Parkspot-To Locate Nearby Parking Station

Mr. Kishore Kumar.K
Final Year UG Student, Velammal Engineering College, Dept. Of CSE, Surapet, Chennai City,India (TN).
Mr.Raghu.B
Final Year UG Student, Velammal Engineering College, Dept. Of CSE, Surapet, Chennai City,India (TN).
Mrs. R. Amirthavalli
Asst. Professor, Velammal Engineering College, Dept. Of CSE, Surapet, Chennai City,India (TN).

--**ABSTRACT**--

This paper proposes an android application, Parkspot, which can be used as a parking solutions. The Parkspot examines the parking spaces in and around the area in nearby "LOCALITY HOUSES". The main objective of the application is to provide the parking facility in the local households in secure manner. This will ensure the security of the vehicle as well as the reduction of the traffic on the roads. Parkspot can be used along with any rented facility in a secure manner to allocate the parking space for an emergency parking.

This Java based application uses the five different modules to allow the parking process. Registration of the parking space and driver, GPS tracking, calculation of the distance with respect to the nearest parking space, checking and verification of the vehicle, and lastly the payment. These five modules ensure that the available parking spot is utilized in a safe and secure manner and the owners and drivers can both benefit from this application.

The application is developed using Java, SQL, MY SQL database, and Middleware Java for development of android application. With the help of these tools, a user friendly UI interface is developed which utilizes all the checks and matches the driver with the nearest parking spot.

Keywords - **Mobile application, Car Parking, Java, SQL.**

I. INTRODUCTION

Parking is a big issue in the urban cities of the countries. There is a serious lack of parking space in these cities. During the working hours, around 40% of the parking space is taken up by the vehicles that are parked alongside the road. The city is highly congested and the vehicles parked on the side of the roads results in the increase in traffic congestion on the road. This further leads to the increased pollution level and even more accidents.

Thus, it is necessary to find a solution for parking woes of the urban areas. To tackle this problem of parking, the android application of PARKSPOT is further explained as a solution.

II. EXISTING SYSTEM

The existing parking system in India is highly chaotic. While the families in the country are growing smaller, there is a steady growth in the number of vehicles in the country. The parking situation in the urban areas is not very promising. The parking consumes around 40% of the urban areas which could have been used in any way. The cars dominate more than 3/4th of the parking area.

Conventional parking methods focus on developing the parking space in the public land by either building the multilevel parking or by ensuring that each building have the parking space. But this policy has not succeeded in reducing the pressure on the cities because of parking. Still a lot of space in the cities is consumed by the side-parked vehicles. Decades of experience in other countries point out to the fact that the demand for the parking is insatiable. There is need to take better steps to tackle the issue of the parking.

There are many disadvantages such road and side parking causes. The major disadvantage is the pressure it puts on the land. The parking on the roads most of the time encroaches on walkways, cycle paths, footpaths and other such ways. This further enhances the problem of pollution by discouragement of sustainable use of transportation. The road parking has another disadvantage that it degrades the quality of life in the area. Further, unorganized parking can result in law and order issues in the area.

The proposed app will allow the users to utilize the building parking spaces and provide safety to the car as well along with tacking the above problems of the associated system.

III. PROPOSED SYSTEM

The proposed system uses the parking spaces available in the homes and garages and allows the owners and drivers to use it. The application provides a secure login system to the driver and the house owners. Through GPS tracking, driver location details are collected and matched with the parking slot availability during the mentioned time slots.

The rent is settled with the house-owner along with the terms and conditions, and the same is mentioned in advance in the app. If the terms and condition of the house owner are agreed then the parking slot is accepted. This allows the drivers and owners to ensure that their requirements are met.

