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TECHNOLOGICAL  
UNIVERSITY**  
**SINGAPORE**

**SC2006 - Software Engineering  
SRS**

Lab Group: SCSD

Team: FeedEmGreens

Members: Rushaidy, Rajath, Hanzhi, Girija, Yohesh

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# **1. Project Mission Statement**

FeedEmGreens' intention is to develop an application which will help ease health-oriented individuals or people with dietary restrictions to locate and direct them towards cheap, hygienic and healthy eateries based on their personalization.

# **2. Documentation of functional and non-functional requirements**

## **A. Functional Requirements**

1. The system shall perform user authentication to allow Users to use the application.
  - 1.1. The system shall allow Users to create an account
    - 1.1.1. Users shall enter at minimum: username, email, and password.
    - 1.1.2. An account created shall be tagged with the “User” role.
  - 1.2. The system shall allow Administrators to create an account with Admin privileges.
    - 1.2.1. Administrators shall enter username, email, and password.
    - 1.2.2. The “Admin” role shall be tagged to the account upon creation.
  - 1.3. The system shall allow Users to sign in with the account they created.
    - 1.3.1. Users shall enter their username and password to log into the application
    - 1.3.2. The system shall mask passwords with asterisks unless the unhide option is selected.
    - 1.3.3. If the username or password is incorrect, the system shall display: *“The username or password is incorrect. Please try again.”*
    - 1.3.4. After 3 unsuccessful attempts within 5 minutes, the system shall lock the account for 30 minutes.
2. The system shall allow Users to discover the location of healthier eateries

- 2.1. The system shall display healthier hawker centres and stalls on login.
  - 2.1.1. The system shall display results in list views.
  - 2.1.2. The system shall allow Users to search by stall name, hawker centre name, or location keyword.
  - 2.1.3. The system shall display for each result: name, address (with map pin), food categories, operating hours, and price indicator.
  - 2.1.4. If any information is missing, the system shall display “Unavailable” for that field.
  - 2.1.5. In the list form, the system shall sort search results according to distance.
- 2.2. The system shall allow Users to sort results.
  - 2.2.1. Sorting options shall include distance, average price, and popularity.
- 2.3. The system shall allow Users to filter results
  - 2.3.1. Users can filter eateries based on dietary tags, maximum budget, distance from current or chosen location and healthy options
  - 2.3.2. The system shall output filtered results in a form of lists sorted according to distance, price or popularity
3. The system shall provide crowd estimation for Users.
  - 3.1. The system shall display a **crowd indicator** for the area around the eatery
  - 3.2. The crowd indicator shall classify levels as Low (< 5 mins), Medium (5-15 mins) , or High (>15 mins).
  - 3.3. The system shall perform crowd estimation using contextual factors.
    - 3.3.1. The system shall use time of day to refine estimation (e.g., peak lunch and dinner hours).
    - 3.3.2. The system shall use day of week to refine estimation (e.g., weekends vs weekdays).
    - 3.3.3. The system shall combine contextual factors with real-time or historical data to refine queue and crowd estimates
  - 3.4. The system shall handle unavailable data.

- 3.4.1. If neither real-time nor historical data is available, the system shall display “Crowd data unavailable.”
4. The system can direct Users to the location of their desired eatery.
  - 4.1. The system shall provide a “Get Directions” option on each hawker centre detail page
    - 4.1.1. The system shall generate optimal routes to the selected hawker centre or stall using the OneMap API.
    - 4.1.2. The system shall request location access to detect the User’s current location for route calculation.
    - 4.1.3. If location access is denied by the User, the system shall allow the User to manually enter a starting point.
    - 4.1.4. The system shall display multiple modes of transportation supported by OneMap (e.g., walking, bus, train, driving).
    - 4.1.5. For each mode, the system shall display estimated travel time and distance.
    - 4.1.6. If the OneMap API is unavailable, the system shall display the notification: **“Directions are not available at this time.”**
5. The system shall suggest food options based on preferences.
  - 5.1. The system shall display recommendations in the home page to authenticated Users only.
    - 5.1.1. If location access is denied and a distance filter is active, the system shall display default results based on distance.
  - 5.2. The system shall generate a recommendation candidate only if stall data meets all constraint requirements.
    - 5.2.1. The system shall exclude any stall that does not have valid distance/location data.
    - 5.2.2. The system shall exclude any stall that does not have valid dietary tag data.
    - 5.2.3. The system shall exclude any stall that is not currently open.
6. The system enables users to share feedback and see aggregated ratings.
  - 6.1. The system shall restrict review and rating actions to authenticated Users only.

- 6.1.1. The system shall not allow non-authenticated Users to submit, edit, or delete reviews.
- 6.1.2. The system shall prompt non-authenticated Users to log in when attempting a review action.
- 6.2. The system shall allow a User to submit one active review per stall.
  - 6.2.1. A review shall include a **Health Score** (1–5 scale, integers only).
  - 6.2.2. A review shall include a **Hygiene Score** (1–5 scale, integers only).
  - 6.2.3. A review may include optional text feedback.
  - 6.2.4. A review may include optional photos.
  - 6.2.5. If the User has an existing review for the stall, the system shall open the existing review for editing instead of creating a new one.
  - 6.2.6. On successful submission, the system shall confirm with “Review posted.”
- 6.3. The system shall allow a User to edit their own review.
  - 6.3.1. The system shall allow editing of Health Score, Hygiene Score, text, and photos.
  - 6.3.2. On successful update, the system shall confirm with “Review updated.”
- 6.4. The system shall allow a User to delete their own review.
  - 6.4.1. The system shall display a confirmation prompt before deletion.
  - 6.4.2. On deletion, the system shall remove the review and confirm with “Review deleted.”
- 6.5. The system shall allow Users to flag a review as inappropriate.
  - 6.5.1. A flag shall include a selected reason (e.g., spam, offensive, false information).
  - 6.5.2. On successful flag submission, the system shall confirm with “Review reported.”
  - 6.5.3. The system shall add flagged reviews to the Admin moderation queue.
- 6.6. The system shall display reviews on the stall details page.
  - 6.6.1. Each review shall show Health Score, Hygiene Score, text (if any), photos (if any), author alias, and timestamp.
  - 6.6.2. The system shall label the User’s own review as “Your review.”
  - 6.6.3. The system shall sort reviews by Most Recent by default.
  - 6.6.4. The system shall allow sorting by Highest Health Score and Highest Hygiene Score.
  - 6.6.5. If no reviews exist, the system shall display “No reviews yet.”
- 6.7. The system shall display aggregated scores for each stall.
  - 6.7.1. The system shall display the **average Health Score** (to one decimal place).

- 6.7.2. The system shall display the **average Hygiene Score** (to one decimal place).
  - 6.7.3. The system shall display the total number of reviews used in each average.
  - 6.7.4. The system shall update averages immediately after a review is added, edited, or deleted.
  - 6.8. The system shall prevent review spam and duplicates.
    - 6.8.1. The system shall restrict each User to one active review per stall.
    - 6.8.2. The system shall enforce a minimum interval of 7 days between new review submissions for the same stall by the same User (edits are allowed anytime).
  - 6.9. The system shall handle validation and error states for review actions.
    - 6.9.1. If required fields (Health Score, Hygiene Score) are missing, the system shall display an inline validation message and prevent submission.
    - 6.9.2. If photo upload fails, the system shall display "Photo upload failed" and allow resubmission without photos.
    - 6.9.3. If a network error occurs, the system shall display "Unable to submit review. Please try again."
  - 6.10. The system shall expose review management actions via clear UI controls.
    - 6.10.1. The system shall provide **Write review**, **Edit**, **Delete**, and **Report** buttons where applicable.
    - 6.10.2. The system shall disable **Edit** and **Delete** for reviews not authored by the current User.
  - 6.11. The system shall ensure consistency between review list and details.
    - 6.11.1. After adding, editing, or deleting a review, the system shall refresh the review list and aggregated Health/Hygiene scores shown on the stall details page.
7. The system shall allow users to redeem rewards for using the application.
- 7.1. The system shall award points to authenticated Users for specific actions.
    - 7.1.1. The system shall award points when a User submits a Health & Hygiene review.
    - 7.1.2. The system shall prevent awarding duplicate points for the same action within a 24-hour period.
  - 7.2. The system shall display the User's points balance.
    - 7.2.1. The points balance shall be displayed on the User's profile page.
  - 7.3. The system shall allow Users to redeem rewards with points.
    - 7.3.1. The system shall display a list of available rewards and their required point values.

- 7.3.2. The system shall allow a User to confirm redemption with a “Redeem” button.
  - 7.3.3. On successful redemption, the system shall deduct the corresponding points from the User’s balance.
  - 7.3.4. The system shall confirm redemption with a message “Reward redeemed successfully.”
  - 7.4. The system shall handle insufficient points for redemption.
    - 7.4.1. If a User attempts redemption without enough points, the system shall display “Not enough points.”
    - 7.4.2. The system shall disable the “Redeem” button for rewards where the User’s points are below the required threshold.
  - 7.5. The system shall define reward expiration.
    - 7.5.1. Each redeemed reward shall display an expiry date, if applicable.
    - 7.5.2. The system shall prevent use of rewards after their expiry date.
  - 7.6. The system shall ensure fairness in point awarding.
    - 7.6.1. The system shall not allow manual modification of points by Users.
    - 7.6.2. The system shall log all point transactions (award, redemption, expiry) for audit.
- 8. The system shall allow authenticated Admins to manage content quality and verify sensitive information.
    - 8.1. The system shall restrict moderation actions to authenticated Admins only.
      - 8.1.1. The system shall not allow non-Admin Users to access moderation functions.
      - 8.1.2. The system shall prompt login if a non-authenticated User attempts to access moderation.
    - 8.2. The system shall provide an Admin dashboard.
      - 8.2.1. The dashboard shall display flagged reviews requiring moderation.
      - 8.2.2. The dashboard shall display reported hygiene/health reviews requiring moderation.
      - 8.2.3. The dashboard shall provide access to dietary tag management for stalls.
    - 8.3. The system shall allow Admins to act on flagged reviews.
      - 8.3.1. The system shall allow Admins to approve a flagged review as valid.
      - 8.3.2. The system shall allow Admins to hide a review containing offensive or inappropriate content.
      - 8.3.3. The system shall allow Admins to delete a review entirely.
      - 8.3.4. The system shall require Admins to provide a reason for any removal.

- 8.3.5. The system shall notify the User who authored the review of the moderation outcome.
- 8.4. The system shall allow Admins to modify dietary tags in the database.
  - 8.4.1. The system shall allow Admins to add a dietary tag (e.g., Halal, Vegetarian, Healthy) to a stall.
  - 8.4.2. The system shall allow Admins to remove a dietary tag from a stall.
  - 8.4.3. The system shall allow Admins to edit existing dietary tags for accuracy.
  - 8.4.4. Changes to dietary tags shall be updated in the User-facing app immediately after Admin confirmation.
- 8.5. The system shall ensure all Admin actions are logged.
  - 8.5.1. Each moderation action shall log: Admin ID, action type, target (review/tag/user), timestamp, and outcome.
  - 8.5.2. Logs shall be viewable only by Admins and system auditors.
- 8.6. The system shall handle error and edge cases.
  - 8.6.1. If a moderation action fails due to network or database error, the system shall display “Action could not be completed. Please try again.”
  - 8.6.2. If an Admin attempts to act on a review or tag that has already been resolved, the system shall display “This item has already been moderated.”

## B. Non-Functional Requirements

### 1. Performance

- The system shall load search results and recommendations within 2 seconds under normal network conditions.
- The system shall handle at least 500 concurrent users with no noticeable degradation in response time.
- Queue and crowd estimation data shall be updated at least every 5 minutes.
- Application startup time shall not exceed **5 seconds** on a **mid-range smartphone (e.g. iPhone 12, Samsung Galaxy S20, or equivalent with 6GB RAM and 4G connection)**.

### 2. Scalability

- The system shall support scaling to 10,000 registered users without requiring major architectural changes.
- The system design shall allow easy integration of additional hawker centres and stalls without downtime.

### 3. Usability

- The system shall allow a User to locate a stall (search + filters) within 3 interactions or fewer
- The system shall provide an intuitive and mobile-friendly interface, with at least 90% of test users rating usability  $\geq 4/5$  during usability testing.
- The system shall allow smooth map zoom and pan with a delay of less than **2 seconds**.
- Users should have the ability to view, access, edit, share, or opt out of sharing specific aspects of their data.

### 4. Reliability & Availability

- The system shall achieve 99.5% uptime per month, excluding scheduled maintenance.
- The system shall ensure no more than 1 minute of downtime per week due to unexpected failures.
- If the map API is unavailable, the system shall display a fallback message (e.g. “Map currently not available”) within 2 seconds.

### 5. Security

- All user credentials shall be stored securely using hashed and salted passwords.
- The system shall enforce multi-factor authentication (MFA) for admin  
The system shall request explicit User consent before accessing location data.

- Only authorised Admin accounts shall have access to moderation and management features.

## **6. Data Accuracy**

- Nutritional information and stall tags (e.g., “Healthier Choice”) shall be verified quarterly to ensure data reliability.

## **7. Legal & Compliance**

- The system shall comply with Singapore’s PDPA for handling personal data.
- All geolocation data shall be anonymized when stored or analyzed for recommendations.

## **8. Gamification & Incentives**

- Points and rewards shall be processed within 2 seconds of meal logging or redemption.
- Reward redemption systems shall prevent duplicate or fraudulent claims through transaction logging and validation.

## **9. Supportability**

- The database must be replaceable with any commercial product supporting standard SQL queries.

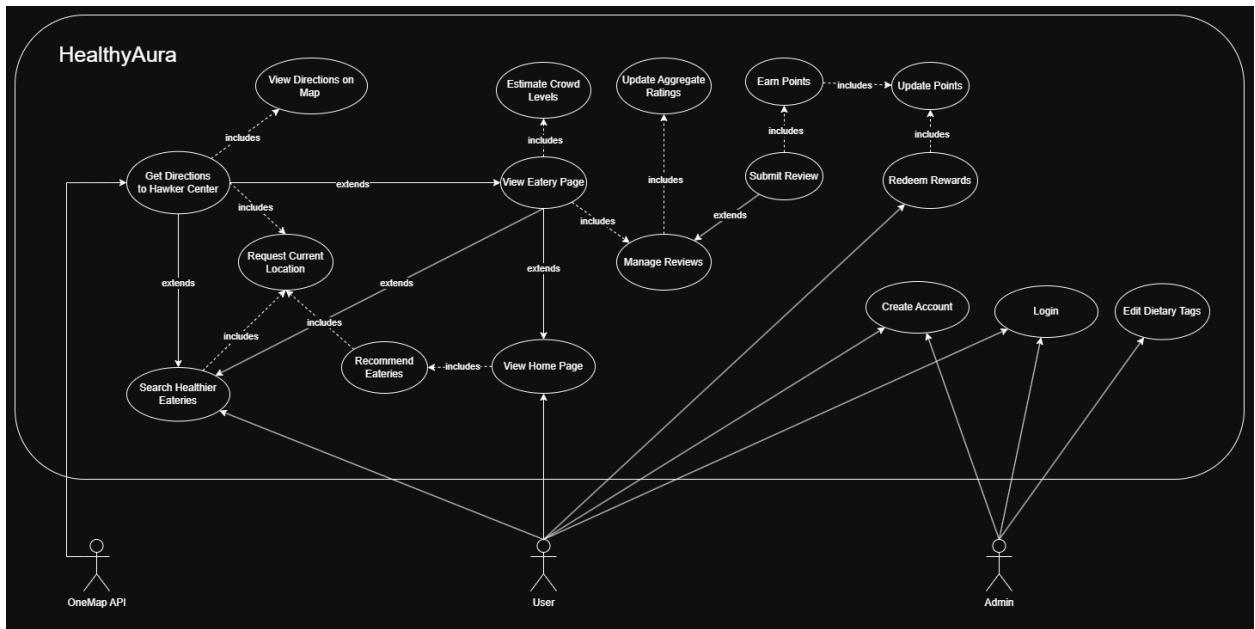
### **3. Data Dictionary**

<b>TERM</b>	<b>DEFINITION</b>
Account	A registered User profile containing login credentials and optional personal data (e.g., dietary preferences, profile picture, review history).
Admin	A User with special privileges for moderation, managing reviews, editing dietary tags, and resolving support tickets.
Application (App)	The mobile software application that enables Users to discover healthier food options in Singapore hawker centres and stalls
Consumer	A person that uses HealthyAura to view Hawker centre's review, search for healthier food places, and perform consumer-specific tasks.
Crowd Indicator	A measure of busyness in the area around a hawker centre, classified as Low, Medium, or High
Dietary preference	A User's chosen food requirements (e.g., Halal, vegetarian, healthier choice) that the system uses to filter and personalise recommendations.
Dietary Tag	A label applied to a stall to indicate suitability for specific diets (e.g., Halal, vegetarian, vegan, healthier choice). Dietary tags are managed by Admins
Food place / Stall	Any hawker centre or stall displayed in the app with location, dietary tags, and hygiene rating.
Hawker centre	A food court in Singapore containing multiple stalls.
Healthier choice	A certification under Health Promotion

	Board (HPB) guidelines for healthier meals.
Hygiene rating	Cleanliness grading from user reviews and displayed in the app to help users choose cleaner and safer food outlets.
Map	An interactive feature that displays hawker centres and stalls, filtered by distance, dietary tags, and hygiene rating.
Points	A numerical value earned by Users for completing defined actions (e.g., healthy food choice, review submission), which can be redeemed for reward
Queue Indicator	An estimate of waiting time at a specific stall, shown to the User
Recommendation	A personalised suggestion for a stall or hawker centre, shown to the User based on dietary preferences, distance, and health criteria
Review	User-generated feedback on food quality, hygiene, and service at a food place, consisting of Health and Hygiene scores, optional text, and optional photos.
Reward	A benefit (e.g., points, vouchers, or discounts) granted to a user upon completing specific actions in the system, such as successful purchases, submitting reviews etc
Search	A User-submitted request for assistance, tracked with unique ID and status
User	<p>An individual who has created an account in the application. A User may hold one of the following roles:</p> <ul style="list-style-type: none"> <li>• <b>Admin</b> – has privileges to manage reviews, dietary tags, support tickets, and User accounts.</li> <li>• <b>Standard User</b> – can search, filter,</li> </ul>

view, and review eateries, as well as receive recommendations.

## 4. Use Case Diagram



## A. Use Case Descriptions

### 1. Use Case 1 - Create Account

Use Case ID:	UC-1		
Use Case Name:	Create Account		
Created By:	Rushaidy	Last Updated By:	Rushaidy
Date Created:	30th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"><li>• User (primary)</li><li>• Admin (for admin account creation)</li></ul>
Description:	This use case allows a new User / Admin to register an account in the application with required and optional details.
Preconditions:	<ul style="list-style-type: none"><li>• System is online and registration service available.</li><li>• User is not currently authenticated.</li></ul>
Postconditions	<ul style="list-style-type: none"><li>• A new account with the correct role is created.</li><li>• If unsuccessful, no account is created and entered data is discarded or saved as draft.</li></ul>
Priority:	High
Frequency of Use:	High during initial rollout; moderate thereafter.
Flow of Events:	<ol style="list-style-type: none"><li>1. The User selects Sign Up.</li><li>2. The system prompts for required fields: username, email, password.</li><li>3. The User enters the required information.</li><li>4. The system prompts for optional fields: mobile number, diet preferences, profile picture.</li><li>5. The User may enter optional information.</li><li>6. The system validates uniqueness of username/email and password complexity.</li><li>7. If valid, the system creates a new account tagged with “User” role for Users and “Admin” roles for admin.</li><li>8. The system confirms successful account creation to the User / Admin.</li></ol>

Alternative Flows:	<p><b>AF-1:</b> Email already registered</p> <ol style="list-style-type: none"> <li>1. During validation, the system detects that the email is already in use.</li> <li>2. System displays “Email already in use” and prompts user to either provide another email or recover account.</li> <li>3. User chooses a path and the system continues accordingly</li> </ol> <p><b>AF-2:</b> Username unavailable</p> <ol style="list-style-type: none"> <li>1. System detects the chosen username is taken.</li> <li>2. System suggests available variants.</li> <li>3. User selects a suggested name or enters a new one; system revalidates.</li> </ol> <p><b>AF-3:</b> Skipping optional fields</p> <ol style="list-style-type: none"> <li>1. If the user skips optional details, the system creates the account with a minimal profile.</li> </ol>
Exceptions:	<p><b>EX-1:</b> Weak password</p> <ul style="list-style-type: none"> <li>• If the password does not meet policy, the system blocks account creation and displays password rules.</li> </ul> <p><b>EX-2:</b> Unauthorized admin creation</p> <ul style="list-style-type: none"> <li>• If a non-admin tries to create an Admin account, the system blocks the attempt, logs it, and informs the user.</li> </ul> <p><b>EX-3:</b> Technical failure</p> <ul style="list-style-type: none"> <li>• If there is a network or database error, the system saves the entered data temporarily and prompts the user to retry.</li> </ul>
Includes:	None
Special Requirements:	<ol style="list-style-type: none"> <li>1. Passwords must be hashed and salted before storage.</li> <li>2. Real-time validation for email/username/password to reduce retries.</li> <li>3. Captcha or equivalent must be implemented to prevent automated sign-ups.</li> </ol>

Assumptions:	Email verification service is active.
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## 2. Use Case 2 - Login

Use Case ID:	UC-2		
Use Case Name:	Login		
Created By:	Rushaidy	Last Updated By:	Rushaidy
Date Created:	30th August 2025	Date Last Updated:	2nd September 2025

Actor:	User or Admin
Description:	This use case authenticates user / admin with username and password.
Preconditions:	<ul style="list-style-type: none"> <li>The user has a registered account.</li> <li>The account is active and not locked.</li> </ul>
Postconditions	<ul style="list-style-type: none"> <li>On success: Session token issued, last login updated.</li> <li>On failure: No session created, attempt logged.</li> </ul>
Priority:	High
Frequency of Use:	Very high (daily).
Flow of Events:	<ol style="list-style-type: none"> <li>User / Admin selects <b>Login</b>.</li> <li>System prompts for username/email and password.</li> <li>User / Admin enters credentials.</li> <li>System masks password by default.</li> <li>User may unhide password.</li> <li>System validates credentials.</li> <li>If valid, grants access.</li> </ol>
Alternative Flows:	<p><b>AF-1:</b> Login with email instead of username</p> <ol style="list-style-type: none"> <li>User enters registered email instead of username.</li> <li>System maps email to account and continues authentication.</li> </ol>

