Zagazig University

Faculty of computer and informatics

Information Technology Department

Graduation Project Report

Project name

Kidnapping Protecting System

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5. *Marina Wageh zakria Gerges*
6. *Amal Emad Elsayed fadel*
7. *Asmaa Mohamed Saad Mohamed*.

Abstract:

In our world there is more development and we must adapt to this development so we made a mobile application that is an android based application to serve people from protecting themselves from any danger like kidnapping of humans and helping the police man for searching about the licences which finished and this help policeman for saving time.

This documentation describes our graduation project in six chapters:

- *In Chapter one you will find a brief introduction about the project.*
- *Chapter two discuss the application methodology, the main work done in developing application, the software and API's used in the project.*
- *In Chapter three you will find in this chapter the analysis process of this project.*
- *In Chapter four you will find the design process of the application.*
- *In Chapter five implementation process and also in this chapter we found the user interface design for humans for protecting themselves from kidnapping from risks from taxi..*
- *In Chapter six implementation process and also in this chapter we found future for using the application for police man for searching about the licences which finished .*

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♦ *Acknowledgement:-*

- ***In every case ……. Good worse…….. We must thank the great merciful Allah for all gifts and blessing that we have been 0given starting with the blessings of Islam.***

We would like also to thank our supervisor

Dr. Osama Elkomy

- ***Who directed us to new color of science, drawing and planning most of all our steps providing us good resources and references for finishing that work?***

***We would like also o thank*:**

Eng. Eman Salem

- *Who helped in solving the problems and difficulties that we face and was step by step with us to finish that work?*

- *We would like also to thank everyone helped us through our gradual education through the four years especially the staff members of information technology department.*
- *We hope we learned well as much as we can to be useful for Islam and Muslims hoping for Allah satisfaction every time and everywhere.*

- *To every doctor and every assistant who offer us knowledge and help through the past few years.*

- *We dedicate this humble work.*

- *To our fathers ,our mothers and our brothers.*
- *to our friends who helped us and continue .*

- *.to ones who have provided advice to us.*
- *To every person who made us better .*
- *All praise to Allah most gracious, most merciful and his peace and blessing is upon his family, companions and whoever follows him.*

Chapter 1

Section1.1:-

Introduction

Was and still the fastest services very important topic that preoccupies every one. Because of its importance in the development of our environment, All countries seek to give a large space of interest to look for a way to end their demands firstly and save their times for people. And from here we got the idea of our graduation project which is "CheckCar".

Problem:

As a result of the high rates of kidnapping in the taxi and the different means of transportation, we seek to solve this problem through application on the phone to track the passengers and to reduce kidnappings and In addition, this application is used to assist traffic men to know the duration of the driving license.

Section1.2:-

Business value:

Business value describes the benefits that the organization should expect from the system.

Special issues are included on the document as acatchall category for other information that should be considered in assessing the project.

For example:

The project may need to be completed by aspecific deadline

Chapter2

Section 2.1:-

Main work

2.1 *Divide application main work.*

- ***We can divide our application's main work into main three parts*:-**

2.1.1.1. Learning android developing basics:

Before developing our application we needed to read about android because knowledge about android developing was not sufficient enough to start developing the project.

2.1.1.2. **Android devices**:-

Android ***is a mobile operating system based on the*** *Linux kernel and now developed by Google , It is designed for the touch screen mobile devices like the smartphones , the table computers , specialized user*

*interface for **Android** TV and **Android** enabled vehicles .*

2.1.1.2. Advantage of Android

- *it has massive user base , It has increasing*
- *adoption especially in the developing*
- *countries , Android's review process for apps is fairly simple and it takes less time than iOS*
- ***for an app to get approved for publishing on the play store .***
- ***Android phones can run many applications , You can browse , You can use Facebook while listened to the song , It has different phone options , It has thousands of Apps to download online and they are free .***
- ***It has excellent software and application support , there are wide variety of phones to suit your budget , It has frequent OS updates for improving performance ,Android phones can also function as a router to share Internet .***

2.1.1.3 Disadvantages of android:-

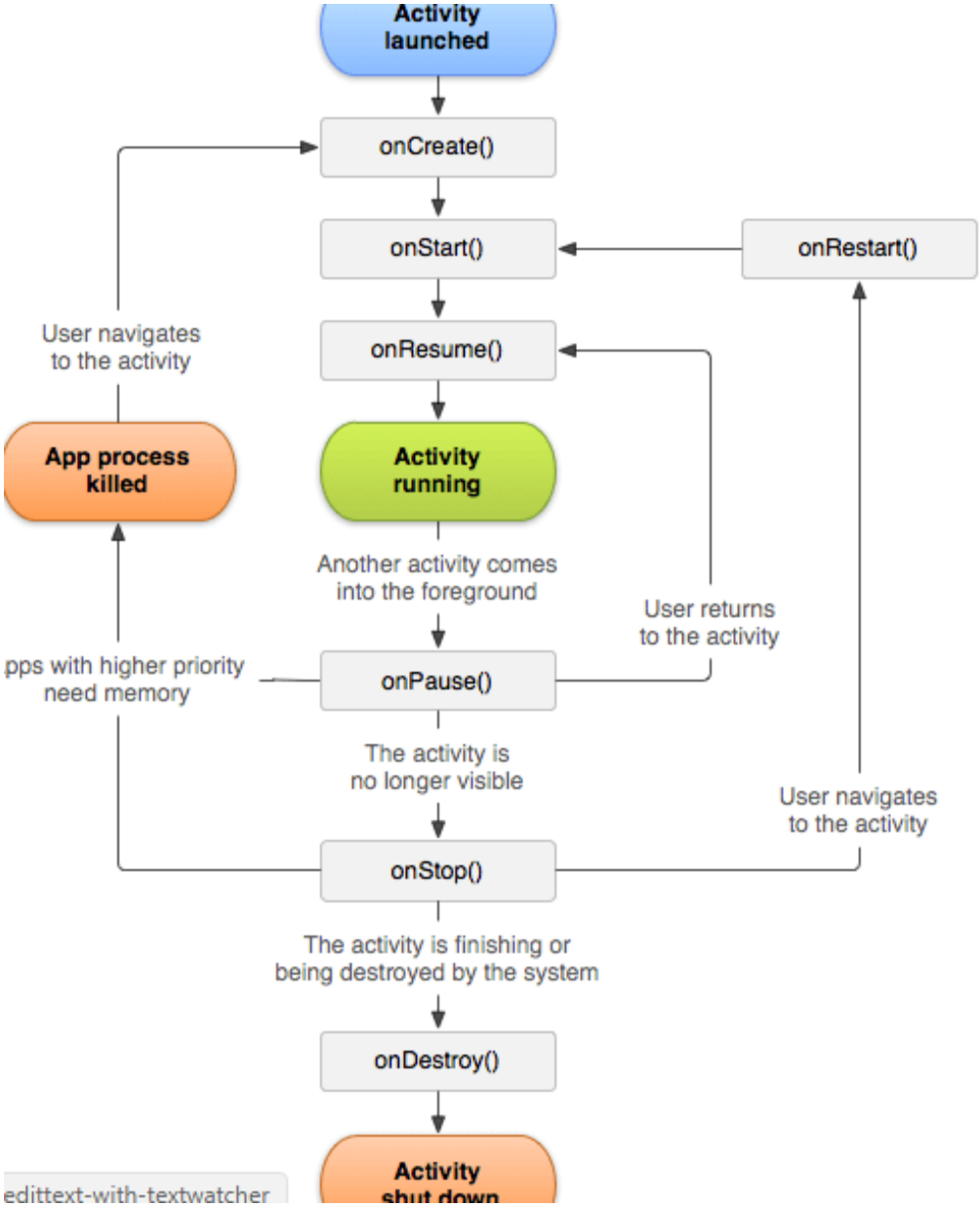
- *There are multitude of devices with different screen sizes and different resolutions too , This makes the app design as well as UI development much harder and the quality of apps on the Play Store is much worse than those on the App Store .*

- *Many applications contain virus , The virus inserted android applications including Counter Strike Ground Force , Android applications contain virus also present in the Android market .*

- *Android is more wasteful than any other operating system as this operating system has a lot of process in the background that lead to the battery quickly drains .*

- *Android requires an active Internet connection , There should be a GPRS internet connection in your area , so that the device is ready to go online according to our needs .*

2.1.1.4. Android Activity Lifecycle methods.



(Figure 1).life cycle of android.

2.1.2 learning about php:-

PHP (recursive acronym for PHP: Hypertext Preprocessor*) is a widely-used*

open source general-purpose scripting language that is especially suited for

web development and can be embedded into HTML.

2.1.3 Database about the project :-

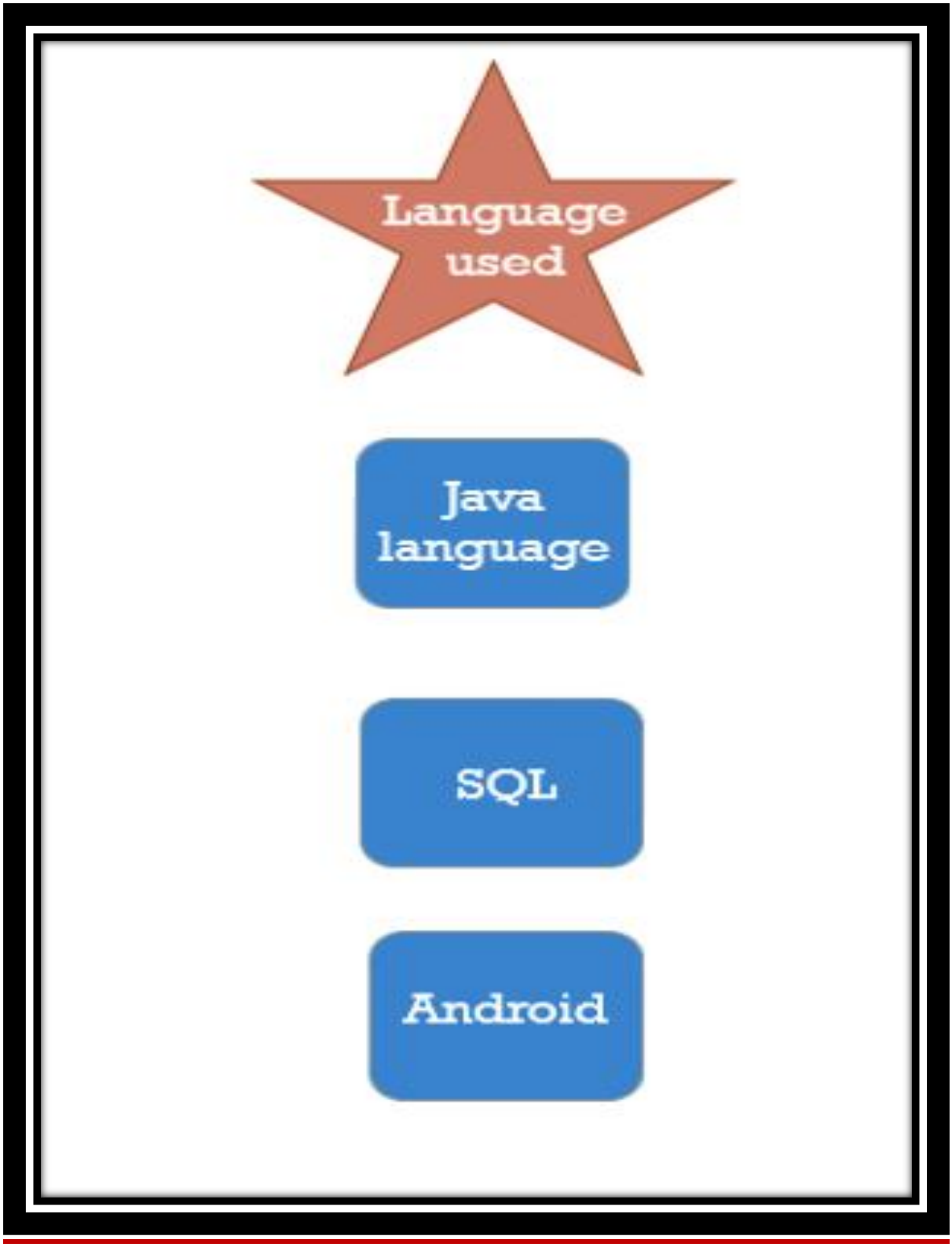
Data base which contain information about driver ,car and tawselia.

Data base written with php which any person can read it.

Section 2.2:-

Project requirements

2.2.1. Applications languages and API's used



(Figure 2) Applications languages and API's used (1).

Chapter3

Section3.1:-

Analysis of the project:-

The analysis of the role of a proposed system and the identification of the requirements that it should meet.

♦ **Is the analysis of the project in two phases:-**

1. *Use case diagram.*
2. *data flow diagram.*
3. *Entity relationship diagram.*

3.3.1 Use case:

are used to explain and document the interaction that is required between the user and the system to accomplish the user's task. Use cases are created to help the development team understand more fully the steps that are involved in accomplishing the user's goals. Once created, use cases often can be used to derive more detailed functional requirements for the new system.

3.3.2 *Elements of a Use Case*:-

➢ *Use Case.*

A use case describes a sequence of actions that provide something of measurable value to an actor and is drawn as a horizontal ellipse.

- *Actors.*

An actor is a person, organization, or external system that plays a role in one or more interactions with your system. Actors are drawn as stick figures.

- *Association.*

Associations between actors and use cases are indicated in use case diagrams by solid lines. An association exists whenever an actor is involved with an interaction described by a use case. Associations are modeled as lines connecting use cases and actors to one another, with an optional arrowhead on one end of the line. The arrowhead is often used to indicating the direction of the initial invocation of the relationship or to indicate the primary actor within the use case. The arrowheads are typically confused with data flow and as a result I avoid their use.

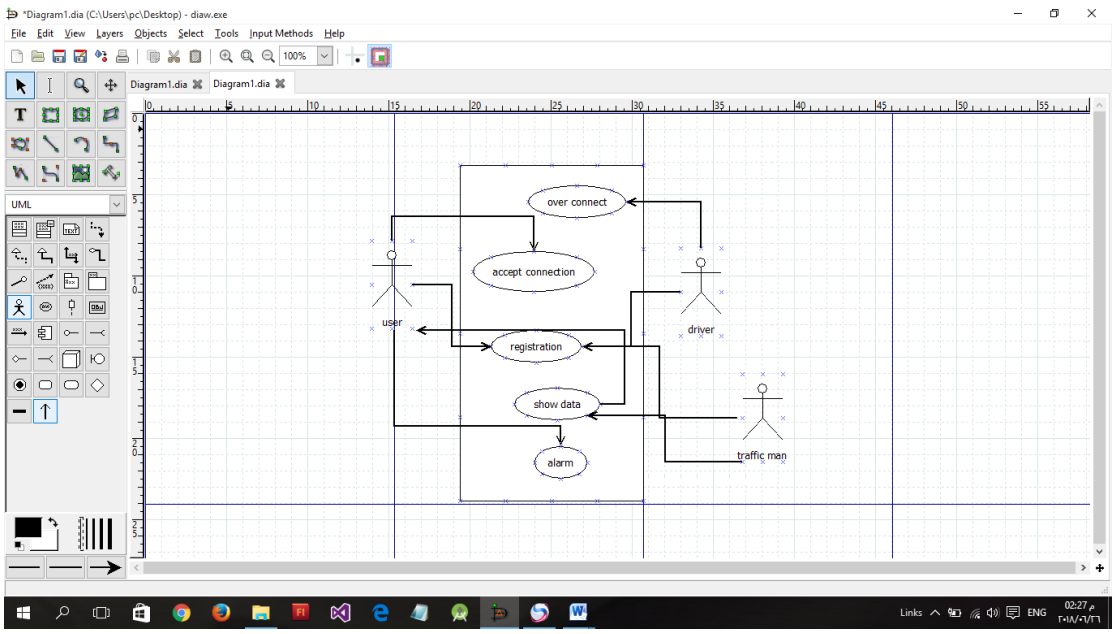
- *System boundary boxes (optional).*

You can draw a rectangle around the use cases, called the system boundary box, to indicate the scope of your system. Anything within the box represents functionality that is in scope and anything outside the box is not. System boundary boxes are rarely used, although on occasion I have used them to identify which use cases will be delivered in each major release of a system.

