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GoToGarage- An Android Application

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Abstract— A car/bike breakdown in the middle of the road and not finding a mechanic nearby? This can be the most frustrating situation anyone can get into. Now a days, technology is on a boost. People wish to live a luxurious life with minimum physical work. Here we provide a mobile application titled 'GoToGarage'. This application is an android app which can be run on any android compatible tablets and mobile phones. The app will enable any car/bike user to search and communicate with any car/bike service centre in the vicinity. The user can find the service centre, get its location and check and select any of the services provided by the respective service centre. Thus we are developing an application which goes hand in hand with the new age technology and characterizes – user friendliness, informativeness and time saving.

Keywords— breakdown, technology, mobile application, android app, tablets, time saving

I. INTRODUCTION

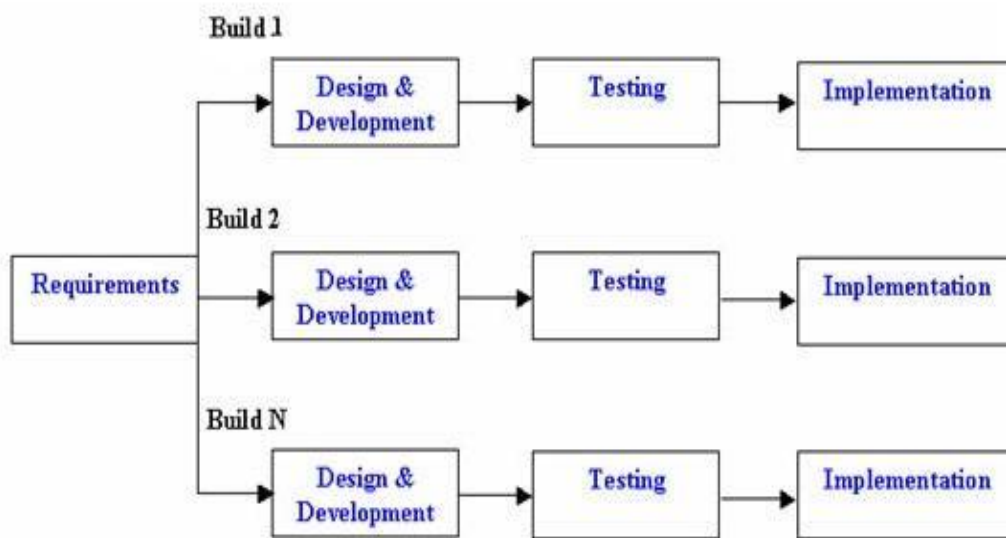
The era of mobile technology opens the windows to the android apps. The websites are vanishing and the mobile phones are emerging. It's the time to change from conventional websites to apps, which has become the part of our daily routine. As we are moving towards the technology dominant age and the financial status of the person is also increasing by time, the power of both (technology + financial status) are giving wings to the people not only to realize but also to fulfil their dreams. The quantity of cars/bikes in India will increase in the near future; it will increase the number of cars/bikes at the mechanic shop to get service. This situation will form queues at the mechanic shop. Problem of long queues and waiting can be very big in the future. Moreover, many a times it happens that when we are travelling with our family or alone, and suddenly our vehicle stops working and we can't find any mechanic or service stations nearby. Nobody knows what to do in this situation. The GoToGarage app for automobile services is a progressive step in the field of service centres and garages. Any car/bike user can make use of this app to locate and communicate with the service centres or garages in their vicinity. This app uses innovative technology that connects you with a mechanic at the tap of a button.

II.OBJECTIVE

- (a) The objective of the works is to propose options for finding nearby garages and service stations.
- (b) The purpose of this project is to provide car or bike servicing system more effectively than the existing system.
- (c) There are some disadvantages of the existing service centre management systems. These disadvantages are overcome by this app GoToGarage. And it can be made handily available to every person.
- (d) Previously people could not get help or locate the service centres conveniently in case of their car break-down or any other emergencies. Thus 'GoToGarage' is proposed to assist people and fulfil their requirements easily.
- (e) Previously designed apps or websites were functioning only in three cities i.e. Bangalore, Hyderabad and Chennai only. This app GoToGarage is specifically designed to help the people of Indore city.

