

**KHALA LAGBE - AN ANDROID APPLICATION**

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This Report Presented in Partial Fulfillment of the Requirements for the  
Degree of Bachelor of Science in Computer Science and Engineering

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**DAFFODIL INTERNATIONAL UNIVERSITY**

**DHAKA, BANGLADESH**

**JANUARY 2022**

## APPROVAL

This Project/internship titled “KHALA LAGBE - An Android Application”, submitted by Md. Mehedi Hasan, ID No: 181-15-10915, Md. Rakibul Islam, ID No: 181-15-10976 Shahdat Hossain, ID No:181-15-11335 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on Tuesday, January 4, 2022.

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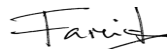
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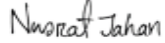
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## DECLARATION

We hereby declare that this project has been done by us under the supervision of **Nusrat Jahan, Senior Lecturer, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

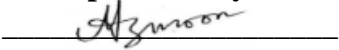
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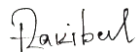
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Finally, we must acknowledge with due respect the constant support and patients of our parents.

## **ABSTRACT**

Khala Lagbe is an Android application which is developed to solve maid problems specially for university students living in hostels. As we all know, every year a massive number of university students come to Dhaka from different districts of Bangladesh to study. One of the major problems they face is finding professional and trustable maids without any hassle. This is where our application can play a huge role to overcome all maids' problems for university students. As an outcome, Students will easily find a "Maid". Because, this application gives an area-based search [8] option. Maids will easily get job opportunities. This will benefit both parties financially and save their time. Both sides will be able to know about them in advance. Because, this app provides their information. In future, users will be able to give reviews based on their work. In this way, there will be no security issues. Furthermore, there's a customization option for students. So that, they can easily choose numbers of maids and schedule time super efficiently. On the other hand, there's the option to register as a maid and admin as well. In a nutshell, if any student wants to quickly hire maids for his/her household chores they simply need to sign up on "Khala Lagbe" and find a professional reliable maid without any hassle.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Khala Lagbe is an android application where bachelor university students can find professional maids to complete their household chores in nearby areas. So that students can focus more on their study and other important tasks.

### 1.2 Motivation

The main goal of our project is to provide a solution for those bachelor students who are suffering from amateur maids, or clearly have no idea where to get professional maids to complete their household work. Using this application students can find maids with all their valuable information. Users can leave feedback to each of their maids. so that other students can easily understand how well skilled they are. We believe this application will solve a large number of university students' problems who are facing maid issues.

### 1.3 Objectives

The most important task is to collect as much information as possible about the maids and create profiles in the application. We will try our best to give hassle-free seamless user experience while using the application. Providing a notification-based system for both the maid and client. Another important objective will be to work as a team and challenge every odd in the way. Moreover, abide by the rules of our respected supervisor and complete the project on time.

### 1.4 Expected Outcome

We expect the outcome from our project is absolutely right and specific. There will be two ways of login into the application. One is for the clients and the other is for the maids. Students can simply login their account and choose maids according to their members, works, rooms and so on. If a user forgets his/her password, then it can be retrieved by a hint question.

## **1.5 Project Management and Finance**

Application management includes numerous tasks that need expert attention. Budget and project deadlines are key for us. In terms of finance, we are designing and developing the whole project by ourselves. Moreover, we decided to keep the project open source because we depend on the backend server mostly for financial reasons. As we develop more and add new features, we will try to do it all by ourselves. As a result, the cost will be reduced a lot. Apart from that, all initial costs will be managed by us.

## **1.6 Report Layout**

In this project a full overview of our system and related work and terminologies are given gradually. As our supervisor suggests, we have gone through plenty of similar projects to have a proper idea how everything should be written in the report. In this process, we will go through chapter by chapter. For instance, In chapter 1 we have written about our objectives, motivation and expected outcome of the project. Again, in chapter 2 you will read about challenges, what sort of problems we faced and more. After that, in chapter 3 we have described three stages of background. Here, we have talked about the requirement specification and tried to disclose users' demand. Finally, in chapter 6 we discussed further about our future work and developments.

## **CHAPTER 2**

### **BACKGROUND**

#### **2.1 Introduction**

Khala lagbe is a professional maid service android application where bachelor university students can hire highly skilled house workers. In this platform both parties can take advantage. Students can set schedules for everyday work with notification. Each party can have their information which will play a vital role if anything goes wrong in the process.

#### **2.2 Related Works**

There is a lot of maid service available but none is available for university bachelor students. As we all know, a ton of students come to study in Dhaka from different districts of Bangladesh and the first problem they face is how they will prepare meals, wash clothes, keep their rooms clean and so on. Keep that in mind, our project is completely a piece of unique work. Moreover, we have added features like users' feedback, notifications, searching maid by areas and more.

#### **2.3 Comparative Studies**

Our application is engineered to help bachelor university students who need their daily meals, wash and clean rooms done professionally. We have done our research if there is another service available already. We found nothing like ours. Some of them provide maid service for families only and those are websites. So, we developed our application to be the best out there.

#### **2.4 Scope of the problem**

This project aims to solve all sorts of bachelor university students' maid problems. We believe that our application can make a huge difference to solve this problem. Especially the students who come from outside of the capital of Bangladesh. They face a lot of security problems when they hire a complete stranger. But with our application this massive issue can be solved.

## **2.5 Challenges**

The main challenge of our project is to provide a safe and secure environment for both students and maids. We want to develop a platform where both parties can take advantage of our application without feeling insecure.

# CHAPTER 3

## REQUIREMENT SPECIFICATION

Requirement's specification illustrates things that have to be done by the application or system. In addition, this process helps the company to reach its goals more accurately.

### 3.1 Business Process Modeling

Business process modeling [4] is a technique that creates a visual representation of a business process. This is usually achieved by using business process tools such as flowcharts. We impart a flowchart in figure 3.1.1 for business process model.

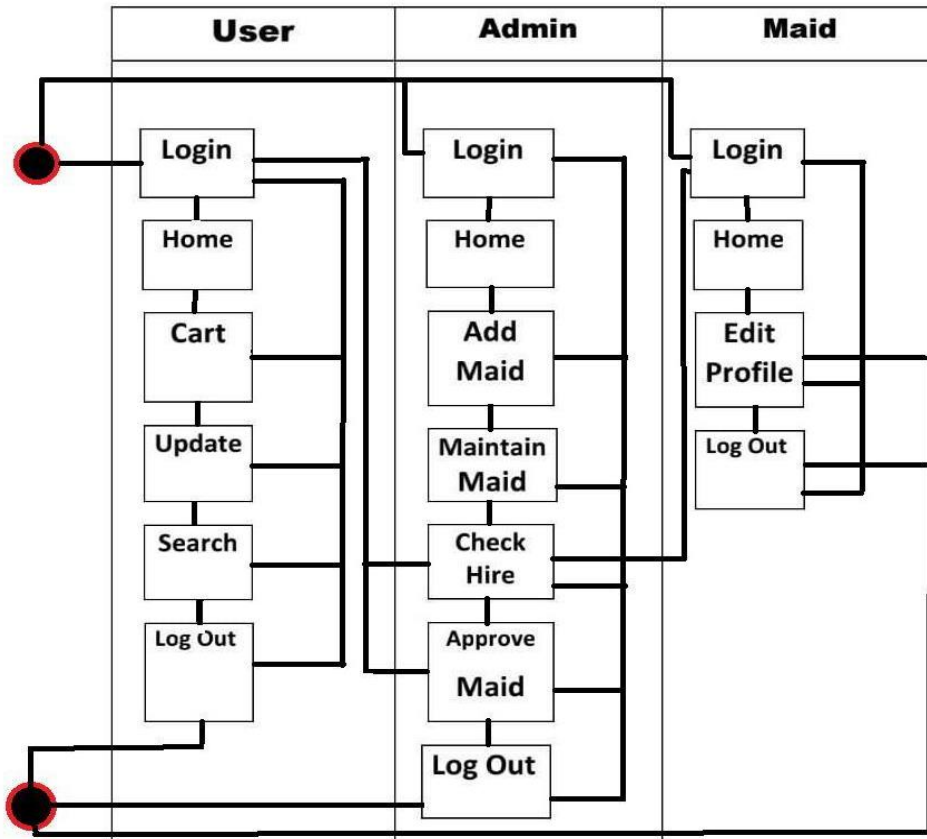


Figure 3.1.1: Business Process Model Diagram.

### 3.2 Requirement Collection and Analysis

In order to do a project, this specific part always plays an important role. This is where most of the startups fail to make a great project because they do not focus much on requirement collection and analysis. As a result, the ongoing project falls into great risk. For this reason, the responsible team should always make sure that they collect requirements before getting started. This is why we collected as much information as possible in order to start our project. We represents some flowchart in figure 3.2.1 for admin entity, figure 3.2.2 for maid entity, figure 3.2.3 for user entity.

