PUC Checking App

Submitted in partial fulfillment of the requirements

of the syllabus of

Android Apps Development Lab

in

Information Technology

by

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SIES Graduate School of Technology

2021-22

CERTIFICATE

This is to certify that the project entitled **"**PUC Checking App**"** is a bonafide work of the following students, submitted to the University of Mumbai in partial fulfillment of the requirement of the syllabus of **Android Apps Development Lab** in **Information Technology.**

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Ms. Bushra Shaikh	Dr. Lakshmi Sudha	Dr. Atul N Kemkar
Internal Guide	Head of Department	Principal

PROJECT REPORT APPROVAL

This project report entitled ***PUC Checking App*** by following students is approved for the requirement of the syllabus of ***Android Apps Development Lab*** in ***Information Technology.***

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Name of External Examiner: ----------

Signature:----------

Name of Internal Examiner: ----------

Signature:----------

Date:

Place:

DECLARATION

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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Signature

Date:

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Project Team

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Suraj Pillai

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ABSTRACT

The main objective of our app is to help save the time of traffic police officers while checking the PUC certificates of individuals. With the PUC Checking App, the police officers need not have to physically verify the PUC certificate. All they have to do is to take the photo of the name plate using the application and the results will then be displayed on the app.

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Chapter 1

Introduction

As we all know, having a valid PUC certificate is very much essential for every vehicle. Having a PUC certificate is useful not only for the vehicle but also for our environment. PUC certificates are being checked by traffic police officers wherever possible. This however takes a lot of time. Moreover, considering the current situation, checking the PUC certificate of a vehicle physically is not safe at all.

With our application, all the traffic police officer has to do is to take the photo of the number plate of a vehicle and the application will then show him/her the validity of the PUC certificate of that vehicle. This process is very much safe and is not at all time consuming. With this application, multiple number plates can be scanned within a short period of time.

Chapter 2

Survey on Existing Apps

There are not many applications which have the same objective as our application. We have listed a few of the existing systems.

1. mParivahan

Provides Transport Service access to citizens through a mobile-based application. This app empowers citizens with instant access to various information, services and utilities related to the Transport Sector. Aimed to bring convenience to citizens and transparency in the system.

Features

- Users can verify their car registration details
- Users can also verify details of second-hand vehicles.

2. Vahan Parivahan

This one is not an application but a website. With the help of this website we can check the PUC details of a specific vehicle. We will be needing the registration number and chassis number of the vehicle.

Features

- We can get PUC details from this link. https://vahan.parivahan.gov.in/puc/views/PucCertificate.xhtml

Chapter 3

Report on Present Investigation

3.1) Problem Statement:

The main objective of our project is to save the time of traffic police officers in checking the PUC certificates of a specific vehicle and also to scan maximum number plates of vehicles in a short period of time.

3.2) Source of Problem Statement:

We observed that it takes a lot of time for the traffic police officers to check the PUC certificate of each and every person. Moreover, it is not at all safer too considering the current situation. So, we came up with the idea of our application because of this.

Chapter 4

Design and Implementation of Android Apps Components

4.1) Layouts

For the customization of inner components, we have used linear layout in our application.

relative layout

4.2) Intents

Android Intent is the message that is passed between components such as activities, content providers, broadcast receivers, services etc.

Since our app has a lot of activities, we have used intents at a lot of places. We have used it to launch activities like sign_in, sign-up, map etc.

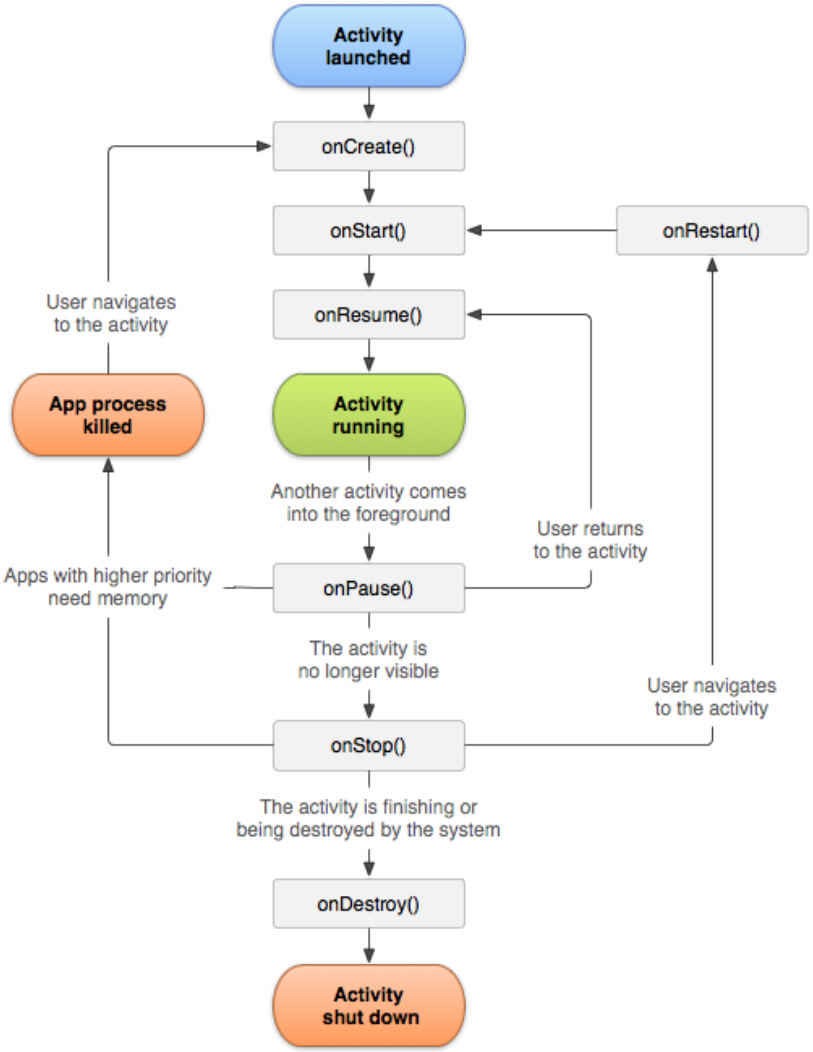
4.3) Activity

The Activity class is a crucial component of an Android app, and the way activities are launched and put together is a fundamental part of the platform's application model.