The architecture drawing given below gives the snapshot of the system.
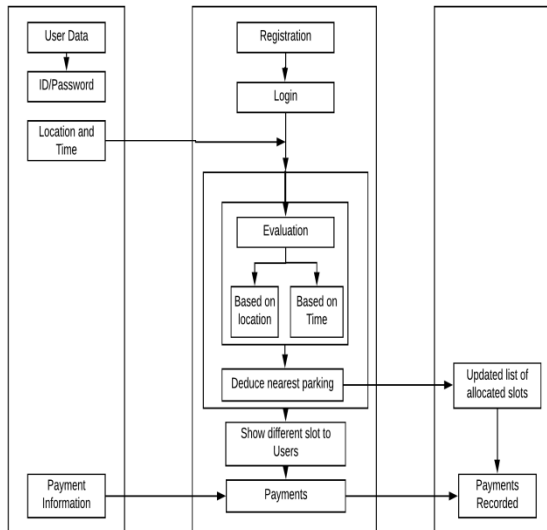
Figure 1: Architecture Diagram of the Proposed System

IV. MODULES AND TOOLS USED

1. Tools Used:

Following tools were utilized for the development of the application

- Java
- MYSQL Database
- XML Front End
- Middleware-Java(Android Development Tool)
- Web Service for data retainment
- MY SQL Server for storing large values

The proposed application works in the terms of five different modules. The first module involves the login for the owners and drivers. The owners register their parking space, and the drivers register their requirement of the parking space accordingly.

The second module is GPS tracking module that establishes the location of the driver.

The third module calculate the nearest distance with an aim to match the driver with the nearest parking space.