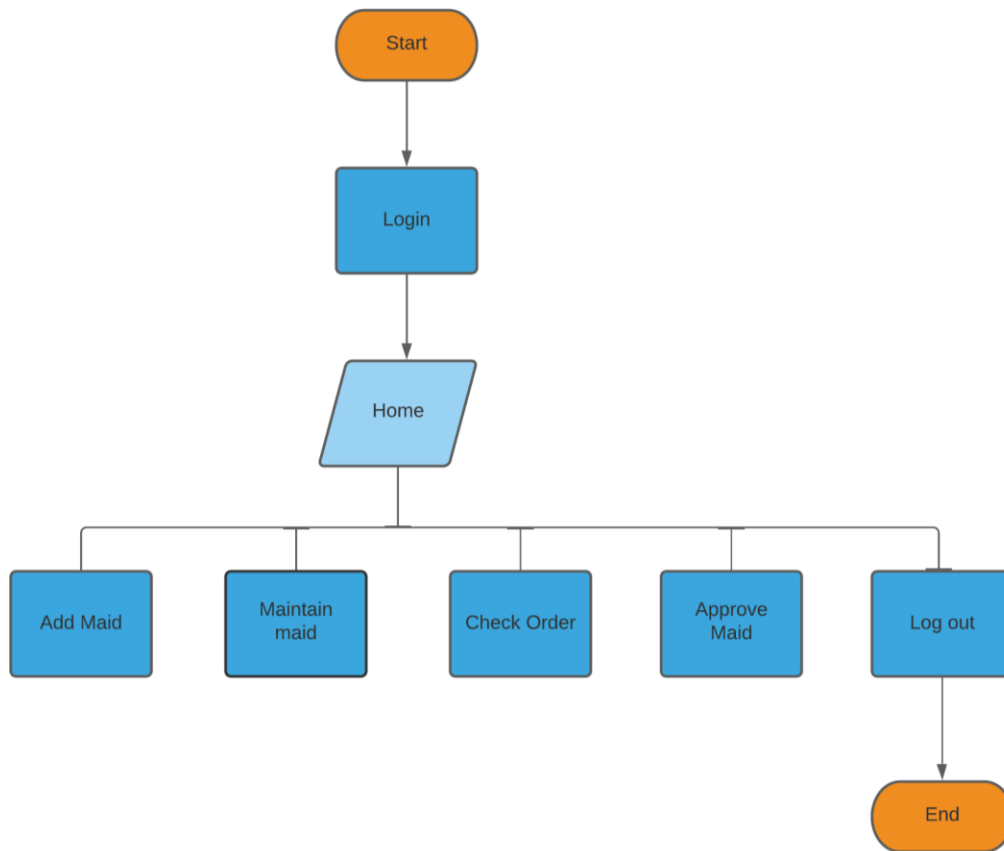


Figure 3.2.1: Flow Chart Diagram for Admin



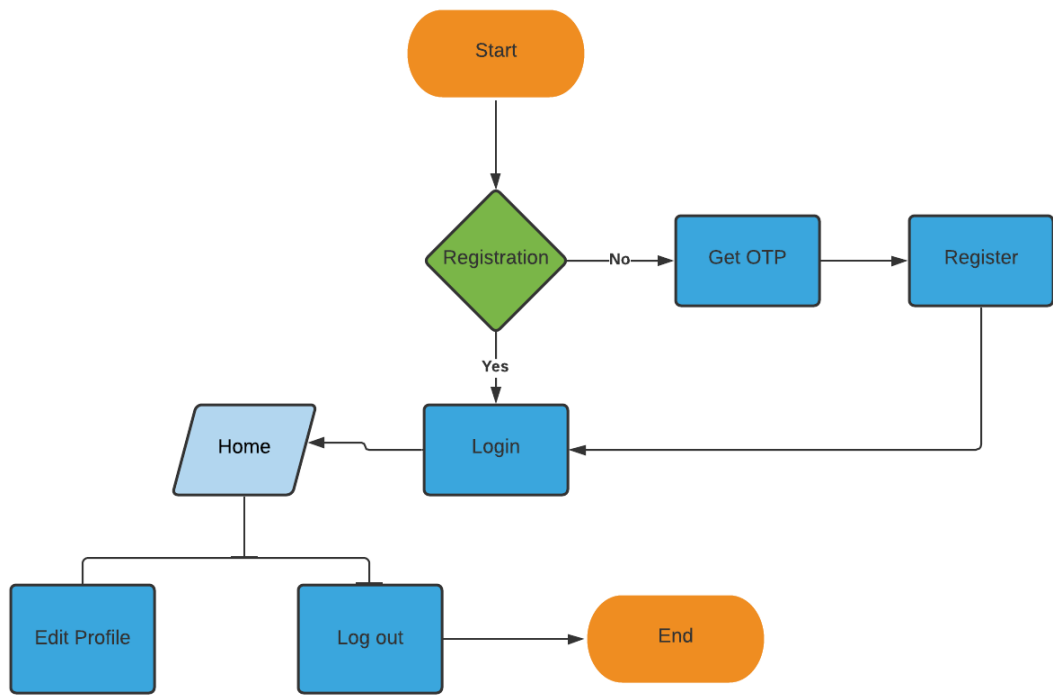


Figure 3.2.2: Flow Chart Diagram for Maid

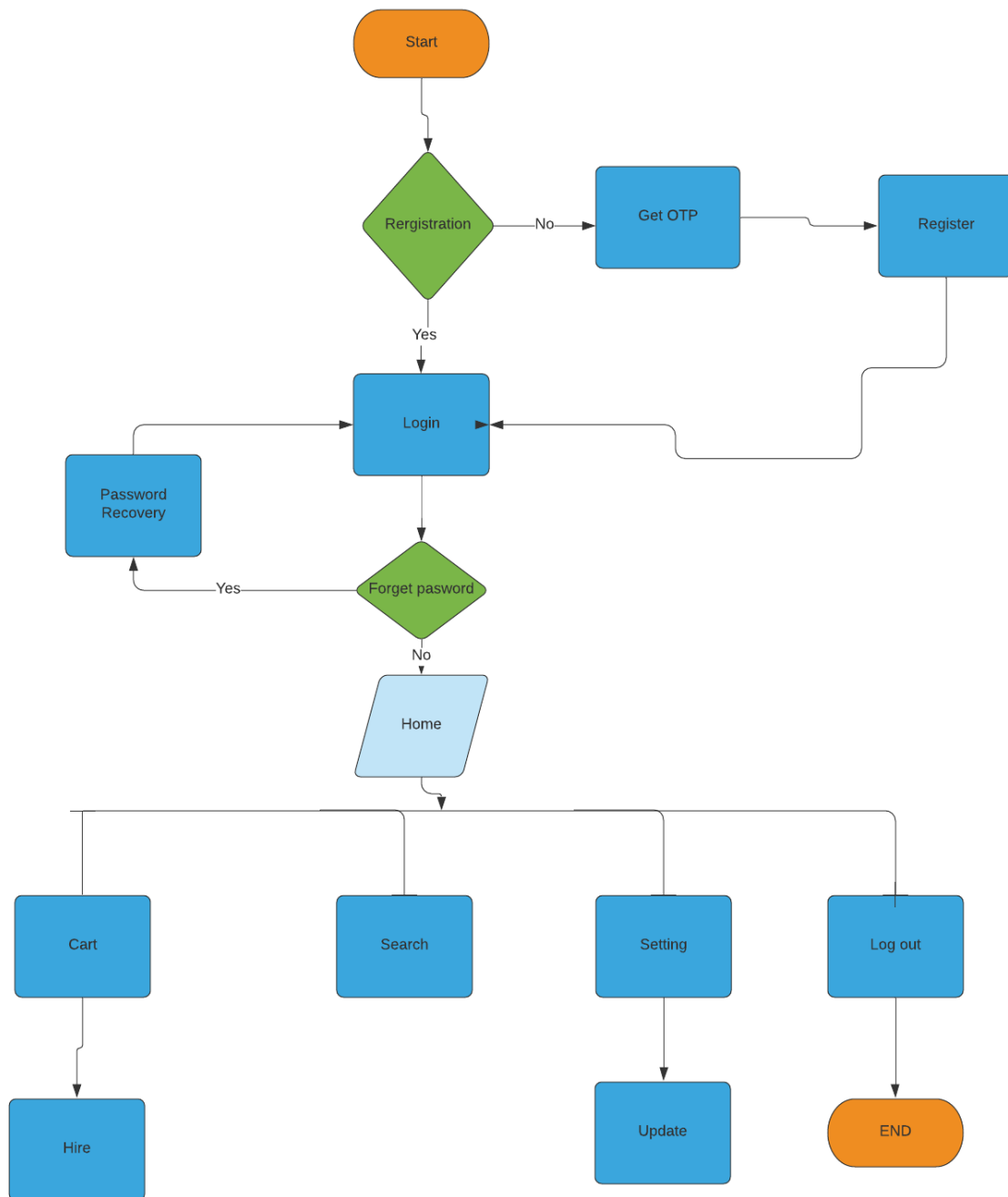


Figure 3.2.3: Flow Chart Diagram for User

### 3.3 Use Case Modeling

A use case modeling diagram graphically represents how a user interacts with the system. In this way one can simply demonstrate the user interaction with the system. Below diagram shows graphically how the process works.

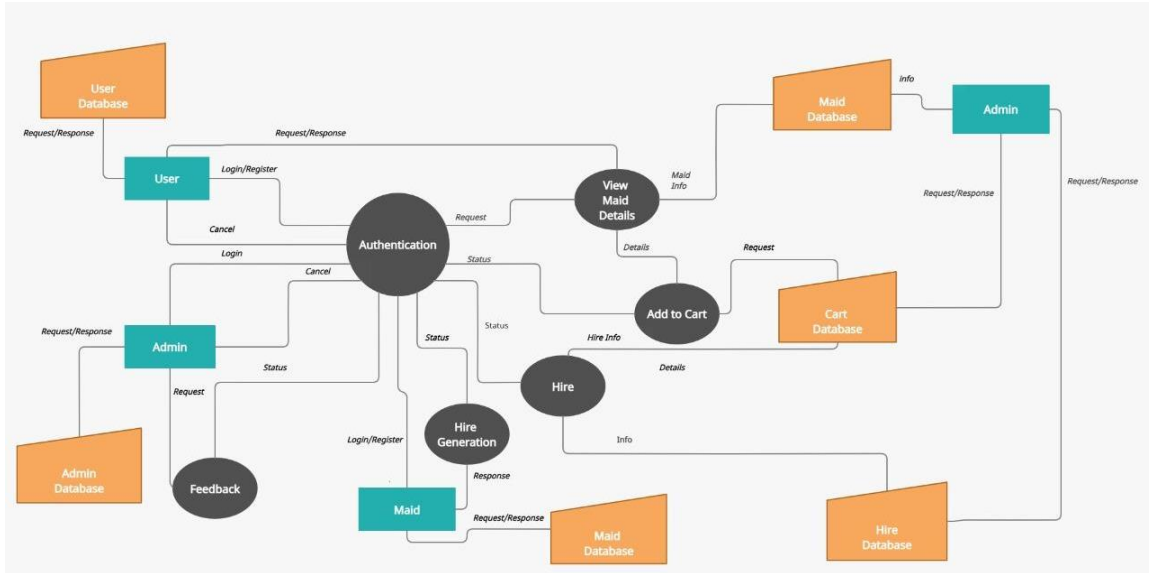


Figure 3.3.1: Use Case Modeling Diagram

### 3.4 Logical Data Model

A logical data model represents the formation of data elements and the relationships between them. It usually furnishes the specifications for data, narrates the idea, relationships, and explicates the value of data.

### 3.5 Design Requirement

In this process, the whole system design needs to manifest. So, we came up with different ideas and concepts of designs and selected one that matched our tastes. We kept the design modern and user friendly. A basic structure of our application design shown below.

## CHAPTER 4

### DESIGN SPECIFICATION

#### 4.1 Front-end Design

User Interface (UI) is a front-end design that users see while browsing the application. This whole UI design process makes the browsing and viewing experience for the user's way comfortable and flawless. We used XML to create the front end of the application.

#### 4.2 Back-end Design

The back-end design of our application was made using Java. User interface was made using XML. There are some popular databases like Mongo dB, MySQL, and Firebase Database. From these we have chosen Firebase database [5] because we found it is most suitable for android application development. A database is also included in the back-end, which permanently stores all of the application's data. In this case, the Firebase database is widely used which includes modern and latest tools.

#### 4.3 Interaction Design and User Experience (UX)

As the title suggests, we kept our application design super user friendly. In order to make the applications design more interactive we followed all necessary guidelines from Google. Most of the design is unique and beautifully organized to ensure better user experience. We have used the splash screen [7], OTP [2] option for maximum security of every account. In addition, we have organized the app using recycler view [3], fragment [6]. As a result, users will get a smooth scrolling [1] experience. Furthermore, with the navigation drawer [9] users can view their profile information in a better way.

#### 4.4 Implementation Requirements

In Implementation Requirements, the whole planning process comes into live action work. It's implementation (transition) requirements when they are designed to assist the transition from the existing state to the desired future state, but are not required afterward. Our backend REST API is built on the Firebase database and front end designed with XML. This makes our application compatible with any phone screen.

### **Efficiency Requirement**

Students can easily get maids via “Khala Lagbe” and that is super-fast and convenient. They can also schedule work time using our application.

### **Reliability Requirement**

Using our application customers can do area search which makes finding maids super-efficient. On top of that, we can assure you that we will keep all of our customers' data private.

### **Usability Requirement**

Our app has a super user-friendly environment and easy-to-use are among the best features of the "Khala Lagbe" application.

## **CHAPTER 5**

### **IMPLEMENTATION AND TESTING**

#### **5.1 Implementation of Database**

Our applications database is implemented in a way so it can process multiple requests simultaneously at the same time. We have used one of the most popular database systems which is Firebase Console. So, we can keep up with the latest developments. Furthermore, we can modify and change in need because it is open source.

#### **5.2 Implementation of Front-end Design**

To design the application all pages like Opening page, Dashboard, Profiles, Order screen, Cart page, Confirmation screen and all other pages are given below:

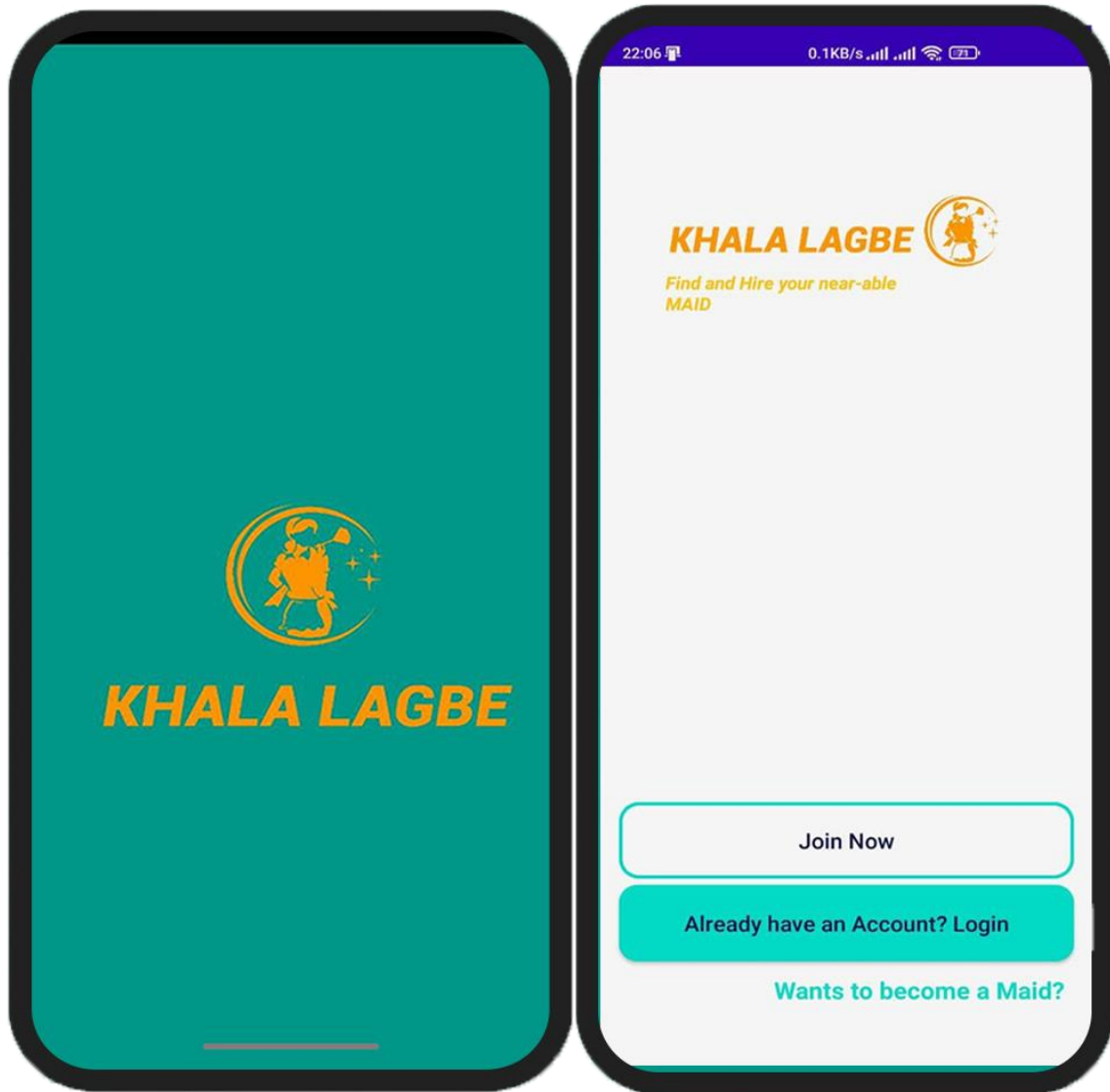


Figure 5.2.1: Splash Screen and First Opening Page

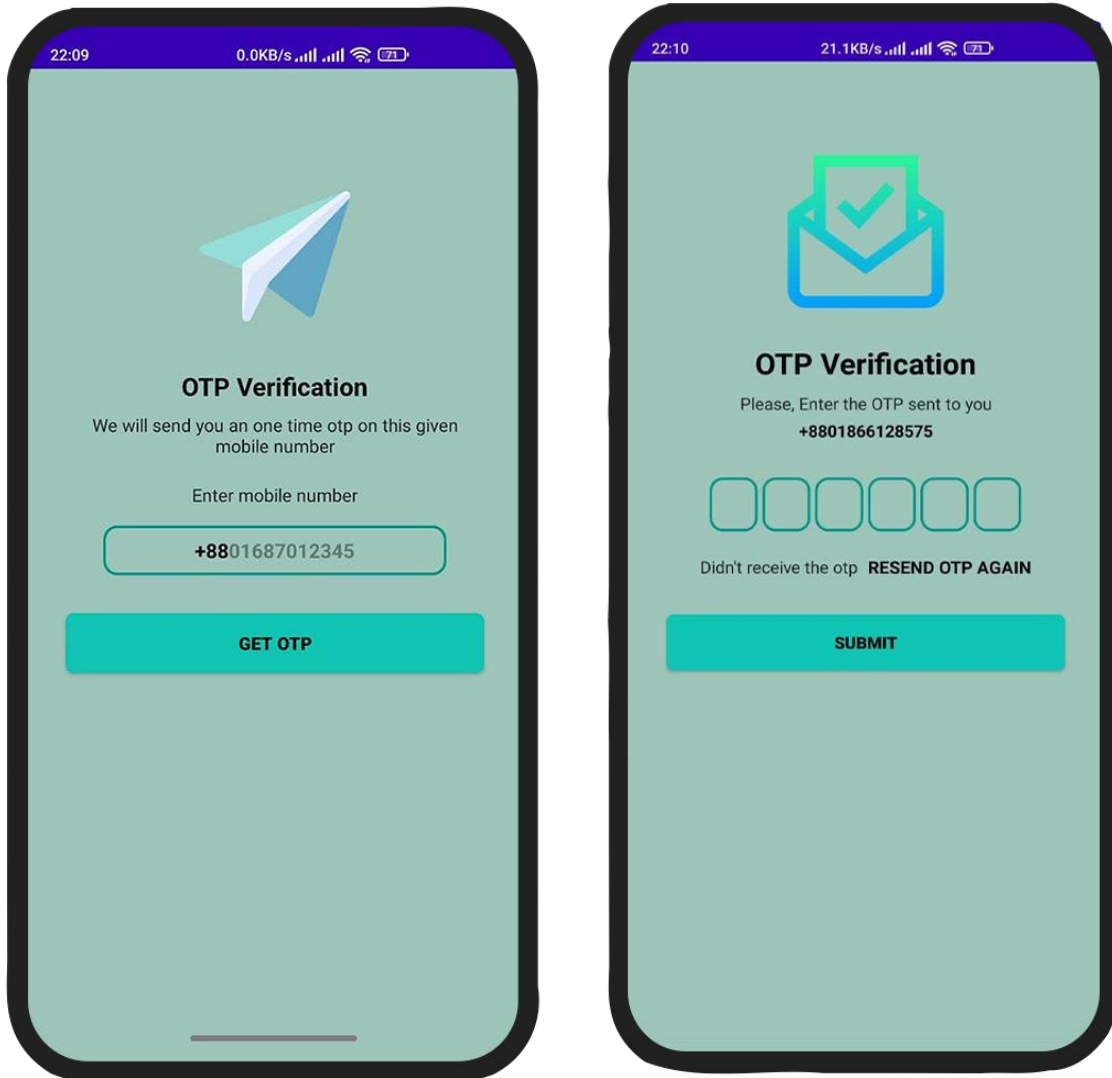


Figure 5.2.2: Buyer Own Number Input and OTP Verification for Signup



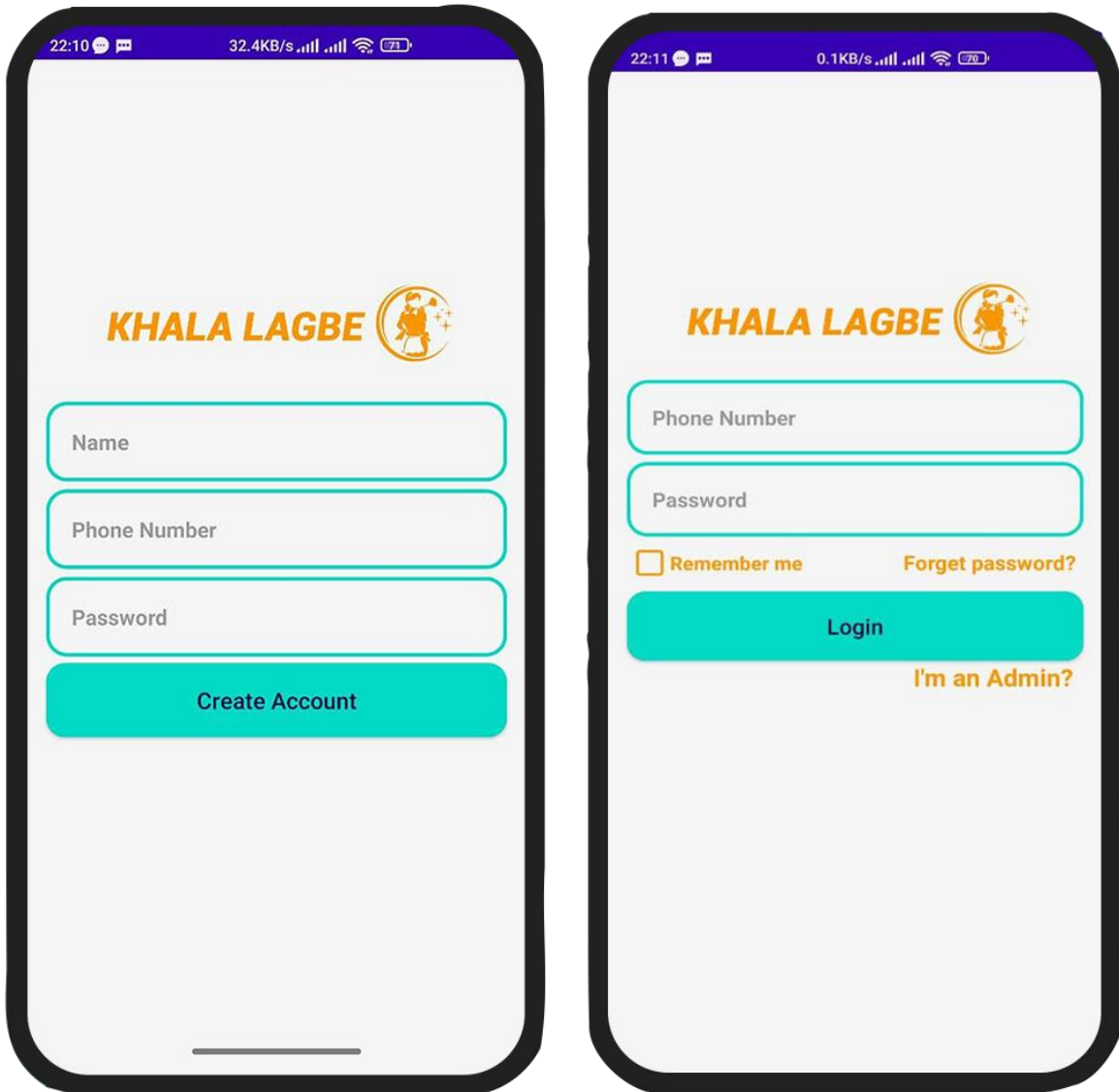


Figure 5.2.3: Signup and Login Page for Buyer

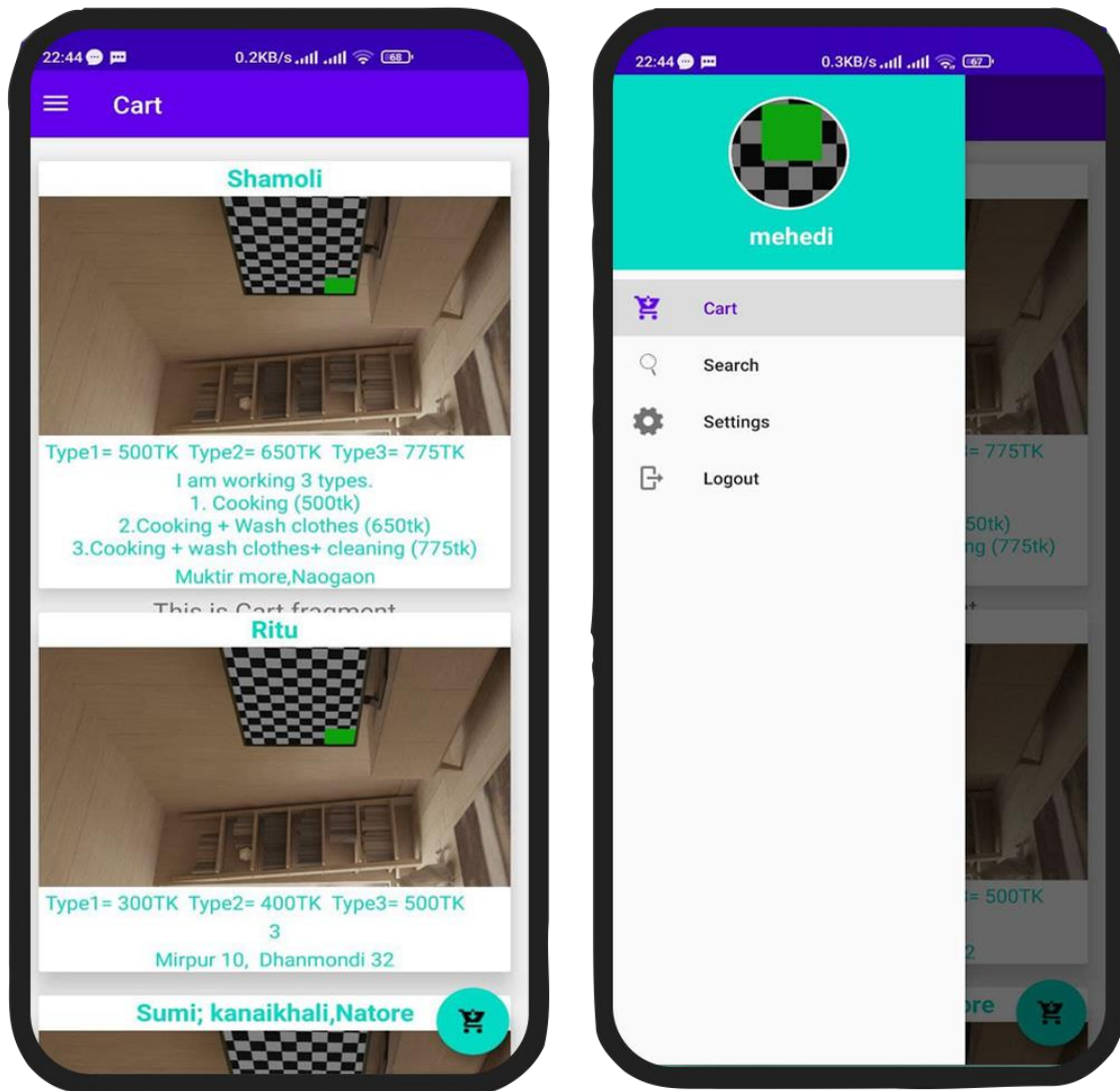


Figure 5.2.4: After Login Buyer See Homepage and Other Option for Buyer

