My app name is Mei Heung Noodles. This app belongs to the shop Mei Heung Noodles. It is for customers who dine in and for staff who work there.

Motivation

The motivation for creating this app is from my personal experience of dining inside restaurants. Since ordering with a QR code is getting more popular, a lot of restaurants have changed their way of order to this, replacing the traditional way of telling the staff what you want to order. Every restaurant has its own system, and I have found some pros and cons in the apps. Mei Heung Noodles combines the good points from other dining apps and minimizes the bad points.

For the pros from other restaurants, the easy navigation throughout the app while giving customers the freedom to choose what actions they want to perform is an essential part of the user experience. For restaurants that have 10% service charge, some of them (e.g. Semua Semua) show the current total with 10% added, which gave me a better estimation of how much money I will spend on this meal while choosing what to order.

Whereas for the cons, the complicated menu made me feel lost and did not know where to find the food I wanted. Some of the menus are duplicated, for example the dish fried fish ball, it appeared on both “Fried Food” and “Snacks”. Even though this looks convenient for customers to find this dish that there are two points to access this dish, it confused me when I was new to the restaurant. I needed to take some time to determine whether there were any differences between both dishes. For noodles shops, the selection of ingredients, noodles, drinks and snacks are always packed on a single page. When I was scrolling through the page, my mind was making several decisions at the same time, which quite distracted me.

Other than the inspiration from the current apps, I also have ideas to improve the overall dining experience. Staffs are busy with their work, like cleaning the table, mopping the floor, delivering food from the kitchen to tables and answering questions from customers. Sometimes it is hard to find a staff for help even though I have put up my hand for some time because they are not free to see who is raising their hand. When I put down my hand, no one knows I put up my hand seconds ago. If I think reversely, I remember in Cafe de Coral, when food is ready from the kitchen, the staff in the kitchen will tap on a bell so that the sound “ding” can be heard by nearby staff and go to help. The bell serves as an attention attractor in this case. So I come up with the idea of changing the media to catch attention, that is, to give a notification from customers to staff to indicate that they need help. This can also leave a record of someone called for help so staff can go and help as soon as possible.

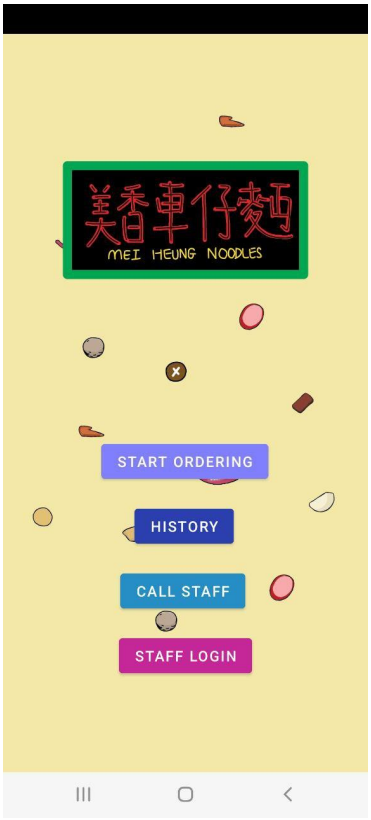
No matter how the interface is well designed, there must be some customers who have questions about it, like how to use it or if any bugs appeared. To make it easier for customers to call staff no matter where they are in the app, all of the pages have the call staff button.

From the cart noodles shops that I have been to, none of them use electronic way to order food, thus I think implementing this idea to the traditional shop has its potential.

UI

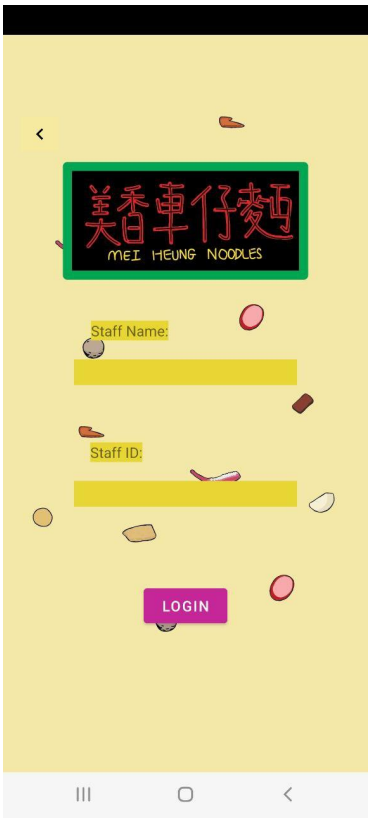
When implementing the code in the XML files, I found it hard to build several UIs simultaneously, so I created a Figma file to design my expected UIs first, and then built it in XML.