The next steps involve checking and verification of the driver which is further followed by the payment module to collect and transfer the funds.
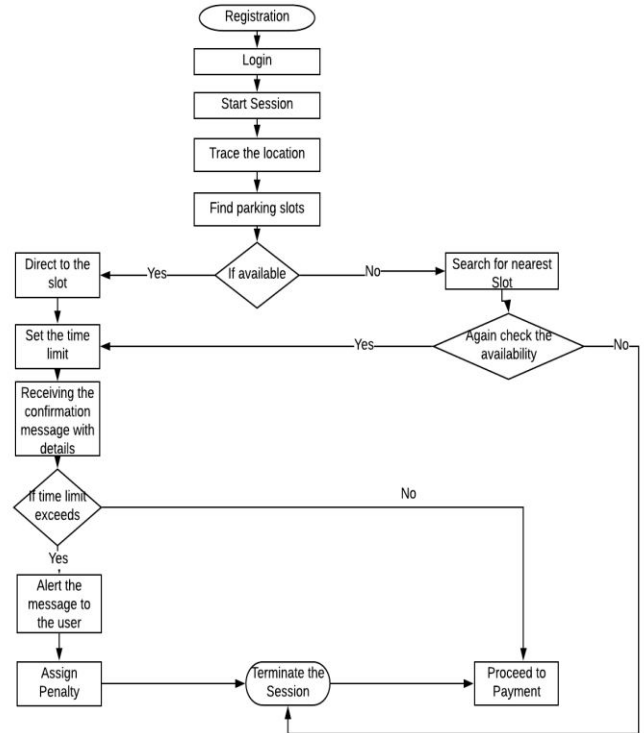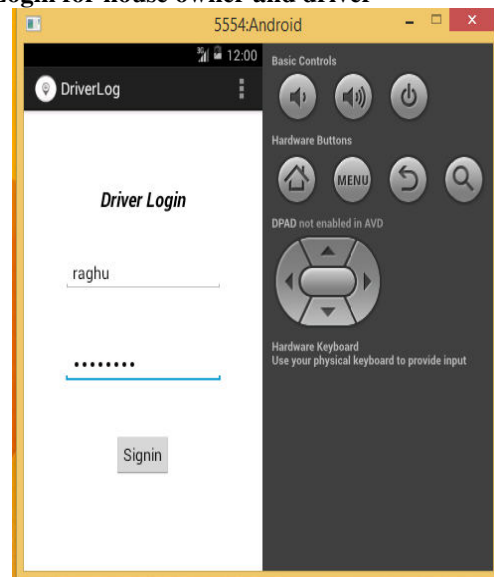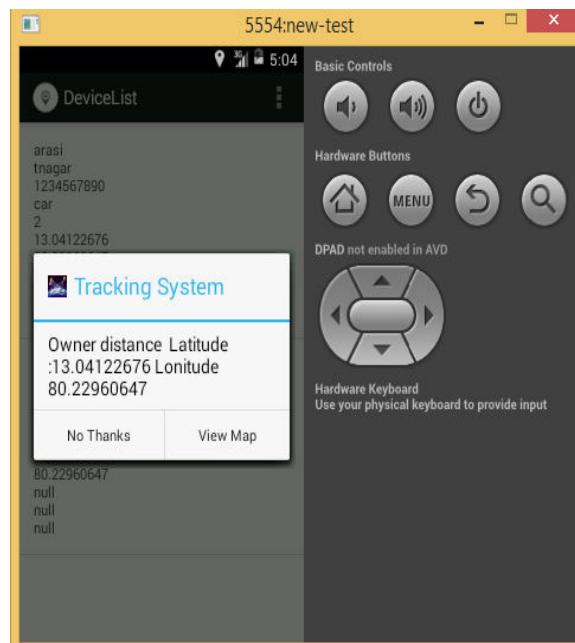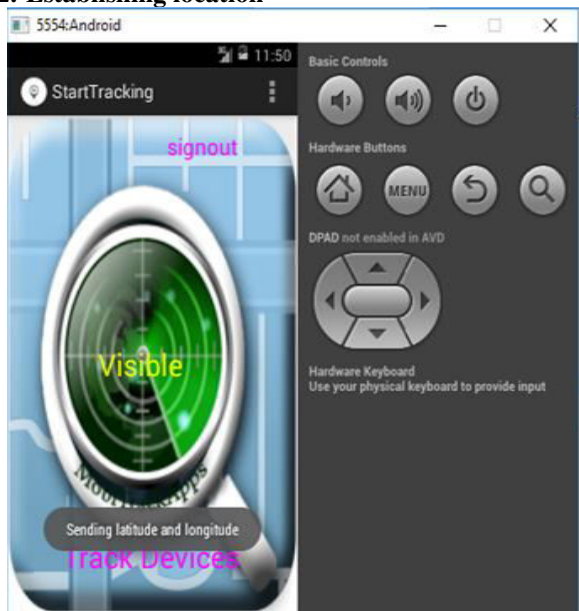

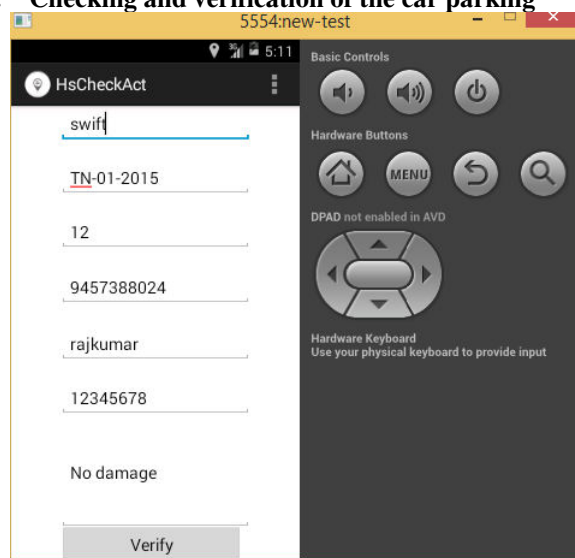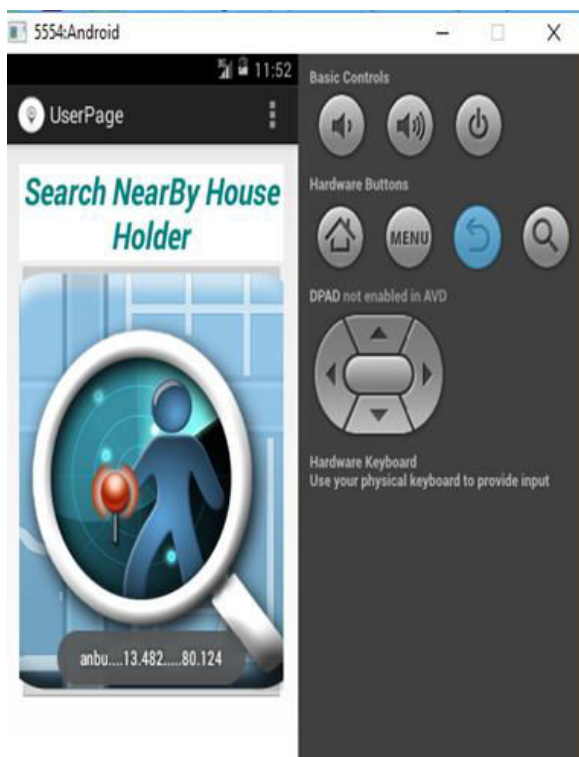Figure 2: Steps in the use of the application

