NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

SC2006 – Software Engineering

Lab 1 Deliverables

Lab Group	SCSX
Team	FeedItForward
Members	Toh Jing Qiang (U2121442H)
	Toh Jing Hua (U21210232L)
	Tommy Wee Chung Kiat (U2120448F)
	Tay Jia Ying, Denise (U2122458K)
	Twu Pin Yang (U2121072C)
	Teh Min Ze (U2111370H)

Table of Contents

1. Documentation of functional and non-functional requirements

A. Functional Requirements

1. FeedItForward shall allow **Admins** to perform administrative tasks
    1.1. If there is usage misconduct or violation of terms, FeedItForward shall allow admins to remove these users from the platform.
        1.1.1. If a Consumer wrongfully declares their income levels, FeedItForward shall allow admins to remove the Consumer from the platform.
        1.1.2. If a Consumer fails to collect their food 3 or more times, FeedIfForward shall allow admins to remove the Consumer from the platform.
        1.1.3. If a Hawker falsely puts up unavailable food on the platform, FeedItForward shall allow admins to remove the Hawker from the platform.
        1.1.4. If a driver fails to deliver food to the users 3 or more times, FeedItForward shall allow Admins to remove the driver from the platform.
    1.2. If there are unfair or inappropriate reviews, FeedItForward shall allow Admins to remove the reviews from the platform.
        1.2.1. If the review for hawkers contains information not relevant to the quality of food (taste, temperature), FeedItForward shall allow Admins to remove the review from the platform.
        1.2.2. If the review for the Drivers contains information not relevant to the quality of delivery (timeliness, food integrity), FeedItForward shall allow Admins to remove the review from the platform.
        1.2.3. If a review contains political content, FeedItForward shall allow Admins to remove the review from the platform.
        1.2.4. If a review exposes personal information such as name, address, or phone number, FeedItForward shall allow Admins to remove the review from the platform.
    1.3. When the Consumer submits personal information for verification for application for prioritised food, FeedItForward shall allow admins to verify and approve it.
        1.3.1. If the Consumer submitted false information, FeedItForward shall allow admins to reject the application.
        1.3.2. If the Consumer submitted insufficient information, FeedItForward shall allow admins to request the users to submit more information.
        1.3.3. If the Consumer submitted sufficient and correct information, FeedItForward shall allow admins to approve the application.
2. FeedItForward shall allow **Hawkers** to perform hawker-specific tasks.
    2.1. FeedItForward shall allow Hawkers to submit their leftover food for pickup.
        2.1.1. FeedItForward shall allow Hawkers to indicate that they have leftover food available for pickup via a “Food Available For Pickup” Button.
        2.1.2. FeedItForward shall allow Hawkers to enter the amount of leftover food (in kilograms), the amount of time (in hours) that has passed since the

food has been cooked, and the picture of the leftover food before pressing the “Confirm” Button to submit their leftover food for pickup.

3. FeedItForward shall allow **Consumers** to perform consumer-specific tasks.
    3.1. FeedItForward shall allow Consumers to submit reviews on Hawkers.
        3.1.1. FeedItForward shall allow Consumers to upload pictures and enter review text about a specific Hawker and its food.
        3.1.2. FeedItForward shall display a “Submit Review” Button for Consumers to confirm their review submissions before saving and submitting the reviews.
    3.2. FeedItForward shall allow Consumers to edit their reviews on Hawkers.
        3.2.1. FeedItForward shall display a “Edit” Button beside the reviews a Consumer has given for the Consumer to modify his/her review.
        3.2.2. If the “Edit” Button is selected, FeedItForward shall allow Consumers to upload new pictures, remove uploaded pictures, and modify the review text.
        3.2.3. If the “Edit” Button is selected, FeedItForward shall also display a “Save” Button to allow Consumers to save the changes they made permanently.
        3.2.4. If the “Edit” Button is selected, FeedItForward shall also display a “Cancel” Button to allow Consumers to abandon the changes they have made.
    3.3. FeedItForward shall display a list of food available for request and allow Consumers to submit a request for food.
        3.3.1. FeedItForward shall display a list of food available for request via a list interface.
        3.3.2. For each food available for request, FeedItForward shall display the amount of food (in kilograms), picture of food, location, amount of time (in hours) that has passed, and a “Request for Food” Button.
        3.3.3. If a “Request for Food” Button is pressed, FeedItForward shall request the amount of food (in kilograms) that the Consumer wants, an option between having the food delivered to them by a Driver or having the food collected by themselves, and a “Confirm Request” Button.
        3.3.4. If the “Confirm Request” Button is selected, FeedItForward shall notify the Hawker that a food request has been made.
        3.3.5. If the Consumer chooses the food delivery option, FeedItForward shall assign a driver to pick up the food and notify the Hawker and the Consumer about the driver’s estimated time of arrival at the Hawker and Consumer respectively.
        3.3.6. If the Consumer chooses the self collection option, FeedItForward shall notify the Hawker that the Consumer is collecting the food him/herself.
    3.4. FeedItForward shall allow Consumers to submit a request to gain priority for food requests acceptance.
        3.4.1. FeedItForward shall allow Consumers to submit their personal information like household income, number of residents in household, occupation,

and house category (3-room, 4-room, 5-room, executive condo, condo, landed, or penthouse)

3.4.2. After Consumers submit their personal information, FeedItForward shall submit a request for **Admins** to verify the information.

4. FeedItForward shall allow **Drivers** to perform driver-specific tasks.

4.1. FeedItForward shall allow a Driver to select whether to take up a pickup job

4.1.1. When there is leftover food available for pickup, FeedItForward shall allocate one pickup job to the Driver.

4.1.2. FeedItForward shall alert the Driver of his/her allocated pickup job via a pop-up modal.

4.1.3. FeedItForward shall allow the Driver to select whether to “Accept” or “Ignore” the pickup job.

4.2. If a Driver “accepts” a pickup job, FeedItForward shall display the steps required to complete the job.

4.2.1. FeedItForward shall display a local map with an optimal route, determined by the **OneMap Route API**, to deliver the food from a Hawker to a Consumer.

4.2.2. FeedItForward shall display the steps needed to collect the leftover food from the Hawker

4.2.2.1. FeedItForward shall show “(Food Collection) Step 1: Take a picture of the food at pickup location”

4.2.2.2. FeedItForward shall show “(Food Collection) Step: 2: Take a picture of the Hawker at pickup location”.

4.2.3. FeedItForward shall display the steps needed to complete the delivery after passing the leftover food to the Consumer.

4.2.3.1. FeedItForward shall show “(Food Delivered) Step 1: Take a picture of the food at final destination”.

4.2.3.2. FeedItForward shall show “(Food Delivered) Step: 2: Take a picture of the Consumer at final destination”.

5. FeedItForward shall allow Consumers, Hawkers, and Driver to **communicate** with Admin through in-app messaging or calls for Customer Service Support purposes.

5.1. FeedItForward shall allow Consumers to send a text message to Admin, and vice versa.

5.2. FeedItForward shall allow Consumers to call an Admin, and vice versa.

5.3. FeedItForward shall allow Hawkers to send a text message to Admin, and vice versa.

5.4. FeedItForward shall allow Hawkers to call an Admin, and vice versa.

5.5. FeedItForward shall allow Drivers to send a text message to Admin, and vice versa.

5.6. FeedItForward shall allow Drivers to call an Admin, and vice versa.

6. FeedItForward shall allow Users to view and query all Hawkers and the directions to them in Singapore.

6.1. FeedItForward shall allow Users to view and query detailed information about all Hawkers in Singapore via an interactive map.

6.1.1. FeedItForward shall display a real-time map that displays the locations of all hawkers.

6.1.2. If a Hawker is registered, FeedItForward shall display a “Registered” tag beside the Hawker in the real-time map.

6.1.3. If a specific Hawker on the map is selected, a pop-up modal containing the Hawker information, such as business name, types of food sold, operating details (opening and closing hours), reviews given by Consumers, whether the Hawker is registered with FeedItForward, location, email, and contact number shall be displayed.

6.1.4. FeedItForward shall allow the real-time map to be zoomed in, zoomed out, and panned.

6.1.5. FeedItForward shall allow a specific Hawker to be queried according to its name, food type, or location via a search bar.

6.2. FeedItForward shall allow Users to view and query detailed information about Hawkers in Singapore via a list interface.

6.2.1. FeedItForward shall display a list of Hawkers in Singapore.

6.2.2. For each Hawker, FeedItForward shall allow Users to view the business name, types of food sold, the operating details (opening and closing hours), reviews given by Consumers, whether the Hawker is registered with FeedItForward, and location, email, and contact number.

6.2.3. FeedItForward shall allow a specific Hawker to be queried according to its name, food type, or location via a search bar.

6.3. FeedItForward shall help Users plan the optimal route from their current location to the hawkers, while taking into account the local weather condition.

6.3.1. FeedItForward shall display a “Direction” Button besides all location information of Hawkers.

6.3.2. When the “Direction” Button is selected, FeedItForward shall display the optimal route, determined by the **OneMap Route API**, from the current location of the User to the Hawker whose “Direction” Button is selected.

6.3.3. FeedItForward shall also display a “Weather” Icon beside the Hawker information.

6.3.4. When the “Weather” Icon is selected, FeedItForward shall display the current weather and weather 1 day into the future at a 30 minutes interval in Singapore.

7. FeedItForward shall allow Users to be **authenticated** and use the FeedItForward application.

7.1. FeedItForward shall allow Consumers to create an account.

7.1.1. FeedItForward shall allow Consumers to input their name, address, password, email, contact number, and profile picture.

7.1.2. FeedItForward shall create an account with the “Consumer” role with the information entered by the Consumer.

7.2. FeedItForward shall allow Drivers to create an account with Driver privileges.

7.2.1. FeedItForward shall allow Drivers to input their name, address, password, email, contact number, profile picture, vehicle number, and licence number.

7.2.2. FeedItForward shall create an account with the “Driver” role with the information entered by the Driver.

7.3. FeedItForward shall allow Hawkers to create an account with Hawker privileges.

7.3.1. FeedItForward shall allow Hawkers to input their name, address, password, email, contact number, profile picture, business name, types of food sold, and operating hours (opening and closing hours).

7.3.2. FeedItForward shall create an account with the “Hawker” role with the information entered by the Hawker.

7.4. FeedItForward shall allow Admins to create an account with Admin privileges.

7.4.1. FeedItForward shall allow Admins to input their name, password, email, contact number, and profile picture.

7.4.2. FeedItForward shall create an account with the “Admin” role with the information entered by the Admin.

7.5. FeedItForward shall allow Users sign-in using the account they have created previously.

7.5.1. FeedItForward shall allow Users enter their email and password log into the application.

7.5.2. FeedItForward shall mask the password entered by the Users by replacing actual text with dots, unless the Users chooses to unmask it.

7.5.3. If email and password do not match, FeedItForward shall display “Email and password do not match” to the user.

7.5.4. If email and password matches, FeedItForward shall log the User in and navigate the User to the home screen of the application.

7.6. FeedItForward shall allow Users to sign-in using Singpass log-in through integration with the Singpass API

7.6.1. FeedItForward shall request necessary permissions from the User, such as access to their Singpass identity information

7.6.2. Once granted, FeedItForward shall retrieve and store relevant User profile data, as permitted by the User and in compliance with Singpass's privacy policies.

7.7. FeedItForward shall allow Users to flag reviews.

7.7.1. FeedItForward shall display an option on every review to allow Users to flag a review.

7.7.2. When a review is flagged, FeedItForward shall add that review to a list of flagged reviews for the Admin to process.

B. Non-Functional Requirements

Usability	Different Languages ● Content must be displayed in the user’s languages according to the user’s locale (English, Chinese, Malay).
	Responsive User Interface ● Users should experience minimal delays (less than 5 seconds) when performing common tasks within the app. ● Users can easily navigate through the app and perform their desired actions with a response time of less than 5 seconds for each action.
	Mobile Responsive ● Users must be able to see 100% of the content regardless of what mobile phones they are using. ● No content shall be clipped or hidden away due to mobile size issues.
Reliability	Quick App Startup ● After rebooting/launching the app, the app should load and all functionalities should be available within 5 seconds.
Performance	Data Retrieval Efficiency ● The app should efficiently retrieve and display data to users (eg. hawker listings and available food options to consumers) ● 95% of data retrieval operations should be completed in less than 1 second.
Supportability	The database must be replaceable with any commercial product supporting standard SQL / NoSQL queries.

