

# CS494 (Sat 3:30 Pm to 5:30 Pm)

CAPSTONE COURSE

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San Francisco Bay University, Fremont, CA  
**FINAL REPORT**  
Summer 2022



SAN FRANCISCO BAY  
UNIVERSITY

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The Restaurant App

08/20/2022

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## **Abstract**

Waiting Outside in front of a Restaurant is very stressful, especially on weekends or any special day, and not only that, after entering the restaurant ordering the food is another time-consuming process because of the high volume of customers, preparing orders takes longer than usual time. No worries! Here is our app to help out. The Restaurant app is a pre-check-in and pre-food order app that helps customers stop waiting in a long line outside the restaurant and cut the extra time waiting for food. Our app allows customers to save valuable time to enjoy food with their family, friends, colleagues, or anyone they want.

## **Introduction**

Our App is successfully run on Android and iOS platforms, We use React native for the Front End also because of its ability to run on both platforms and a flexible vast amount of libraries, as well as we use firebase for our backend cum database; firebase has a nasty APIs which help us to protect user's data and allow us to store them into NoSQL database. Moreover last but not least, we use expo-CLI for building and testing our app

## FlowChart

### Login and Registration FlowChart

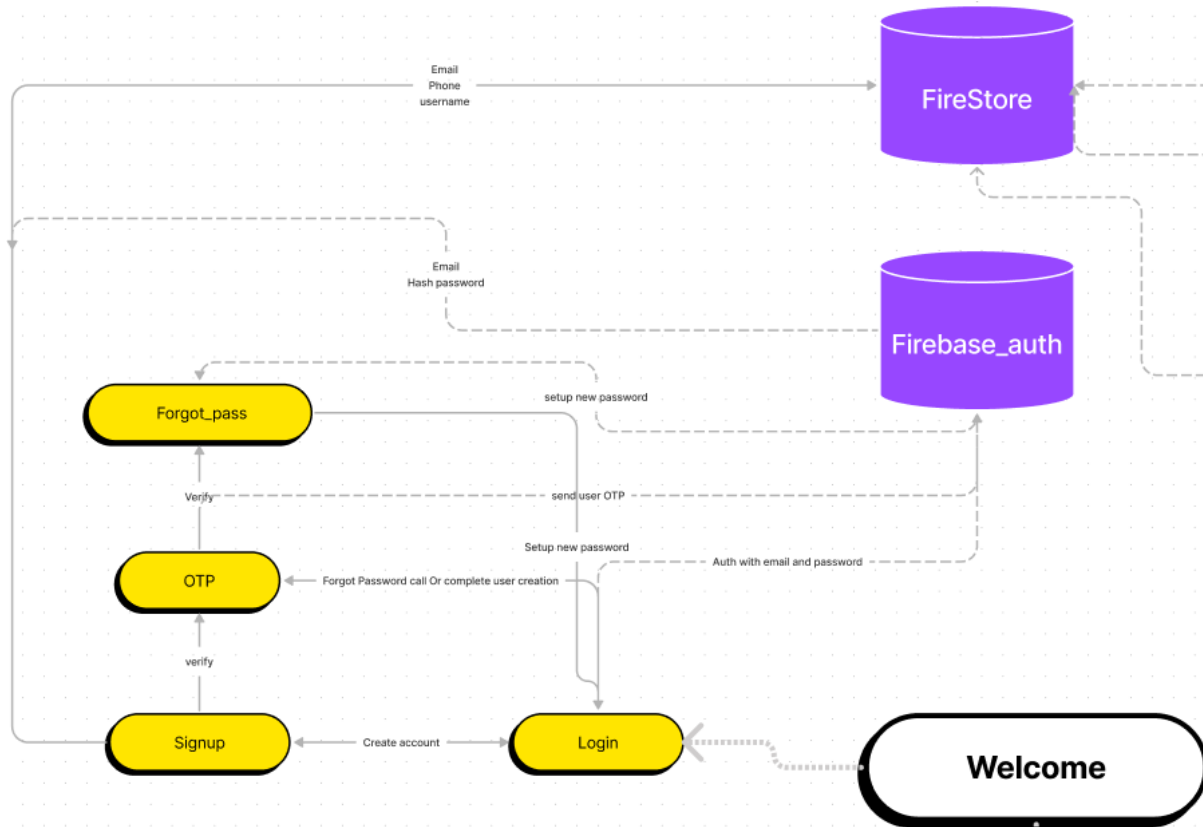


Figure 3.1 Login and Registration FlowChart

In order to enhance the user experience for both first-time and returning users, we build several clean, fast and handy pages which can provide features for registration, login and password reset. We use Firebase to authenticate the user credentials to provide the protection of user's privacy. All the user information including email address, phone number, username is securely stored in Firestore database. We also support the login function for the employees of restaurants so that they can easily access the application with given administrator accounts.

## FlowChart for Customer side

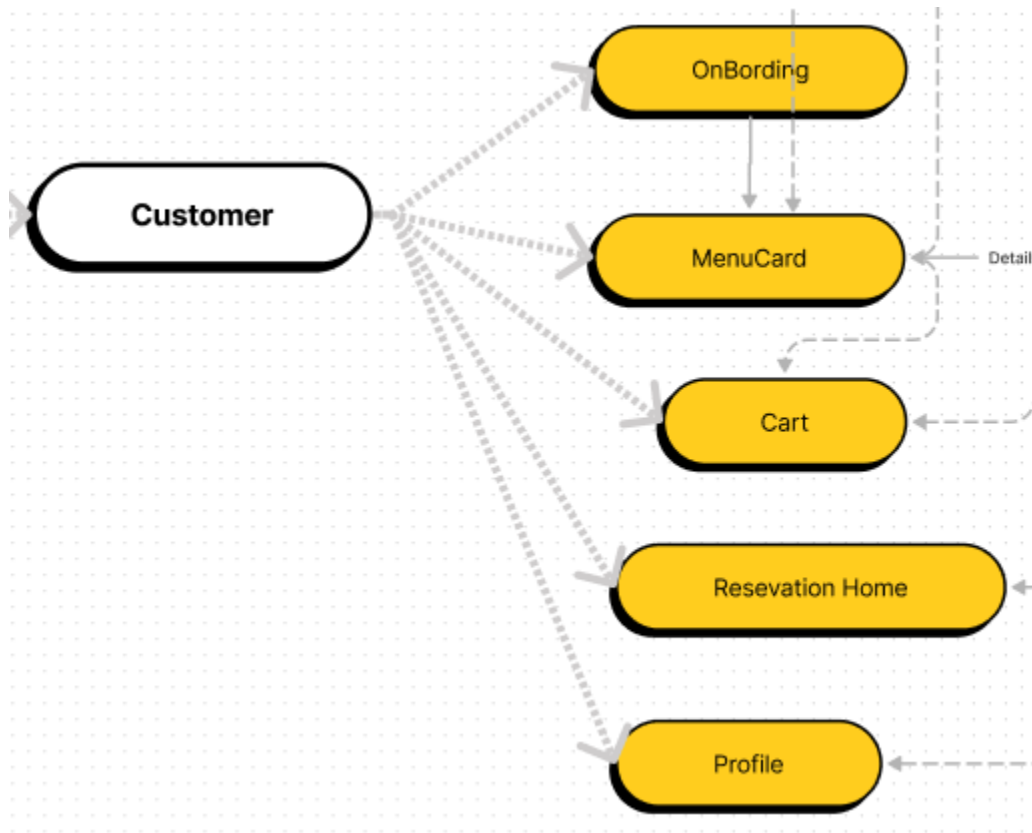


Figure 3.2 Customer flowchart

We Carefully Design Customer Flowchart by maintaining customers' needs. Customers are frequently using our reservation page, and once and a while profile page, we give them all the screen options on our home page, so they do not need to find anything.