V. IMPLEMENTED RESULTS

1. Login for house owner and driver

2. Establishing location
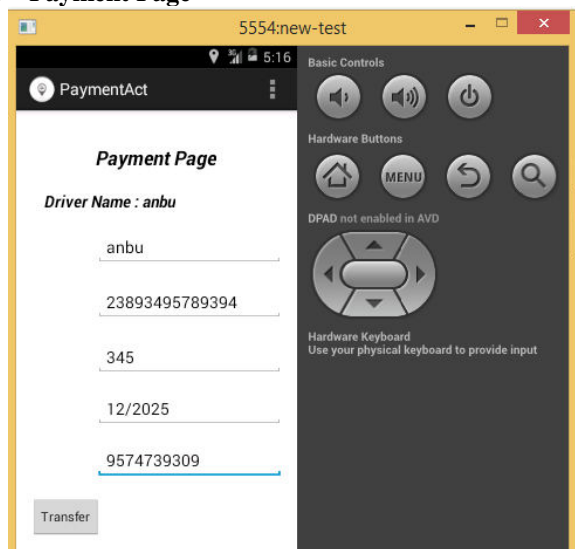

4. Checking and verification of the car parking

5. Payment Page

3. Nearest distance calculation

VI.   ADVANTAGES

- Sufficient parking space is provided through mobile phone.
- The app has highly secured features for parking in order to avoid accidents.
- High congestion for parking is reduced.
- Safe and secure Parking system is encouraged for every house.
- The house owners can also benefit from renting their parking spaces in safe and secure way.
- This reduces the pressure on the public authorities for the parking system.

VII.   CONCLUSION

Mobiles have become ubiquitous today for both drivers and home owners. There is a growth in development of apps which can be used for various purposes. The use of mobile application for solving the parking problems in the urban India can be a breakthrough for the urban planning of the country. There is no doubt in the fact that the need for parking spaces is going to increase further. The increase in demand of parking spaces means that existing systems will further be overloaded.

The application suggested, ParkSpot, can help in solving the parking problems of the country.

By utilizing the free spaces in various locations through home owners, the application can help in providing the safe and secure parking spaces to the drivers. This will ensure that the road parking is reduced and that the urban authorities can better use the spaces that are available.

References:
[1] Ebin P M AkhilDev P Mishab P "An Android Application For Smart Parking With Efficient Space Management"(2018).

[2] SanamKazi,UzmaAnsari,DeepaliMane,   ShifaKhan "Smart Parking based System for   smarter cities"(2017).

[3] RachapolLookmuang,   KritNambut, SasipornUsanavasin"Smart   Parking   Using   IoT Technology"(2018).