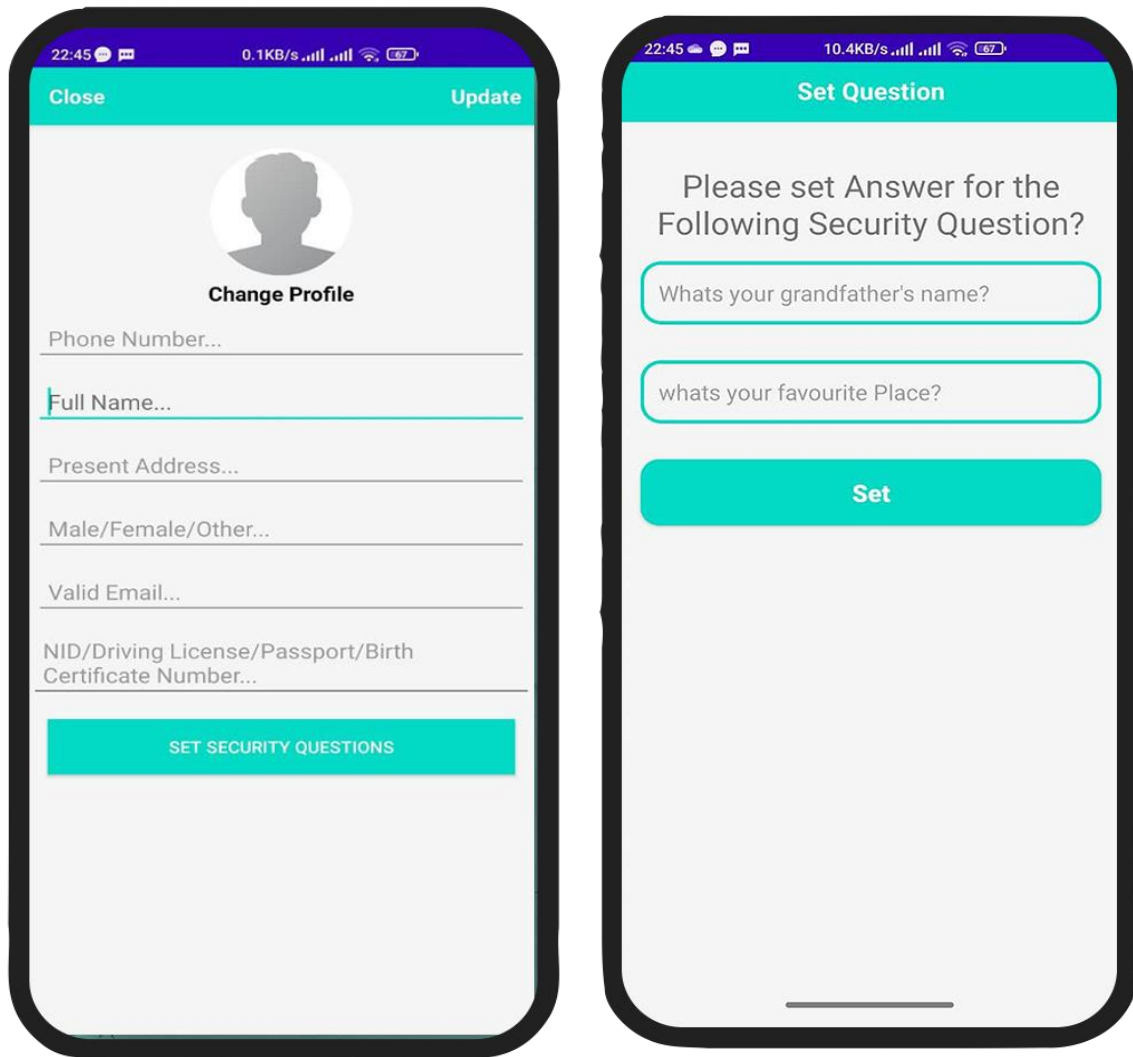


Figure 5.2.5: Update Profile by Buyer and After Clicking To Set Security for Reset Password

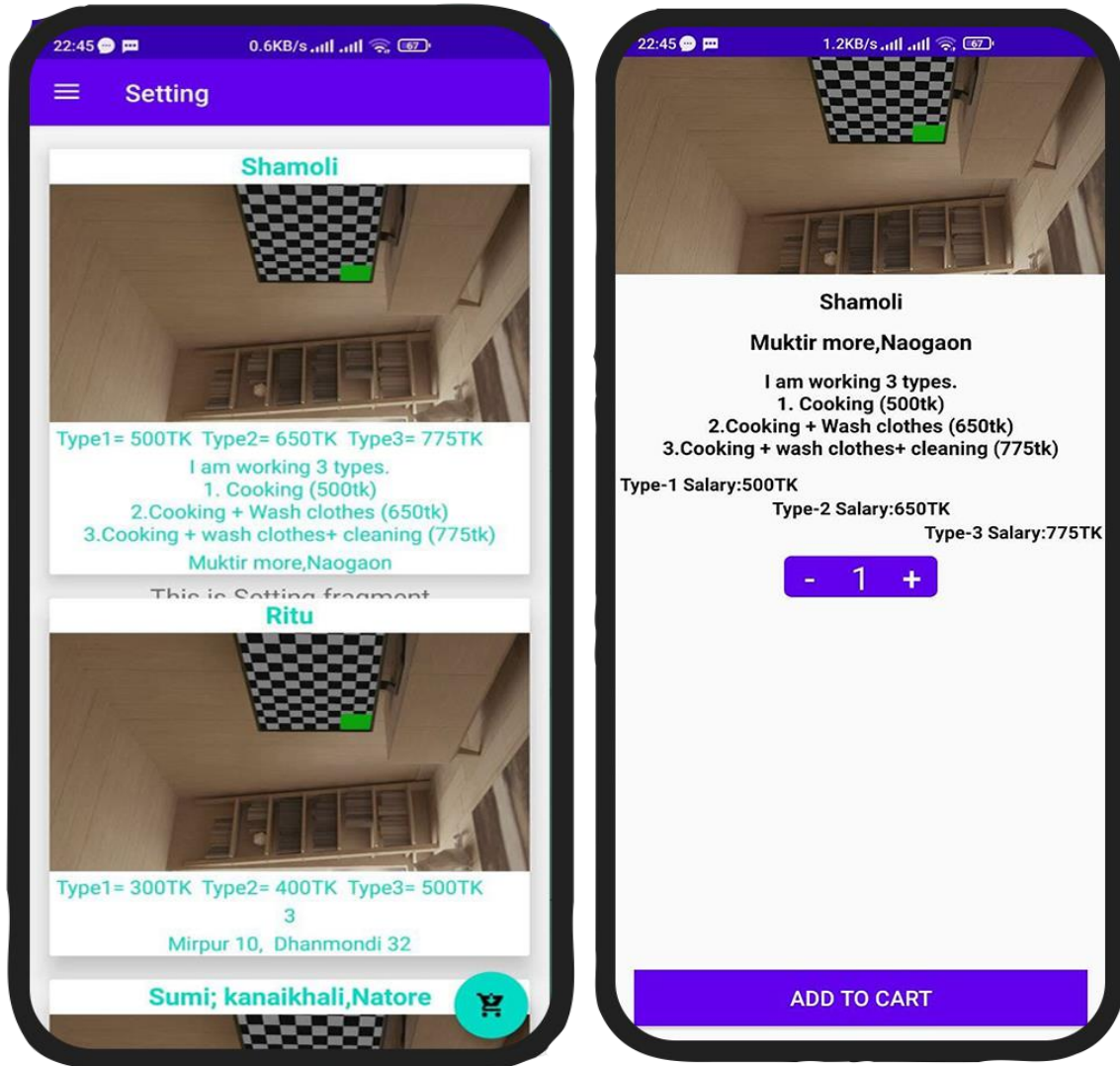


Figure 5.2.6: Search Option and Select Maid Category Wise for Mess Members by Buyer

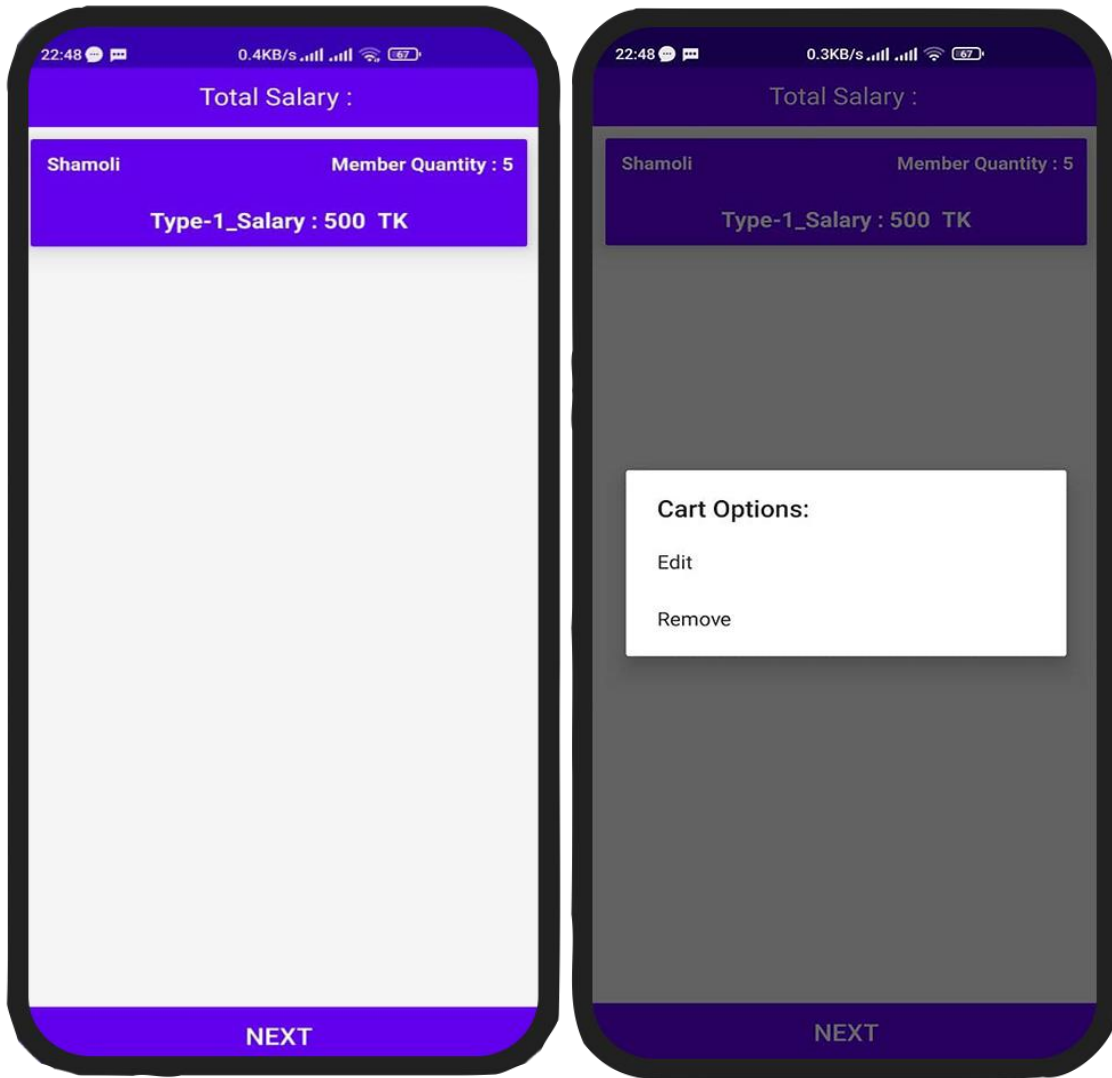


Figure 5.2.7: Cart List and After Order the Maid for Buyer.