## Employee FlowChart

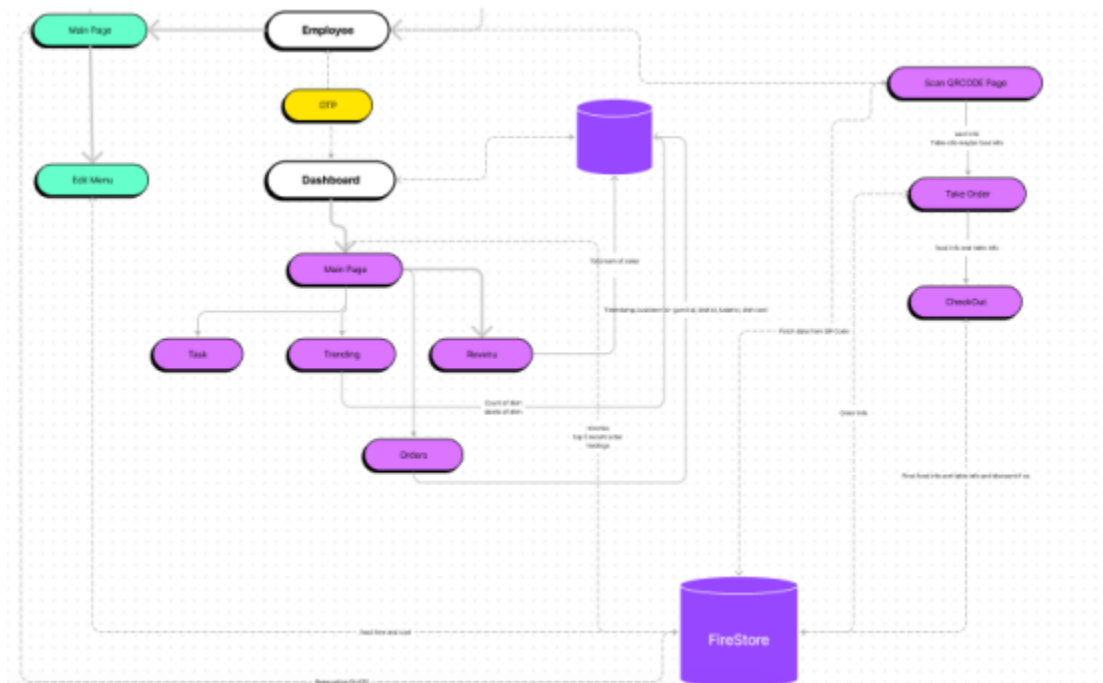


Figure 3.3 Employee flowchart

Figure 3.3 is the whole system map of our Employee side. The Employee side contains 3 sections:

1)Menu section

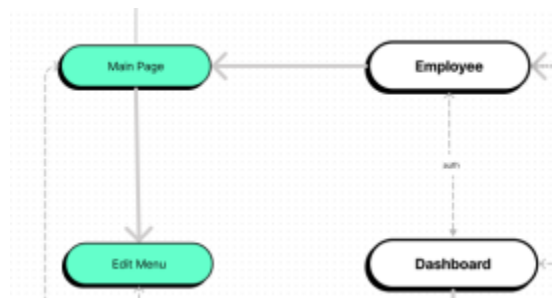


Figure 3.3.1

In this section, the manager will go to our manager's home page. As the Figure shown, the manager home page will navigate to the menu manage page.

## 2)Data section

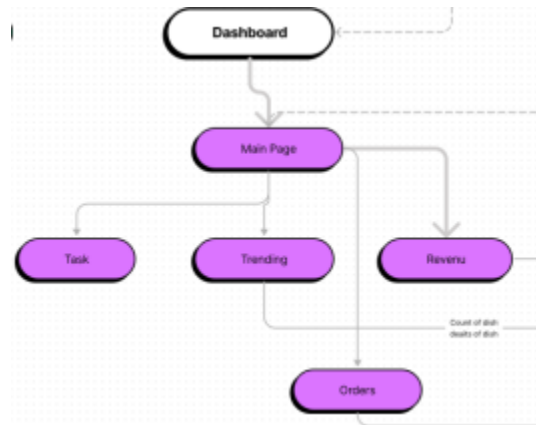


Figure 3.3.2

Another section in the Employee side is the data section. This is also directed from the manager home page. In this section, managers can find information about the revenues and the orders information.

## 3)Check-in Customer section

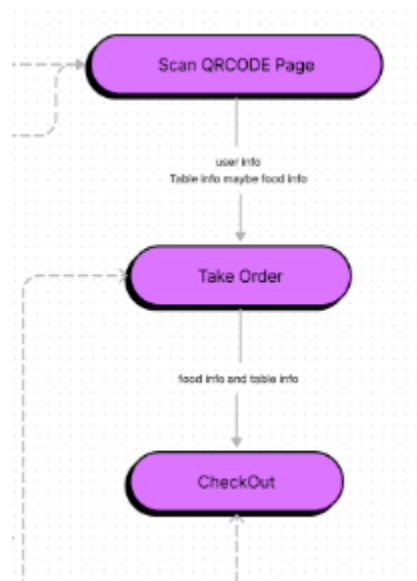


Figure 3.3.3

After logging in to the manager home page, waiters can go to the scan QRCode page to take the customers with their code and also take their orders and finally checkout.

