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Quick Labor Service on-Demand Using Flutter & Firestore

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ABSTRACT: This paper describes the “Quick Labor Service On-Demand” application, especially for individual workers and users. The application offers a set of services or workers to customers namely plumber, electrician, carpenter, etc. This paper describes the context model, system architecture, services implemented and offered, and overall functionality of the system. SerOne is flexible, user-friendly, portable, and support dynamic information

KEYWORDS:Flutter, Dart, On-Demand Service, home-based services, customer satisfaction, servqual model.

I. INTRODUCTION

This is a platform to make our lives more fulfilling to solve our needs in one click. It enables users to find any services like plumbers, carpenters, painters, fabricators, etc. Also, professionals want to be the go-to platform for helping customers in urban lives. Now using this app everything from designing their homes to capturing key moments., learning arts to filing taxes as well as getting healthcare services are now at one click. This platform helps customers booking professionals for services such as salon at home, cleaning, plumbing, carpentry, interior design, wedding photography, yoga training, and more. The key services that we are going to provide over the next few years include – home improvement & maintenance, repairing gadgets, appliance repairs, salon spa & makeup services, fitness, etc. This platform will take technology one step ahead and we don't need to memorize or store any contact details in our diary or mobile phones. Also in this digital era, this application will save peoples time for searching workers.

II. RELATED WORK

In India, household work has always been considered as below someone's dignity. the domestic worker is so deliberately underpaid. Cooking, cleaning, caring for children, are all skilled jobs but they fall under the unorganized sector, with no law to protect rights, no health cover, and no pension [2]. There is no such organization who provide a job at one click and who understand the needs of customer [3]. Rajni Pathak and Punam Salunkhe (2018) studied the satisfaction level of customers in Pune with special context to beauty service. There was a total of 145 persons has been participated in this study. It can be concluded that more than half of the customers are satisfied with the services provided at the doorstep. The study result shows that there is a significant relationship between expectation and satisfaction with the customer from beauty service.[3]

III.METHODOLOGY

The system is designed to be flexible, user-friendly, portable, and to support dynamic information. The application is developed using Flutter, Dart, and Fire-store databases together. Flutter supports a single codebase so that the app can run on both android and iOS devices using single code implementation. Additionally, since the system is designed as client-server architecture, both the client-side and the server-side gather the context data elements.

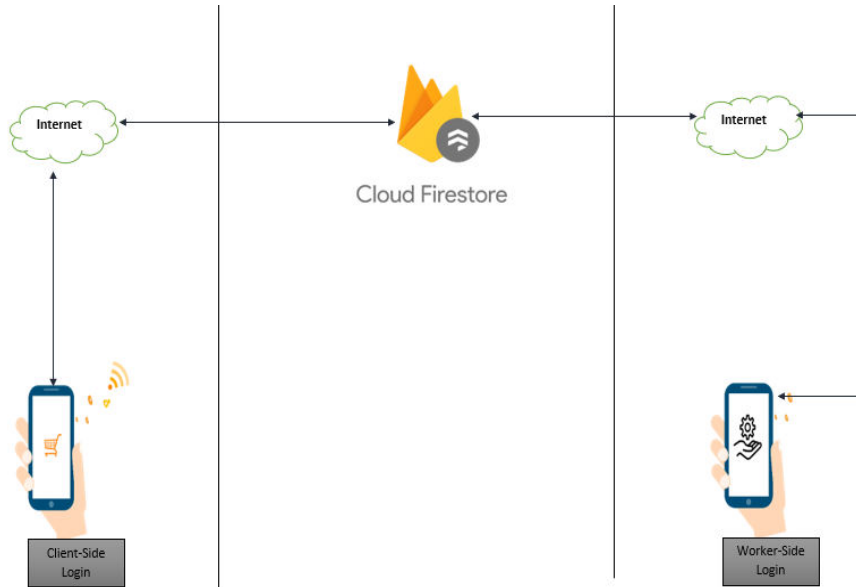


Figure 1: Architectural Design

Figure 1 shows the architectural design of an on-demand worker management system where worker and user both should have to connect to the internet for making use of this application. For a successful login, the application will connect to the Firestore database and authenticate details entered by the user/ worker. we have implemented user and worker module in the same application so that both will make use of the application and they don't need to install a separate application for playing a different role.