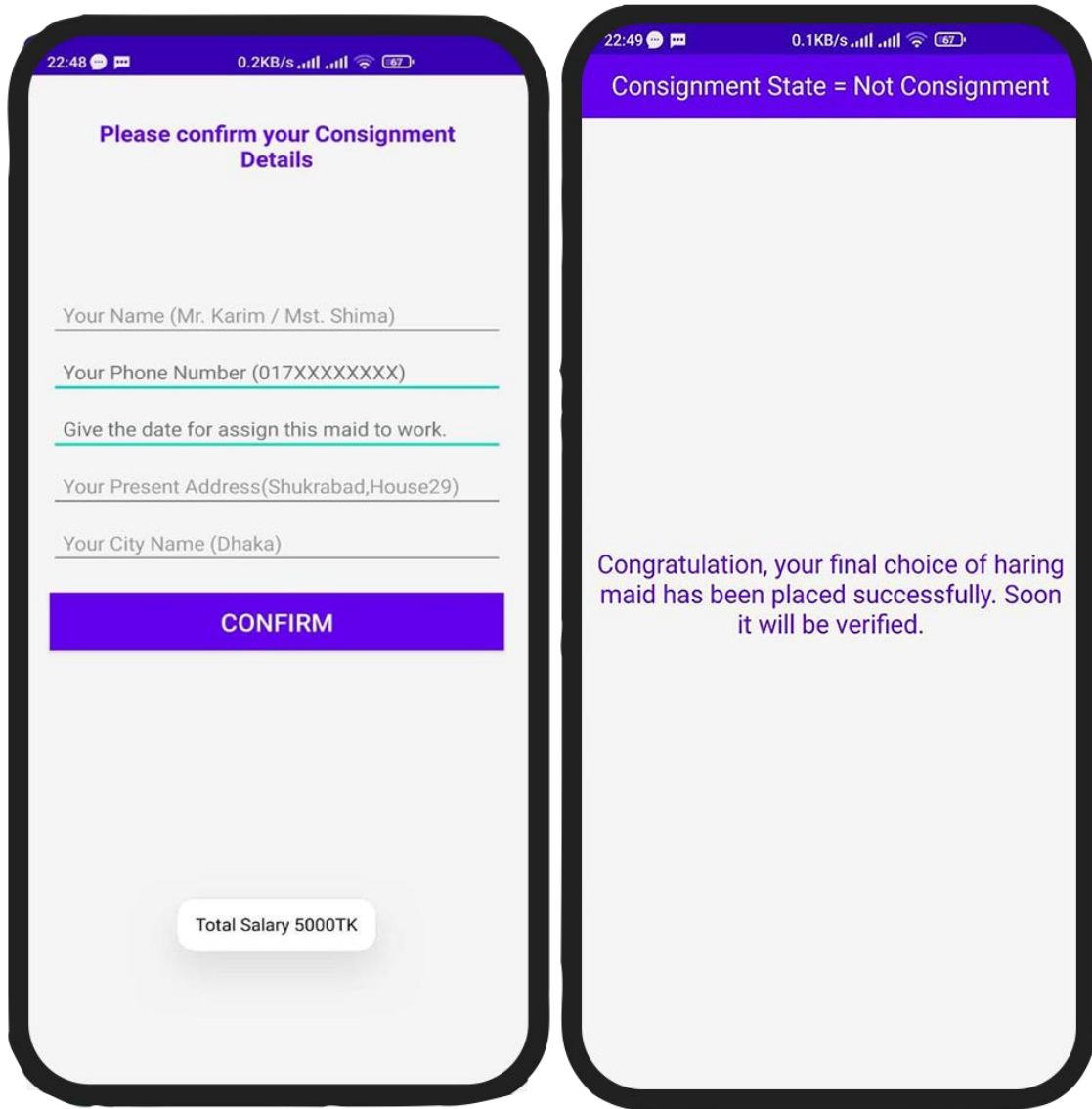


Figure 5.2.8: After Filled to Confirm Maid and Confirmation after Order for Buyer