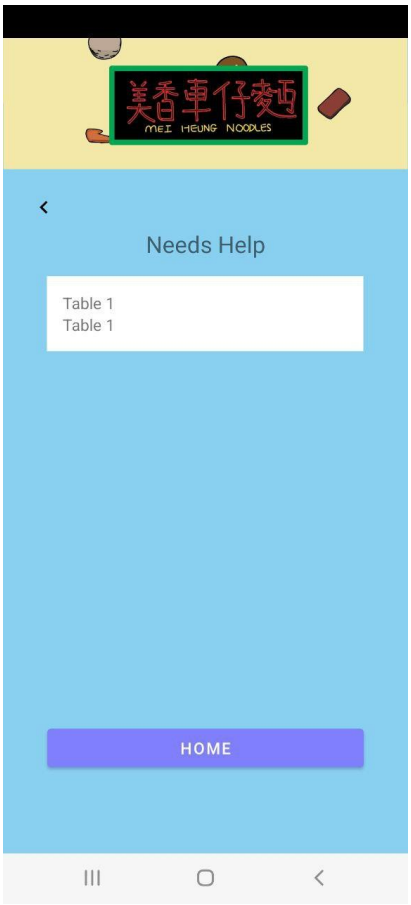
Link to Figma file:
https://www.figma.com/file/S93TomoH7tJIg8e3D8nqNJ/Untitled?node-id=0%3A1



This is the home page. It has four buttons. The default mode is for customers, so customers do not need to login.

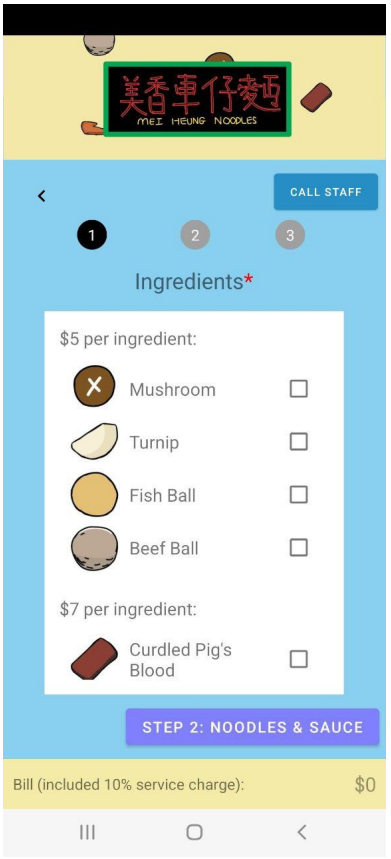
This is the staff login page. Both name and staff ID are required. The login page exists to prevent customers from accidentally seeing the data that is not related to them. When login is clicked, it will bring the staff to the needs help page.