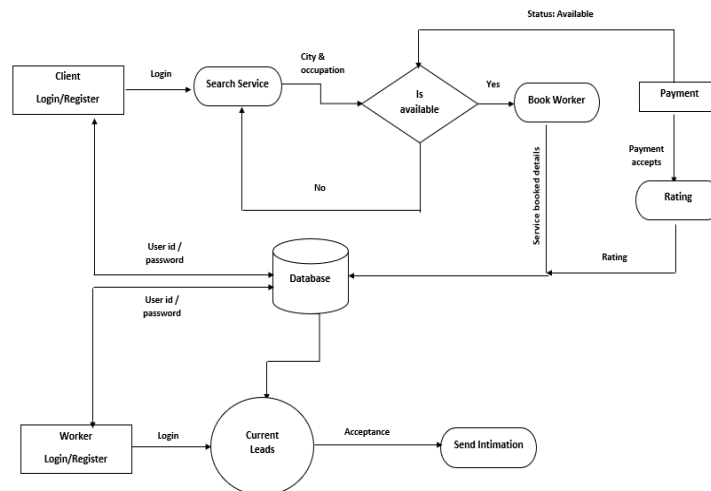


Figure 2: Data flow Diagram of Client (Level 1)

Figure 2 shows the data flow design (Level 1) of the user module. First, the user needs to register. After successful registration user gets credentials. The user home page has different options such as search worker, book worker, payment, the status of the worker, feedback, etc. As per the status of worker like “Available” or “Unavailable” users can book the service for the same. After booking worker text message will be sent to a respective worker with booking details and necessary action will be taken by the worker. When one user makes the booking for any worker or any service then automatically that worker will be made unavailable by the system and it will remain the same until the user

who booked that worker did not pay for that worker. Even though the worker has access to making himself available through his account.

Once the user book a particular worker/service, details of the user and for what purpose he need this service will be sent to that particular worker account. also, worker get intimated through SMS with the same details. Worker has a choice to accept that request or else he can reject it also. in the initial phase, we accept payment through online mode only, but in the next versions of applications, we can make available a “pay at location” facility.

SERVQUAL MODEL:

In 1985 Parasuraman, Zeithaml, &Berry develop a model of 10 dimensions: Reliability, Responsiveness, competence, Access, Courtesy, Communication, Credibility, Security, Tangibles, Understanding/ knowing the customer. But later in 1988, these dimensions are reduced to five dimensions. These dimensions are also called RATER. A. Parasuraman, Valarie A. Zeithaml, & Leonard L Berry gave this concept. According to them perception minus expectation gives the result of satisfaction. According to Zeitham



Figure 3: Servqual Model

1. Tangibles: Physical Facilities, Equipment, Appearance, Personnel.
2. Reliability: Perform service dependably & accurately.
3. Responsiveness: Provide prompt services and willingness to help the customer.
4. Assurance: Knowledge & courtesy, ability to inspire trust & confidence between customers
5. Empathy: Caring, easy access, good communication skills, understanding, and individual attention given to the customer.



