

VIDYALANKAR INSTITUTE OF TECHNOLOGY

Affiliated to University of Mumbai

Wadala(E), Mumbai - 37



A MINI-PROJECT REPORT

ON

“APP FOR BLIND PEOPLE”

(Course – Android Apps Development Lab)

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CERTIFICATE

Certified that the mini-project work entitled “**App For Blind People**” is a bonafide work
carried out by

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The report has been approved as it satisfies the academic requirements in respect of
miniproject work prescribed for the **course- Android Apps Development Lab**.

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Acknowledgement

We are pleased to present Android application for “**App For Blind People**” as our project and take this opportunity to express our profound gratitude to all those people who helped us in completion of this project.

We thank our college for providing us with excellent facilities that helped us to complete and present this project. We would also like to thank the staff members and lab assistants for permitting us to use computers in the lab as and when required.

We express our deepest gratitude towards our project guide **Prof. Indu Anoop** for her valuable and timely advice during the various phases in our project. We would also like to thank her for providing us with all proper facilities and support as the project co-coordinator. We would like to thank her for support, patience and faith in our capabilities and for giving us flexibility in terms of working and reporting schedules.

Finally, we would like to thank everyone who has helped us directly or indirectly in our project.

Abstract

Disability of visual text reading has a huge impact on the quality of life for visually impaired people. Visual impairment is one of the biggest limitation for humanity , especially in these days when information is communicated a lot by text messages rather than voice. Hence, we have developed an application for the blind people.

This application captures an image, extracts only the region of interest and converts that text to speech. It also detects the current location of the user so that it will be helpful for them in case of an emergency and it also useful for the blind people as it guides them by asking about his destination location and provides the directions.

Chapter 1: INTRODUCTION

1.1 Introduction

As reading is of prime importance in our daily life , visually impaired people face a lot of difficulties. Therefore, to provide an access to information, so that they will be independent, we have developed an application that will assist these people by capturing an image, extracting the text from it and providing them the output in form of speech. It also helps them by detecting the current location of the user and guiding them throughout by providing directions so that they can reach safely to their destination location.

Objectives:-

1. To provide an application which is user friendly, cost effective and applicable in real time.
2. To help the visually impaired people to become self-reliant as they will no longer need assistance to understand printed text.

1.2 Problem Statement

Visually impaired people are unable to read text and they also face a lot of difficulties in routine life because it is challenging for them to navigate from one place to another. Hence, we have developed this application to reduce their dependency on others for communication.

This application captures an image and converts the text in the form of speech. It has a local database to solve this problem. We have also introduced a Geo-location module is helpful to locate a person's exact location for emergencies as well as for regular used also. Geo-loaction helps user to understand its location and also this application help impaired people to listen to the location using Text to speech conversion system.

1.3 Motivation

We are in an era where Google's Android operating system has penetrated the nook and corner of the world. The best part about android operating system is its feature of being open source. Every since Google rolled out its play store , with google play store and Android smartphones access to app has become so easy for all.

1.4 Scope

- To detect handwriting of various individuals written in different languages.
- To give speech as an output in any desired language of the user's choice.
- To display nearby locations using geolocation.
- People with poor vision as well as those who are totally dumb can use this application to type words and convert into speech .