III. METHODOLOGY

METHODOLOGY USED: INCREMENTAL MODEL



Incremental Life Cycle Model

Incremental process model is also known as Successive version model.

First, a simple working system implementing only a few basic features is built and then that is delivered to the customer. Then thereafter many successive iterations/ versions are implemented and delivered to the customer until the desired system is realized.

Each iteration passes through the **requirements, design, coding and testing phases**. And each subsequent release of the system adds function to the previous release until all designed functionality has been implemented.

The system is put into production when the first increment is delivered. The first increment is often a core product where the basic requirements are addressed, and supplementary features are added in the next increments. Once the core product is analyzed by the client, there is plan development for the next increment.

Technology Used: Android

Because nowadays, everyone has a smartphone and android apps run on a large number of devices. So, the user can use the app anywhere when needed, with the limitation that the smartphone should have internet connection.

IV. FUNCTIONAL REQUIREMENTS

In order to make this application functional, we require the following:

1. Download Mobile application:

A user should be able to download the mobile application through an app store or similar services on the mobile phone. The application should be free to download.

2. User registration:

Given that a user has downloaded the mobile application through then the user should be able to register through mobile application. The user must provide username, password and contact. The user can choose to provide a regularly used phone number.

3. User Login:

Given that a user has registered, then the user should be able to log in to the mobile application. The log in information will be stored on the phone and in the future the user should be logged in automatically.

4. Reset Password:

Given that a user has registered, then the user should be able to retrieve his/her password by contact number.

5. Home Page:

Given that a user is logged in to the mobile application then the first page that is shown should be the home page. The user should be able to see all the services.

6. Search Service:

The user should be able to search for a notice by its time. For example, if a user types engine, all the services having engine in their content get displayed.

7. Selecting a Services:

A user should be able to select any service from list of view. The click on particular service will take him to service details of the particular service.

8. Navigating back to Services List:

The user should be able to navigate back to services list from the service details section. This is required to give a good experience.

V.EXTERNAL INTERFACE REQUIREMENTS

User Interface

- Login page of the website include username and password, password is encrypted format.
- Username field consist of either the name or email address of the user.
- Password should be minimum eight characters either password would not be accepted.
- App also provide Registration Form for verifying new customers for the first time.
- User can also verify themselves by Signing in through their Google Account.
- After Sign up user can access their current location as well user can also view the garages in the vicinity and the status of each garages whether mechanics are busy or idle.
- User can book mechanics according to their choice.
- They need to enter their location and the time when the mechanic is needed.
- User can also view the list of services and can choose according to his/her needs.
- After the work is done, the user can pay by cash or can do the payment online.

