



E-VEHICLE ORGANIZING APP (G-TAXI)

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Abstract : This is a design and implementation of an online taxi booking Application. The online taxi booking system is designed to reflect the manual taxi booking system by atomizing it, which would eliminate the so many problems and errors encountered in the manual booking system. Fantastic modules and features integration provide great convenience and luxury to customers. The support garner through serving customers helps to generate business opportunities and guarantees revenue generation. If you are an entrepreneur or business owner and wish to start your ride-hailing business online, we provide a white label taxi app development solution for you. This project mainly deals with creating an application regarding cab booking and checking the availability of vehicles. For this application we will store some model names, their registration no, rent rate on the basis of per day, and the amount to be deposited accordingly.

Cab booking application provides reliable online (web based) cab (car) booking facility to people in various cities in India, free of cost. Cab acts like a bridge between the cab operators and the customers/users/people who book a cab. This is the online cab booking service provided to customers. This brings together the registered travel agencies/cab operators/cab owners and the customers. Free service to the travelers/customers/users who goes for booking a cab or car or taxi.

Key Words: Cab, booking system, Bridge, Customers, Ride Hailing

I. INTRODUCTION

G-taxi is an on-demand taxi booking software that helps expand business reach by providing ride-hailing services to customers anytime. With complete tech support and easy to use interface, we inspire customers to start using ride-hailing services whenever they need them. The latest tech support ensures to meet customers' expectations and helps in delivering the required services. Fantastic modules and features integration provide great convenience and luxury to customers. The support garner through serving customers helps to generate business opportunities and guarantees revenue generation. It is a ride-hailing app solution that allows a company to launch its ride-booking support online. It supports customers to find rides at their convenience and helps the drivers earn by completing the trips that users have requested. Everyone who has any type of vehicle can register on this application. This app will support all type of vehicles. This application enables passengers to order any kind of vehicle with their Smartphone. The main objective of this application is that drivers online register their vehicles by providing their essential information and then check their nearest pick and drop. You can allow riders to book by the hour and make multiple stops when they place a request. This complete on-demand feature-loaded gets built with native Android and iOS platforms This application is managing passengers' booking in quick and easy way with shortest time possible. With one click on the button you can order a vehicle if you are a passenger. With another click you accept or decline requests if you are a driver. No third party to be added to control this work.

2. PHASES OF SYSTEM DEVELOPMENT LIFE CYCLE

2.1 Initiation Phase:

The Initiation Phase begins when a business sponsor identifies a need or an opportunity. The purpose of the Initiation Phase is to Identify and validate an opportunity to improve business accomplishments of the organization or a deficiency related to a business need. Identify significant assumptions and constants on solutions to that need. Recommend the exploration of alternative concepts and methods to satisfy the need including questioning the need for technology, i.e., will change in the business process offer a solution? Assure executive business and executive technical sponsorship. The Sponsor designates a Project Manager and the business need is documented in a Concept Proposal. The initiation phase begins when an opportunity to add, improve, or correct a system is identified and formally requested through the presentation of a business case. The business case should, at a minimum, describe a proposals purpose, identify expected benefits, and explain how the proposed system supports one of the organizations business strategies.

2.2 Development Phase:

The System Concept Development Phase begins after a business need or opportunity is validated by the Agency/Organization Program Leadership and the Agency/Organization CIO. The purpose of the System Concept Development Phase is to: Determine the feasibility and appropriateness of the alternatives. Identify system interfaces. Identify basic functional and data requirements to satisfy the business need. Establish system boundaries identify goals, objectives, critical success factors, and performance measures. Evaluate costs and benefits of alternative approaches to satisfy the basic functional requirements.

2.3 Requirements Analysis Phase:

This phase formally defines the detailed functional user requirements using high-level requirements identified in the Initiation, System Concept, and Planning phases. It also delineates the requirements in terms of data, system performance, security, and maintainability requirements for the system. The requirements are defined in this phase to a level of detail sufficient for systems design to proceed. They need to be measurable, testable, and relate to the business need or opportunity identified in the Initiation Phase.