Exceptions:	<p><b>EX-1:</b> Invalid credentials</p> <ul style="list-style-type: none"> <li>• If details are incorrect, the system denies access, displays an error, and increments the failed login counter.</li> </ul> <p><b>EX-2:</b> Account locked</p> <ul style="list-style-type: none"> <li>• If the account is locked or suspended, the system blocks access and displays a message to contact support.</li> </ul> <p><b>EX-3:</b> Auth service unavailable</p> <ul style="list-style-type: none"> <li>• If the authentication service is down, the system shows “Login unavailable. Please try again later.”</li> </ul>
Special Requirements:	<ol style="list-style-type: none"> <li>1. System should support optional MFA</li> <li>2. Failed login attempts must be logged.</li> </ol>

### 3. Use Case 3 - Search Healthier Eateries

Use Case ID:	UC-3		
Use Case Name:	Search Healthier Eateries		
Created By:	Rajath Krishna	Last Updated By:	Rajath Krishna
Date Created:	30th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>User (primary)</li> <li>Device Location Services (supporting)</li> </ul>
Description:	The User searches for and views a list of healthier hawker centres or stalls. The System presents results with basic details and filters.
Preconditions:	<ul style="list-style-type: none"> <li>User authenticated.</li> <li>Eatery catalog accessible.</li> </ul>
Postconditions	<ul style="list-style-type: none"> <li>Matching eateries are displayed in list.</li> <li>User can select an eatery to view details</li> </ul>
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> <li>User opens the Search screen after login.</li> <li>User is prompted to give current location using included use case <b>UC-3.I1 Request Current Location</b></li> <li>System displays a list of eateries with basic details (name, address, categories, hours, price indicator).</li> <li>User enters a search keyword (e.g., stall name, hawker centre, or location).</li> <li>System updates the list with matching results.</li> <li>User selects an eatery → System executes UC-12 View Eatery Page</li> <li>User selects Get Directions → System executes UC-5 Get Directions to Hawker Centre</li> </ol>
Alternative Flows:	<p><b>AF-1:</b> Location access denied</p> <ol style="list-style-type: none"> <li>User rejects location request.</li> </ol>

	<p>2. System switches to manual search (area or postal code).</p> <p><b>AF-2:</b> No results found</p> <ol style="list-style-type: none"> <li>1. Search query returns no matches.</li> <li>2. System displays “No results found” and suggests broadening filters or nearby areas.</li> </ol>
Exceptions:	<p><b>EX-1:</b> Catalog API failure</p> <ul style="list-style-type: none"> <li>• If the system cannot fetch eatery data, it shows an error message and a Retry option.</li> </ul> <p><b>EX-2:</b> Location fetch timeout</p> <ul style="list-style-type: none"> <li>• If the system cannot get location within a set time, it prompts the user to enter location manually.</li> </ul> <p><b>EX-3:</b> Offline mode</p> <ul style="list-style-type: none"> <li>• If internet connectivity is unavailable, cached results are displayed with the label “Data may be outdated.”</li> </ul>
Includes:	<ul style="list-style-type: none"> <li>• UC-3.I1 Request Current Location</li> <li>• UC-11 Estimate Queue and Crowd Levels</li> </ul>
Extended by:	<ul style="list-style-type: none"> <li>• UC-5 Get Directions to Hawker Centre</li> <li>• UC-12 View Eatery Page</li> </ul>
Special Requirements:	<ol style="list-style-type: none"> <li>1. Search results should update in under 0.5 seconds.</li> </ol>
Assumptions:	

### 3.1. Use Case 3.I1 - Request Current Location

Use Case ID:	UC-3.I1		
Use Case Name:	Request Current Location		
Created By:	Rajath Krishna	Last Updated By:	Rajath Krishna
Date Created:	30th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>● User</li> <li>● Device Location Services</li> </ul>
Description:	The System requests permission to access the User's current location to support location-based search and map features.
Preconditions:	<ul style="list-style-type: none"> <li>● Device location services are enabled.</li> </ul>
Postconditions	<ul style="list-style-type: none"> <li>● User's coordinates retrieved and returned to UC-3.</li> </ul>
Priority:	Medium
Frequency of Use:	Once per session or when re-requested.
Flow of Events:	<ol style="list-style-type: none"> <li>1. System prompts the User for location permission.</li> <li>2. User accepts or denies the request.</li> <li>3. If accepted, System retrieves coordinates and returns them to the parent use case..</li> </ol>
Alternative Flows:	<p><b>AF-1:</b> One-time permission</p> <ol style="list-style-type: none"> <li>1. If user grants permission only for this session, the system re-prompts on the next attempt.</li> </ol> <p><b>AF-2:</b> Manual location entry</p> <ol style="list-style-type: none"> <li>1. If the user chooses not to allow access, the system provides an option to input postal code or area.</li> </ol>
Exceptions:	<p><b>EX-1:</b> Permission denied at OS level</p> <ul style="list-style-type: none"> <li>● The system records the denial and continues UC-3 without location.</li> </ul> <p><b>EX-2:</b> GPS error</p>

	<ul style="list-style-type: none"><li>• The system displays “Unable to detect location” and offers retry or manual entry.</li></ul>
Includes:	None
Special Requirements:	1. Must respect platform-specific permission handling (Android/iOS).
Assumptions:	None

#### 4. Use Case 4 — View Home Page

Use Case ID:	UC-4		
Use Case Name:	View Home Page		
Created By:	Rajath	Last Updated By:	Rajath
Date Created:	3rd October 2025	Date Last Updated:	3rd October 2025

Actor:	<ul style="list-style-type: none"> <li>● User (primary)</li> <li>● System (supporting)</li> <li>● Data Provider APIs / Sensors (optional, supporting)</li> </ul>
Description:	When the User opens the Home page, the system displays recommended eateries based on proximity and profile tags. Recommendations are presented as the main list on the Home page
Preconditions:	<ul style="list-style-type: none"> <li>● User authenticated</li> <li>● Eatery catalog accessible.</li> </ul>
Postconditions	<ul style="list-style-type: none"> <li>● The Home page is displayed with a list of recommended eateries.</li> <li>● The User can select an eatery to view details or take further actions.</li> </ul>
Priority:	High
Frequency of Use:	Very high (every Home page visit).
Flow of Events:	<ol style="list-style-type: none"> <li>1. User navigates to the Home page.</li> <li>2. The system includes UC-6 Recommend Eateries to generate a curated list.</li> <li>3. The system displays the recommended eateries on the Home page.</li> <li>4. The User browses the recommendations.</li> <li>5. The User may select an eatery which causes System to execute UC-12 View Eatery Page</li> </ol>
Alternative Flows:	None

Exceptions:	None
Includes:	<ul style="list-style-type: none"><li>• UC-6 Recommend Eateries</li></ul>
Extended by:	<ul style="list-style-type: none"><li>• UC-12 View Eatery Page</li></ul>
Special Requirements:	Home page should render results in under 0.5 seconds after UC-6 completes.
Assumptions:	

**5. Use Case 5 — Get Directions to Hawker Centre (as <<extend>> UC-3, UC-12)**

Use Case ID:	UC-5		
Use Case Name:	Get Directions to Hawker Centre		
Created By:	Rajath Krishna	Last Updated By:	Rajath Krishna
Date Created:	30th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>● User</li> <li>● OneMap API (supporting system)</li> <li>● Device Location Services (supporting system, optional)</li> </ul>
Description:	This use case allows a User to request directions to a selected hawker centre or stall. The system determines the starting point using the device's location (with permission) or allows manual input. The OneMap API then returns optimal routes with multiple modes of transport, ETA and distance to the user.
Preconditions:	<ul style="list-style-type: none"> <li>● Destination is known.</li> <li>● Routing API (OneMap) is available.</li> </ul>
Postconditions	● Optimal route is displayed with mode, ETA, and distance.
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> <li>1. User selects <b>Get Directions</b> on the stall or hawker centre detail page or the search page.</li> <li>2. System prompts the User to enter a starting address ( using UC-3.I1 Request Current Location ) or postal code.</li> <li>3. User enters a valid starting point.</li> <li>4. System calls the OneMap API to generate optimal route to the selected destination</li> <li>5. OneMap API returns the optimal route.</li> <li>6. System displays that route using <b>UC5.I1 - View Directions on Map</b></li> </ol>

Alternative Flows:	<p><b>AF-1:</b> Current location used as start</p> <ol style="list-style-type: none"> <li>1. User grants location permission.</li> <li>2. System autofills current location as origin.</li> </ol> <p><b>AF-2:</b> Mode of transport changed</p> <ol style="list-style-type: none"> <li>1. User switches travel mode (e.g., walking → bus).</li> <li>2. System recalculates and shows a new route.</li> </ol>
Exceptions:	<p><b>EX-1:</b> Invalid starting point</p> <ul style="list-style-type: none"> <li>• If the provided address is invalid, the system prompts the user to correct it.</li> </ul> <p><b>EX-2:</b> Routing service error</p> <ul style="list-style-type: none"> <li>• If OneMap fails, the system displays “Directions unavailable” and suggests retrying later.</li> </ul>
Includes:	<ul style="list-style-type: none"> <li>• UC-5.I1 View Directions on Map</li> <li>• UC 3.I1 - Request Current Location</li> </ul>
Extends:	<ul style="list-style-type: none"> <li>• UC-3 Search Healthier Eateries</li> <li>• UC-12 View Eatery Page</li> </ul>
Special Requirements:	<ol style="list-style-type: none"> <li>1. Must respect OneMap’s API usage limits.</li> <li>2. Cached routes should be reused to reduce calls.</li> </ol>
Assumptions:	OneMap API consistently provides valid route data.

### 5.1. Use Case 5.I1 — View Directions on Map

Use Case ID:	UC-5.I1		
Use Case Name:	View Directions on Map		
Created By:	Rajath Krishna	Last Updated By:	Rajath Krishna
Date Created:	30th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>● User (primary)</li> <li>● System (supporting)</li> </ul>
Description:	After the optimal route is generated, the system displays this route on a map. The user sees start-to-destination path with ETA and distance
Preconditions:	<ul style="list-style-type: none"> <li>● A route is already generated in UC-5.</li> </ul>
Postconditions:	<ul style="list-style-type: none"> <li>● User can see the selected route plotted on the map.</li> </ul>
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> <li>1. UC-5 generates the optimal route.</li> <li>2. System opens a lightweight MapUI with the route overlaid.</li> <li>3. User can view ETA and distance.</li> </ol>
Alternative Flows:	None
Exceptions:	<p><b>EX-1:</b> Route overlay failure</p> <ul style="list-style-type: none"> <li>● If the route cannot be drawn on the map, the system shows error.</li> </ul>
Includes:	None
Special Requirements:	<ol style="list-style-type: none"> <li>1. Route display must render in under 1 second after selection.</li> </ol>
Assumptions:	None

## 6. Use Case 6 — Recommend Eateries

Use Case ID:	UC-6		
Use Case Name:	Recommend Eateries		
Created By:	Hanzhi	Last Updated By:	Rajath
Date Created:	31st August 2025	Date Last Updated:	3rd October 2025

Actor:	<ul style="list-style-type: none"> <li>● User (primary)</li> <li>● System (supporting)</li> </ul>
Description:	The system generates a list of recommended eateries tailored to the User. Recommendations are based on proximity (if location access is granted), dietary tags, and fallback popularity when preferences or location are unavailable.
Preconditions:	<ul style="list-style-type: none"> <li>● User is authenticated.</li> <li>● Eatery catalog is accessible.</li> </ul>
Postconditions	<ul style="list-style-type: none"> <li>● A curated list of recommended eateries is returned to the calling use case (UC-4).</li> </ul>
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> <li>1. The system requests current location if not requested already (UC-3.I1 Request Current Location).</li> <li>2. The system filters eateries based on proximity to the User's location.</li> <li>3. The system applies the User's dietary tags or preferences to further refine the list.</li> <li>4. The system ranks the filtered list based on: <ul style="list-style-type: none"> <li>○ Distance (closest first)</li> <li>○ Relevance to tags/preferences</li> <li>○ Default weights for healthy choice status</li> </ul> </li> <li>5. The system compiles the final curated list.</li> <li>6. The system returns this list to UC-4 (View Home Page).</li> </ol>

Alternative Flows:	<p><b>AF-1: Location access denied</b></p> <ol style="list-style-type: none"> <li>1. User denies location permission.</li> <li>2. The system falls back to showing a default set of trending or popular eateries.</li> </ol> <p><b>AF-2: No matching eateries</b></p> <ol style="list-style-type: none"> <li>1. The system finds no eateries that match dietary tags/preferences.</li> <li>2. The system displays “No recommendations found” and defaults to trending eateries.</li> </ol> <p><b>AF-3: Location fetch timeout</b></p> <ol style="list-style-type: none"> <li>1. The system cannot obtain location within a set time.</li> <li>2. The system prompts the User to manually enter a postal code or area.</li> </ol>
Exceptions:	<p><b>EX-1: Eatery catalog unavailable</b></p> <ul style="list-style-type: none"> <li>• If the catalog cannot be accessed, the system shows “Recommendations unavailable” and logs the error.</li> </ul>
Includes:	<ul style="list-style-type: none"> <li>• UC-3.I1 Request Current Location</li> </ul>
Special Requirements:	<ol style="list-style-type: none"> <li>1. Recommendations must be generated in under 0.5 seconds.</li> <li>2. Must work even with no preferences (fallback = default list).</li> </ol>
Assumptions:	Basic scoring model (dietary tags + distance + popularity) is implemented

## 7. Use Case 7 — Manage Reviews

Use Case ID:	UC-7		
Use Case Name:	Manage Reviews		
Created By:	Hanzhi	Last Updated By:	Hanzhi
Date Created:	31th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>● User</li> <li>● Admin</li> <li>● System</li> </ul>
Description:	Allow users to submit, edit, delete, and flag reviews for stalls, while displaying aggregated ratings.
Preconditions:	<ul style="list-style-type: none"> <li>● User authenticated.</li> <li>● UC-12 View Eatery Page is running</li> </ul>
Postconditions	<ul style="list-style-type: none"> <li>● Reviews are submitted, edited, or deleted as requested.</li> <li>● Aggregate rating is updated.</li> </ul>
Priority:	High
Frequency of Use:	Medium–High
Flow of Events:	<ol style="list-style-type: none"> <li>1. User opens a stall's details page.</li> <li>2. System shows existing reviews and current aggregate rating.</li> <li>3. User chooses one of: <b>Submit Review, Edit Review, Delete Review, or View Reviews.</b></li> <li>4. System validates the chosen action.</li> <li>5. System updates reviews and recalculates aggregates.</li> <li>6. System confirms the outcome (posted/updated/deleted) and refreshes the list.</li> </ol>
Alternative Flows:	<p><b>AF-1: Review flagged</b></p> <ol style="list-style-type: none"> <li>1. User or admin flags a review.</li> <li>2. System hides it until moderation is complete.</li> </ol>

Exceptions:	<p><b>EX-1:</b> Duplicate review</p> <ul style="list-style-type: none"> <li>• If the user attempts to submit another review for the same stall, the system blocks it and suggests editing the existing review.</li> </ul> <p><b>EX-2:</b> Inappropriate content</p> <ul style="list-style-type: none"> <li>• If the review includes disallowed material, the system blocks submission and requests revision.</li> </ul> <p><b>EX-3:</b> Technical error</p> <ul style="list-style-type: none"> <li>• If saving fails, the system keeps a draft locally and prompts the user to retry.</li> </ul>
Includes:	<ul style="list-style-type: none"> <li>• UC-7.I1 – Update Aggregate Ratings</li> </ul>
Extended by:	<ul style="list-style-type: none"> <li>• UC-7.E1 – Submit Review</li> <li>• UC-7.E2 – Edit Review</li> <li>• UC-7.E3 – Delete Review</li> </ul>
Special Requirements:	<ol style="list-style-type: none"> <li>1. Content policy must be enforced automatically (basic profanity filter)</li> <li>2. Ratings must use a consistent scale across the application.</li> </ol>
Assumptions:	One review per user per stall is allowed.

## 7.1. Use Case 7.I1 — Update Aggregate Ratings

Use Case ID:	UC-7.I1		
Use Case Name:	Update Aggregate Ratings		
Created By:	Hanzhi	Last Updated By:	Hanzhi
Date Created:	30th August 2025	Date Last Updated:	2nd September 2025

Actor:	System
Description:	System recalculates and updates stall's aggregate rating after changes.
Preconditions:	<ul style="list-style-type: none"> <li>A review has been added, edited, or deleted.</li> </ul>
Postconditions:	<ul style="list-style-type: none"> <li>Aggregate rating and review count are updated.</li> </ul>
Priority:	High
Frequency of Use:	Every review update
Flow of Events:	<ol style="list-style-type: none"> <li>System recomputes aggregate rating and review count.</li> <li>System updates the stall details page.</li> </ol>
Alternative Flows:	<p><b>AF-1:</b> Weighted average</p> <ol style="list-style-type: none"> <li>If the system is configured for weighted averages (e.g., recent reviews weigh more), the calculation is adjusted accordingly.</li> </ol>
Exceptions:	<p><b>EX-1:</b> Computation failure</p> <ul style="list-style-type: none"> <li>If the calculation fails, the previous aggregate is retained and the error is logged.</li> </ul>
Includes:	None
Extends:	<ul style="list-style-type: none"> <li>UC-7 Manage Reviews</li> </ul>
Special Requirements:	<ol style="list-style-type: none"> <li>Calculation must be atomic to ensure no inconsistencies during updates.</li> </ol>
Assumptions:	Review data is always available in the database.

## 7.2. Use Case 7.E1 — Submit Review (as <<extend>> of UC-7)

Use Case ID:	UC-7.E1		
Use Case Name:	Submit Review		
Created By:	Hanzhi	Last Updated By:	Hanzhi
Date Created:	31th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>• User</li> <li>• System</li> </ul>
Description:	The user submits a review for a stall with required scores (Health, Hygiene) and optional text/photos.
Preconditions:	<ul style="list-style-type: none"> <li>• User is logged in.</li> <li>• User has not already reviewed the stall.</li> </ul>
Postconditions	<ul style="list-style-type: none"> <li>• Review is stored in the database.</li> <li>• Aggregate rating updated.</li> </ul>
Priority:	High
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> <li>1. User selects <b>Submit Review</b>.</li> <li>2. System prompts for required inputs (e.g., rating).</li> <li>3. User provides required rating (and optionally adds text or a photo).</li> <li>4. System validates the input.</li> <li>5. On success, System saves the review and invokes the included use case <b>UC-7.I1 Update Aggregate Ratings</b></li> <li>6. System shows “Review posted.”</li> </ol>
Alternative Flows:	<p><b>AF-1:</b> Save as draft</p> <ol style="list-style-type: none"> <li>1. User chooses to save review as draft.</li> <li>2. System stores draft for later posting.</li> </ol> <p><b>AF-2:</b> Text-only review</p> <ol style="list-style-type: none"> <li>1. User submits only ratings and text without photos.</li> <li>2. System accepts and posts review.</li> </ol>

Exceptions:	<b>EX-1:</b> Image upload failure <ul style="list-style-type: none"> <li>• If photo upload fails, the review is saved without images, and the user is prompted to retry uploading later.</li> </ul>
Includes:	<ul style="list-style-type: none"> <li>• UC-7.I1 – Update Aggregate Ratings</li> </ul>
Extends:	<ul style="list-style-type: none"> <li>• UC-7 Manage Reviews</li> </ul>
Special Requirements:	<ol style="list-style-type: none"> <li>1. System must support multimedia reviews (images, text).</li> </ol>
Assumptions:	Users submit genuine reviews (manual moderation handles exceptions).

### 7.3. Use Case 7.E2 — Edit Review (as <>extend>> of UC-7)

Use Case ID:	UC-7.E2		
Use Case Name:	Edit Review		
Created By:	Hanzhi	Last Updated By:	Hanzhi
Date Created:	31th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>● User</li> <li>● System</li> </ul>
Description:	User updates their existing review.
Preconditions:	<ul style="list-style-type: none"> <li>● Review exists and belongs to the user.</li> </ul>
Postconditions:	<ul style="list-style-type: none"> <li>● Review is updated and aggregate rating recalculated.</li> </ul>
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> <li>1. User selects <b>Edit Review</b></li> <li>2. System retrieves existing Review</li> <li>3. User updates rating/text/photo.</li> <li>4. System validates and saves changes.</li> <li>5. System retains older version in history</li> <li>6. System invokes <b>UC-7.I1 Update Aggregate Ratings</b> and shows “Review updated.”</li> </ol>
Alternative Flows:	None
Exceptions:	<p><b>EX-1:</b> Edit window expired</p> <ul style="list-style-type: none"> <li>● If editing is only allowed within a time window, the system blocks changes and suggests posting a new review.</li> </ul>
Includes:	<ul style="list-style-type: none"> <li>● UC-7.I1 – Update Aggregate Ratings</li> </ul>
Extends:	<ul style="list-style-type: none"> <li>● UC-7 Manage Reviews</li> </ul>
Special Requirements:	<ol style="list-style-type: none"> <li>1. Edits must be logged with timestamp for transparency.</li> </ol>
Assumptions:	Editing rights are limited to the original author.

#### 7.4. Use Case 7.E3 — Delete Review (as <>extend>> of UC-7)

Use Case ID:	UC-7.E3		
Use Case Name:	Delete Review		
Created By:	Hanzhi	Last Updated By:	Hanzhi
Date Created:	31th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>● User</li> <li>● System</li> </ul>
Description:	User removes their review.
Preconditions:	<ul style="list-style-type: none"> <li>● Review exists and belongs to the user.</li> </ul>
Postconditions:	<ul style="list-style-type: none"> <li>● Review is updated and aggregate rating recalculated.</li> </ul>
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> <li>1. User selects <b>Delete Review</b> and confirms.</li> <li>2. System hides review from public but retains it for audit.</li> <li>3. System invokes <b>UC-7.I1 Update Aggregate Ratings</b> and shows “Review deleted.”</li> </ol>
Alternative Flows:	None
Exceptions:	<p><b>EX-1: Legal hold</b></p> <ul style="list-style-type: none"> <li>● If a review is under investigation or flagged for compliance, deletion is blocked.</li> </ul>
Includes:	<ul style="list-style-type: none"> <li>● UC-7.I1 – Update Aggregate Ratings</li> </ul>
Extends:	<ul style="list-style-type: none"> <li>● UC-7 Manage Reviews</li> </ul>
Special Requirements:	<ol style="list-style-type: none"> <li>1. Delete must require explicit confirmation to prevent accidental removal.</li> </ol>
Assumptions:	Only the review owner or an admin can delete.

