An Android Application for Rent Vehicle

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Abstract— The Application will provide the Services such as booking the vehicles for carrying passengers or the goods transportation can be done through the application. The system being developed is a system to handle the business needs of renting out vehicles to customers, maintaining booking details, Creating Auctions, Arranging Tours and Trip Spot Advisor are the various services will be offered by the Application. The Application will be useful to the local people for which people as to visit the particular place and select the vehicle. In all these things there will be lot of time will get consumed and there is chance of getting fraud by vehicle holder in the price or the other mean. Hence the Application will be helpful to the user as it as various list of choice to user and there will be transparency. The two Application need to prepared as Android Application on user Side or Client And Web Application on server side for Managing the Backend Tasks.

Key words: Rent Vehicle, Vehicle Booking, Driver Booking

I. INTRODUCTION

Considering current scenario of the market there is no any android application or the web application for the online booking of rent vehicles in the Sangli area. Sangli Motor Association wanted an android application to be prepared for carrying out the online booking of rent vehicles. The current situation is that there are 800-1000 vehicle available in Sangli city for rent. If the customers want the vehicles on rent, then he has to go on the spot and book the vehicle. The work is so much hectic and time consuming and sometimes the customer might pay extra money for that.

So the idea behind making the application is that the vehicle which are the available for the rent are needed to be register first with the proper authentication and all the contact details of the owner and the driver and all the specifications of the vehicles at once, if the customer want's the vehicle on rent then he has to simply download the application from the play store and use the application, on application he has to select the source place and destination place and type of vehicle such as human carrier or goods carrier and he will be shown all the available vehicles as list user can choose the vehicle, view image of vehicle, see the rate per km and if he find good then he can book that vehicle at that time.

There will be notification on the branch office system where the branch office representative will be pleased to see the notification and he will be confirming call to the customers about the vehicle he booked. If confirmed then branch office representative will be calling the vehicle driver or owner and send the message about the customer info that when he is need's vehicle and all other things and customer will be notified with SMS, the info of the driver name with his mobile no. and the time he will be reporting there on the location. These will be the working scenario of the application which is totally online internet based application

and many more advantages such as the customer efforts and time will be saved and he will not be get cheated in price. The application available of this type is available in metro-city. Applications like OLA, MERU cabs and UBER taxies. There is no any application available in Sangli city.

II. EXISTING SYSTEMS

1) Zoomcar (Zoomcar.com): It is self-drive for self-driven online service providers located in the India only. They don't consider price for fuel separately. As they don't provide all types of vehicles on rent we have overcome their limitation in our service.
2) JustRide (Justride.com): It is also a self-drive for selfdriven type of service located in only three cities of the India (Mumbai, Bangalore & Pune). Home pickup available for most locations. As they don't provide all types of vehicles on rent we have overcome their limitation in our service.
3) OlaCabs (Ola.com): It is India's most popular mobile app for transportation, integrates city transportation for customers and driver partners onto a mobile technology platform. As they don't provide driver on rent service we have included service of booking driver on demand.
4) Uber (Uber.com): It is same as that of Ola cabs. But they also provide service like register as driver. As they only provide luxury type of vehicles for rent, we have overcome this limitation by introducing service for renting all types of vehicles.
5) Savaari (Savari.com): Savaari.com is also a car rental service provider. They provide car rental services from four popular cities like Pune, Mumbai, Delhi and Bangalore to many other destinations across the India. As they don't provide any type of driver on rent service we have overcome this limitation in our service.

III. PROPOSED SYSTEM

A. Android Application

Android Application includes the Client Side Deployment of the Android Application and Web Application in which Various Services will be available to the client. Such as Vehicle Registration, Driver Registration, Vehicle Booking, Driver Booking And Trip Spot Advisor and many more in which various. A client also has various services available such as he can get the information about the tours information and also the trip spot advisor in which the on selecting the Location they will be getting the nearby spot details.