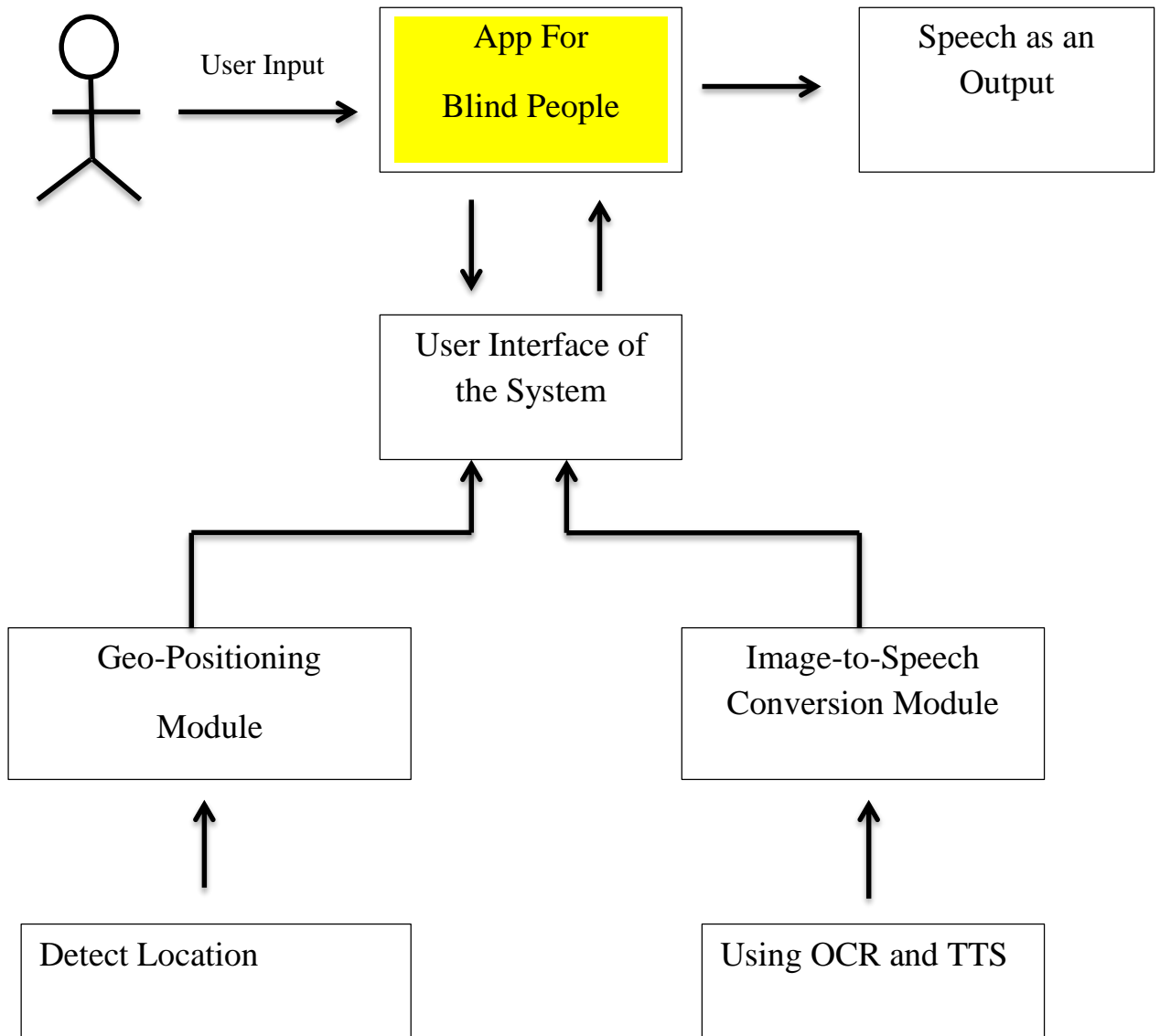
Chapter 2: LITERATURE SURVEY

2.1 Literature Survey

SRNO	YEAR	PAPER TITLE	AUTHOR	LEARNING
1.	May 2018	PsuedoEye-Mobility Assistance for Visually Impaired Using Image Recognition	1)A.G.Sareeka	The proposed prototype design detects the signboards, processes the image of the board taken through a camera using OCR technique and convert it into voice signal that is delivered to user. If any text is present in the image, it is processed and converted to audio output.
2.	February 2017	B-LIGHT: A Reading Aid for the Blind People using OCR and Opencv	1)Mallapa D.Gurav 2)Shruti B. 3)Shruti S. 4)Byakod I.	<p>It Proposed that this project presents a smart device that assists the visually impaired which effectively and efficiently reads paper-printed text. The proposed project uses the methodology of a camera based assistive device that can be used by people to read Text document.</p> <p>In this research these images are converted into audio output. OCR is used in machine process such as cognitive computing, machine translation, text to speech, key data and text mining.</p>

Chapter 3: PROPOSED SYSTEM

3.1 Flow diagram:



3.2 Hardware Requirement

- 1) 4GB RAM.