- *Packages (optional).*

Packages are UML constructs that enable you to organize model elements (such as use cases) into groups. Packages are depicted as file folders and can be used on any of the UML diagrams, including both use case diagrams and class

diagrams. I use packages only when my diagrams become unwieldy, which generally implies they cannot be printed on a single page, to organize a large diagram into smaller ones.



(figure3):- use case diagram

3.3.3 Data flow diagram :-

data flow diagram (DFD) implies a focus on data, this is not the case. The focus is mainly on the processes or activities that are performed. Data modeling, discussed in the next chapter, presents how the data created and used by processes are organized. Process modeling—and creating DFDs in particular—is one of the most important skills needed by systems analysts.

3.3.3.1 *Elements of Data Flow Diagrams:-*

- *Process:-*

  A process is an activity or a function that is performed for some specific business reason. Processes can be manual or computerized.

- *Data Flow:-*

  A data flow is a single piece of data (sometimes called a data element), or a logical collection of several pieces of information.

- *Data Store:-*

  A data store is a collection of data that is stored in some way (which is determined later when creating the physical model

3.3.4 ENTITY RELATIONSHIP DIAGRAM:-

entity relationship diagram (ERD) is a picture which shows the information that is created, stored, and used by a business system. An analyst can read an ERD to discover the individual pieces of information in a system and how they are organized and related to each other.

3.3.4.1 Elements of an Entity Relationship Diagram:-

- *Entity:-*

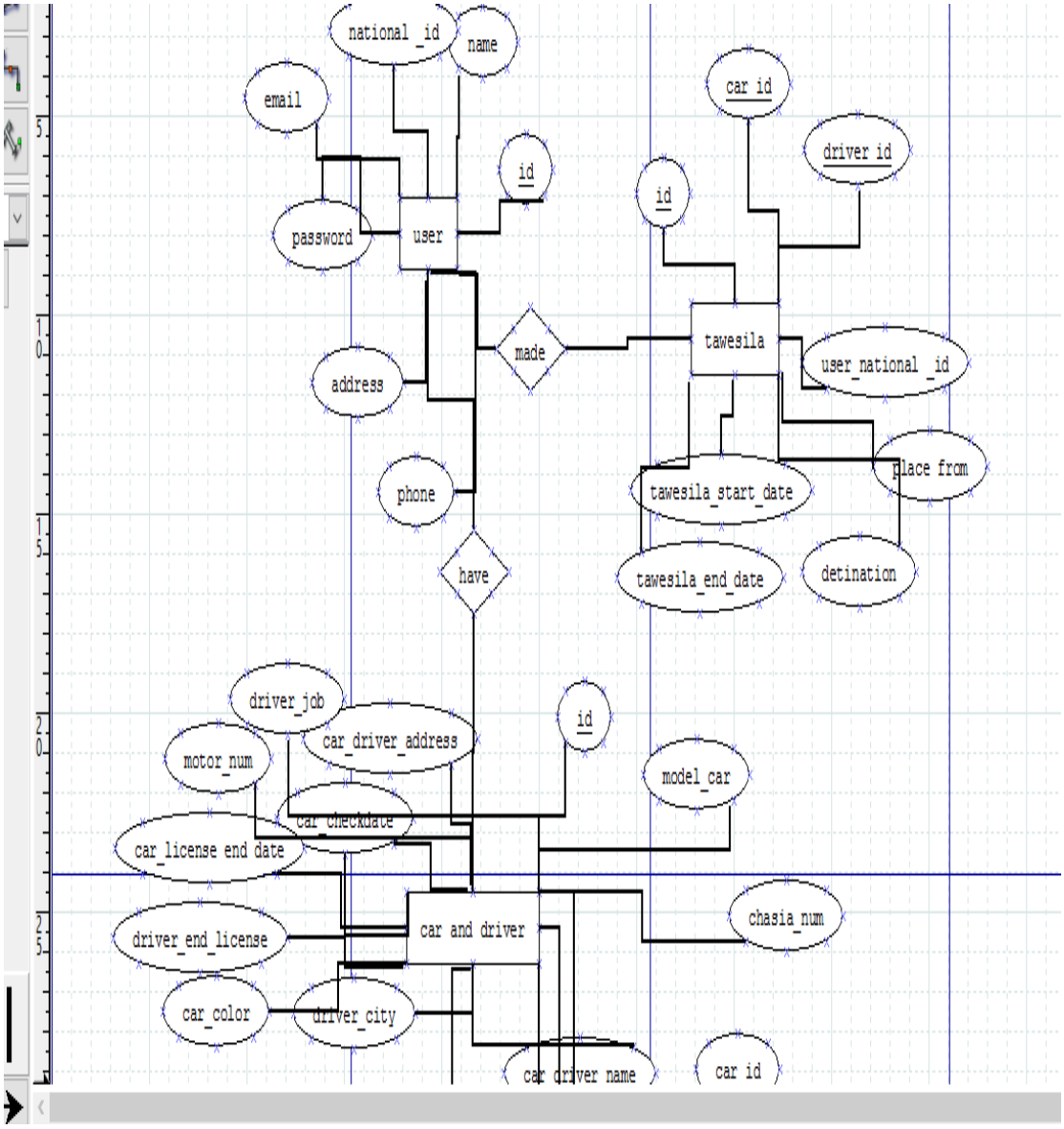
The entity is the basic building block for a data model. It is a person, place, event, or thing about which data is collected.

- *Attribute :-*

An attribute is some type of information that is captured about an entity.

- *Relationship :-*

Relationships are associations between entities, and they are shown by lines that connect the entities together.



(Figure) Entity Relationship Diagram.

Chapter4

Section 4.1:-

Systems design:

Is the process or art of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements?

4.1.1 Systems Design Techniques:-

- **Logical Data Modeling**
- **Entity/Event Modeling**
- **Logical Data Modeling**

The objectives of this section are to provide definitions for the terms Logical Data Model (LDM) and Logical Data Structure (LDS), and to explain the constituent parts of a Logical Data Structure, and finally to introduce a step by step process for constructing Logical Data Models.

4.1.2 what is a Logical Data Model?

A Logical Data Model (LDM) is a representation of the data used by a system. It shows how the data is logically grouped and the relationships between these groupings as defined by the business requirements of the system.

The LDM comprises:-

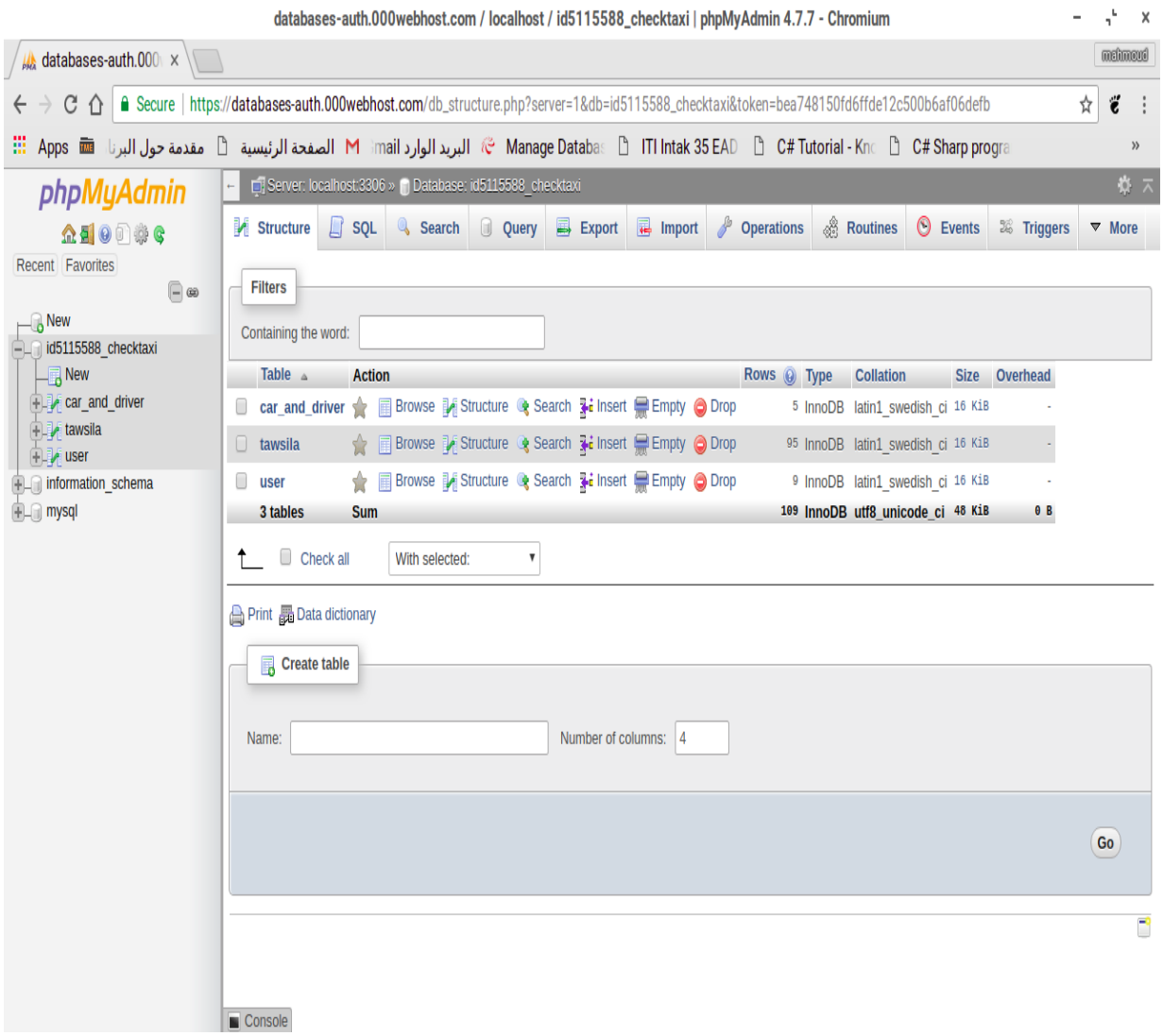
A diagram called a Logical Data Structure (LDS). NB LDS is simply the SSADM terminology for a Data Model or Entity-Relationship Model). Associated documentation of entities and relationships

4.2 *ER Diagram*

Here snapshots to relations used in database

And brief explanation to each of them .

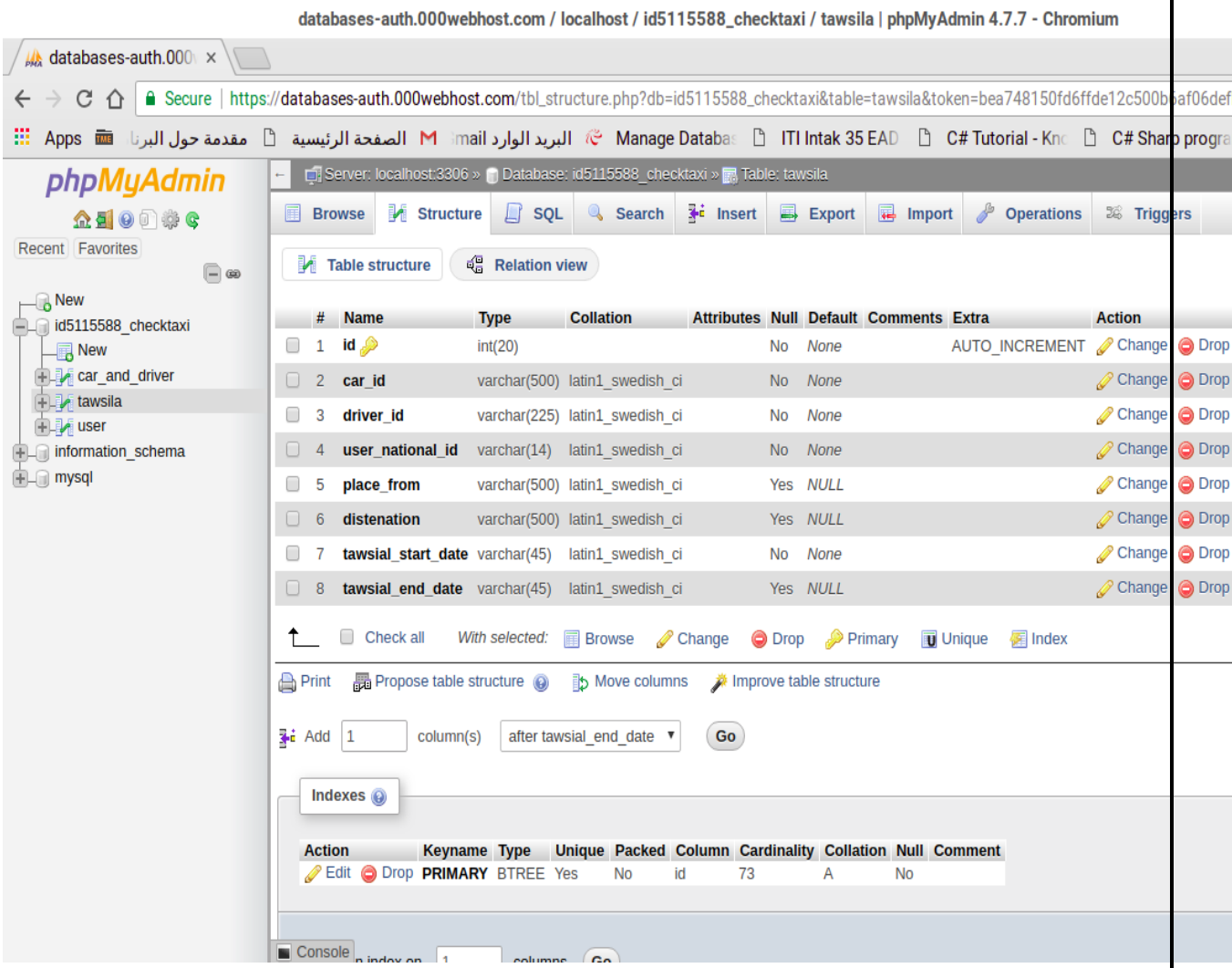
4.2.1 The database construction from **MySql**.