2.4 Design Phase:

The design phase involves converting the informational, functional, and network requirements identified during the initiation and planning phases into unified design specifications that developers use to script programs during the development phase. Program designs are constructed in various ways. Using a top-down approach, designers first identify and link major program components and interfaces, then expand design layouts as they identify and link smaller subsystems and connections.

2.5 Integration and Test Phase:

Subsystem integration, system, security, and user acceptance testing is conducted during the integration and test phase. The user, with those responsible for quality assurance, validates that the functional requirements, as defined in the functional requirements document, are satisfied by the developed or modified system. Security staff assesses the system security and issue a security certification and accreditation prior to installation/implementation

This phase is initiated after the system has been tested and accepted by the user. In this phase, the system is installed to support the intended business functions. Implementation includes user notification, user cabling, installation of hardware, installation of software onto production until the system is operating in production in accordance with the defined user requirements.

2.2 Testing Methodology

There are different types of testing that will be done. Here is a list of these:

1. Manual Testing: Critical business functionalities need to be tested manually. Manual testing is also needed in cases where the team does not have the time or money for automation or when the automation feasibility for the features is low.
2. Automation Testing: The app will have a lot of validations. If the testing is to be done only once, then automation is not required. But if there are likely to be regular updates or new features added, it would be better to have an automation suite in place to reduce the future testing efforts and save time as well.
3. Security Testing: The app server or database contains personal data of the customers and the drivers. This will include the names, address, phone number, mobile number along with the payment details that can include the bank or card numbers. The security of this data is very important. The app should be safeguarded against external attacks.
4. Performance Testing: Based on the anticipated load performance testing needs to be done so that the search, map loading time, and other transactions are well within the SLA at peak and off-peak loads. Based on these results the business will decide to scale-up the infrastructure if needed.
5. Integration Testing: There are several systems involved in the app. This includes the GPS tracking or mobiles of the driver and customer, the database or server, and the booking app. The integration between these systems needs to be verified for accuracy and data flow.
6. DB testing: Customer and driver details along with all the trip information are store in the database. Hence, DB testing is imperative. While testing we need to ensure that the basic operations like adding a record, editing a record, deleting a record, fetching the record are being performed as per the expectation.
7. Exploratory Testing: Exploratory testing is a kind of informal testing in which the user would just explore the application trying to go through all the different pages and verify that nothing is broken.
8. Responsive Testing: Responsive testing needs to be done to ensure that your taxi booking app renders itself well in devices with different screen sizes and resolution. With so many new devices entering the market and the extensive usage of the internet, responsive testing of the app needs to be taken very seriously.
9. UAT Testing: The ultimate testing for any app or software must be the UAT or User Acceptance Testing. UAT gives the usage pattern and the most frequently used areas of the app. This will be helpful in deciding the future features of the app.

3. BUSINESS STRUCTURE

Everyone wants all the convenience, comfort and easy to use facilities. There are many questions such as:

How many agencies are there?

How many cars are available?

How many cars are available for G-taxi?

How many people travel?

And how is profit for a day and calculations for overall functions.

For Example: As we can see in below Fig -1:

There are 345 agencies in kalyan and 1035 cars are available for G-Taxi and approximate 800-900 people travels each day. And as per approx calculations One day profit is :14,400, One year profit is:432,000 and One year profit is:155,520,000

