

Cab Share

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ABSTRACT

Ride sharing is becoming a popular means of transportation as gas prices rise. Sharing taxis, which have long been popular in impoverished nations, are now becoming more frequent in cities all around the world. Sharing cabs has various advantages, including reducing the number of empty seats in automobiles, lowering cab operator costs, and lowering passenger cab fares. Cab sharing is critical for reducing traffic congestion and reducing the environmental impact of transportation, in addition to the financial benefits. We present an app which provides information about other people who are in the same situation as you, such as their schedules and locations. Cab Share entails a user login/logout system, as well as publishing cab timings and locations, as well as receiving details when someone else posts comparable timings and locations, as well as receiving status updates. This app is implemented via Android Studio which is generally used for developing mobile applications.

Keywords: - Ride sharing, transportation, cab fares, traffic congestion, app, login/logout system, cab timings, locations, Android Studio.

I. INTRODUCTION

As urban inhabitants who are unable to drive on their own, they rely on public transit like as buses, subways, and trains, taxis, and Uber, which has become increasingly popular in recent years. The three means of transportation mentioned above are significant parts of a city, and each has its own personality. There are competitive taxis and cabs among them; the primary difference is the method of calling and payment. The majority of cities have a complicated transit system as well as a

significant residential population. Its traffic issues are the most visible and noticeable. In an era when mobile communication devices (smartphones) are rapidly evolving. Smartphones have become inextricably interwoven to people's lives. People's lives have also been immensely aided by technology.

Cab-sharing (also known as carpooling, ride-sharing, or lift-sharing) is the practise of sharing car trips so that more than one person can travel in the same vehicle without having to drive themselves. Cab sharing minimises each person's travel costs by allowing more individuals to share a car. Cab sharing is also a more environmentally friendly and sustainable mode of transportation, as it minimises pollution, carbon emissions, road congestion, and the demand for parking places. During seasons of heavy pollution or high gasoline prices, authorities frequently encourage cab pooling. Cab sharing is a great technique to make use of a car's entire seating capacity that might otherwise be wasted.

II. REVIEW OF LITERATURE

Mayur K. Thorat and Rahul M. Lahakare[1] have given an overview of Cab Sharing system With SMS alerts emphasizing more on overcoming issues encountered before and how to make it more secure. They gave the idea of using it for both inter-city and intra-city travels. They tried to expand their user base to blind people also who can use speech recognition technique to precisely know the location at any time.

R. Manzini and A. Pareschi[2] have given a decision support system for the application of Cab Sharing system. This will be used to support passengers to in determining which cars to use. Swati. R. Tare, Neha B. Khalate and Ajita A. Mahapadi[3] have contributed by suggesting ideas on how make this application more user-friendly for passengers and not only for drivers. They especially worked on reliability of Real time System and security of woman travellers.

BlaBlaCar is the world's largest long-distance ridesharing community[4]. Conceived in December 2003 by FrédéricMazzella, and founded in 2006, BlaBlaCar connects drivers and passengers willing to travel together between cities and share the cost of the journey. BlaBlaCar has more than 20 million members across 19 countries.[3] Members must register and create a personal online profile, which includes ratings and reviews by other members, social members show how much experience they have of the service, meaning those with more-known as “ambassadors” - attract more ride shares. One major shortcoming of this application is that it only offers inter-city cab sharing options which our application aims to rectify and add intra-city commuting options too.

Some of key Cab-sharing players are:

- **UberPool** (www.uber.com)
- **LyftLine** (www.lyft.com/line)
- **Shared Rides by SideCar** (www.sidecar.cr)
- **Bandwagon** (www.bandwagon.io)
- **Hitch Rides** (www.hitchrides.com)
- **Zimride** (www.zimride.com)
- **Maaxi** (www.maaxitaxi.com)
- **Cab Corner** (www.Cabcorner.com)
- **Gobi Cab** (www.GobiCab.com)

III. METHODOLOGY

3.1 System Requirements

3.1.1 Hardware Requirements

Processor: I3 processor or above
 RAM: Min of 4GB
 Hard Disk: Min of 100 GB
 Android Phone (6.0 or above)