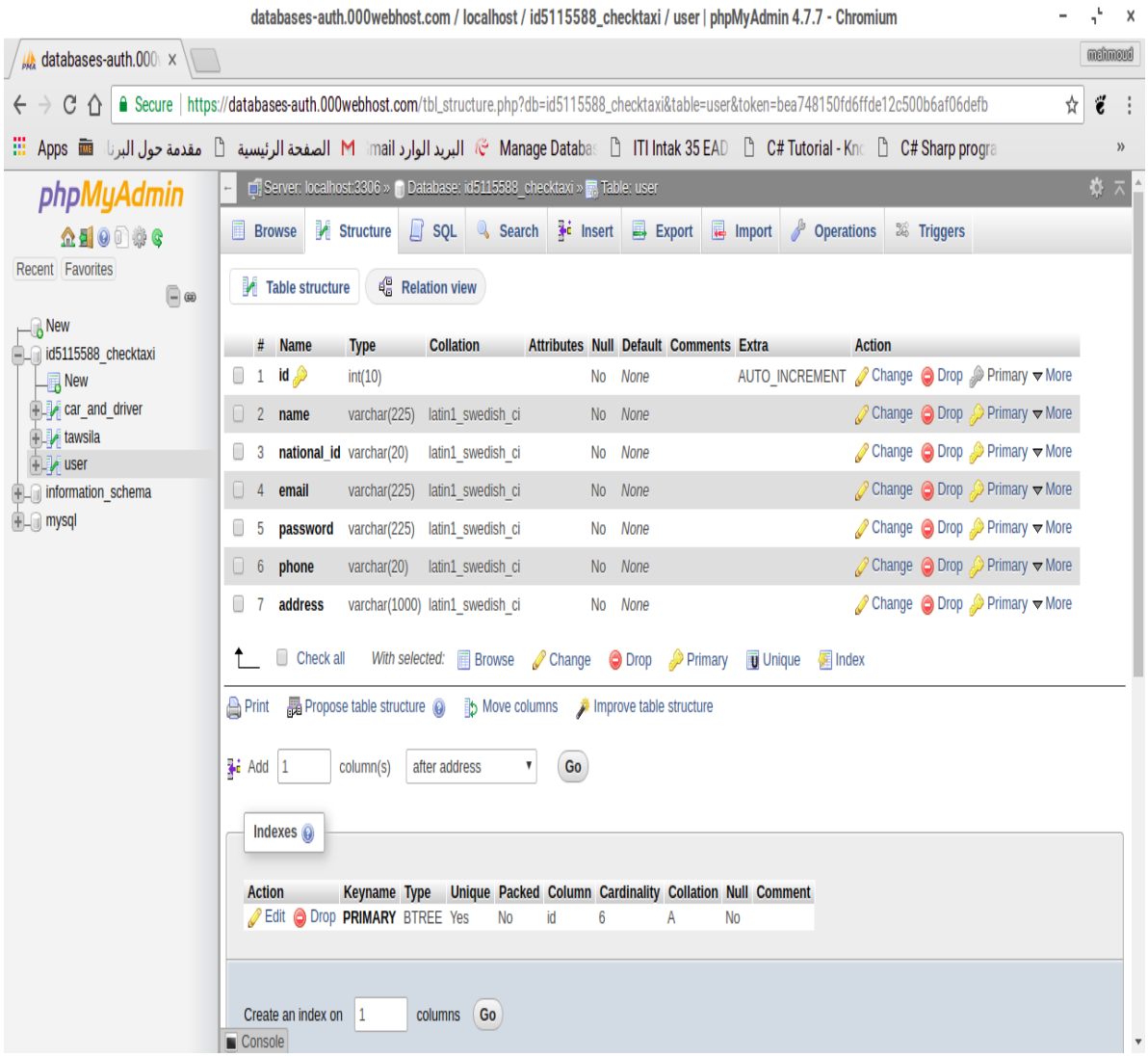
(figure 4):- tables for database.

4.2.1.1 Table for tawsila:-

(figure 5):- tables for tawselia

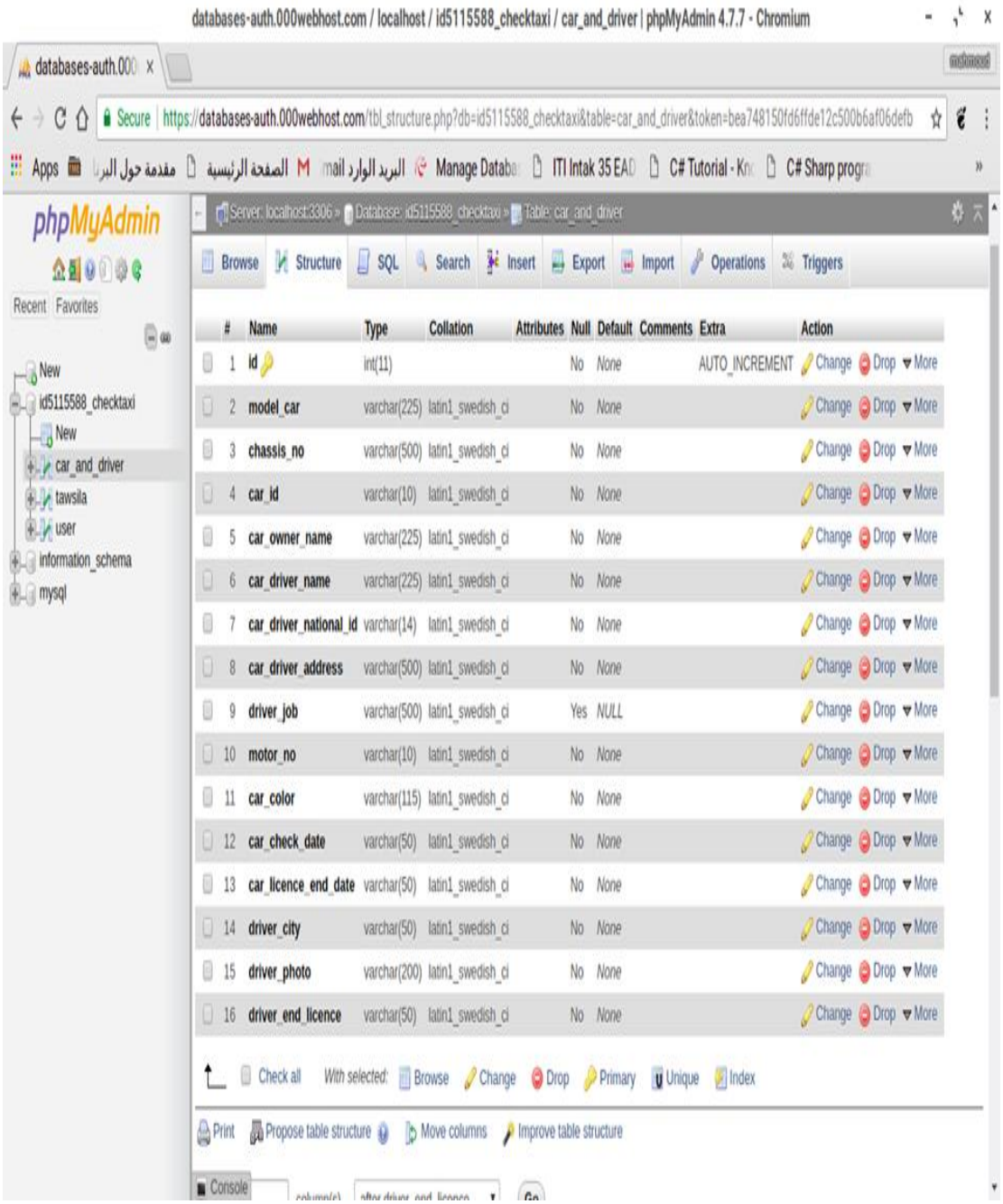


4.2.1.2 Tables for user:-



(Figure 6):- table for user

4.2.1.3 Table for car and driver:-



(Figure7):- table for car and driver

Chapter 5

Section 5.1:-

Android interface design

5.1.1 *Commandments of User Interface Design:*

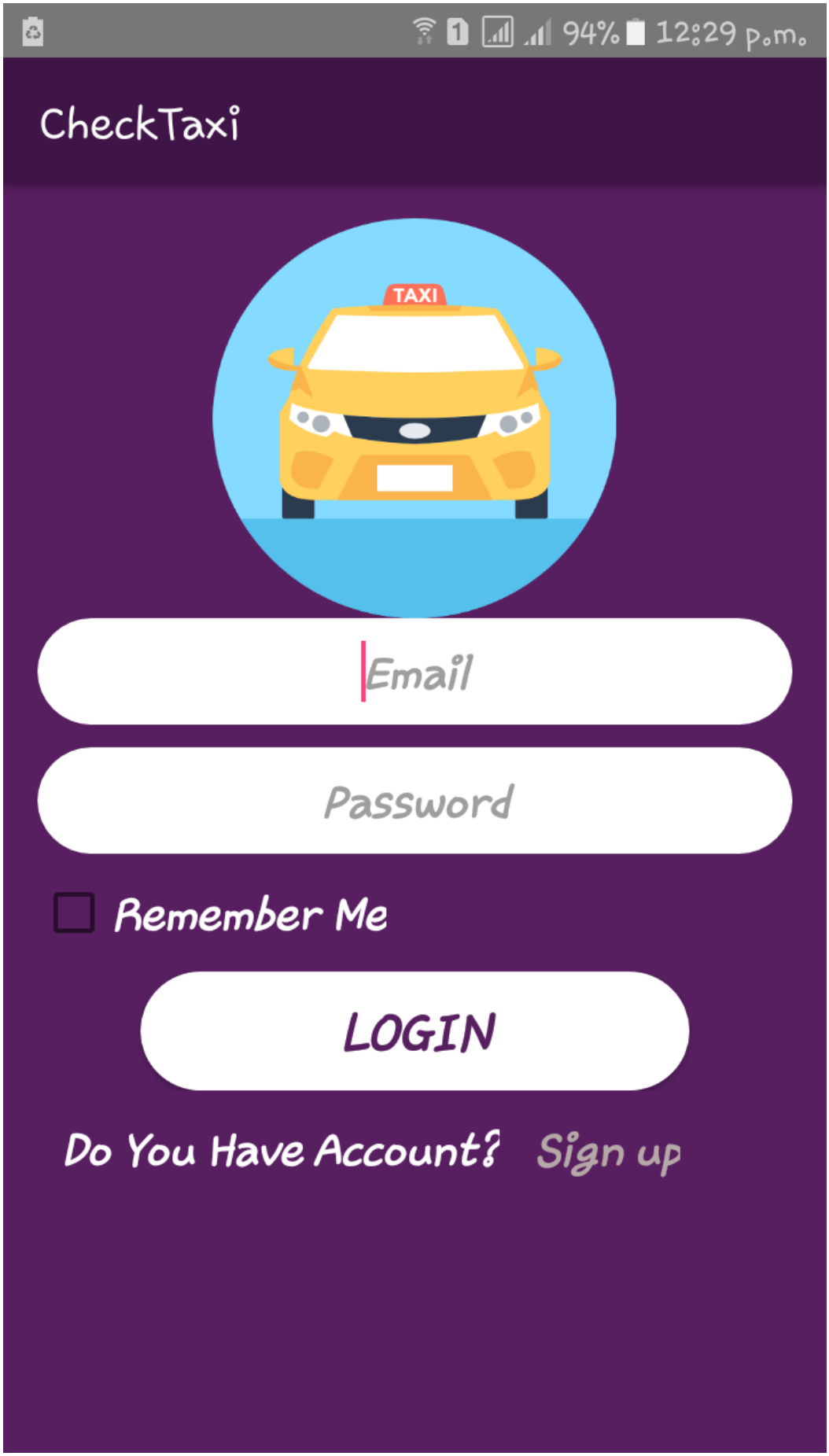
- *Understand your users and their tasks.*
- *Involve the user in interface design.*
- *Test the system on actual users.*
- *Practice iterative design*

5.1.2 android creation :-

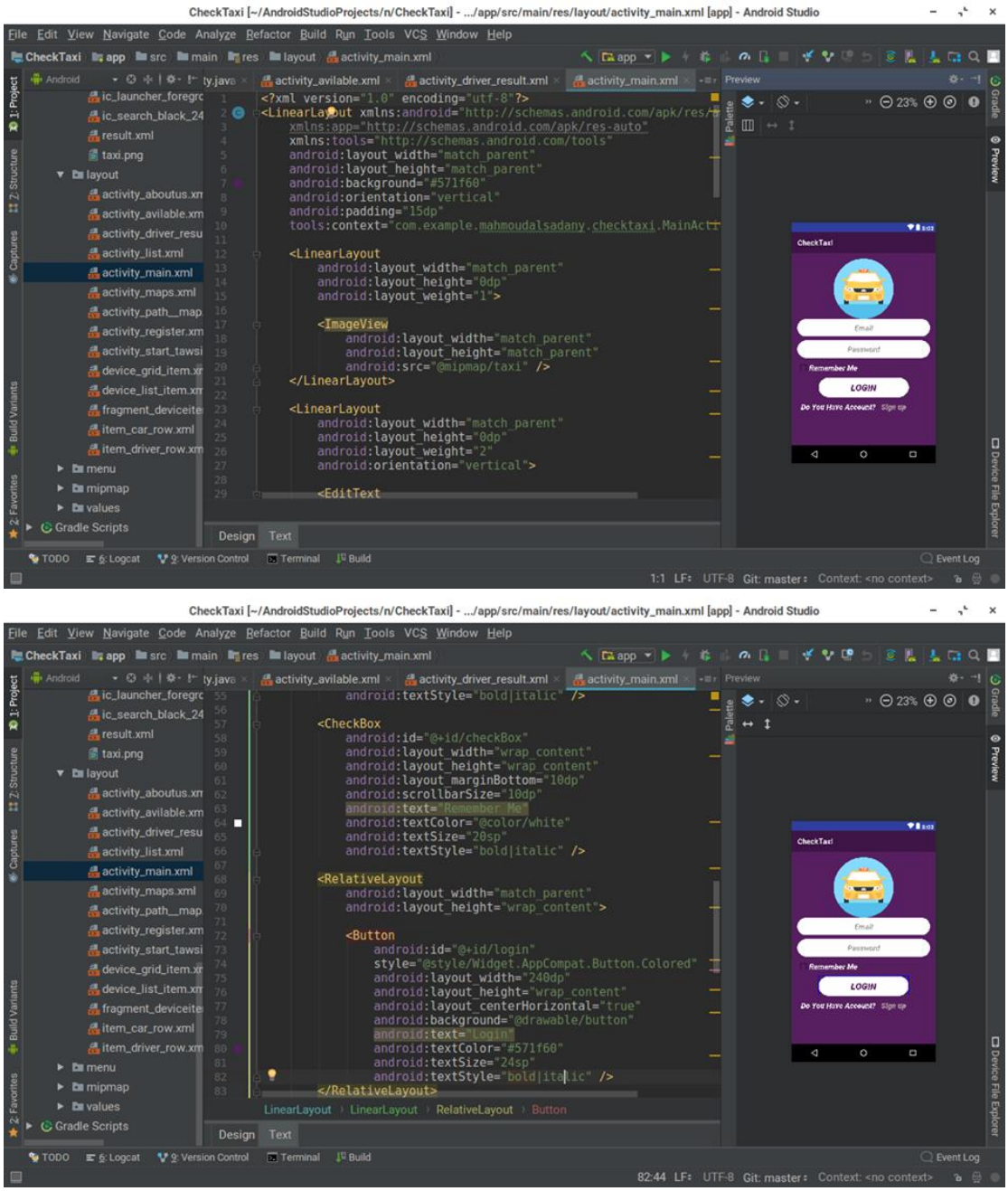
5.1.2.1 log in:

Which the user register on the application by registering email and password and press the button log in.