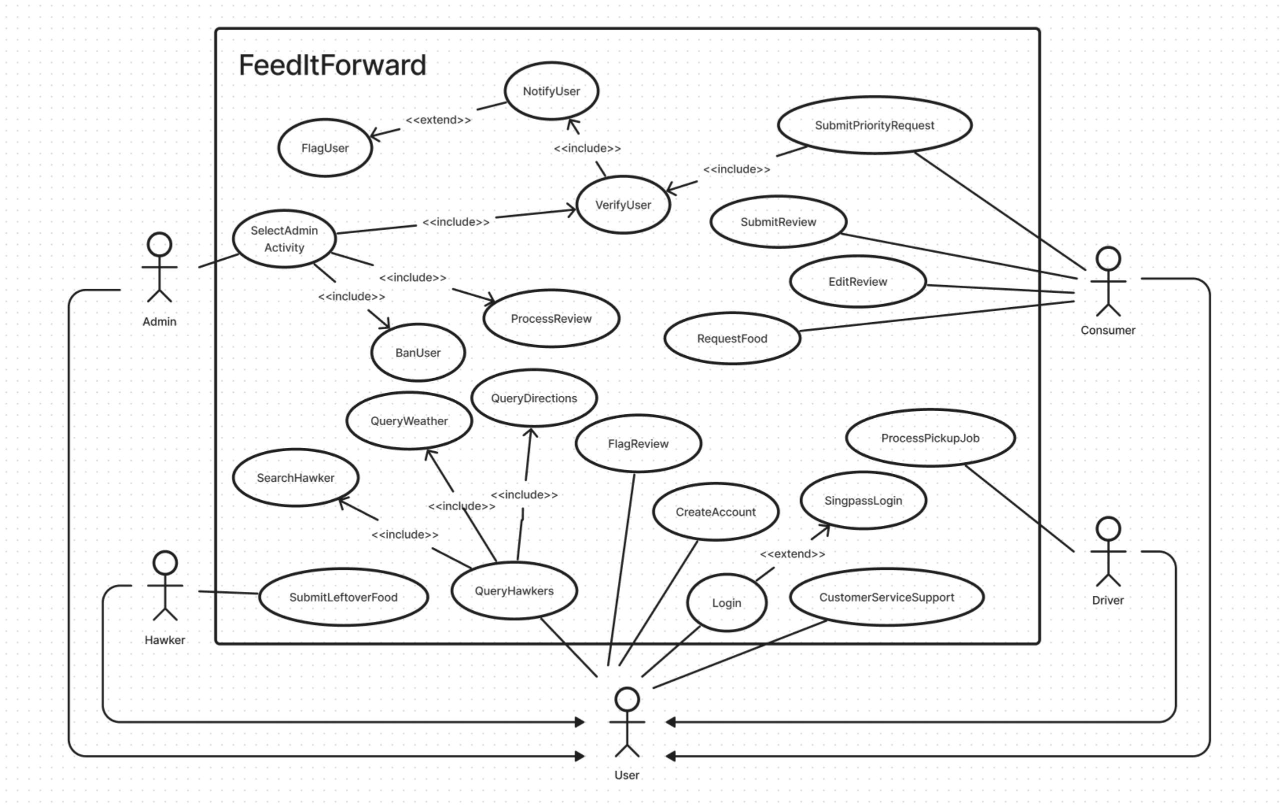
2. Data dictionary

Term	Definition
Account	A registered user's personal profile associated with an application. It may include personal information, contact details, etc.
Admin	A user with special administrative privileges who manages and oversees the operations and features of an application. Admin user have the authority to perform administrative tasks.
Application (App)	A software programme downloaded on users' mobile application that requires internet access in order to operate all the functionality intended by the mobile application. System permissions may be requested in order to operate specific app functionalities.
Call	An in-app feature that allows users to directly call another person for communication purposes.
Consumer	A person that uses FeedItForward to receive leftover food, view Hawker's review, and perform consumer-specific tasks.
Customer Service Support	A service provided by an application where an Admin can assist users with their inquiries, complaints, or issues related to orders and payments.
Driver	A user who works as a delivery person for FeedItForward. The driver picks up leftover food from Hawkers and delivers it to Consumers.
Hawker	Independent food vendors, hawker centres, or small-scale food providers who use FeedItForward to donate leftover food to consumers.
Leftover Food	Unwanted excess food from Hawkers that are still edible and will be donated to Consumers.
Map	An in-app interactive map that displays the geographical location of Hawker, Driver, and Consumer. It can be used to track orders, estimate delivery timings, as well as display detailed information about Hawkers.
Pickup Job	A job for “Driver” to pick up “Hawker's” leftover food and deliver to “Consumer”, which can be accepted/ignored by “Driver”. A task assigned to a Driver to pick up a Hawker's leftover food and deliver it to a Consumer. It includes details such as the Hawker's location, the food request contents, Consumer's address, and other information needed for the Driver to complete the task.
Review	Feedback for Hawkers provided by Consumers to indicate their satisfaction with the Hawker and its food. Reviews can help other Consumers make informed decisions.

Text message	An in-app feature that allows users to directly message another person for communication purposes.
User	The person using the FeedItForward mobile application after creating a FeedItForward account. A User may be an Admin, Consumer, Driver, or Hawker.

3. Initial Use Case Model, consisting of Use Case diagram and Use Case descriptions

A. Use Case Diagram



B. Use Case Descriptions

I. For Functional Requirement #1 (Admin)

I.I SelectAdminActivity

Use Case ID:	#1-1		
Use Case Name:	SelectAdminActivity		
Created By:	Toh Jing Hua	Last Updated By:	Toh Jing Hua
Date Created:	10th September 2023	Date Last Updated:	10th September 2023

Actor:	Admin
Description:	Allows Admin to select actions to take
Preconditions:	Admin is logged in and is authenticated
Postconditions:	None
Priority:	High
Frequency of Use:	High
Flow of Events:	1. The system uses the included use case Login to verify the Admin. 2. On successful login, the system prompts the Admin to select the desired activity: BAN, VERIFYUSER, REVIEW, or QUIT. 3. If the Admin selects the activity BAN, then the Admin uses the included use case **BanUser** to ban a user. 4. If the Admin selects the activity VERIFYUSER, then the Admin uses the included use case **VerifyUser** to approve or reject a user's application for priority. 5. If the Admin selects the activity REVIEW, then the Admin uses the included use case **ProcessReview** to decide whether a review is to be removed. 6. If the Admin selects the activity QUIT, the system returns to the login screen.
Alternative Flows:	None
Exceptions:	None
Includes:	1. BanUser 2. VerifyUser 3. ProcessReview
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

I.II BanUser

Use Case ID:	#1-2		
Use Case Name:	BanUser		
Created By:	Toh Jing Hua	Last Updated By:	Toh Jing Hua
Date Created:	10th September 2023	Date Last Updated:	10th September 2023

Actor:	Admin
Description:	Allows Admin to ban a User by their user ID for a specified duration
Preconditions:	Admin is logged in and is authenticated
Postconditions:	User is either banned or not banned by the admin
Priority:	High
Frequency of Use:	Low
Flow of Events:	1. Admin inputs the user ID of the user that the Admin wants to ban. 2. Admin inputs the duration of the ban. 3. Admin confirms the ban by selecting CONFIRM.
Alternative Flows:	AF-S3: If Admin selects the CANCEL button 1. The system will return to the **SelectAdminActivity**.
Exceptions:	1. If the user ID is not found, the system shall display an error message and prompt the Admin again.
Includes:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

I.III VerifyUser

Use Case ID:	#1-3		
Use Case Name:	VerifyUser		
Created By:	Toh Jing Hua	Last Updated By:	Toh Jing Hua
Date Created:	10th September 2023	Date Last Updated:	10th September 2023

Actor:	Admin
Description:	Allows Admin to verify a User by their user ID.
Preconditions:	Admin is logged in and is authenticated
Postconditions:	The user's application is either approved, pending or rejected.
Priority:	High
Frequency of Use:	Medium
Flow of Events:	1. FeedItForward lists the Consumers that have submitted an application for priority food 2. Admin selects the Consumer that the Admin wants to review. 3. FeedItForward displays the Consumer's information and documentation and prompts the Admin to review it and to either APPROVE, REQUEST, REJECT, or CANCEL. 4. Admin approves the application by selecting APPROVE. FeedItForward will approve the Consumer's application and the Consumer will now be a priority Consumer 5. The Consumer will be notified using the included use case **NotifyUser**.
Alternative Flows:	AF-S4: If Admin selects REQUEST 1. If the Admin selects REQUEST, the system will put the Consumer's application under pending and the Consumer will be notified to submit more documents using the included use case **NotifyUser**. AF-S4: If Admin selects REJECT 1. If the Admin selects REJECT, the system will reject the Consumer's application and the Consumer will be notified of the rejection using the included use case **NotifyUser**. AF-S4: If Admin selects CANCEL 1. Admin can select CANCEL at any time to cancel the operation and the system will return to the **SelectAdminActivity**.
Exceptions:	None

Includes:	**NotifyUser**
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

I.IV ProcessReview

Use Case ID:	#1-4		
Use Case Name:	ProcessReview		
Created By:	Toh Jing Hua	Last Updated By:	Toh Jing Hua
Date Created:	10th September 2023	Date Last Updated:	10th September 2023

Actor:	Admin
Description:	Allows Admin to process a review for deletion or for keeping.
Preconditions:	Admin is logged in and is authenticated
Postconditions:	Flagged review is deleted or ignored.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	1. The FeedItFoward lists the reviews that have been flagged by it or the Users. 2. Admin selects the review that the Admin wants to process. 3. The system displays the content of the review and prompts the Admin to DELETE, IGNORE, or CANCEL. 4. If the Admin selects DELETE, the system will delete the flagged review.
Alternative Flows:	AF-S4: If Admin selects IGNORE 1. If the Admin selects IGNORE, the system will ignore the flagged review and remove it from the list of flagged reviews. AF-S4: If Admin selects CANCEL 1. Admin can select CANCEL at any time to cancel the operation and the system will return to the **SelectAdminActivity**.
Exceptions:	None
Includes:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

I.V NotifyUser

Use Case ID:	#1-5		
Use Case Name:	NotifyUser		
Created By:	Toh Jing Hua	Last Updated By:	Toh Jing Hua
Date Created:	10th September 2023	Date Last Updated:	10th September 2023

Actor:	Admin
Description:	Allows Admin to send notification to a user
Preconditions:	Admin is logged in and is authenticated
Postconditions:	Notification is sent.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	1. Admin enters the content of the notification, which may contain text, images, audio, and video. 2. Admin enters the recipient User ID. 3. FeedItFoward then prompts the Admin to select CONFIRM or CANCEL. 4. If the Admin selects CONFIRM, the system will send the content to the specified User.
Alternative Flows:	AF-S4: If Admin selects CANCEL 1. If the Admin selects CANCEL, the system will cancel the operation and return the Admin back to the Admin’s original page.
Exceptions:	1. If the User ID is not found, FeedItFoward shall display an error message and prompt the User to reenter the User ID.
Includes:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

I.VI FlagUser

Use Case ID:	#1-6		
Use Case Name:	FlagUser		
Created By:	Toh Jing Hua	Last Updated By:	Toh Jing Hua
Date Created:	10th September 2023	Date Last Updated:	10th September 2023

Actor:	FeedItForward
Description:	Allows FeedItForward to flag a User automatically.
Preconditions:	None
Postconditions:	User is flagged
Priority:	Low
Frequency of Use:	Medium
Flow of Events:	1. When a Consumer has failed to collect the food for 3 or more times or when a Hawker has falsely put up unavailable food for 3 or more times or when a Driver has failed to deliver food for 3 or more times, FeedItForward shall flag the User and add the User to the list of flagged users. 2. The system will then use the included use case **NotifyUser** to notify the User that the User has been flagged.
Alternative Flows:	None
Exceptions:	None
Includes:	**NotifyUser**
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

II. For Functional Requirement #2

II.I SubmitLeftoverFood

Use Case ID:	#2-1		
Use Case Name:	SubmitLeftoverFood		
Created By:	Denise Tay	Last Updated By:	Denise Tay
Date Created:	9th September 2023	Date Last Updated:	9th September 2023

Actor:	Hawker
Description:	Allows hawkers to submit the available leftover food for pickup onto FeedItForward
Preconditions:	1. Hawker must be logged in and authenticated. 2. Hawker has leftover food available for pickup.
Postconditions:	Leftover food is successfully declared/submitted for pickup.
Priority:	High
Frequency of Use:	High
Flow of Events:	1. Hawker selects the "Food Available for Pickup" option. 2. Hawker indicates the amount of leftover food (in kilograms). 3. Hawker enters the amount of time (in hours) since the food was cooked. 4. Hawker uploads a picture of the leftover food. 5. Hawker confirms the submission by pressing the "Confirm" button.
Alternative Flows:	None
Exceptions:	1. If the Hawker is not logged in, they are prompted to log in before submitting leftover food. 2. If any required information is missing or invalid, an error message is displayed.
Includes:	None
Special Requirements:	System needs to validate user input data
Assumptions:	None
Notes and Issues:	None