## 8. Use Case 8 — Edit Dietary Tags

Use Case ID:	UC-8		
Use Case Name:	Edit Dietary Tags		
Created By:	Girija	Last Updated By:	Girija
Date Created:	31th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>• Admin (primary)</li> <li>• System (supporting)</li> </ul>
Description:	The Admin updates or corrects dietary tags (e.g., Halal, vegetarian, healthy choice) for a stall to maintain accuracy in search and recommendations.
Preconditions:	<ul style="list-style-type: none"> <li>• Admin is logged in.</li> </ul>
Postconditions	<ul style="list-style-type: none"> <li>• Dietary tags are updated and applied to searches and recommendations.</li> </ul>
Priority:	Medium
Frequency of Use:	Low-Medium
Flow of Events:	<ol style="list-style-type: none"> <li>1. Admin logs in with elevated privileges.</li> <li>2. Admin selects a stall record.</li> <li>3. Admin edits dietary tags (add/remove/update).</li> <li>4. System saves the changes</li> <li>5. System updates the stall listing and recommendations that rely on these tags.</li> </ol>
Alternative Flows:	<p><b>AF-1: Bulk edit</b></p> <ol style="list-style-type: none"> <li>1. Admin selects multiple stalls and applies the same tag update to all.</li> </ol> <p><b>AF-2: Pending approval</b></p> <ol style="list-style-type: none"> <li>1. Admin updates tags.</li> <li>2. Changes are queued for secondary approval before publishing.</li> </ol>

Exceptions:	<p><b>EX-1:</b> Conflicting tags</p> <ul style="list-style-type: none"> <li>• If incompatible tags are selected (e.g., “Halal” + “Contains Pork”), system blocks the change and requests correction.</li> </ul> <p><b>EX-2:</b> Save error</p> <ul style="list-style-type: none"> <li>• If the update cannot be saved, the system rolls back to the last stable state.</li> </ul>
Includes:	None
Special Requirements:	1. All edits must be logged with timestamp, admin ID, and old/new tag values.
Assumptions:	Tag vocabulary is standardized.

## 9. Use Case 9 — Earn Points

Use Case ID:	UC-9		
Use Case Name:	Earn Points		
Created By:	Girija	Last Updated By:	Girija
Date Created:	31th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>• System</li> </ul>
Description:	The User earns points when performing eligible actions (e.g., submitting a review, and more to be added actions). The System updates the User's points balance.
Preconditions:	<ul style="list-style-type: none"> <li>• User account exists.</li> <li>• Points rules are configured.</li> </ul>
Postconditions	<ul style="list-style-type: none"> <li>• Points are added to user's balance and logged.</li> </ul>
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> <li>1. An eligible action completes (e.g., <b>UC-7.E1 Submit Review</b>).</li> <li>2. System determines the points to award based on the type of action completed.</li> <li>3. System includes <b>UC-9.I1 Update Points</b> to add points to the User's balance.</li> <li>4. System stores a simple points transaction record into the database</li> <li>5. System optionally notifies the User (e.g., "+10 points earned").</li> </ol>
Alternative Flows:	None
Exceptions:	<p><b>EX-1:</b> Balance update error</p> <ul style="list-style-type: none"> <li>• If the update fails due to concurrency or server issues, the system retries; if persistent, the event is queued.</li> </ul> <p><b>EX-2:</b> Missing rule</p>

	<ul style="list-style-type: none"> <li>If no rule matches the action, no points are awarded and the event is logged.</li> </ul> <p><b>EX-3:</b> Duplicate action</p> <ul style="list-style-type: none"> <li>If User repeats same action quickly, System blocks duplicate points and logs attempt.</li> </ul>
Includes:	<ul style="list-style-type: none"> <li>UC-9.I1 Update Points</li> </ul>
Extends:	<ul style="list-style-type: none"> <li>UC-7.E1 Submit Review</li> </ul>
Special Requirements:	<ol style="list-style-type: none"> <li>Balance updates must be atomic and concurrency-safe.</li> <li>Every transaction must have a unique ID for audit.</li> </ol>
Assumptions:	Points system uses a single currency.

### 9.1. Use Case 9.I1 — Update Points

Use Case ID:	UC-9.I1		
Use Case Name:	Update Points		
Created By:	Girija	Last Updated By:	Girija
Date Created:	31th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>• System</li> </ul>
Description:	System updates the User's balance by either adding or deducting points, depending on the calling UC
Preconditions:	<ul style="list-style-type: none"> <li>• Valid user account exists.</li> </ul>
Postconditions:	<ul style="list-style-type: none"> <li>• User's balance is updated and transaction logged.</li> </ul>
Priority:	High
Frequency of Use:	Each time points are awarded or deducted.
Flow of Events:	<ol style="list-style-type: none"> <li>1. System retrieves current balance from the database</li> <li>2. System adds or subtracts points as specified.</li> <li>3. System validates the new balance (rejects if negative).</li> <li>4. System saves the updated balance into database and logs the transaction.</li> </ol>
Alternative Flows:	<p><b>AF-1:</b> Scheduled update (delayed transaction)</p> <ol style="list-style-type: none"> <li>1. If the points system is temporarily unavailable, the system queues the update request.</li> <li>2. The queued transaction is processed once the service is back online.</li> <li>3. User's balance is updated, and the transaction is logged with a "delayed" status.</li> </ol>
Exceptions:	<p><b>EX-1:</b> Negative balance attempt</p> <ul style="list-style-type: none"> <li>• If deduction would make balance negative, the system blocks the transaction.</li> </ul>
Includes:	None
Special Requirements:	<ol style="list-style-type: none"> <li>1. Transaction history must be immutable.</li> </ol>
Assumptions:	None

## 10. Use Case 10 — Redeem Reward

Use Case ID:	UC-10		
Use Case Name:	Redeem Rewards		
Created By:	Yoheshvaran	Last Updated By:	Yoheshvaran
Date Created:	31th August 2025	Date Last Updated:	2nd September 2025

Actor:	<ul style="list-style-type: none"> <li>● User (primary)</li> <li>● System (supporting)</li> </ul>
Description:	The User redeems accumulated points for discounts or vouchers. The System deducts points and issues the reward.
Preconditions:	<ul style="list-style-type: none"> <li>● User is authenticated.</li> <li>● User has sufficient points.</li> </ul>
Postconditions:	<ul style="list-style-type: none"> <li>● Reward is issued and points deducted.</li> <li>● If unsuccessful, no deduction occurs.</li> </ul>
Priority:	High
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> <li>1. User opens the Rewards section.</li> <li>2. System shows balance and available rewards.</li> <li>3. User selects a reward.</li> <li>4. System verifies sufficient points.</li> <li>5. System includes <b>UC-9.I1 Update Points</b> to deduct points.</li> <li>6. System issues the reward and updates balance.</li> </ol>
Alternative Flows:	<p><b>AF-1:</b> Insufficient points</p> <ol style="list-style-type: none"> <li>1. User lacks points for selected reward.</li> <li>2. System blocks redemption</li> <li>3. System prompts user to select different reward</li> </ol> <p><b>AF-2:</b> Reward Unavailable</p> <ol style="list-style-type: none"> <li>1. Reward is out of stock / expired</li> <li>2. System blocks redemption</li> <li>3. System prompts user to select different reward.</li> </ol>

Exceptions:	<p><b>EX-1:</b> Insufficient points</p> <ul style="list-style-type: none"> <li>Redemption is blocked and system displays how many more points are needed.</li> </ul> <p><b>EX-2:</b> Reward unavailable</p> <ul style="list-style-type: none"> <li>If reward is out of stock or expired, the system blocks redemption and restores the user's state.</li> </ul> <p><b>EX-3:</b> Deduction success but reward issue fails</p> <ul style="list-style-type: none"> <li>If points are deducted but reward issuance fails, the system automatically rolls back the deduction and logs the error.</li> </ul>
Includes:	<ul style="list-style-type: none"> <li>UC-9.I1 Update Points (deduct from balance)</li> </ul>
Special Requirements:	<ol style="list-style-type: none"> <li>Deduction and reward issuance must succeed together (all-or-nothing).</li> <li>Rewards must have unique identifiers (e.g., voucher codes).</li> </ol>
Assumptions:	Rewards catalog is regularly updated by Admin.

## 11. Use Case 11 — Estimate Crowd Levels

Use Case ID:	UC-11		
Use Case Name:	Estimate Crowd Levels		
Created By:	Yoheshvaran	Last Updated By:	Rajath
Date Created:	30th August 2025	Date Last Updated:	3rd November 2025

Actor:	<ul style="list-style-type: none"> <li>User (primary)</li> <li>System (supporting)</li> <li>Data Provider APIs / Sensors (optional, supporting)</li> </ul>
Description:	The User views estimated crowd levels for a hawker centre or stall. Since live data is unavailable, the System generates estimates using predefined rules based on time, day, and weather.
Preconditions:	<ul style="list-style-type: none"> <li>Eatery selected.</li> <li>Estimation rules configured.</li> </ul>
Postconditions	<ul style="list-style-type: none"> <li>Estimated crowd level are displayed.</li> </ul>
Priority:	Medium
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> <li>User selects a hawker centre or stall from the list.</li> <li>System checks contextual factors (time of day, day of week, weather).</li> <li>System applies estimation rules (e.g., peak hours = higher crowd).</li> <li>System generates: Overall crowd level (Low / Medium / High)</li> <li>System displays estimates with a label “Estimated based on patterns.”</li> </ol>
Alternative Flows:	None
Exceptions:	<p><b>EX-1:</b> Rule engine error</p> <ul style="list-style-type: none"> <li>If estimation rules cannot be applied, the system hides the estimates and shows “No estimates available.”</li> </ul> <p><b>EX-2:</b> Missing context data</p>

	<ul style="list-style-type: none"><li>• If time or day information is missing, the system defaults to “Medium” crowd level.</li></ul>
Includes:	None
Special Requirements:	1. Estimates must include a timestamp and note that they are approximations.
Assumptions:	Historical data patterns reflect actual user traffic.

## 12. Use Case 12 — View Eatery Page

Use Case ID:	UC-12		
Use Case Name:	View Eatery Pages		
Created By:	Rajath	Last Updated By:	Rajath
Date Created:	26th September 2025	Date Last Updated:	3rd November 2025

Actor:	<ul style="list-style-type: none"> <li>● User (primary)</li> <li>● System (supporting)</li> </ul>
Description:	<p>The User views detailed information about a specific eatery, including its name, address, tags (e.g., Halal, Vegan, Healthy), operating hours, reviews, and estimated crowd levels.</p> <p>This page serves as the main interface for users to explore an eatery in detail, access reviews, and get directions. The data displayed is fetched dynamically from the system's database and public APIs.</p>
Preconditions:	<ul style="list-style-type: none"> <li>● The user has selected an eatery from either the Search Healthier Eateries (UC-3) or View Home Page (UC-4).</li> <li>● Eatery details are available in the system database.</li> </ul>
Postconditions	<ul style="list-style-type: none"> <li>● The system successfully displays detailed information about the selected eatery.</li> <li>● The user may proceed to: <ul style="list-style-type: none"> <li>○ View crowd level estimates.</li> <li>○ Read or submit reviews.</li> <li>○ Request directions to the eatery.</li> </ul> </li> </ul>
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> <li>1. User selects an eatery from the home page or search results.</li> <li>2. System loads detailed eatery information (name, address, category, tags, image).</li> <li>3. System retrieves additional data such as opening hours.</li> <li>4. System executes UC-11 Estimate Crowd Levels to display the current crowd estimate.</li> <li>5. System executes UC-7 Manage Reviews to display user reviews and ratings.</li> <li>6. User can scroll through the eatery page to view reviews, crowd status, and other info.</li> <li>7. User can click “Get Directions” to initiate UC-5 Get Directions to Hawker Centre.</li> </ol>

Alternative Flows:	None
Exceptions:	<p><b>EX-1:</b> Data fetch failure</p> <ul style="list-style-type: none"> <li>The system displays “Unable to load details at the moment. Please try again later.”</li> </ul> <p><b>EX-2:</b> Network connectivity loss</p> <ul style="list-style-type: none"> <li>The system caches previous eatery details if available and shows a warning banner (“Offline Mode: Data may be outdated”).</li> </ul>
Includes:	<ul style="list-style-type: none"> <li>UC-11 Estimate Crowd Levels</li> <li>UC-7 Manage Reviews</li> </ul>
Extended by:	<ul style="list-style-type: none"> <li>UC-5 Get Directions to Hawker Centre</li> </ul>
Extends:	<ul style="list-style-type: none"> <li>UC-4 View Home Page</li> <li>UC-3 Search Healthier Eateries</li> </ul>
Special Requirements:	Page should load in under 2 seconds for standard broadband connections.
Assumptions:	Eatery data (name, tags, address, etc.) exists and is regularly synchronized with external APIs.

## 5. UI Prototype ( Initial Mockups )

9:41     

**HealthyAura**

**Sign in to your account**

or

Dont have an account? [Sign up](#)

---

Description: Upon opening the app, the user will be displayed with the login screen. He or she can sign in with credentials or Singpass. If there is no account, they can create a new one by clicking on the sign button.

# HealthyAura

## Sign up

First Name

Last Name

Email Address

Set your Password

Dietary Preference

Select

No preference

Vegan

Other

Sign up

(INSERT SIGN UP UI HERE)

Description: Once “sign up” button is pressed, the user will be redirected to a sign up form where they can type in their personal information to create their profile including their preferences”

# HealthyAura

## Recommended for You

Based on your preferences & nearby options

 Vegan

 Healthy

 Vegetarian

 High Protein

 Budget Friendly



### Tiong Bahru Market

30 Seng Poh Rd

Vegan

Healthy

Vegetarian



### ABC Food Centre

51 Ang Mo Kio Ave 3

Vegan

High Protein

Budget  
Friendly



### Jamie's Hawker Hub

3-55 Lor 4 Toa Payoh

Vegan

Healthy

Vegetarian



Home



Explore



Rewards



Profile

Description: The “home” page is the first to be displayed after logging in. It will be filled with a list of eateries recommended specially for the user based on their profile.

HealthyAura



Search

## Healthier Hawker Centres

21 results

### Tiong Bahru Hawker Centre

\$

30 Seng Poh Rd

Asian Vegan

9.00 AM - 9.00 PM

### Amoy Street Food Centre

\$

7 Maxwell Rd

Asian Vegetarian

6.00 AM - 9.00 PM

### S11 Curry

\$

9 Maxwell Rd, #01-19

Indian Halal

10.00 AM - 2.00 PM

### Green Eats

\$

3 Maxwell Rd, #02-10

Vegetarian Healthy



Home



Explore



Rewards



Profile

Description: If the user clicks on “explore”, the explore page will then be displayed with a search bar. This page allows the user to search a specific eatery that they are looking for and filter based on tags or distance.

# HealthyAura

Search by stall name, hawker centre, or loc...

Vegetarian

High Protein

Vegan

Budget Friendly

Healthy Options

Sort by

Distance

Filter



## Green Eats Hawker

123 Jurong East St., Singapore 60023

Vegetarian, Budget Friendly

\$ ~10 mins wait

Get Directions



## Healthy Bites

456 Bukit Merah Lane 1, Singapore

150456

Vegan, Gluten-Free

\$\$ ~5 mins wait

Get Directions



## NutriHub

789 Kallang Rd., Singapore 339328

Vegan, HALAL



Home



Explore

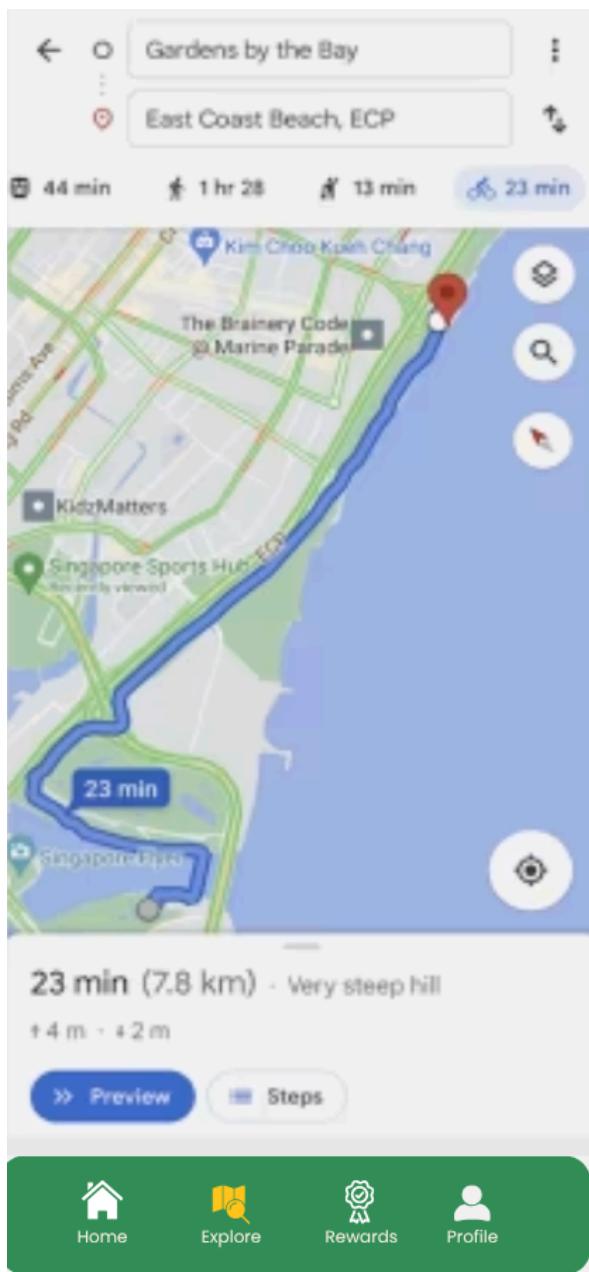


Rewards



Profile

Description: The explore page also allows the user to click on the “get directions” button to see how to get to their selected destination or see how far it is.



Description: Once the “get directions” button is pressed, the application will display the map to the user with all the different routes available to go to their chosen destination.

# HealthyAura

← Crowd & Queue Status



## Green Bowl

123 Hawker Lane

Vegan Halal Healthy



### Queue Status

Estimated Wait: 10 mins

Last updated: 5 mins ago



### Crowd Status

Low (< 5 mins)

Low (< 5 mins) Medium (5 -15 mins)



Home



Explore



Rewards



Profile

Description: If a user decides to click onto the details of the eatery, the app will display the address, eatery tags and crowd status of the chosen eatery.



## Leave a Review

### Green Eats



#### Your review

This place has great healthy food options!

#### Rating



Submit



Alex P.

This place has great healthy food options!



Description: When the user clicks onto the “submit a review” displayed in the details page, they will be redirected to a submission form for them to fill up their review and give ratings. Their reviews will be displayed at the bottom upon successful submission.

# HealthyAura

## Rewards & Redeeming

Track your points and redeem rewards that matter to you.

Your Points Balance

1,250

How to Earn Points

Vouchers

Wellness

Products

Experienc



\$10 FairPrice

Voucher

500 Points

Redeem



Spa Treatment

1,200 Points

Redeem



Home



Explore



Rewards



Profile

Description: The “Reward” page displays the catalog of rewards available for the user to redeem. It also displays the points balance for the user along with a guideline on how to earn points.

# HealthyAura

## How to Earn Points



Make a booking



Complete your profile



Leave a review



Refer a friend



Home



Explore

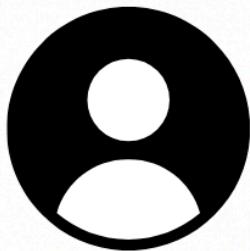


Rewards



Profile

# HealthyAura



Alex P.

spboxes@gmail.com

Edit Personal Information

Edit Preferences



Home



Explore



Rewards



Profile

Description: The profile page will display current user profile information, he or she is able to edit their own personal information and their own preferences.

# HealthyAura

## Edit Personal Information

Name

Alex P.