(Figure 8) log in


94% 12:29 p.m.
CheckTaxi
TAXI
Email
Password
Remember Me
LOGIN
Do You Have Account?
Sign up

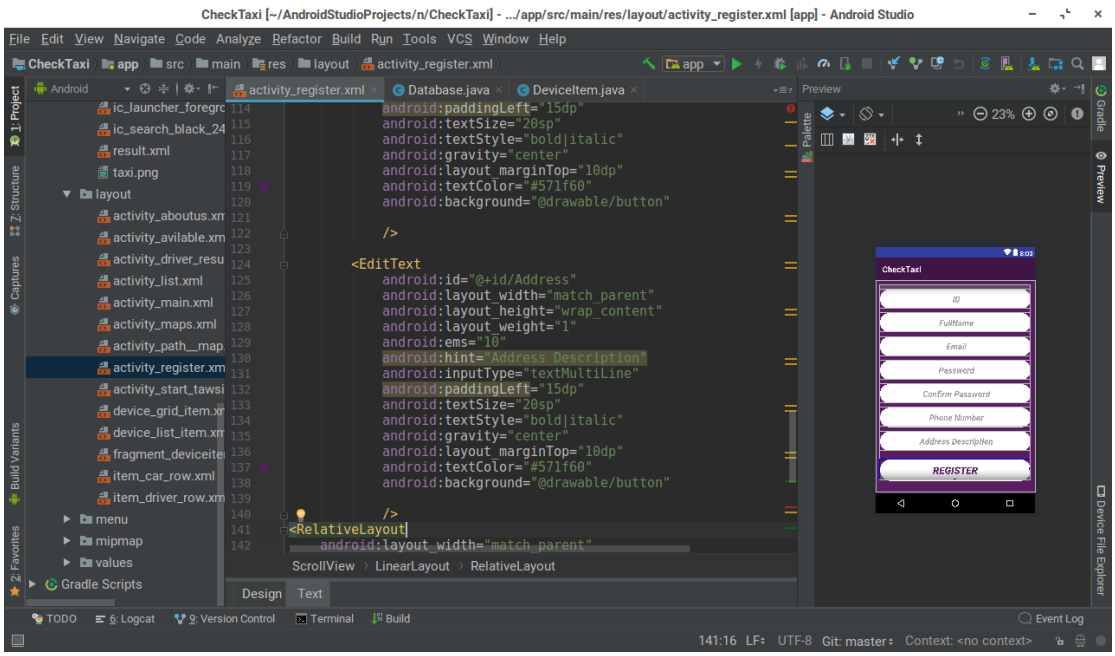
5.1.2.2 Log in page in xml:-

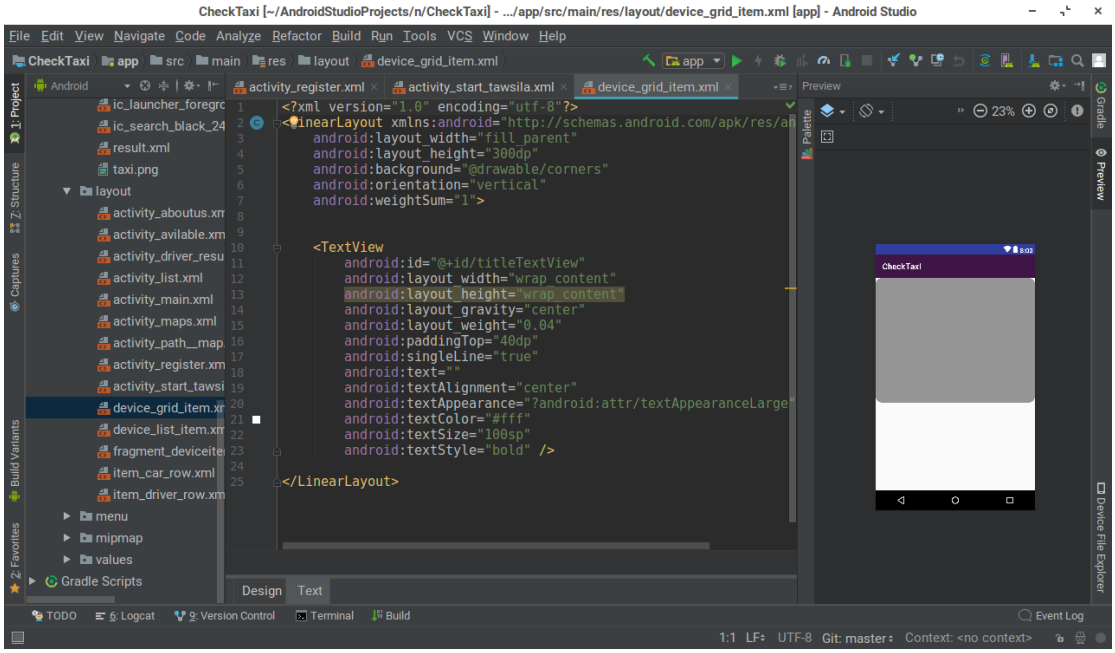


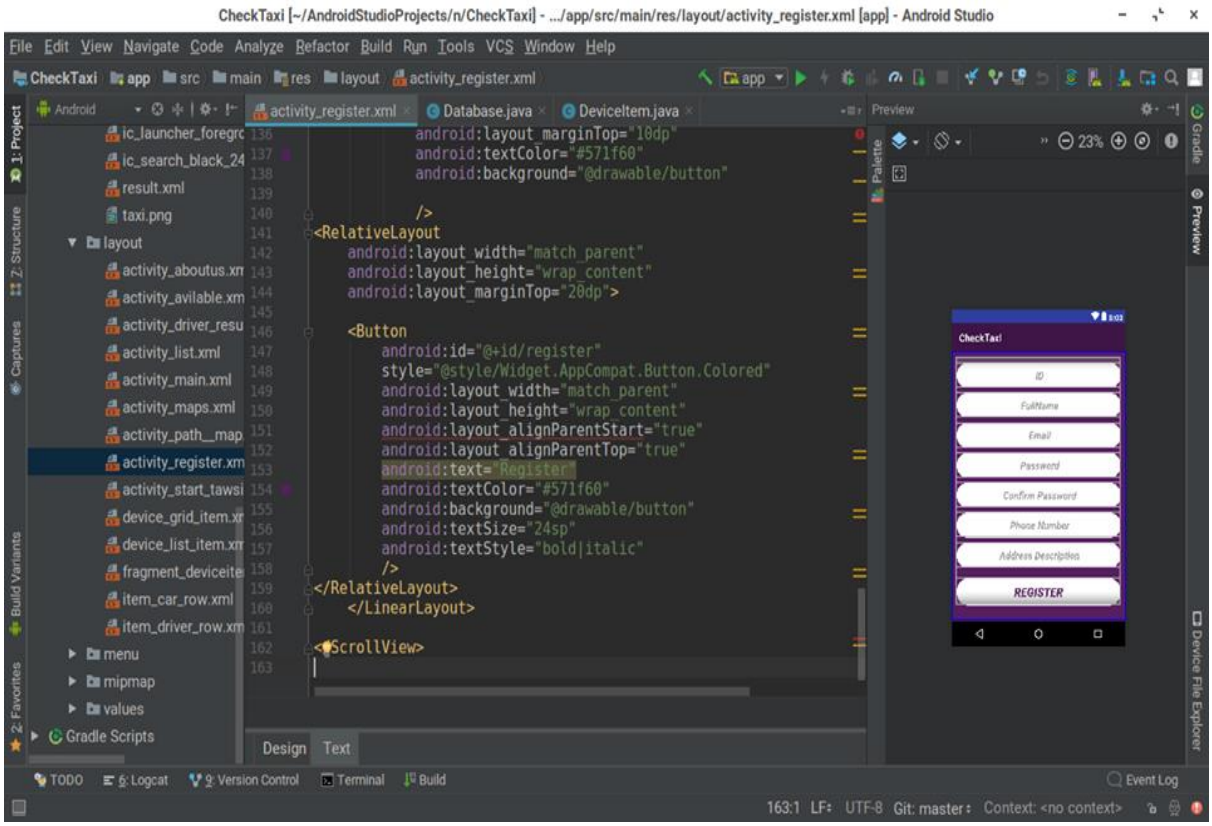
(Figure9):-login in xml.

❖ If the person dosen't have email it can sign up by pressing button of sign up

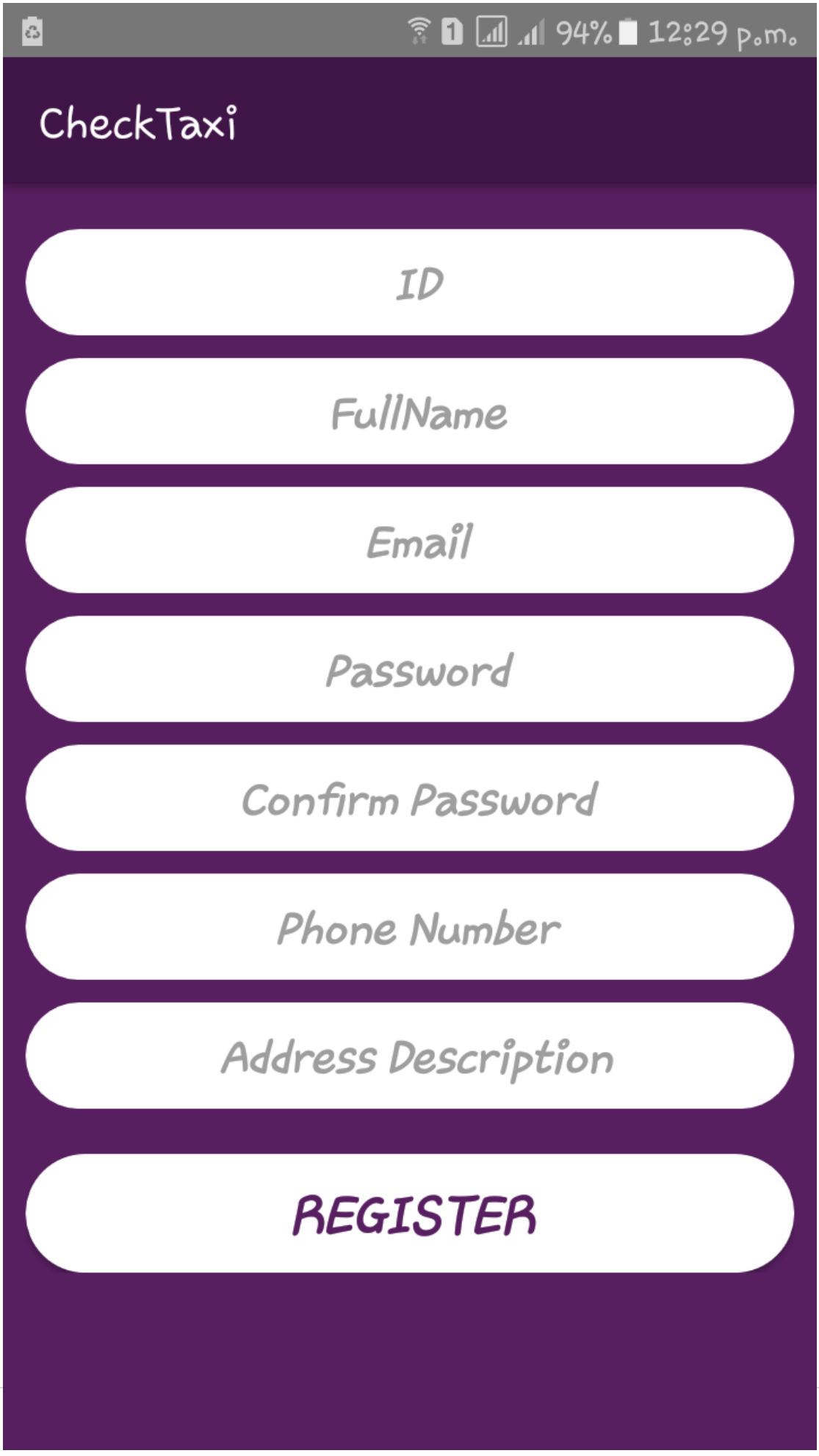
5.1.2.3 Register:-



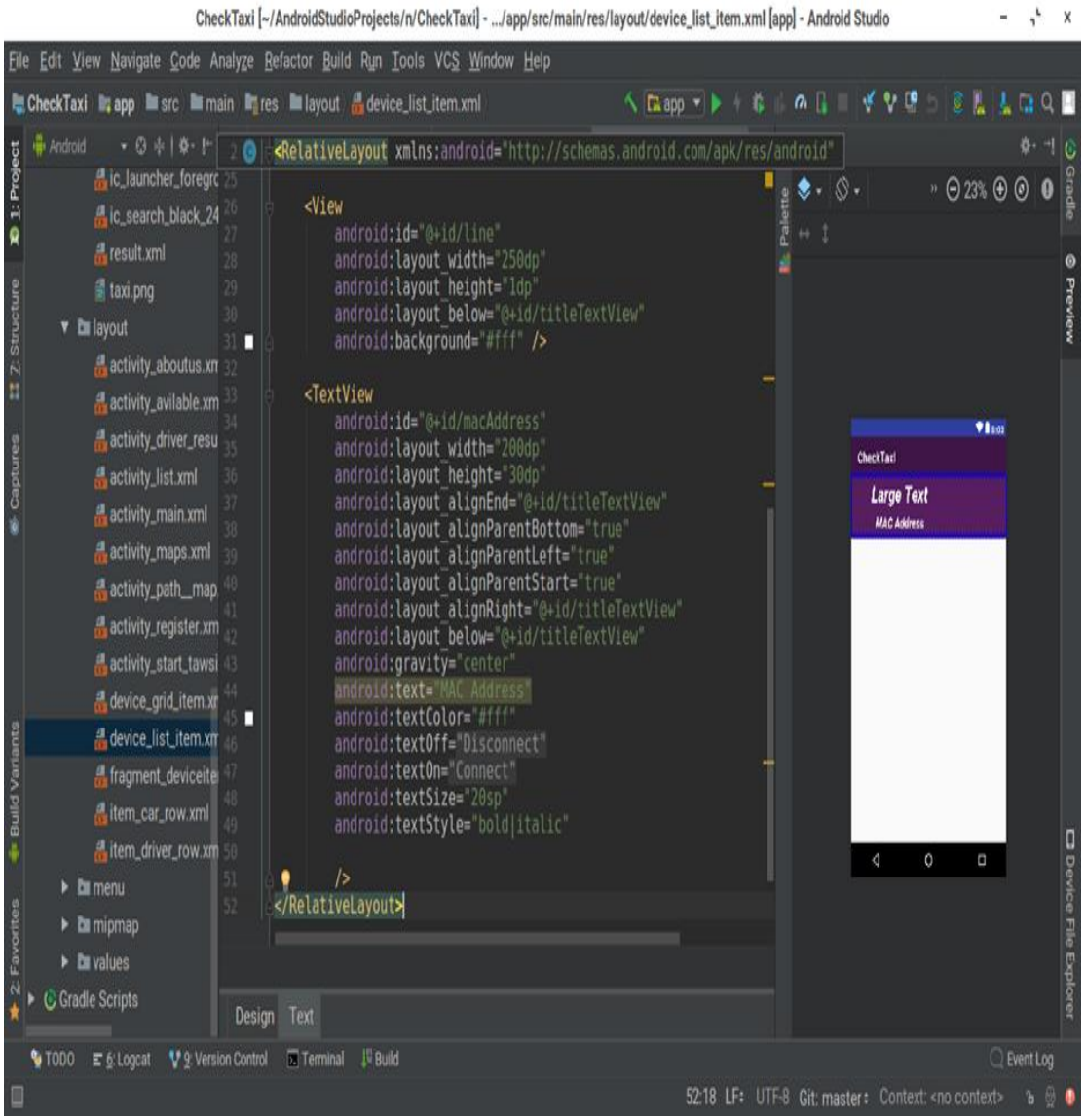




(Figure 10):- sign up in xml.