B. Web Server

Web Application includes the Server side application in which the admin will handle the All the Booking transaction and Trip Arranging and all the Managerial activity. PhpMyAdmin is one of the most popular application for

MySQL databases management. It is a free tool written in PHP.

IV. METHODOLOGY

A. New Vehicle Registration

To register vehicle to the Application the following information is taken such as vehicle information such as vehicle type, name, rate per kilometer, etc., all these information is taken with the vehicle photo, documents photo's drivers name and his details. For registering the new vehicle the vehicle holder as to first register to the application by filling the basic details.
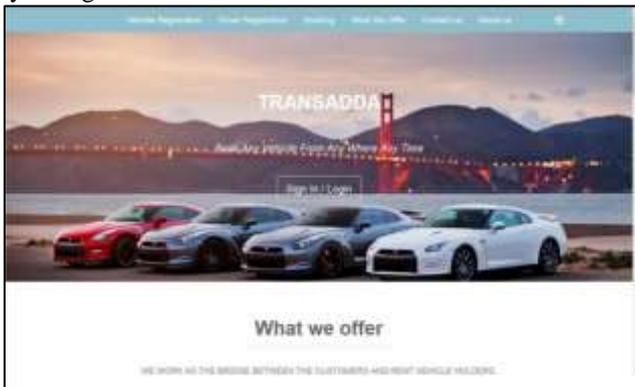

Fig. 1: New Vehicle Registration

Above fig represents home page of our website. If user is already registered then they can simply login and if they are new users they can sign in by choosing the button. There is also a navigation panel at top.

Fig. 2: New Vehicle Registration

Above figure gives information about driver registration. Where driver can register by filling up the form. In order to create driver account they should give information such as driver name, email id, password, mobile no, license no, age of driver, profile pic of driver.

Fig. 3: New Vehicle Registration

Above figure represents android application named Transadda. Where user as customer can register as new user. A vehicle can be registered or booked through vehicle registration. If user wants to register as driver or book a driver then they can go to driver registration. If Tour Company wants to register they can register through tour company registration module.

B. New Driver Registration

To register driver, we can take driver information such as driver license photo, name, address, mobile number, experience and his rates. For registering as the new driver the user as to first register to the application by filling the basic details.

Fig. 4: New Vehicle Registration

Above screenshot of page gives info about driver registration form. Where Driver has to fill up all the fields in order create accounts. The personal information includes about drivers name, mobile no., city, residential address, experience in driving field, etc. After filling info and uploading a profile pic they have to agree the license agreement and at last their account will be created.
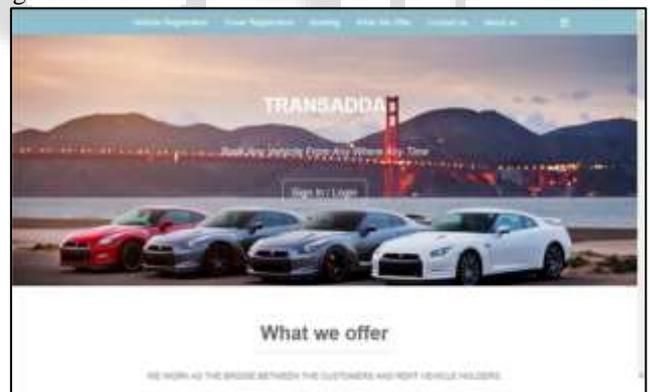

Fig. 5: New Vehicle Registration

Above fig represents home page of our website. If user is already registered then they can simply login and if they are new users they can sign in by choosing the button. There is also a navigation panel at top.

C. Vehicle Booking

In vehicle rental booking, the client can book the vehicle directly by selecting the type of vehicle that it is needed for passengers or the goods transport selecting vehicle, date, source and destination. For booking of the vehicle the user as to first register to the application by filling the basic details.