Email

spboxes@gmail.com

Phone

+1234567890

Save



Home



Explore

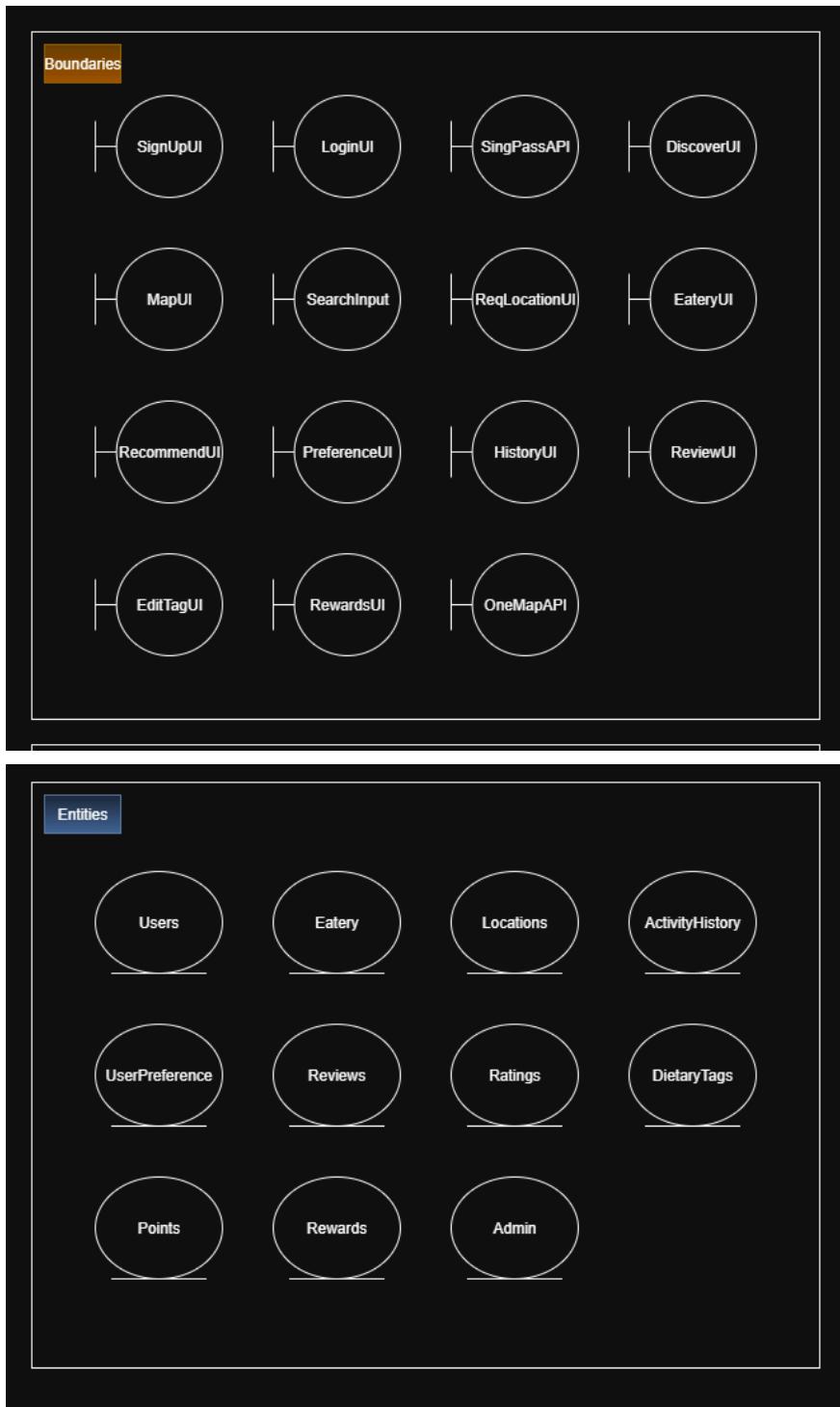


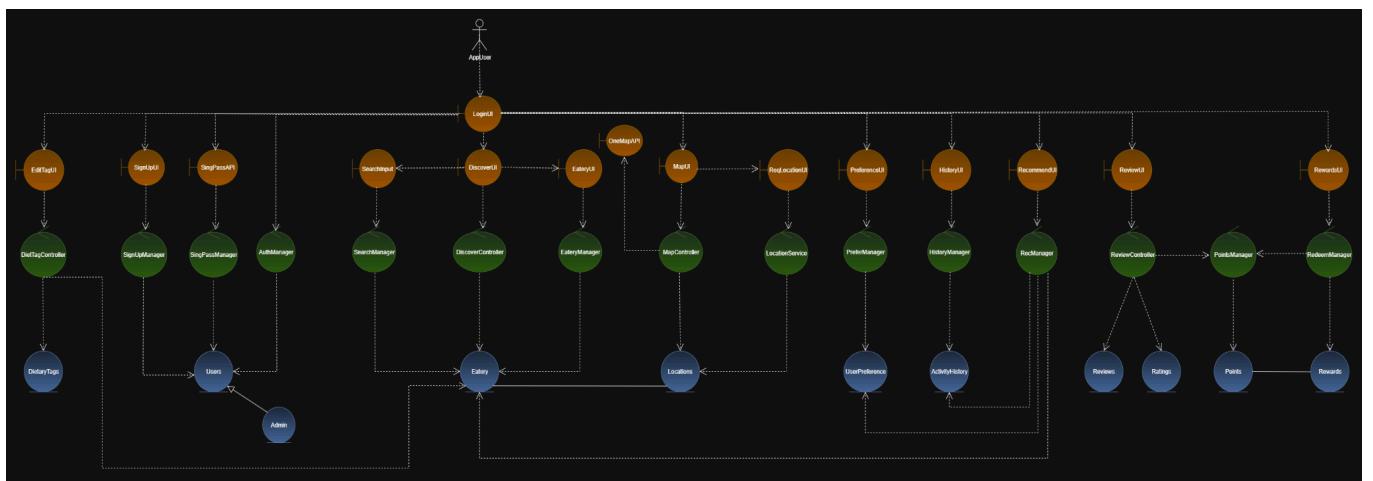
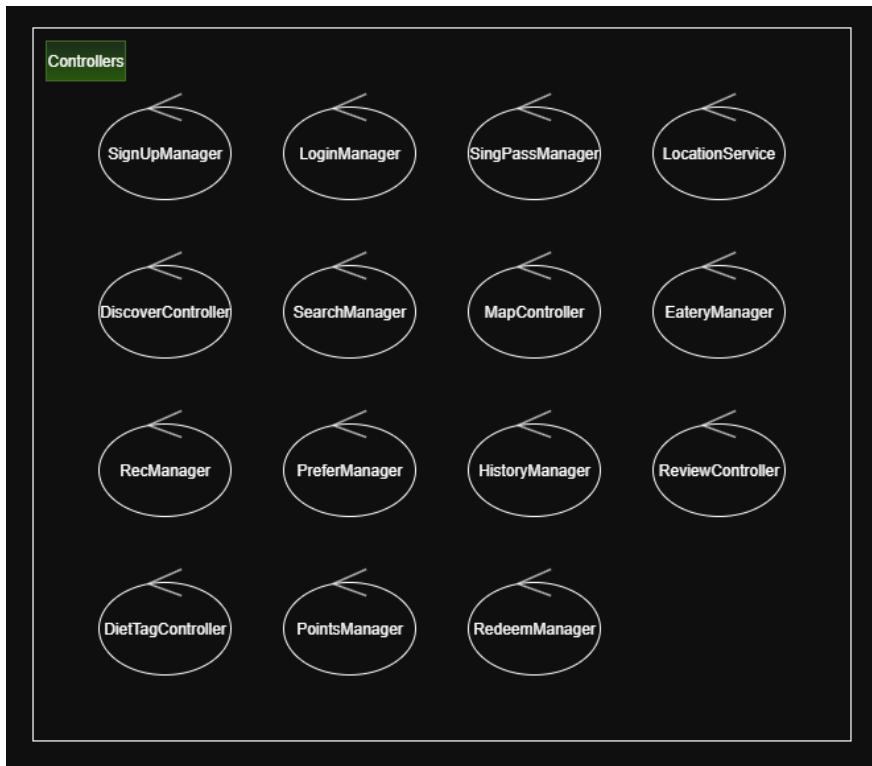
Rewards



Profile

## 6. Boundary, Control and Entity Diagrams





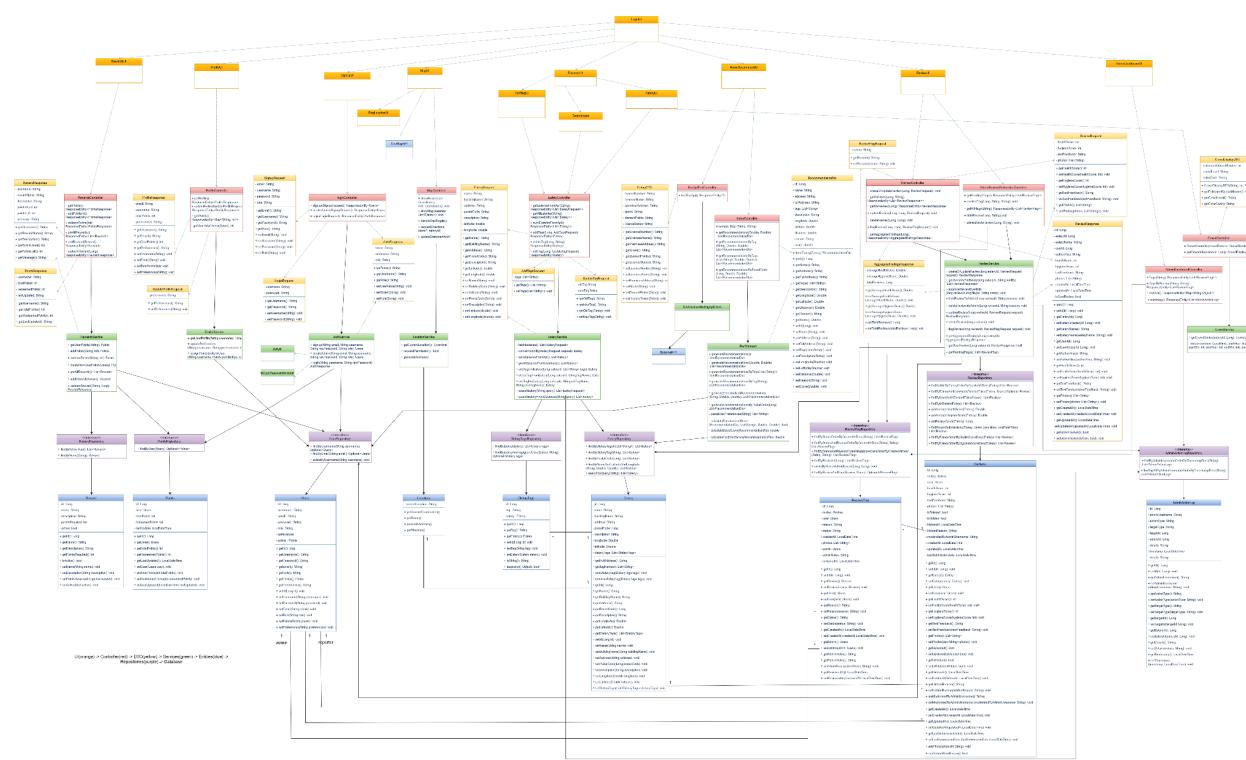
## Key

## Orange - Boundary Classes

## Green - Control Classes

## Blue - Entity Classes

## 7. Class Diagram



## Key

## Orange - Boundary Classes

## **Red - Control Classes**

**Yello - DTO**

## **Green - Services**

## Purple - Repositories

## Blue - Entity Classes

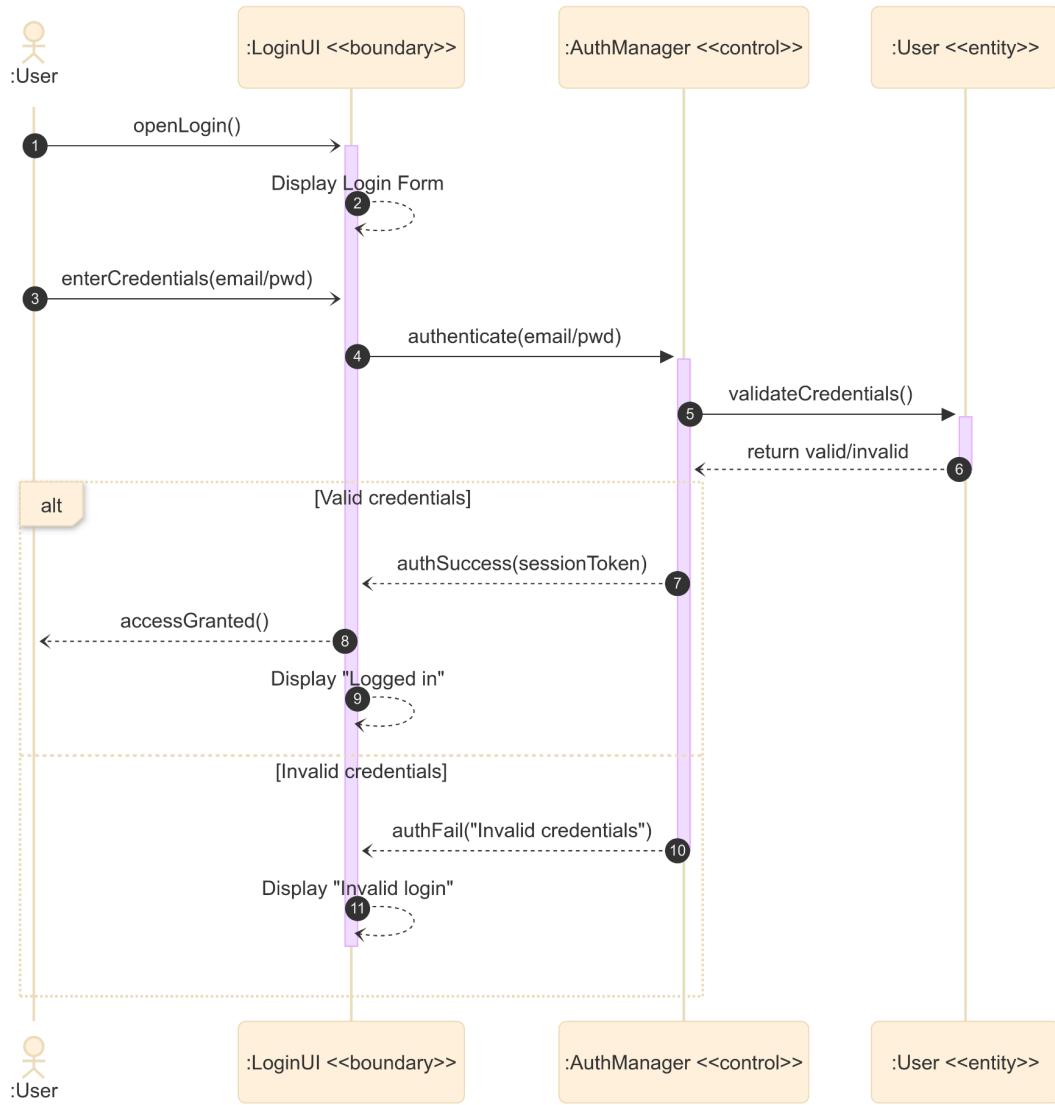
## **Link to the diagram:**

<https://drive.google.com>

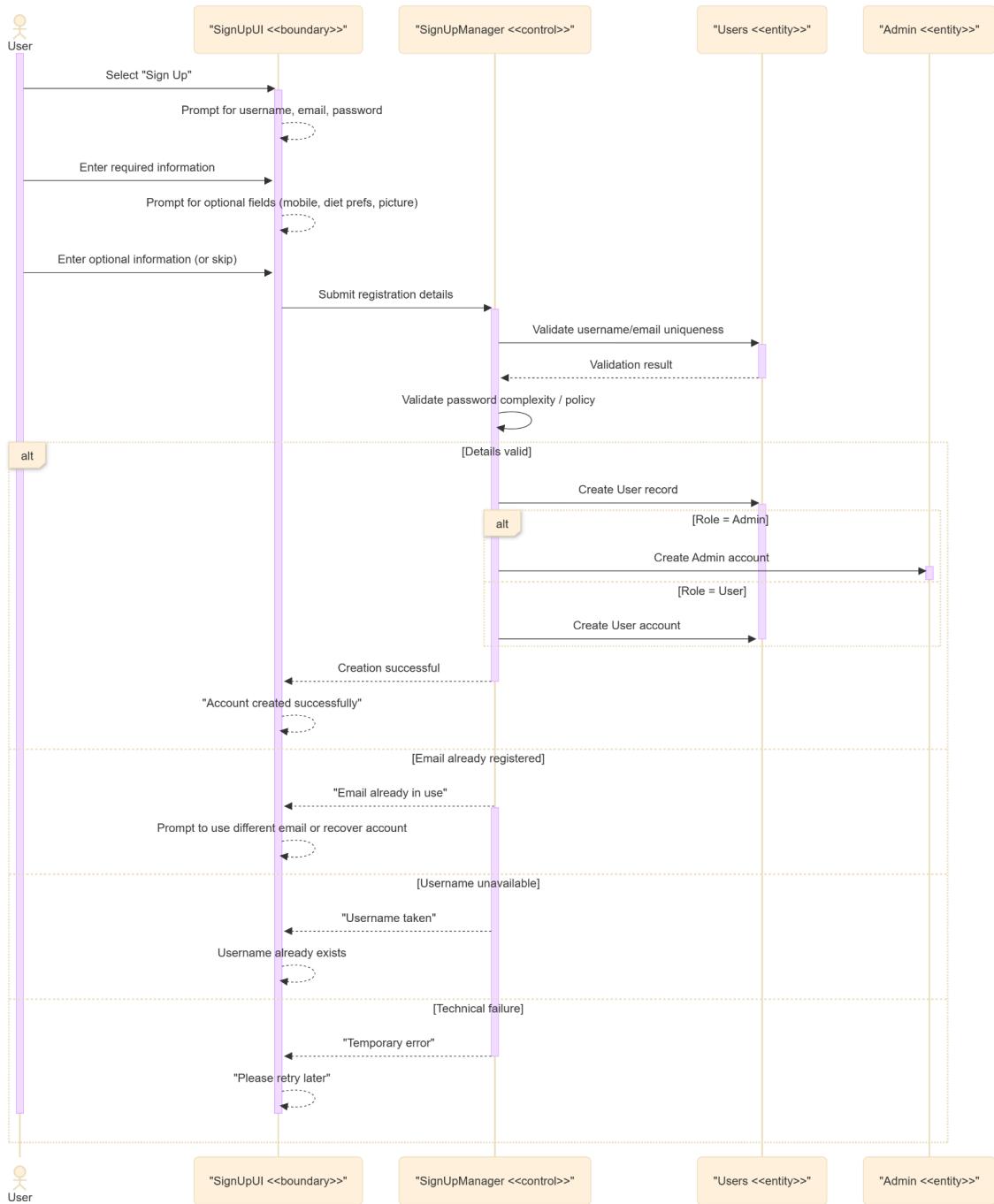
[View Details](#) | [Edit](#) | [Delete](#)

## 8. Sequence Diagrams

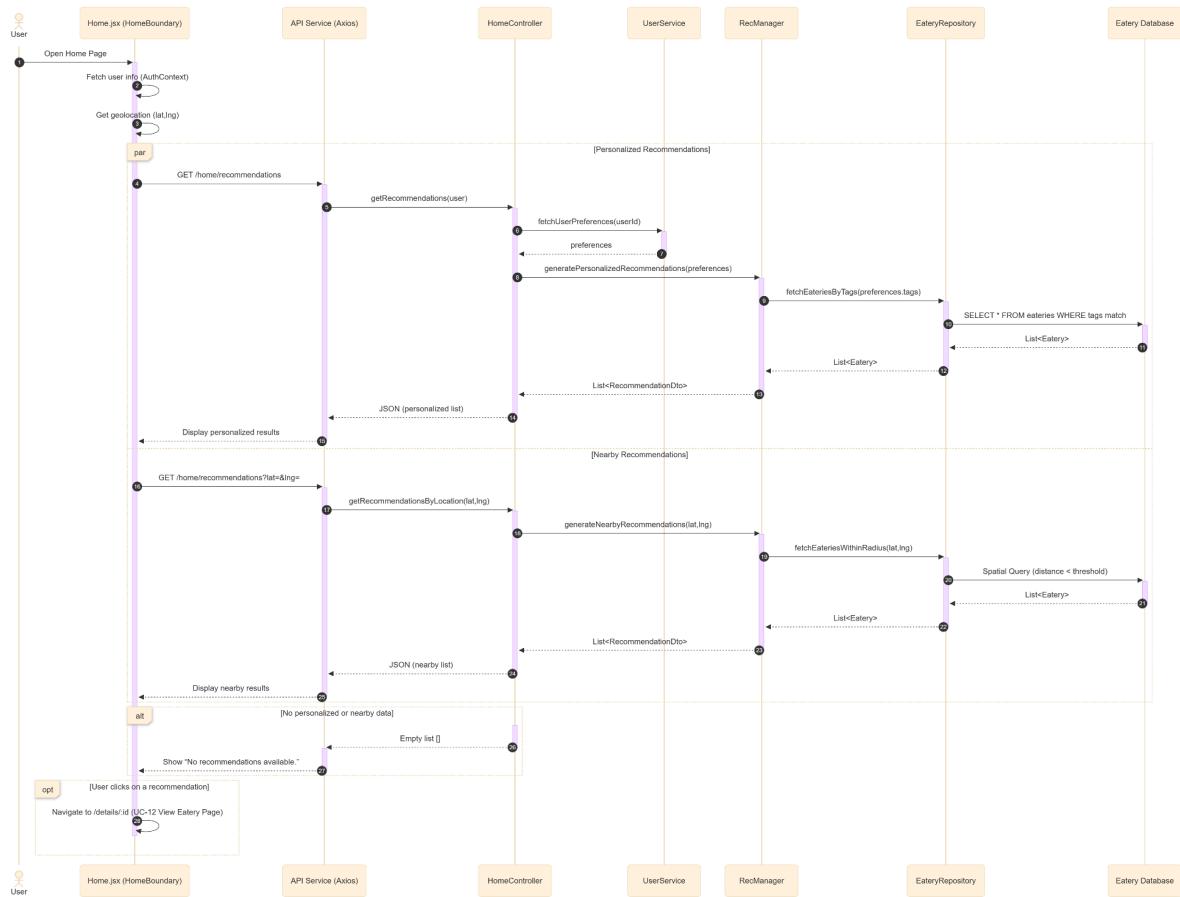
### A. Login Page ( UC-2 )



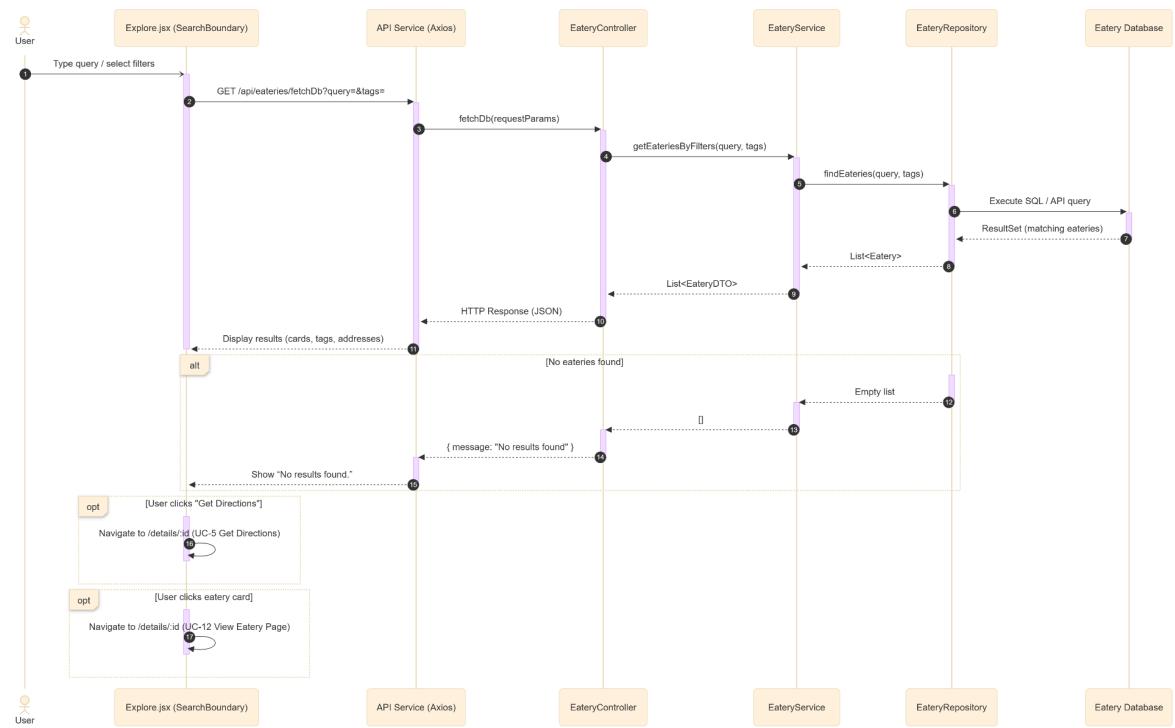
## B. Sign Up Page ( UC-1)