94% 12:29 p.m.
CheckTaxi
ID
FullName
Email
Password
Confirm Password
Phone Number
Address Description
REGISTER

(Figure 11):- sign up.



5.1.2.4 Searching for the car

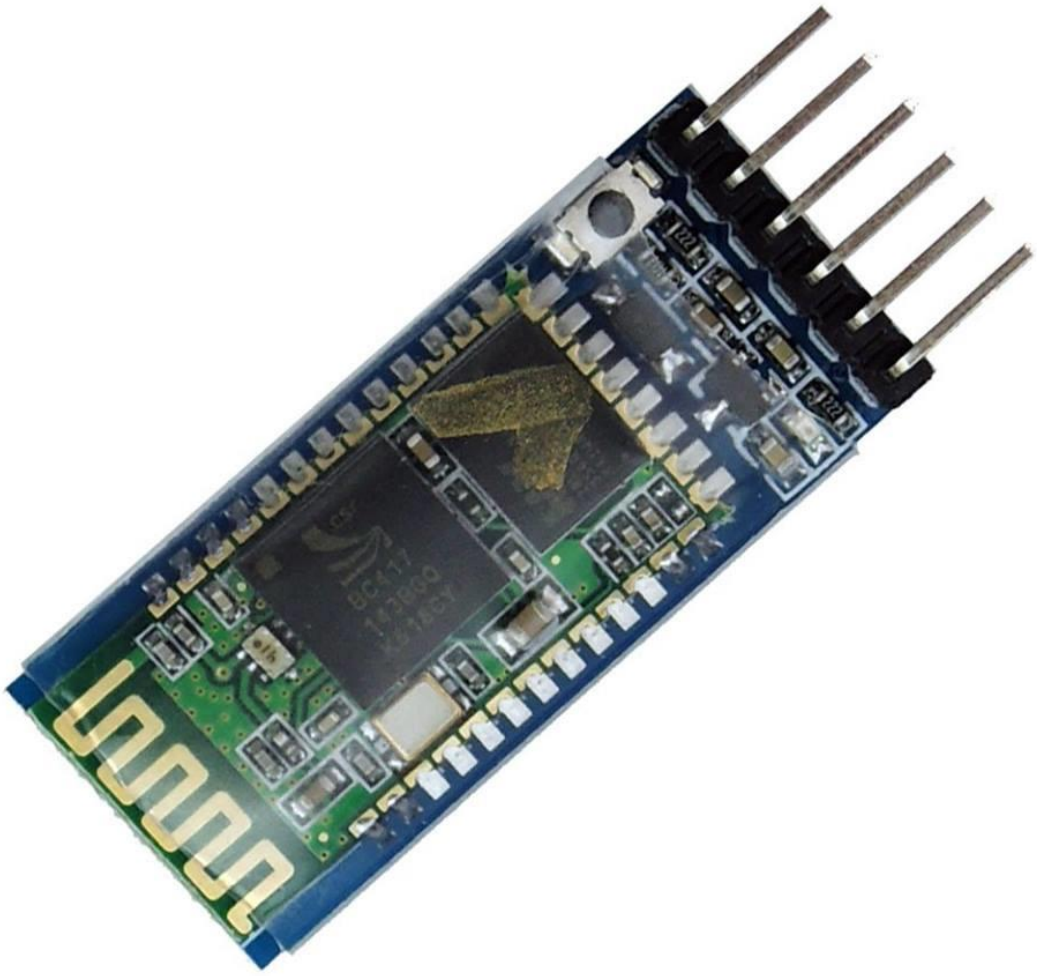
- *After sign up in the appliction we search for*

the car which want to take it through switch on the beluttoth of the phone and connect with the car through beluttoth module.

- *search for the car through the car number.*

BELUTTOTH MODULE:-

LeaningTech HC-05 Module Bluetooth Serial Pass-Through Module Wireless Serial Communication with Button for Arduino.



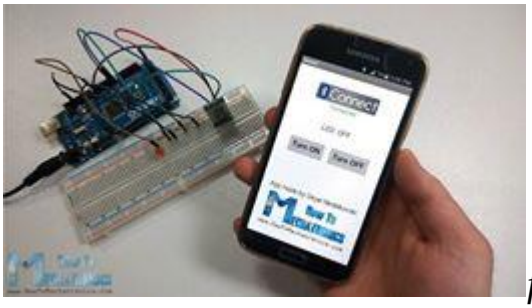
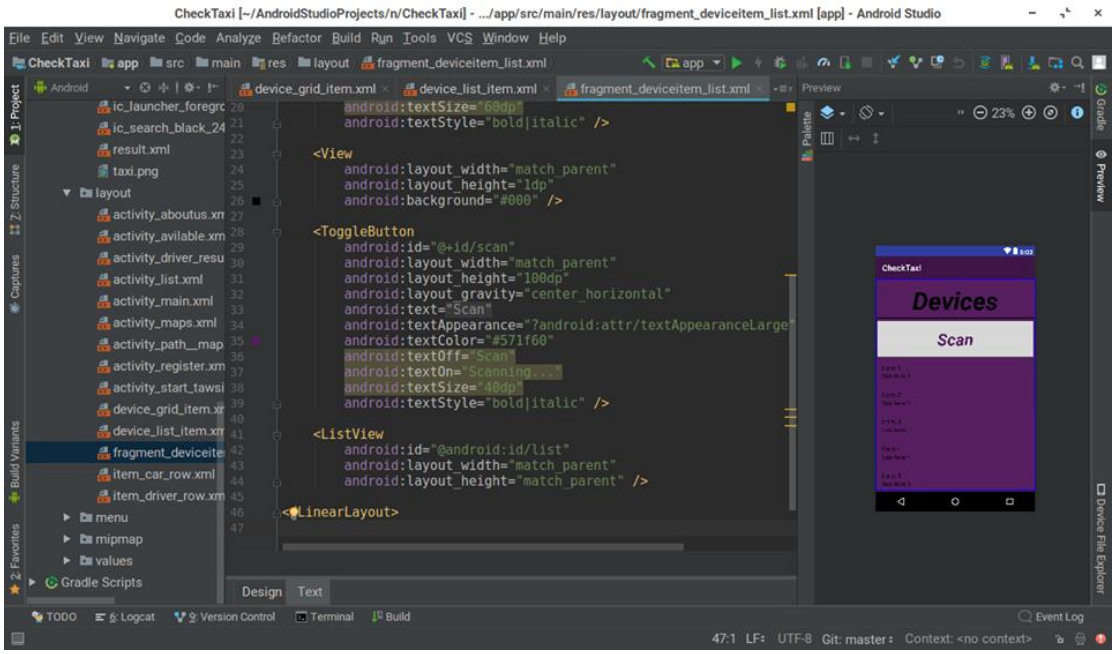
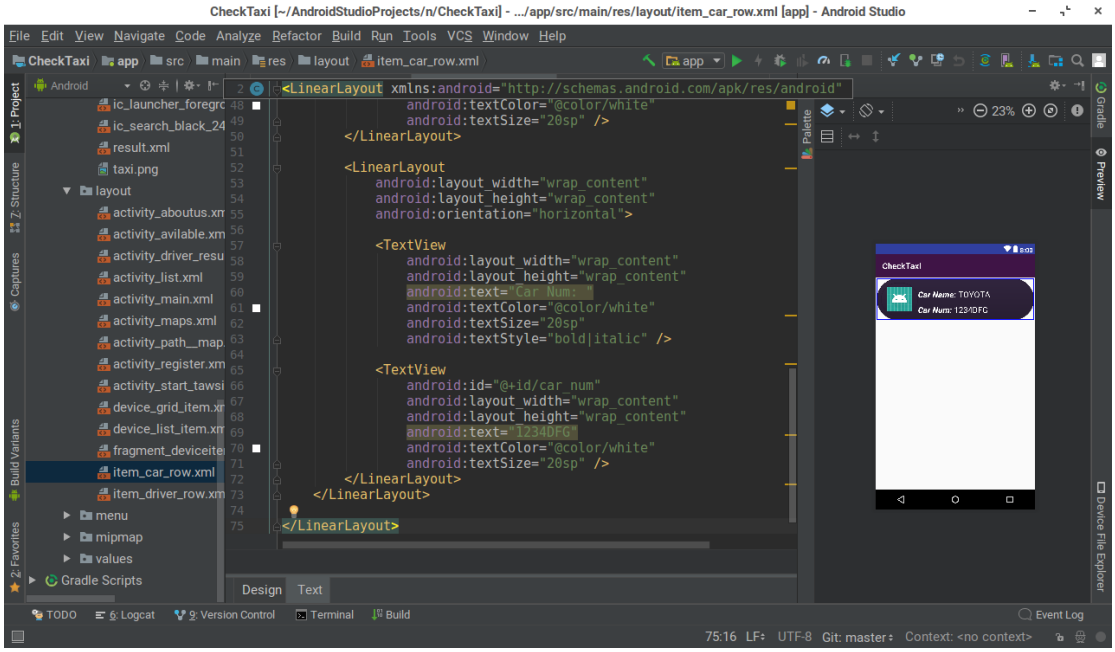
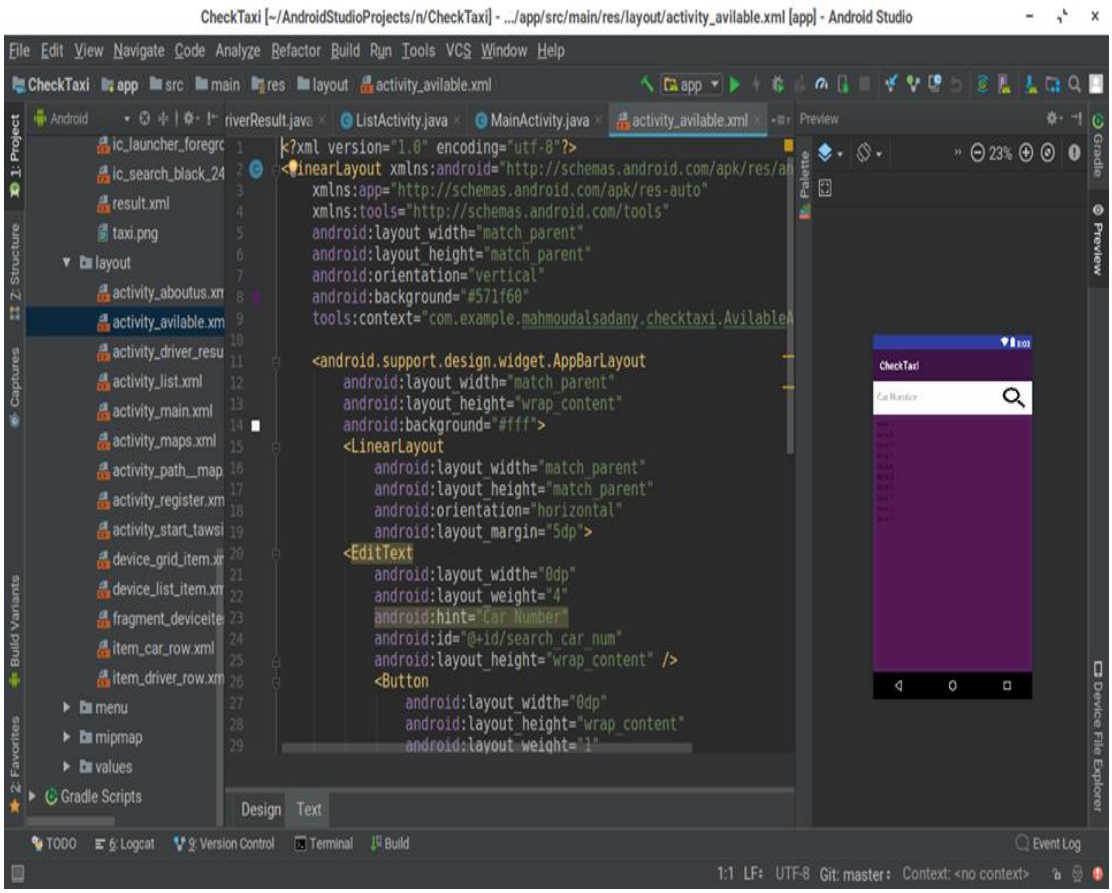


figure12: beluttoth module.


CheckTaxi [~/AndroidStudioProjects/n/CheckTaxi] - .../app/src/main/res/layout/fragment_deviceitem_list.xml [app] - Android Studio
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
CheckTaxi app src main res layout fragment_deviceitem_list.xml
device_grid_item.xml
device_list_item.xml
fragment_deviceitem_list.xml
android:textSize="60dp"
android:textStyle="bold|italic" />
<View
android:layout_width="match_parent"
android:layout_height="1dp"
android:background="#000" />
<ToggleButton
android:id="@+id/scan"
android:layout_width="match_parent"
android:layout_height="100dp"
android:layout_gravity="center_horizontal"
android:text="Scan"
android:textAppearance="?android:attr/textAppearanceLarge"
android:textColor="#571f60"
android:textOff="Scan"
android:textOn="Scanning..."
android:textSize="40dp"
android:textStyle="bold|italic" />
<ListView
android:id="@android:id/list"
android:layout_width="match_parent"
android:layout_height="match_parent" />
</LinearLayout>
Design Text
Preview
CheckTaxi
Devices
Scan
TODO Logcat Version Control Terminal Build Event Log
47:1 LF: UTF-8 Git: master: Context: <no context>


CheckTaxi [~/AndroidStudioProjects/n/CheckTaxi] - .../app/src/main/res/layout/item_car_row.xml [app] - Android Studio
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
CheckTaxi app src main res layout item_car_row.xml
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:textColor="@color/white"
android:textSize="20sp" />
</LinearLayout>
<LinearLayout
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:orientation="horizontal">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Car Num:"
android:textColor="@color/white"
android:textSize="20sp"
android:textStyle="bold|italic" />
<TextView
android:id="@+id/car_num"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="T234DFG"
android:textColor="@color/white"
android:textSize="20sp" />
</LinearLayout>
</LinearLayout>
</LinearLayout>
Design Text
Preview
CheckTaxi
Car Name: TOYOTA
Car Num: 123DFG
TODO Logcat Version Control Terminal Build Event Log
75:16 LF: UTF-8 Git: master: Context: <no context>



(Figure 12):- searching for the car.

