VOICE BASED APPLICATION AS MEDICINE SPOTTER FOR VISUALLY IMPAIRED

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Abstract: System proffers an application in order to expedite easy and innate way to find the medicine for the visually impaired people and to take it according to their Doctors prescription. Visually impaired people need not be dependent and seek others help to find the medicine to be taken. This android application is used to overcome the difficulties they face in this scenario. In this application, a reminder Is set which tells the user when to take the medicines, as voice output. The pictures of the medicine strip held in the hand are captured by the in built camera of the mobile. The image is processed and consequently text localization and extraction is done by which the name of the medicine is identified. A spotter section is also consolidated with this application which checks the prescription which has been already uploaded in the users mobile, compares with the name of the medicine identified and if the medicine has to be taken at that time, then it tells the quantity of medicine to be taken to the user as voice output. On receiving the voice output from the mobile,the user in takes their medicines according to their prescription. It can also be useful for uneducated people who suffer to find which medicine must be taken. Especially elder people who are not educated usually suffer to read their medicine names on their own. This idea would achieve good results in practice.

Keywords: visually impared people, medicines potter, embedded system, label,

I. Introduction

Visually challenged people and uneducated people face a lot of adverse challenges in their day to day life.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.In this system we propose an image processing based android mobile application that provides top- to-bottom 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 because of its wide popularity and cost effectiveness in the smart phone market.

There are 3 basic modules into which the application has been split up as reminder, identifying the medicine by label reading and voice output.

II. Problem Statement
A.Motivation:

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.

In this system we propose an image processing based android mobile application that provides top- to-bottom guidance and assistance to the visually impaired user for taking their medicines.

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B. Problem Statement:

In order to expedite easy and innate way to find the medicine for the visually impaired people and to take medicines according to their Doctors prescription. we haveproposedsystemofwiththeabilityofdetectingthemedici neandreminding user when to take the medicines, as voice output.

3. Related Work

In order to expedite easy and innate way to find the medicine for the visually impaired people and to take medicines according to their Doctors prescription. we have proposed system of with the ability of detecting the medicine and reminding user when to take the medicines, as voice output.

Ad networks pay publishers based on the number of times ads are seen (called impressions) or clicked by users, or some combination thereof [4]. For example, Microsoft Mobile Advertising pays in proportion to total impression count × the overall click probability.

Magiet al.[5]implement an automatic shoulder surfing attack against modern touch-enabled Smartphone's. The attacker deploys a video camera that can record the target screen while the victim is entering text. Then user input can be reconstructed solely based on the keystroke feedback displayed on the screen. However, this attack requires an additional camera device, and issues like how to place the camera near the victim without catching an alert must be considered carefully. Moreover, it works only when visual feedback such as magnified keys are available.

spy, proposed by Raguram, [6] shows how screen reflections may be used for reconstruction of text typed on a Smartphone's virtual keyboard. Similarly, this attack also needs an extra device to capture the reflections, and the visual key press confirmation mechanism must be enabled on the target phone. In contrast, our camera-based attacks work without any support from other devices.

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III. Existing System:

This system proposes to use visual features matching in the identification of medicine strips for visually impaired people.

It uses RFID scanner to scan the relevant features of RFID tag which is sticked on the medicine strip.

A.RFID tag:-

RFID tagging is an ID system that uses small radio frequency identification devices for identification and tracking purposes. An RFID tagging system includes the tag itself, a read/write device, and a host system application for data collection, processing, and transmission. An RFID tag (sometimes called an RFID transponder) consists of a chip , some memory and an antenna .
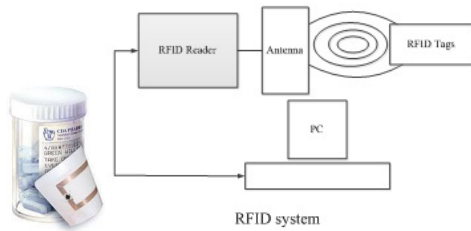
Fig:Working of RFID

B.Drawbacks of Existing System:
- This system uses RFID tags,so it needs the hardware.
- It is costly due to use of hardware.
- It is difficult to tag every tablet or medicine strip.

III. Proposed Work

System proffers an application in order to expedite easy and innate way to find the medicine for the visually impaired people and to take it according to their Doctor's prescription.

In this system the medicine is identified by using the mobile camera. The application detects the text and compares it with the prescription and according to that it tells the timing of medicine

There are three main sections of a system
1. Medicine Identification
2. Matching it with prescription
3. Reminder

1. Medicine Identification:-
   In medical identification the name of the medicine is identified. To detect the name google vision api and OCR(Optical Character Recognition) is used.them after using that application.
2. Matching it with prescription:-
   The detected medicine name is matched with the prescription. If the medicine matches with the detected text then the reminder will give voice output as per the condition

3. Reminder:-
   The reminder gives the voice output. For that text to speech is used
   The reminder can be set according to the medicine timing
   On receiving the voice output from the mobile, the user intakes their medicines according to their prescription. To detect the medicine name from the medicine strip we can put a sticker on it
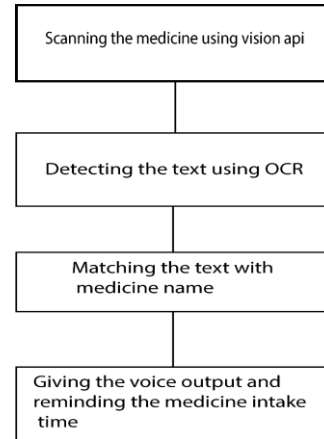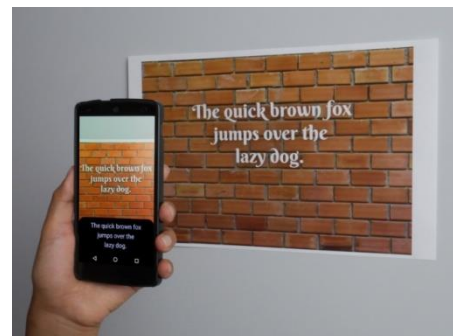
Figure 2. Work Flow of Camera Attack Detection

A.Google vision api:-

Google Cloud **Vision API** Documentation. Cloud **Vision API** allows developers to easily integrate **vision** detection features within applications, including image labeling, face and landmark detection, optical character recognition (**OCR**), and tagging of explicit content .

B.OCR:-

Optical Character Recognition, or **OCR**, is a technology that enables you to convert different types of documents, such as scanned paper documents, PDF files or images captured by a digital camera into editable and searchable data.

IV.Application
- Visually impaired person can easily take medicine.
- Medicine timings can be regularly followed.
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V. Conclusion

In proposed system we find camera-related vulnerabilities in Android phones for mobile multimedia applications. We discuss the roles a spy camera can play to attack or benefit

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phone users. We discover several advanced spy camera attacks. Meanwhile, we propose an effective defense scheme to secure a smart phone from all these spy camera attacks. And we have developed our own fraudulent calculator application to capture the front camera of the Galaxy Note Android phone. In the future, we will investigate the feasibility of performing spy camera attacks on other mobile operating systems.

VI. Future Scope:

- The future work includes enabling scanning any medicine and giving all information about that medicine like side effects , precaution ,diet consideration.
- It will helpful for everyone. They can search a information about any medicine.

8Acknowledgement

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