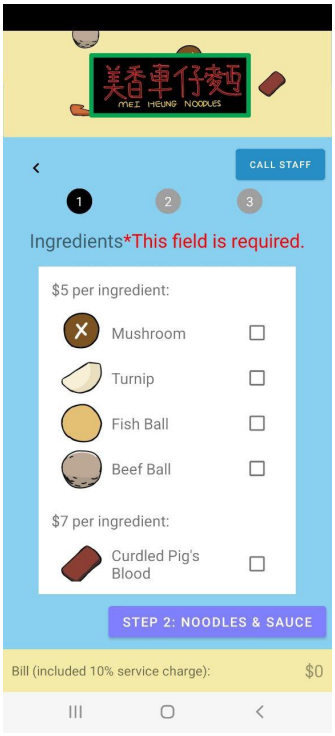




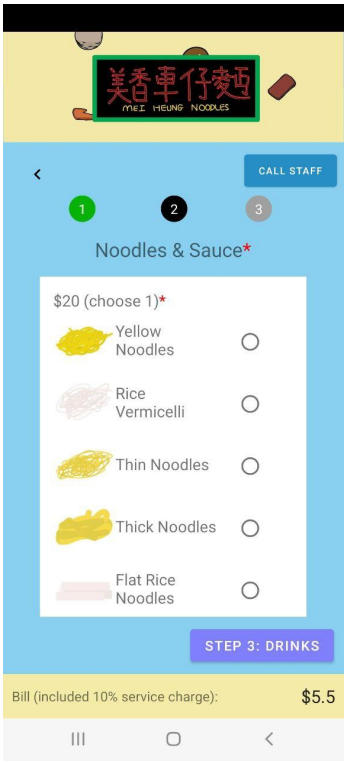
This is the page where staff can check which table needs help. The data is generated everytime when someone pressed the call staff button. The chevron will bring the staff to the staff login page.

This page is for customers to choose ingredients to add to their cart noodles and is required to choose at least one ingredient. Ingredients are in two prices. They are $5 and $7. The chevron will bring the customer to the home page. Customers can move on to step 2 to choose the noodles and sauce. The red star next to the word “Ingredients” indicates that this field is required. Multiple choices can be selected.

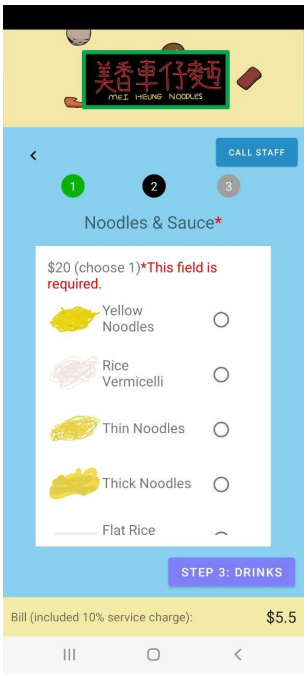




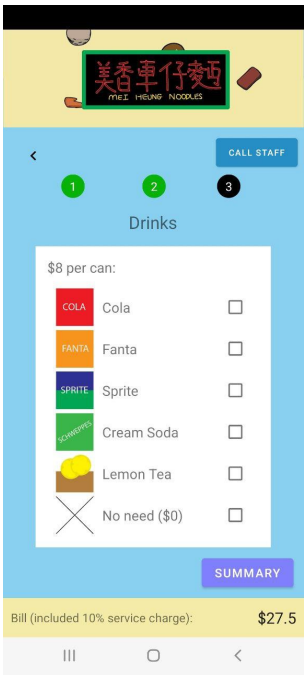
If nothing is chosen and the customer clicks on the “Step 2: Noodles & Sauce” button, a red caution will be shown.



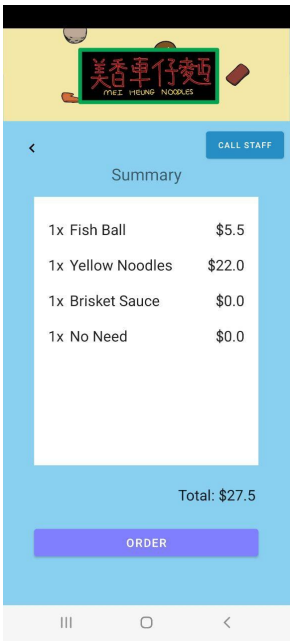
Noodles and sauce are placed with radio buttons, so that only one choice can be made in both fields respectively. The chevron will bring the customer to the ingredients page.



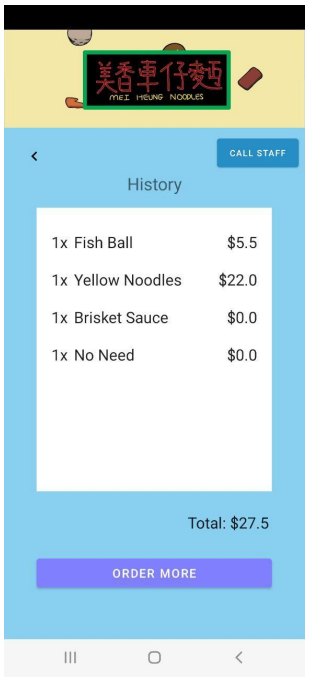
Same as the ingredients page, a red caution will be shown if the customer proceeds without choosing from noodles and sauce.