III. For Functional Requirement #3

III.I SubmitReview

Use Case ID:	#3-1		
Use Case Name:	SubmitReview		
Created By:	Toh Jing Qiang	Last Updated By:	Toh Jing Qiang
Date Created:	9th September 2023	Date Last Updated:	9th September 2023

Actor:	Consumer
Description:	Consumers can submit a review on a Hawker by uploading pictures and writing a review text.
Preconditions:	The Consumer must be logged in and authenticated.
Postconditions:	The Review is successfully submitted.
Priority:	High
Frequency of Use:	Medium
Flow of Events:	1. The system displays a “Review” button for Consumers to submit a review on a particular Hawker. 2. When a Consumer selects the “Review” button, the system will prompt the Consumer to upload pictures and enter review text about a specific Hawker and its food. 3. The system will then prompt the user to confirm his review via a “Submit Review” Button. 4. If the Consumer selects the “Submit Review” Button, the system will save the review (pictures and text) in the database and display that the review is submitted.
Alternative Flows:	None
Exceptions:	1. If any required information is missing or invalid, an error message is displayed.
Includes:	None
Special Requirements:	System needs to validate user input data.
Assumptions:	None
Notes and Issues:	None

III.II EditReview

Use Case ID:	#3-2		
Use Case Name:	EditReview		
Created By:	Toh Jing Qiang	Last Updated By:	Toh Jing Qiang
Date Created:	9th September 2023	Date Last Updated:	9th September 2023

Actor:	Consumer
Description:	Consumers can edit his/her review on a Hawker by uploading pictures, removing uploaded pictures or editing the review text.
Preconditions:	The Consumer must be logged in and authenticated.
Postconditions:	The Review is successfully edited.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	1. If a Consumer has already made a review on a particular Hawker, the system will display an “Edit” button beside his/her review. 2. When the Consumer selects the “Edit” button, the system will prompt the Consumer to upload new pictures, remove uploaded pictures, and modify the review text. 3. The system will display a “Save” button to allow the Consumer to save the changes made, and a “Cancel” button to allow the Consumer to abandon the changes made. 4. When the “Save” button is selected, the system will save the changes made.
Alternative Flows:	AF-S1: If Consumer has not make a review on a particular Hawker 1. The system will not display an “Edit” button. 2. The system will only display the “Review” button for Consumers to submit a review on the Hawker. AF-S4: If the “Cancel” button is selected 1. The system will not save the changes made. 2. The system will redirect the Consumer away from the Edit Hawker Screen.
Exceptions:	1. If any required information is missing or invalid, an error message is displayed.
Includes:	None
Special Requirements:	System needs to validate user input data.

Assumptions:	None
Notes and Issues:	None

III.III RequestFood

Use Case ID:	#3-3		
Use Case Name:	RequestFood		
Created By:	Toh Jing Qiang	Last Updated By:	Toh Jing Qiang
Date Created:	9th September 2023	Date Last Updated:	9th September 2023

Actor:	Consumer
Description:	Consumer chooses from a list of food available for request and submits a request for chosen food
Preconditions:	1. The Consumer must be logged in and authenticated. 2. There must be food available for request.
Postconditions:	1. The Request is successfully submitted. 2. The Hawker is alerted of the Consumer’s food request.
Priority:	High
Frequency of Use:	High
Flow of Events:	1. The system will display a list of food available for request via a list interface. 2. For each food available for request, the system will display the amount of food (in kilograms), picture of food, location, amount of time (in hours) that has passed, and a “Request for Food” button. 3. When the “Request for Food” button is pressed, the system will prompt the Consumer to enter the amount of food (in kilograms) that the Consumer wants, choose between the options of having the food delivered to them by a Driver or having the food collected by themselves, and confirmation via a “Confirm Request” button. 4. When the Consumer inputs all the required information in 3 and selects the “Confirm Request” button, the system will notify the associated Hawker that a food request has been made. 5. If the Consumer chooses the food delivery option, the system will assign a driver to pick up the food and notify the Hawker and Consumer about the driver’s estimated time of arrival at the Hawker and Consumer respectively.
Alternative Flows:	AF-S5: If the Consumer chooses the self collection option 1. The system will notify the Hawker that the Consumer is collecting the food him/herself.

Exceptions:	1. If any required information is missing or invalid, an error message is displayed.
Includes:	None
Special Requirements:	System needs to validate user input data.
Assumptions:	There are Drivers to be assigned to food requests to pick up the food.
Notes and Issues:	None

III.IV SubmitPriorityRequest

Use Case ID:	#3-4		
Use Case Name:	SubmitPriorityRequest		
Created By:	Toh Jing Qiang	Last Updated By:	Toh Jing Qiang
Date Created:	9th September 2023	Date Last Updated:	9th September 2023

Actor:	Consumer
Description:	Consumers can submit a request to gain priority for food request acceptance.
Preconditions:	The Consumer must be logged in and authenticated.
Postconditions:	The Request is successfully submitted.
Priority:	High
Frequency of Use:	Medium
Flow of Events:	1. The system will allow the Consumer to upload their personal information like household income, number of residents in household, occupation, and house category (3-room, 4-room, 5-room, executive condo, condo, landed, or penthouse). 2. After the Consumers upload their personal information, the system will submit a request for priority in food request acceptance to the Admins to verify the information using the included use case **VerifyUser.**
Alternative Flows:	None
Exceptions:	1. If any required information is missing or invalid, an error message is displayed.
Includes:	**VerifyUser**
Special Requirements:	System needs to validate user input data.
Assumptions:	None
Notes and Issues:	None

IV. For Functional Requirement #4

IV.I ProcessPickupJob

Use Case ID:	#4-1		
Use Case Name:	ProcessPickupJob		
Created By:	Denise Tay	Last Updated By:	Denise Tay
Date Created:	9th September 2023	Date Last Updated:	9th September 2023

Actor:	Driver
Description:	Allows drivers to select whether to accept or ignore a pickup job allocated to them.
Preconditions:	1. Driver is logged in to the FeedItForward application. 2. There is leftover food available for pickup.
Postconditions:	1. If the Driver chooses to "Accept" the pickup job, they are directed to complete the job's required steps and responsibilities. 2. If the Driver selects to "Ignore" the pickup job, it remains unassigned, and the Driver returns to the main task management screen.
Priority:	High
Frequency of Use:	High
Flow of Events:	1. Driver is logged in to the FeedItForward application. 2. The FeedItForward system continuously monitors for leftover food available for pickup. 3. When leftover food becomes available, the system automatically allocates one pickup job to the Driver. 4. A pop-up modal appears on the Driver's screen, notifying them of the allocated pickup job. 5. The modal provides information about the job, including the pickup location, estimated delivery time, and any specific instructions or notes from the Hawker. 6. FeedItForward present the Driver with two options – ACCEPT or IGNORE 7. If the Driver selects ACCEPT: 7.1. The system proceeds to display the steps required to complete the job. 7.2. Driver collects food at pickup location 7.2.1. Driver submits a picture of the food at the pickup location. 7.2.2. Driver submits a picture of the Hawker at the pickup location.

	7.3. Driver follows the optimal route determined by FeedItForward, from pickup location to delivery location. 7.4. Driver delivers food at delivery location 7.4.1. Driver submits a picture of food at the delivery location. 7.4.2. Driver submits a picture of the consumer at the delivery location. 8. Job is marked as completed.
Alternative Flows:	AF-S7: If the Driver selects IGNORE: 1. The pickup job remains unassigned, and the Driver returns to the main screen.
Exceptions:	None
Includes:	None
Special Requirements:	None
Assumptions:	FeedItForward system allocates one pickup job to the Driver when leftover food is available for pickup.
Notes and Issues:	The optimal route determined by FeedItForward utilises the OneMap API

V. For Functional Requirement #5

V.I CustomerServiceSupport

Use Case ID:	#5-1		
Use Case Name:	CustomerServiceSupport		
Created By:	Teh Min Ze	Last Updated By:	Toh Jing Qiang
Date Created:	8th September 2023	Date Last Updated:	12th September 2023

Actor:	User
Description:	Communicate via text or call between a Consumer/Hawker/Driver and an Admin respectively, and vice versa.
Preconditions:	Users must be logged in and authenticated.
Postconditions:	None.
Priority:	High
Frequency of Use:	High
Flow of Events:	1. Consumer/Hawker/Driver navigates to the Customer Service Support screen. 2. Consumer/Hawker/Driver selects to send a text message to Admin. 3. Admin sends a message back to reply to Consumer/Hawker/Driver’s message.
Alternative Flows:	AF-S2: Consumer/Hawker/Driver selects to call the Admin 1. Admin picks up the call and talks to the Consumer/Hawker/Driver.
Exceptions:	None
Includes:	None
Special Requirements:	Phone Permission to make and receive call is enabled
Assumptions:	None
Notes and Issues:	None

VI. For Functional Requirement #6

VI.I QueryHawkers

Use Case ID:	#6-1		
Use Case Name:	QueryHawkers		
Created By:	Teh Min Ze	Last Updated By:	Toh Jing Qiang
Date Created:	8th September 2023	Date Last Updated:	13th September 2023

Actor:	User
Description:	Query all Hawkers to show Hawkers' detailed information and/or optimal route (taking into account weather condition) from User to Hawker. Users can search for a particular Hawker for query too.
Preconditions:	1. The User must be logged in and authenticated. 2. The User's device location service is turned on.
Postconditions:	1. Successfully display detailed information of queried Hawker to the User. 2. Successfully display optimal route from User's location to Hawker.
Priority:	High
Frequency of Use:	High
Flow of Events:	1. The system allows the User to view Hawkers by either through an interactive map or a list interface. 2. User selects the list interface option. 3. The System shall display a list of Hawkers in Singapore. 4. For each Hawker, the system will display detailed information about the Hawker such as business name, location, contact details, types of food sold, operating hours, reviews given by Consumers and whether the Hawker is registered with FeedItForward. 5. If the User selects the "Directions" feature button, the system will return the optimal route from the current location of the User to the Hawker using the included use case **QueryDirections**. 6. If the User selects the "Weather" feature button, the system will return the current and forecasted weather condition using the included use case **QueryWeather**. 7. If the User selects the "Search" feature button, the system will return a filtered list of Hawkers using the included use case **SearchHawker**.

Alternative Flows:	AF-S3: User selects the interactive map option 1. The system shall display a real-time map that displays the locations of all hawkers, with “Registered” tags beside Hawkers registered with FeedItForward. 2. The system allows the User to zoom in, zoom out, and pan the map. 3. When the User selects a specific Hawker, a pop-up modal containing the Hawker information, such as business name, types of food sold, operating details (opening and closing hours), reviews given by Consumers, whether the Hawker is registered with FeedItForward, location, email, and contact number will be displayed. 4. Return to step 5.
Exceptions:	None
Includes:	1. QueryDirections 2. QueryWeather 3. SearchHawker
Special Requirements:	Phone Permission for location access is enabled.
Assumptions:	None
Notes and Issues:	None

VI.II SearchHawkers

Use Case ID:	#6-2		
Use Case Name:	SearchHawker		
Created By:	Teh Min Ze	Last Updated By:	Toh Jing Qiang
Date Created:	13th September 2023	Date Last Updated:	13th September 2023

Actor:	User
Description:	Allows users to search for Hawkers by name, food type or location via a search bar and get a filtered list of Hawkers.
Preconditions:	The User must be logged in and authenticated.
Postconditions:	A filtered list of Hawkers is returned.
Priority:	High
Frequency of Use:	High
Flow of Events:	1. The User can search for Hawkers according to their name, food type or location via a search bar. 2. The system will return a filtered list of Hawkers for the User.
Alternative Flows:	None
Exceptions:	1. If no Hawker data matches the search criteria, the system shall display a message stating no Hawker is found.
Includes:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

VI.III QueryDirections

Use Case ID:	#6-3		
Use Case Name:	QueryDirections		
Created By:	Teh Min Ze	Last Updated By:	Toh Jing Qiang
Date Created:	13th September 2023	Date Last Updated:	13th September 2023

Actor:	User
Description:	The System to display the optimal route from the current location of the user to the selected Hawker.
Preconditions:	1. The User must be logged in and authenticated. 2. User's device location service is turned on. 3. User has selected the "Directions" feature button of a Hawker.
Postconditions:	1. Successfully display the optimal route from User's current location to Hawker.
Priority:	High
Frequency of Use:	High
Flow of Events:	1. The system will display the optimal route for the default mode of transport (Car). 2. User to select "start" to get live step-by-step directions to get to the Hawker. 3. User to arrive at the Hawker and close the direction function.
Alternative Flows:	AF-S1: User selects other modes of transport (Public Transport, Walk, etc). 1. The system will display the optimal route for other modes of transport (Public Transport, Walk, etc) 2. Return to step 2.
Exceptions:	None
Includes:	None
Special Requirements:	Phone permission for location access is enabled.
Assumptions:	None
Notes and Issues:	None