Activities created in our application:

1) activity_sign_in
2) activity_sign_up
3) activity_admin
4) activity_police_sign_up
5) activity_map

Activity Lifecycle:



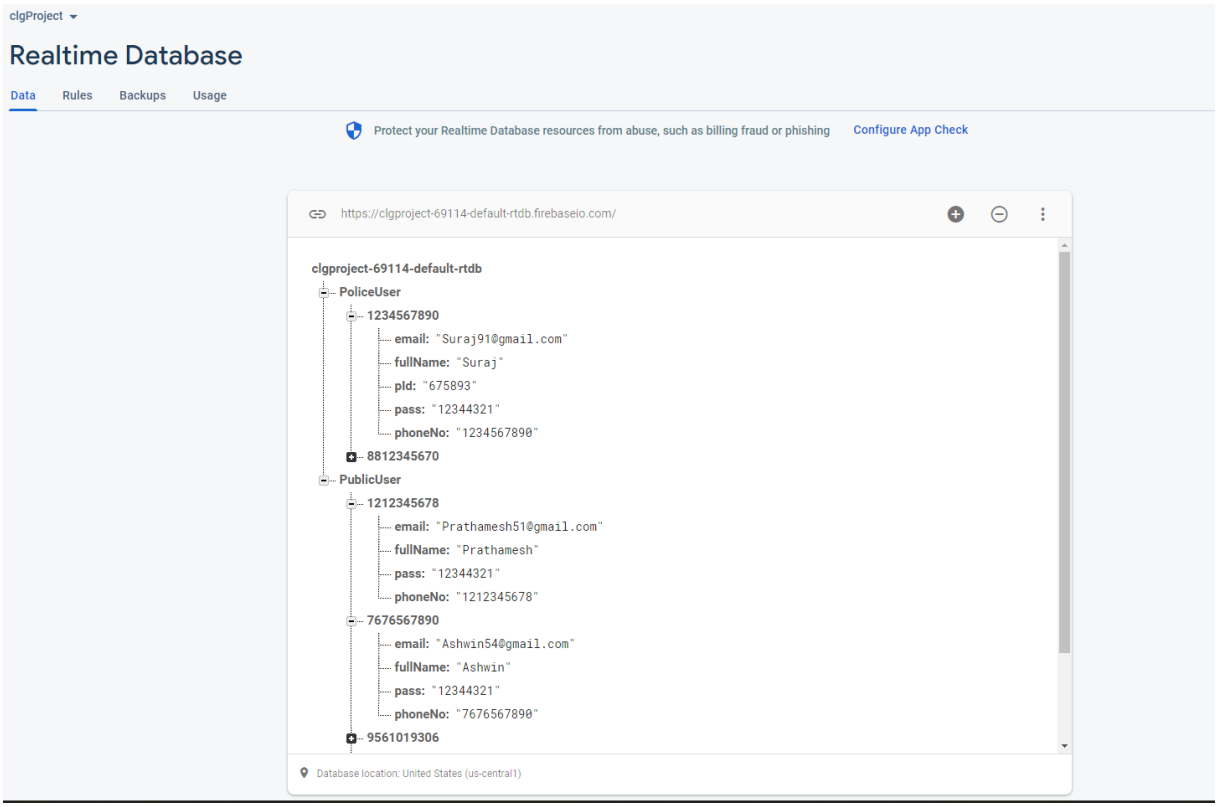
Screenshot

4.4) Dataabse

SQLite:

SQLite is a relational database management system contained in a C library.

Firebase:



Firebase is a platform developed by Google for creating mobile and web applications.

Databases created in your apps.

4.5) Camera

Camera is mainly used to capture pictures and video. We can control the camera by using methods of camera api.

Use of camera in your application:

Camera plays a very important role in our application. When a Traffic Police Officer logs in our application, he/she needs to scan a number plate so as to obtain the data in text form. Apart from this, even civilians need cameras so that they can upload PUC certificates.

SS

4.6) Location API

A data class representing a geographic location. A location may consist of a latitude, longitude, timestamp, and other information such as bearing, altitude and velocity.

Users can use the application to locate the nearest gas stations or car repairers shop.

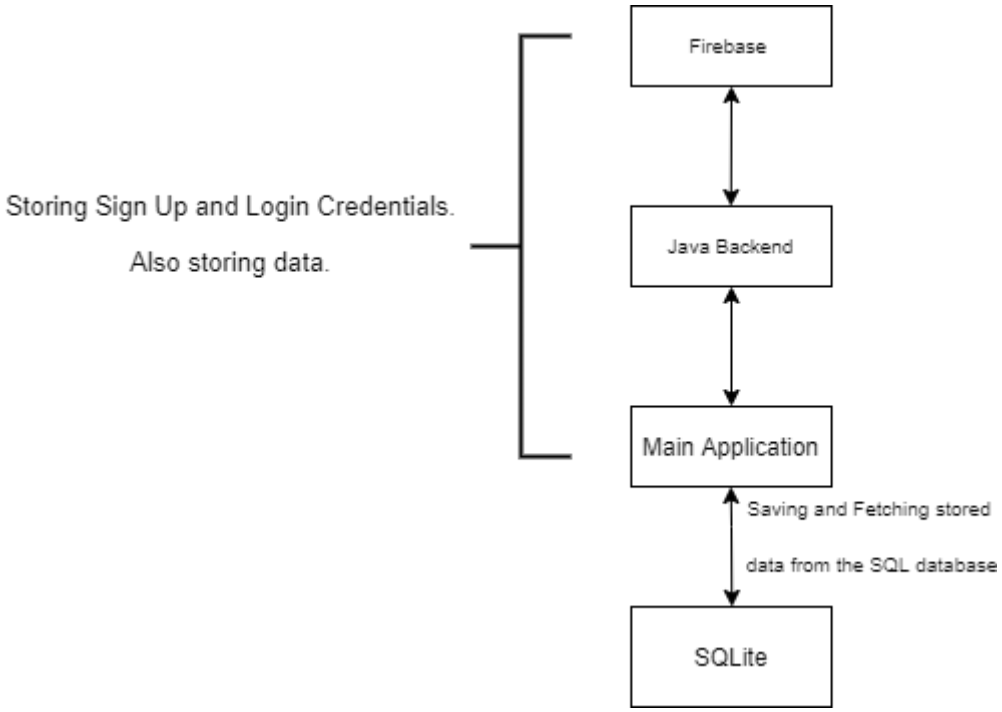
4.7) Generate APK

Steps with SS to show Android APK signing process for your app

Chapter 5

Report on Proposed System and its Implementation

Block Diagram:



Hardware –

- Android Device
- GPS
- Internet
- Camera (For QR Code Scanning)