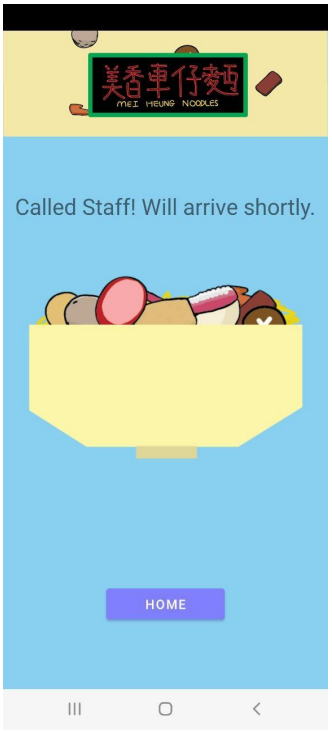
There is no restriction for choosing anything on the drinks page. Each drink is $8. Both choosing no need and just clicking “Summary” will not create an extra amount on the bill. The chevron will bring the customer to the noodles and sauce page.



The summary page shows what you are going to order this time. To view the whole history, customers should go to the history page.

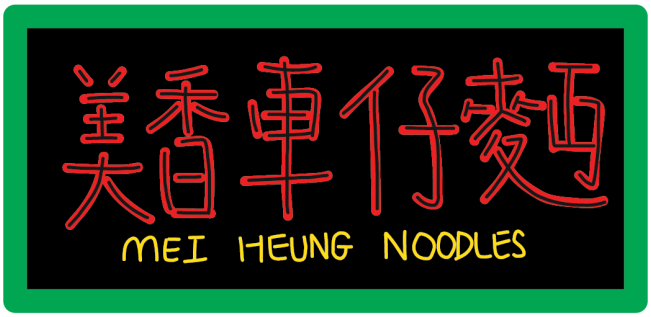


The history page shows the previous ordering history. The data can be retrieved even after killing the app.



When the call staff button is clicked, customer will be brought to this page to tell them they have successfully called staff. At the same time, the table number will be transferred to the staff's needs help page.

Logo/Icon



This is the logo for Mei Heung Noodles. The style is similar to the neon light signs found in Hong Kong. As cart noodles is one of the symbolic food in Hong Kong, the Hong Kong-styled light design matches the theme of local.

Graphics

All of the graphics in the app are drawn by me. They are drawn using Adobe Illustrator. I tried to draw the food accordingly so as to provide a new kind of experience when referring to the image while ordering.

Functions

You can:

- Order food
- Check ordered history
- Call staff for help
- Login if you are a staff

Technical points

How to enter another activity

Activities are linked by intent. In some cases, you can successfully enter another activity only when some conditions are met. For example, you have to fill in the required fields.

How to get data from another activity (for activities other than history)

By calling the functions implemented in another activity, you can get the data from a specific activity and do modifications on the current activity.

How to get data from another activity (for history activity)

Sending data to storage using SharedPreferences, data are stored permanently so that killing the app does not delete the stored data. Get the data needed from SharedPreferences in the history activity.

How to check which check box is checked
Add onClickListener to each check box, and add the checked string to the array list.

How to check which radio button is checked
Add onCheckedChangeListener to the radio group, check the group using switch cases, and add the checked string to the array list.

How to display the data on summary, history and needs help
According to the length of the array list, generate text views and edit text and paste the data into these boxes.

Referenced websites
https://www.javatpoint.com/android-hide-title-bar-example
https://www.youtube.com/watch?v=fJEFZ6EOM9o

Rooms for Improvement
For the needs help page, a timestamp and a status light can be added. The timestamp can determine when was the called staff button pressed, while the status light can reduce confusion among staff on whether the received request for help has been entertained or not.

The image for food can be clickable. Since the phone screen size is small, it might be a bit hard for the elderly to see clearly. If the image is clickable and can be enlarged, this can let the elderly and those with eye disease to use the app more easily.

The system can also detect whether there is any historical record. If there is no historical record, the history button can be omitted from the home page.