3.3 Software Requirement

- 1) Android Studio 3.5
- 2) Operating System : Windows 10

Chapter 4: IMPLEMENTATION

4.1 Results:-

Image To Speech Screenshot:-

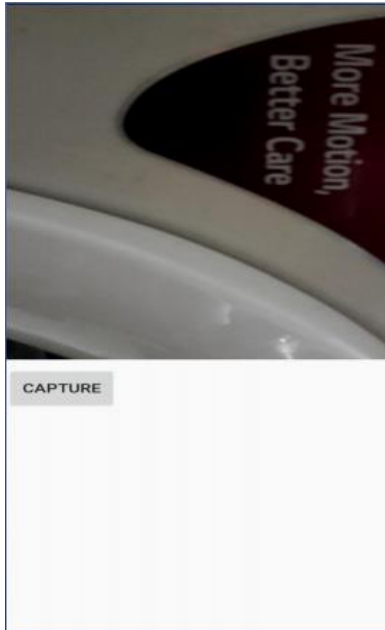


Figure 1: Before Capturing Image

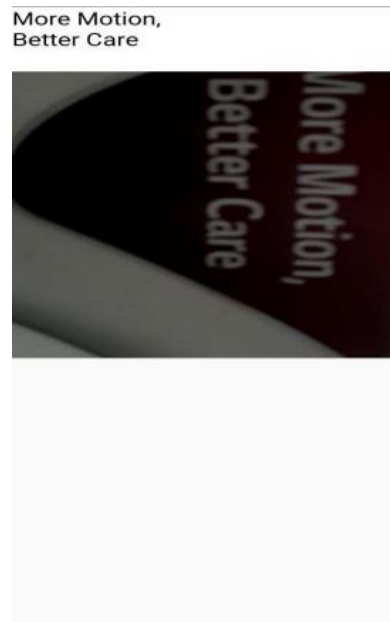


Figure 2: After Capturing image (Output)

