3-Phase Milestone Loop System for Automobile Networking Sector

[1]Aditya Pati, [2]Minal Moharir

[1]Student, [2]Associate Professor

[1,2]Department of Computer Science and Engineering,

[1,2]RV College of Engineering, Bangalore, Karnataka

Abstract: In the era of advanced technology and 5G applications, there has been major trends on automobile sector, e-commerce proceedings and even customer management variables. These advancements have been made to solve customer problems and pain sectors. In the subcontinent, the issue with driving related advancements have been a major focus, especially with commercialization of driving schools. The driving services tend to overcharge, communicate lately and also provided mistreatments in license facilities. This project aims at creating a solution for the driving services in the subcontinent with a 40-lakh user base in the next 2 years. This would be a solution for the age-group comprising of 18-25 years of age with various facilities such as 3-phase milestone payments to elevate the business side of the service.

Index Terms **– Milestone Loop, React Native, Flutter, ReactJS, Dart**

I. INTRODUCTION

The user-client communication has always been a major breakpoint when it comes to the automobile networking sector and uplifting driving services. Various issues have been observed such as licensing agreements and upfront payments that lead to dissatisfactions in the long run. Most of the interfaces are highly under developed when it comes to interfaces and technology being used to interact between the user and the client. A large percentage of automobile services have faced this inefficiency when it comes to communications with no such solution to tackle it. When it comes to scheduling the driving services, the demographic factor doesn't account for quality of search and hence the user falls into the pit for a dissatisfied service. This formed the major factor to develop an application that would solve these matters without creating a complicated user journey for the customers or the clients.

Companies like Big Basket has attempted to move towards hyperlocal position-based locality system wherein the stores nearby are located based on users' preferences and real-time location, which prompts them to avail the items with ease. This kind of recommendation systems are based on Google Location API alongside Twilio verification which is being used to correctly identify the user features so as to create a dashboard tailored to the requirements of the user. This recommendation model has been used in multiple services, especially in the field of finance. The 3-phase milestone system has been used in multiple forms in this sector to recover pending payments and keep track of user feedbacks from time to time. Especially in freelancing sectors such as Freelancer, Fiverr, Hello Bonsai etc. wherein the user payments are protected from any mishaps from the client side. This has been proven the safest option in the freelance industry for payment protection and intellectual rights of the freelancers' property.

To help customers understand the appointment and milestone payment system better, a client-side application is developed which also includes an extensive client overview of the business management and feedback management systems. A collection of seven key systems for the Android application were developed, along with managing and running them. User research with interview standards and mannerism are used to create the wireframe, which in turn drives user experience throughout the whole program. After wireframing, the user flow is reviewed for improved process frames. Another strategy for developing an exceptional application for the education sector is to group the suggestions and local resources in a single loop so that users have more freedom to choose the service they need in their neighborhood.

II. CURRENT TECHNOLOGY AND INSIGHTS

The current application development process includes a wireframe and user journey process followed by continuous feedback loops to improve the user experience process. This process is followed in any typical development scheme for the prototyping phase. The current prototypes are created used Figma and Invision in which complex wireframing and user mapping can be implemented in a collaborative fashion. The schemas of material design are used for Android-based applications and Apple's Desire framework is used for iOS-based applications.

Wireframes and user journeys are implemented in addition to the ongoing feedback loops used to enhance the user experience. In every development project, the prototype process is implemented in this manner. The current prototypes are built using Figma and Invision, both of which are conducive to collaborative wireframing and user mapping. In terms of design schemas, the Material Design patterns are applied to Android apps while the Desire framework is applied to iOS apps.

This Recommendation Engine improvement enables an automated verification system's inputs, as well as user personas, to be taken into consideration when producing recommendations. This feature is a relative newcomer to the user app development industry; in prior generations, only features were adopted after they had been comprehensively studied by customers.

In this application, new payment gateway and milestone generating technologies have been pushed. Until recently, the payment was made ahead of time to take advantage of a service, and if there were any problems with the service, it was difficult to get your money back. In order to target the 18-25 age range, we had to build a system that would make that age group access the services without the hassle of having to fill out complicated paperwork. In order to assist users with this kind of financial situation,

milestone-based payment logic was put in place so that users have the choice to either pay the entire price or pay in small increments, dependent on the request for a service. Only when the consumer has provided feedback and the service quality is of the highest level will a milestone be completed. Minor adjustments would be expected in anything that falls within the acceptable range.