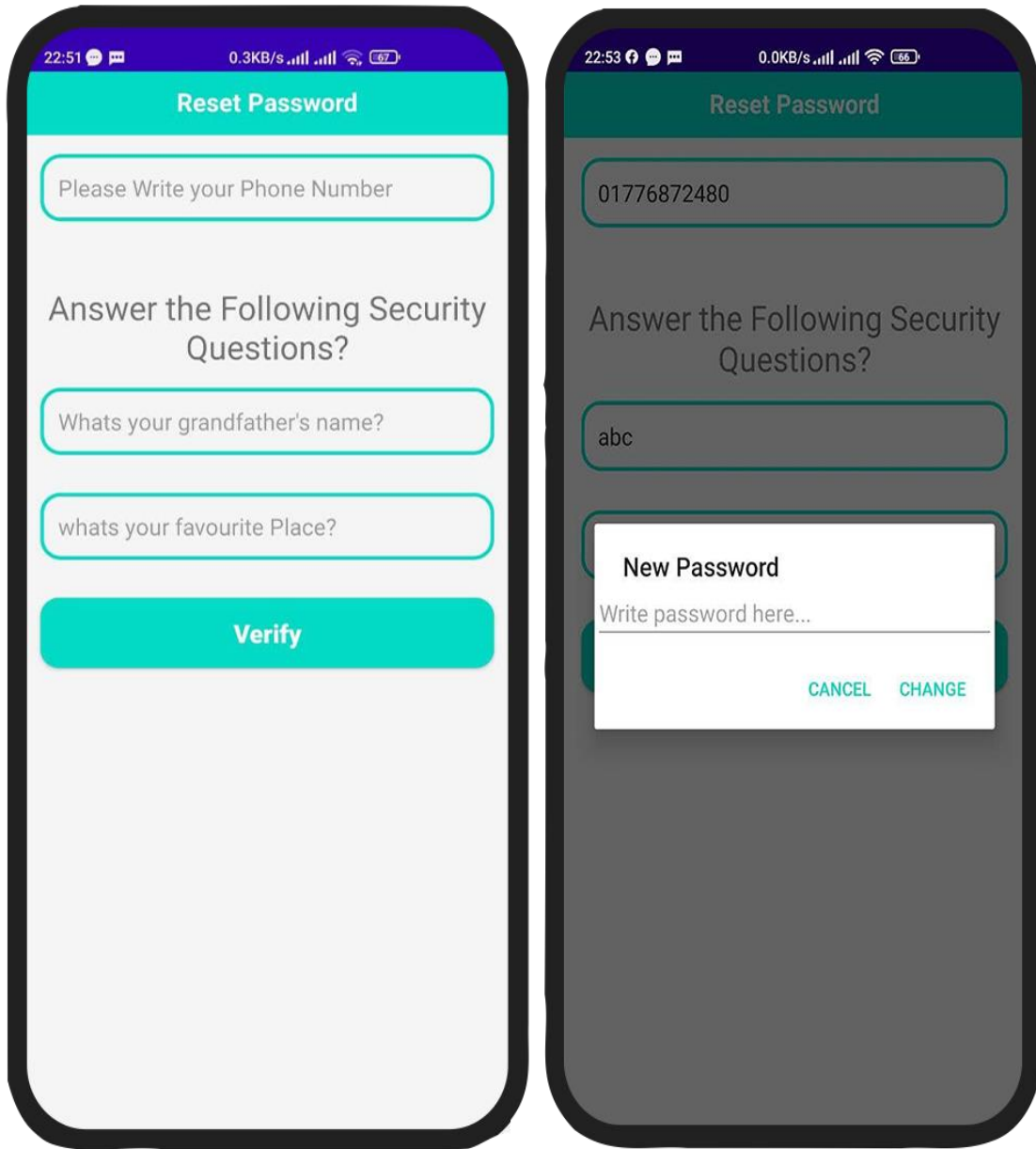


Figure 5.2.9: Forget or Reset Password and Change Password for Buyer

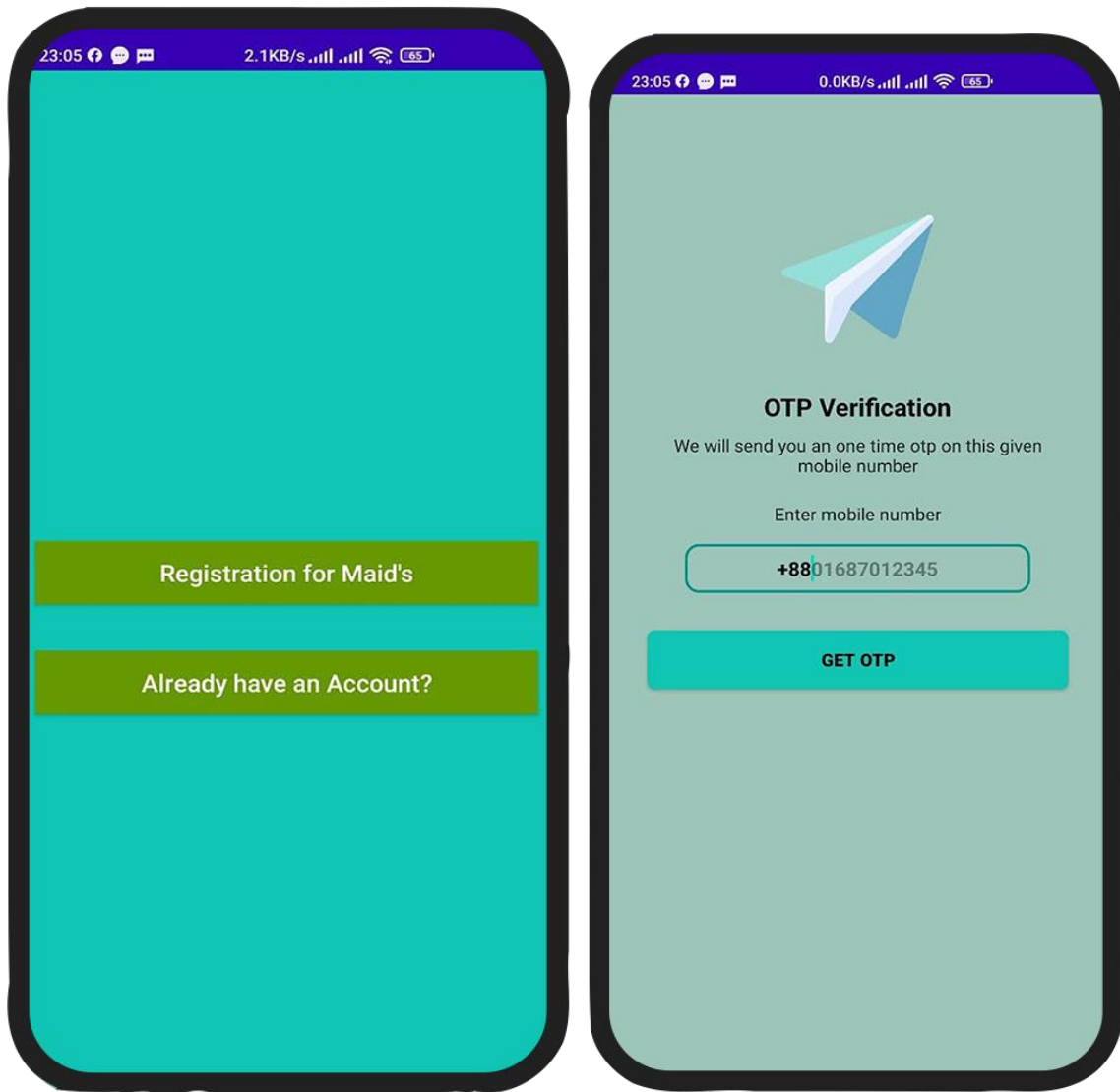


Figure 5.2.10: Maid Section and Her Number Input For OTP



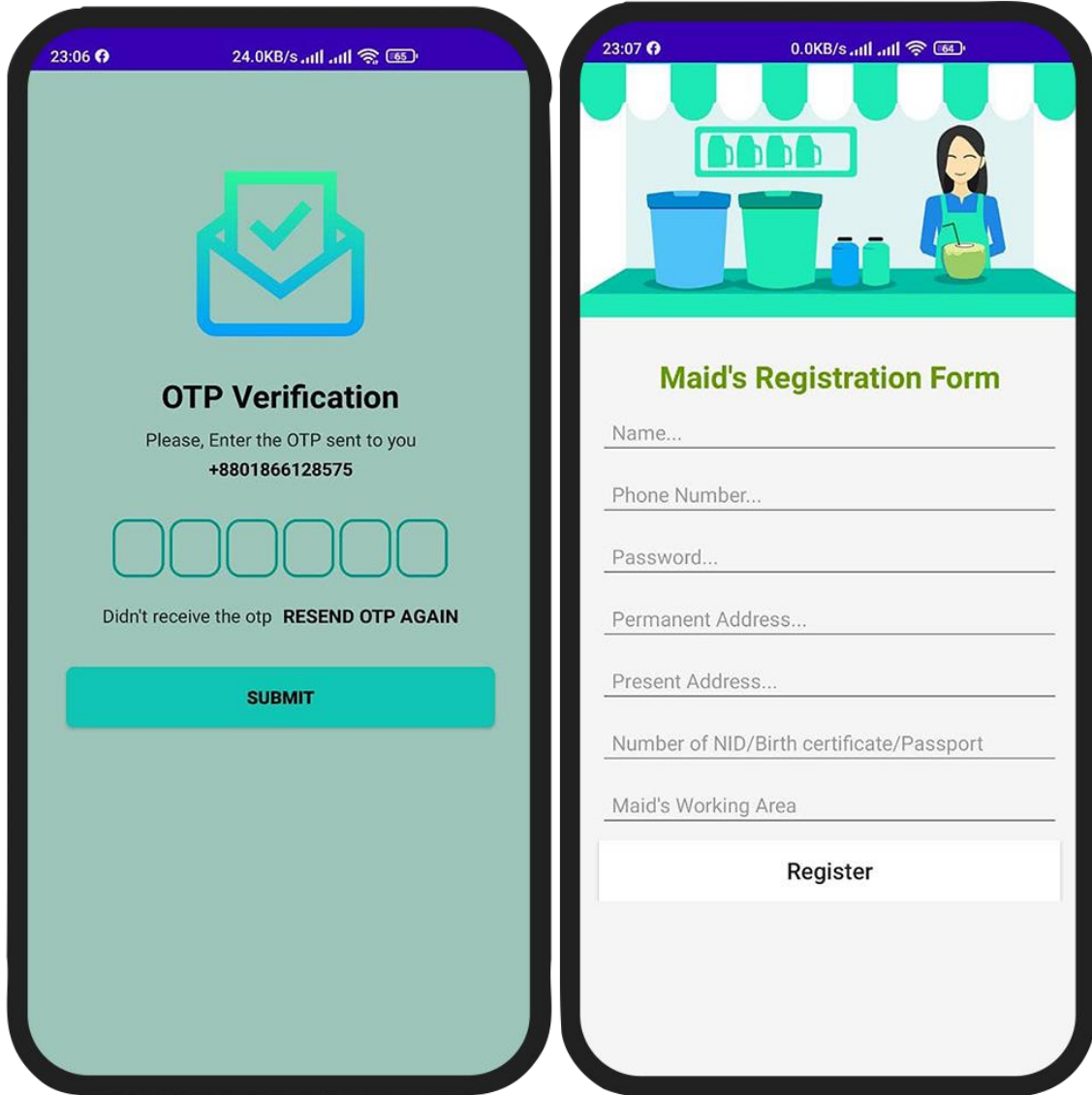


Figure 5.2.11: OTP Verification and Registration Form for Maid

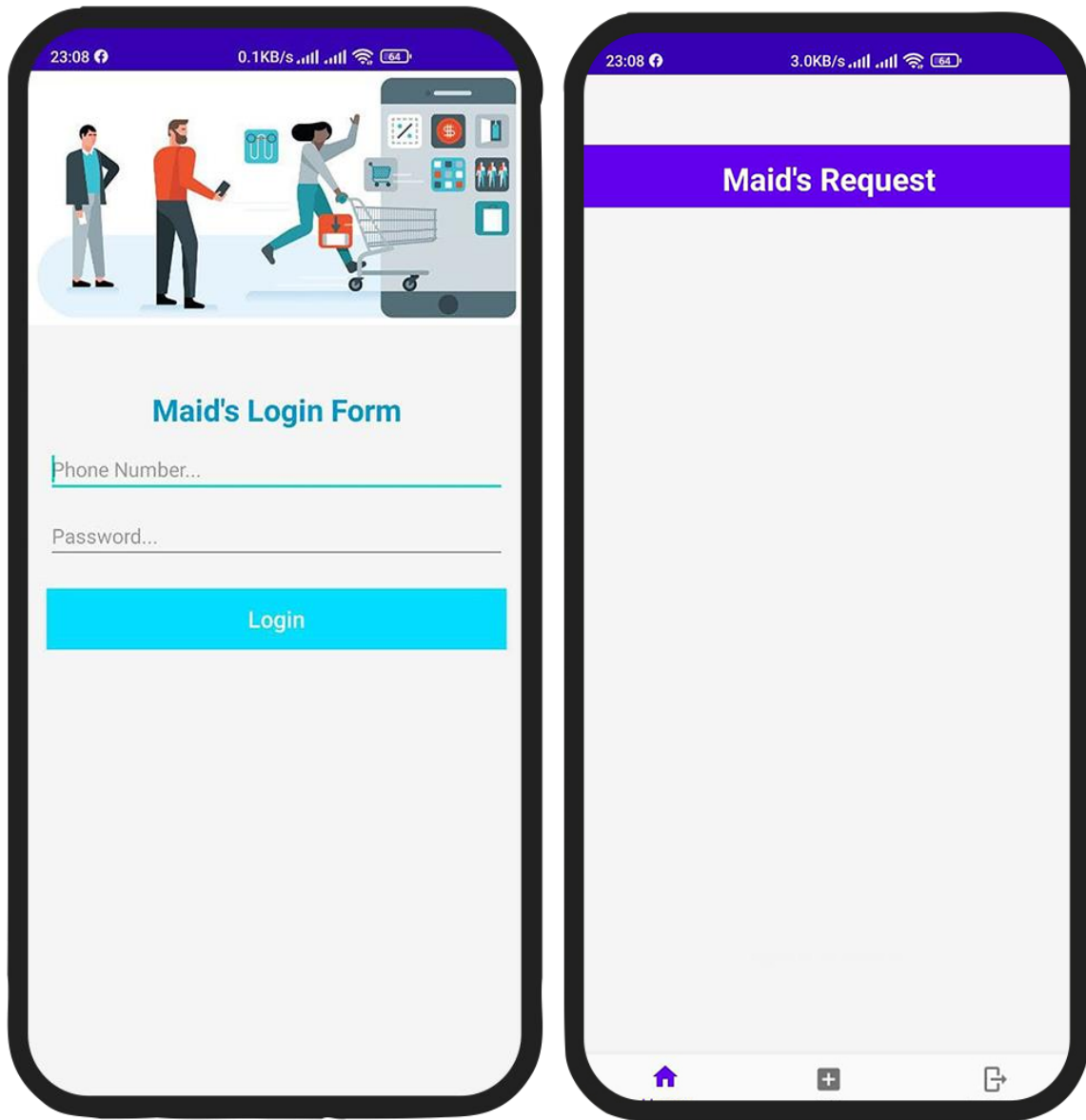


Figure 5.2.12: Login Form and Homepage for Maid

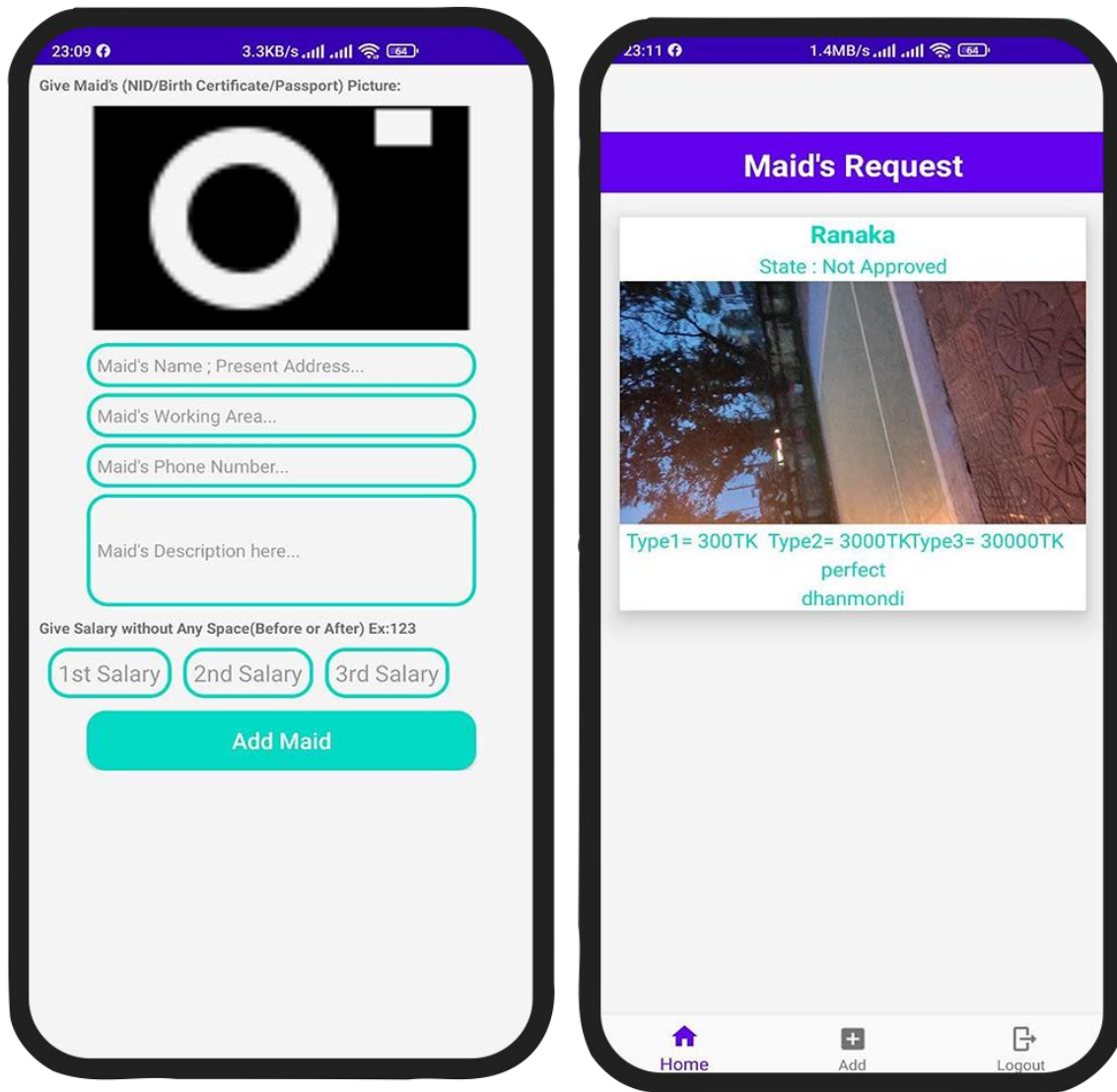