Hardware Interface

An android phone or tablet

Software Interface

OS- Windows XP or above

Platform- Android SDK framework

IDE- Android Studio

Android Emulator- SDK version 3.0 or higher

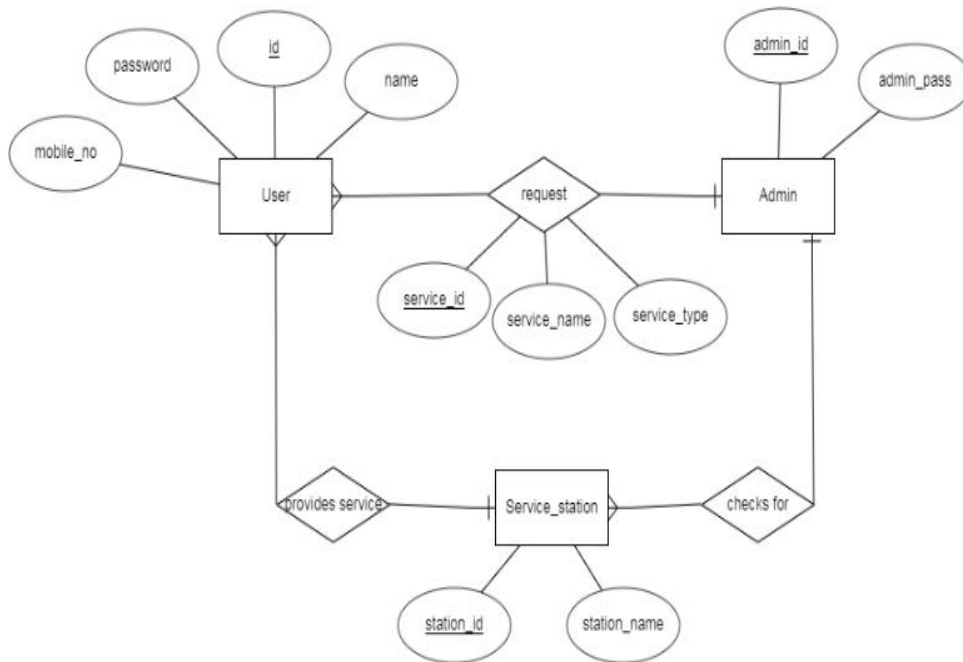
Technologies used- Java, XML

Database- SQLite

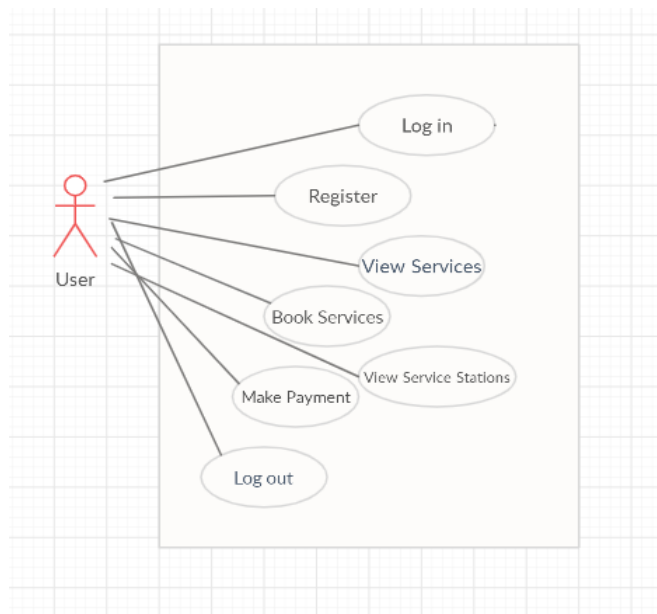
Communication Interface

The application can communicate with the various databases and software services via API function calls. Because the application will be written in Java, java functions will make these calls to the API's. The exact formats and protocols for the incoming and outgoing messages should be abstracted by the API's.