VI.IV QueryWeather

Use Case ID:	#6-4		
Use Case Name:	QueryWeather		
Created By:	Teh Min Ze	Last Updated By:	Toh Jing Qiang
Date Created:	13th September 2023	Date Last Updated:	13th September 2023

Actor:	User
Description:	The system to display the current weather and weather 1 day into the future at a 30-minute interval in Singapore.
Preconditions:	1. The User must be logged in and authenticated. 2. User’s device location service is turned on. 3. User has selected the “Weather” feature button.
Postconditions:	1. Successfully display the weather condition.
Priority:	High
Frequency of Use:	High
Flow of Events:	1. The system will display the current weather and weather conditions 1 day into the future at a 30-minute interval in Singapore.
Alternative Flows:	None
Exceptions:	None
Includes:	None
Special Requirements:	Phone permission for location access is enabled.
Assumptions:	None
Notes and Issues:	None

VII. For Functional Requirement #7

VII.I CreateAccount

Use Case ID:	#7-1		
Use Case Name:	CreateAccount		
Created By:	Pin Yang	Last Updated By:	Toh Jing Qiang
Date Created:	13th September 2023	Date Last Updated:	13th September 2023

Actor:	User
Description:	Allows a person to create an Account in the FeedItForward to become a User.
Preconditions:	None
Postconditions:	An Account with a specific role (Admin, Hawker, Consumer or Rider) is created for the User.
Priority:	High
Frequency of Use:	High
Flow of Events:	1. The system prompts the User to enter their name, address, password, email, contact number, profile picture, and role. 2. The User enters the required information and selects the “Create Account” button to confirm his inputs. 3. An Account with a specific role (Admin, Hawker, Consumer or Rider) is created for the User.
Alternative Flows:	AF-S2: 1. If the User selects the back navigation icon, the system will navigate the User to the login page.
Exceptions:	1. If any required information is missing or invalid, an error message is displayed.
Includes:	None
Special Requirements:	System needs to validate user input data.
Assumptions:	None
Notes and Issues:	None

VII.II Login

Use Case ID:	#7-2		
Use Case Name:	Login		
Created By:	Pin Yang	Last Updated By:	Toh Jing Qiang
Date Created:	13th September 2023	Date Last Updated:	13th September 2023

Actor:	User
Description:	Allows User to log into his/her FeedItForward Account using his/her email and password.
Preconditions:	None
Postconditions:	User is logged into the FeedItForward application and is navigated to the home screen of the application.
Priority:	High
Frequency of Use:	High
Flow of Events:	1. The system allows the User to login with either (a) Email and password, or (b) Singpass. 2. The User chooses to login with email and password. 3. The User enters his/her email and password. The Password is masked as dots, but the User can choose to unmask it by clicking on the eye icon. 4. The User selects the “Login” button.
Alternative Flows:	AF-S2: User chooses to login with Singpass 1. The User selects the “Login with Singpass” button. 2. The User logins into the system using Singpass login credentials using the included use case **SingpassLogin**.
Exceptions:	1. If any required information is missing or invalid, an error message is displayed. 2. If email and password do not match when the User tries to login in step 4, FeedItForward shall display “Email and password do not match” to the user.
Includes:	SingpassLogin
Special Requirements:	System needs to validate user input data.
Assumptions:	The User has an existing FeedItForward Account.
Notes and Issues:	None

VII.III SingpassLogin

Use Case ID:	#7-3		
Use Case Name:	SingpassLogin		
Created By:	Pin Yang	Last Updated By:	Toh Jing Qiang
Date Created:	13th September 2023	Date Last Updated:	13th September 2023

Actor:	User
Description:	Allows User to log into his/her FeedItForward Account using his/her Singpass account.
Preconditions:	Entry Condition: Called by the use case **Login** when the "Login with Singpass" button is selected.
Postconditions:	User is logged into the FeedItForward application and is navigated to the home screen of the application.
Priority:	High
Frequency of Use:	High
Flow of Events:	1. The User is redirected to the Singpass mobile application to provide verification. 2. If the Singpass verification is successful, the system will direct the User to FeedItForward's home page.
Alternative Flows:	AF-S2: Singpass verification is unsuccessful 1. The system will redirect the User to the FeedItForward's Login screen and display an error message saying that login with Singpass was unsuccessful.
Exceptions:	None
Includes:	None
Special Requirements:	1. Access and Usage of Singpass API
Assumptions:	1. The User has the Singpass mobile app.
Notes and Issues:	None

VII.IV FlagReview

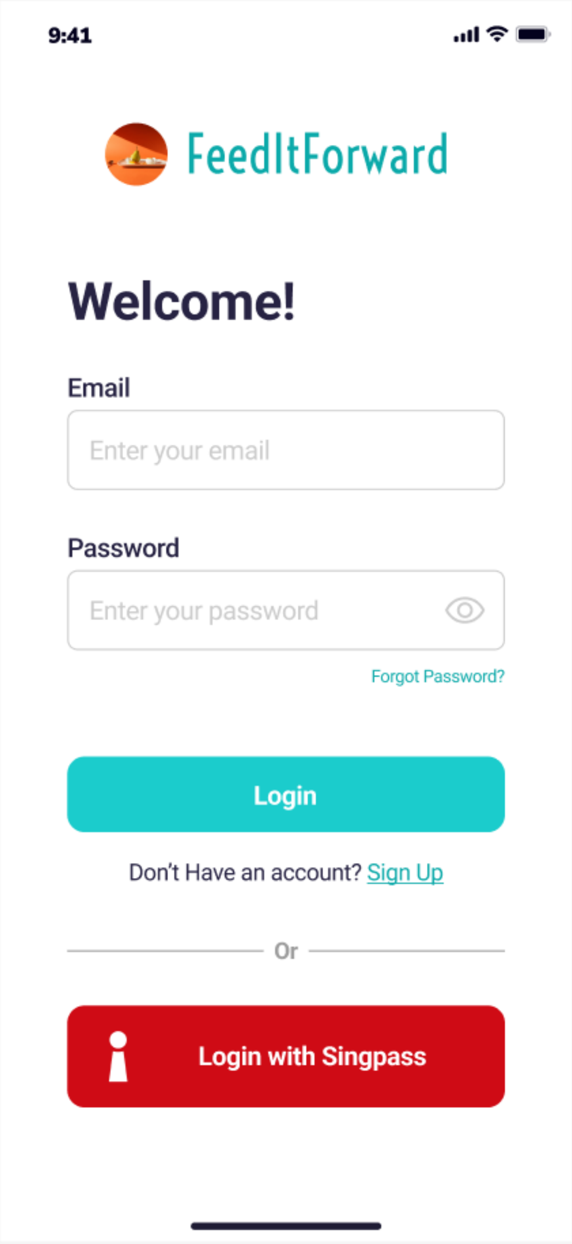
Use Case ID:	#7-4		
Use Case Name:	FlagReview		
Created By:	Toh Jing Hua	Last Updated By:	Toh Jing Hua
Date Created:	10th September 2023	Date Last Updated:	10th September 2023

Actor:	User
Description:	Allows User to flag a review for the Admin to process for deletion.
Preconditions:	User is logged in and is authenticated
Postconditions:	Review is flagged
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	1. The system displays an option to flag a review for every review that the User has received. 2. If the User flags the review, the system will prompt the user to input the reason as to why they have flagged the review. 3. The system then prompts the User to select CONFIRM or CANCEL. 4. If the user selects CONFIRM, the system will flag the review and add it to the list of flagged reviews for the Admins to process.
Alternative Flows:	AF-S4: If the user selects CANCEL 1. If the user selects CANCEL, the system will cancel the operation and return the User to the review.
Exceptions:	None
Includes:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

4. UI Mockups

4.1 Login + Singpass Login

Login Screen



9:41

FeedItForward

Welcome!

Email

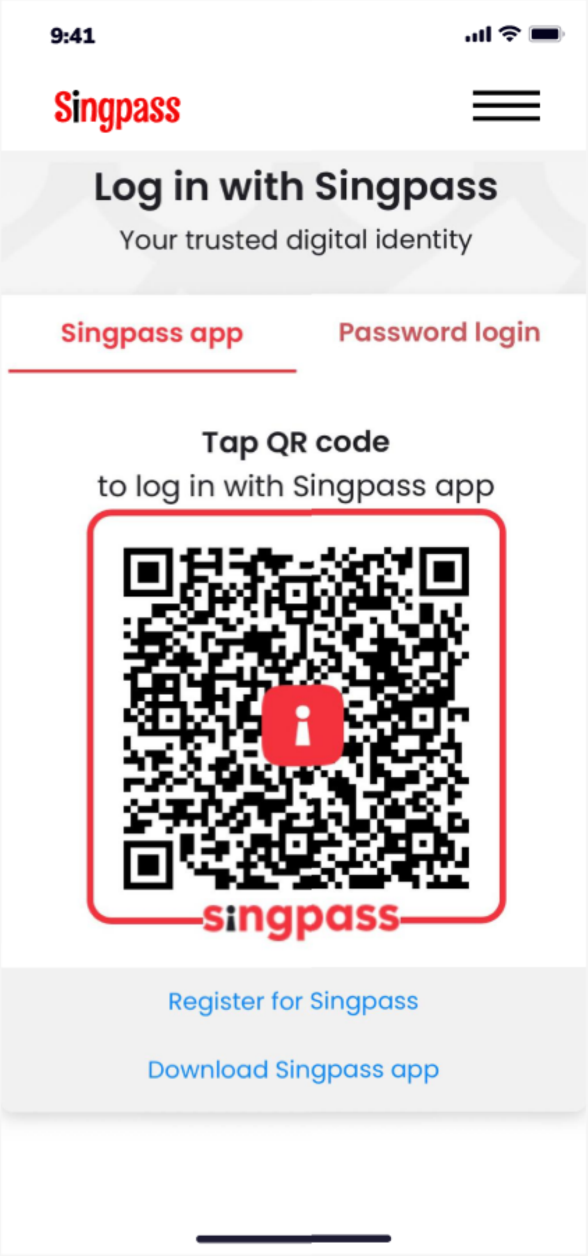
Enter your email

Password

Enter your password

Don't Have an account? Sign Up

Singpass Login Page



9:41

Singpass

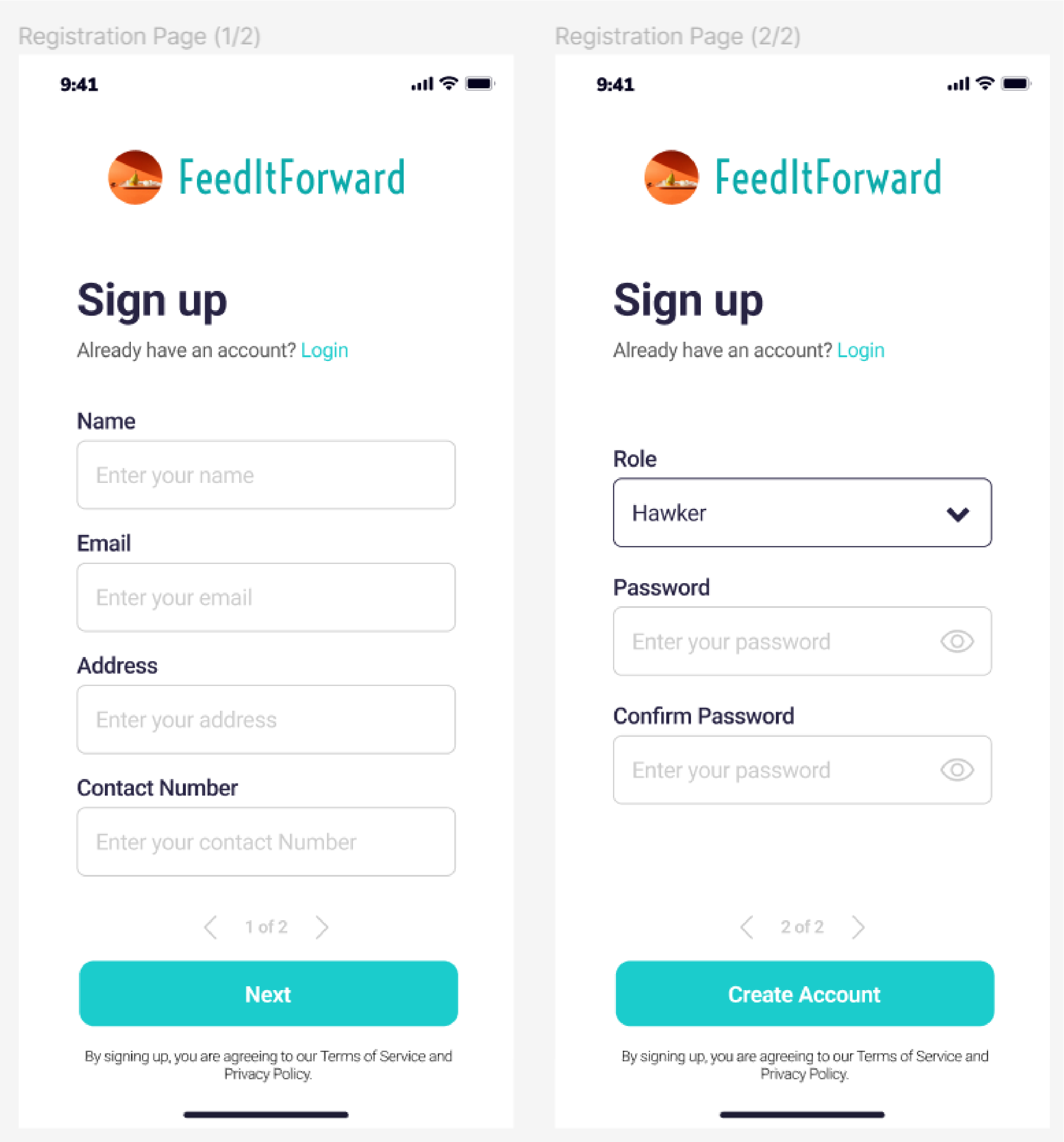
Log in with Singpass

Your trusted digital identity

Tap QR code

to log in with Singpass app

4.2 Signup



Registration Page (1/2)

9:41

FeedItForward

Sign up

Already have an account? Login

Name

Enter your name

Email

Enter your email

Address

Enter your address

Contact Number

Enter your contact Number

1 of 2

Next

By signing up, you are agreeing to our Terms of Service and Privacy Policy.