Software / External Libraries used with description –

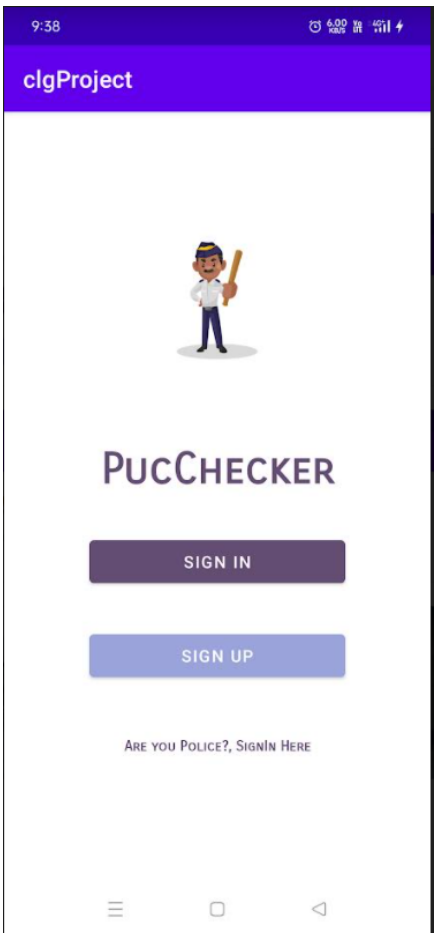
- Android Studio
- Libraries:
    - ➢ Play-services-maps
    - ➢ play-services-location
    - ➢ Firebase-database
    - ➢ Firebase-auth
    - ➢ Firebase-mlkit

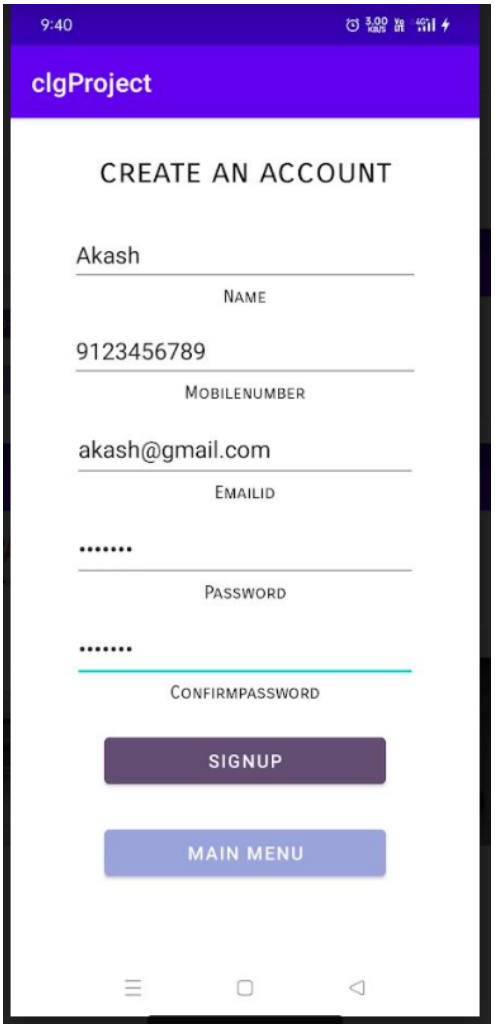
Chapter 6

Results and Discussions :

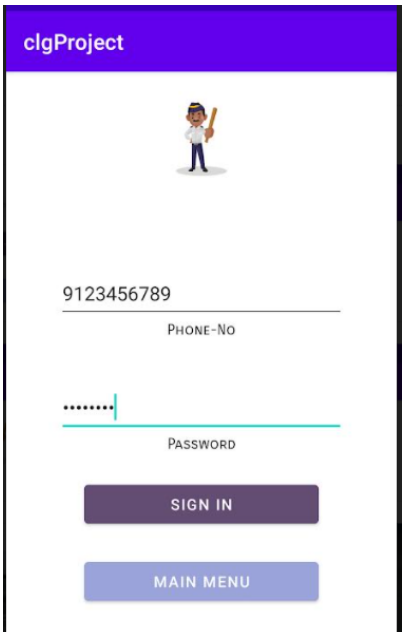
Module A:Driver account

This is the first page of the app where user can sign up and sign in and police can sign in

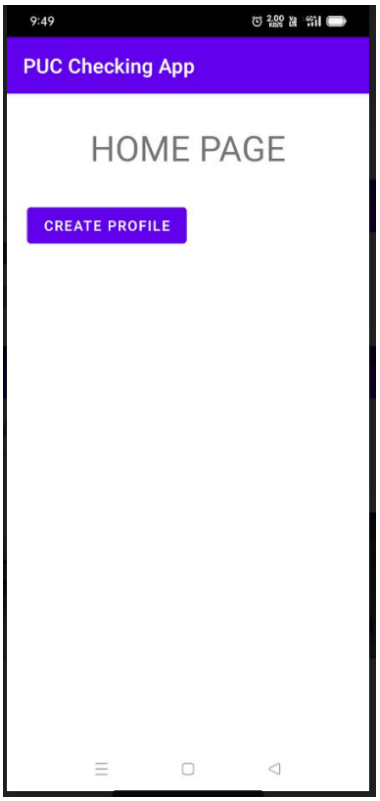




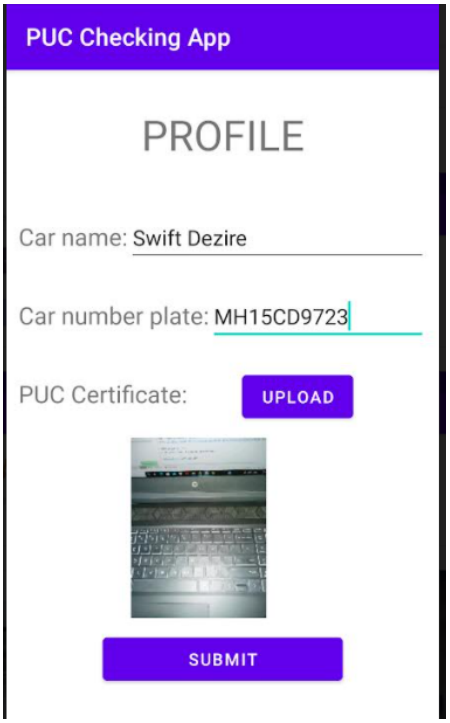
After registering successfully user can sign in



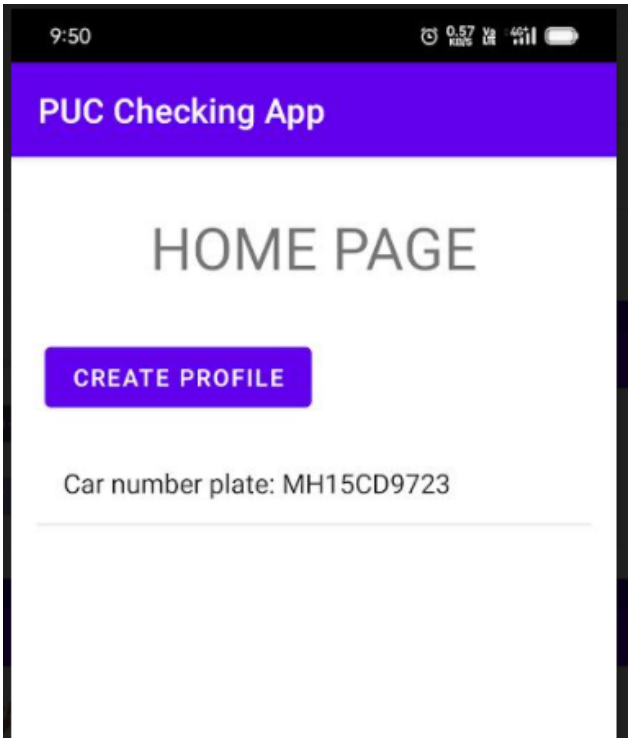
After signing in, the user will be redirected to the homepage.



