Car Rental App

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Abstract - *This is an app which tries to help people who are in search of cars near their location. Our Aim is to design and create a rental data management System of cars just like a vehicle rental agency. This app provides car information that can be used by customers to rent cars.*

Though there are offline car rental agency but are not easily reachable, so this app would solve this problem. This entire project would involve the development of the app using Android Studio and Firebase.

Key Words: Mobile application, rental app, cars, travel, rental car.

1. INTRODUCTION

Car renting in India is generally done from rental agencies or renting from the people who are car owners and ready to give their cars on rent. There are very few people who have their own cars to travel for occasions like picnics and small vacations so they prefer renting as the easiest option. In India, 22 people out of a thousand own car, while in the US and UK, 980 and 850 per 1,000 individuals have car respectively[2], therefore there is a rise in arrival of foreign car manufactures in India. The inspiration of this project is to build an app to inform people who are not aware of cars which are ready to rent around India.

1.1 AIM AND OBJECTIVE

The major objective of this app is to create a user friendly online platform where people who are in search of car to travel with family, friends and fulfill their vacation transport needs. Our app also provides facility to let user earn profit by providing their own car for rent, so other users would have more options to choose from. The main of this application are as follows:-

1. To help tourist and travelers who are in need of transport for a small duration of time and also at an affordable rate.

2. Car owners who don't use their cars much can give their car on rent and earn profit when someone rents their vehicle.

3. After customer registration they can get cars information without going outside to contact multiple rental agencies which is much efficient and less time consuming.

1.2 PROBLEM STATEMENT

The Manual car rental system provides services only during office hours. So; customers have limited time to make any transactions or reservation of the cars. The existence of the online car rental systems nowadays has overcome the limitation of the business operation hour[1].

1. To rent a car a prospective renter must first go to the nearest office to register as a client[1].

2. Cars that provide difficulties to rent out are normally advertised in local or national newspaper. It involves a lot of paper work and consumes time[1].

3.Renting a car helps people travel around despite the fact they do not have access to their vehicle or don't own a vehicle at all.

2. RELATED WORKS

Since there are very less car owners in India, it has attracted foreign car manufacturers. Even if there are owned cars, but the car owners do not regularly use their vehicles and to solve these problems, there are lot of apps regarding car rental. The main problems with these apps are that they mostly display cars of large rental agencies and give less attention to local car providers. So in our application we approach to overcame these inefficiencies and give equal attention to available cars.
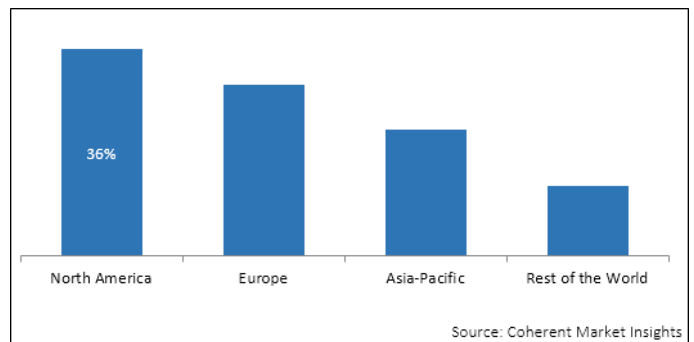

Fig-1:- Global Car Rental Market, Revenue Share (%), By Region, 2019.[3]

Table -1: Strengths and Weaknesses of Existing Apps

Name of Application	Strengths	Weaknesses
Zoomcar	Home delivery of cars Great GUI	No refund provided Uncooperative