Registration Page (2/2)

9:41

FeedItForward

Sign up

Already have an account? Login

Role

Hawker

Password

Enter your password

Confirm Password

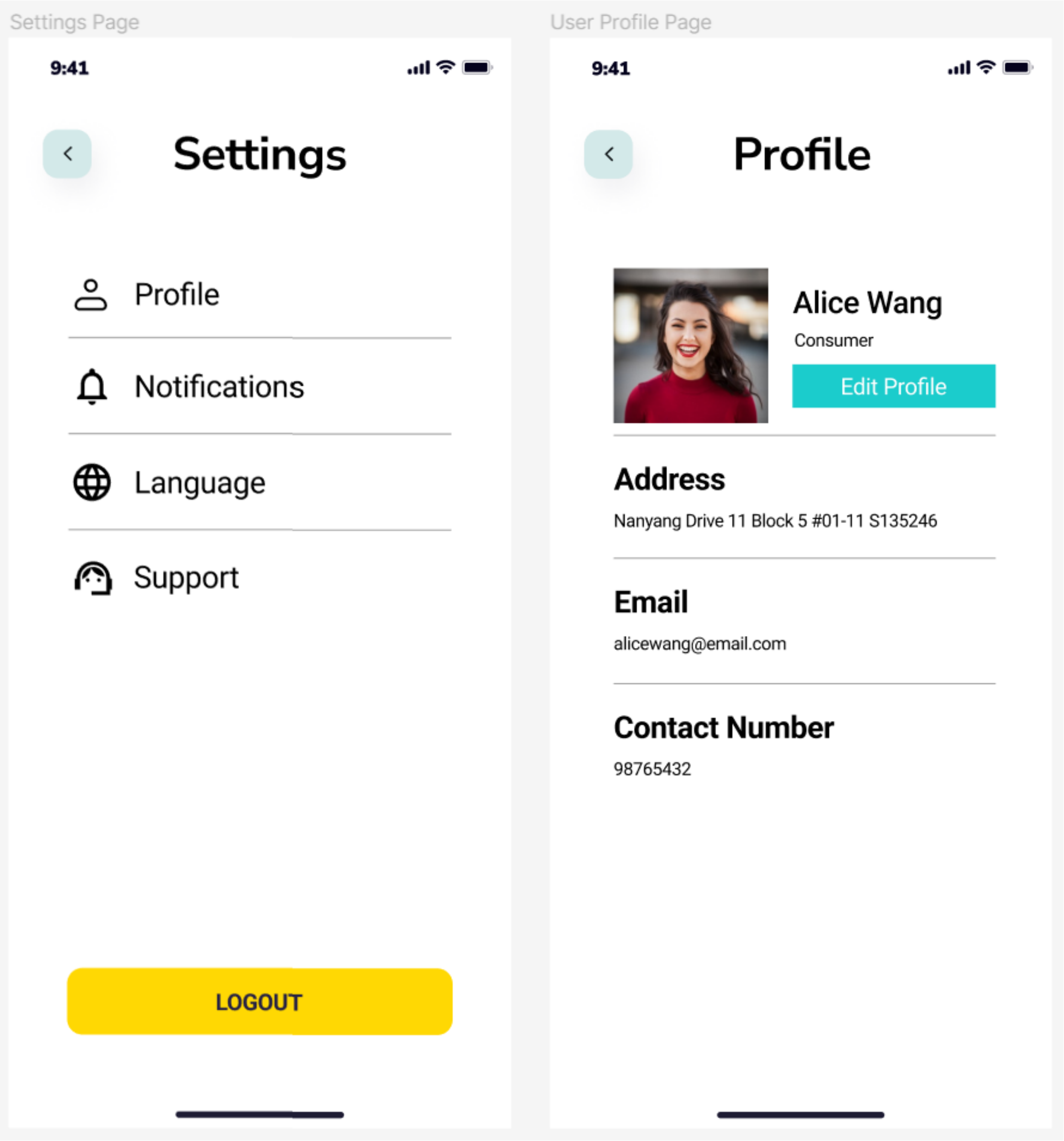
Enter your password

2 of 2

Create Account

By signing up, you are agreeing to our Terms of Service and Privacy Policy.

4.3 Settings + User Profile



Settings Page

User Profile Page

Alice Wang

Consumer

Address

Nanyang Drive 11 Block 5 #01-11 S135246

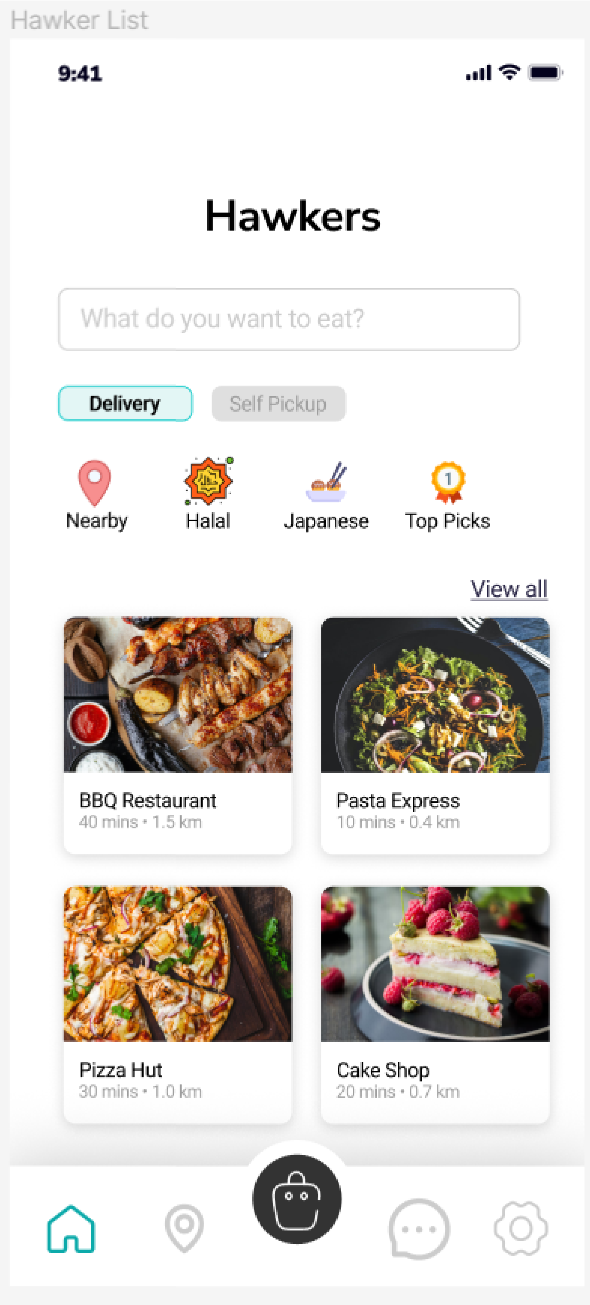
Email

alicewang@email.com

Contact Number

98765432

4.4 Home Screen



Hawker List

9:41

Hawkers

What do you want to eat?