D. Driver Booking

In driver booking, on shared bases the goods can be transported to the destination by selecting the list of the

vehicles which are ready to accept the goods on shared bases. For booking of the driver the user as to first register to the application by filling the basic details.
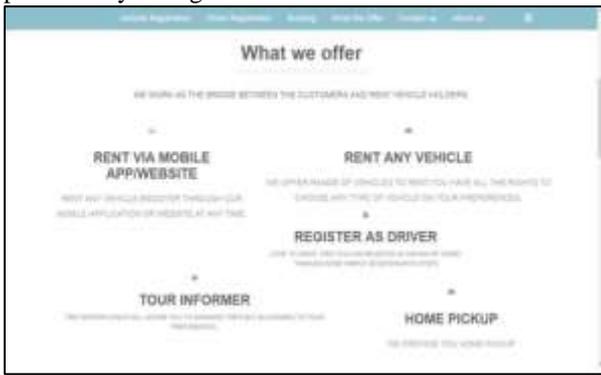

Fig. 6: New Vehicle Registration

Above figure represents the next page of website. This gives in a glance view of features we are providing through our application as well as through the website.

E. Tours

Vehicle Owners Can Arrange the Trip by Creating the Trip by filling details like places to visit, number of days, start place, end place, accommodation details. And the Contact Information of the responsible person.

Fig. 7: New Vehicle Registration

The above figure gives information to users, drivers about important terms related to registration, license, the traffic rules, safety precautions to be followed.

F. Trip Spot Advisor

In trip guide, we are showing tourist point for the client's by taking the services of the Google.

G. Review, Feedback & Rating

After using vehicles for travelling, the user can give rating for that vehicle as well as they also can give feedbacks and reviews.
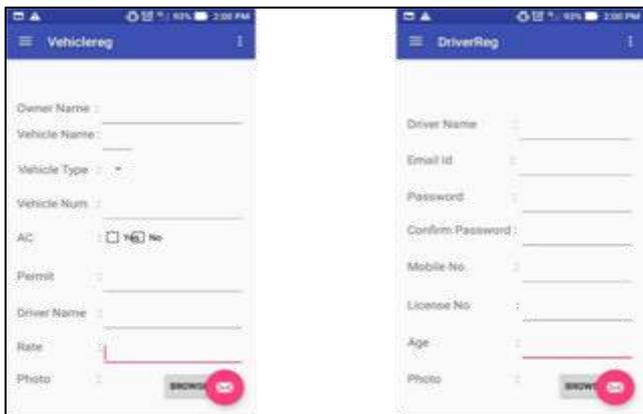

Fig. 8: New Vehicle Registration

Above figure gives information about customer registration. Where user has to fill up the form by giving their personal details such as name, email id, password, mobile no, address, upload a profile pic. A vehicle holder has to give info about their owner name, vehicle name, vehicle type, vehicle number (approved by RTO), whether the vehicle has A.C. or not., whether the vehicle is all India permitted, the rate of the vehicle (e.g. per liter 7 Rupees), upload a pics of vehicle.
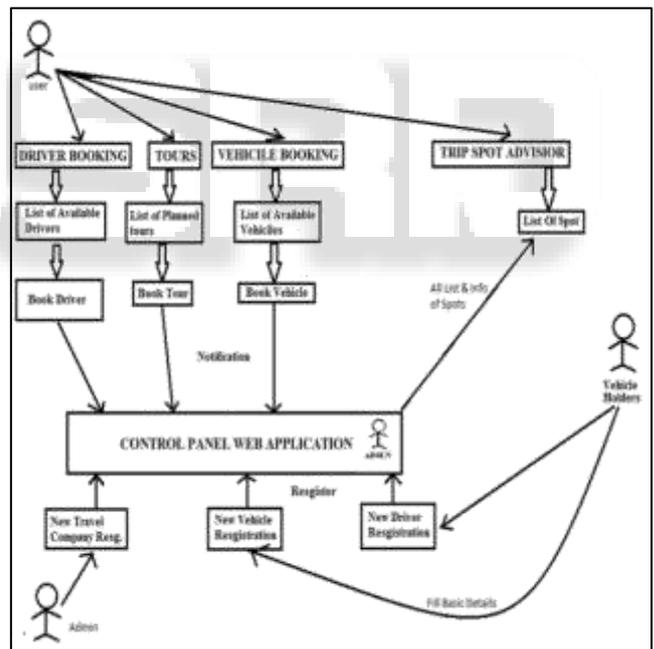
V. SYSTEM ARCHITECTURE