## Features

### Login and Registration Section

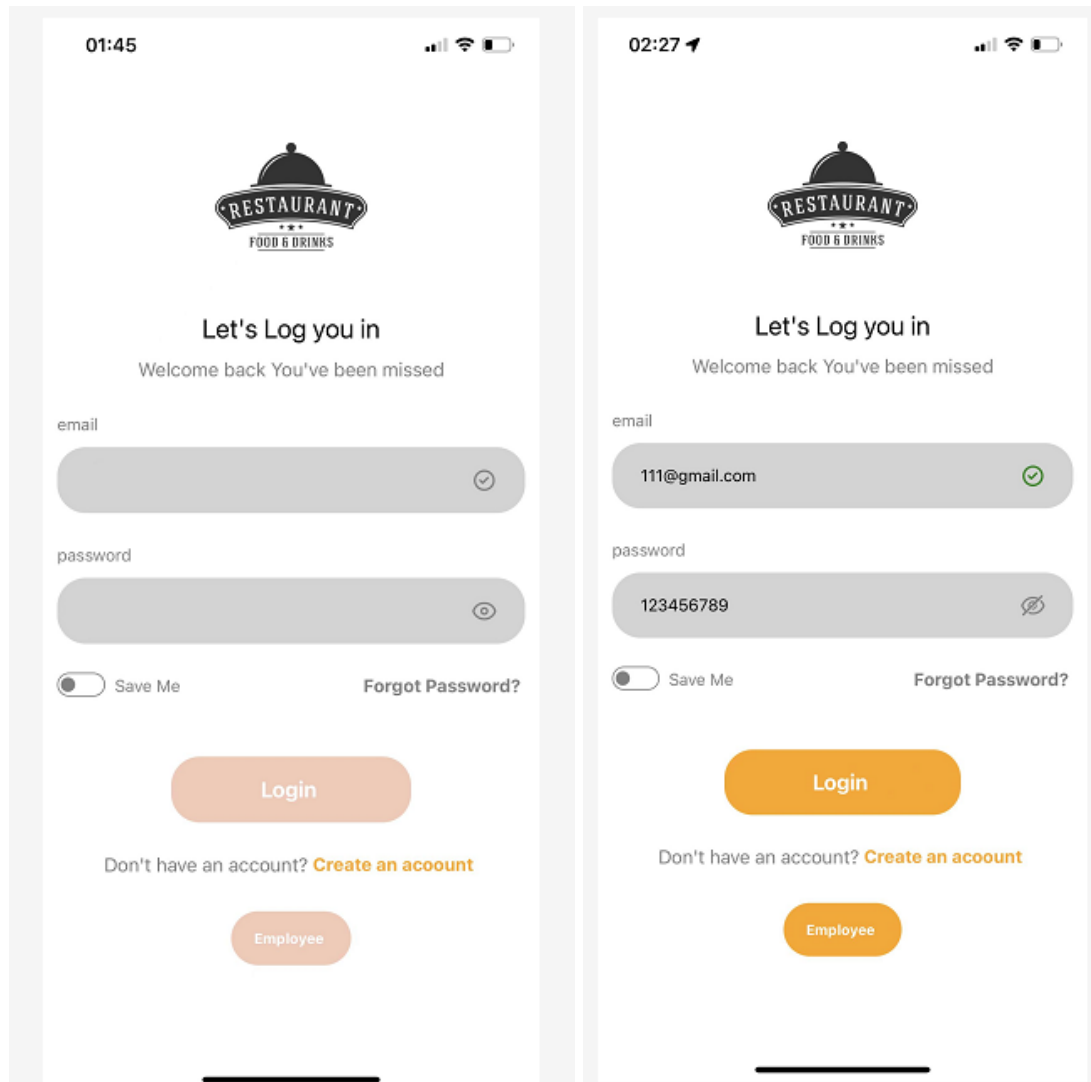


Figure 4.1 Login Screen

In the login page, we design feasible input fields for users to input the email address and password. The password is hidden by default and it can be changed to the display mode by



clicking the switch button on the right side of the password input field. The user can also use the switch button to save their login information for the convenience of later use. Email validation is implemented, which would disable the login button by default unless the user input a valid email and password.

The image displays two side-by-side screenshots of a mobile application's registration screen, titled "Getting Started". Both screens feature a logo at the top that reads "RESTAURANT" with "FOOD & DRINKS" underneath. Below the logo, the text "Create an account to continue!" is centered. The registration form consists of four input fields: "email", "Username", "Phone", and "password". Each field has a checkmark icon on its right side. At the bottom of the form is an orange "Create account" button, and below that is a link that says "Already have an account? Login".

The left screenshot (timestamp 01:45) shows the initial state where all input fields are empty. The right screenshot (timestamp 01:46) shows the fields filled with test data: "email" contains "1111" with a red "Invalid Email" error message; "Username" contains "abcd" with a green checkmark; "Phone" contains "1234567890" with a green checkmark; and "password" contains "password" with a red "Password must be 9 characters" error message. The "Create account" button is disabled in both states.

Figure 4.2 Registration Screen

With this sign up screen, because we do not want the customers to spend much time on the registration. They can simply create an account with only email, username, phone number

and password. The validation of the input fields is implemented as well and the user will be blocked to click the button before they can give a valid input. The alert window will display a popup message to show whether the account is created successfully or not. The user can click “Login” to go back to the login page.

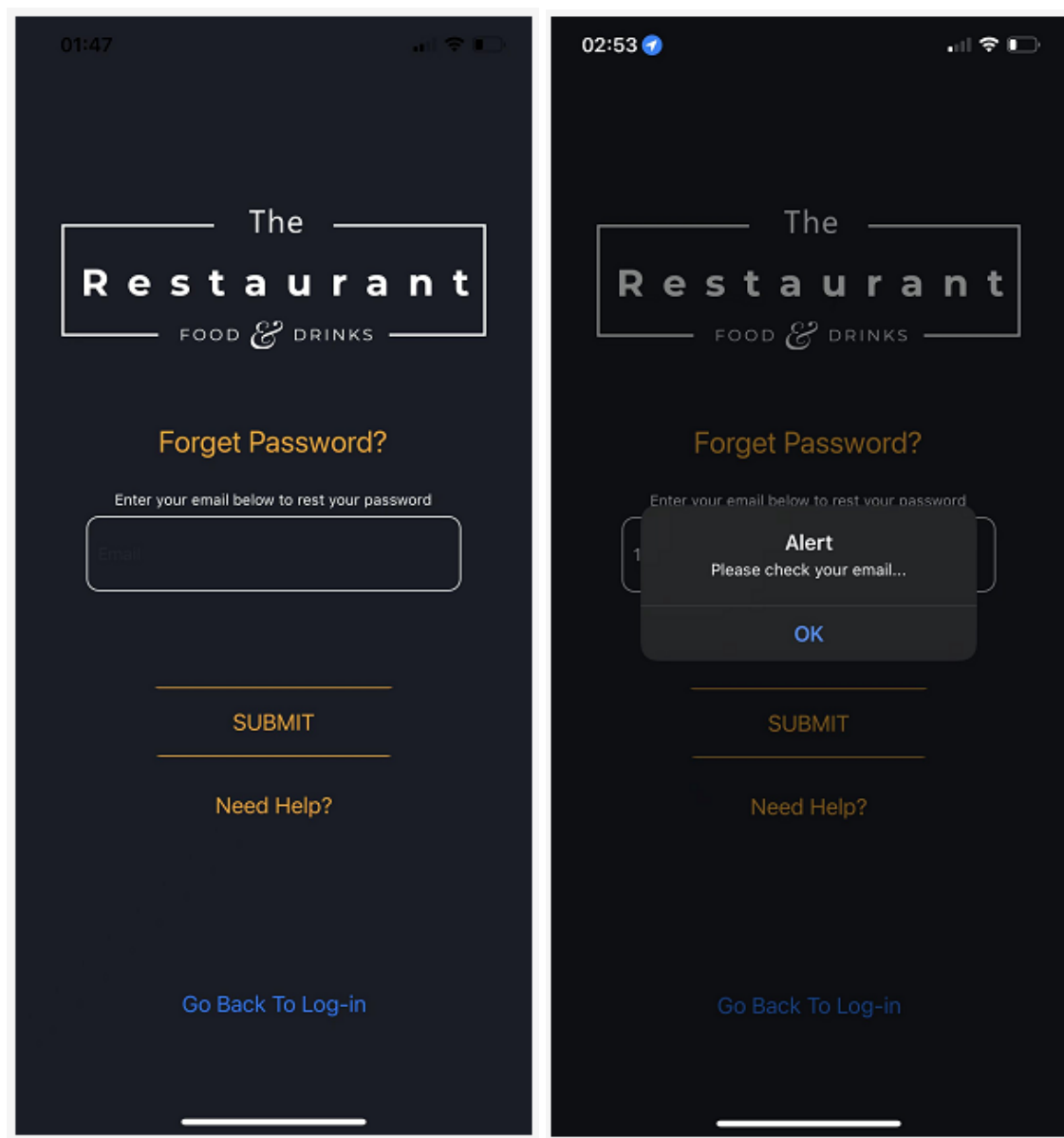


Figure 4.3 Forgot Password Screen

The massive rise in accounts also means users are accumulating more and more passwords, making it inevitable that they will forget one from time to time. This reality makes it