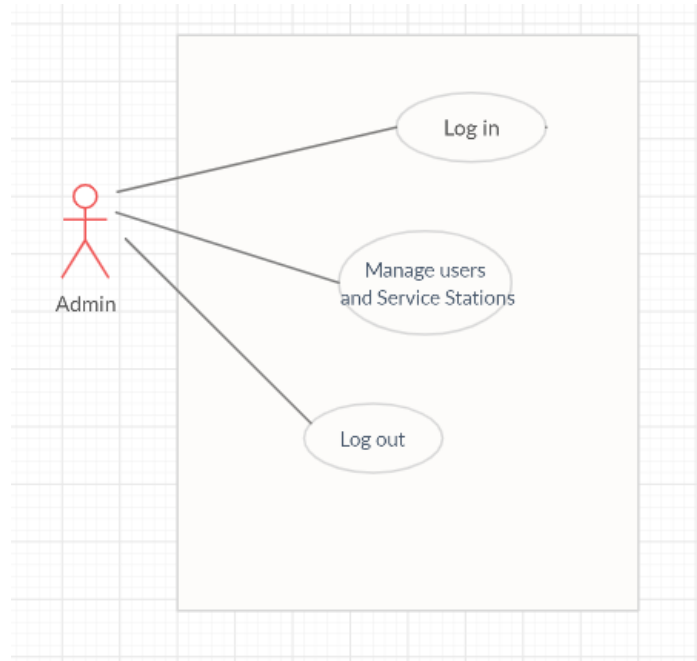
VI. ANALYSIS AND DESIGN



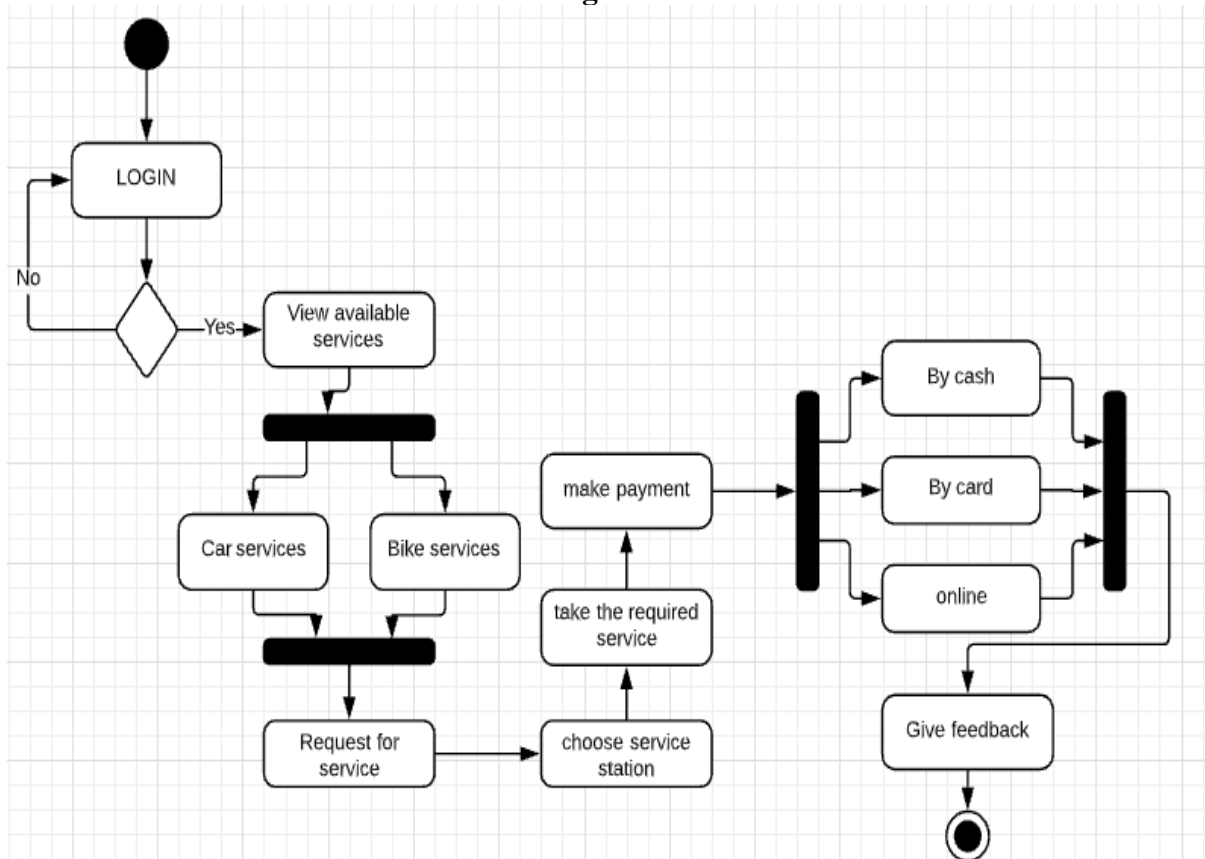
E-R Diagram



