

Implementation of Optimized Cab Search

Shanawaz Shaikh

Taha Pipewala

Quid Zohar Morbiwala

Prof. Javed Khan Sheikh

Department of Computer Engineering ,Anjuman-I-Islam Kalsekar Technical Campus,
University of Mumbai

Abstract—In last two years, the rapid development of Internet based ride-sharing has brought great changes to travel pattern of residents. By comparing the trip records of OLA and UBER there is a big market in this industry of internet ride sharing. The technologies that are used for the implementation are firebase database, REST API and Android Studio. The security login authentication to the system is firebase Google authentication This paper shows the implementation of comparison of the price, distance and time by car selection of OLA and UBER .

Keywords:- *Firestore-Database, REST-API, Comparison, GPS.*

I. INTRODUCTION

With the rapid popularization and development of the Internet/Web technology, all kinds of information of resources can be easily obtained from the Internet. People are enjoying the benefits of the Internet, and the Internet is gradually becoming a part of work and life. Opening multiple cab apps to compare ETA and pricing, and then booking a cab consumes time, especially when you are at a place with weak internet & GPS signals. With our Cab Bookings, we allow users to book their nearest cab in just several seconds by tapping and holding a button on their home screen. Sometimes people want to travel in cheap rates and sometimes in less amount of time so by considering this two factor as a priority we are designing this project. In this busy world, time and money are two important factor by booking OLA or UBER individually we don't know which cab is nearer to our source location and provide us cheap rate of the journey. With our Cab Bookings, we allow users to book their nearest cab in just several seconds . So by integrating these two app, we can provide this factor in a single app and user can decide its priority and book the cab.

II. LITERATURE REVIEW

Paper Title	Publication	Review
Study of Rest API	3rd International Conference on Big Data Security on Clouding,IEEE 2017.	In this paper we came to about the various usage of REST API in the web world as well as in the application that uses the API basically API is used to get the data from a particular website or a system. It returns the data in the json format which is further used and queried according to the need.
The Comparison of Travel Patterns between Taxi and Private Car at Beijing Capital International Airport Area	IEEE journal 2017	In this paper we came to know about the travel pattern of the people in the city. There were more passengers who preferred the private cabs for easy and comfortable travelling.
Best Price Algorithm in Finding routes based On Unconventional Public Transportations.	IEEE 2015	In this paper we came to know about the different algorithms that are implemented to get the best routes and price about the travelling. eg.dijkstra's algorithm

III. OBJECTIVES

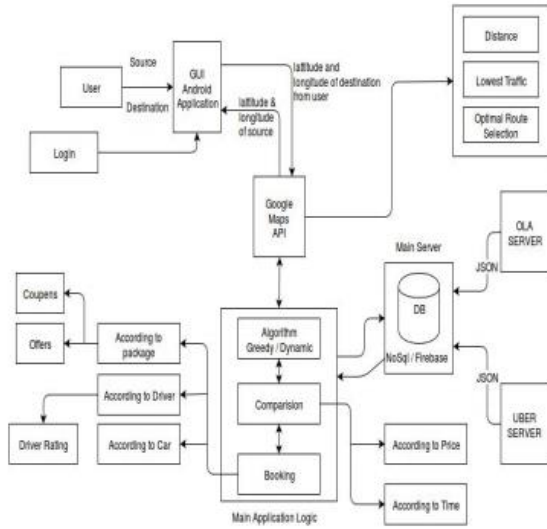
- To get the data about the cabs of Ola using Ola API .
- To get the data about the cabs of Uber using Uber API.
- The App uses firebase for data authentication and storage in real time.
- This objectives solely compares the price,time and distance of the nearby cabs.
- After comparing the data the app will display the data on the App

IV. NEEDS & IMPORTANCE

- Booking of Cabs becomes easy
- Usage of memory is reduced by installing this system
- Instead manual comparison,it is done in on tap
- Data usage is optimal.
- System Requirements Software
 - Firebase
 - Android studio
 - Java
 - xml
- Hardware
 - 8GB RAM
 - Firebase server
 - i3 intel processor
 - 16GB memory

B:MAPS API

V. SYSTEM ARCHITECTURE

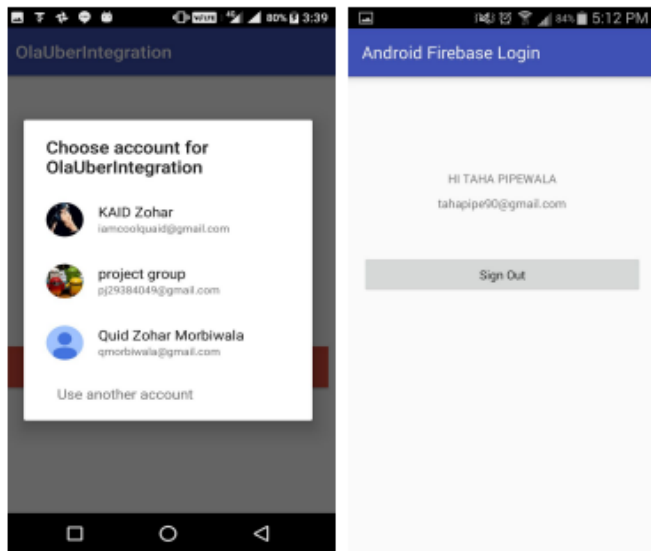


Here in this module of Google Maps we are using the API of the google Maps to display the map features in our app. As,shown in the image above the source location is set by the GPS of the device itself as a marker to allow user to directly put the source location as “YOUR LOCATION” in the source location field. It also provide the field of search another location as new location.