IV. SYSTEM RESULTS

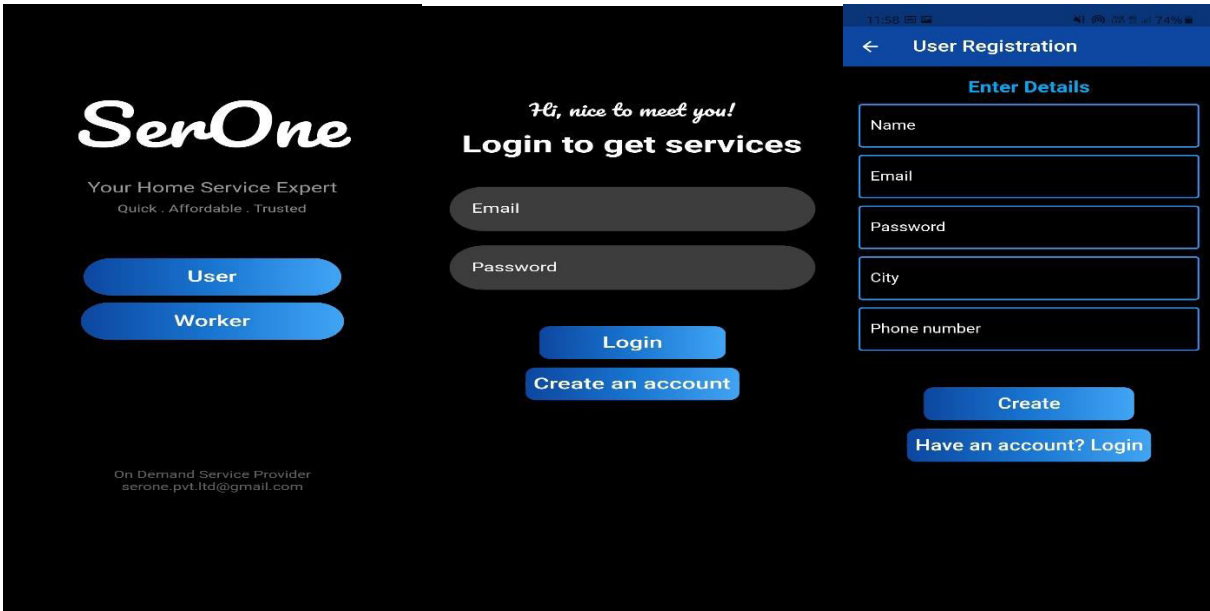


Figure 4. Application Home Page

Figure 5. User Login Page

Figure 6. User Reg. Page

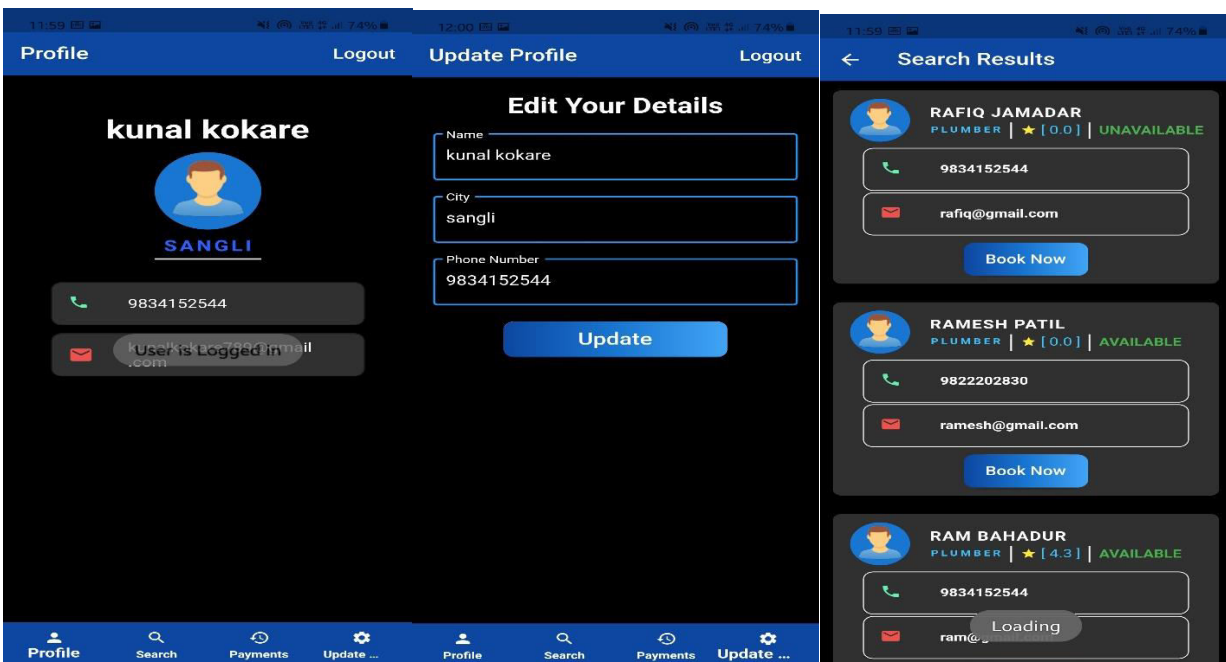


Figure 7. User Profile Page

Figure 8. User profile Update

Figure 9. Search Worker

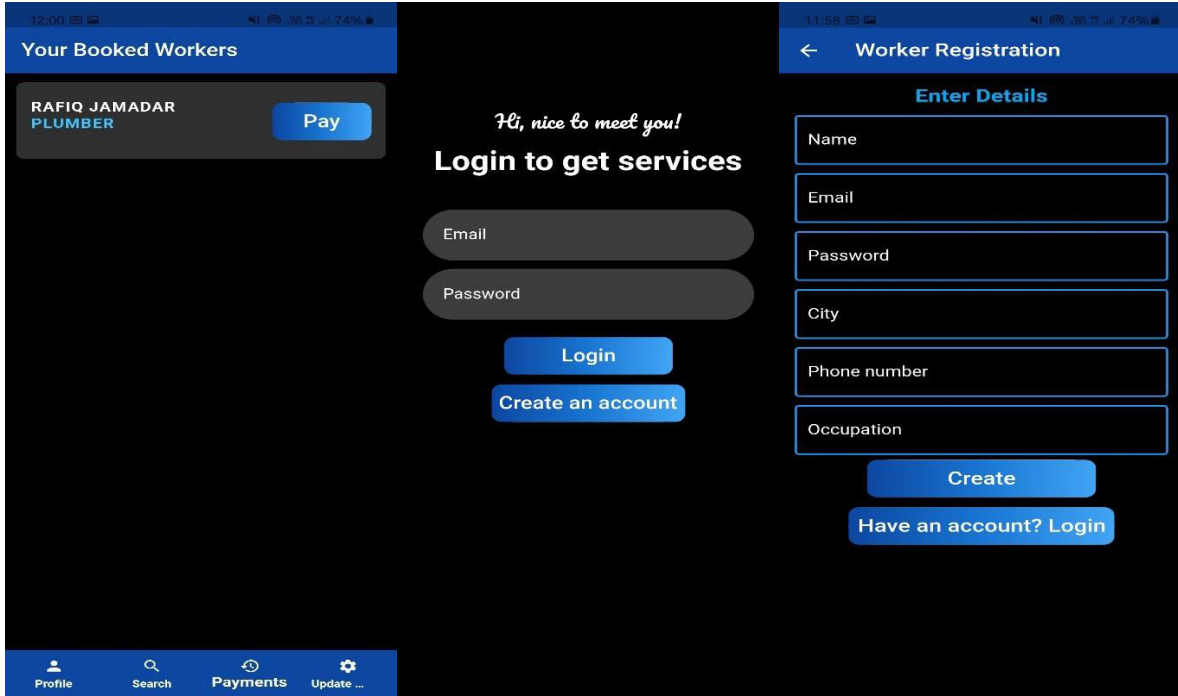


Figure 10:Payment Page

Figure 11: Worker Login Page

Figure 12: Worker Reg. Page

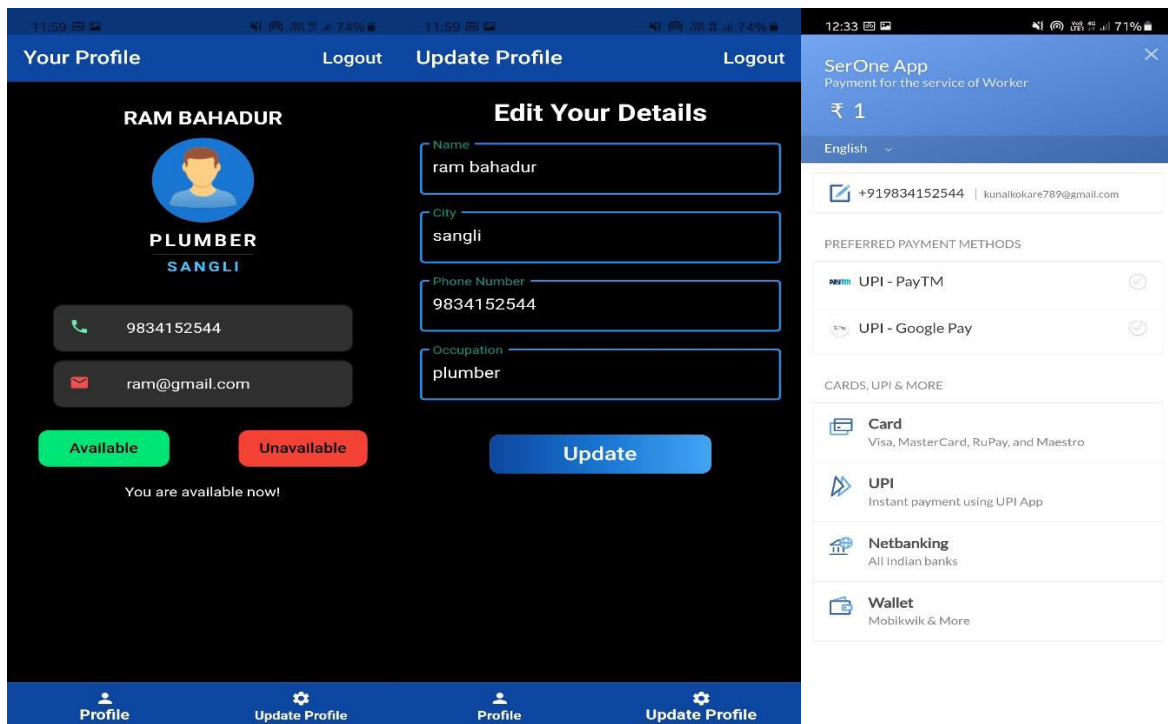


Figure 13:Worker Profile Page

Figure 14:Worker Profile Update

Figure 15:Payment Gateway



V. EVALUATION

System evaluation tests have been conducted to validate and refine the system requirements against user experience. Evaluation has been conducted to access user acceptance of the application. The field trial evaluation was carried out by several students and also some real workers. Based on user review we had made changes in-app functionality and user interface. All the levels of testing have been followed to evaluate this application and the result of those test cases is passed

VI. CONCLUSION

In this research, we present the development and deployment of “Quick Labor Service On Demand” that provides services to customers at one click and also provides jobs to workers. Future work will focus on developing features that recommend and notified to the user of routine services using a machine learning model

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