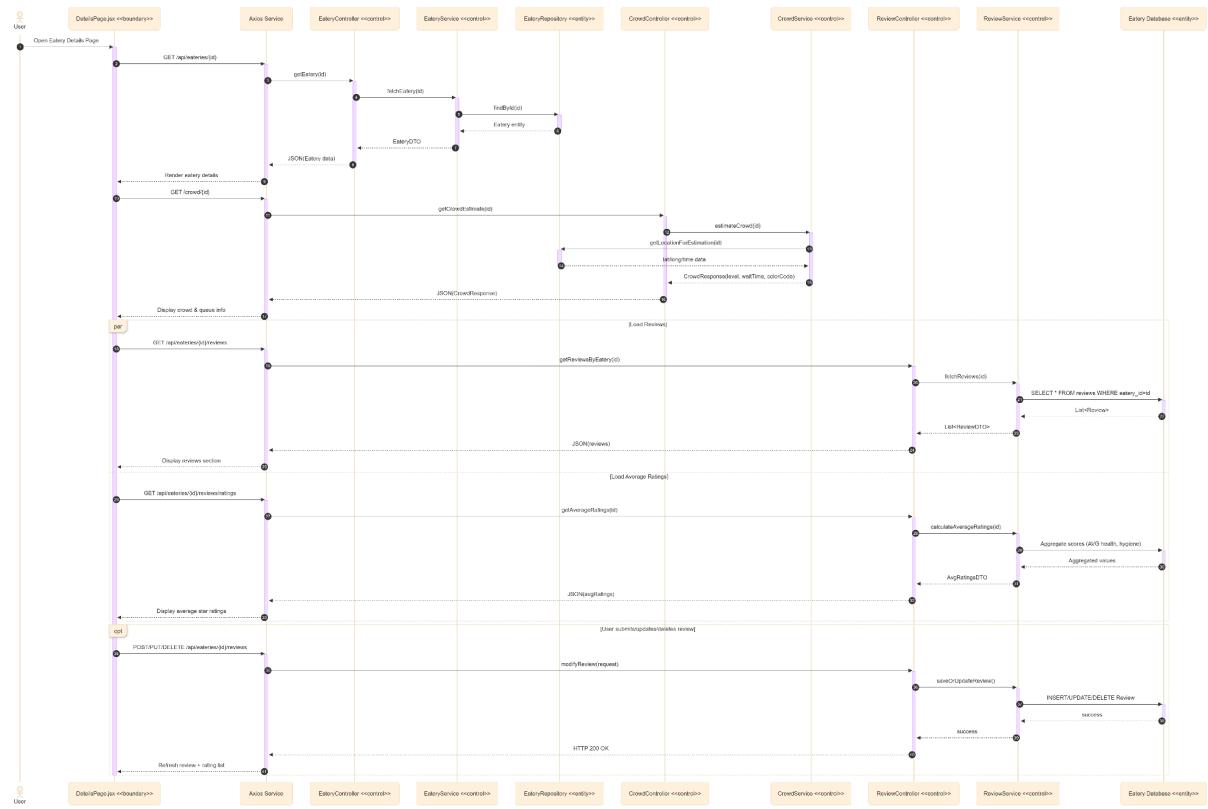
## C. Home Page ( UC-4 )



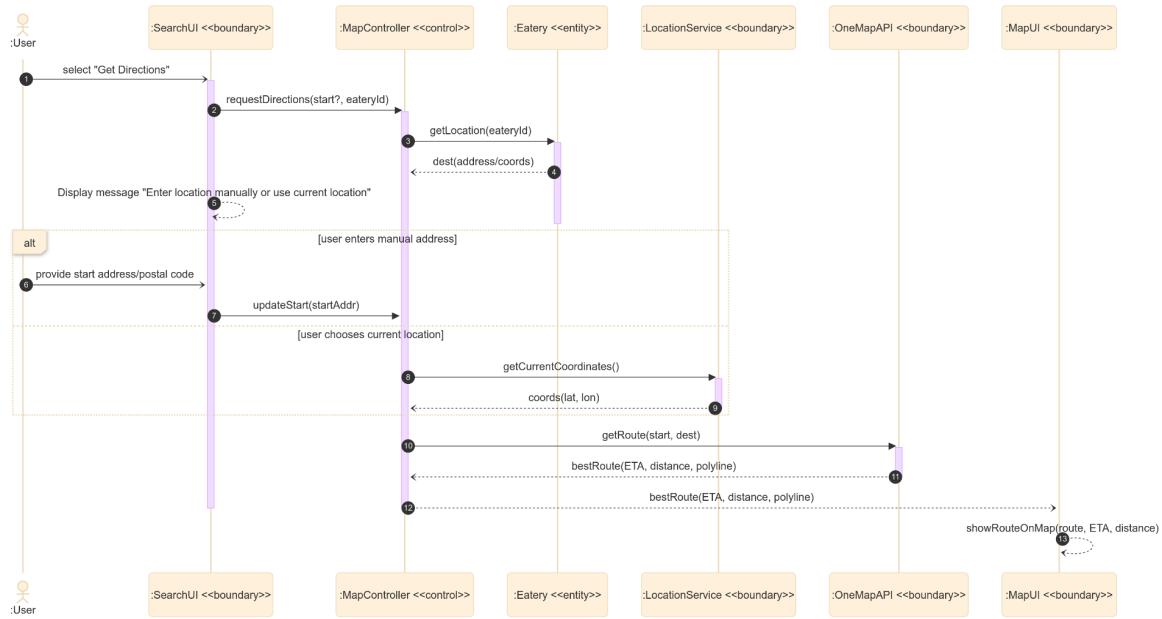
## D. Search Page ( UC-3 )



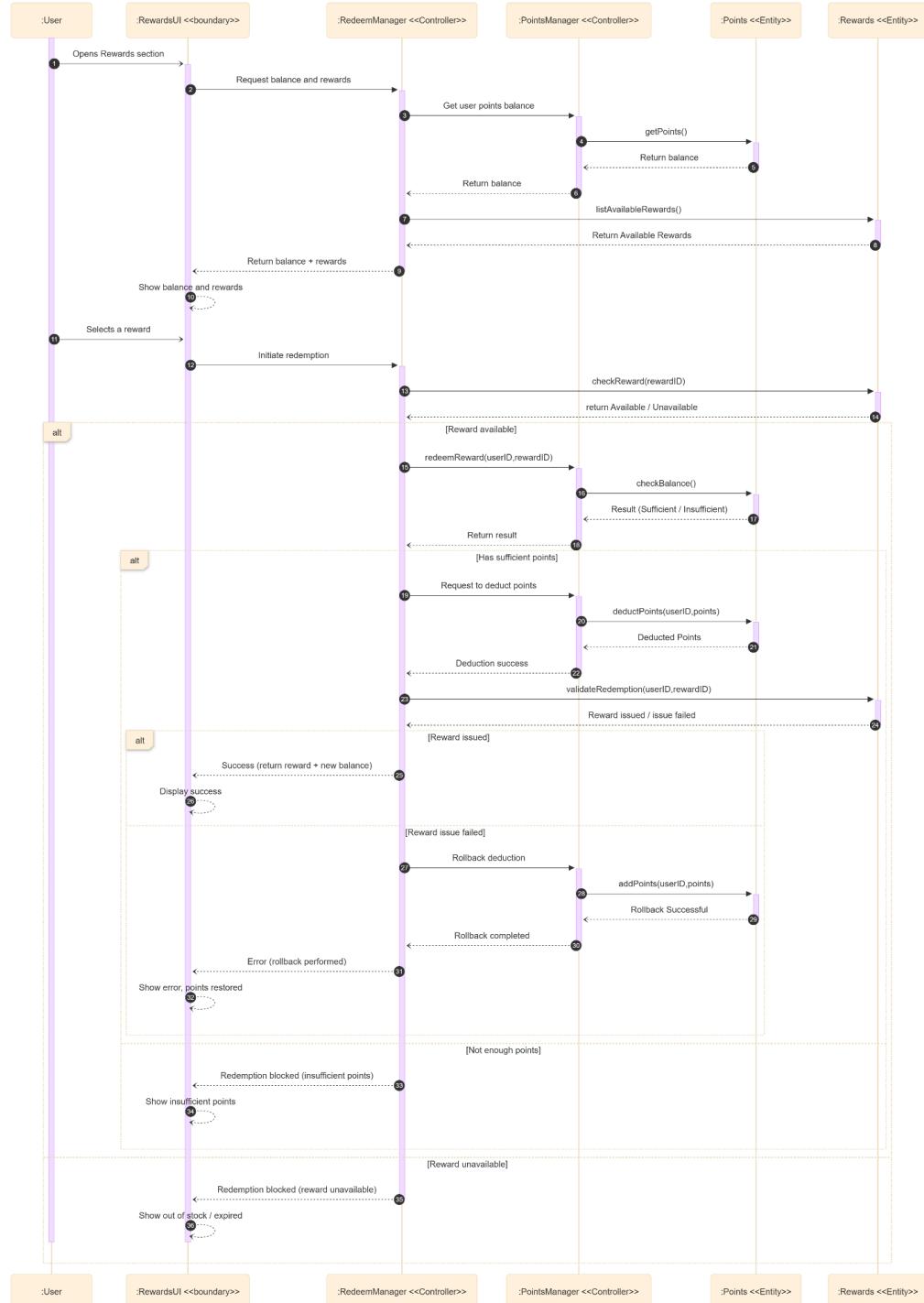
## E. Eatery Page ( UC-12 with UC-11and UC-7 included )



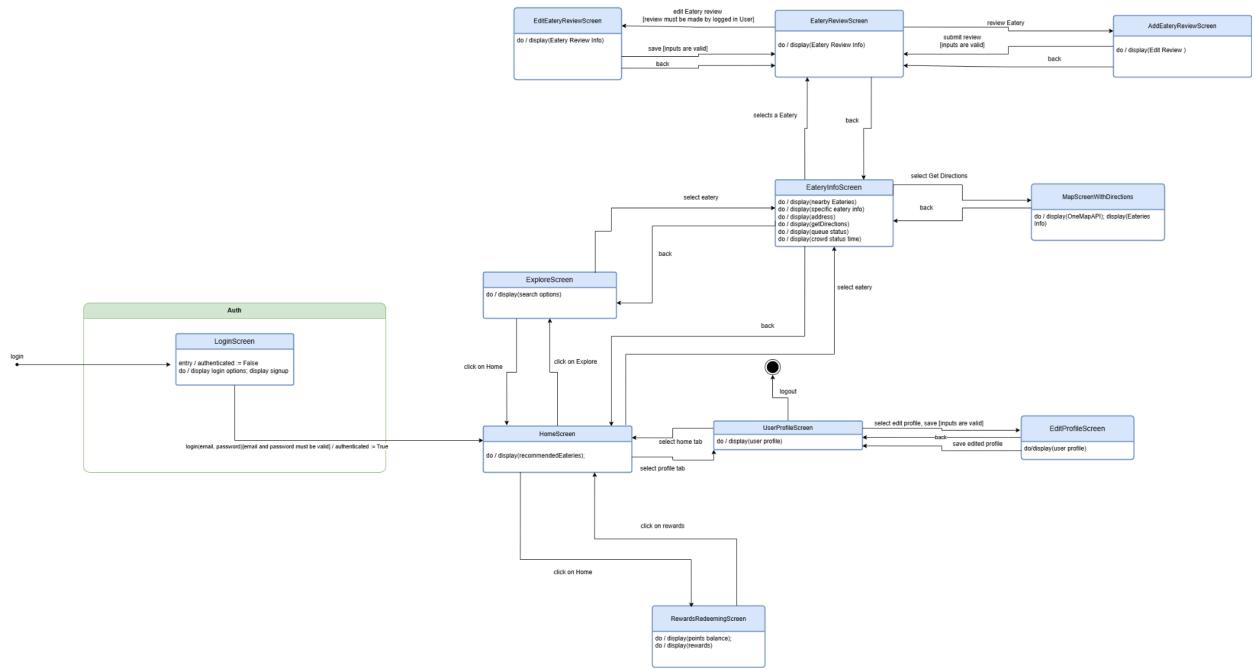
## F. Get Directions ( UC-5 with UC-5.I1 included )



## G. Redeem Rewards Flow ( UC-10 )



## 9. Initial Dialog Map



## 10. Traceability Matrix

Functional Requirement (ID)	Description	Related Use Case ID	Sequence Diagram	Implemented In (Code / Class)
<b>FR 1</b>	The system shall perform user authentication to allow Users to use the application. Includes account creation, login, and role assignment.	UC-1 Create Account UC-2 Login	Sequence Diagram – Login Page (UC-2) and Signup Page ( UC-1 )	<code>Auth.jsx,</code> <code>Profile.jsx,</code> <code>LoginController.java,</code> <code>ProfileController.java</code> <code>AuthService.java</code> <code>AuthContext.js,</code> <code>UserService.java,</code>
<b>FR 2</b>	The system shall allow Users to discover the location of healthier eateries through search, sorting, and filtering.	UC-3 Search Healthier Eateries (+ UC-3.I1 Request Current Location)	Sequence Diagram – Search Page (UC-3)	<code>Explore.jsx,</code> <code>EateryController.java,</code> <code>EateryService.java,</code> <code>EateryRepository.java</code>
<b>FR 3</b>	The system shall provide crowd estimation for Users based on contextual factors such as time and day.	UC-11 Estimate Crowd Levels	Sequence Diagram – UC-12 (View Eatery Page) with UC-11 included	<code>CrowdController.java,</code> <code>CrowdService.java</code>
<b>FR 4</b>	The system can direct Users to the location of their desired eatery using OneMap API.	UC-5 Get Directions (+ UC-5.I1 View Directions on Map)	Sequence Diagram – Get Directions (UC-5 )	<code>Explore.jsx, MapUI</code> <code>EateryController.java</code>

<b>FR 5</b>	The system shall suggest food options based on user history and preferences.	UC-6 Recommend Eateries ( <<include>> UC-4 View Home Page )	Sequence Diagram – Home Page (UC-4)	<code>Home.jsx</code> , <code>HomeController.java</code> , <code>RecManager.java</code> , <code>UserService.java</code>
<b>FR 6</b>	The system enables Users to share feedback and see aggregated ratings.	UC-7 Manage Reviews (+ UC-7.E1/E2/E3, UC-7.I1)	Sequence Diagram – UC-12 (View Eatery Page) with UC-7 included	<code>DetailsPage.jsx</code> , <code>ReviewController.java</code> , <code>ReviewService.java</code>
<b>FR 7</b>	The system shall allow Users to redeem rewards for using the application.	UC-9 Earn Points, UC-10 Redeem Rewards	Sequence Diagram – Rewards Flow ( UC-10)	<code>Rewards.jsx</code> , <code>RewardController.java</code> , <code>RewardService.java</code> , <code>PointsRepository.java</code>
<b>FR 8</b>	The system shall allow authenticated Admins to manage content quality and verify information.	UC-8 Edit Dietary Tags	NA	<code>AdminDashboard.jsx</code> <code>AdminAuth.jsx</code> , <code>AdminModeration.jsx</code> , <code>AdminTagManager.jsx</code> , <code>AdminDashboardController.java</code> , <code>AdminLogController.java</code> , <code>AdminReviewModerationController.java</code> ,

# 11. Test Cases

## 1) FR 1 - Authentication Features

### **TEST ID: 1**

Description: A new user creates an account

Test input: Email: [user2@test.com](mailto:user2@test.com), Username: testUser2, Password: pass123

Expected output: Redirect to login page, 200OK status with JSON on Postman

Actual output:



A screenshot of the Postman application interface. The top navigation bar shows 'Body' (underlined), 'Cookies', 'Headers (11)', 'Test Results', and a refresh icon. To the right, it displays '200 OK', '1.32 s', '478 B', and a globe icon. Below the navigation, there are tabs for 'JSON', 'Preview', and 'Visualize'. The main content area shows a JSON response with the following data:

```
1 {  
2   "id": 5,  
3   "email": "user2@test.com",  
4   "username": "testUser2",  
5   "password": "$2a$10$xLJce0j5/Kxz.VY1Ja/Bt.H99abKN6rIWUsxxBpJoJuTxR888Dyfc",  
6   "role": "USER"  
7 }
```

Status: ACCEPTED

### **TEST ID: 2**

Description: A new user login into newly created account with correct credentials

Test input: Username: testUser1, Password: pass123

Expected output: Redirect to the home(recommended for you) page, 200OK status with JSON on Postman

Actual output:



A screenshot of the Postman application interface. The top navigation bar shows 'Body' (underlined), 'Cookies', 'Headers (11)', 'Test Results', and a refresh icon. To the right, it displays '200 OK', '141 ms', '538 B', and a globe icon. Below the navigation, there are tabs for 'JSON', 'Preview', and 'Visualize'. The main content area shows a JSON response with the following data:

```
1 {  
2   "token": "eyJhbGciOiJIUzI1NiJ9.  
3     eyJzdWIiOiJ0ZXN0VXNlcjIiLCJyb2xlijoiVVNFUiIsImhdCI6MTc10TgyODUwMiwiZXhwIjoxNzU50DMyMTAyfQ.  
4     VvIZ6EAXJhkmlXUiv_sn7rseWZaJkc5cHBHie4SWmw",  
5   "username": "testUser2",  
6   "role": "USER"  
7 }
```

## Recommended for You

### Nearby Eateries

#### Swissbake - HarbourFront Centre

Harbourfront Centre Maritime Square, Singapore 99253

Vegan

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

*Vegan option*

📍 18.15 km away

Health: 5.0 Hygiene: 3.0

Score: 74.2 1 review

[View](#)

#### McDonald's - Nanyang Technological University

Nanyang Technological University (NTU), Blk N2.1 Nanyang Drive, Singapore 637331

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

*Within walking distance*

📍 1.00 km away

Health: 5.0 Hygiene: 3.0

Score: 64.2 1 review

[View](#)

#### Koufu - Gek Poh Shopping Centre

Gek Poh Shopping Mall Jurong West Street 75, Singapore 640760

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

*Within walking distance*

📍 1.81 km away

Score: 30.0 0 reviews

[View](#)

#### Koufu - NTU

South Spine Food Court Nanyang Avenue, Singapore 639798

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

*Within walking distance*

📍 1.11 km away

Score: 30.0 0 reviews

[View](#)

#### Subway - NTU

Nanyang Technological University (NTU), Blk N2.1 Nanyang Drive, Singapore 637331

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

*Within walking distance*

📍 1.00 km away

Score: 30.0 0 reviews

[View](#)

Status: ACCEPTED

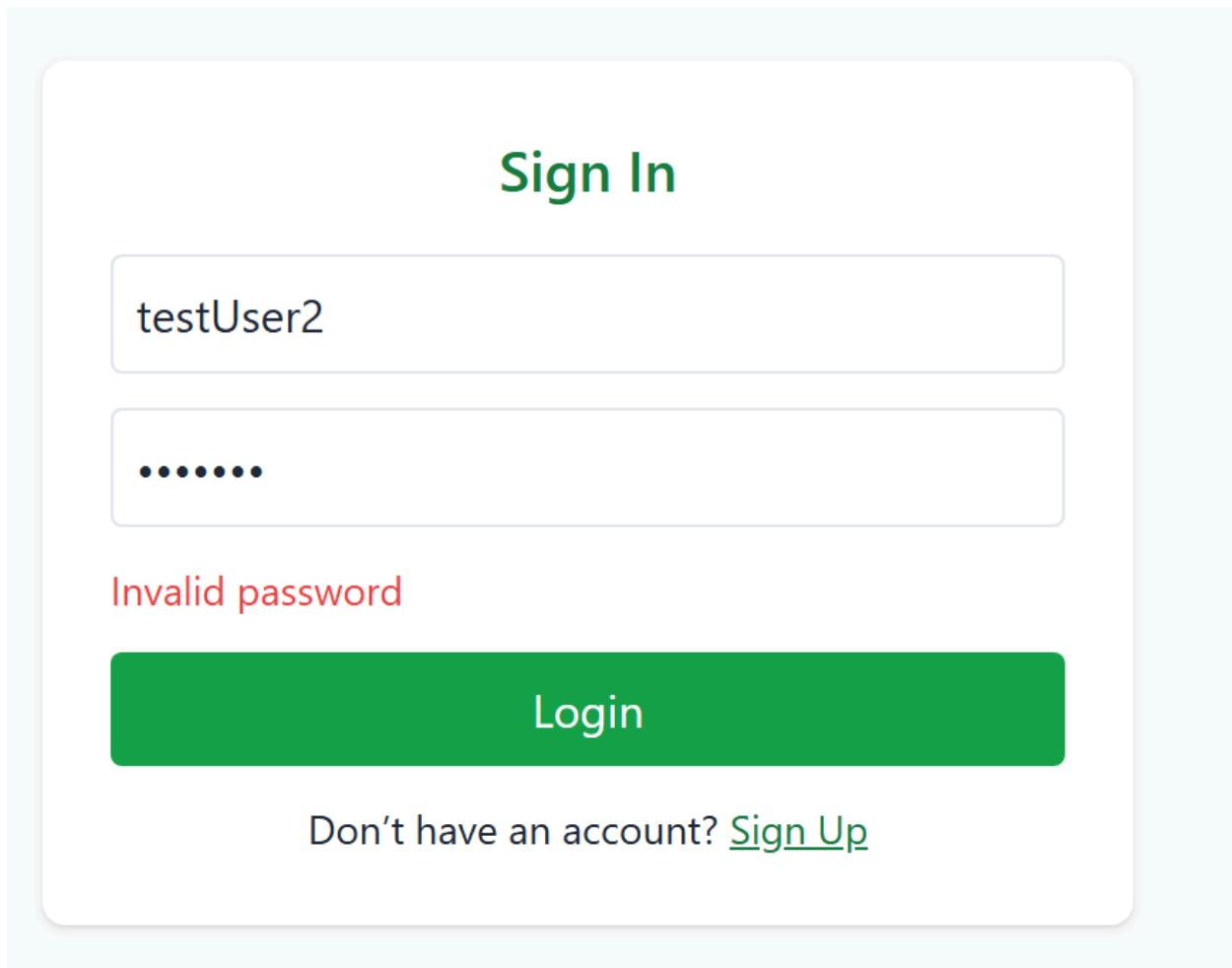
**TEST ID: 3**

Description: User logs in with wrong credentials

Test input: Username: testUser2, Password: Pass124 (password is case sensitive)

Expected output: Login page displays incorrect password for 3 times and lock the account after

Actual output:



## Sign In

Account locked. Try later.