Fig. 9: New Vehicle Registration

Above diagram depicts information about our projects system architecture. When a user tries to access our service, we are providing two interfaces like through android application or through website. First of all if user want to book driver or vehicle or for both they should register if they are new otherwise if they are existing users they will simply login and continue to further steps. On user front we are providing modules like Driver Booking, Tours, Vehicle Booking, and Trip Spot Advisor. At the backend for managing the database activities we have developed a control panel web application, where admin have all the rights to access it.

When user chooses driver booking they will be passed to next step i.e., list of available drivers, then after

booking a driver they will get all the info through the notification and a database entry will be generated. At user front a user can also manage their tours through trip advisor or they can also search about tourist spots across India through the trip spot advisor module. At the admin side, admin can register a new travel company. If vehicle holder is there they can register through new vehicle registration module or if they want to register as driver they can register through new driver registration module.

VI. WORK BREAKDOWN STRUCTURE

The above figure represents breakdown structure of our project, in which we implementing two applications, one is Android application and other is Web application. In both application we are providing same features such as Registration, Booking and Advisor. In Registration we can register driver, vehicle and user. In Booking we can book a driver and vehicle. And in Advisor we are providing Trip information and Trip advisor.
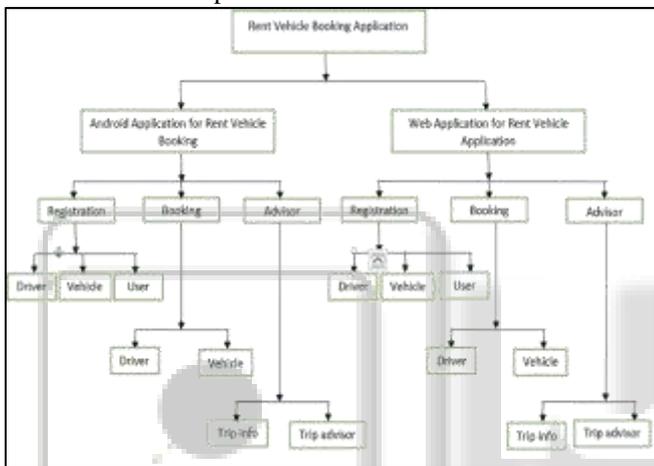

Fig. 10: New Vehicle Registration
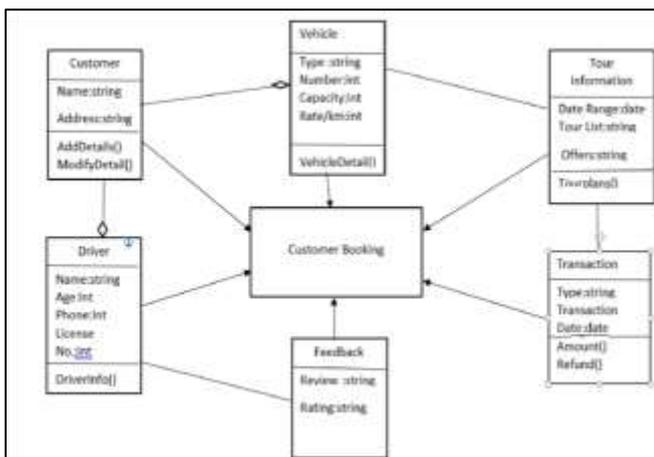
VII. CLASS DIAGRAM

Fig. 11: New Vehicle Registration

The above diagram is class diagram. This diagram shows project summary. This diagram describes the structure of system by their classes, attributes, operations, and relationship among objects. The class diagram is the building block of object-oriented modelling. Here customer booking is connected to all classes. This classes includes attributes, methods. This diagram shows responsibilities of a system. This way all classes related to each other with notations.