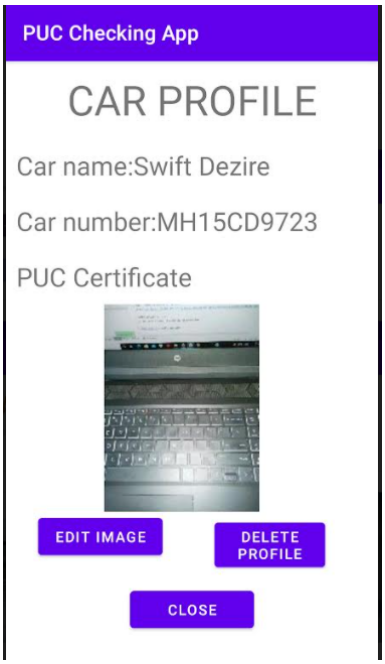
After tapping on create profile in homepage user will be redirected to profile page where he/she can create the profile of the vehicle



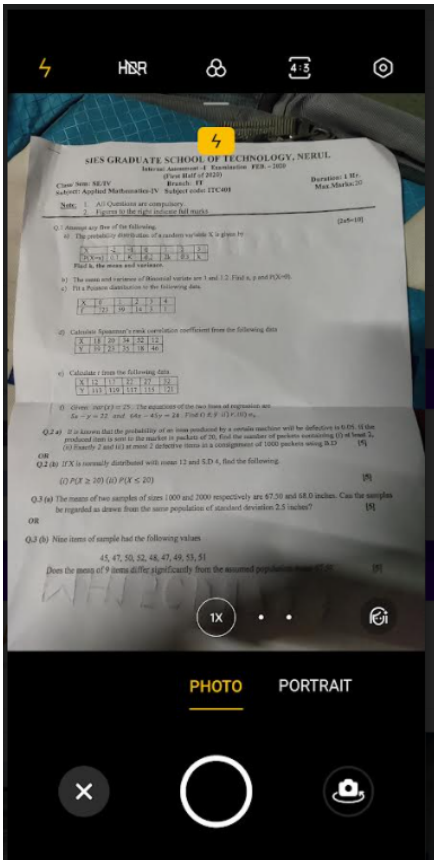
After creating the profile, the profile will be reflected in the homepage in terms of its car number plate



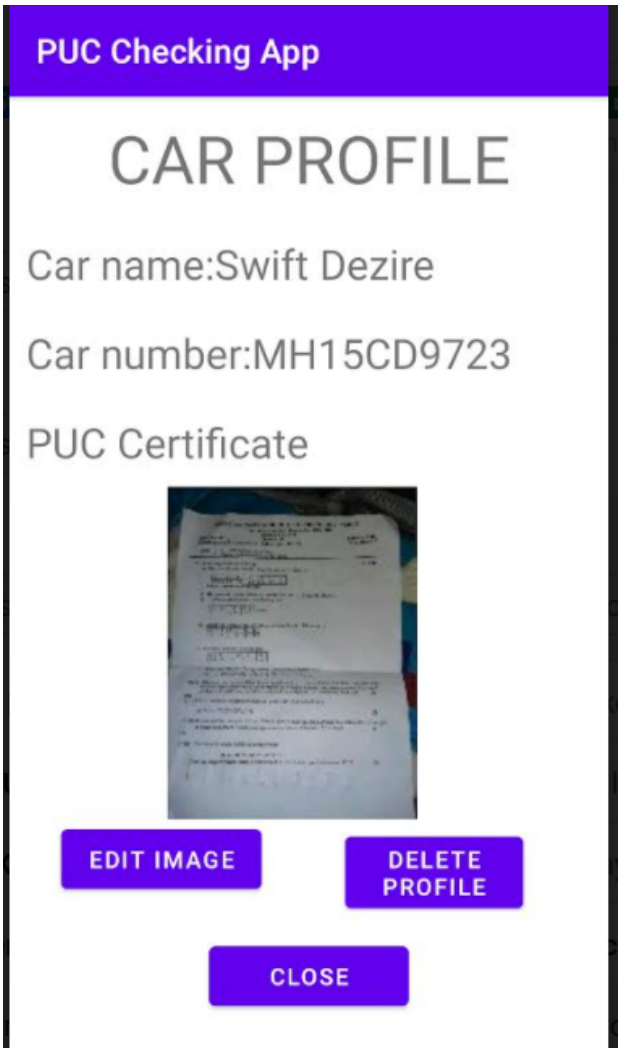
After tapping on the car number plate item, the car profile will be displayed



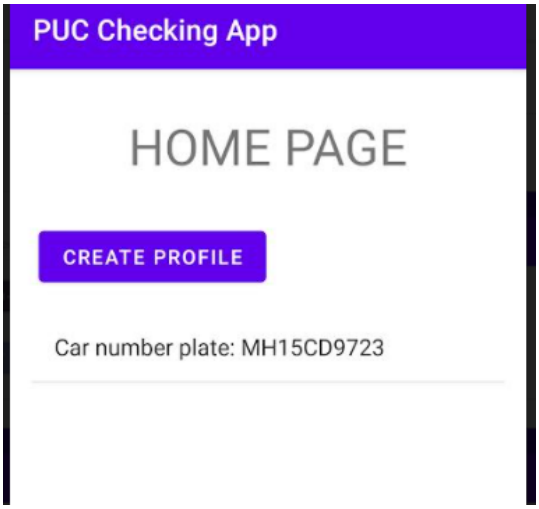
User can also update the image by clicking on edit image button