The Flutter framework was used to build the application, with both iOS and Android compatibility. This was done to make sure future iterations of the application could be deployed quickly in the event they are needed. The emergence of Flutter and React Native has added a new idea to the app industry, namely hybrid app environments.

III. PROPOSED SYSTEM

The new large-scale user/client application for the automotive networking industry is being suggested to use the existing infrastructure. Each of the 7 basic subsystems is further broken down into 3 stages.

3.1 Phase 1 – Verification System

The Auto Verification System and the Location Detection System work together to validate the identity of the user, while simultaneously collecting user data that may be used to implement additional features and enhancements on the dashboard. Twilio is currently developing an implementation of auto verification, using the Twilio message relay and the Google Location API to provide location-based triggers. As Phase 1 data is entered, a dashboard comes into play that displays the hyperlocal outcomes of the various driving services depending on their customers' specifications.

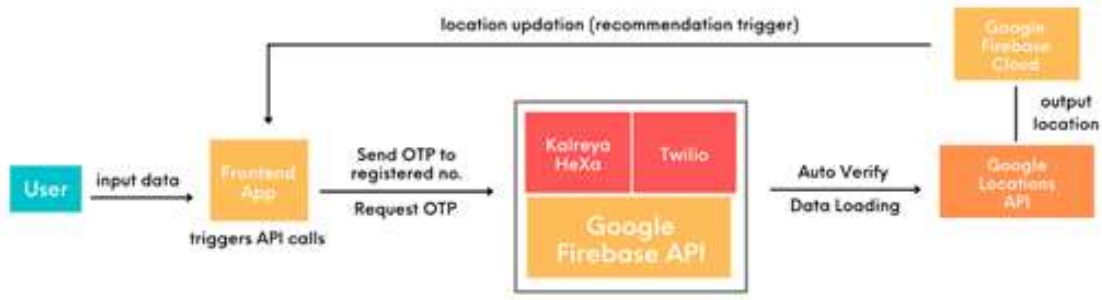

Figure 1. Verification System

When the user clicks on the “Next” button and confirms the Auto Verification step, the system directs him to switch on his current location so that the Location Detection System may be activated. A special usage of the Google Location API has been developed to get a user-entered location trigger so that location-based features may be enabled and relevant driving services suggestions can be produced for the user.

3.2 Phase 2 – Generation System

The Auto Verification System and the Location Detection System are both implemented inside the Location Verification Module and operate together to provide functionality, such as auto verification and adding feature and suggestions to the dashboard. Twilio is currently developing an implementation of auto verification, using the Twilio message relay and the Google Location API to provide location-based triggers. The dashboard then appears that displays the local outcomes of the driving services depending on the characteristics of each user.

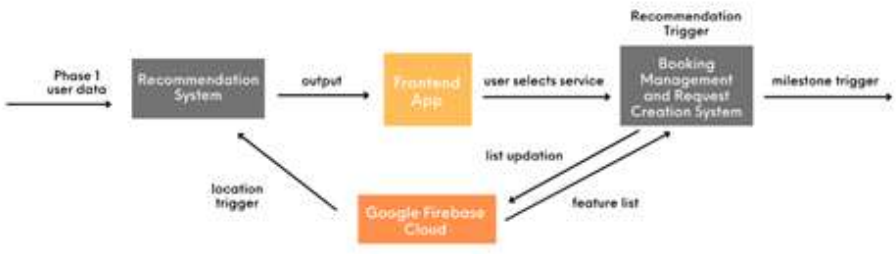

Figure 2. Generation System

This module consists of the Booking Management System, the Request Generation System, and the Recommendation System. In phase 1, recommendation system customers have their input connected to phase 1 triggers, and a dashboard is built from that data. From that dashboard, users may choose suggested services and popular services nearby. Booking Management system handles allotting spaces to users and conducting payment transactions. With the Request Generation System, the allotment made is taken into consideration, and the milestones required for that specific service are then generated.

3.3 Phase 3 – Request Stage

The Milestone Generation System and the Payment Gateway System offered by RazorPay comprise the Request Module. In order to control the movement of service milestones, the Milestone Generation System splits the service into periods of payments and feedbacks. After a certain amount of money has been collected, the user will be granted access to the next milestone. In order to pay users at regular intervals, milestone-based looping is used to send payment-based reminders.