VIII. STATE CHART DIAGRAM

The below figure shows state chart diagram of Rent vehicle booking application, in which when user starts the application the homepage is displayed then user will see vehicles, user can see the vehicle information and book the vehicle if that vehicle satisfies user requirements. Before booking vehicle we check user is logged in or not, if user is not logged in it goes for login page, and if not registered it will go to registration page.
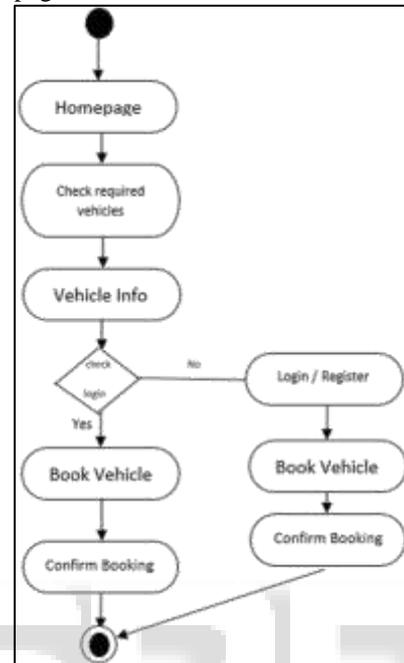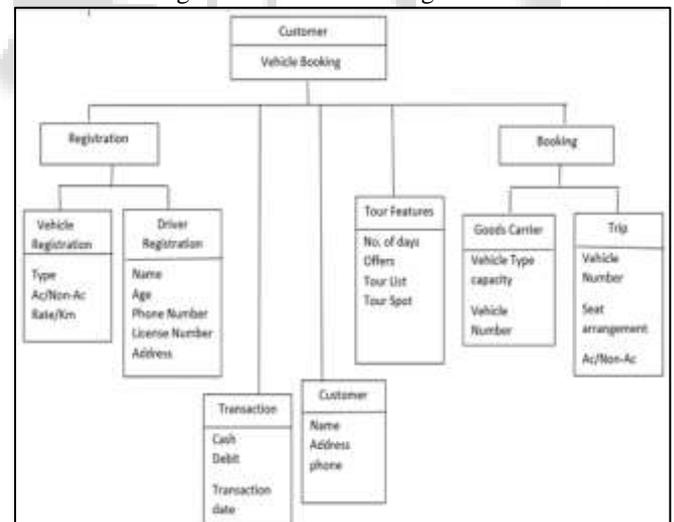

Fig. 12: New Vehicle Registration

Fig. 13: New Vehicle Registration

The above diagram is object diagram. This diagram shows in unified modelling language, is a diagram that shows a complete or partial view of system at specific time. Object diagram represents an instance at a particular moment. Object diagram is dependent on class diagram. This diagram is close to user. In this diagram all plans present on the client.

IX. TECHNOLOGIES TO BE USED

A. Android Technology

Android is an open source and Linux-based Operating System for mobile devices such as smartphones and tablet

computers. Android was developed by the Open Handset Alliance, led by Google, and other companies.

1) Android Studio

It is the official integrated development environment (IDE) for Android platform development.

Features of Android Studio

- Graddle-based build support.
- Android-specific refactoring and quick fixes.
- Lint tools to catch performance, usability, version compatibility and other problems.
- ProGuard integration and app-signing capabilities.
- Template-based wizards to create common Android designs and components.
- A rich layout editor that allows users to drag-anddrop UI components, option topreview layouts on multiple screen configurations.
- Support for building Android Wear apps
- Built-in support for Google Cloud Platform, enabling integration with Google Cloud Messaging and App Engine.