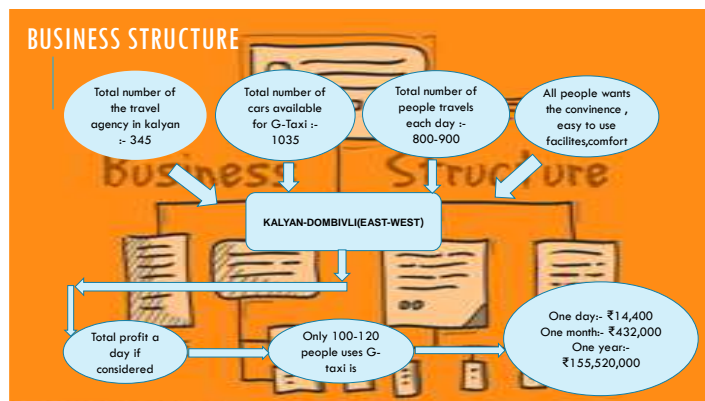


Fig -1: Business Structure

It saves 20 units on 1Km and 1 unit cost is approx 5Rs. So, according to all these points the business is decided.

4. PROPOSED METHODOLOGY

Step 1: A rider opens the app: The rider enters their destination, can see wait time, car sizes, and price; then confirms their Pickup location and taps Request.

Step 2: The rider is matched with a driver: A nearby driver sees and chooses to accept the rider's trip request. The rider is automatically notified when the driver's vehicle is about a minute away.

Step 3: The driver picks up the rider: The driver and the rider verify each other's names and the destination. Then the driver starts the ride.

Step 4: The driver takes the rider to the destination: The app gives the driver the option to access turn-by-turn directions, so the driver can focus on getting there and the rider can focus on enjoying a comfortable ride.

Step 5: The driver and rider leave ratings and reviews : At the end of each trip, drivers and riders can rate each other from 1 to 5 stars. Riders can also give the driver compliments. In cities where tipping is available, they can also add a little extra to show their gratitude.

5. RESULT

This section talks about the variety of webpage designed during the course of the project development. These web pages comprise the very foundation of this project. The screenshots shown are the core, user-centric functionalities developed which enable the user to use the system to the maximum of its abilities and provide quality service.