5.1.2.5 choosing the car .

After searching for the car we choose the car and appear the driver_photo,num of car,national-id of the driver if information as the real we press the button of take ride.

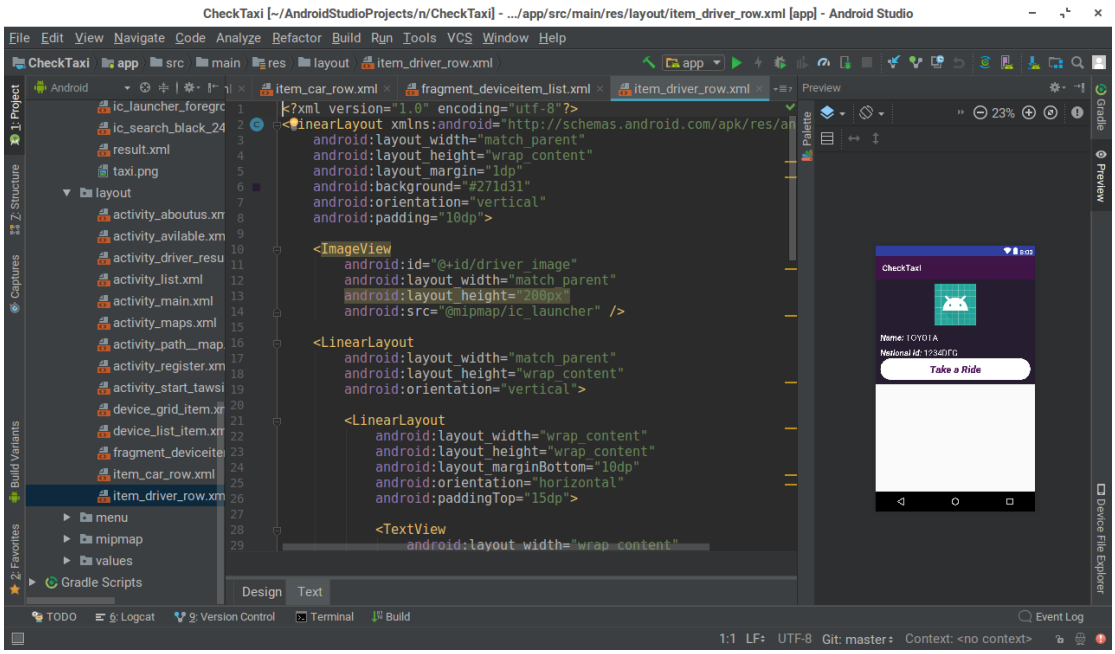
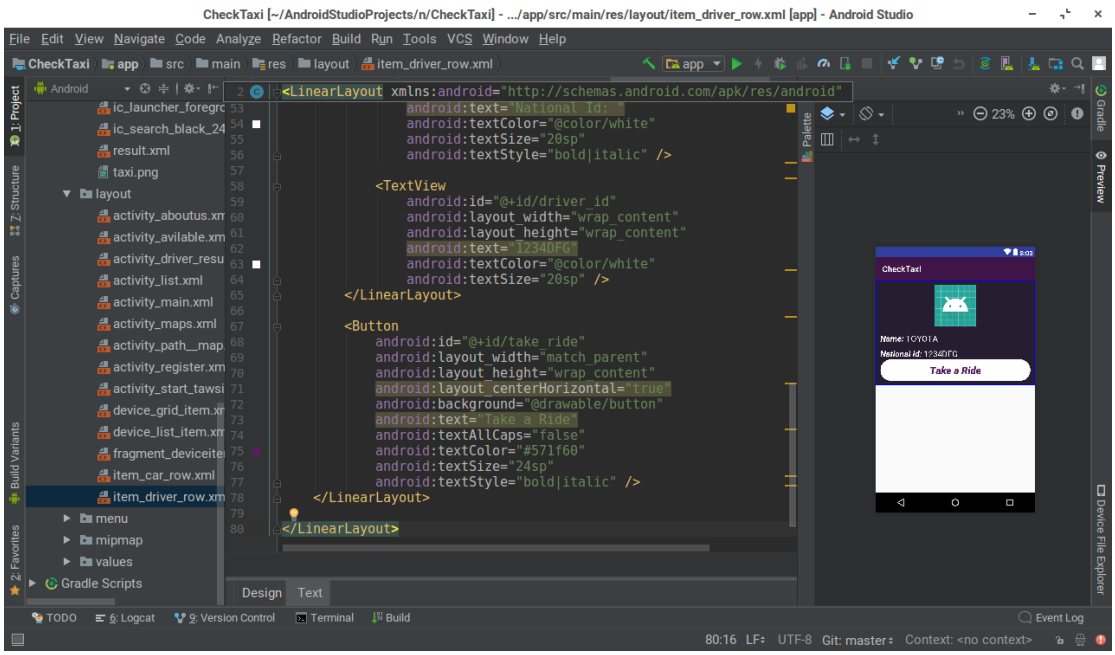


Figure 13:- choosing the car.



5.1.2.6 start

We start the way through determine place which we go and place which ride the car and pressing the button start, when reach the destination we press the button stop and if there is adanger we press

alarm.

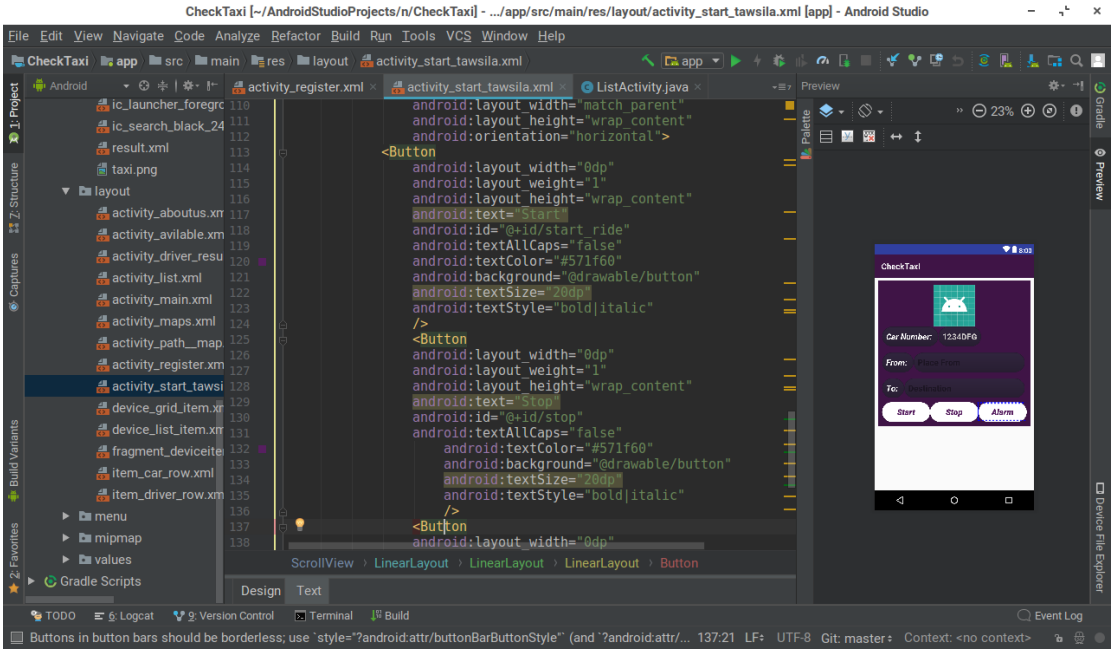
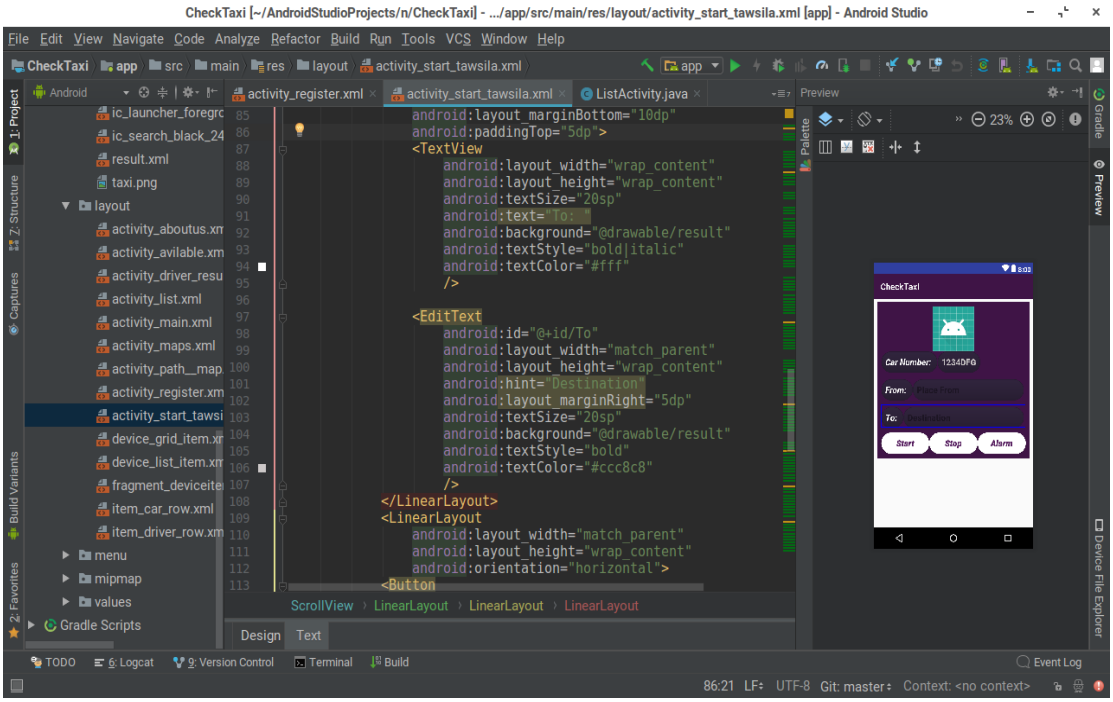
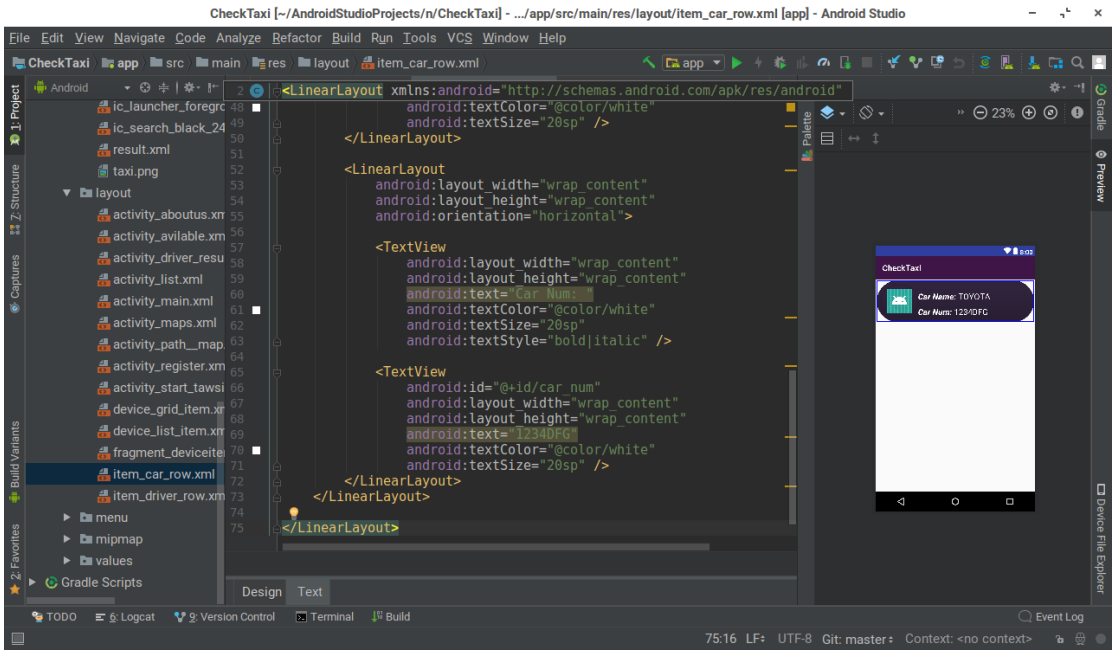
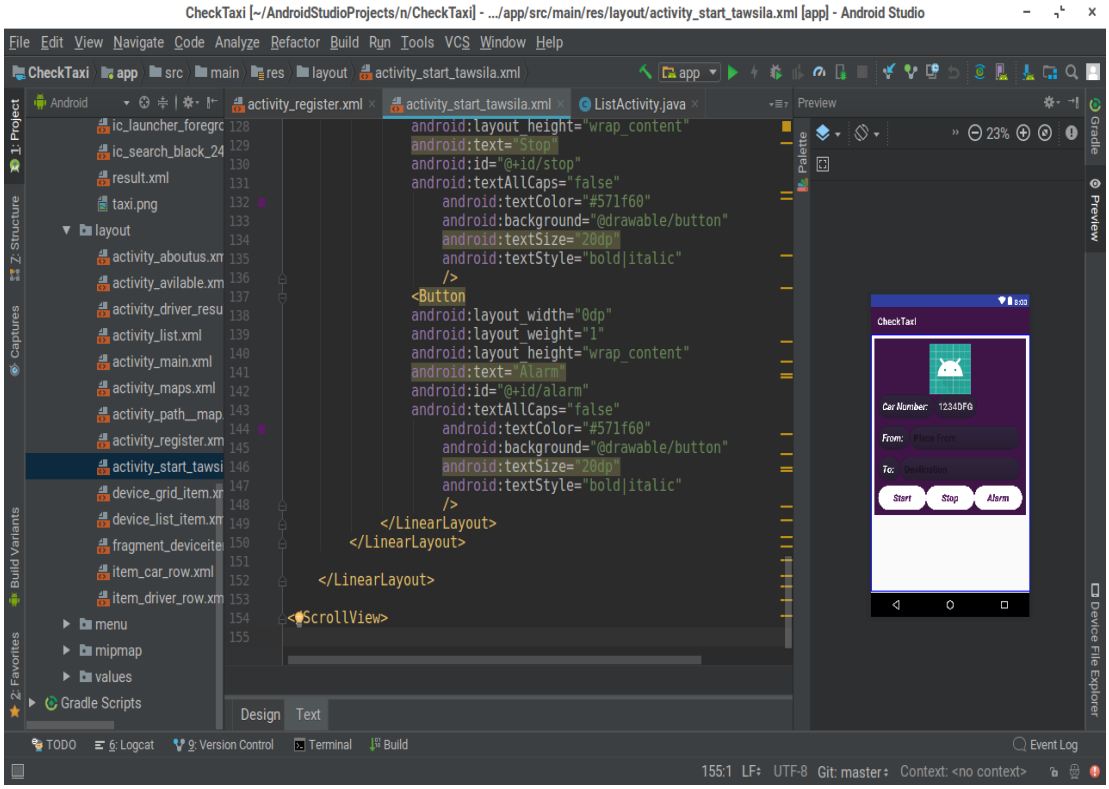


