Application to Facilitate Requesting Small Car Jobs From Nearby Workshops

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Overview

A car workshop is one of the biggest field businesses that every car owner needs. However, the majority of customers are facing problems with small labor jobs. Our android application will solve the problems of timing, pricing, and availabilities that most customers compliant. Our app will help customers looking for good workshops by submitting a specific request for a car maintenance small job to the nearest workshops based on the zip code. Then, the workshops received the request and can provide offers with the price, availability, timing of labor based on the information provided by the customer. Finally, the offers will be sent to the customer to accept or reject.

Goal

Our goal is to design an application that combines both customers and workshops under one platform which will lead to solve the problems of saving time for searching workshops, competitive and affordable prices, and enhancing the quality of service availabilities.

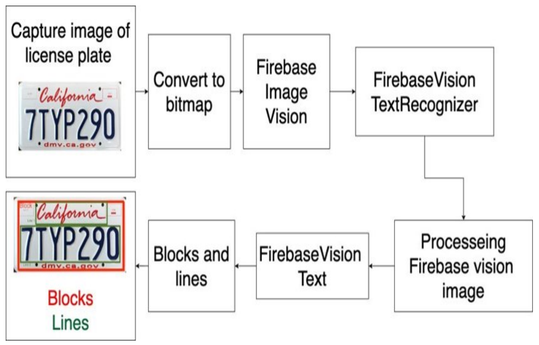
Challenging

We faced several challenges with android studio versions due to the continuous updates. Also, there are no uniform user interface design rules that we can meet. Moreover, we faced a problem with OpenCV library due to the lack of compatibility with latest google api 29 which leads us to change it to ML Kit.

Features

Our application provides convenient features for both customers and workshops which are customers' ratings and reviews, Geolocation, license plate reader, getting direction, Google Pay, and Google Authentication.

Text Recognition



For license plate reader, we implemented method that uses firebase image vision to detect texts from images. Then, we break the result into blocks and then into lines. So, we can choose the text we need.

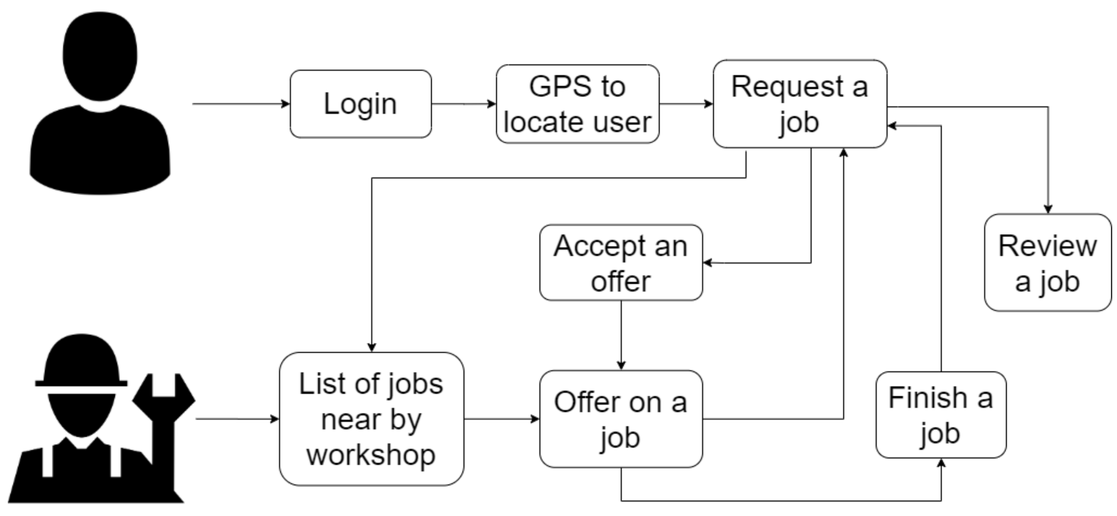
Firebase Authentication

To log in a user to the application, we implemented a method to pass the user's authentication credentials. These credentials can be the user's email address and password. Next, the app passes these credentials to the Firebase Authentication SDK. Then, Firebase will verify these credentials and respond to a customer's response. After a successful sign in, the application will access to the user's basic profile information.

Cloud Firestore

For database, we used Cloud Firestore from Google. Cloud Firestore is serverless, cloud-native and NoSQL. We use it to store job request, offers, reviews, and car's information.

Application Workflow



Future Work

- Make an IOS application has the same functionality.
- Adding face detection for signing in.
- Adding map view shows workshop locations.

Conclusion

In this project, we presented an efficient solution to combine customers and workshops under one platform. Consequently, the application will help costumer to save time and money, and at the same time will increase profit for the workshops. Working in this project was a great experience because this project experiment presented us with the environment of working in real life with the team. Also, we believe that the project enhanced our teamwork skills by understanding each member's thoughts, and skills that help us distribute the work fairly. In addition, this project showed us how to collaborate with each member's parts because the main goals are to learn from this project, prepare for career life, and finish the project on time.

Glossary

- **ML Kit:** Machine learning for mobile developers.
- **Geolocation:** The identification or estimation of the real-world geographic.
- **API 29:** Android 10.

Acknowledgment

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