Geoloaction ScreenShot:-

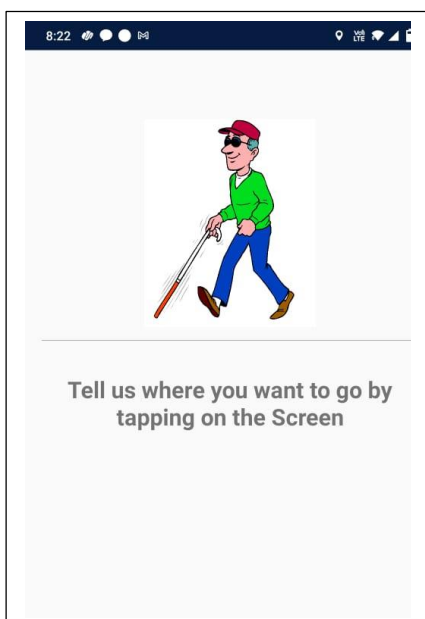


Figure 3: After opening geoloaction

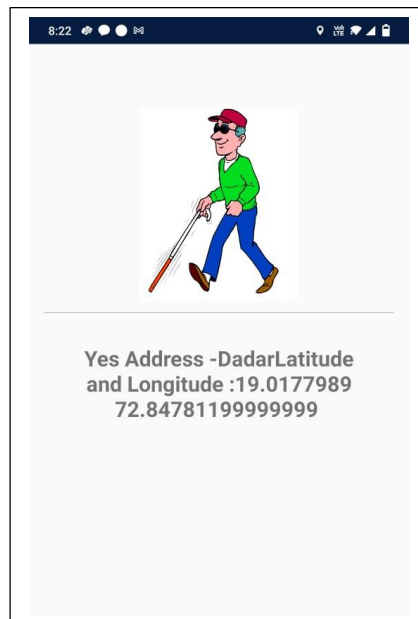


Figure 4: After telling location

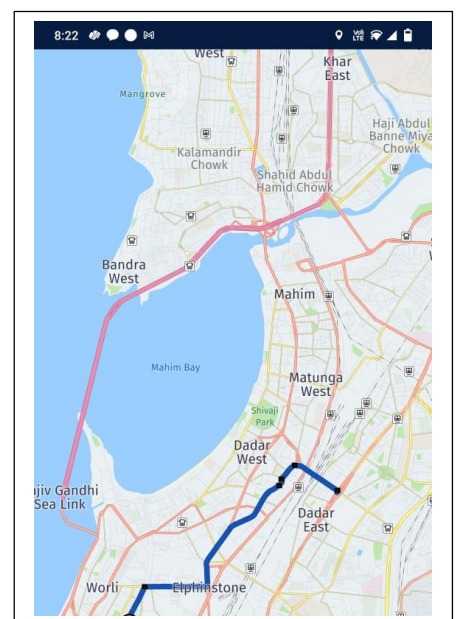
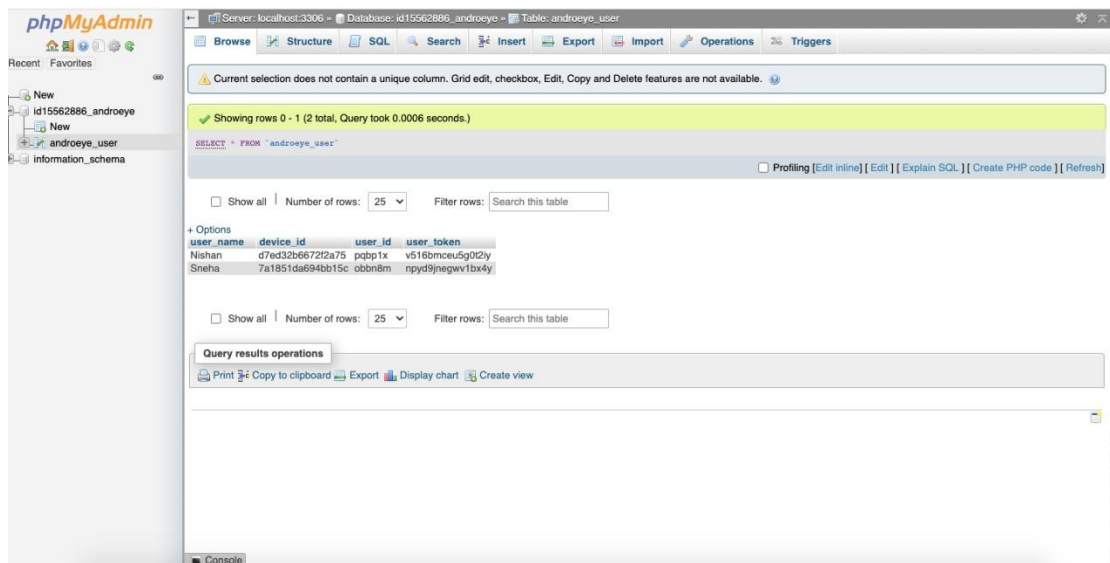