Figure 5.2.13: Add Maid Working Profile and Fill Form by Maid

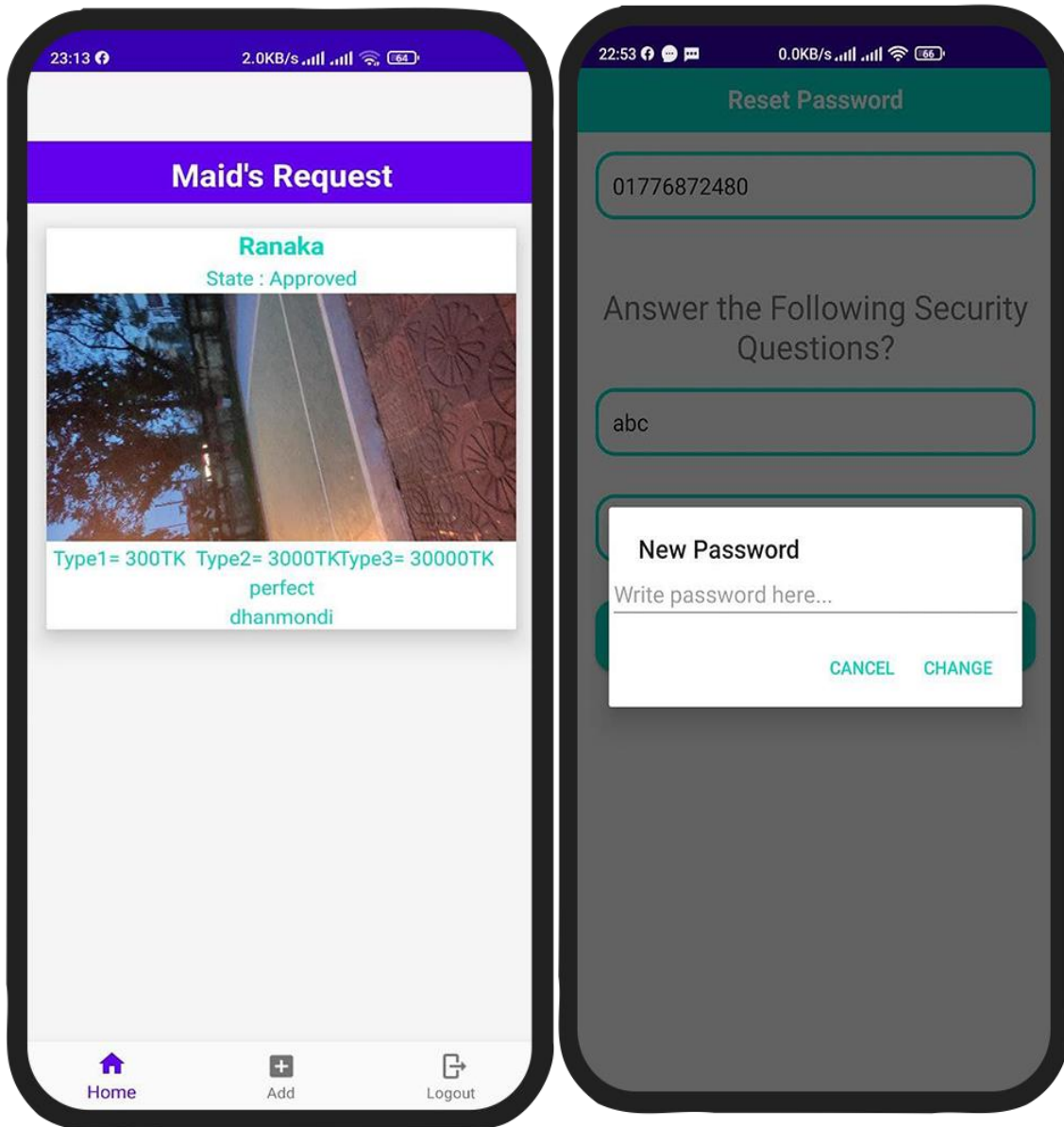


Figure 5.2.14: After Filled up The Form and then Admin Approve Maid Request to Show User Interface

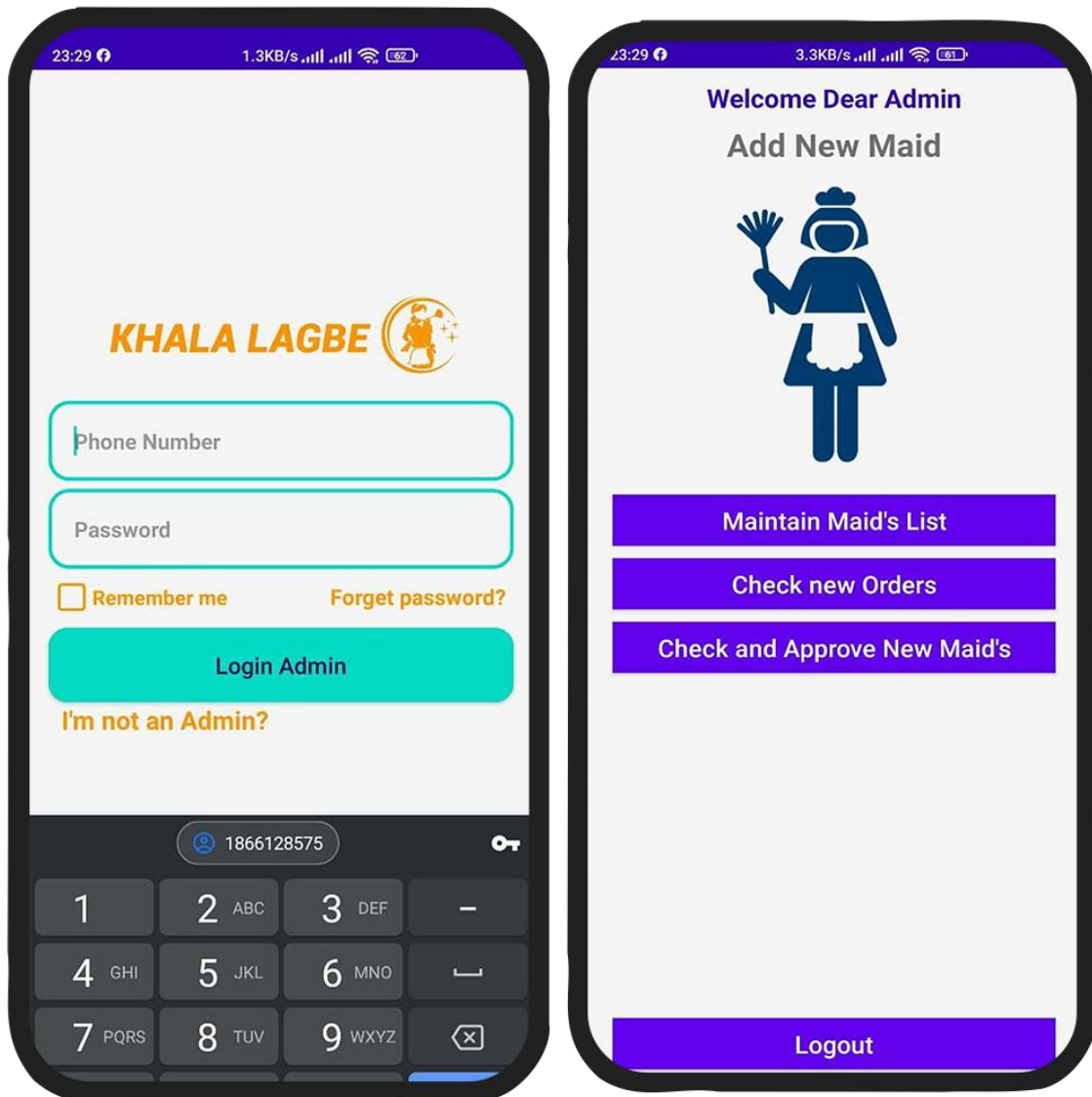


Figure 5.2.15: Admin Login Page and Homepage for Admin

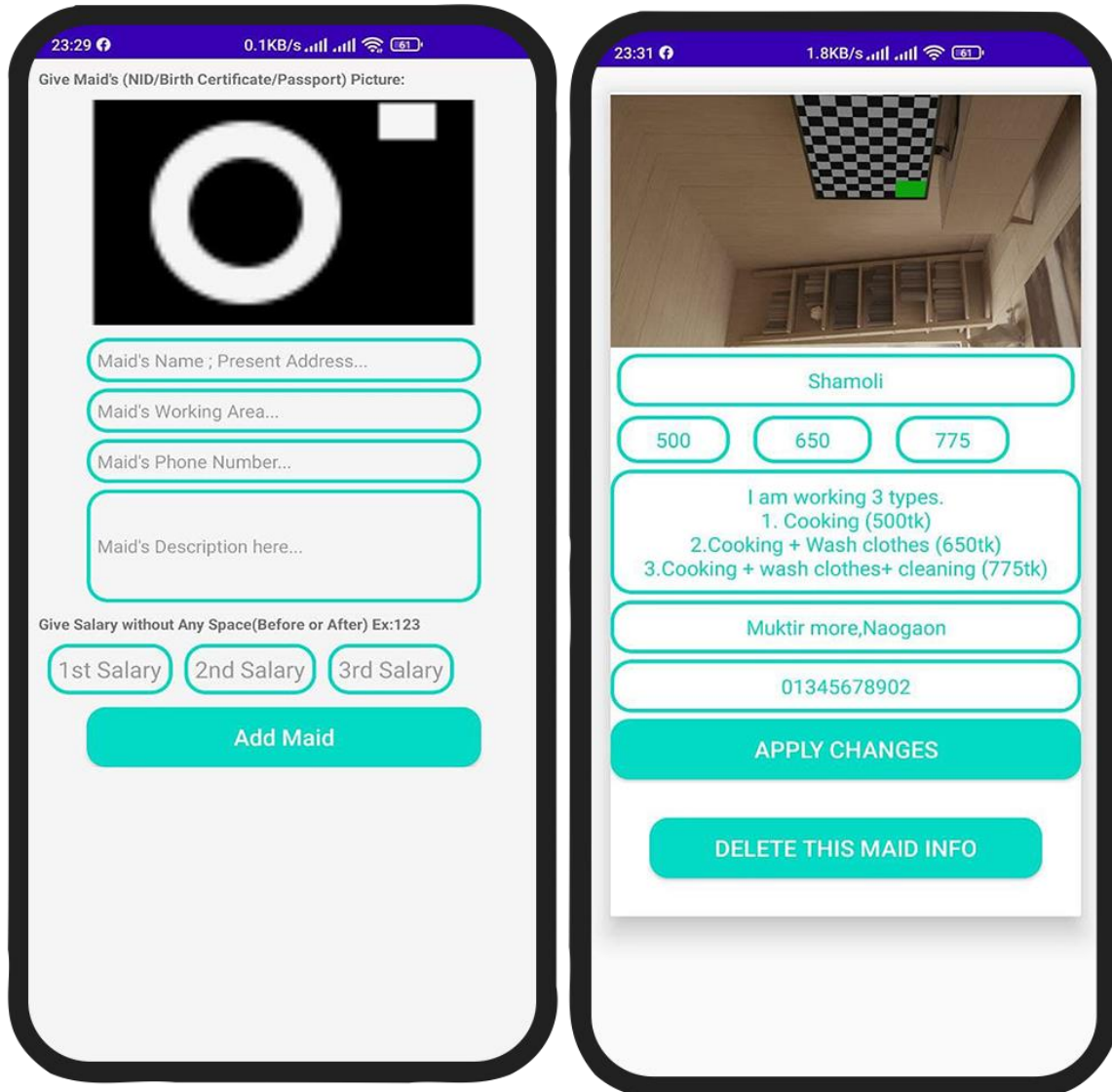


Figure 5.2.16: Admin Can Add Maid and also Can Maintain Maid List and Update or Delete