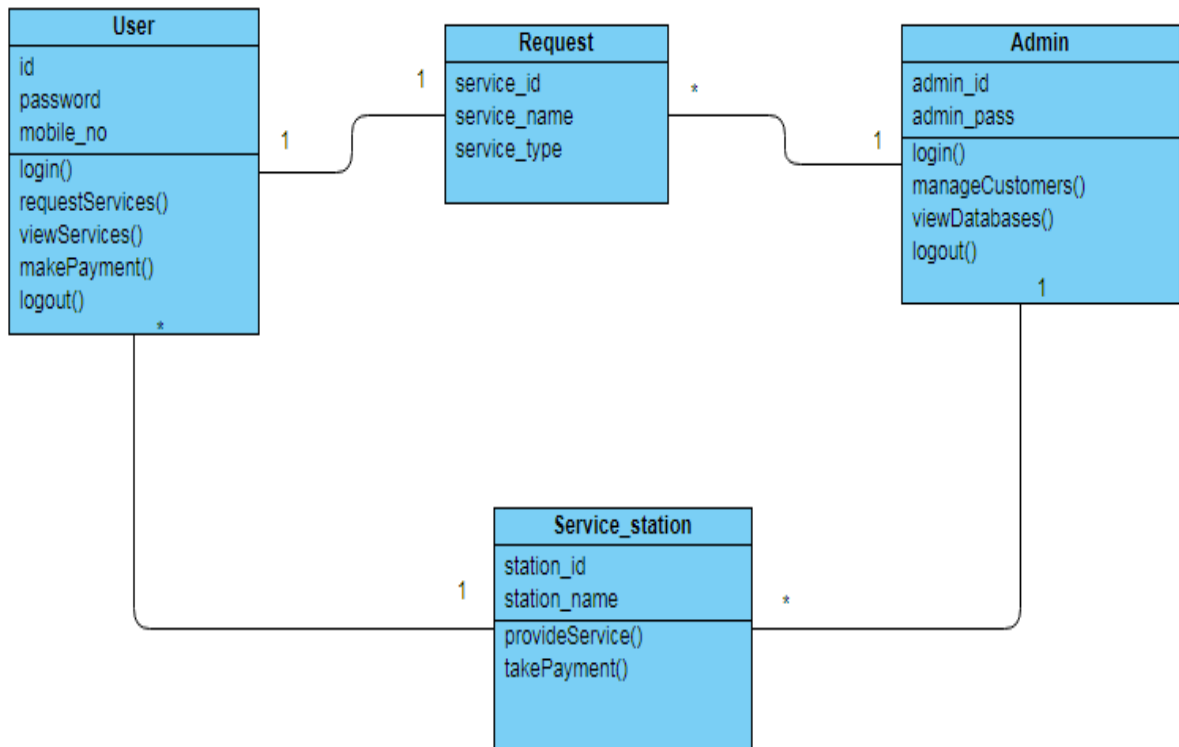
Use Case Diagram for Customer



Use Case Diagram For Admin

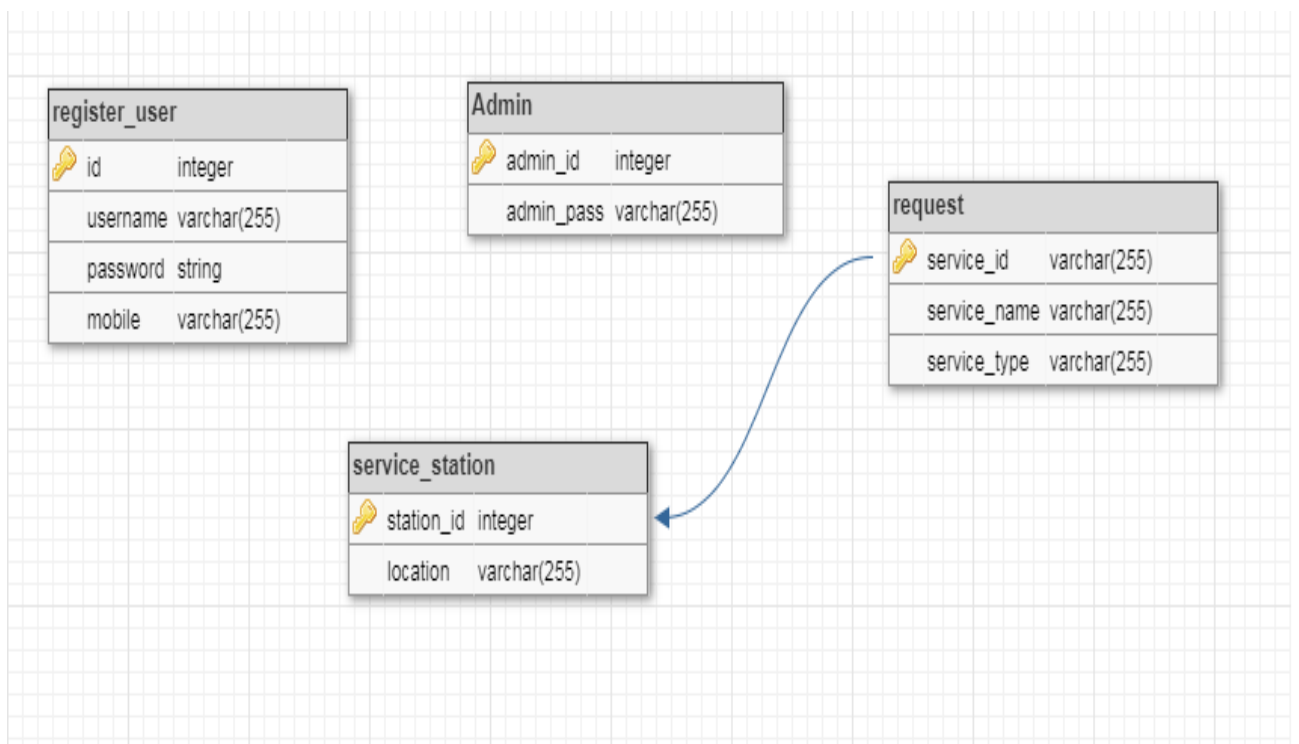