**Login**

Don't have an account? [Sign Up](#)

\*After 3 attempts

Status: ACCEPTED

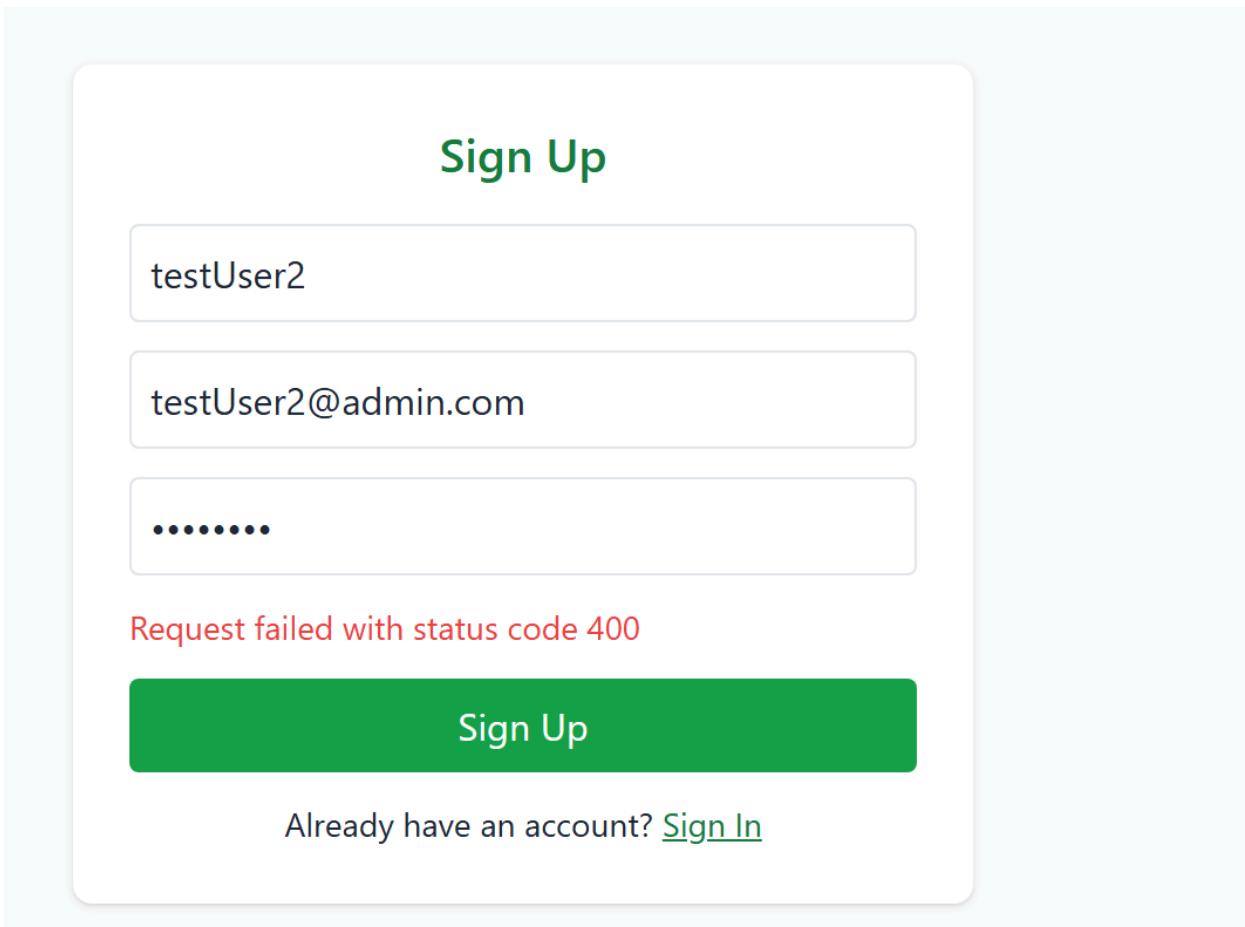
**TEST ID: 4**

Description: A new user tries to create an account with the same username created before

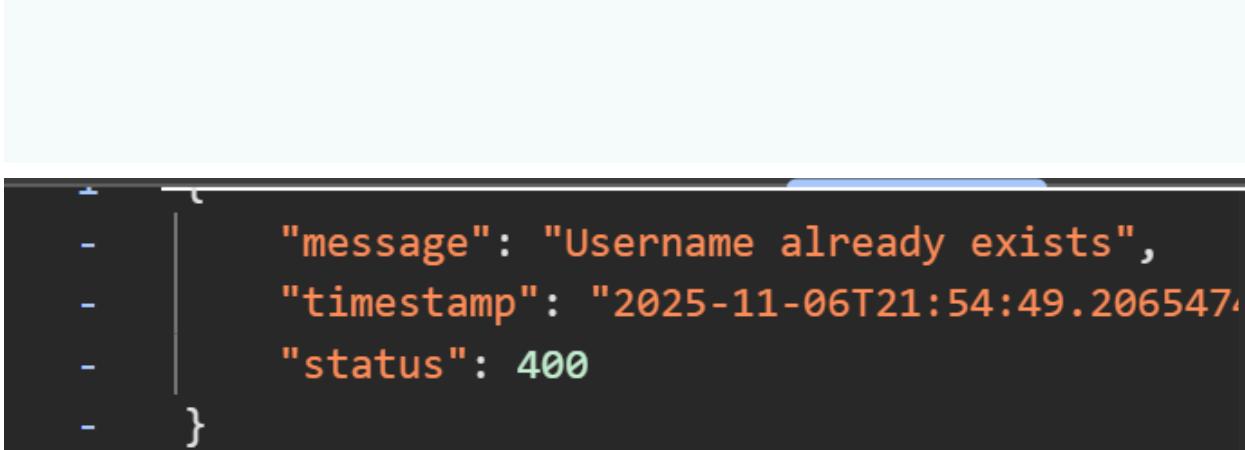
Test input: Email: [user2@test.com](mailto:user2@test.com), Username: testUser2, Password: pass123

Expected output: It will show an error where “account was already created”

Actual output:



The screenshot shows a mobile application's sign-up screen. At the top, the title "Sign Up" is displayed in green. Below it are three input fields: the first contains "testUser2", the second contains "testUser2@admin.com", and the third contains a redacted password represented by ".....". A red error message "Request failed with status code 400" is visible below the inputs. A large green button with the text "Sign Up" in white is centered at the bottom. Below the button, a link "Already have an account? [Sign In](#)" is shown.

```
{
  "message": "Username already exists",
  "timestamp": "2025-11-06T21:54:49.206547Z",
  "status": 400
}
```

Status: ACCEPTED

**TEST ID: 5**

Description: A new user signs up with invalid email format

Test input: Email: user1, Username: testUser1, Password: pass123

Expected output: The app should show an error telling to write the correct format

Actual output:

The screenshot shows a 'Sign Up' screen. The 'Username' field contains 'testUser3'. The 'Email' field contains 'testUser3!gmail'. An error message at the bottom left says 'Please include an '@' in the email address. 'testUser3!gmail' is missing an '@''. Below the error message, a red text 'Request failed with status code 400' is displayed. A green 'Sign Up' button is present, and a link 'Already have an account? [Sign In](#)' is visible.

Status: ACCEPTED

## TEST ID: 6

Description: An admin logs into the app

Test input: Username: admin2, Password: pass123

Expected output: App should redirect to home page with “create admin account”, “activity logs” and “tags management” tab appearing. 200 OK output with ROLE: “ADMIN” on Postman should also appear.

Actual output:

The screenshot shows a Postman request and its response. The request is a POST to `127.0.0.1:8080/auth/login`. The body is a JSON object with the following content:

```
1 {  
2   "username": "admin2",  
3   "password": "pass123"  
4 }
```

The response is a 200 OK status with the following details:

- Time: 573 ms
- Size: 533 B
- Content-Type: application/json

The response body is a JSON object containing a token and user information:

```
1 {  
2   "token": "eyJhbGciOiJIUzI1NiJ9.  
         eyJzdWIiOiJhZG1pbjIiLCJyb2xlijoiQURNSU4iLCJpYXQiOjE3NTk4MzAwOTYsImV4cCI6MTc1OTgzMzY5Nn0.  
         IILJmq6cBD8GtIGQ5kk1FvtBn189UZB0d7ksGuSyLzo",  
3   "username": "admin2",  
4   "role": "ADMIN"  
5 }
```

## Recommended for You

### Nearby Eateries

#### Swissbake - HarbourFront

##### Centre

Harbourfront Centre Maritime Square, Singapore 99253

Vegan

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

Vegan option

📍 18.15 km away

Health: 5.0 Hygiene: 3.0

Score: 54.2 1 review

[View](#)

#### McDonald's - Nanyang

##### Technological University

Nanyang Technological University (NTU), Blk N2.1 Nanyang Drive, Singapore 637331

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

Within walking distance

📍 1.00 km away

Health: 2.0 Hygiene: 3.0

Score: 52.2 2 reviews

[View](#)

#### Simply Wrapps -

##### HarbourFront Center

HarbourFront Center Maritime Square, Singapore 99253

High Protein

Halal

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

High Protein option • Halal option

📍 18.15 km away

Score: 40.0 0 reviews

[View](#)

Status: ACCEPTED

## TEST ID: 7

Description: Current admin creates a new admin account

Test input: Email: moderator@gmail.com, Username: moderator, Password: moderator123

The screenshot shows the 'Create New Admin' form. At the top, it says 'Create New Admin' and provides instructions: 'Use this form to register a new admin account.' There are three input fields: the first contains 'moderator', the second contains 'moderator@gmail.com', and the third contains a masked password. Below the fields is a green 'Create Admin' button. At the bottom is a 'Back to Home' link.

Expected output: Successful alert of creating an account, new admin user is able to log in

Actual output:

The screenshot shows the 'Recommended for You' section under 'Based on Your Preferences'. It displays three cards:

- Simply Wrapps - HarbourFront Center**  
HarbourFront Center Maritime Square, Singapore 99253  
**High Protein Halal**  
Choose healthier options from F&B outlets under HPB's Healthier Dining Programme  
*High Protein option • Halal option*  
Score: **46.0**  
**View**
- Swissbake - HarbourFront Centre**  
Harbourfront Centre Maritime Square, Singapore 99253  
**Vegan**  
Choose healthier options from F&B outlets under HPB's Healthier Dining Programme  
*Vegan option*  
Score: **38.0**  
**View**
- Sakae Sushi - TradeHub 21**  
TradeHub 21 Boon Lay Way, Singapore 609971  
**Halal**  
Choose healthier options from F&B outlets under HPB's Healthier Dining Programme  
*Halal option*  
Score: **38.0**  
**View**



**moderator**

mod33@gmail.com

0 Points

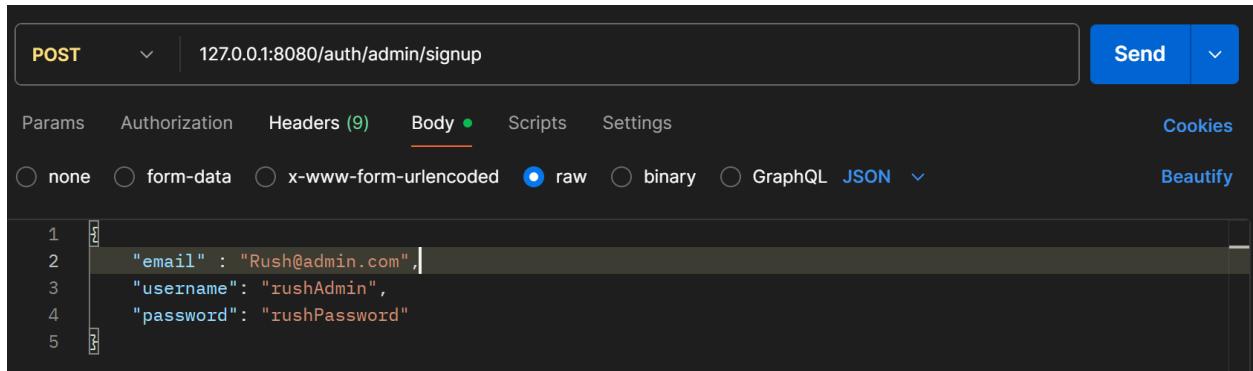
Profile Active

Status: ACCEPTED

## TEST ID: 8

Description: Normal users tries to create a new admin account via the pathname or through POSTMAN

Test input: Email: Rush@admin.com, Username: rushAdmin, Password: rushPassword

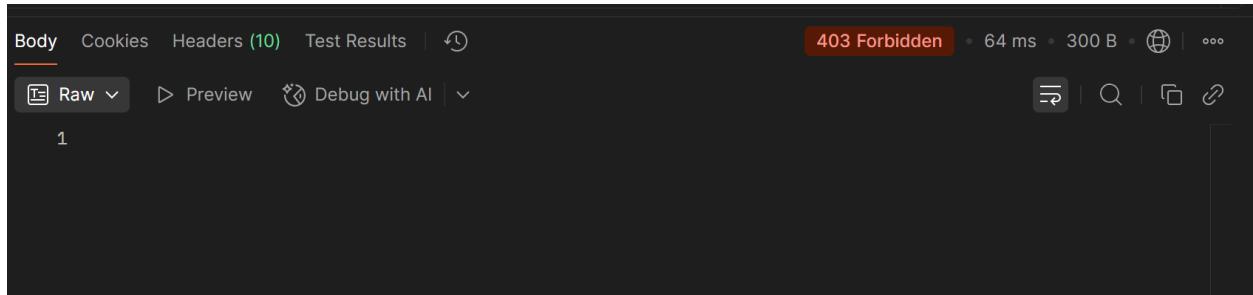


The screenshot shows the Postman interface with a POST request to `127.0.0.1:8080/auth/admin/signup`. The Body tab is selected, showing raw JSON data:

```
1 "email" : "Rush@admin.com",
2 "username": "rushAdmin",
3 "password": "rushPassword"
```

Expected output: The user should not be able to create an admin account, 403 Forbidden will be displayed

Actual output:



The screenshot shows the Postman Test Results page for the previous request. The status is **403 Forbidden**, duration is 64 ms, and size is 300 B. The response body is empty.

Status: ACCEPTED

## 2) FR2 - Searching & filtering eatery features

### TEST ID: 9

Description: A user can search an eatery using postalcode

Test input: Searching “730888” in the search bar and clicking “search button”

Expected output: The app should show display eateries that has the postal code 730888

Actual output:

---

The screenshot shows the 'Explore Eateries' page of the HealthyAura app. At the top, there is a search bar containing the postal code '730888' and a green 'Search' button. Below the search bar is a filter section with buttons for 'Vegan', 'Vegetarian', 'Halal', 'Healthy', 'High Protein', and a dropdown menu set to 'Distance'. The main content area displays three eatery results in cards:

- Pizza Hut - Woodlands 888 (DEL)**  
Woodlands Drive 50 Get Directions
- iTea - Woodlands 888**  
Woodlands Drive 50 Get Directions
- Swee Heng - 888 Plaza**  
Woodlands Drive 50 Get Directions

Status: ACCEPTED

**TEST ID: 10**

Description: User search for an eatery with building name

Test input: Search “Causeway Point” in the search bar

Expected output: The app should show eateries associated with the building name

Actual output:

The screenshot shows the 'Explore Eateries' screen of the HealthyAura app. At the top, there is a search bar containing the text 'Causeway'. To the right of the search bar is a green 'Search' button. Below the search bar is a row of filter buttons: Vegan, Vegetarian, Halal, Healthy, High Protein, and Distance (with a dropdown arrow). The main content area displays five search results, each in a card-like format. Each result includes the eatery name, location ('Woodlands Square'), and a 'Get Directions' button. The results are: 1. Xing Fu Tang - Causeway Point 2. WOK HEY Causeway Point 3. BAGUS @ Causeway Point 4. Hot Tomato - Causeway Point 5. A-ONE Claypot House - Causeway Point.

HealthyAura Explore Rewards

Hi, lab3User Profile Sign out

## Explore Eateries

Causeway

Search

Vegan Vegetarian Halal Healthy High Protein Distance ▾

Xing Fu Tang - Causeway Point  
Woodlands Square Get Directions

WOK HEY Causeway Point  
Woodlands Square Get Directions

BAGUS @ Causeway Point  
Woodlands Square Get Directions

Hot Tomato - Causeway Point  
Woodlands Square Get Directions

A-ONE Claypot House - Causeway Point  
Woodlands Square Get Directions

Status: ACCEPTED

**TEST ID: 11**

Description: User search eatery by address

Test input: Search “woodlands” in the search bar

Expected output: The app should show eateries in woodlands

Actual output:

---

**HealthyAura** Explore Rewards Hi, lab3User Profile Sign out

## Explore Eateries

Woodlands Search

Vegan Vegetarian Halal Healthy High Protein Distance ▾

**Subway - Republic Polytechnic**  
Woodlands Ave 9 Get Directions

**Xing Fu Tang - Causeway Point**  
Woodlands Square Get Directions

**WOK HEY Causeway Point**  
Woodlands Square Get Directions

**KOI - Woodlands MRT**  
Woodlands Avenue 2 Get Directions

**Mr Bean - Kampung Admiralty**  
Woodlands Drive 71 Get Directions

Status: ACCEPTED

**TEST ID: 12**

Description: User filters eateries using filter buttons

Test input: Click onto different filter buttons and apply it

Expected output: App should display eateries related to the dietary tags filter applied

Actual output:

**Explore Eateries**

Search by name or location  Search

Vegan Vegetarian Halal Healthy High Protein Apply Filters

**Swissbake - HarbourFront Centre**  
Maritime Square Get Directions

**Explore Eateries**

Search by name or location  Search

Vegan Vegetarian Halal Healthy High Protein Apply Filters

**Simply Wrapps -HarbourFront Center**  
Maritime Square Get Directions

**Sakae Sushi - TradeHub 21**  
Boon Lay Way Get Directions

**Din Tai Fung - Bedok Mall**  
311 New Upper Changi Road #B1-10 Get Directions

Status: ACCEPTED

**TEST ID: 13**

Description: User searches for an eatery that is not in the healthier eatery dataset

Test input: Search for a random eatery “dspfj23fj23032”

Expected output: The app should not show any eateries, “No result found” will be displayed.

Actual output:

The screenshot shows the 'Explore Eateries' page of the HealthyAura app. At the top, there is a navigation bar with the brand name 'HealthyAura' and links for 'Explore' and 'Rewards'. On the right side of the nav bar, it says 'Hi, girija' followed by 'Profile' and 'Sign out'. Below the nav bar, the main content area has a heading 'Explore Eateries'. A search bar contains the text 'dspfj23fj23032'. To the right of the search bar is a green 'Search' button. Below the search bar are five filter buttons labeled 'Vegan', 'Vegetarian', 'Halal', 'Healthy', and 'High Protein'. A message 'No results found.' is displayed at the bottom of the content area.

Status: ACCEPTED

### 3) FR 3/4 - Estimate crowd levels & Get Directions feature

#### TEST ID: 14

Description: User is able to view a specific eatery's queue and crowd status

Test input: Click onto the “get directions” button on a desired eatery or “view” button in the home page

Expected output: App will redirect to the details page of the eatery and display queue and crowd status

Actual output:

Swissbake - HarbourFront Centre  
Harbourfront Centre Maritime Square, Singapore 99253

+ -

Swissbake - HarbourFront Centre  
Maritime Square

Jardine Steps

Leaflet | Map data © OneMap Singapore

Open in Google Maps

X Queue Status  
Estimated Wait: 5 mins

做人 Crowd Status  
Low

Status: ACCEPTED

**TEST ID: 15**

Description: User can view location of the eatery

Test input: Click onto the “get directions” button on a desired eatery or “view” button in the home page

Expected output: The app should redirect to the details page and display the location of the eatery on a map.

Actual output:

Swissbake - HarbourFront Centre  
Harbourfront Centre Maritime Square, Singapore 99253

Open in Google Maps

Queue Status  
Estimated Wait: 5 mins

Crowd Status  
Low

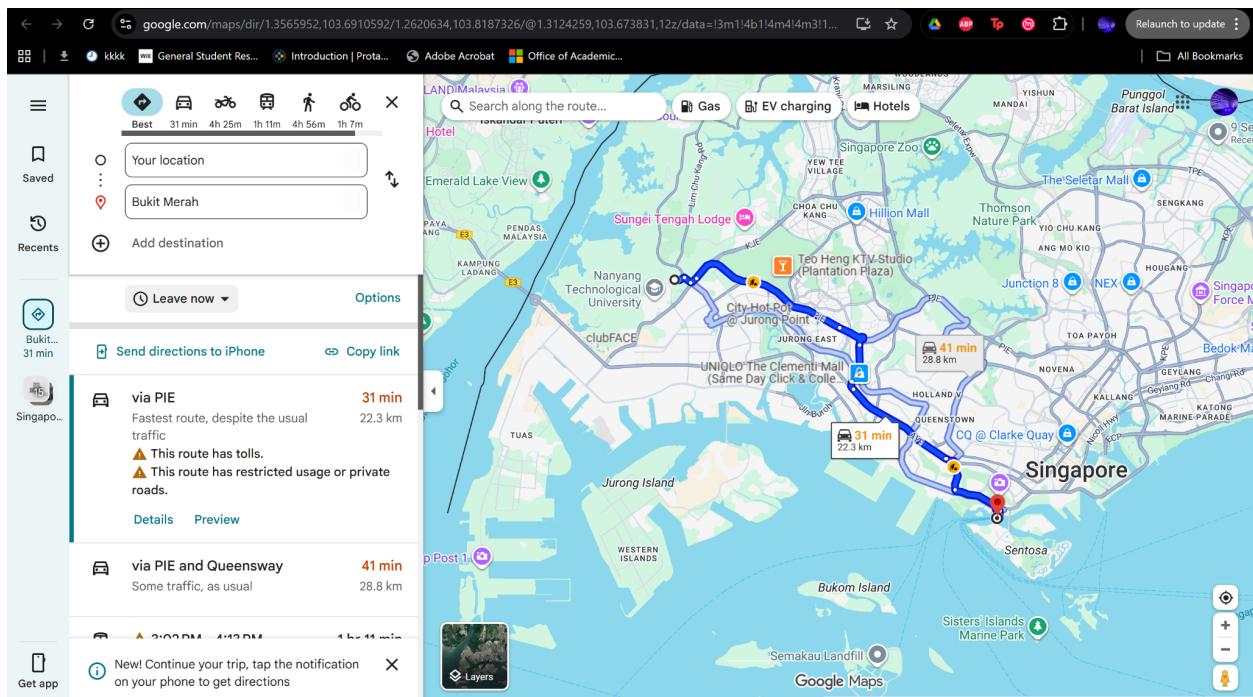
## TEST ID: 16

Description: User can get directions to the desired eatery

Test input: Click onto the “open in google maps” button

Expected output: Redirect to google map. The app will use coordinates or address of the eatery to find directions to the eatery.