necessary to provide a good password reset feature in our app. In order to minimize friction for the customer, we take the use of Firebase and make it very easy to send out the password reset email.

## Customer Side

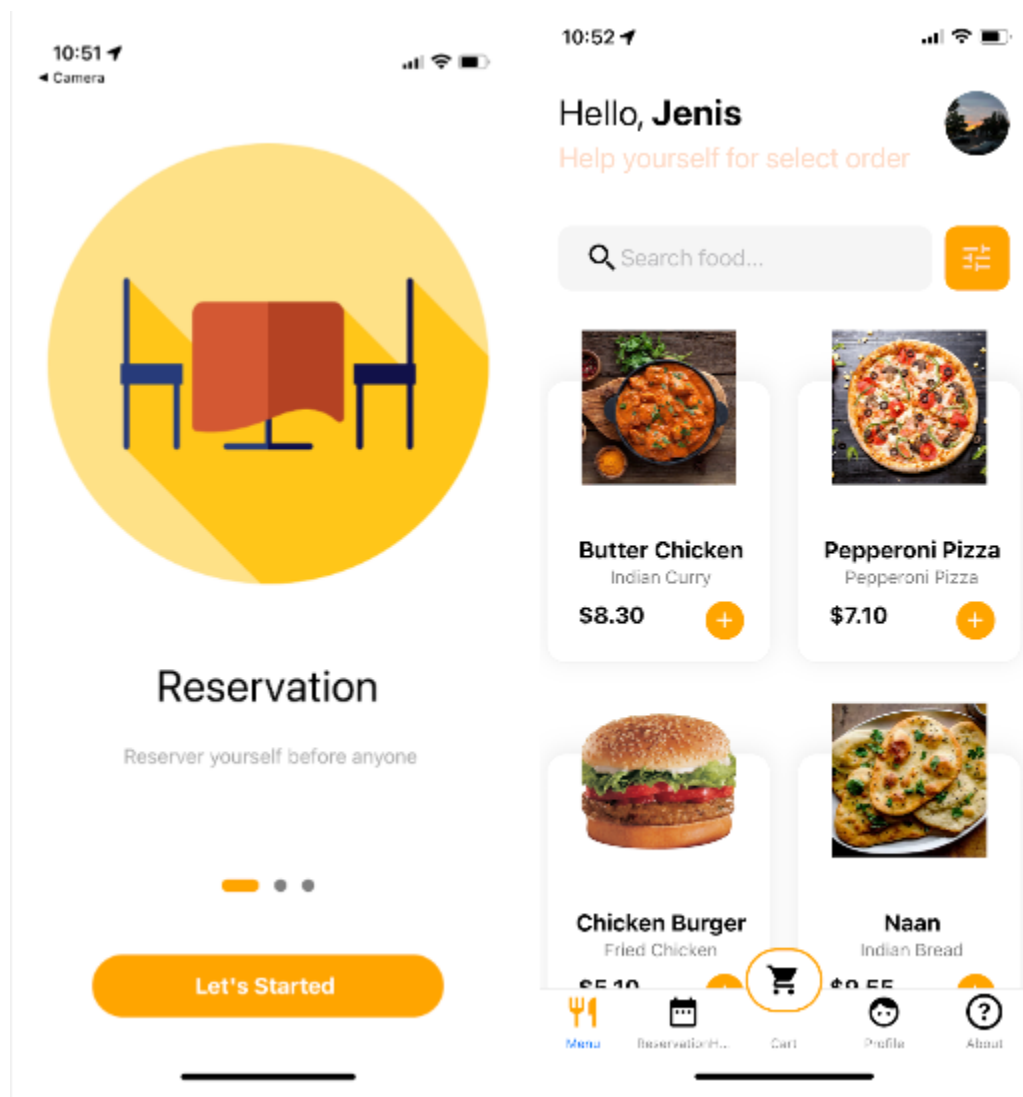


Figure 4.4 OnBoarding and Menu page.

Our onboarding screen has a nice slider where we advertise how best our app is. Also, here is our customer's home page where the menu page is by default selected. Customers can see their profile picture and their name on the home page. Because of the many varieties of food, customers can have difficulties finding their food. That's why we have our search bar where customers can search for their food and go for orders.