Delivery

Self Pickup

Nearby

Halal

Japanese

Top Picks

View all

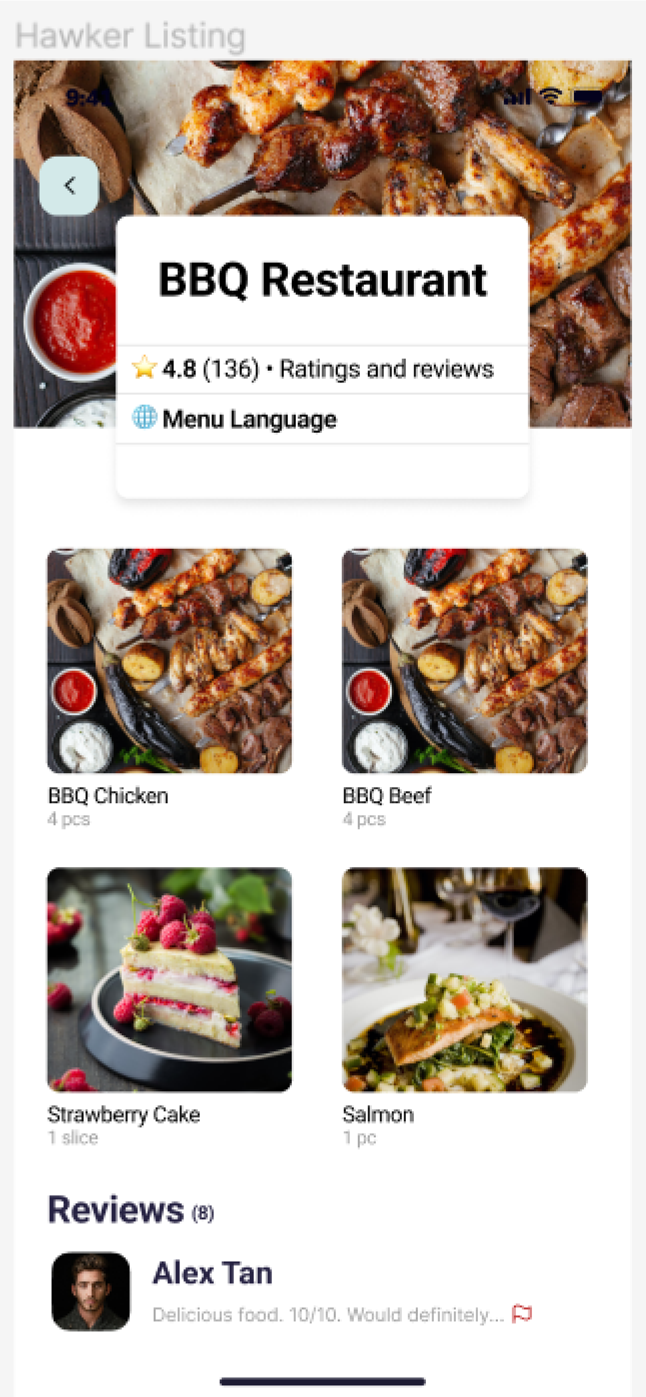
BBQ Restaurant
40 mins • 1.5 km

Pasta Express
10 mins • 0.4 km

Pizza Hut
30 mins • 1.0 km

Cake Shop
20 mins • 0.7 km

4.5 Hawker Listing



Hawker Listing

9:41

BBQ Restaurant

⭐ 4.8 (136) • Ratings and reviews

🌐 Menu Language

BBQ Chicken
4 pcs

BBQ Beef
4 pcs

Strawberry Cake
1 slice

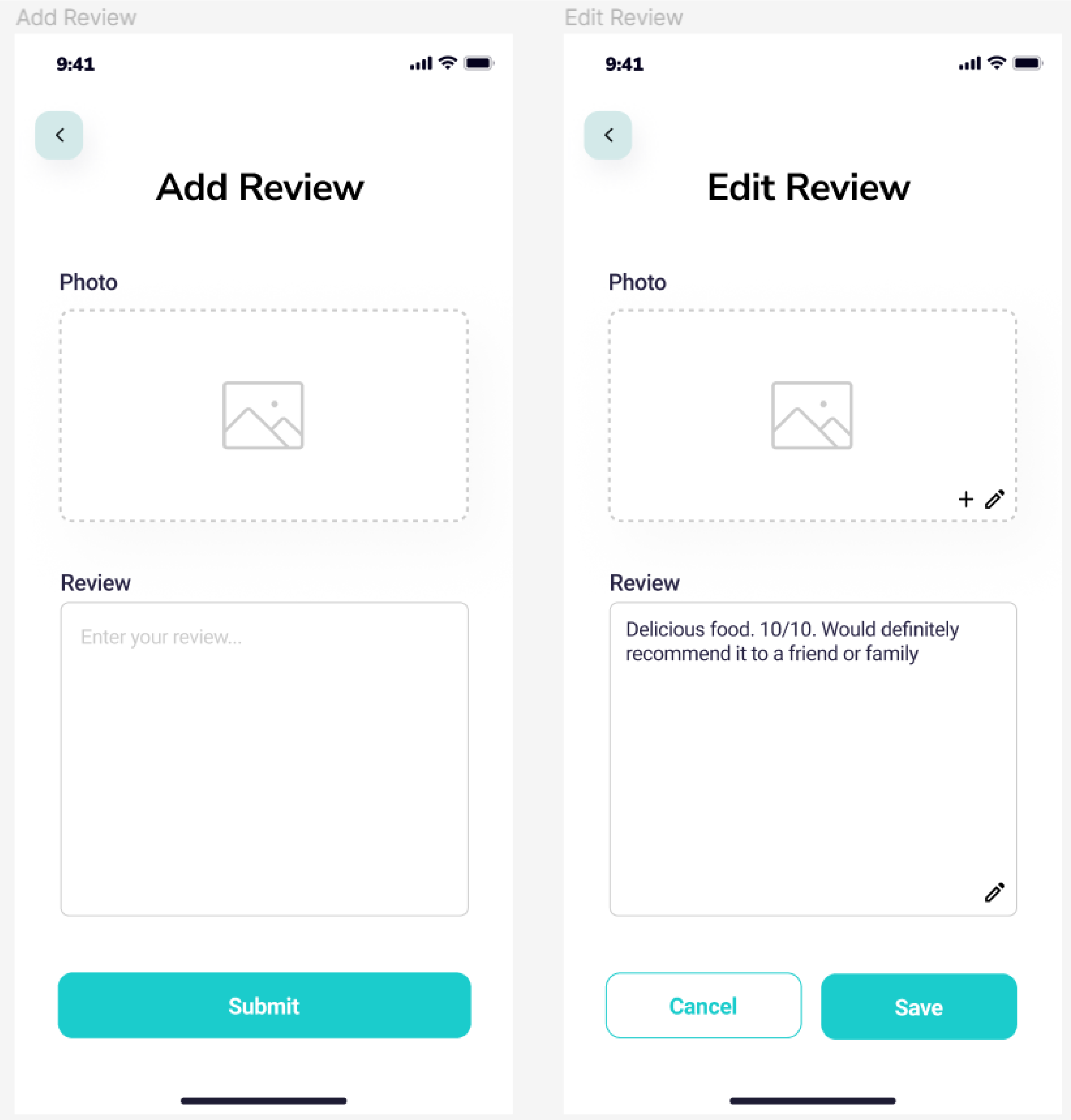
Salmon
1 pc

Reviews (8)

Alex Tan

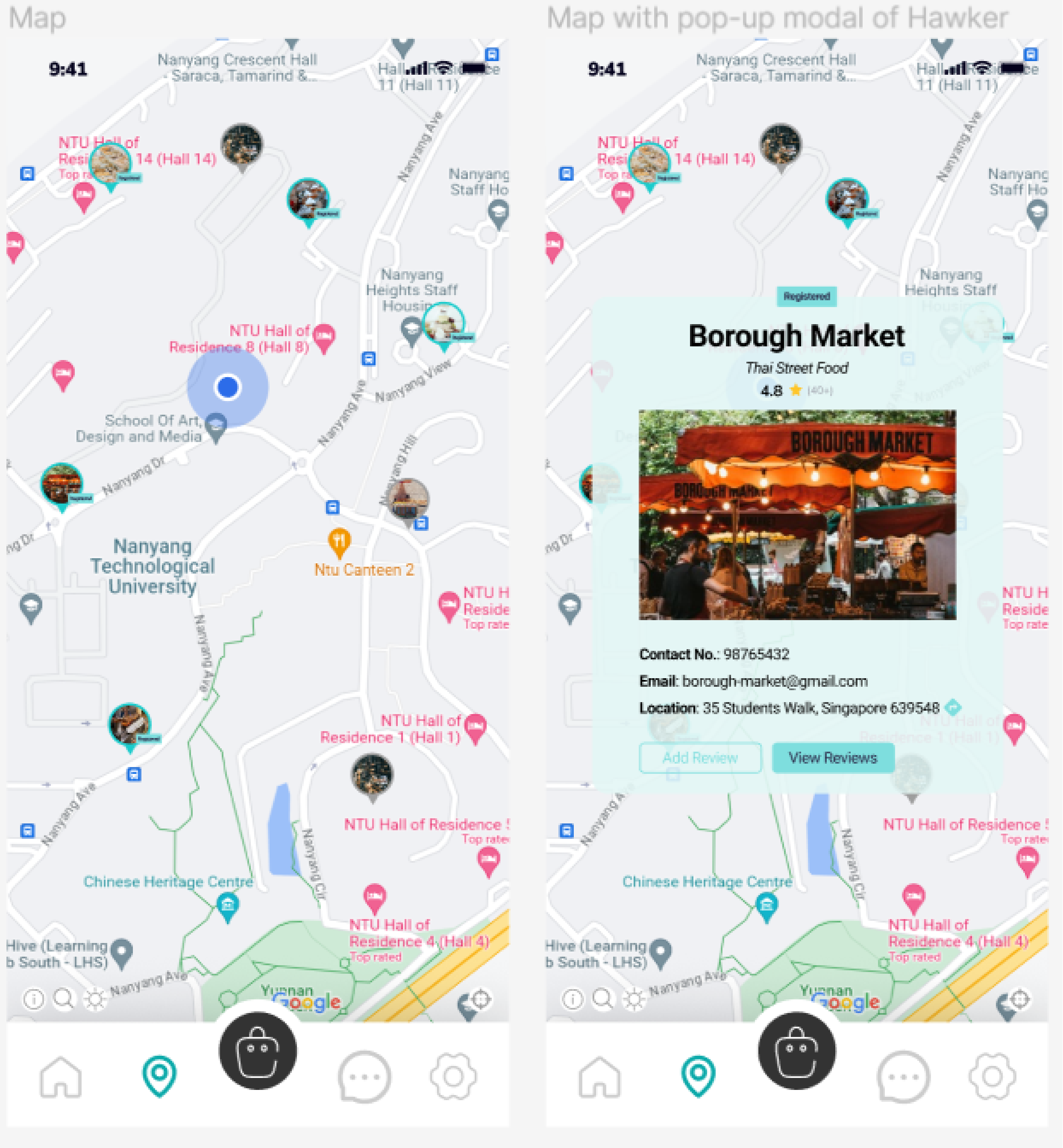
Delicious food. 10/10. Would definitely...

4.6 Add Review + Edit Review



Delicious food. 10/10. Would definitely recommend it to a friend or family

4.7 Map – Interactive Map + Directions + Weather + Hawker Pop-up Modal



Map

Map with pop-up modal of Hawker

9:41
Nanyang Crescent Hall - Saraca, Tamarind &...
Hall 11 (Hall 11)
NTU Hall of Residence 14 (Hall 14)
Top rated
Nanyang Staff Ho
Nanyang Heights Staff Housing
NTU Hall of Residence 8 (Hall 8)
Nanyang View
Nanyang Ave
School Of Art, Design and Media
Nanyang Dr
Nanyang Hill
Nanyang Technological University
Ntu Canteen 2
NTU Hall of Residence
Top rated
Nanyang Ave
NTU Hall of Residence 1 (Hall 1)
NTU Hall of Residence
Top rated
Chinese Heritage Centre
Nanyang Cir
NTU Hall of Residence 4 (Hall 4)
Top rated
Hive (Learning Hub South - LHS)
Nanyang Ave
Yunnan
Google
Registered

Registered

Borough Market

Thai Street Food

4.8 ★ (40+)

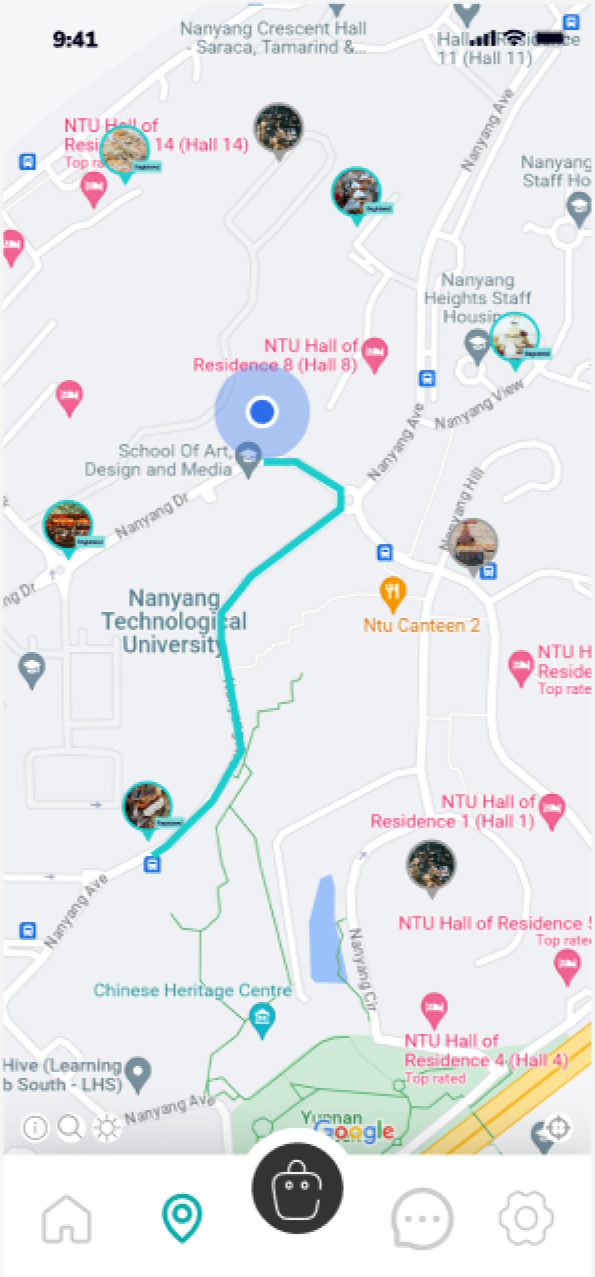
Contact No.: 98765432

Email: borough-market@gmail.com

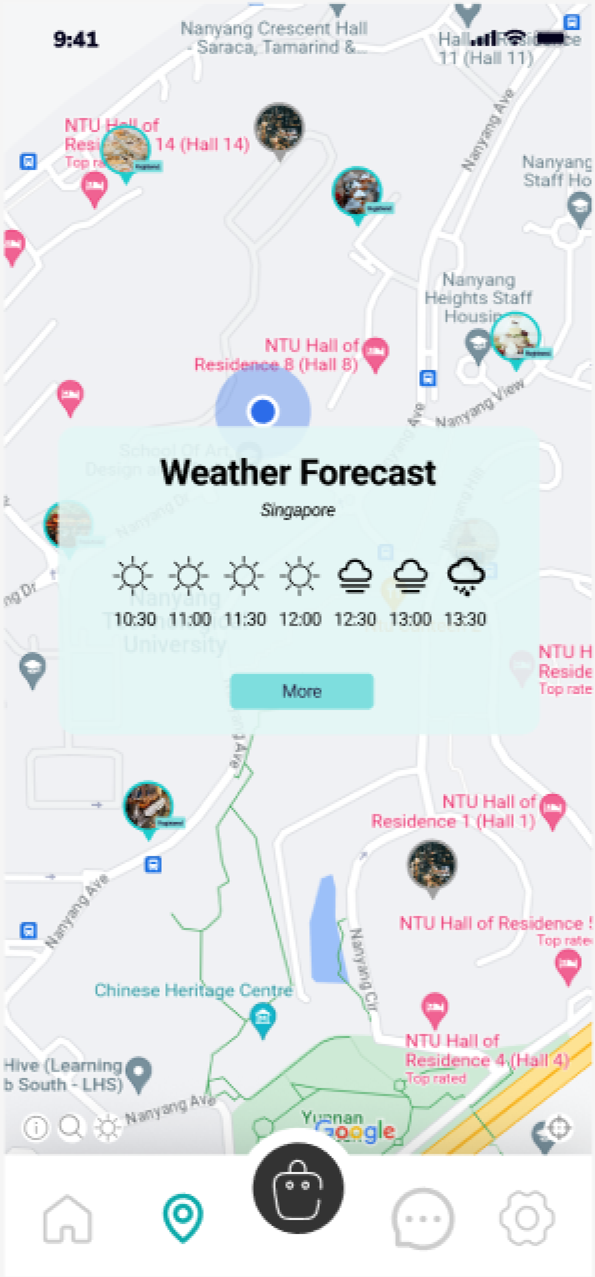
Location: 35 Students Walk, Singapore 639548