Actual output:

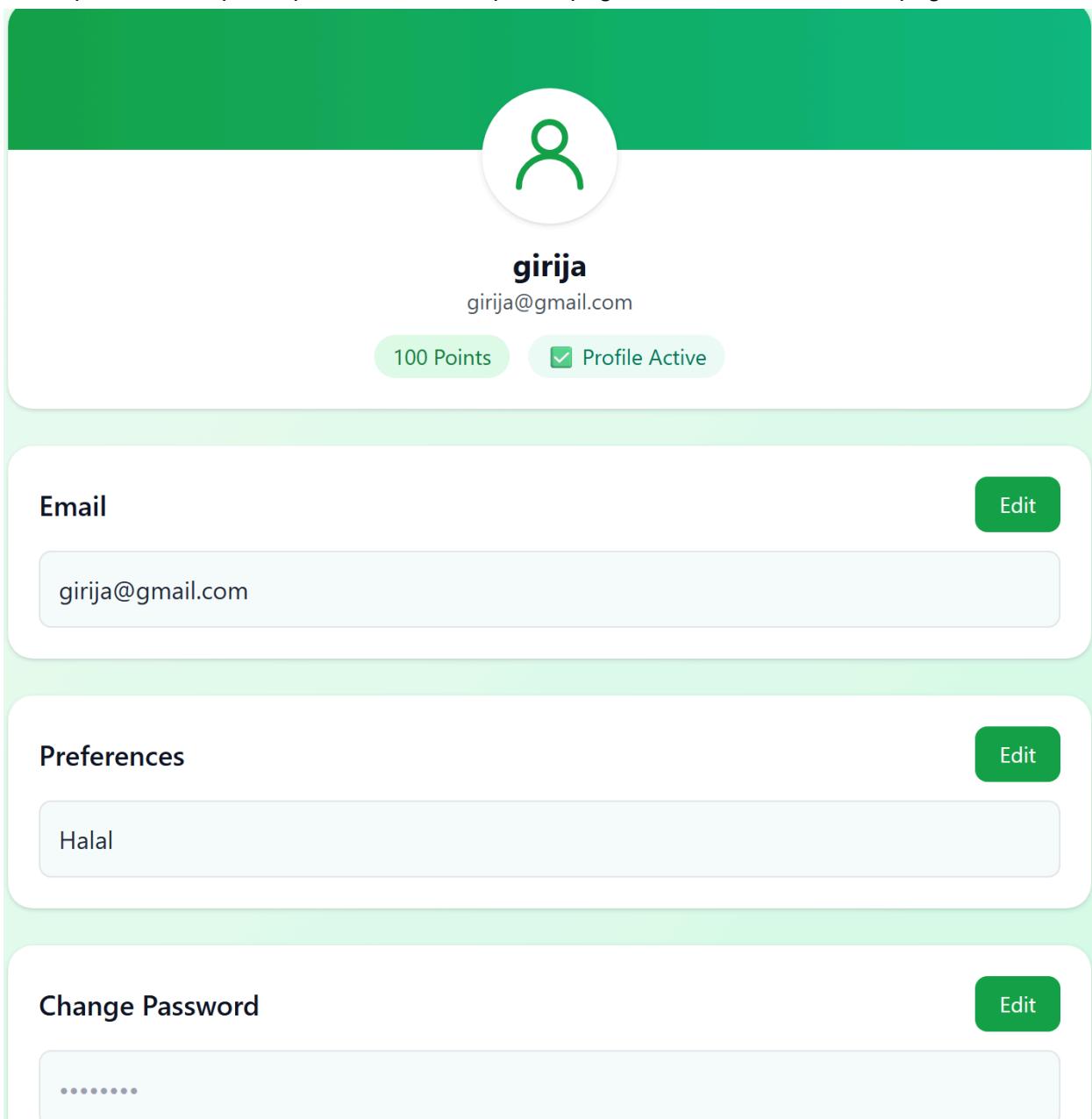


#### 4) FR 5 - Recommendation / Home Feature

**TEST ID: 17**

Description: User is able to view recommended eateries based on preferences

Test input: Add or update preference in the profile page then head to the home page



Expected output: The app should render recommended eateries based on the preferences the user set

## Actual output:

**Based on Your Preferences**

**Swissbake - HarbourFront Centre**  
Harbourfront Centre Maritime Square, Singapore 99253  
**Vegan**  
Choose healthier options from F&B outlets under HPB's Healthier Dining Programme  
*Vegan option*  
Health: 5.0 Hygiene: 3.0  
Score: 44.2 1 review  
[View](#)

**McDonald's - Nanyang Technological University**  
Nanyang Technological University (NTU), Blk N2.1 Nanyang Drive, Singapore 637331  
Choose healthier options from F&B outlets under HPB's Healthier Dining Programme  
*Recommended for you*  
Health: 5.0 Hygiene: 3.0  
Score: 44.2 1 review  
[View](#)

**Simply Wrapps - HarbourFront Center**  
HarbourFront Center Maritime Square, Singapore 99253  
**High Protein Halal**  
Choose healthier options from F&B outlets under HPB's Healthier Dining Programme  
*High Protein option • Halal option*  
Score: 30.0 0 reviews  
[View](#)

**Sakae Sushi - TradeHub 21**  
TradeHub 21 Boon Lay Way, Singapore 609971  
**Halal**  
Choose healthier options from F&B outlets under HPB's Healthier Dining Programme  
*Halal option*  
Score: 30.0 0 reviews  
[View](#)

**Din Tai Fung - Bedok Mall**  
Bedok Mall 311 New Upper Changi Road #B1-10, Singapore 467360  
**halal**  
Choose healthier options from F&B outlets under HPB's Healthier Dining Programme  
*halal option*  
Score: 30.0 0 reviews  
[View](#)

Note: The home page displays top 5 eateries and there are only 3 eateries that were set with halal.

**TEST ID: 18**

Description: User is able to view recommended eateries near him/her

Test input: NIL. Just navigate to the home page and turn on location service.

Expected output: App will display nearby eatery

Actual output:

<p><b>McDonald's - Nanyang Technological University</b> Nanyang Technological University (NTU), Blk N2.1 Nanyang Drive, Singapore 637331</p> <p><b>Halal</b></p> <p>Choose healthier options from F&amp;B outlets under HPB's Healthier Dining Programme <i>Near you • Halal option</i> 📍 0.15 km away</p> <p>Health: 5.0 Hygiene: 3.0</p> <p>Score: 94.2 1 review</p> <p><b>View</b></p>	<p><b>Subway - NTU</b> Nanyang Technological University (NTU), Blk N2.1 Nanyang Drive, Singapore 637331</p> <p><b>Halal</b></p> <p>Choose healthier options from F&amp;B outlets under HPB's Healthier Dining Programme <i>Near you • Halal option</i> 📍 0.15 km away</p> <p>Score: 60.0 0 reviews</p> <p><b>View</b></p>	<p><b>Swissbake - HarbourFront Centre</b> Harbourfront Centre Maritime Square, Singapore 99253</p> <p><b>Vegan</b></p> <p>Choose healthier options from F&amp;B outlets under HPB's Healthier Dining Programme <i>Vegan option</i> 📍 17.94 km away</p> <p>Health: 5.0 Hygiene: 3.0</p> <p>Score: 54.2 1 review</p> <p><b>View</b></p>
<p><b>Simply Wrapps - HarbourFront Center</b> HarbourFront Center Maritime Square, Singapore 99253</p> <p><b>High Protein Halal</b></p> <p>Choose healthier options from F&amp;B outlets under HPB's Healthier Dining Programme <i>High Protein option • Halal option</i> 📍 17.94 km away</p> <p>Score: 40.0 0 reviews</p> <p><b>View</b></p>	<p><b>Sakae Sushi - TradeHub 21</b> TradeHub 21 Boon Lay Way, Singapore 609971</p> <p><b>Halal</b></p> <p>Choose healthier options from F&amp;B outlets under HPB's Healthier Dining Programme <i>Halal option</i> 📍 8.08 km away</p> <p>Score: 40.0 0 reviews</p> <p><b>View</b></p>	

\*User with “halal” preferences set

## Nearby Eateries

### Koufu - NTU

South Spine Food Court Nanyang Avenue, Singapore 639798

Vegetarian

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

*Near you • Vegetarian option*

📍 0.28 km away

Score: 50.0

[View](#)

### Subway - NTU

Nanyang Technological University (NTU), Blk N2.1 Nanyang Drive, Singapore 637331

Halal

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

*Near you • Halal option*

📍 0.15 km away

Score: 50.0

[View](#)

### LiHo - Nanyang

#### Technological University

Nanyang Technological University Nanyang Drive, Singapore 637331

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

*Near you*

📍 0.15 km away

Score: 50.0

[View](#)

### McDonald's - Nanyang

#### Technological University

Nanyang Technological University (NTU), Blk N2.1 Nanyang Drive, Singapore 637331

Halal

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

*Near you • Halal option*

📍 0.15 km away

Score: 50.0

[View](#)

### Pizza Hut - NTU (EXP)

NTU Nanyang Drive blk N2.1, Singapore 637331

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

*Near you*

📍 0.15 km away

Score: 50.0

[View](#)

\*User with no preferences set

Note: Nearby eateries displayed are different for users with and without preferences. Users with preferences set, nearby eateries of related dietary tags will be displayed. Those without will be displayed at any eateries in the vicinity, they may not have dietary tags.

Status: ACCEPTED

## 5) FR6 - Reviews feature

### TEST ID: 19

Description: User is able to read reviews and overall ratings of an eatery

Test input: Click onto the “get directions” of a desired eatery to view its details page

Expected output: The app should show overall ratings and other comments by other user on the eatery’s details page

Actual output:

The screenshot shows a mobile application interface. At the top, there's a header with the text "Overall Ratings". Below it, there are two rating sections: one for "Health" with a rating of 5.0 and five green stars, and another for "Hygiene" with a rating of 3.0 and three green stars. To the right of these sections, it says "1 Reviews Total". Below this, there's a section titled "User Reviews". It displays a single review from a user named "girija" posted on "11/4/2025, 4:11:00 PM". The review text is: "very vegan friendly, recommended. MAUI WOWEEEEEE but abit unhygienic". There are "Flag" and "Edit" buttons next to the review. Underneath the review, there are two sets of star icons labeled "Health:" and "Hygiene:", each showing a 5-star rating.

Status: ACCEPTED

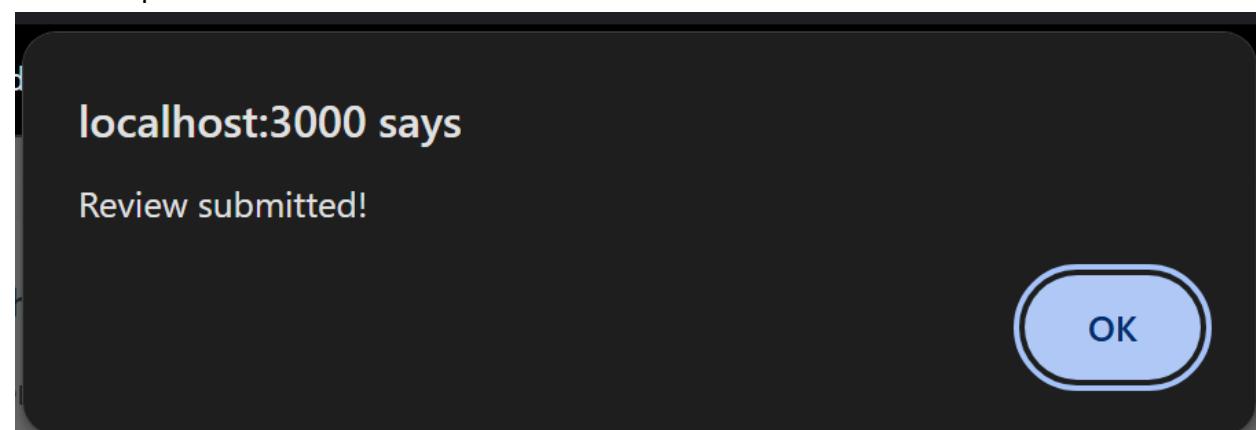
### TEST ID: 20

Description: User is able to add a review and ratings onto their desired eatery

Test input: Any string of comments in the textbox, ratings of 5 for both hygiene and health.

Expected output: An alert will pop out to confirm success and the app will display the review in the details page of the specific eatery. Users will also be able to see updated average ratings of the eatery.

Actual output:



## Overall Ratings

5.0 ★★★★★ Health

2 Reviews Total

4.0 ★★★★☆ Hygiene

## User Reviews

gojo (You)

11/6/2025, 5:05:09 PM

Edit Delete

I like the bakery here as well, i wanna go back here.

Health:



Hygiene:



girija

11/4/2025, 4:11:00 PM

Flag

very vegan friendly, recommended. MAUI WOWEEEEEE but abit unhygienic

Health:



Hygiene:



Status: ACCEPTED

## TEST ID: 21

Description: User can edit their submitted review

Test input: Different set of strings from the current post, and other ratings.

### User Reviews

gojo (You)

11/6/2025, 5:05:09 PM

Edit Delete

I like the bakery here as well, i wanna go back here.

Health



Hygiene



Save

Cancel

Expected output: The app should display the user's updated comment in the details page.

Actual output:

### Overall Ratings

5.0 ★★★★★ Health

2 Reviews Total

2.0 ★★☆☆☆ Hygiene

### User Reviews

gojo (You)

11/6/2025, 5:09:49 PM

Edit Delete

i think this bakery is nice but abit unhygienic

Health:



Hygiene:



girija

11/4/2025, 4:11:00 PM

Flag

very vegan friendly, recommended. MAUI WOWEEEEEE but abit unhygienic

Health:



Hygiene:



Status: ACCEPTED

**TEST ID: 22**

Description: User is able to delete their own comment

Test input: Press the delete button on the user's own comment

Expected output: The app will display an alert before the user confirms their action. If confirmed, the comment on the details page will be deleted and updated scores will be displayed.

Actual output:

Overall Ratings

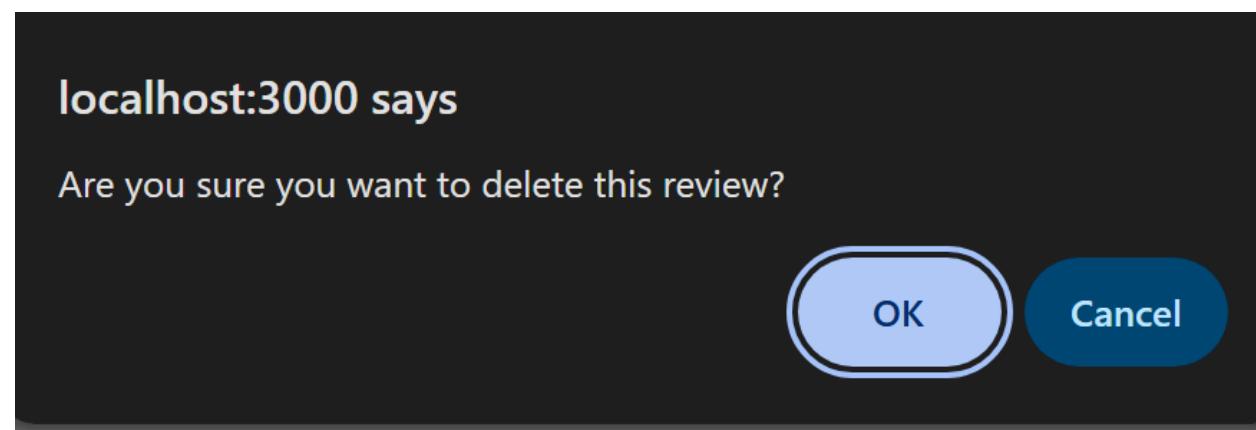
3.0 ★★★☆☆	Health	1 Reviews Total
4.0 ★★★★☆	Hygiene	

User Reviews

girija (You)  
11/4/2025, 4:14:14 PM  
i feel like this is meh

Health: ★★★☆☆ Hygiene: ★★★★☆

Edit Delete



## Overall Ratings

No ratings yet. Be the first to leave a review!

## User Reviews

No reviews yet — be the first to share your thoughts!

### Leave a Review

Write your review here...

Health



Hygiene



[Submit Review](#)

Status: ACCEPTED

### TEST ID: 23

Description: Users can flag other user's comment

Test input: Click onto the flag button on a specific comment and type the reason for flagging.

## Overall Ratings

2.0 Health

2 Reviews Total

3.0 Hygiene

## User Reviews

gojo

11/4/2025, 4:22:58 PM

Flag

I DONT LIKE THE MCDONALDS HERE!

Health:



Hygiene:



admin

11/3/2025, 2:50:07 PM

Flag

the crowd is very big, take too long to get the food

Health:



Hygiene:



**localhost:3000 says**

Enter reason for flagging this review:

no!

OK

Cancel

Expected output: The review will be sent to the admin dashboard and an alert will be displayed for confirmation.

Actual output:

**localhost:3000 says**

Review reported for moderation.

OK

Status: ACCEPTED

**TEST ID: 24**

Description: Admins are able to view pending, resolved or dismissed flagged reviews.

Test input: Click onto the “activity logs” and filter flags using the drop down.

Expected output: The app should display a dashboard with related flagged reviews.

Actual output:

## Admin Dashboard

Welcome, Admin

### System Metrics

Pending Flags **2**

By Reason  
no!: 1  
he is a hater: 1

By Keyword  
offensive: 0  
other: 2  
hygiene: 0  
health: 0  
spam: 0

Last Updated  
04 Nov 2025, 04:44 pm

### Flagged Reviews

Pending ▾ Search by reason... Filter

FLAG ID	REASON	STATUS	ADMIN NOTES	CREATED AT	REVIEWED AT
3	no!	PENDING	—	04 Nov 2025, 04:28 pm	—
2	he is a hater	PENDING	—	04 Nov 2025, 04:27 pm	—

### Flagged Reviews

Resolved ▾ Search by reason... Filter

FLAG ID	REASON	STATUS	ADMIN NOTES	CREATED AT	REVIEWED AT
1	inappropriate	RESOLVED	rude comment	03 Nov 2025, 03:10 pm	03 Nov 2025, 03:14 pm

\*filtered by “resolved”

Flagged Reviews					
Dismissed	Search by reason...	Filter			
FLAG ID	REASON	STATUS	ADMIN NOTES	CREATED AT	REVIEWED AT
No flagged reviews found.					

\*Filtered by “dismissed”

Status: ACCEPTED

### TEST ID: 25

Description: Admins are able to resolve reviews that were flagged by users

Test input: Enter the flag ID, actions to be done with the specific comment (either dismiss or remove) and additional notes

Use this panel to resolve flags, hide, or delete reviews.

#### Resolve a Flag

1	REMOVE (approve removal)	▼	inappropriate
<b>Resolve Flag</b>			

Resolving marks the flag as handled. Use REMOVE to take further action (e.g. hide/delete review), or DISMISS to approve it.

Expected output: The app will display a table of resolved flags and confirmation of resolving flag will also be displayed

Actual output:

#### Resolved Flags Overview

FLAG ID	REVIEW ID	REASON	CREATED AT
4	6	inappropriate comment	05/11/2025, 11:34:45 am
2	5	he is a hater	04/11/2025, 4:27:41 pm
1	3	inappropriate	03/11/2025, 3:10:45 pm

Click a row to autofill its Flag ID (and Review ID if available).

Flag #2 resolved as REMOVE.

### Resolve a Flag

Resolve Flag

Resolving marks the flag as handled. Use REMOVE to take further action (e.g. hide/delete review), or DISMISS to approve it.

Status: ACCEPTED

### TEST ID: 26

Description: Admins are able to delete/hide comments after resolving the flagged review.

Test input: Enter review ID of the comment and the reason for deleting

Expected output: The app will display confirmation and update the resolved table in the admin dashboard. The comment will also not be displayed anymore in the details page of the specific eatery.

### Delete a Review

Delete Review

Permanently deletes the review. Ensure flag was resolved first.

[← Back to Dashboard](#)

Actual output:

Use this panel to resolve flags, hide, or delete reviews.

Review #5 deleted successfully.

## Flagged Reviews

Resolved ▾

Search by reason...

Filter

FLAG ID	REASON	STATUS	ADMIN NOTES	CREATED AT	REVIEWED AT
2	he is a hater	RESOLVED	Verified the it is spreading hate	04 Nov 2025, 04:27 pm	04 Nov 2025, 04:57 pm
1	inappropriate	RESOLVED	rude comment	03 Nov 2025, 03:10 pm	03 Nov 2025, 03:14 pm

## Your Recent Actions

ACTION TYPE	TARGET	DETAILS	TIMESTAMP
REVIEW_DELETE	REVIEW #5	Deleted. Reason: Hate crime	04 Nov 2025, 05:04 pm
FLAG_RESOLVE	FLAG #2	action=REMOVE; notes=Verified the it is spreading hate	04 Nov 2025, 04:57 pm
REVIEW_DELETE	REVIEW #3	Deleted. Reason: inappropriate comment.	03 Nov 2025, 03:14 pm

## Overall Ratings

3.0 ★★★☆☆ Health

1 Reviews Total

5.0 ★★★★★ Hygiene

## User Reviews

admin (You)

11/3/2025, 2:50:07 PM

Edit Delete

the crowd is very big, take too long to get the food

Health:



Hygiene:



## Leave a Review

Write your review here...

Health



Hygiene



Submit Review

NOTE: if the admin chooses to hide the comment, the person that commented on the page will not be allowed to comment again because users can only comment once on that eatery every 7 days.

Aspect	is_deleted	is_hidden
Public visibility	Hidden	Hidden
User can see it	No (deleted)	Yes (shadowban)
User can delete	No (already deleted)	No (blocked by code)
User can edit	No	Yes
New review allowed	Yes (after 7 days)	No (review still exists)
Punitive effect	Moderate	Strong (blocks new reviews)
Use for	Clear violations	- Suspicious/monitoring - User keeps posting fake reviews for the

		same eatery (After 2-3 violations, admin hides → kind of permanent block? idk)
--	--	---

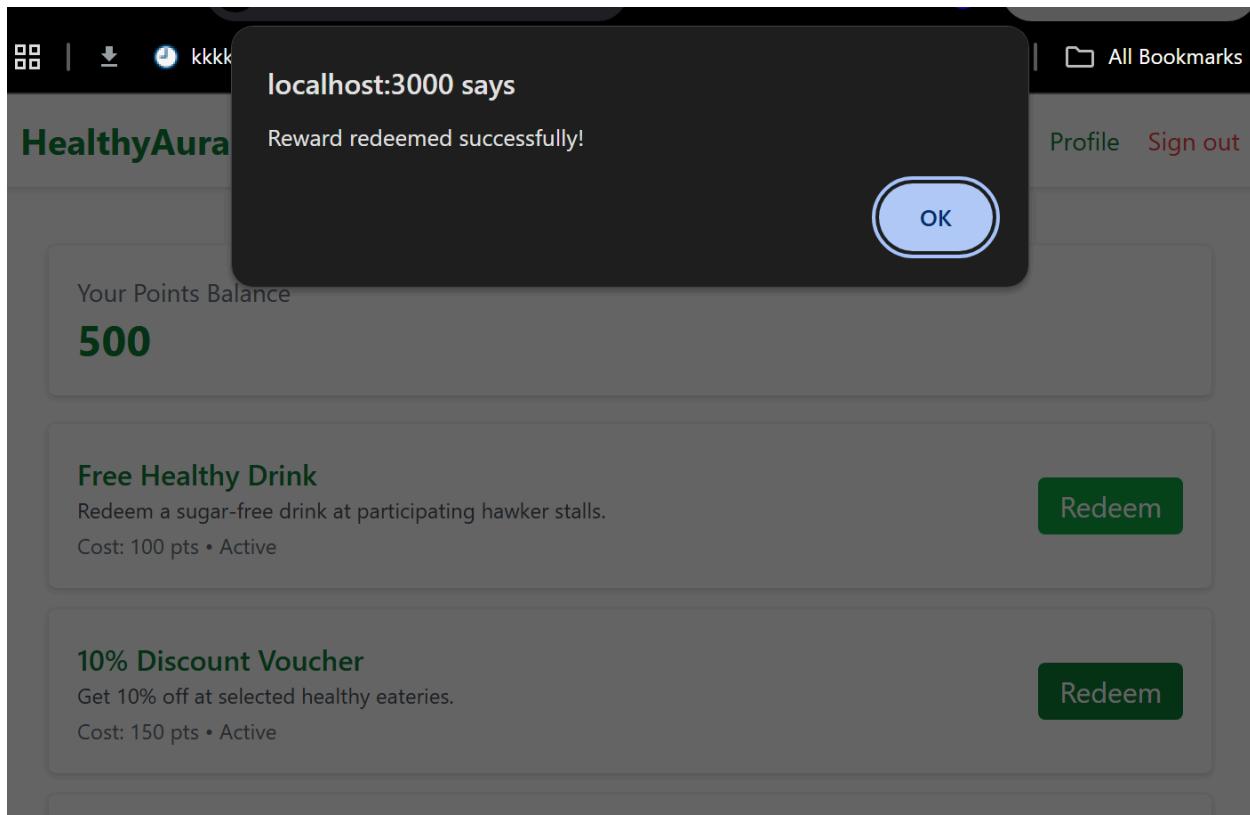
## 6) FR 7 - Rewards feature

### TEST ID: 27

Description: Users can redeem a reward that he or she can afford with their current points balance

Test input: In the rewards page, click on the “redeem” button of a reward the user can redeem  
Expected output: The app should display an alert upon successful redemption and deduct her points. Updated balance will be displayed.