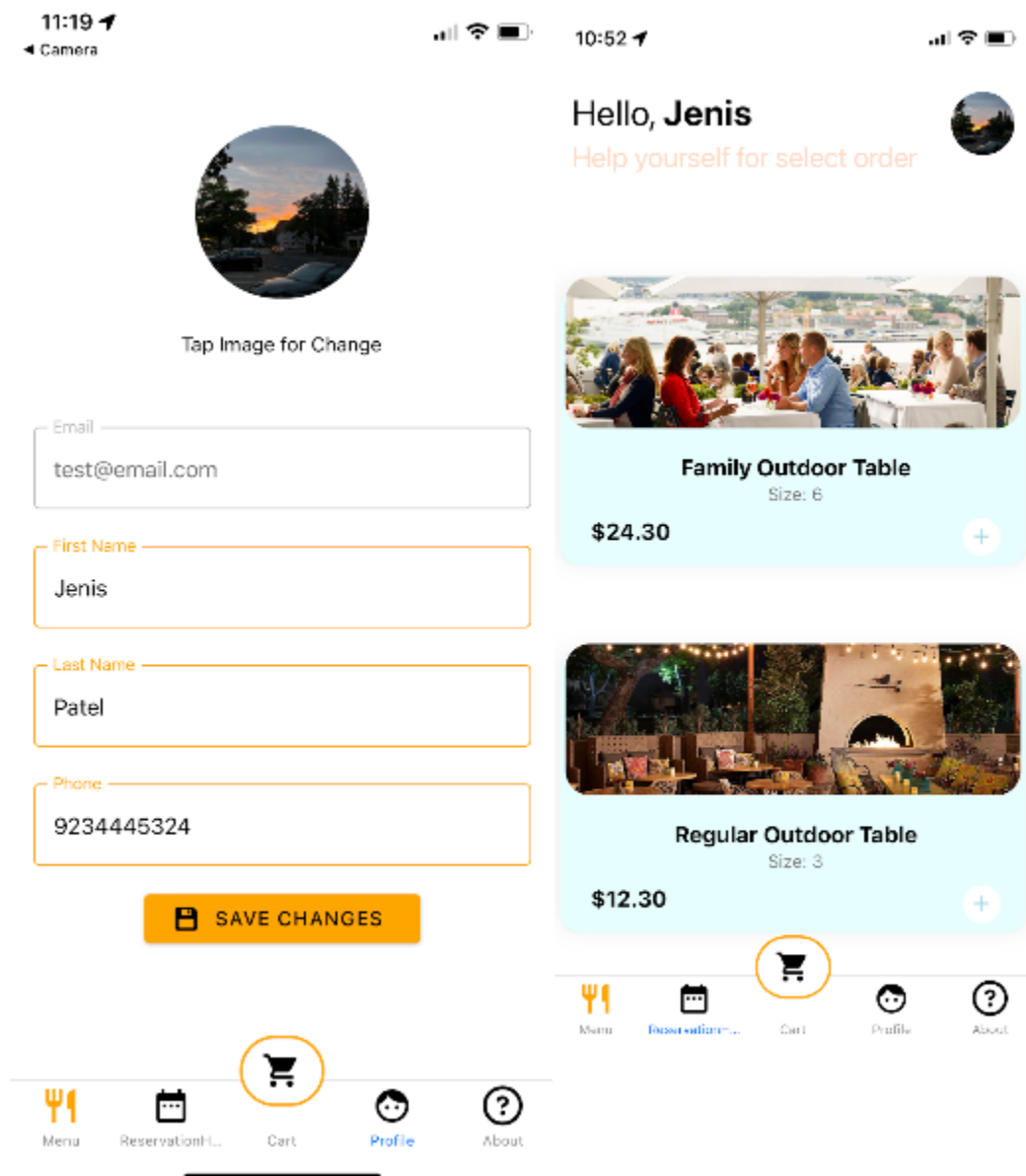


Figure 4.5 Profile and Reservation Page

The Table selection screen has different kind of Table and their booking price as well as the maximum capacity of the table, users can select any table for know more information, We respect user's privacy and that's why we don't ask too many details on profile pages, every details are optional but we prefer those details for your perks.

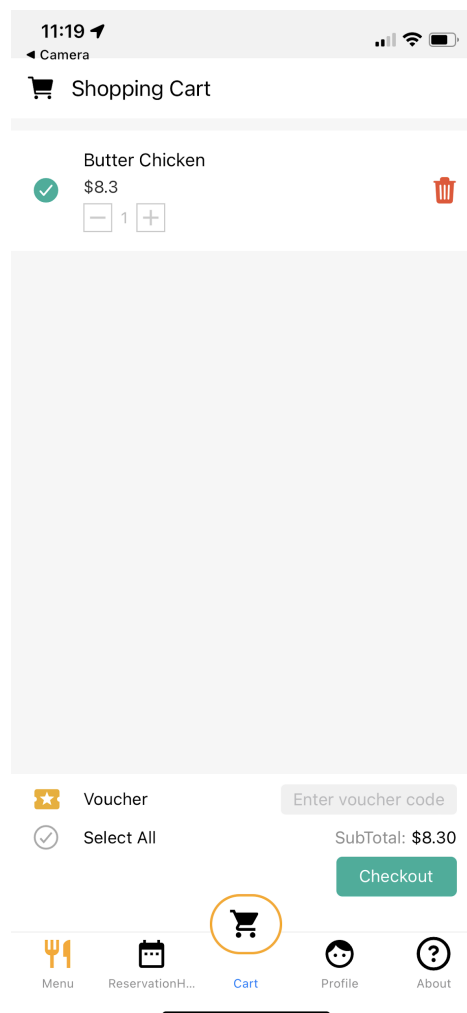


Figure 4.6 Cart Page

The cart screen where users can finalize their order, user's can add or subtract their order count, also if they want to remove their item we do have a delete option. If users do not want the item or they want that item for later we have checked the mark button where users can select

their food items and only those items' price are counted in our subtotal. unchecked items remain in the cart after checkout.

## Supporting Screens

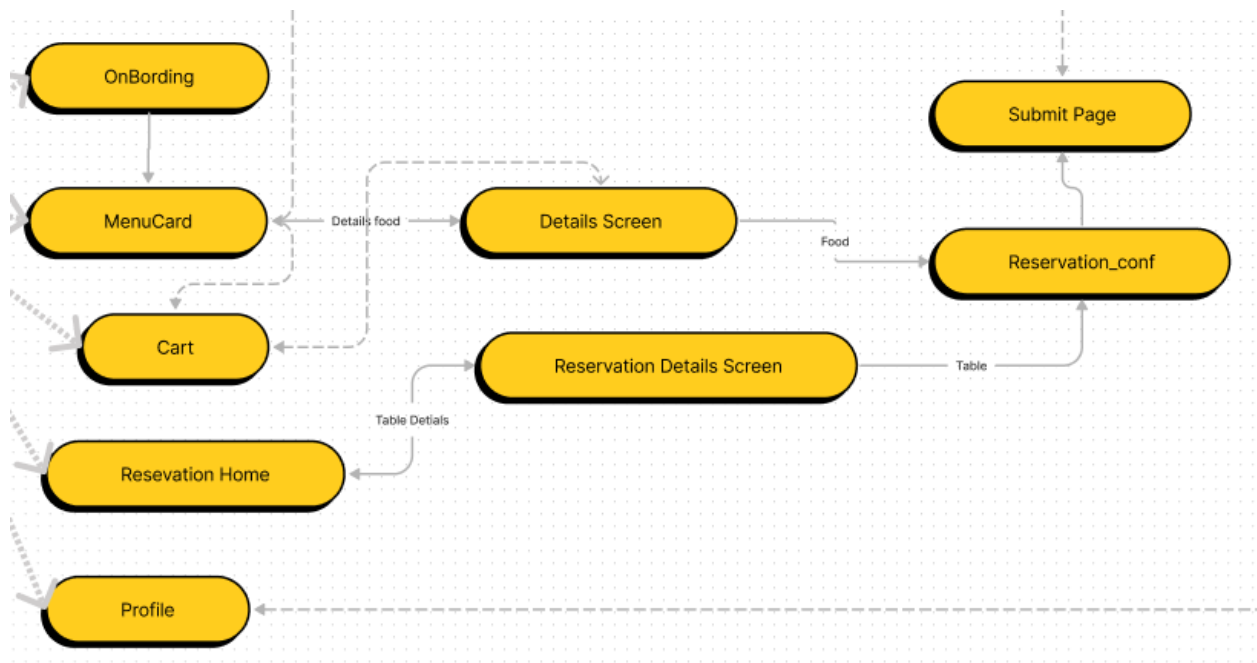


Figure 4.7 Flowchart of Supporting Screens

We do have our supporting screen which elaborates more about our items or tables and that helps the new users a lot.