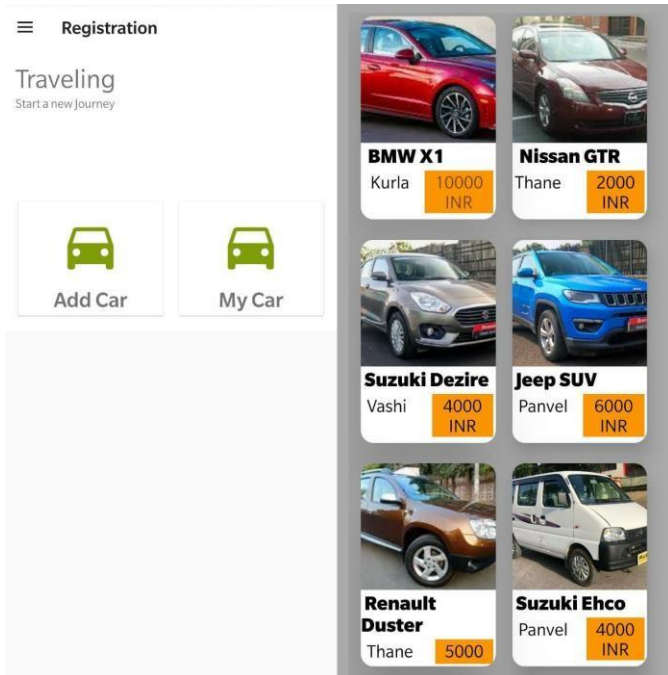|		customer care support
Rentalcars.com	Lots of cars to choose from Flexible location	Prices varies frequently Poor UX

Fig -2: Screenshots of existing apps

3. METHODS

This project is developed using Waterfall Development Model. It is also referred to as a linear-sequential life cycle model. It is very simple to understand and use. In a waterfall model, each phase must be completed before the next phase can begin and there is no overlapping in the phases. Waterfall approach was first SDLC Model to be used widely in Software Engineering to ensure success of the project. In "The Waterfall" approach, the whole process of software development is divided into separate phases. In this Waterfall model, typically, the outcome of one phase acts as the input for the next phase sequentially. This model was chosen because the requirements were well documented, clear and fixed and there were no ambiguous requirements.
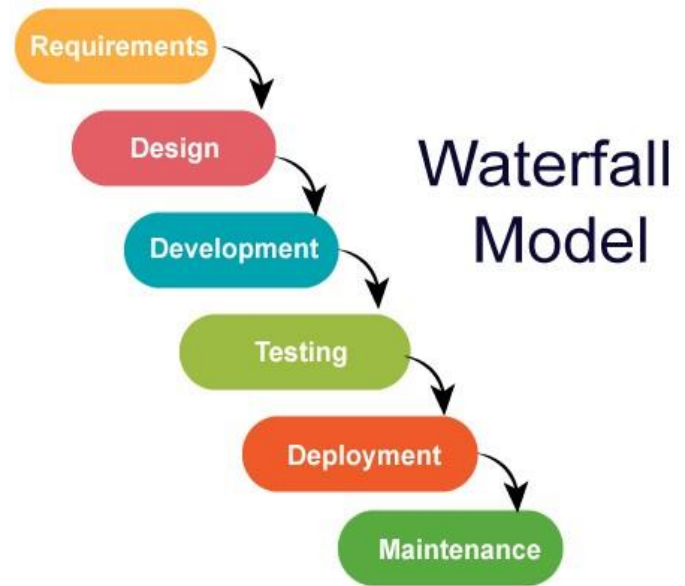

Fig -1: Waterfall Model

4. EVALUATION

Testing's such as Unit testing, Integration testing, Load and Stress testing were performed on the prototype of our app. Some improvements regarding location, data management in apps and faster response rate were suggested by the testing team. These updates will be done in the next version of the app, and after Acceptance testing this app will be published on Google Play store. Sample paragraph Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

5. CONCLUSIONS

The prototype of our Car Rental Application was developed successfully. The major objectives covered by our application are as follows:

- Tourists, travelers will come to know about nearby cars available for rent.
- People won't have to worry about reserving as using our application they can rent cars at anytime of the day.
- Car owners can gain profit by keeping their idle cars for rent on the app.
- There would be a lot of registration and cars options to choose from.

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