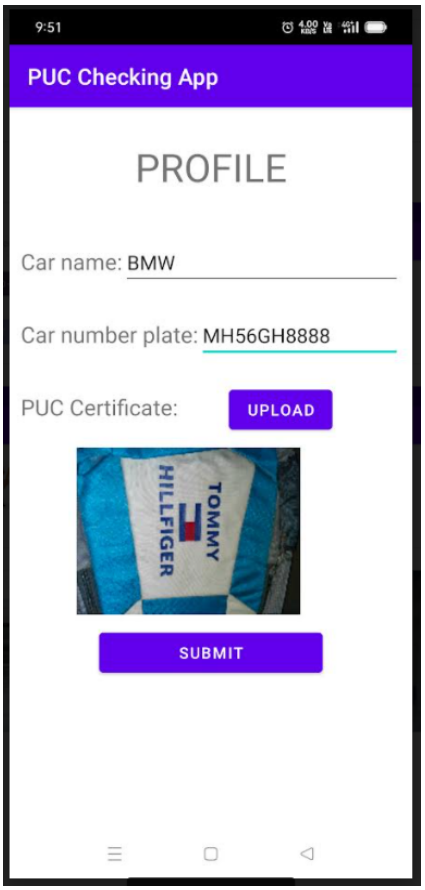


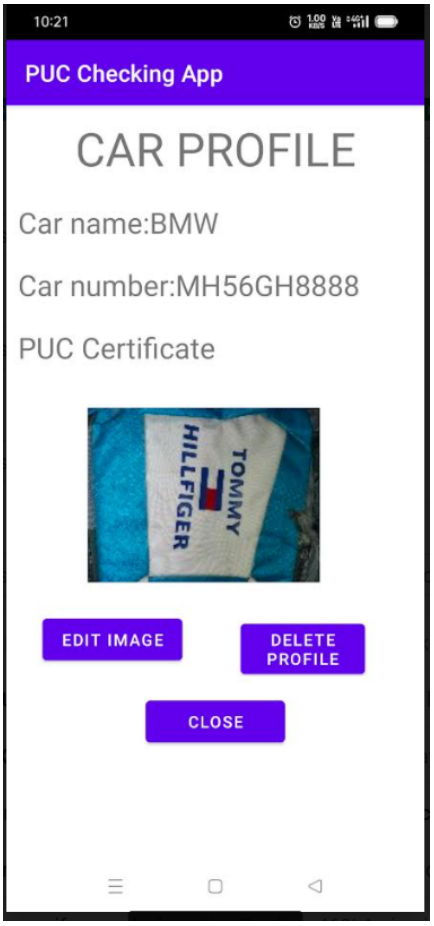
The image is updated successfully

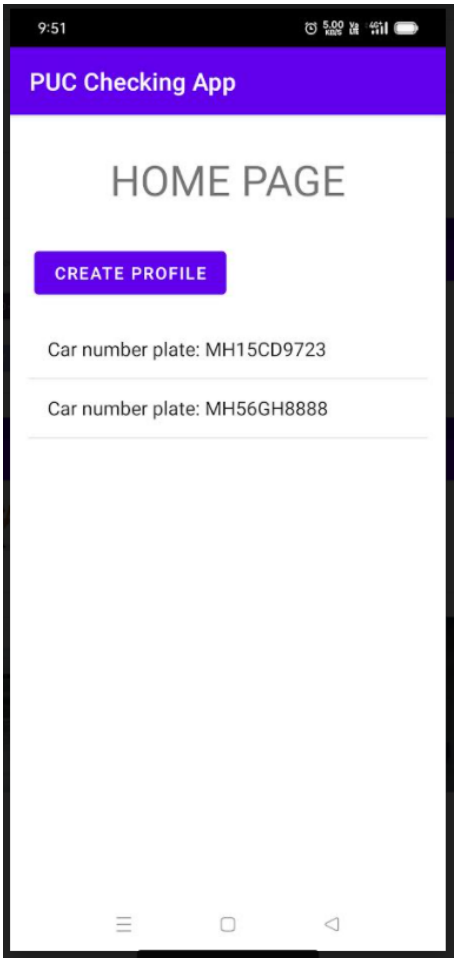


After going back to homepage user can create multiple vehicle accounts





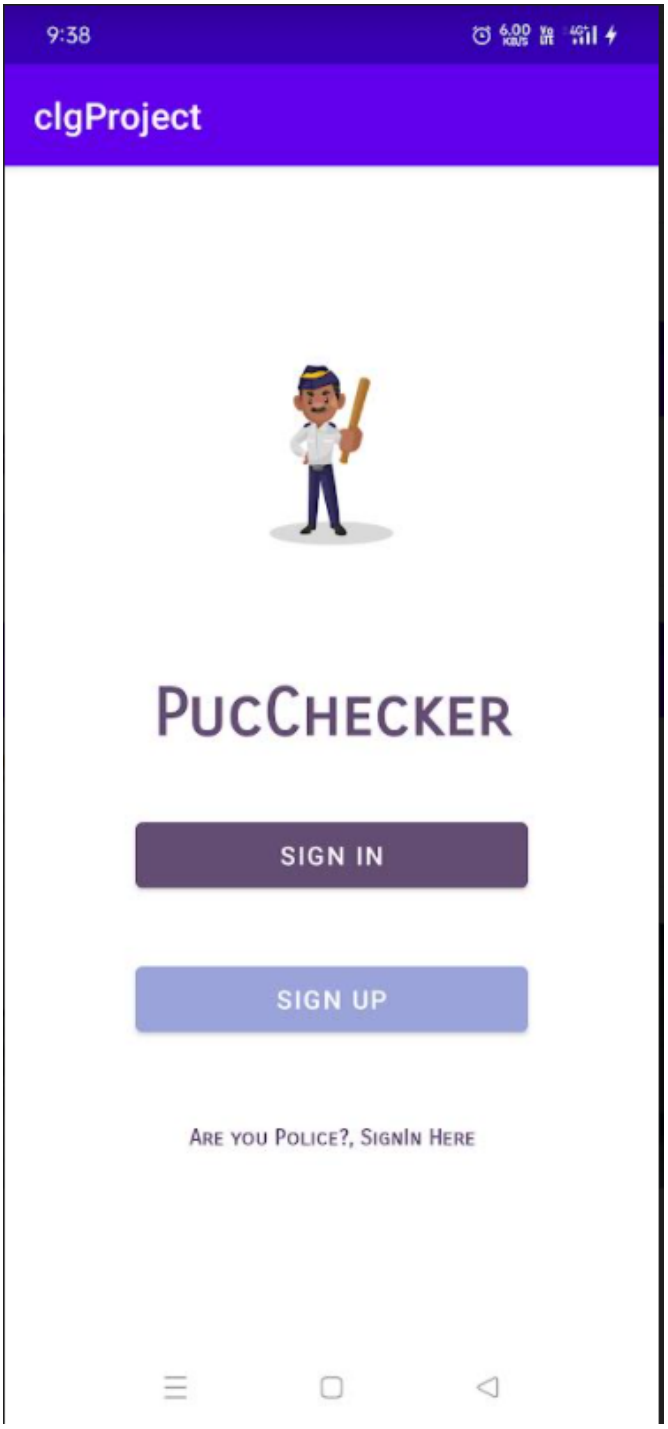




