PROJECT : CAB BOOKING IN CAMPUS

INTRO :

Campus Cab is a flutter application that used to book rides within colleges. It has a number of features that will allow users to manage and book cabs online. This system as well as the web application's concept are all clear. It's the same as real-life scenarios and has been well-implemented. To be more precise, the system helps clients filter, book cabs online. The system also contains all the client and cab management features. In addition, the system allows for managing client bookings, website settings, and more. Evidently, this project contains an admin panel with a customer and driver panel. In an overview of this web application, customers can simply register on the website in order to book cabs. He/she can search for an available cab using the car's model name. He/she has to enter pickup and drop-off points for booking a cab. Also, a customer can view his/her booking history and cancel an order before booking confirmation.

Need :

The main objective of this project is to provide emergency services or use personal vehicles to drop the needy to their destination as soon as possible . We know that most of the colleges are outside the city. At the end of the working day, people have to wait for a bus or taxi to reach their home or destination, but we know that on our campus, many people come with their private vehicles We provide this app to vehicle owners and customers, who use it to communicate with one another and fix a ride at the lowest possible cost. By using this app, people didn't need to waste their time and money waiting for the bus .

Feasibility study :

This application requires a real-time Google Maps API to obtain the map and path. We are working here with flutter, so both iOS and Android users can use this application easily. This app saves precious money and time for users.

1. On-Demand Booking:
2. Users can easily enjoy the service of booking a cab through their smartphones without any problem.
3. Users can book a taxi with a single tap, and they just have to enter the pickup location and destination.
4. Payment can be done through UPI (cashless).
5. Transparency between the owner of the vehicle and the user

Requirement Gathering :

The ultimate goal of this project was to facilitate extremely fast booking while providing a beautiful user interface and an amazing user experience to the users. To accomplish this, we decided to start with designing the app. Using Figma, we provided all the necessary screens along with a prototype to the client. This made sure that the client understood the overall app and its flow as a user. Figma made it very easy for us to collect feedback from some of the actual users in the prototype stage itself.

Next, we started the development of REST APIs using Laravel and PostgreSQL/Redis. This REST API was created in the form of a headless architecture so that both the admin panel and the mobile apps would consume the same APIs without worrying about the implementation. This also made sure that our client was free to implement any other mobile app or web-app for this project without making any changes to the finalised backend system.

Before this system was built, any booking required to be done manually, i.e., the backend staff was required to be available to accept or reject the bookings as per the availability of the chauffeurs.

We also implemented Flutter push notifications using Firebase. Customers were required to receive push notifications in the app, as well as SMS and email notifications, if the booking status changed. To achieve this, we implemented background queues in Laravel using Redis as a queue manager. The queue would take care of sending the required type of notification based on the action taken on the booking.

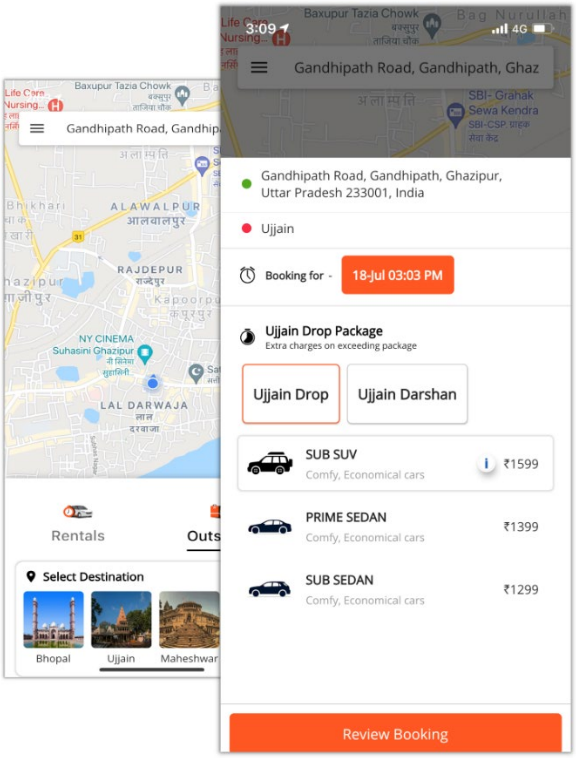
After creating the REST APIs, the next task was to create the mobile app using Flutter. We started by converting the Figma designs to Flutter widgets, making sure to reuse as many widgets as possible. We used the Provider with ChangeNotifier to implement the MVVM architecture. We’ve been quite satisfied with this architectural style of development and have used it in multiple complex projects while keeping the code complexity to a minimum. The Flutter app also makes full use of GPS to get a real-time location of the user throughout the booking lifecycle. While the Flutter team was building the Flutter app, the backend team started building the admin panel in parallel. For the admin panel, we used VueJS with the Nuxt framework for quick scaffolding and development. We built a single-page application using Nuxt for a smooth mobile application like user experience in the admin panel.

For payments, we implemented the RazorPay payment gateway, which has a dedicated Flutter SDK. We also had to make sure that the customers were able to pay offline using cash. For this, we implemented multiple checks on both the driver and customer ends.

Technologies used :

Flutter, Laravel, Firebase, Figma, VueJS, Reddis, PostgreSql

Design:



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SUB SUV	Comfy, Economical cars	₹1599
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SUB SEDAN	Comfy, Economical cars	₹1299