Actual output:



\*Redeemed 10% voucher

Your Points Balance

**350****Free Healthy Drink**

Redeem a sugar-free drink at participating hawker stalls.  
Cost: 100 pts • Active

**Redeem**

Status: ACCEPTED

**TEST ID: 28**

Description: User will not be able to redeem any rewards if he or she have insufficient balance

Test input: Try to press the “redeem” button of a reward that the user cannot afford

Expected output: The user should not be able to redeem the reward as the button is greyed out.

Actual output:

The screenshot shows the HealthyAura mobile application interface. At the top, there is a navigation bar with the brand name "HealthyAura" in green, followed by "Explore" and "Rewards". On the right side of the nav bar are links for "Hi, girija", "Profile", and "Sign out". Below the nav bar, the main content area starts with a section titled "Your Points Balance" showing a value of "100". Following this, there are five reward cards, each with a title, a brief description, and a "Redeem" button. The rewards listed are:

- Free Healthy Drink**: Redeem a sugar-free drink at participating hawker stalls. Cost: 100 pts • Active. The "Redeem" button is green.
- 10% Discount Voucher**: Get 10% off at selected healthy eateries. Cost: 150 pts • Active. The "Redeem" button is greyed out.
- Free Salad Bowl**: Enjoy one free salad bowl from partner stalls. Cost: 250 pts • Active. The "Redeem" button is greyed out.
- Protein Snack Bar**: Redeem a free protein snack bar at HealthyAura kiosk. Cost: 80 pts • Active. The "Redeem" button is green.
- Reusable Bottle**: Get an eco-friendly reusable bottle. Cost: 300 pts • Active. The "Redeem" button is greyed out.

Status: ACCEPTED

**TEST ID: 29**

Description: Users are able to gain points by dropping reviews on any eatery they want

Test input: Drop a review with strings of characters and ratings on any eatery of their choice

The screenshot shows the 'Leave a Review' section of the HealthyAura app. A text input field contains the text 'delicious, I wanna go back here again!!'. Below it, there are two rating scales: 'Health' with 5 stars and 'Hygiene' with 5 stars. A green 'Submit Review' button is at the bottom. At the bottom of the screen, the HealthyAura logo is on the left, followed by 'Explore' and 'Rewards' links, and on the right, 'Hi, dipsy', 'Profile' (in green), and 'Sign out' (in red).

Leave a Review

delicious, I wanna go back here again!!

Health      Hygiene

★★★★★ ★★★★★

Submit Review

HealthyAura Explore Rewards

Hi, dipsy Profile Sign out

Your Points Balance  
0

Expected output: The app will calculate and update the new balance of the user. The user will gain 15 points as the minimum point is 10 and the maximum is 15 if he or she comments with more than 10 characters.

Actual output:

### Overall Ratings

5.0 ★★★★★ Health      1 Reviews Total

5.0 ★★★★★ Hygiene

### User Reviews

dipsy (You)  
11/7/2025, 11:03:06 PM  
Delicious, i wanna go back here again!!  
Health: ★★★★★ Hygiene: ★★★★★

[Edit](#) [Delete](#)

### Leave a Review

Write your review here...

Health      Hygiene  
★★★★★    ★★★★★

[Submit Review](#)

---

**HealthyAura** [Explore](#) [Rewards](#) Hi, dipsy [Profile](#) [Sign out](#)

Your Points Balance  
**15**

## TEST ID: 30

Description: Users will lose points upon deleting reviews

Test input: Click “delete” on their own review

### Overall Ratings

5.0 ★★★★★ Health      2 Reviews Total

5.0 ★★★★★ Hygiene

### User Reviews

gojo (You)  
11/7/2025, 10:54:54 PM  
gergregregewfawefew

Health: ★★★★★ Hygiene: ★★★★★

Edit Delete

hanzhi  
11/2/2025, 12:03:42 PM  
Would recommend

Health: ★★★★★ Hygiene: ★★★★★

Flag

**HealthyAura** Explore Rewards

Hi, gojo Profile Sign out

Your Points Balance

**60**

\*Current balance of user

Expected output: App recalculates the points and display the updated balance

Actual output:

## Overall Ratings

5.0 ★★★★★ Health

1 Reviews Total

5.0 ★★★★★ Hygiene

## User Reviews

hanzhi

11/2/2025, 12:03:42 PM

Flag

Would recommend

Health:



Hygiene:



\*Comment deleted

**HealthyAura** Explore Rewards

Hi, gojo Profile Sign out

Your Points Balance

45

Status: ACCEPTED

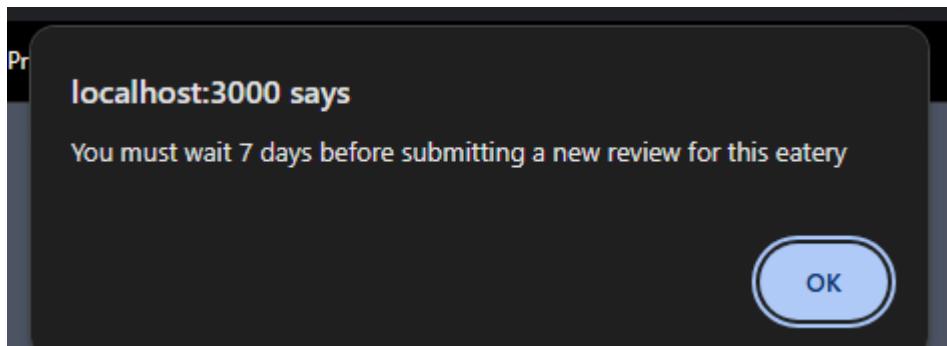
### TEST ID: 31

Description: Users are not able to abuse the reward system by commenting multiple times within 7 days

Test input: Try commenting more than 5 times in five different eateries.

Expected output: The app will display an alert where he or she has to wait for 7 days to post a new comment.

Actual output:



\*Current user has already commented more than 5 times

Status: ACCEPTED

## 7) FR 8 - Dietary tags management feature

### TEST ID: 32

Description: Admins are able to add dietary tags tied to an eatery

Test input: In the Tag Manager tab, enter the eatery ID that the user wants to add tag in. Then add a tag of the user's choice.

Expected output: The app will display the new tag in the “current tag” section when loading the specific eatery ID. It will also display in the recommended page if it is shown to the user or simply filter it in the explore page.

Actual output:

### Admin Tag Management

Loaded 1 tags.

1327 Load Tags

**Current Tags**

Healthy	<button>Delete</button>
---------	-------------------------

**Add Tag**

New tag name Add

**Rename Tag**

Old tag  New tag name  Rename

## Explore Eateries

**Search****Vegan****Vegetarian****Halal****Healthy****High Protein****Apply Filters****iTea - Woodlands 888**

Woodlands Drive 50

**Get Directions****Status: ACCEPTED**

## 8) Other Test cases

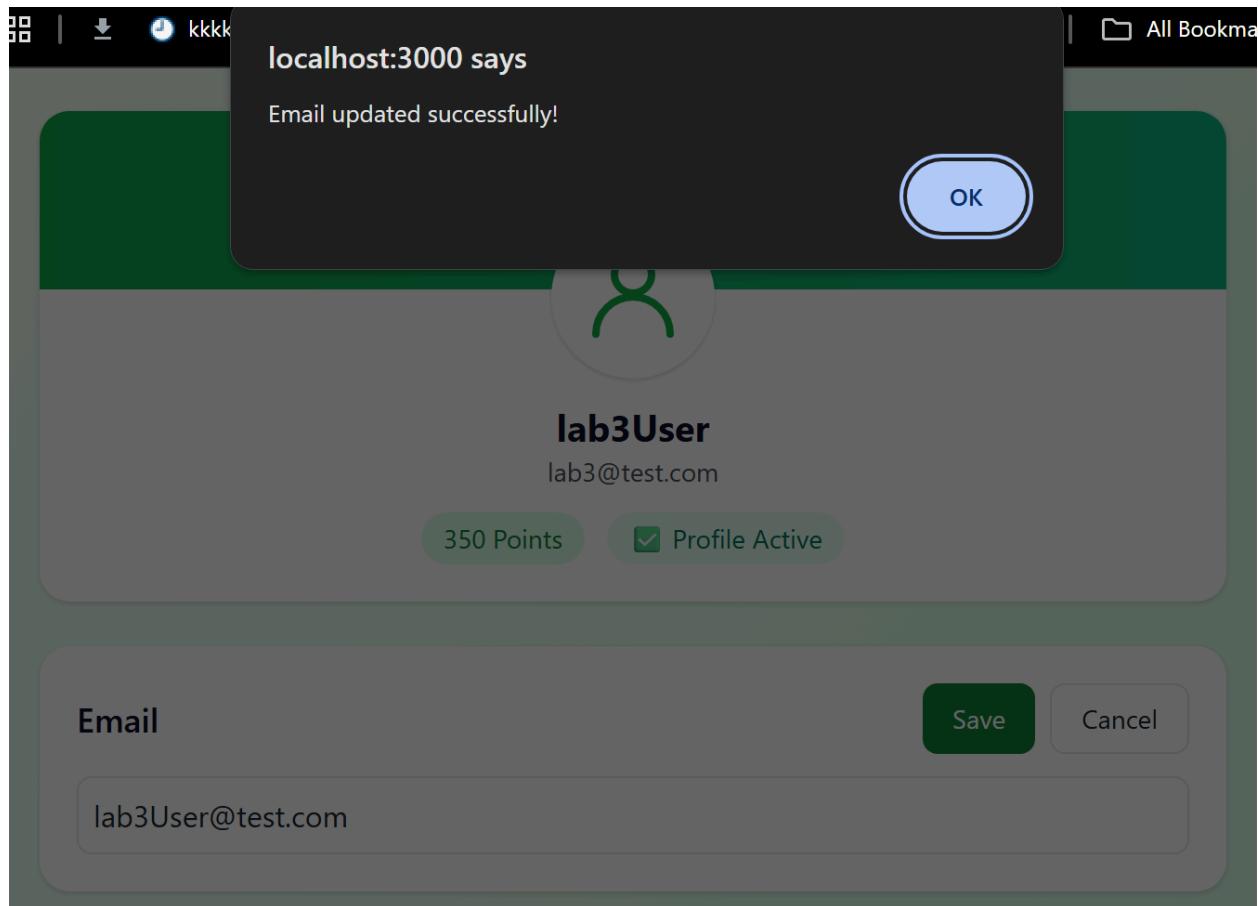
### TEST ID: 33

Description: Users can change their email in their profile details

Test input: In the Profile tab, edit the email section and type in a new email.

Expected output: The app will display an alert upon successful change and the profile page will display the updated email.

Actual output:



mysql> select * from users;					
id	email	password	role	username	preferences
1   user1@test.com   \$2a\$10\$AtyoZH1mJU92rQ8gwnqKduxBxEUpNSYpqKxZRNn01RVVUkpuUhgyPe   USER   testUser1   NULL					
2   james@test.com   \$2a\$10\$116.Ee7ktKV8JnWly7mtYewP70zGiIK3FHhHZstSHJttxS2Yt2Ma   USER   jlyj   NULL					
3   root@admin.com   \$2a\$12\$1/AqYdfHVS3zSVYg0itqoFVgtP8QNaOpzd3jNgDe/67s4zvDwEl.   ADMIN   rootUser   NULL					
4   testAdmin@test.com   \$2a\$10\$XLJceoj5/Xz.VY1Ja/Bt.H99abKN6rIWUsxxBpJoJUtxR888DyfC   ADMIN   testAdmin   NULL					
5   user2@test.com   \$2a\$10\$XLJceoj5/Xz.VY1Ja/Bt.H99abKN6rIWUsxxBpJoJUtxR888DyfC   USER   testUser2   NULL					
6   admin2@test.com   \$2a\$12\$c0wft2ABllfJF4g9wYNokugJZwpZ75VRTbQjlyitJb2vlxzzZbpie   ADMIN   admin2   NULL					
7   techSupportAdmin@gmail.com   \$2a\$10\$SMDoCwe/wPfftWLFT6cyNxna5B3CRBTUMzZi/jkcj14d17B8AV.   ADMIN   techAdmin   NULL					
8   jamal@gmail.com   \$2a\$10\$A0a6zy2TSbpGaVICodjkeobRD1aq0wL0AsSQoKDmqGMwz0DXVILmu   USER   jamal   Halal					
9   lab3User@test.com   \$2a\$10\$p978mgN3WiYuW8TFhVPBGu97Rk1hKKLFfNoB8Fr16TH0CCOX.RZILu   USER   lab3User   NULL					

Status: ACCEPTED

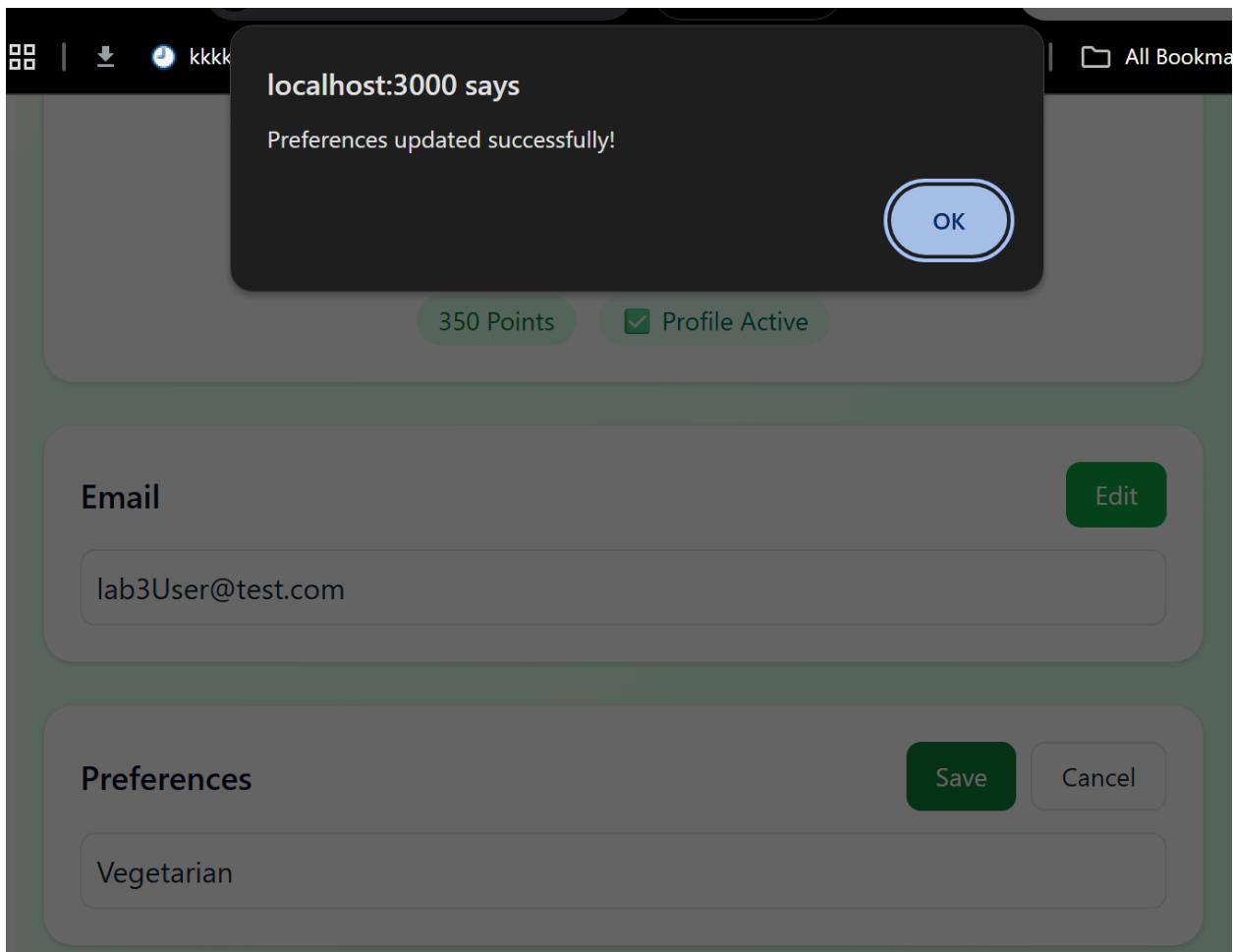
**TEST ID: 34**

Description: Users are able to change his or her preferences

Test input: In the Profile tab, edit the preference section with any type of dietary restriction.

Expected output: The app will display an alert upon successful change and display the updated preference in the profile page.

Actual output:



Status: ACCEPTED

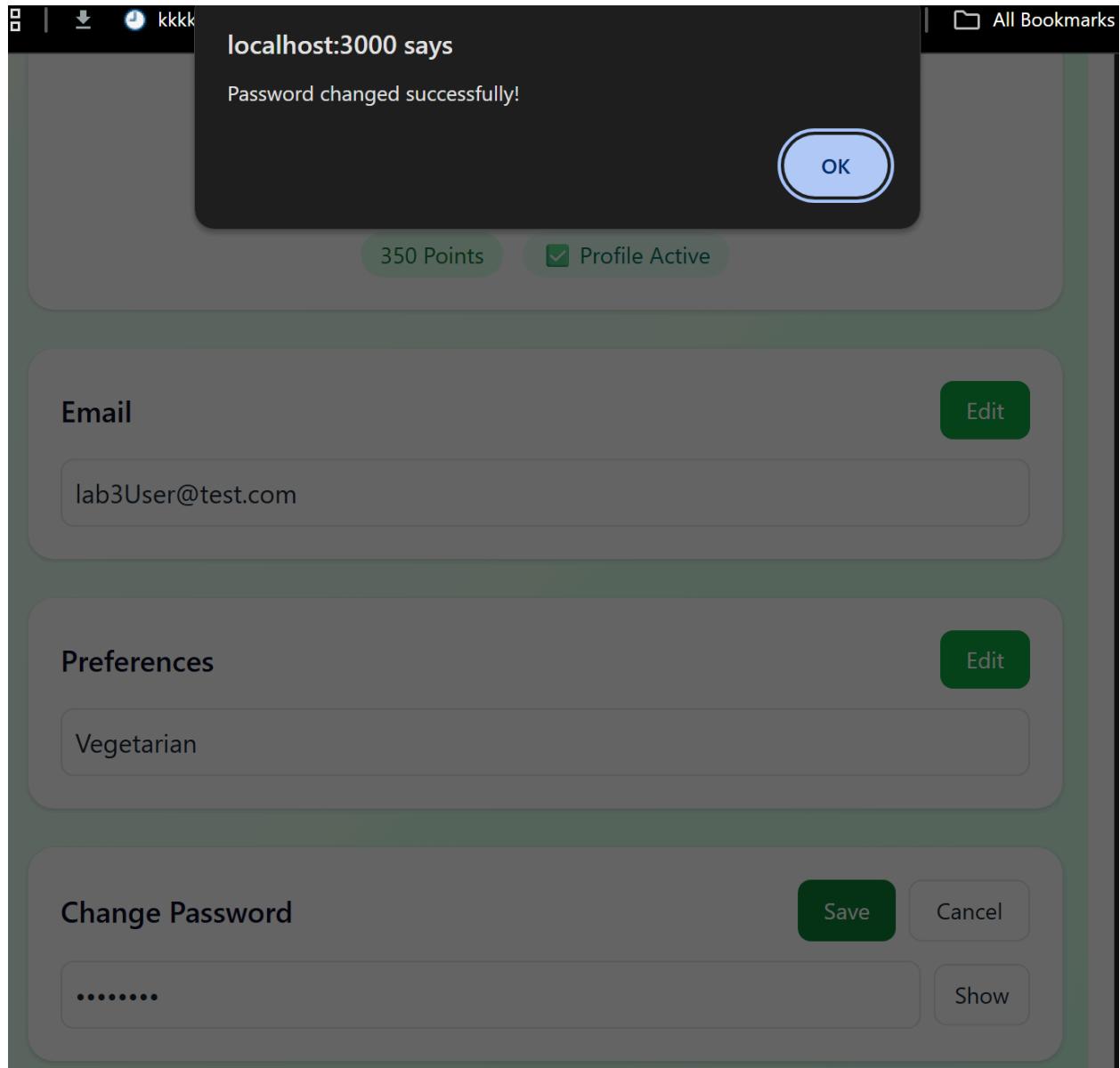
**TEST ID: 35**

Description: Users can change their password in the Profile tab

Test input: In the Profile tab, change the current password into a new password.

Expected output: The app will display an alert upon successful change and the user will now be able to log in with the new password.

Actual output:



Sign In

lab3User

.....

Login

Don't have an account? [Sign Up](#)

X

Headers

Payload

Preview

Response

>>

▼ Request Payload

[View source](#)

▼ {username: "lab3User", password: "iloveswe"}  
password: "iloveswe"  
username: "lab3User"

```
X Headers Payload Preview Response >>
-
-   "token": "eyJhbGciOiJIUzI1NiJ9.eyJzdWIiO
-
-   "username": "lab3User",
-
-   "role": "USER"
-
}
```

**HealthyAura** Explore Rewards Hi, lab3User Profile Sign out

## Recommended for you

### Top Picks

#### Swissbake - HarbourFront Centre

Harbourfront Centre Maritime Square, Singapore 99253

Choose healthier options from F&B outlets under HPB's Healthier Dining Programme

Vegan

Status: ACCEPTED

## 12. Future Considerations

- 1) Faster recommendation algorithm
- 2) Improved map routing instead of redirecting to another website
- 3) Add in more social features like leaderboards, social sharing like Lemon8 or Xiao Hong Shu social media features
- 4) Enhance security with 2FA or SSO
- 5) Mobile App support
- 6) Integration of AI to recognise what tag to add into eateries as right now it is manual and based on crowdsourcing