Figure 14:- start



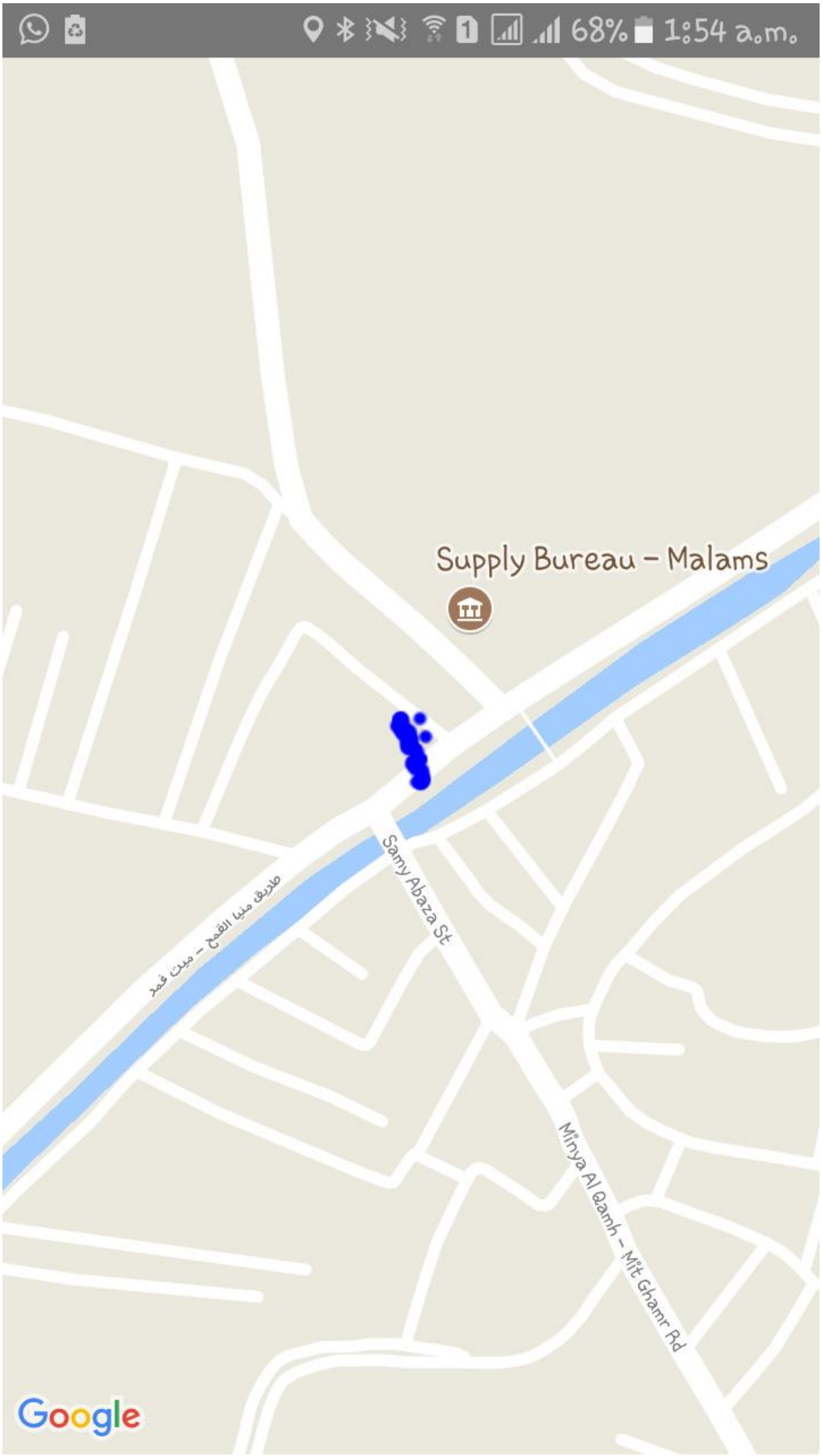

CheckTaxi [~/AndroidStudioProjects/n/CheckTaxi] - .../app/src/main/res/layout/item_car_row.xml [app] - Android Studio
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
CheckTaxi app src main res layout item_car_row.xml
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:textColor="@color/white"
android:textSize="20sp" />
</LinearLayout>
<LinearLayout
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:orientation="horizontal">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Car Num: "
android:textColor="@color/white"
android:textSize="20sp"
android:textStyle="bold|italic" />
<TextView
android:id="@+id/car_num"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="1234DFG"
android:textColor="@color/white"
android:textSize="20sp" />
</LinearLayout>
</LinearLayout>
</LinearLayout>
Design Text
CheckTaxi
Car Name: TOYOTA
Car Num: 1234DFG
TODO 6: Logcat 9: Version Control Terminal Build Event Log
75:16 LF: UTF-8 Git: master: Context: <no context>

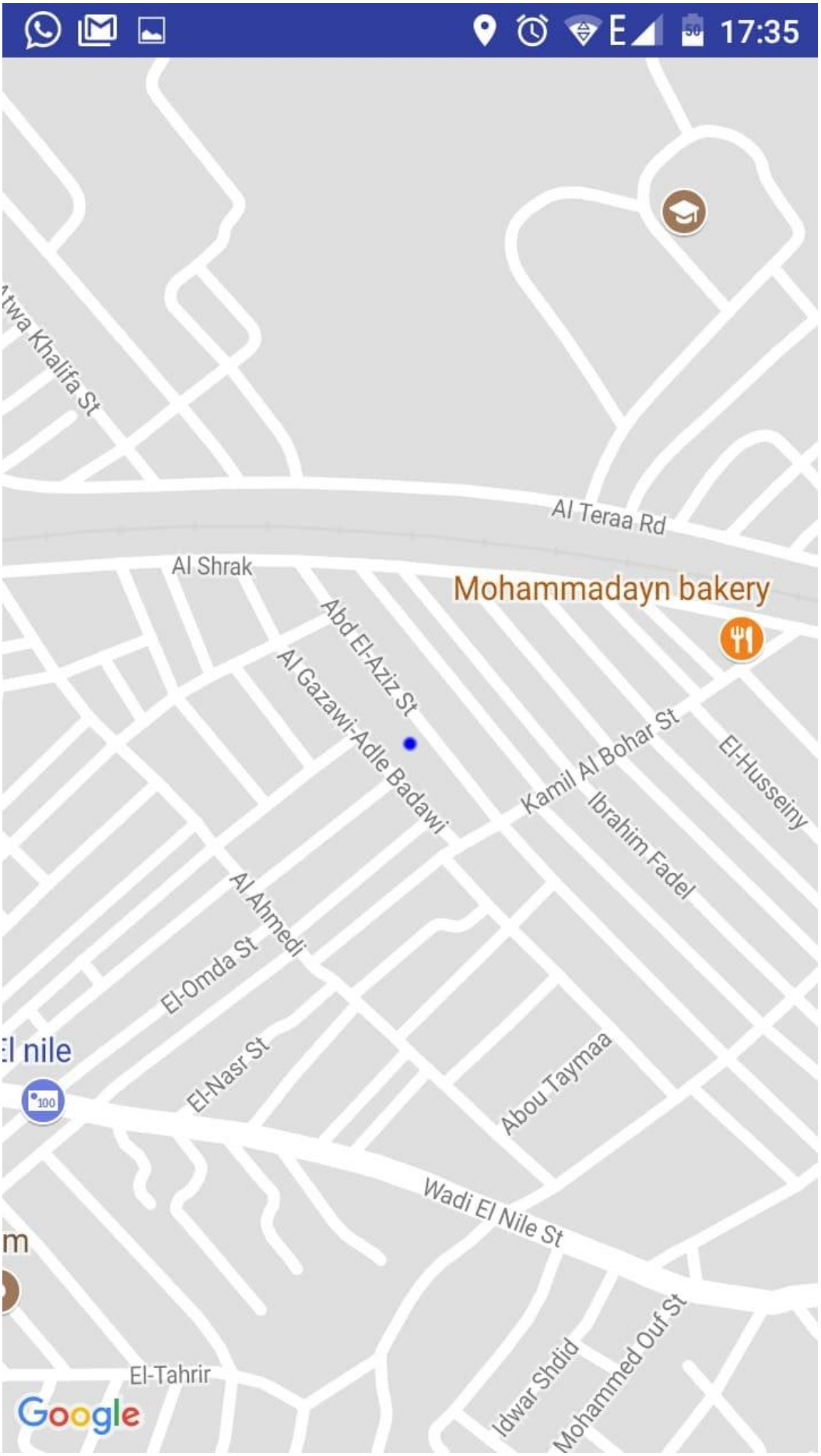

CheckTaxi [~/AndroidStudioProjects/n/CheckTaxi] - .../app/src/main/res/layout/activity_start_tawsila.xml [app] - Android Studio
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
CheckTaxi app src main res layout activity_start_tawsila.xml
activity_register.xml activity_start_tawsila.xml ListActivity.java
android:layout_height="wrap_content"
android:text="Stop"
android:id="@+id/stop"
android:textAllCaps="false"
android:textColor="#571f60"
android:background="@drawable/button"
android:textSize="20dp"
android:textStyle="bold|italic"
/>
<Button
android:layout_width="0dp"
android:layout_weight="1"
android:layout_height="wrap_content"
android:text="Alarm"
android:id="@+id/alarm"
android:textAllCaps="false"
android:textColor="#571f60"
android:background="@drawable/button"
android:textSize="20dp"
android:textStyle="bold|italic"
/>
</LinearLayout>
</LinearLayout>
</LinearLayout>
</ScrollView>
Design Text
Preview
CheckTaxi
Car Number: 1234DFG
From:
To:
Start
Stop
Alarm
TODO 6: Logcat 9: Version Control Terminal Build Event Log
155:1 LF: UTF-8 Git: master: Context: <no context>

5.1.2.7 Maps:-

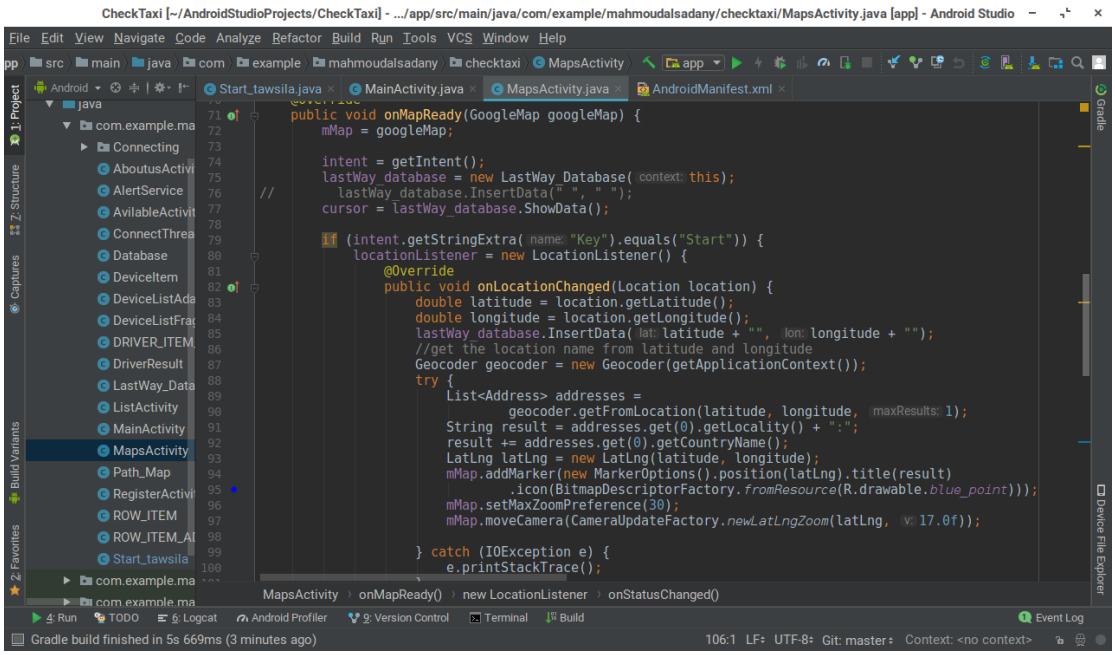
Which determine the places which pass it and register it through longitude and latitude in database and determine the shortest way.

Figure 15:maps.


68% 1:54 a.m.
Supply Bureau – Malams
Samy Abaza St
صديق منيا القمح – ميت غمر
Minya Al Qamh – Mit Ghamr Rd
Google


17:35
twa Khalifa St
Al Teraa Rd
Al Shrak
Mohammadayn bakery
Abd El-Aziz St
Al Gazawi-Adle Badawi
Kamil Al Bohar St
El-Husseiny
Ibrahim Fadel
Al Ahmedi
El-Omda St
El-Nasr St
Abou Taymaa
Wadi El Nile St
El-Tahrir
Idwar Shdid
Mohammed Ouf St
Google

5.1.2.8 Bleutooth:-



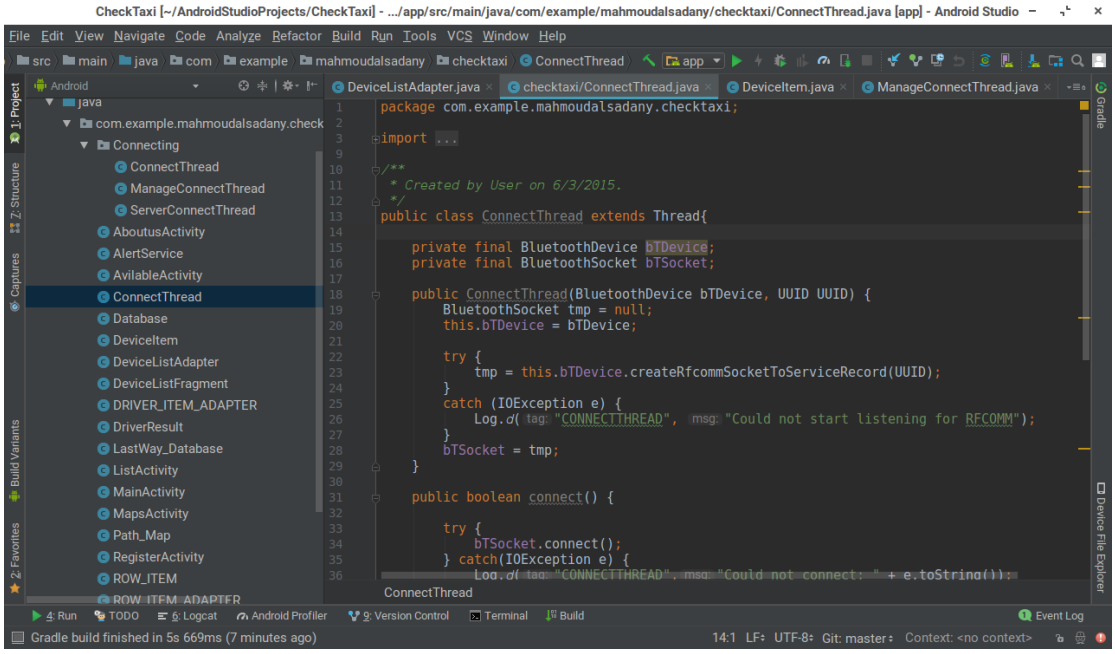


Figure 16:beluttoth

Chapter 6:

Section 6.1:-

Policeman interface

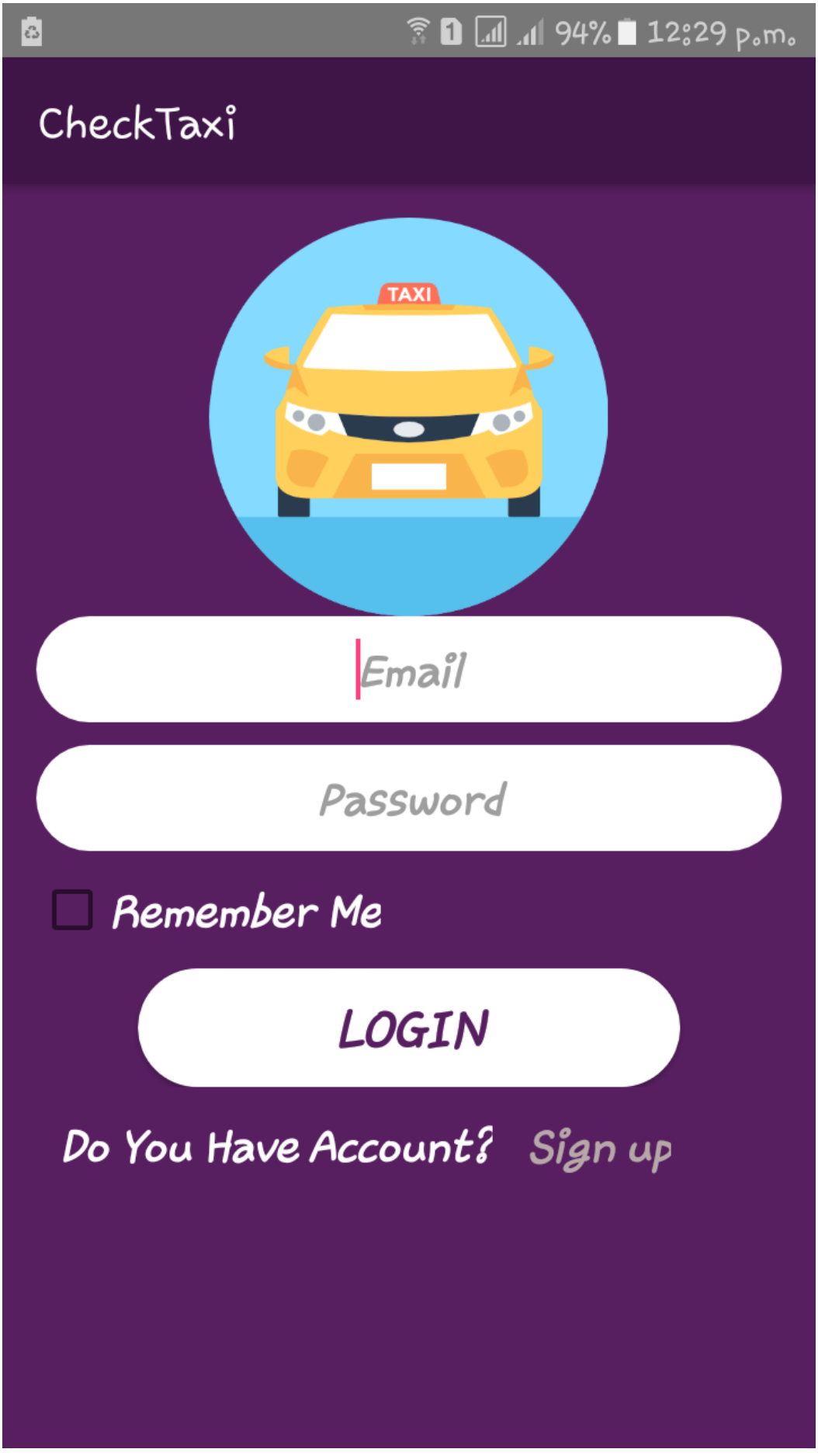
Introduction:-

In this chapter, we will talk in the second part of the project, which is used by police officers in the traffic to know the expiry of licenses for drivers, which provides the policemen time and effort and facilitates the process of traffic in ambush police and roads

6.1.1 log in

- *Policeman login in the application with username and password through this page.*
- *if the police man dosen't have email ,he must sign up and register in the database.*

(Figure 17) log in

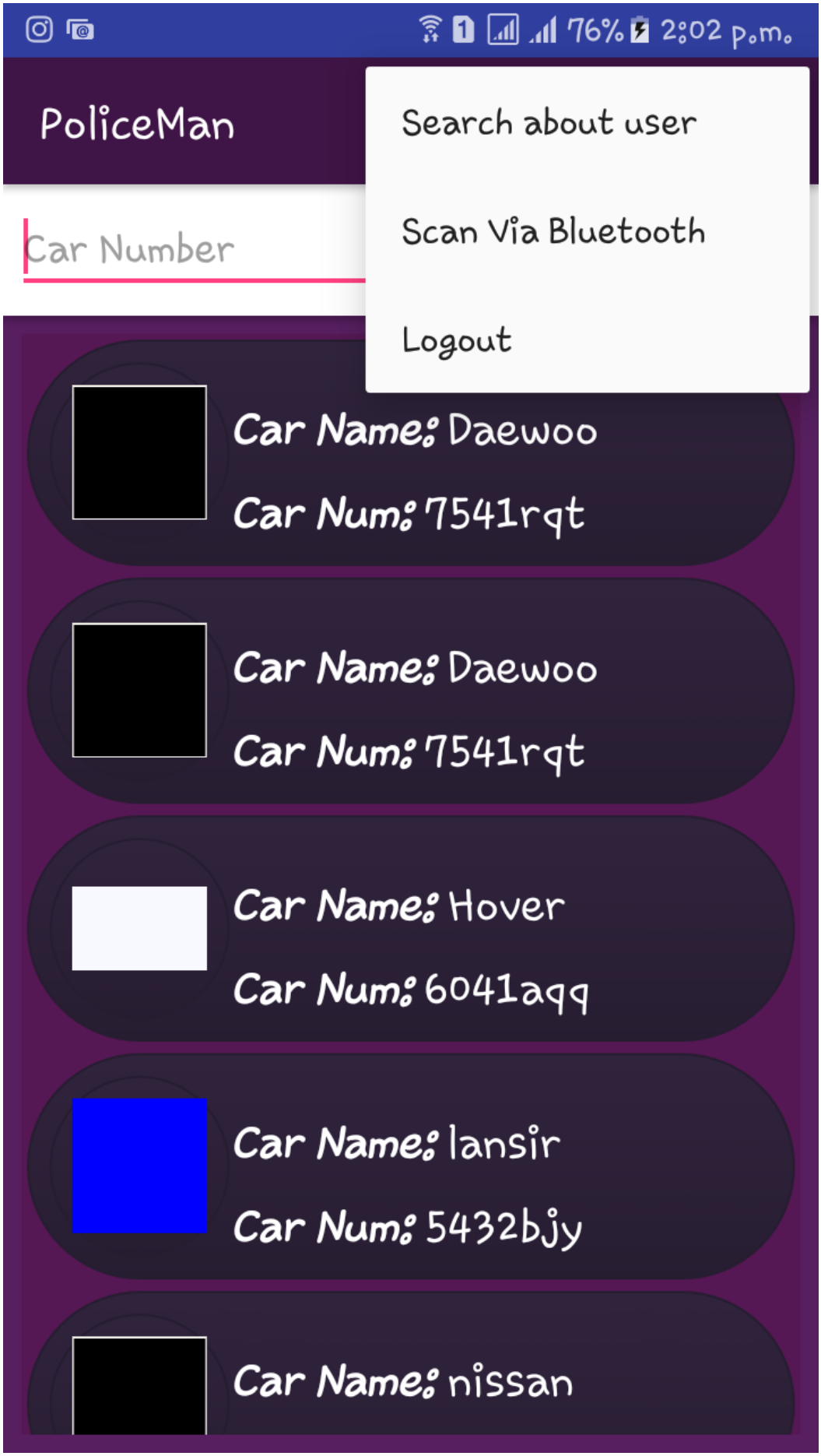

94% 12:29 p.m.
CheckTaxi
TAXI
Email
Password
Remember Me
LOGIN
Do You Have Account? Sign up

6.1.2 searching for the car:-

- *Police man search for the car by car_number to explore the expiry of licenses for drivers.*

OR

- *Turn on the beluttoth for the mobile of policeman and connect with beluttoth module in the car for appearing the car_number ,car name and car_color.*


76% 2:02 p.m.
PoliceMan
Search about user
Scan Via Bluetooth
Logout
Car Number
Car Name: Daewoo
Car Num: 7541rqt
Car Name: Daewoo
Car Num: 7541rqt
Car Name: Hover
Car Num: 6041aqq
Car Name: lansir
Car Num: 5432bjy
Car Name: nissan

6.1.3 After finding the car:-

It appear for police man information about the car and driver like:

Name , national _id, driver_end licences,driver picture

Car end licences, car_check data through these things he explore the expirey of the licencese of driver.

PoliceMan

Name: **********

National Id: **********

Driver End Linces: 1-1-2019

Car End Linces: 2019

Car check Data: 1-1-2020

OK

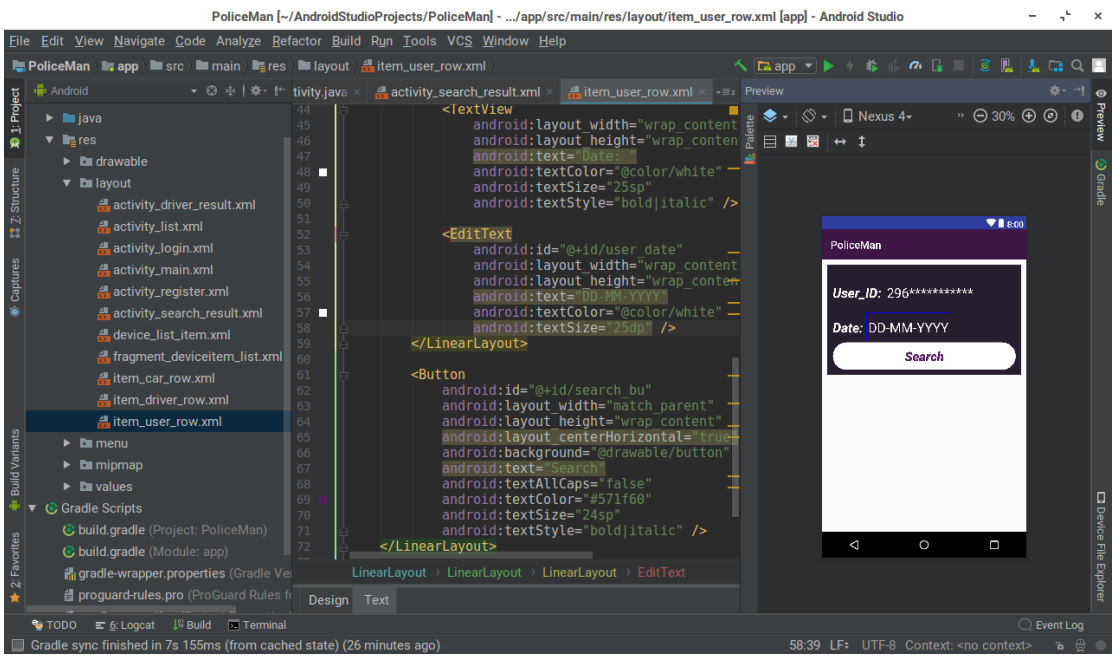
Section 6.2:

6.2.1 Search for user:

If any person in danger and dosen't send message for end the destination :-

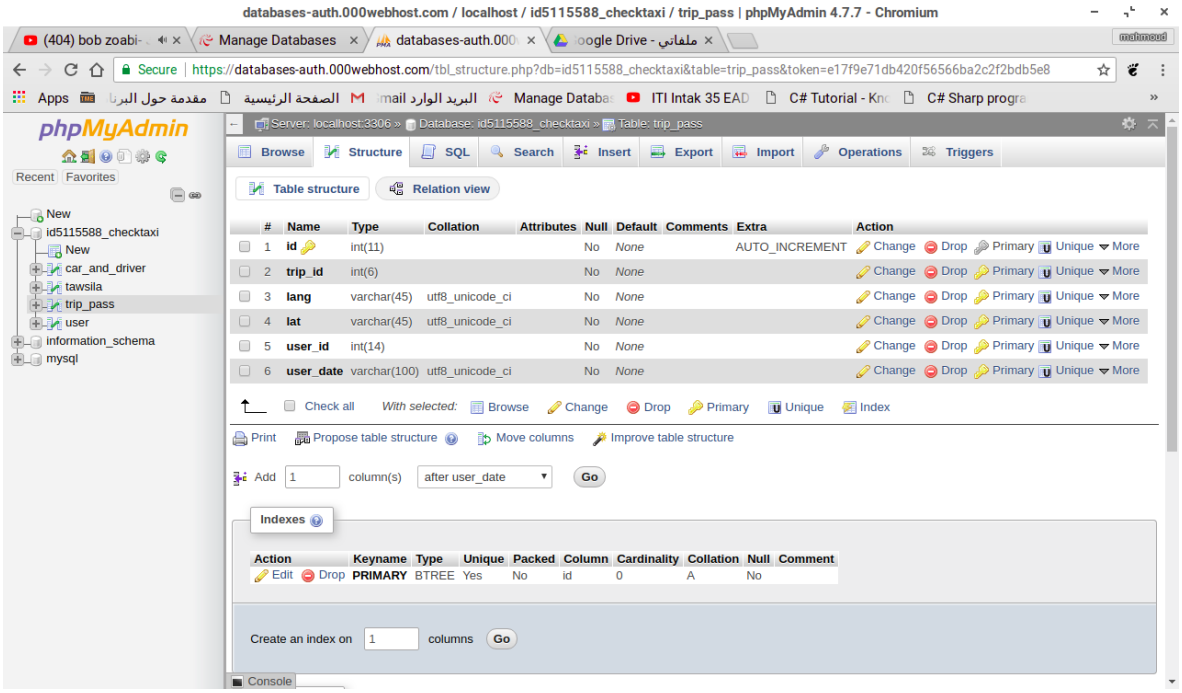
- *After 10seconds it sends notification that for suring finishing the destination .*
- *If doesn’t finish and appear any danger and any person report we take from person*

  User_id for this person and the date and then search for this person.



6.2.2 Maps in the application of police man:-

After the policeman enter the user_id and date it determines the path of the car which it drive through this we can determine the place of the person and there is problem it dosen't store the path in the server it can drop the server so that we can store it in the data base.



(Figure 20):- trip pass.