Activity Diagram

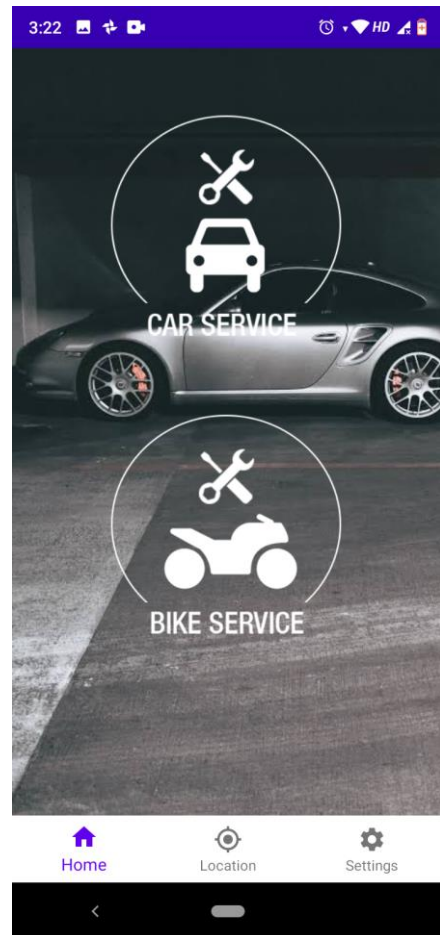
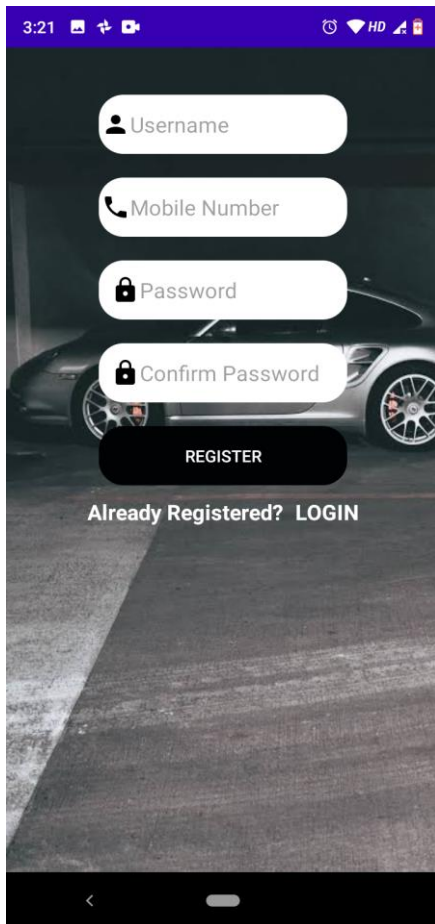
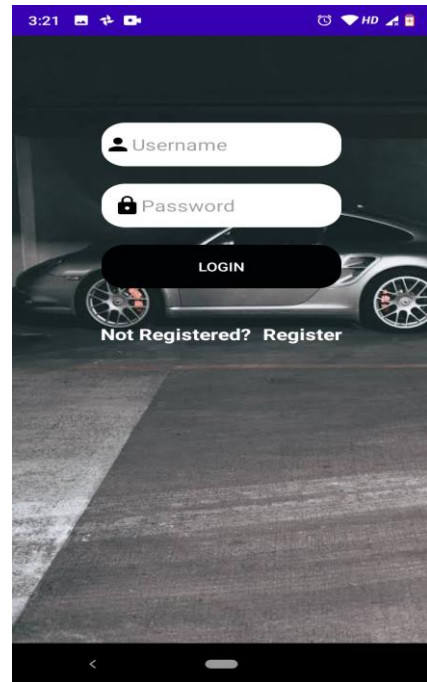