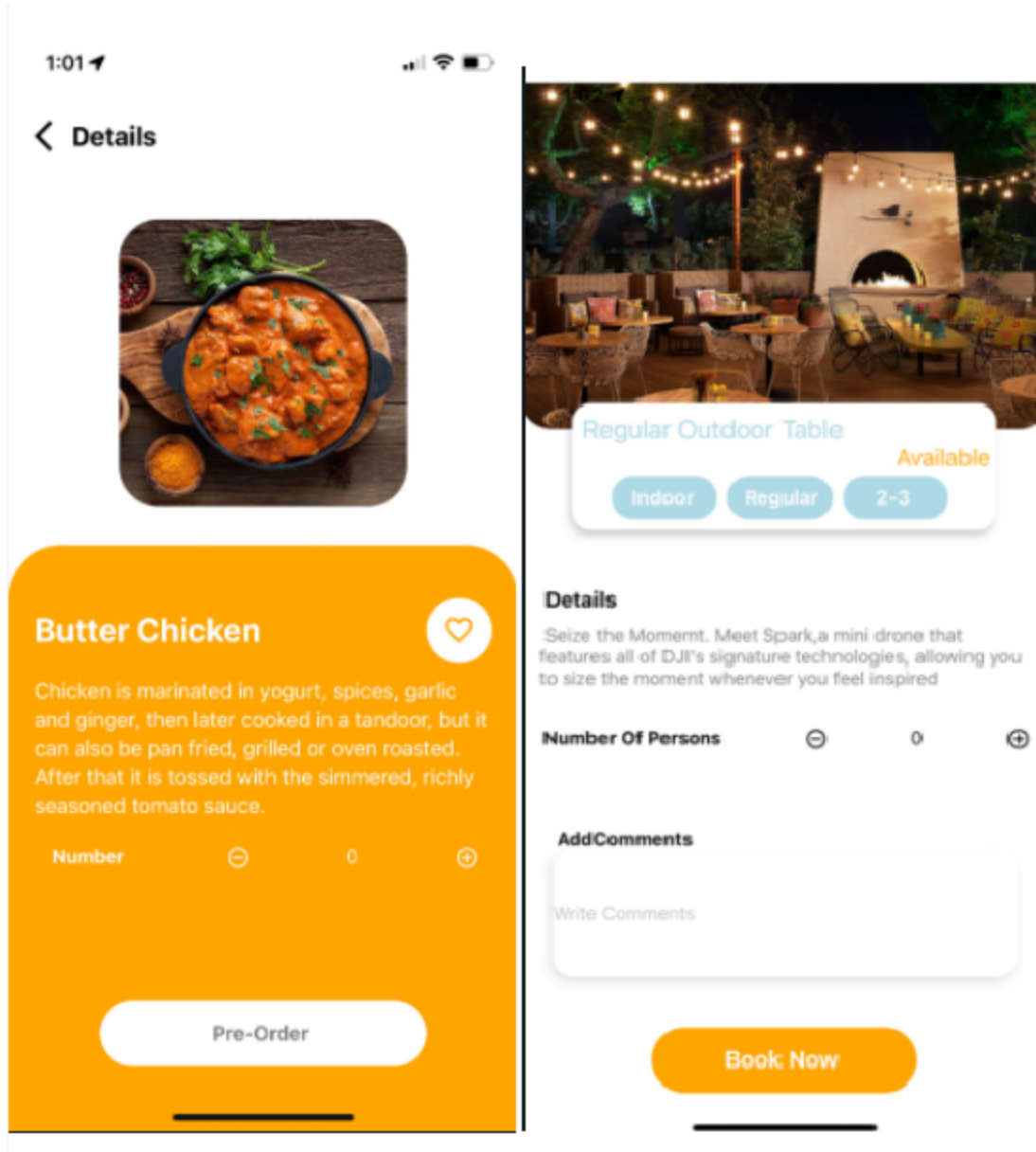


Figure 4.8 Food Details and Reservation Details Screen

Here is our Food supporting page where users can read about what kind of food is and what ingredients are used to make that dish. they can add that item by clicking the button. Our reservation support page has details about what kind of environment they can expect for the particular table and also if they can add some comments and pre-check the table.

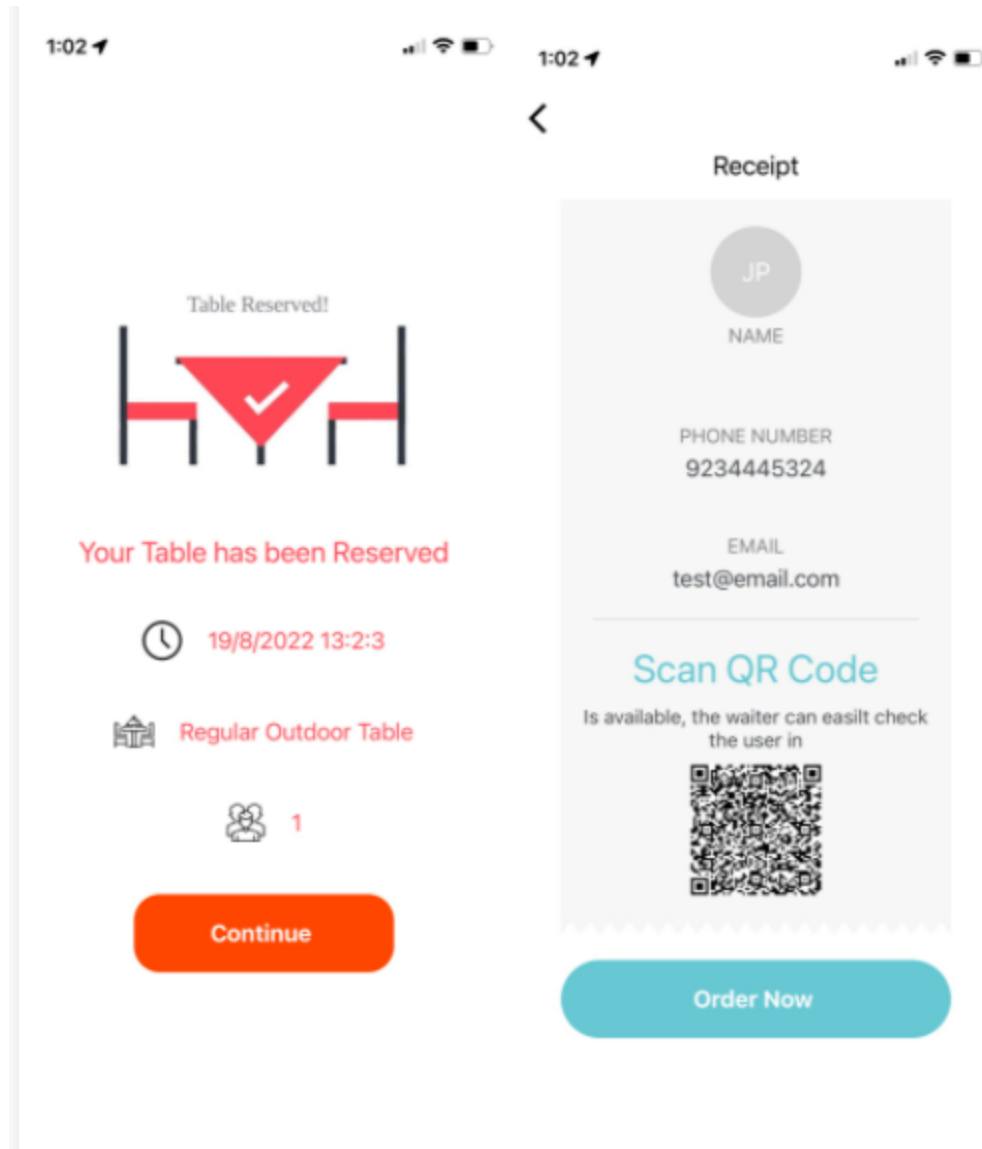


Fig 4.9 Reservation Confirmation and Receipt page

After Pre-checking-in the table user can see the reservation confirmation page where they can see the table details and headcount they enter for that table and the date and time of reservation. Moreover, they see the receipt screen where users can see their details and the QR code which they have to show when they enter the restaurant.