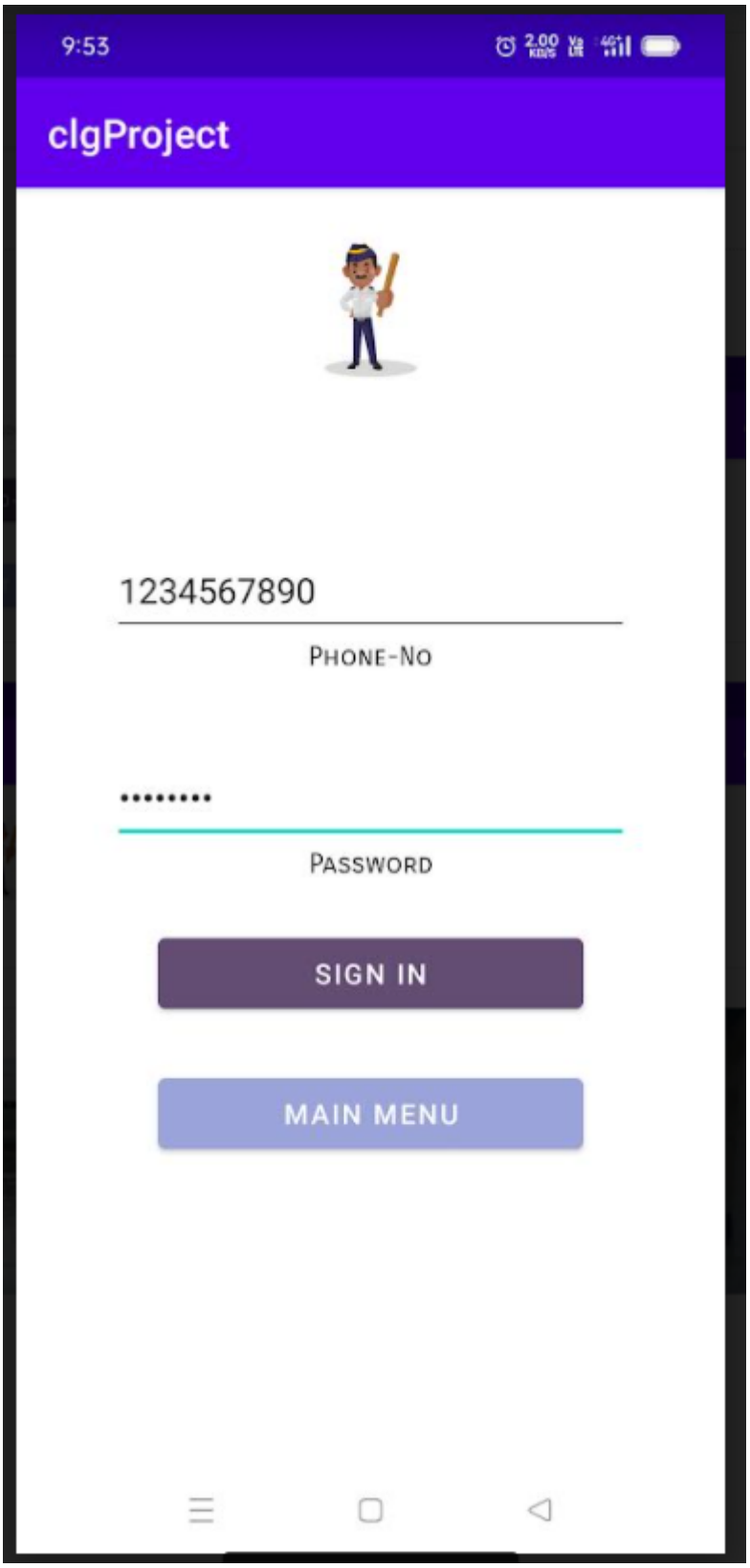
After clicking on the delete button, the car profile will be deleted

Module B:Police Account

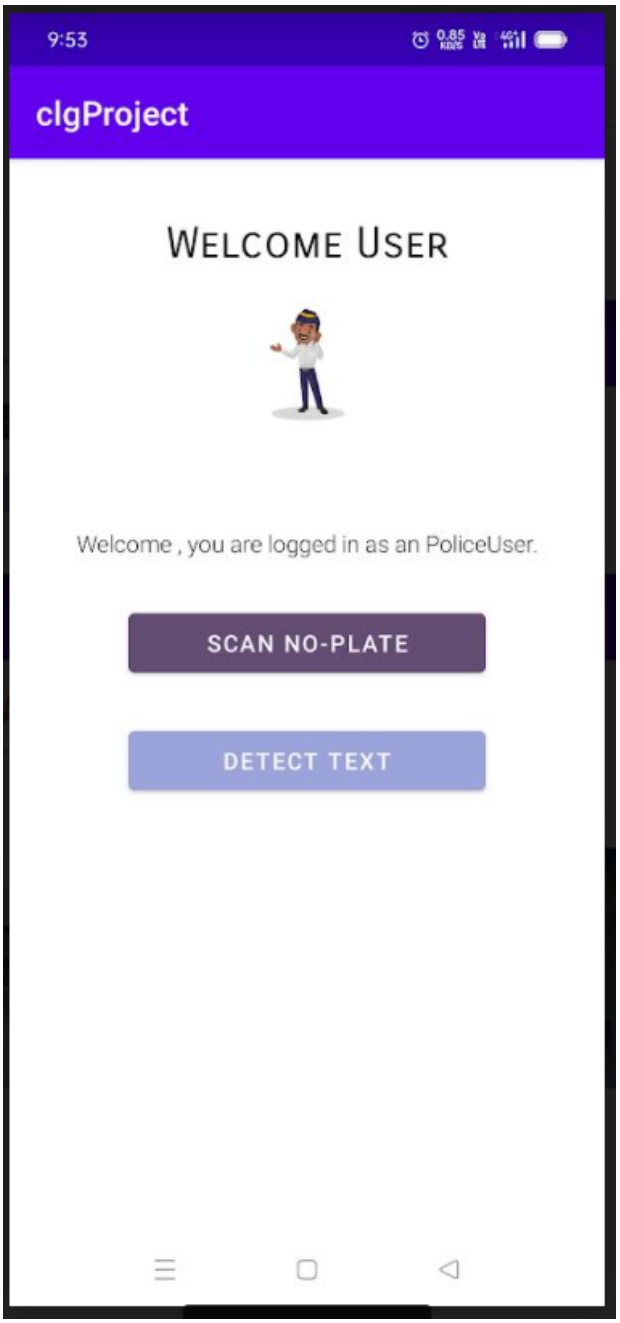
Here, police can sign in by clicking on “Are you police?SignIn here”