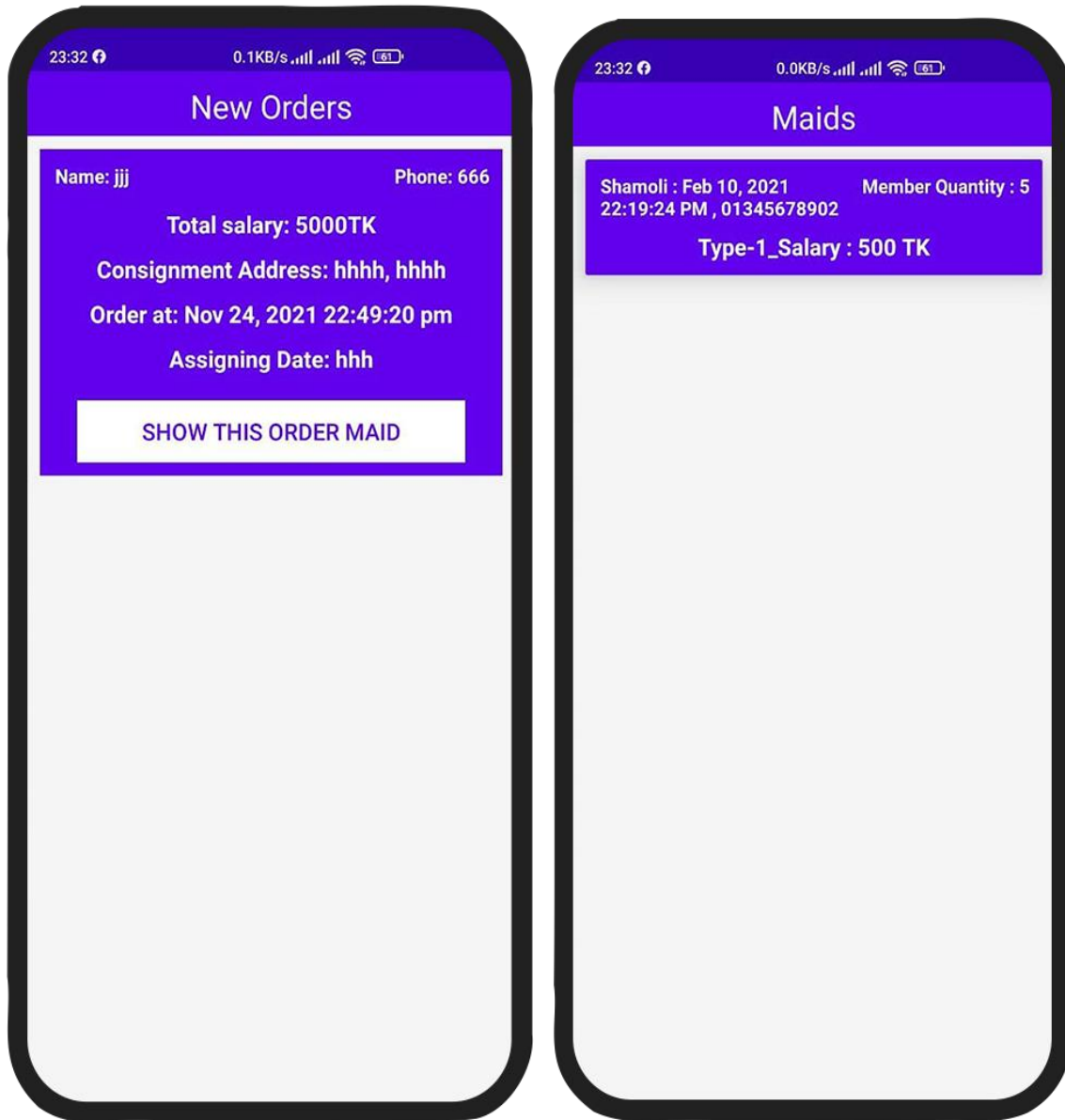


Figure 5.2.17: Admin Can Check the Order and Admin Can Check the Maid and Who Is Order by Client

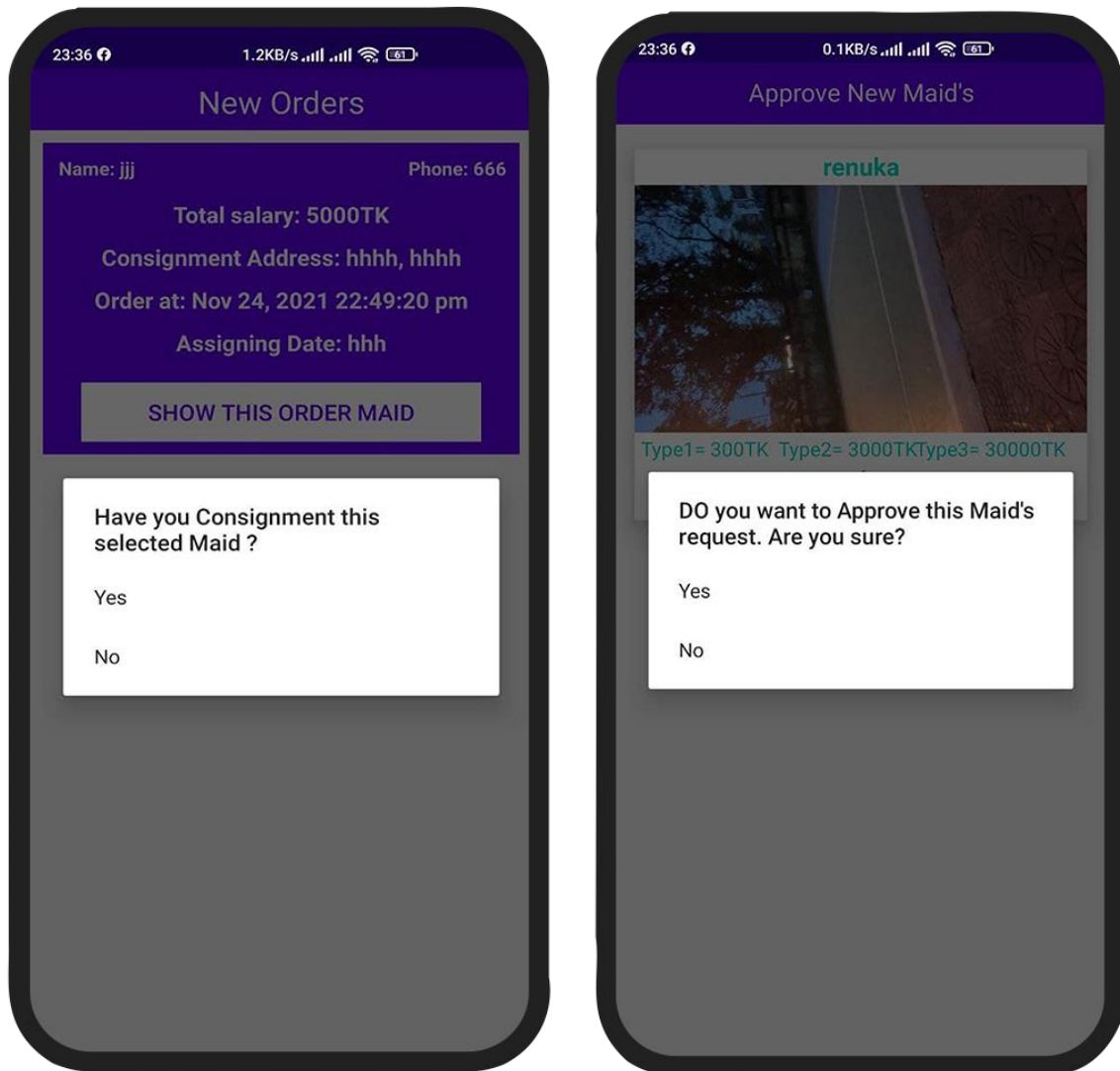


Figure 5.2.18: Confirm Order from Admin to Deliver and Approve or delete Maid's request



### 5.3 Testing Implementation

Table 5.3.1: Sample test case for our application

Test Case	Test Input	Expected Outcome	Obtained Outcome	Pass/Fail
1.OTP Verification	Get OTP Code	Successfully Pin Code Input	Successfully Pin Code Input	Pass
2. User Signup	User name, phone number and Password	Successfully Signup	Successfully Signup	Pass
3. User Login	Correct Input	Login Successfully	Login Successfully	Pass
4. User Login	Incorrect Input	Login Failed	Login Failed	Pass
5. Maid Search	Area Selection	Maid Found	Maid Found	Pass
6. Setting	User Info	Successfully updated	Successfully updated	Pass
7. Security Question	Saving on database	Successfully set	Successfully set	Pass

8. Maid Selection	Maid Chosen	Added to Cart	Added to Cart	Pass
9. Cart	Edit Cart	Edit Successful	Edit Successful	Pass
10. Cart	Remove cart	Removed successfully	Removed successfully	Pass
11. Order Confirmation	Input Info	Order successful	Order successful	Pass
12. Reset Password	Valid info	Password Changed	Password Changed	Pass
13. Reset Password	Invalid info	Reset failed	Reset failed	Pass
14. Logout	Tap Logout	Logout successful	Logout successful	Pass
15. Maid Signup	Maid's Info	Successfully Signup	Successfully Signup	Pass
16. Maid Login	Correct Input	Login Successful	Login Successful	Pass
17. Maid Login	Incorrect Input	Login Failed	Login Failed	Pass

18. Working Profile	Filling Profile	Maid Added	Maid Added	pass
19. Profile deletion	Request for profile remove	Profile removed Successfully	Profile removed Successfully	Pass
20. Maid Logout	Logout	Logout successful	Logout successful	Pass
21. Admin	Correct Input	Login Successfully	Login Successfully	Pass
22. Add new maid	Filling Profile	Maid Added	Maid Added	pass
23. Maid List	Edit info	Edited Successfully	Edited Successfully	Pass
24. New Order	Order confirmation	Order successful	Order successful	Pass
25. Cancel order	Cancelation request	Cancelled Successfully	Cancelled Successfully	Pass
26. Maid's profile	Visible Information	Received Information	Received Information	Pass
27. Admins Approval	Requesting Approval	Request approved	Request approved	Pass
28. Admin Logout	Logout	Logout Successful	Logout Successful	Pass

#### **5.4 Test Results and Reports**

The test report is crucial to understand whether the application is prepared for the implementation. There are several testing methods we can use to achieve our goal. For Instance, if the system passes through all these types of testing. As a consequence, now it's finally ready for implementation. Eventually, we can carry out the results as the benefits of usability testing.

## **CHAPTER 6**

### **IMPACT ON SOCIETY, ENVIRONMENT & SUSTAINABILITY**

#### **6.1 Impact on Society**

Four years back when we came to Dhaka and studied to live in a bachelor house we had several problems regarding cleaning rooms, making daily meals on time and on top of that we couldn't find a professional trustable maid in the area. In addition, one time we got robbed by a maid! After that, we decided to make this application that can help students and betterment of our society. Now, students will be able to get an experienced and reliable maid with no security issues. We believe, with the help of our application there will be more doors open of opportunities for maids who want to work professionally.

#### **6.2 Impact on Environment**

While making the application we made sure the materials we are using goes with our environment. So, all the materials we used are eco-friendly. However, as we all know, to use an application we need an electronic smartphone. As a result, these materials generate a ton of e-waste and could result in environmental pollution.

However, we are helping the environment with our application providing highly experienced professional maids. Unlike other unproven maids these people know how to work efficiently and where to put the waste after they are done working. And we believe this can impact a lot for the betterment of our environment.

#### **6.3 Ethical Aspects**

We made our application keep in mind all the Ethical Aspects of every human being. We can assure you that there will be no unethical things happening in terms of using our application. One of the biggest reasons behind this is we made this application in the first place so that we could avoid these issues.

## **6.4 Sustainability Plan**

In order to maintain Sustainability, we will always update our application with new features and fix everything when anything goes wrong. Just so you know, we have used all the latest technology in order to make this application. So, it's safe to say that our application can keep up with current trends and upcoming ones. On top of that, whenever any update comes or makes our users benefit from it instantly.

## CHAPTER 7

### CONCLUSION AND FUTURE SCOPE

#### 7.1 Discussion and Conclusion

We truly believe that “Khala Lagbe” will solve several problems and open many doors of opportunity for both students and maids. In Addition, our application can make a huge difference to solve this problem. Especially the students who come from outside of the capital of Bangladesh. They face a lot of security problems when they hire a complete stranger. But with our application this massive issue can be solved.

The user interface design is made in a way that makes everything hassle free and simple. Anyone and everyone can use the application just by signup and take advantage of it. In addition, there’s already many profiles created. So, you just need to sign in and hire the maids according to your needs. Our application works greatly for users, maids and admins as well. So, no more hassle or security issues regarding maids. Now, you can focus only on studies forgetting your household chores are done.

#### 7.2 Scope for Further Developments

In terms of development, we are continuously working on our application to provide more features and functionalities. So that, we could provide more values and fix more problems. We are also working on how we can develop our application in order to make user experience better. In future, users will be able to give reviews based on their work. In this way, there will be no security issues. Furthermore, there's a customization option for students. So that, they can easily choose numbers of maids and schedule time super efficiently. In addition, we will expand our service and make an iOS version of “Khala Lagbe”. Also, we are planning to update a feature of real time maids tracking so that students can know their location easily. There’s another feature we would like to add which is hiding profiles of a maid. As a result, when a maid thinks she is overweened by the works and want to hide her profile she can do it instantly.

Additionally, we will add one more feature where maids can compare or choose category and kind of works by different areas. We think this way, maids can get more freedom and choose exactly the work of her choice. Furthermore, as you already know, our application is open source, so, we appreciate any new ideas or assistance in order to strengthen our application to the next level.



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