## Employee Side Functions

Starting with our welcome login/sign-up site, with the special log-in id, the manager will be directed to our manager home page.

With the functional buttons on the manager home page, the manager will be directed to Menu page where you can view the current items in the menu, edit and add new items; To the sales dashboard where manager can find the orders information and the real-time revenue and to the order taken section with a QR code scanner.

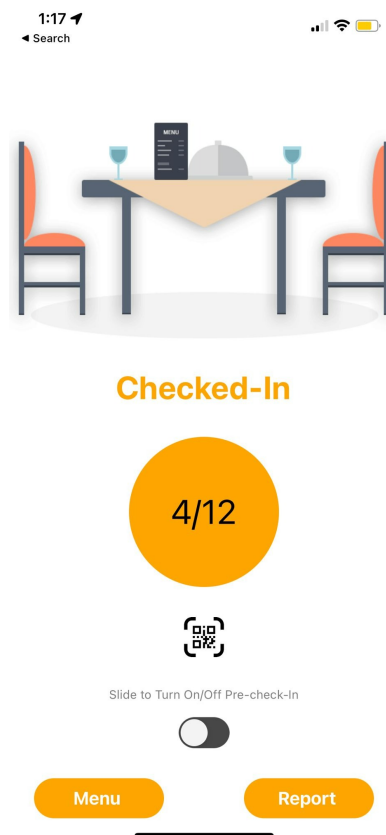


Figure 4.10 Manager Home

On this Manager home page, there are 4 clickable buttons/text to direct the manager to another page.

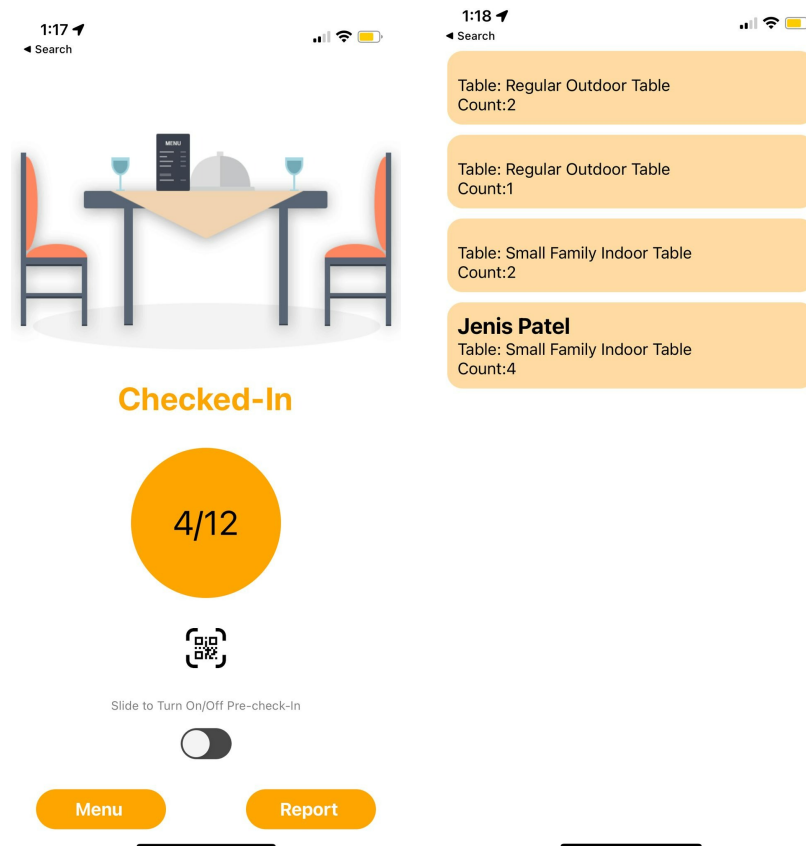


Figure 4.10 manager home -> waiting list

The big round button indicates the reserved table and total table number. When clicking on the text, the manager will be directed to the information list of reserved tables. Arrow in the header will go back to the manager home page.

