

# An Android Application for Cab Booking with Return Trip Facility

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## ABSTRACT

Nowadays, Cab industry is growing very rapidly. Everyone uses cab services for travelling long or short distance journey. An existing system can provide manually paper work. The user has to go in the office where user can get the car on rent and book their car. Details are stored in Papers, maintenance is a huge problem. Performance is not achieved up to the requirements. In this paper, we are going to develop an app which is hosted on mobile cloud. Passengers use this app to request a ride and drivers uses this app to register their vehicle to this app and for fulfilling the service. Google map also provided for display the distance between source and destination, according to that estimated fare calculate. For user ease return trip facility is also provided. To manually overcome the drawbacks of the existing dispatch system this system provides feasible service.

**Keywords :** Cab, Distance on Map, Estimated Fare, Security, Real Time

## I. INTRODUCTION

In this paper, we are going to provide an excellent way for the online cab booking system. Our application can be used by customers as well as driver. It is mandatory for the cab driver as well as the customer to register in the application. The driver should register with their name, contact number, cab number, type of cab etc. If customer wants a ride it is mandatory for customer to send customer's source, destination and time. After that customer can view distance between source and destination on the map, then as per user requirement system will automatically request send to the driver. And after that rider also get the confirmation notification. When rider and driver are registered on this system, they have to give all information about them so for security purpose data hiding concept is used. Their data is stored in encrypted format in database so no other person or administrator can see their information. When particular user wants to use their own data then data will be decrypted.

In this proposal main motive is about return trip facility, if there is a customer who wants to travel from one place to another place then the customer will book the cab. Suppose, while returning the cab if cab is empty then driver will notify to the system that car is empty and car

is in return journey. Also it will provide some discount and offer. If customer accepts their request then customer can register for that cab. Main advantage of that application is that customer has to pay for only one way trip, so that customers can save their money and one more advantage is that, it is time efficient.

## II. METHODS AND MATERIAL

### 1. Cab booking protocol:

In this proposed system two way handshaking protocol is used. Firstly client search for a cab as per their requirements i.e. cab type, number of passengers etc. As per the requirements system shows the cabs which are stored in database and from that rider select one cab then system display google map for distance between source to destination. Then using that distance, cab type and timing fare is calculated. When this all process get over rider book the cab means sends the request to system for cab booking and then system sends that request to driver after that driver accept it and send acknowledgement to system. System sends confirmation notification to rider. When any particular driver is booked then status of that driver is changed from free to occupied means locked mechanism is used here so no other rider can that particular cab after completing journey that driver must

get unlocked for next ride. The Validation protocol is used to mutually authenticate with the rider as well as driver. Validation phase is start when driver and rider register on system. For authentication both get the OTP (one time password) using that OTP, rider and driver use the services provided by this application.

In Section 2 (**Literature review**), In that we will discussed about the existing system and there problems. In Section 3 (**System Architecture**), Architecture of system and detail explanation of each module. Discussed in Section 4(**Usefulness**) actually how system is useful to user. In Section 5(**Conclusion**), Short summary about paper.

## 2. Literature Review

EZCab is a proof-of-concept ubiquitous computing application that allows people to book nearby cabs using their cell phones or PDAs equipped with short-range wireless network interfaces. EZCab discovers and books free cabs using mobile ad hoc networks of vehicles. We have implemented an EZCab prototype on top of Smart Messages, a middleware architecture based on execution migration, which we had developed to provide a common execution environment for outdoor ubiquitous computing applications. The experimental and simulation results have demonstrated the feasibility of EZCab. [1]

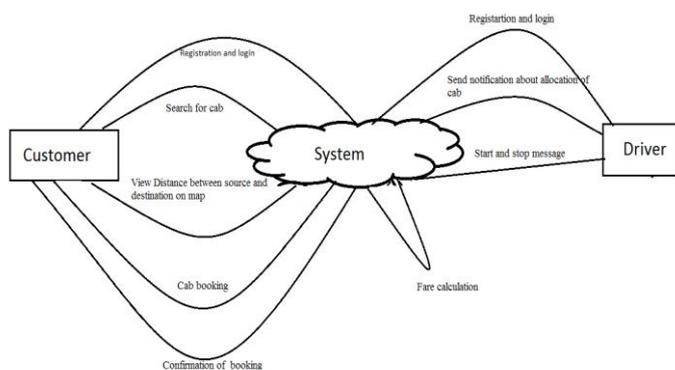
Taxi industry is growing very rapidly .Everyone uses taxies for long or short distance journey instead of travelling by own car. In this paper, an online recommendation model is presented to help the driver to decide about the best stand to head in each moment, minimizing the waiting time. The proposed approach uses time series advance techniques to predict the solution of real-time problem faced by taxi driver every day. We combine some information with the live current network status to produce our output. Also we are implementing taxi management system based on GPS which has become an important tool for efficient taxi business. It can be used not only for the sake of management, but also to provide useful information for taxi drivers to earn more profit by mining the historical GPS trajectories. In this paper, we propose a taxi recommender system for next cruising location which

could be a value added module of the management system.

The taxi dispatch problem involves assigning taxis to requester waiting at different locations. A dispatch system currently in use by a major cab service provider divides the city into regional dispatch areas. Each area has fixed assigned adjacent areas hand-coded by human experts. However, such fixed, hand coded adjacency of areas cannot be a prudent indicator because it does not take into consideration frequent changes in traffic patterns and road structure. The proposed system dynamically modifies the adjacency of dispatch areas. The proposed technique will decrease the total waiting time, is less in comparison with the present system and increases taxi utilization in comparison with results of the simulation without self-organization. [2]

## III. RESULT AND DISCUSSION

### 1. System Architecture



#### A. Registration Process:

User must be registered before booking a cab. Proper validations will be provided to keep only authenticated users i.e. those users who will provide correct information. All the data supplied by the user will be stored in database and it will be used for further validation and authentication. During registration, user has to give login and password of their choice. Login names and passwords will be stored in the database so that the user can directly login without registering again and again.

## B. Login Process

In this the customer has to give out the login details i.e. user id and password and then only he can be logged on. The user id and password given by the customer are checked from the data stored in the database.

## C. Cab Search

User can search cab for a particular location here. User required entering Source, Destination, time, and Place where he want to go. The system will ask the user whether the user wants to go only for Normal trip, is user wants return trip.

## D. Fare Calculation

After searching the path is highlighted on the map and the total estimation will be calculated according to user's pickup and drop point. Fare calculation is done based on distance, car type and timing of journey.

## E. Booking Confirmation

After validating the entered information and getting approval from driver the system provides the visitor the notice on successful registration.

## 2. Usefulness

- ✓ The method is innovative, scalable and compatible with modern trends in optimization.
- ✓ The Application gives offer to the customer on return trip.
- ✓ The system is time efficient and also saves money because of return trip facility.

## IV. CONCLUSION

In traditional system cab booking was done manually. Updating rider and driver information is tedious work. In proposed system booking is possible using android application and data store on mobile cloud so no data loss. In this system rider request for ride and drivers uses this app to register their vehicle and fulfilling the service. Google map also provided for display the distance between source and destination and using this distance

calculate fare. For user ease return trip facility is also provided. This reduces the time required for hiring a cab.

## V. REFERENCES

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