3.1.2 Software Requirements

Operating System: Windows
 Technology: Java (15.0)
 Database: Firebase

3.2 Proposed System

The flowchart of the proposed system is given below

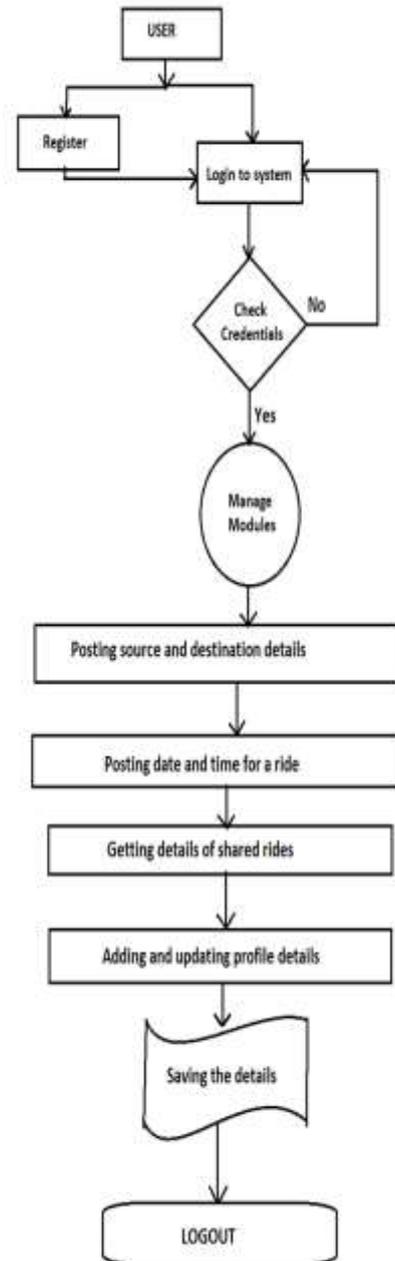


Fig 3.2: Flowchart of proposed system

3.3 Working

We begin by writing the code in Android Studio. After that, we create a project in Firebase Console and link our app to that project. Then, using a USB cord, we connect our Android phone to the laptop and run the software. The app launches in our phone after the build is completed successfully.

IV. MODULES

4.1 Functional Requirements

- **User signup:** By doing so, the user is added to the app's database.
- **User login:** The user connects into his or her account using this method by providing an e-mail address and a password.

4.2 Non-Functional Requirements

- Usability requirement
- Serviceability requirement
- Manageability requirement
- Recoverability requirement
- Security requirement
- Data Integrity requirement
- Capacity requirement
- Availability requirement
- Scalability requirement
- Interoperability requirement

- Reliability requirement
- Maintainability requirement
- Regulatory requirement
- Environmental requirement

V. TESTING

Software testing is an examination used to offer information to stakeholders regarding the quality of the product or service being tested. Software testing can also give a corporation with an objective, unbiased picture of the software, allowing them to appreciate and comprehend the risks of software implementation. The practise of executing a program or application with the goal of detecting software bugs is one example of a test technique (errors or other defects). Software testing can give users and/or sponsors with objective, impartial information about the quality of software and the danger of it failing.

Table 5.1: Test Cases Representation

Test case ID	Test Scenario	Expected Results	Actual Results	Pass (or) Fail
TU01	Check registration with valid details (email and password format)	Users should successfully register to the app	As Expected	PASS
TU02	Check registration with invalid details (email and password format)	User should not register to the app	As Expected (Error is displayed)	PASS
TU03	Check user login with valid data	User should successfully login to the app.	As Expected	PASS
TU04	Check user login with invalid data	User should not login to the app.	As Expected (Rendering same page)	PASS
TU05	Submitting add a ride form without entering any details.	User's ride can't be added to the database.	As Expected (Alert appears: fill all the entries)	PASS
TU06	Submitting add a ride form with entering any details.	User's ride should be successfully added to the database.	As Expected	PASS

Software testing can begin as soon as there is executable software/program (even if it is only partially complete). When and how testing is undertaken, as well as the results, are typically determined by the entire approach to software

testing or development. As a staged approach, for example, the majority of testing occurs after system requirements have been developed and then implemented in testable code.

VI. OUTPUTS



Fig 6.1: Signup Page

Fig 6.2: Login Page Fig 6.3: Add a Ride Page



Fig 6.4: Your Rides Page Fig 6.5: Profile Page

VII. CONCLUSION AND FUTURE SCOPE

According to a study conducted by the World Resources Institute (WRI), India's vehicle-sharing business is fast expanding, with the potential to reduce car ownership in the long run. The concept behind these ridesharing apps is to take advantage of a car that is already on the road and allow individuals who are travelling in the same direction pool their resources to reduce pollution and congestion. The central government

is in favour of any measures that may minimise traffic congestion while also being environmentally beneficial. According to reports, the future transportation policy may also allow private automobiles to be pooled and used as taxis to alleviate city congestion.

Whether it's transmission preference in vehicles or the sort of fuel utilised in them, the world is currently undergoing massive shifts. Electricity is evolving into a critical fuel that is one of the most efficient and environmentally friendly fuel sources. The rise of electric vehicles in a fast-

paced country like India is widely anticipated, as it has already been declared by automotive executives that electric vehicles will cost less than a rupee per kilometre. Companies are gradually ramping up their promotion of electric vehicles, with the goal of eventually replacing all combustion-fuelled vehicles with electric vehicles. As a result, the online mobility hailing business will be able to deliver lower-cost services that will benefit both users and drivers.

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