Add Review | View Reviews

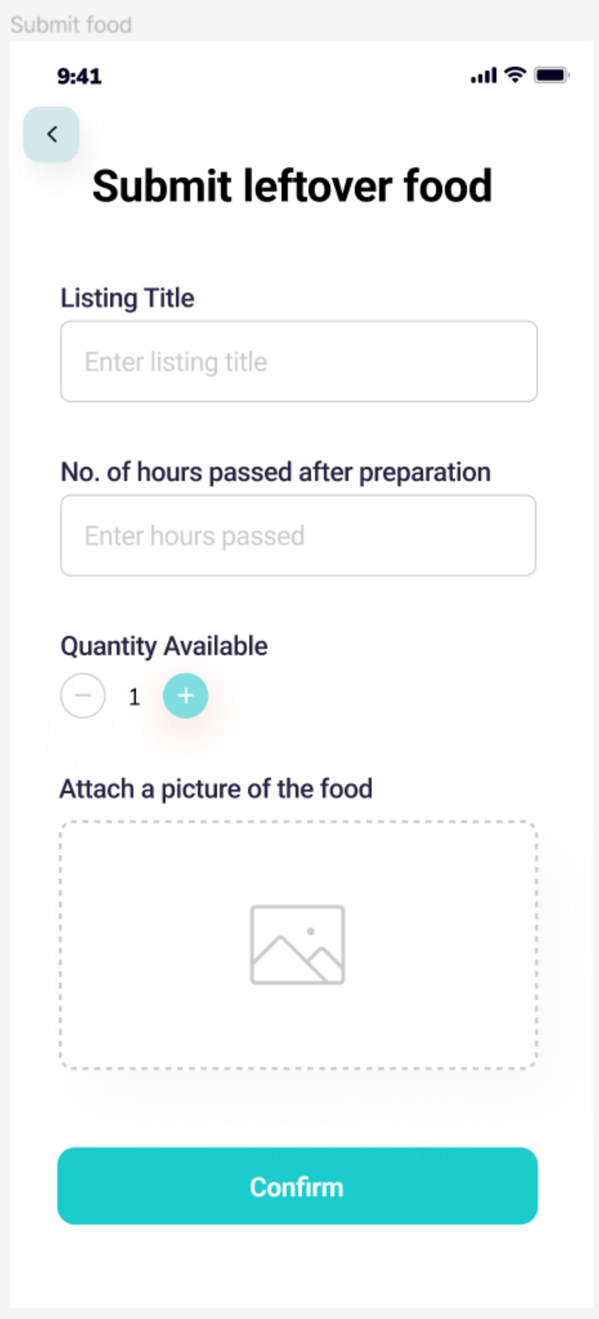
Directions


9:41
Nanyang Crescent Hall - Saraca, Tamarind &...
Hall of Residence 11 (Hall 11)
NTU Hall of Residence 14 (Hall 14)
Top rated
Nanyang Ave
Nanyang Staff Ho
Nanyang Heights Staff Housing
NTU Hall of Residence 8 (Hall 8)
Nanyang View
School Of Art, Design and Media
Nanyang Dr
Nanyang Technological University
Ntu Canteen 2
Nanyang Hill
NTU Hall of Residence
Top rated
NTU Hall of Residence 1 (Hall 1)
NTU Hall of Residence 5
Top rated
Nanyang Cir
Chinese Heritage Centre
NTU Hall of Residence 4 (Hall 4)
Top rated
Hive (Learning Hub South - LHS)
Nanyang Ave
Yunnan
Google

Weather


9:41
Nanyang Crescent Hall - Saraca, Tamarind &...
Hall of Residence 11 (Hall 11)
NTU Hall of Residence 14 (Hall 14)
Nanyang Staff Ho
Nanyang Heights Staff Housing
NTU Hall of Residence 8 (Hall 8)
Nanyang View
Weather Forecast
Singapore
10:30
11:00
11:30
12:00
12:30
13:00
13:30
More
NTU Hall of Residence
Top rated
NTU Hall of Residence 1 (Hall 1)
NTU Hall of Residence 5
Top rated
Nanyang Cir
Chinese Heritage Centre
NTU Hall of Residence 4 (Hall 4)
Top rated
Hive (Learning Hub South - LHS)
Nanyang Ave
Yunnan
Google

4.8 Hawker-related – Submit Leftover Food



Submit food

9:41

Submit leftover food

Listing Title

Enter listing title

No. of hours passed after preparation

Enter hours passed

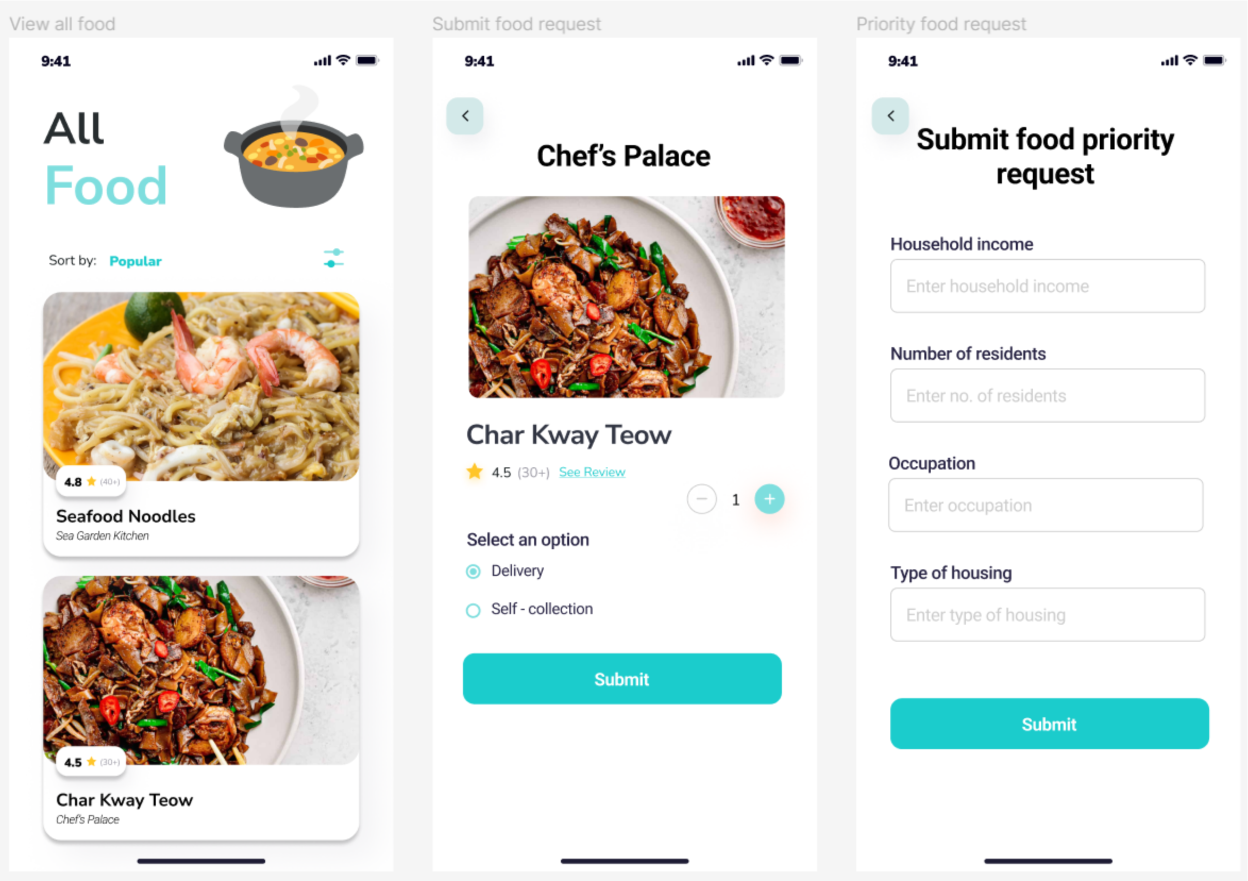
Quantity Available

− 1 +

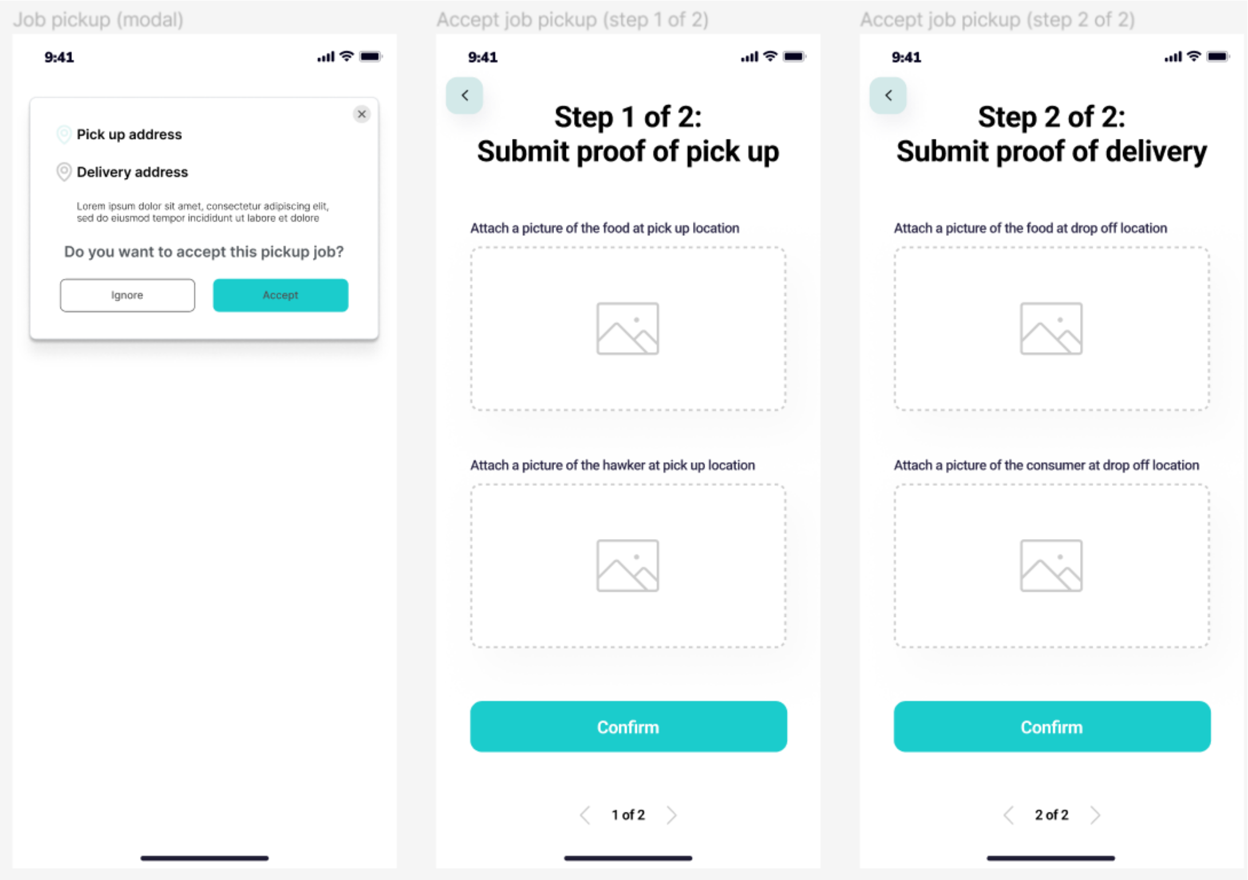
Attach a picture of the food

Confirm

4.9 Consumer-related – View all leftover food + Submit food request + Priority Food Request



4.10 Driver-related – Job Pickup Modal + Accept Job Pickup Screens



Job pickup (modal)

Pick up address

Delivery address

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore

Do you want to accept this pickup job?