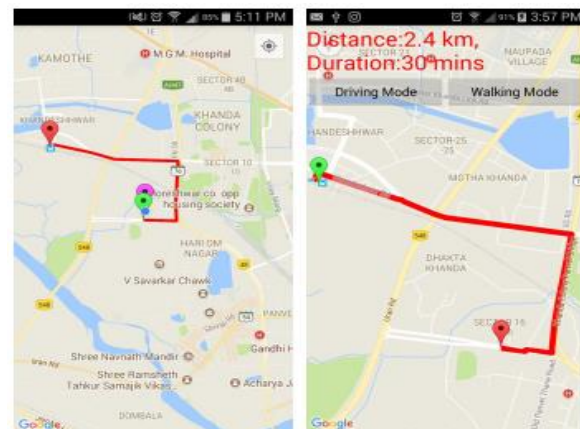
C. Distance Calculator Using Maps

This is the extension of the above model. In this using the google maps and the distance calculator vector we are calculating the distance between the two markers on the map that is source and destination to get the actual distance between the two. We are calculating the driving distance and the walking distance as shown in the above image. this data will be further used in the app for comparing and displaying the data.

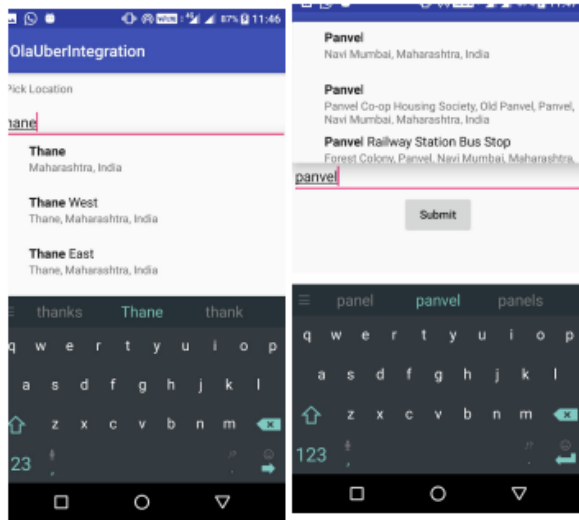
A:Google Firebase Login



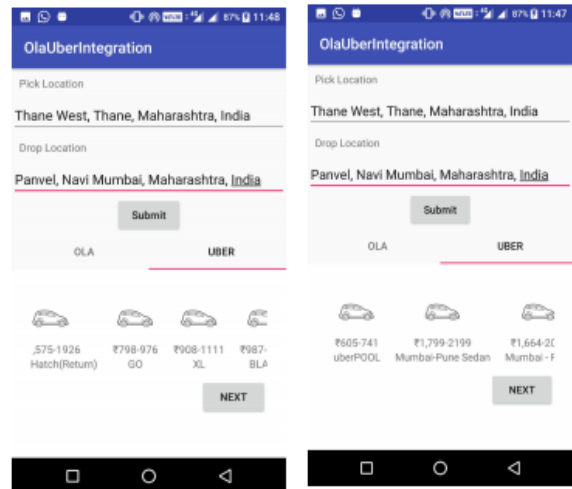
Here in this module of google login we have used firebase as a database. The gmail accounts of the respective users are stored in the database and are dynamically used for login in to the app. since google is the most secured for authentication purpose . We have used the API of the google to get this feature of authentication.



D. Working of Pickup and Drop on App



• UBER DATA



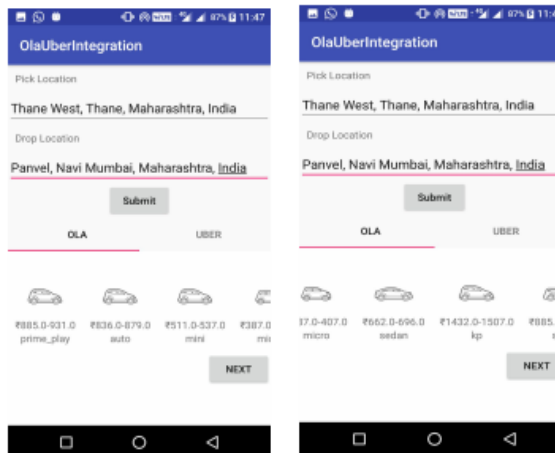
After maps implementation as a sub part of the source and destination selection the user can manually also select the desired traveling location for the ride as shown on the image above. The user will enter the source and destination and by clicking on the submit button the further part of the implementation will be shown.

After putting the source and destination this app will provide the data of all variants of cabs that are available to the user nearby from Uber. Here Uber is providing the data through its API and it is publicly available. This result will be used to compare the price from Ola cabs.

E. Comparison of price data

• Ola Data

After putting the source and destination this app will provide the data of all variants of cabs that are available to the user nearby from Ola. Here Ola is providing the data through its API and it is publicly available. This result will be used to compare the price from Uber cabs.



VI. DELIMITATIONS

- Various companies available this app is only comparing Ola and Uber.
- Application is not independent
- If firebase server goes down and Ola and Uber server goes down, this app won't work

VII. CONCLUSION

we have selected the topic because as the online cab business is booming and the need of the customer who is willing to go from one place to another, considering the factor of time and money. these application integrate all these function in one and keep the united.

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