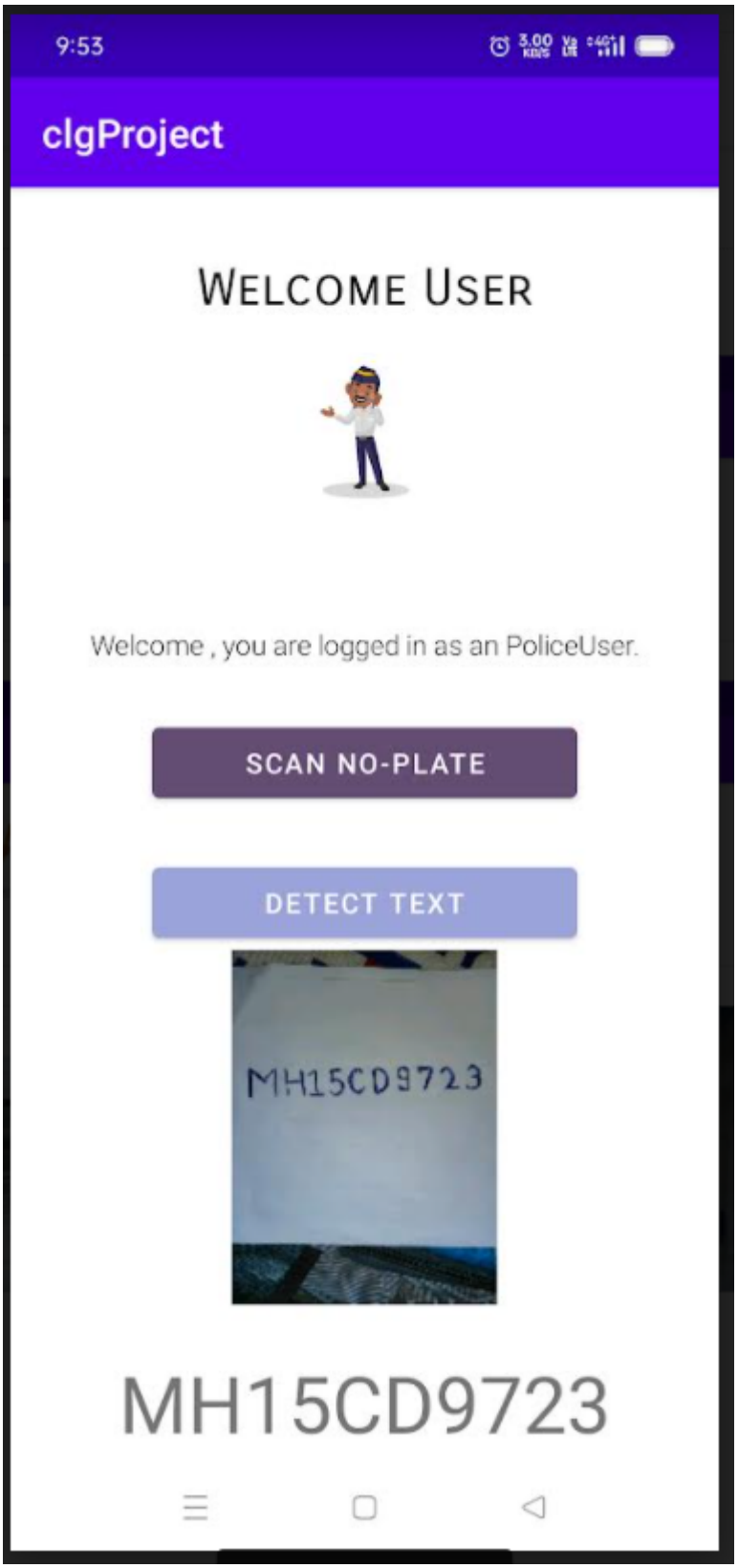
This is the sign in page for police



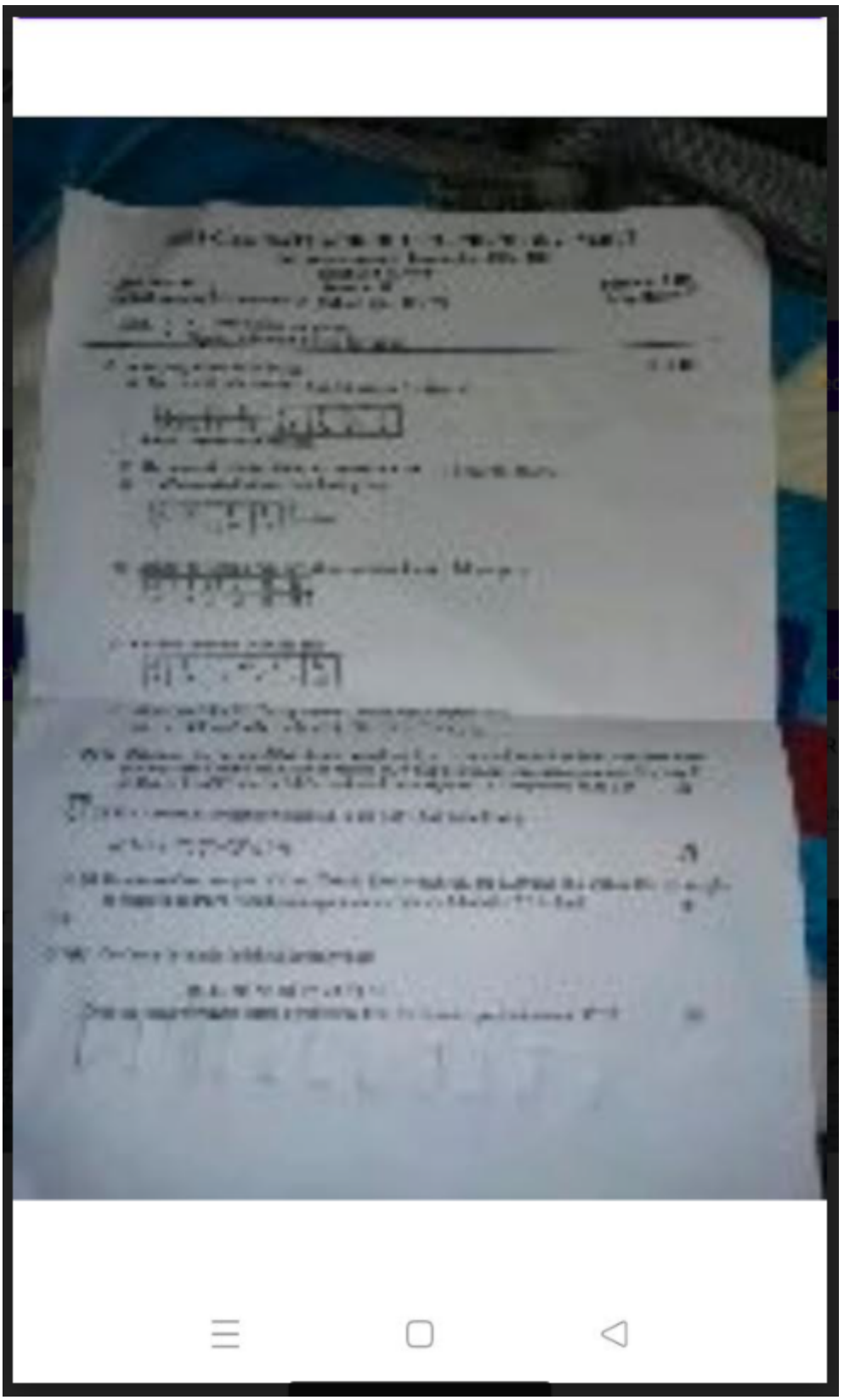
After signing in, police will be redirected to this page where he can scan the number plate