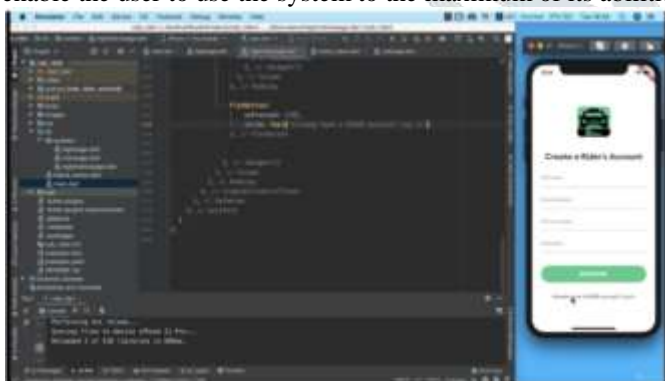


Fig -2: Rider Secure Registration Page



Fig -3: Rider Login Page



Fig -4: Rider Main Page



Fig -5: Driver Registration Page

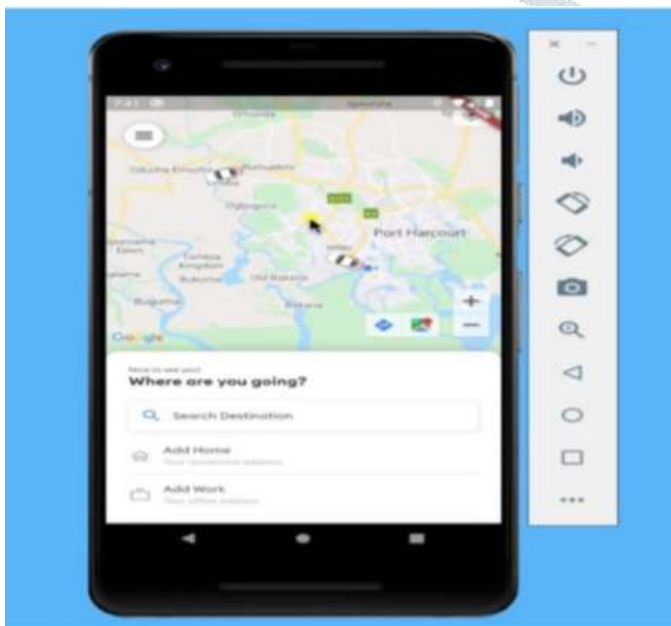


Fig -6 Rider Main Page with Custom design Car Icon

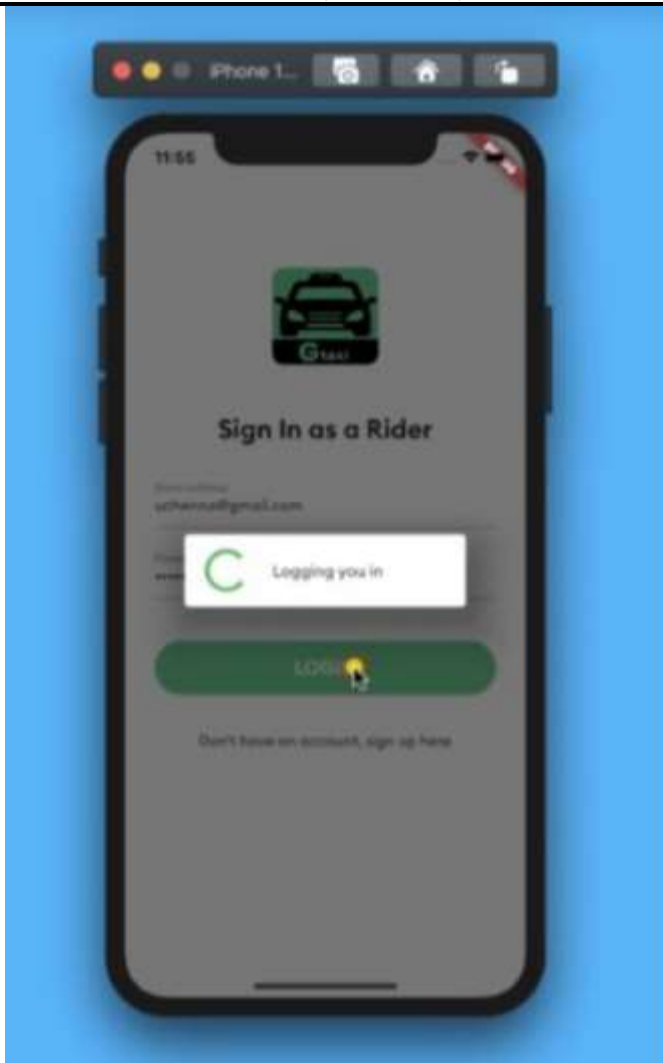


Fig -7 Custom Progress bar

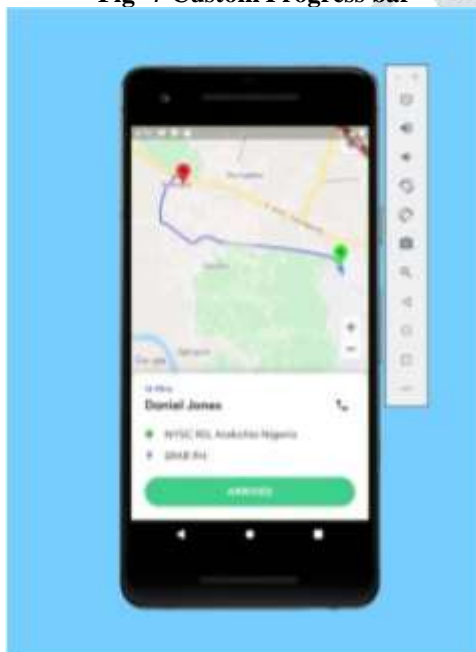


Fig -8: Driver Trip Page



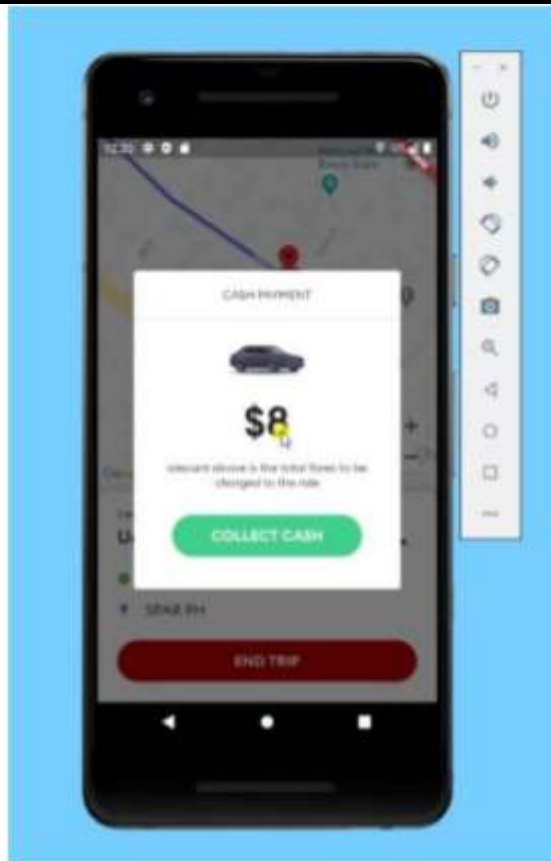


Fig -9: Collect Payment and send to driver

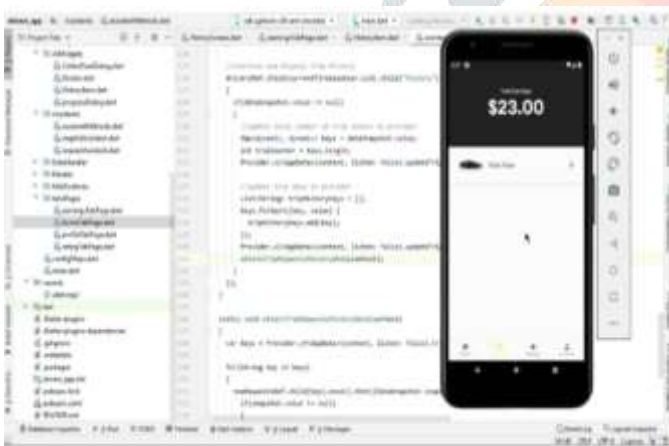


Fig -10 Calculations



Fig -11: Driver Profile

6. CONCLUSIONS

In general, the example offered by Taxi can be used by many developing companies. Nowadays, it is not a difficult task to create an organization and introduce some new, unusual services. However, it is always challenging to gain a good reputation, prove the quality of the services, and create appropriate working conditions. The necessity to provide people with good services at affordable prices is urgent nowadays. Not all people are able to use the quality they want. G-Taxi opens new perspectives and possibilities. However, its attempts to cooperate with big cities only are not enough to become one of the best. It is necessary to make more improvements and encourage changes. Drivers are eager to work at different places. G-Taxi can provide drivers with jobs and citizens with transportation services. The factors for success and challenges discussed in the current paper show that G-Taxi all chances to succeed in international marketing. The only thing that the company has to do is to continue developing and thinking about its employees. Mobile applications for Taxicab booking is one of the basic need of the general population nowadays, especially in urban areas since this application picks up significance among the general population. Travel agencies have to register with the service providers through the application and hence are reliable. A two-way application like this also opens doors of a reliable employment for the drivers and other taxi service providers who can register with the app, along with the obvious service provided to the direct customers who can book a cab through it. Henceforth, portable applications for cab booking are one such application that can be utilized by anybody effectively. There are still many areas in which the application can be improved. Feedback system can be made better and some features can be added in future to benefit long time users and customers. In metropolitan cities there is bulk of transport facilities but in small towns, villages or cities there are no such facilities. So some small places where there is not much convenient transport facilities available will also be added to the app. This app will help people in travelling from one place to another with ease and more comfort.

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