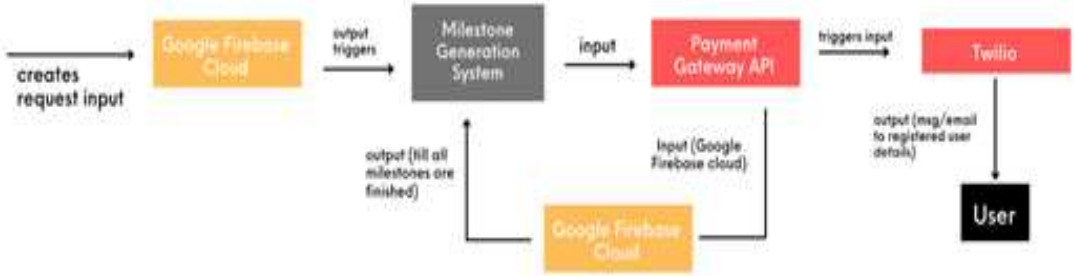

Figure 3. Request Stage

The tracking function in the application will guarantee that the driving school service is delivered on time, and that the user is kept up to date on the payment process at all points in time. It also guarantees that the user only pays once all of his or her feedback requirements have been fulfilled. To avoid this, the client is solely responsible for creating a better environment.

IV. RESULTS AND CONCLUSION

This required the integration of seven main systems of the whole program and the examination of how their interaction produced an overflow in terms of the number of users at a particular time. The primary goal of this application was to see whether each system worked flawlessly in terms of the specific characteristics under consideration. It assigns scores to features by assessing each feature's performance in each module separately, then average the individual scores to arrive at a cumulative/total score.

The evaluation metric that was chosen to mark the success criteria of this project was a comparison of crashes based on Appium's Web Traffic Simulation on to the application that checked for overload on Firebase's Dashboard while providing for the number of features (F) vs the number of users (U) analysis to conclude various parameters such as premature crash, feature overload, and feature overload. etc.

Figure 4. Kobiton Testing

Another key measure utilized to determine the application's good functioning was Kobiton's Payment Security, which ensured the success ratio of milestones, while Razor Pay ran in the background on the testing sequence to verify looping was enabled and performing in flawless sequences.

V. FUTURE WORKS

The integration of additional vehicle services based on the user's hyperlocal preferences is one of the project's future aims. Tire repair, vehicle part configuration and repair, a one-tap function for highway towing, and so on are all examples of this. This would make the app the entire vehicle solution for consumers, allowing all driving-related questions to be answered between the user and

service providers. Second, there have been intentions to work on a commission basis with car rental businesses so that new features may be introduced to the entire program while keeping the load in mind.

VI. CONCLUSION

In conclusion, a user-client application would be highly beneficial for the subcontinental issues with driving schools and automotive repairing. 3-phase milestone payments in a looping mechanism can improve business analysis which in turn is useful to improve the quality of service. For the age groups of 18-25 years of age who aren't able to pay high driving lesson prices, these services would help with licensing formalities as well.

Relay services with the aid of Firebase and Twilio APIs assist with transactional services as well as notifications for service confirmations – these form the core for 3-phase milestone tracking. The Blaze program of Firebase accounts for a larger user base. These features accompanied with tags/features boost the recommendation engine for well researched user experience in the form of dashboard hence showing the hyperlocal results of services.

REFERENCES

[1] Vedaprabha R, Hariharan Ravi, "Application Of Artificial Intelligence In Investment Banks", Review of Economic Business Studies, Volume 11, Issue 2, pp.131-136, 2018.

[2] L.P. Willcocks, M. Lacity, & A. Craig, "The IT function and robotic process automation.", The Outsourcing Unit Working Research Paper Series, 2015.

[3] S. Anagnoste, "Robotic Automation Process-The next major revolution in terms of back-office operations improvement." In Proceedings of the International Conference on Business Excellence, vol. 11, no. 1, pp. 676-686. De Gruyter Open, 2017.

[4] Rob Galaski and R. Jesse McWaters, "Beyond Fintech: A Pragmatic Assessment of Disruptive Potential in Financial Services," World Economic Forum and Deloitte.

[5] Srinivas, "The Future of Automation in the Banking Industry: What Can We Learn From ATMs," Deloitte Quick Look Blog.

[6] M. Sarin, B. L. Suri, Sarfuddin, R. K. Bajpai, H. R. Luthera, and H. Singh, "Study of Road Accidents Bagodara to Bamanbore Junction Stretch of NH-8A", CRRI, New Delhi, 1987.