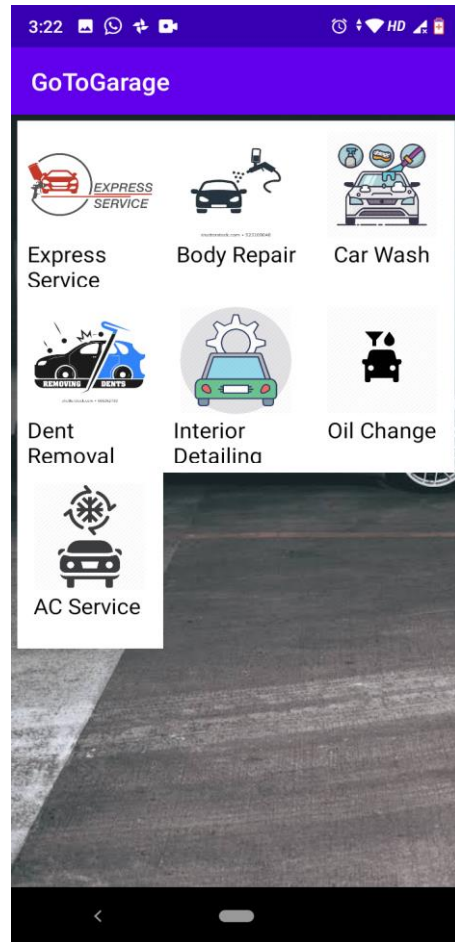
Class Diagram

VII. DATABASE TABLES



VIII. SNAPSHOTS OF THE PROJECT





IX. CONCLUSION

The proposed paper shows the flow, structure and working of the GoToGarage app. This app is user friendly i.e. easy to use. It is free of cost on android store. Thus, it is time a time saving as well as cost efficient application. So, we can conclude that the proposed system can be used to reduce human efforts and luxuriate human lives, hand in hand, with the modern technology.

To overcome all the drawbacks of the existing system of Automobile Servicing, this System is required where the complexities in the process of management for automobile services are reduced for the convenience of automobile owners. Through this system timely updates of services of automobiles can be sent to their owners. Automobile servicing becomes easy through this website. With the help of this system the car owners can locate all the nearby garages in case of a car breakdown in an unknown location. So, the system aims at improving the existing system and providing an efficient way for managing automobile servicing.

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