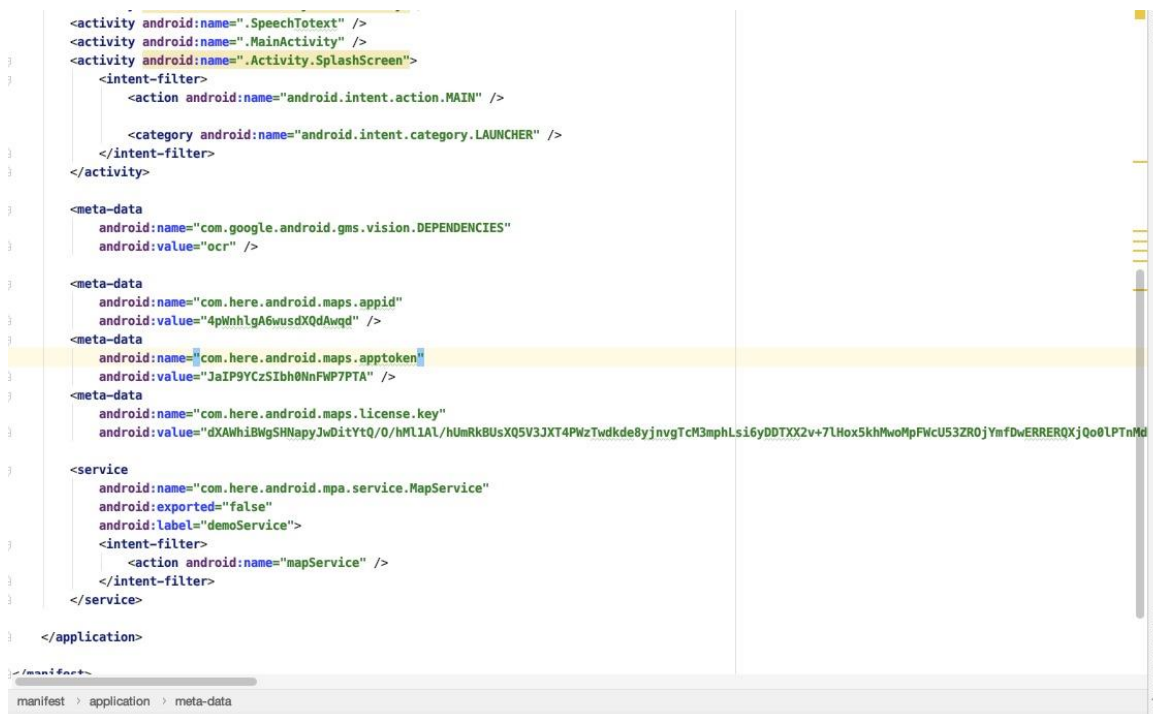
Figure 5: Its take to the map

Data Base Screenshot:-



4.2 Code:

Image-To-Speech Code:-



Geolocation Code:-

```
import ...

public class GeocodingLocation {

    private static final String TAG = "GeocodingLocation";

    public static void getAddressFromLocation(final String locationAddress,
                                             final Context context, final Handler handler) {

        Thread thread = run() -> {
            Geocoder geocoder = new Geocoder(context, Locale.getDefault());
            String result = null;
            try {
                List<Address> addressList = geocoder.getFromLocationName(locationAddress, maxResults: 1);
                if (addressList != null && addressList.size() > 0) {
                    Address address = addressList.get(0);
                    StringBuilder sb = new StringBuilder();
                    sb.append(address.getLatitude()).append(" ");
                    sb.append(address.getLongitude()).append(" ");
                    result = sb.toString();
                }
            } catch (IOException e) {
                Log.e(TAG, msg: "Unable to connect to Geocoder", e);
            } finally {
                Message message = Message.obtain();
                message.setTarget(handler);
                if (result != null) {
                    message.what = 1;
                    Bundle bundle = new Bundle();
                    result = "Yes Address -" + locationAddress +
                        "Latitude and Longitude : " + result;
                    bundle.putString("address", result);
                    message.setData(bundle);
                } else {
                    message.what = 1;
                    Bundle bundle = new Bundle();
                    result = "Address: " + locationAddress +
                        "\n Unable to get Latitude and Longitude for this address location.";
                    bundle.putString("address", result);
                }
            }
        }
    }
}
```

GeocodingLocation > getAddressFromLocation() > new Thread > run()

IDE and Plugin Updates
Android Studio is ready to update.

Event Log

Database Connectivity Code:-

```
1 <?php
2 require 'dbconfig/config.php';
3 header("Access-Control-Allow-Origin: *");
4 header("Access-Control-Allow-Headers: Authorization, Origin, X-Requested-With, Content-Type, Accept");
5 header("Content-Type: application/json");
6
7
8 if($_SERVER['REQUEST_METHOD'] == 'POST'){
9     $user_name=$_POST['user_name'];
10    $device_id=$_POST['device_id'];
11    $user_id=$_POST['user_id'];
12    $user_token=$_POST['user_token'];
13    $query = ("SELECT * FROM androeye_user WHERE device_id = '$device_id'");
14    $result = $con->query($query);
15    $result = $result->fetch_row();
16    if ($result > 1){
17        $response["error"] = TRUE;
18        $response["message"] = "Device ID already registered.";
19        echo json_encode($response);
20    }
21    else{
22        $queryCreateUser="insert into androeye_user(user_name,device_id,user_id,user_token) values
```

SAVE & CLOSE SAVE

Edit file



/public_html/API/CreateUser.php

```
20     }
21     else{
22         $queryCreateUser="insert into androeye_user(user_name,device_id,user_id,user_token) values
23             ('$user_name','$device_id','$user_id','$user_token')";
24         $result = $con->query($queryCreateUser);
25         if(!$result){
26             $response["error"] = TRUE;
27             $response["message"] = "Something went wrong";
28             echo json_encode($response);
29         } else{
30             $response["error"] = FALSE;
31             $response["message"] = "User Created Successfully";
32             echo json_encode($response);
33         }
34     }
35 }
36 }else{
37     $response["error"] = TRUE;
38     $response["message"] = "Incorrect Parameters";
39     echo json_encode($response);
40 }
```

SAVE & CLOSE

SAVE

Chapter 5

5.1 Conclusion

This is an approach for image to speech conversion using optical character recognition and text to speech technology. The application developed is user friendly for users, cost effective and applicable in the real time. People with poor vision or visual dyslexia or totally blindness can use this application for reading the documents and books. Future scope of this project are handwriting detection, regional language support, locations of nearby places, foreign currency detection. People with speech loss or totally dumb person can utilize this application to turn typed words into vocalization.

5.2 Future Scope

The application is user friendly, cost effective and applicable in real-time. By this approach we can read text from document, web page or e-book and can generate synthesized speech through mobile phone's speaker.

This application can also be used in parts if we want only text conversion, it is possible and if we want only text to speech conversion, it is also possible.

People with poor vision or visual dyslexia or total blindness can use this for reading documents and books. People with speech loss or totally dumb can utilize this to type words and convert into speech.

References

1. B-LIGHT: A reading aid for the blind people using OCR and openCV
Byakod I, Mallapa D. Gurav, Shruti B, Shruti S. Salimath, VijayalaxmiHatti,
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2. PsuedoEye-Mobility Assistance for Visually Impaired Using Image
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3. Image –To-Speech Conversation system using OCR, Jisha Gopinath, 2015.