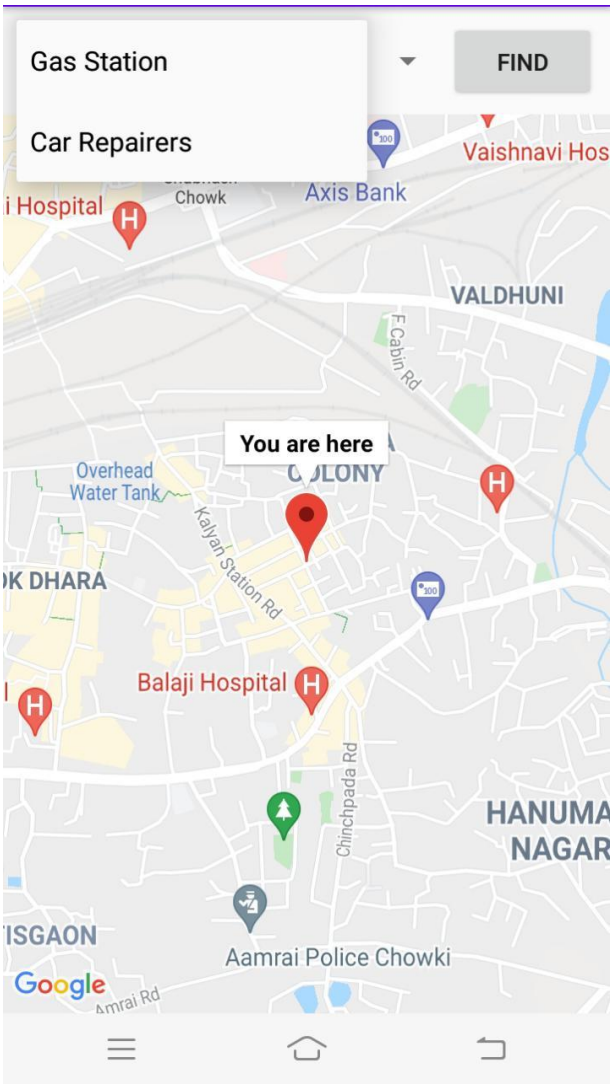
After scanning the number plate, the car number is detected below

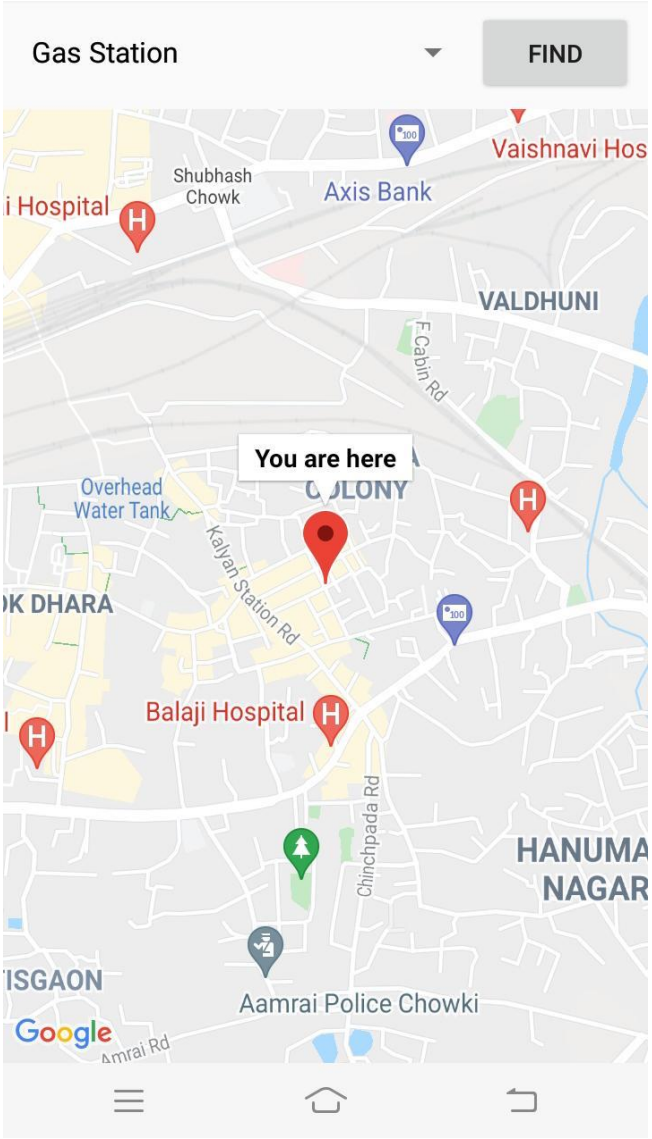


And after clicking on the detected number, the corresponding image will be displayed in the screen



Module C:


Gas Station
Car Repairers
FIND
Vaishnavi Hos
Axis Bank
Chowk
i Hospital
VALDHUNI
F.Cabin Rd
You are here
Overhead
Water Tank
Kalyan Station Rd
Balaji Hospital
Chinchpada Rd
HANUMA
NAGAR
ISGAON
Aamrai Police Chowki
Google
Amrai Rd



As you can see the drop down menu gives two options to the users namely: Gas Station and Car Repairer. The current location is also visible with the marker showing “You are here.” When the user clicks on “Gas Station,” it will show all the nearby gas stations near to the current location.

Chapter 7

Conclusion

Module Description:

The system after careful analysis has been identified to be presented with the following modules: Civilians and Police.

Civilians:

Register: Civilians will have to register on the application.

Login: To use the application, the user has to enter login details.

Create Profile: The user will then have to create profiles of their vehicles.

Police:

Register: Police will have to register on the application.

Login: To use the application, police have to enter login details.

Search: Police can search for the PUC details of civilians by taking the picture of any vehicle's number plate.

Advantages of PUC Checking App:

1) It will help save a lot of time for the traffic police officers as they have to only scan the number plate of a vehicle to get the details of the PUC certificate.
2) It is safer considering the ongoing COVID-19 restrictions.

Future scope:

The application can be improvised in many ways. Most of the people still carry their physical copies of PUC certificates, that is, the details are not available in any online database. So, fetching this data is not possible. But, if this data is made available in a database this would help save a lot of time and effort. There won't be any need for the user to create his/her vehicle's profile in the application.

References

[1] https://firebase.google.com/docs/android/setup
[2] https://developers.google.com/maps
[3] https://developers.google.com/maps/documentation/places/web-service/supported_types