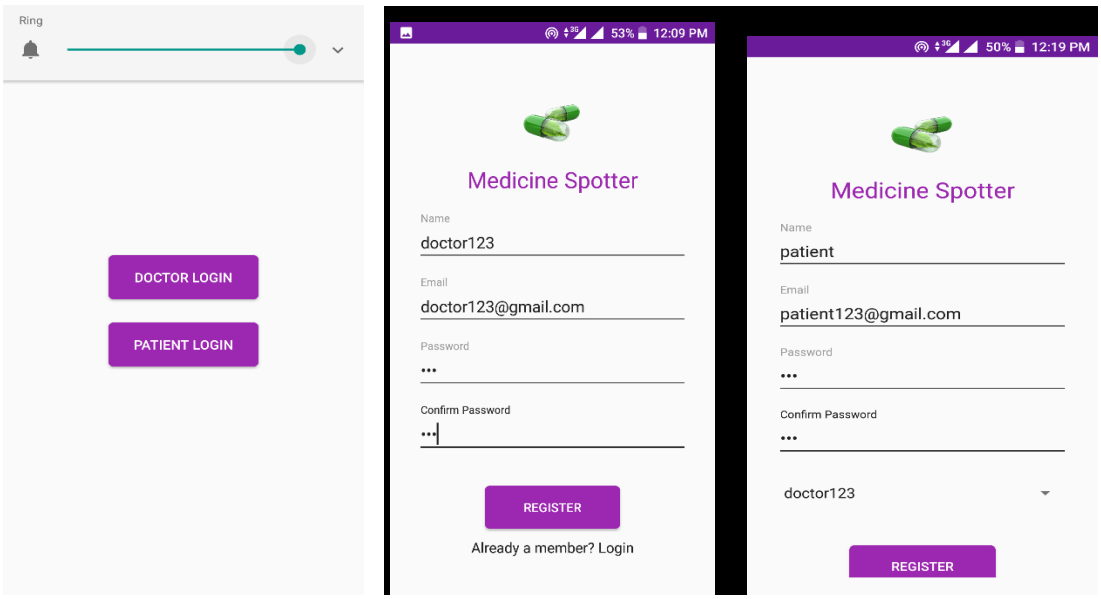
IV. IMPLEMENTATION

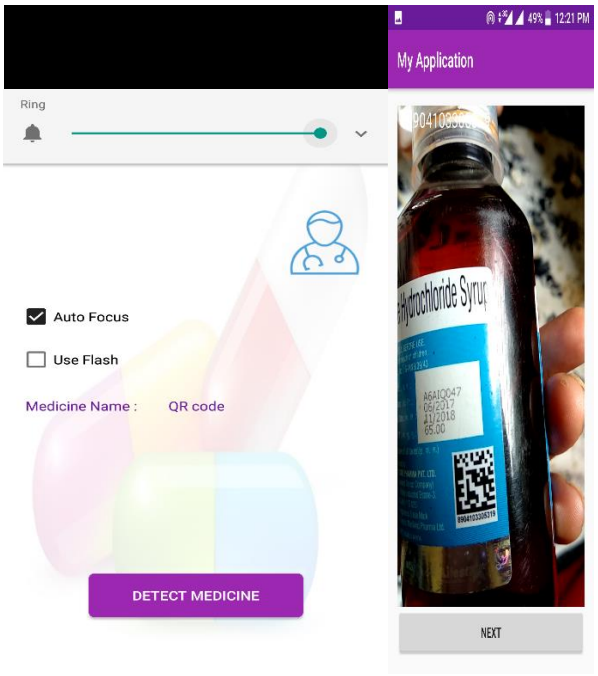
A. Hardware and Software Implementation :

The aim of project is to develop a system that can provide information in medicine taking scenario using OCR for text detection. Android phone is required with greater version 1.2. This project is developed by using Java, XML and firebase.The firebase Realtime database is a cloud hosted database.Data is stored as Json and synchronized in realtime to every connected client. Java programming language and Android SDK, JDK are use for developing the application. Firebase is a back end database used to access data from server. XML used for structure designing .

V. RESULT

Output Screenshot:





VI. CONCLUSION

In this system we have proposed an android application for visually impaired as well as people who suffers memory issue to remember and identify medicine according to doctors prescription.in this system we are also adding the QR code scanning which is on medicine so that even if medicine name gets erased due to some reason the patient can scan the QR code and take medicine on time and also we are adding multiple patient login method on device .In the future QR code is the medicine itself as the label and description so that this helps in medicine taking scenario.

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