B. Web Technology

1) PHP

PHP is an acronym for "PHP: Hypertext Preprocessor". It is a widely-used, open source scripting language. PHP scripts are executed on the server. It is free to download and use.

a)   Features
- PHP can generate dynamic page content
- PHP can create, open, read, write, delete, and close files on the server.
- PHP can collect form data
- PHP can send and receive cookies
- PHP can add, delete, modify data in your database
- PHP can be used to control user-access
- PHP can encrypt data.

2) Server

a)   PhpMyAdmin

It is one of the most popular application for MySQL databases management. It is a free tool written in PHP. Through this software you can create, alter, drop, delete, import and export MySQL database tables. You can run MySQL queries, optimize, repair and check tables, change collation and execute other database management commands. All the SiteGround clients can manage their MySQL databases through the preinstalled PhpMyAdmin software which is integrated in cPanel.

3) Xampp Server

It is a free and open source cross platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP server, MariaDB database and interpreters for scripts written in the PHP and Perl programming languages. XAMPP stands for CrossPlatform (X), Apache (A), MariaDB (M), PHP (P) and Perl (P). It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes.

Everything needed to set up a web server – server application (Apache), database (MariaDB), and scripting language (PHP) – is included in an extractable file. XAMPP is also cross-platform, which means it works equally well on Linux, Mac and Windows. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server extremely easy.

4) Database

MySQL is a fast, easy-to-use RDBMS being used for many small and big businesses. MySQL is developed, marketed, and supported by MySQL AB, which is a Swedish company.

X.   IMPLEMENTATION TOOLS

A. Software

1) Tools
- Android Studio, Notepad++, XAMP, Mozilla Firefox.

2) Operating System
- Windows, Android 4.1 Jelly Bean.

3) Programming Language
- HTML, CSS, Bootstrap, PHP, Java-Android.

4) Hardware
- Computer with standard configuration.
- (Max. Pentium Processor 2GB Ram 250GB HDD)
- Android Mobile Phone. (Max. 4.1 Jelly Bean, 1GB RAM

XI.   ADVANTAGES

Other services only provide booking for 4 wheeler sedan, luxury cars they don't provide booking for other vehicles like dumpers, goods carrier vehicles, tractors, trucks.

We are providing customers driver booking feature through which a car holder needs driver on rent then they can book a driver also.

We are providing drivers on rent as well as if any customer wants driver as well as vehicle then they can also book for both.

We are providing tour management feature through our service which will give an added advantage to travel enthusiasts.

Our service works as platform we don't work as payment gateway, our service is all about providing platform between customer and vehicle owner.

XII.   FUTURE WORK

We are looking forward on expanding our work to other tier two cities (e.g. Kolhapur, Satara, etc).

We would provide finger print scanner support to our app for better confidentiality service.

We would also consider about offering taxi like services to customers.

We would develop our remaining modules like trip advisor, new tour company registration modules.

In trip advisor module we will be providing the travellers some unique features like they can manage their all expenses, hotel bookings, train bookings, etc.

While in tour-company registration module there will be a separate registration form for tour companies. This module will generate a account of tour company through which they can interact with our customer, by this module we will be providing a complete package to customer over booking a vehicle to arranging a tour on the same platform.

We would also provide vehicle tracking facility through our service.

XIII. CONCLUSION

This project in android application is an effort to reduce the human effort towards booking a vehicle or it may be about booking a driver. So, our application provides a user friendly interface for any-type of user. By looking through current situation in our country there's no other service which provides as much features as we are providing through our application as well as through website also. This application also saves lot of time by providing services like tour management, trip advisor like services on the same platform.

REFERENCES

Books

[1] Bill Philips & Brian Hardy:-Android Programming: The Big Nerd Ranch
[2] Guide (Big Nerd Ranch Guides)
[3] Greg Nudelman: Android Design Patterns: Interaction Design Solutions for Developers
[4] Ian G. Clifton: Android User Interface Design: Turning Ideas and Sketches into Beautifully Designed Apps

Websites/Web Links

[5] www.codementor.com/learn-android
[6] www.edx.org/android-development.aspx
[7] www.olacabs.com
[8] www.uber.com
[9] www.savaari.com