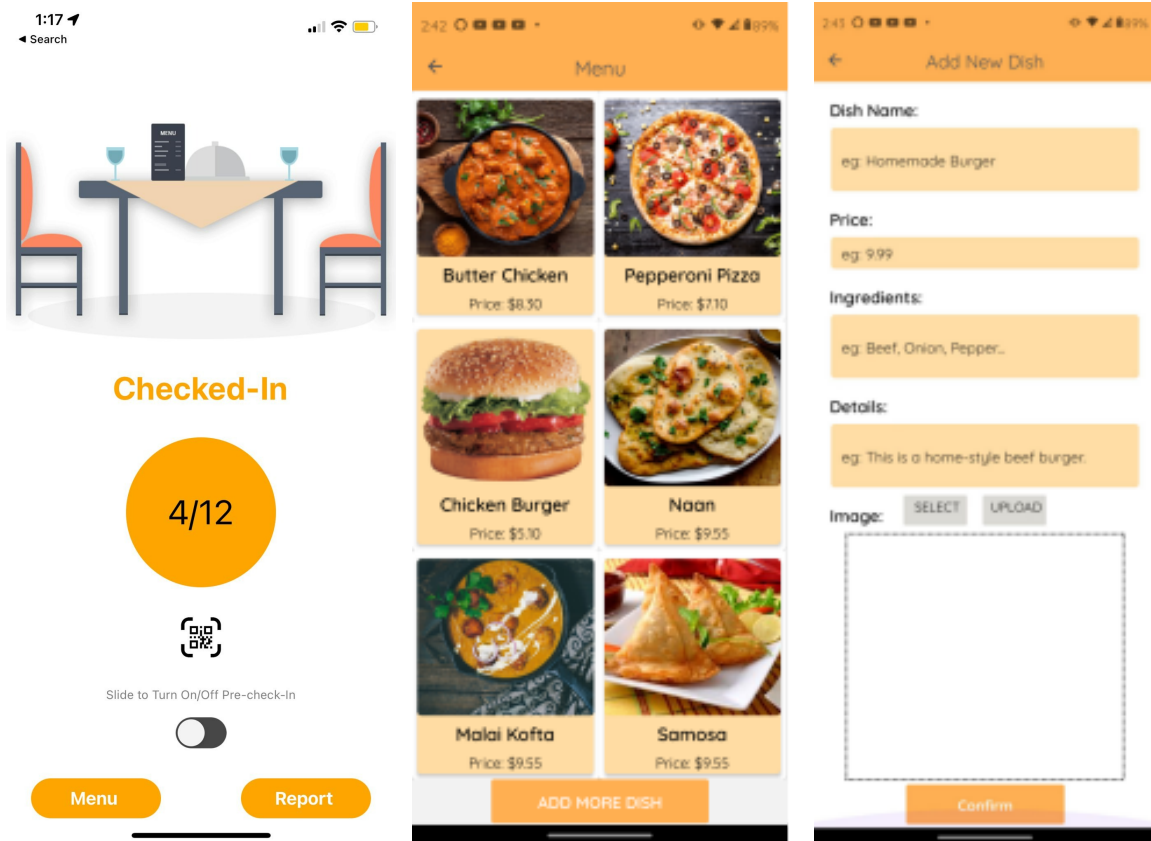


Figure 4.11 manager home -> Menu -> Input

When clicking on the Menu button on the bottom left, the manager will be directed to the menu page where all the food items in the menu are displayed. The “ADD NEW DISH” button in the bottom will pop the menu input page after the clicking. Managers can type in the information in each field. For the images, the manager is able to select images from the local library, and upload the image to the firebase storage. The “Confirm” button will update the new food item to firebase store and redirect manager back to manager home page.



Figure 4.12 Menu -> Edit

By clicking on each of the food cards on the Menu page, the manager can go to the edit page. The food item details will be displayed and the manager can change the text of the details. The updated information will be updated to the firebase store.

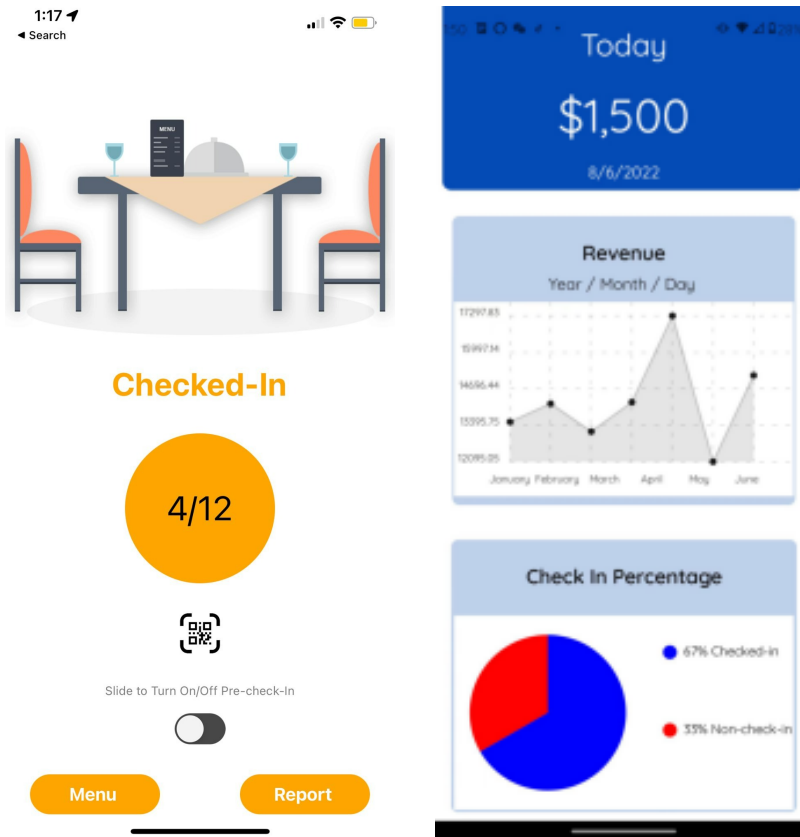


Figure 4.13 Manager home ->Revenue

The right bottom button will go to the sales dashboard.

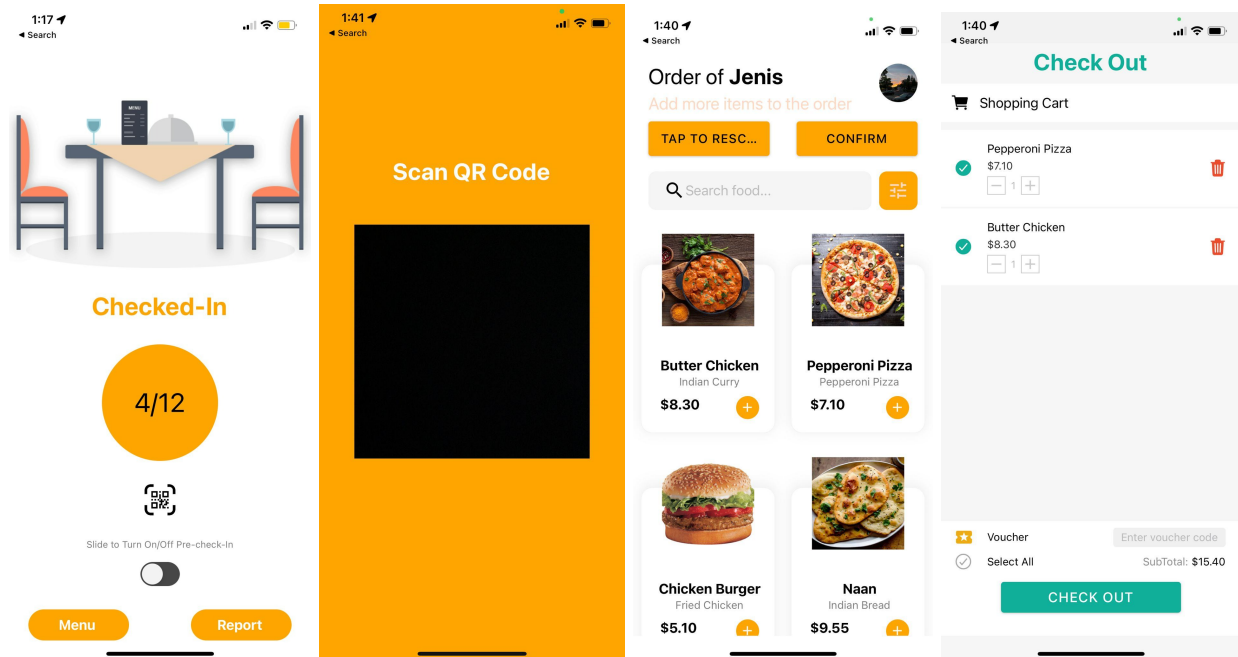


Figure 4.14 Manager home -> Scan QRcode -> Order taken -> Checkout

The QR code icon on the Manager home page is a clickable button to go to the QR code Scanner. After scanning, the manager will be taken to the order taken page to confirm/edit the customer order. After all that, the manager can go to the checkout page to check out the customer.

## User Privacy

We are using firebase to store our user data as well as the order information. The large amount of APIs help to protect our user's privacy.

## Improvement

There are always things we can improve such as the User Interface, Data security, code optimization and so on. Also some extra features such as payment methods, customer review, current waiting time, and etc.

### **Conclusion**

To conclude as a team Jenish handle everything about the customers side and also creates the Sign in and Signup page from the welcome side, Sharon handles the manager sides screens which includes manager's home page and edit menu pages, and Zhizhuo handles the employee side screens which includes QR code scan page and employee menu card and cart screen.

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