Accept job pickup (step 1 of 2)

Step 1 of 2:
Submit proof of pick up

Attach a picture of the food at pick up location

Attach a picture of the hawker at pick up location

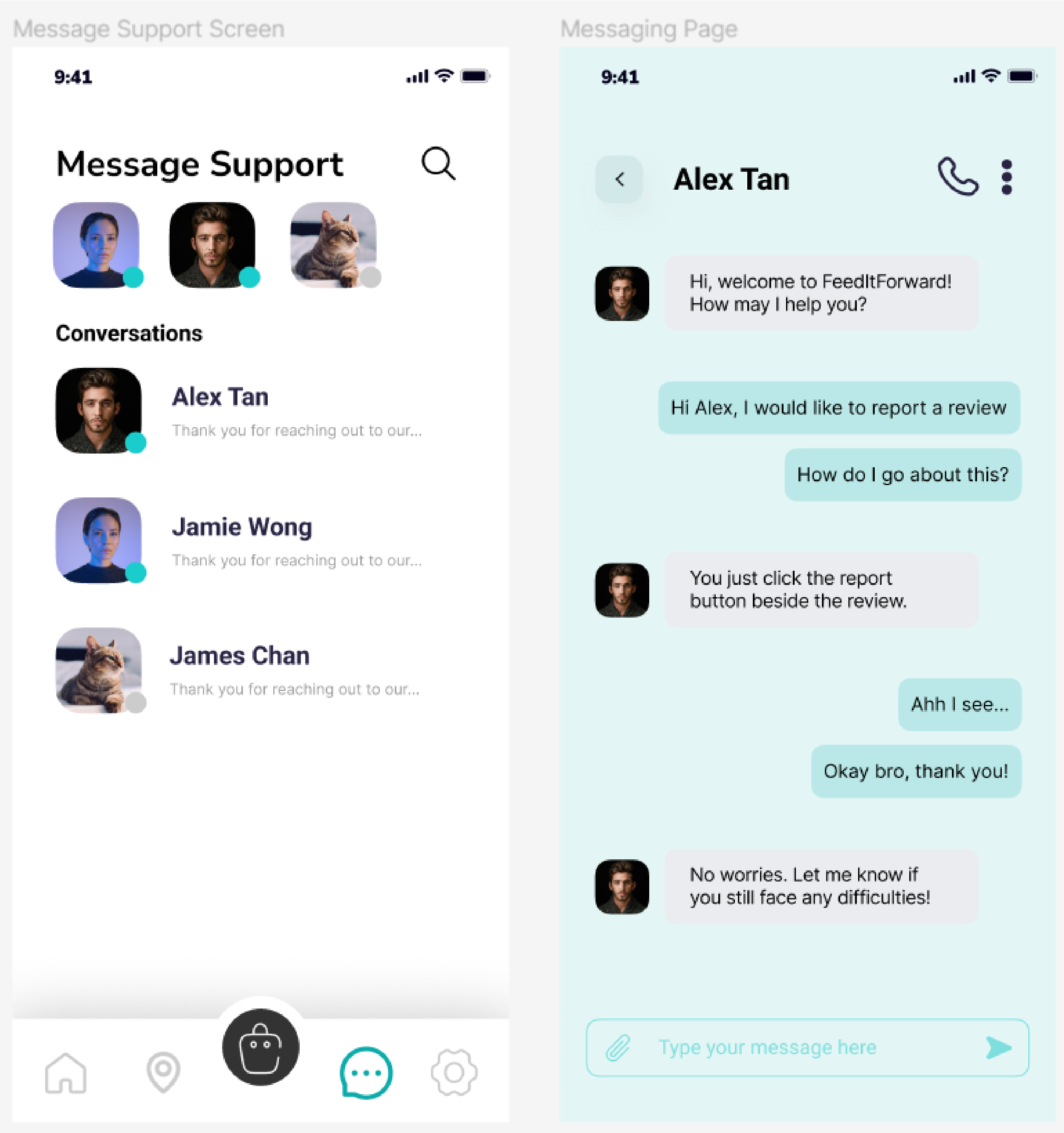
Accept job pickup (step 2 of 2)

Step 2 of 2:
Submit proof of delivery

Attach a picture of the food at drop off location

Attach a picture of the consumer at drop off location

4.11 Customer Service Support – Messaging & Call



Message Support Screen

9:41

Message Support

Conversations

Alex Tan

Thank you for reaching out to our...

Jamie Wong

Thank you for reaching out to our...

James Chan

Thank you for reaching out to our...

Messaging Page

9:41

Alex Tan

Hi, welcome to FeedItForward! How may I help you?

Hi Alex, I would like to report a review

How do I go about this?

You just click the report button beside the review.

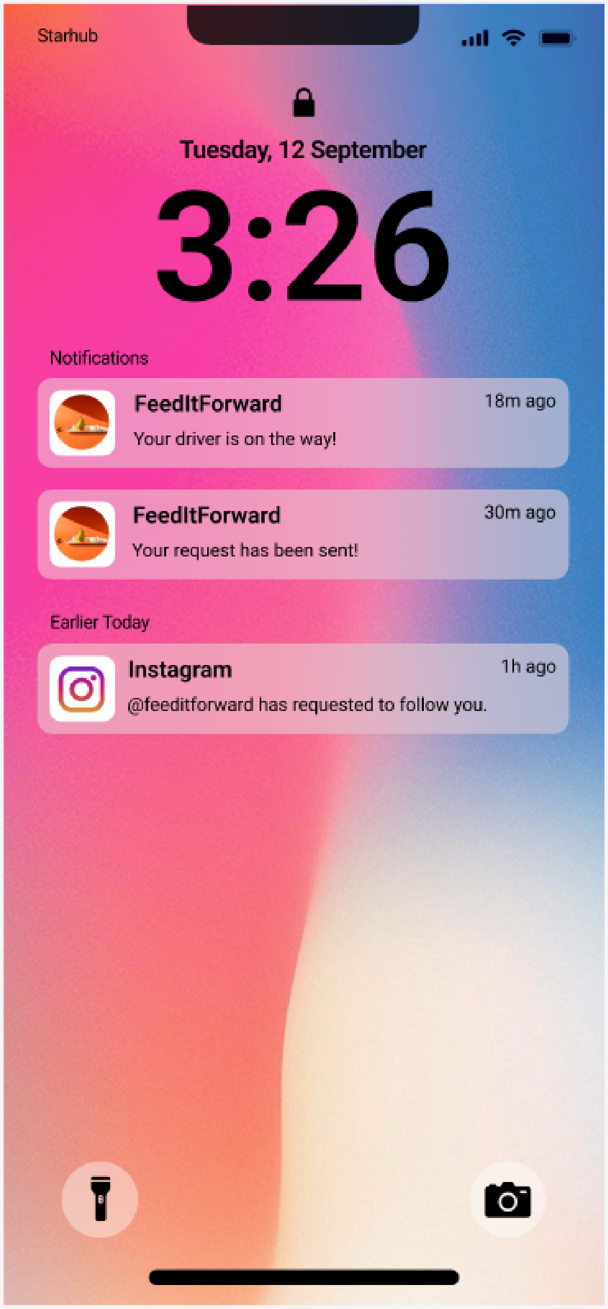
Ahh I see...

Okay bro, thank you!

No worries. Let me know if you still face any difficulties!

4.12 App Notifications

Lock Screen - Notifications



Starhub

Tuesday, 12 September

3:26

Notifications

FeedItForward 18m ago

Your driver is on the way!

FeedItForward 30m ago

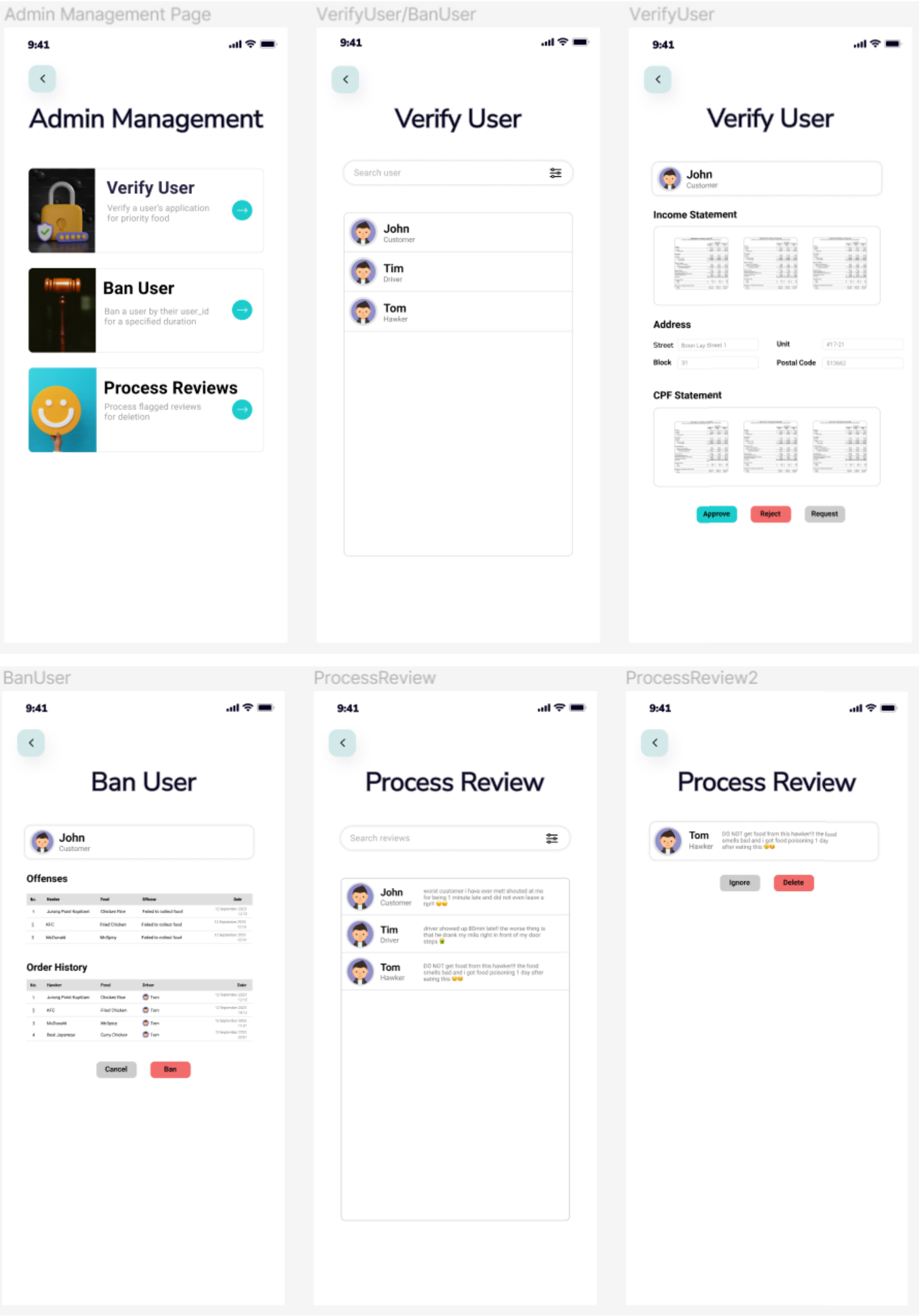
Your request has been sent!

Earlier Today

Instagram 1h ago

@feeditforward has requested to follow you.

4.13 Admin-related – Admin Management + Ban User + Verify User + Process Reviews Screens



Admin Management Page
9:41
Admin Management
Verify User
Verify a user's application for priority food
Ban User
Ban a user by their user_id for a specified duration
Process Reviews
Process flagged reviews for deletion

Street: Boon Lay Street 1
Unit: #17-21
Block: 31
Postal Code: 513662

Offenses

No.	Hawker	Food	Offense	Date
1	Jurong Point Kopitiam	Chicken Rice	Failed to collect food	12 September 2023 12:14
2	KFC	Fried Chicken	Failed to collect food	12 September 2023 12:10
3	McDonald	McSpicy	Failed to collect food	11 September 2023 12:10

Order History

No.	Hawker	Food	Driver	Date
1	Jurong Point Kopitiam	Chicken Rice	Tom	12 September 2023 12:15
2	KFC	Fried Chicken	Tom	12 September 2023 18:12
3	McDonald	McSpicy	Tom	13 September 2023 11:01
4	Best Japanese	Curry Chicken	Tom	13 September 2023 20:01

John Customer	worst customer i have ever met! shouted at me for being 1 minute late and did not even leave a tip!!! 😡😡
Tim Driver	driver showed up 80min late!! the worse thing is that he drank my milo right in front of my door steps 🤮
Tom Hawker	DO NOT get food from this hawker!!! the food smells bad and i got food poisoning 1 day after eating this 😡😡

Tom Hawker	DO NOT get food from this hawker!!! the food smells bad and i got food poisoning 1 day after eating this 😡😡