

# HEALTYAURA

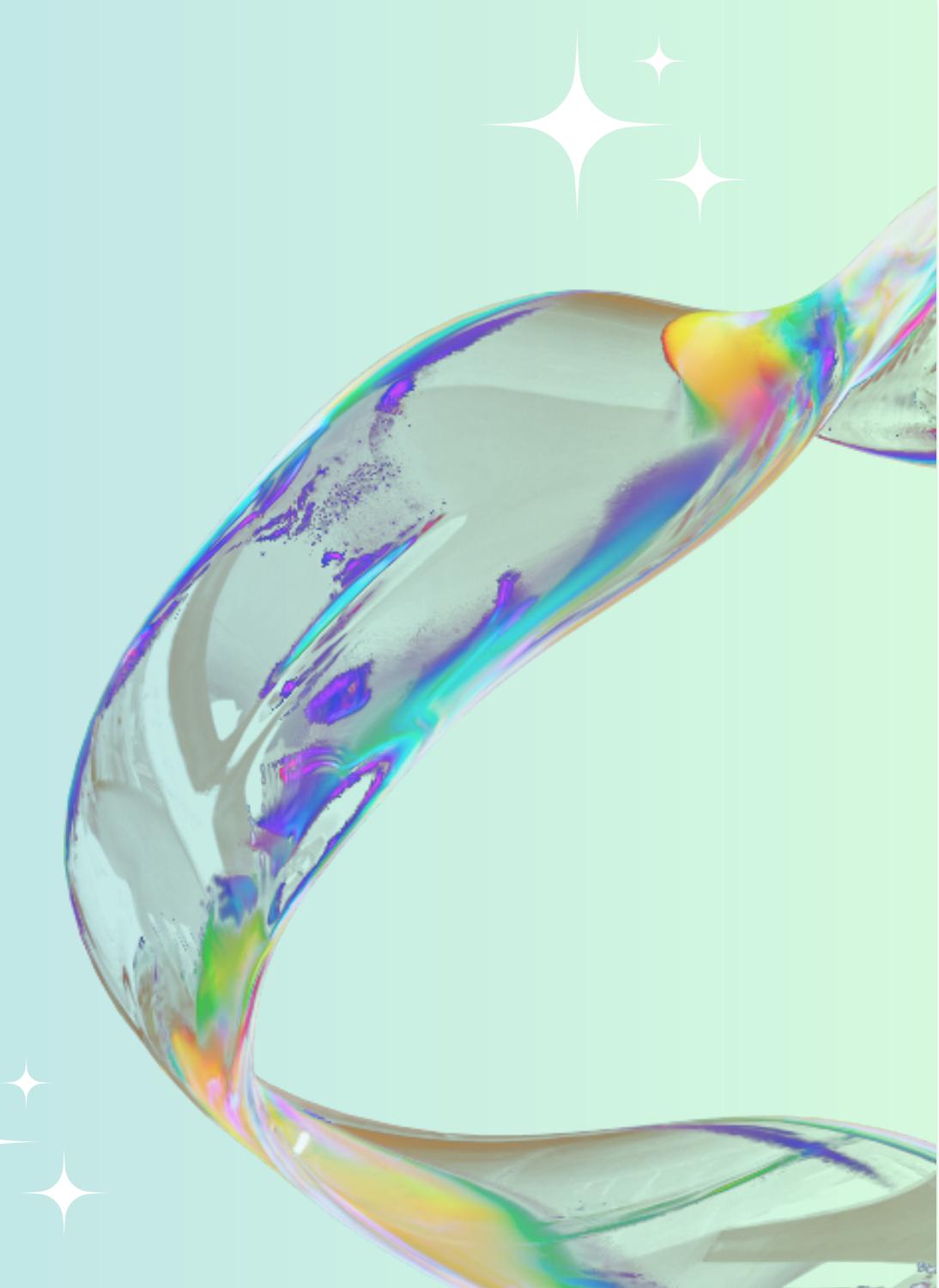
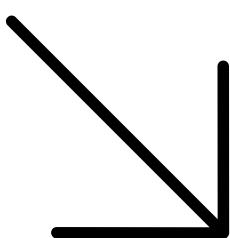
## PRESENTATION

Lab Group: SCSD  
Team: FeedEmGreens



**Presented By:**

Rushaidy, Rajath, Hanzhi, Girija, Yohesh



# AGENDA

01. Functional requirements

02. Use case diagram

03. UI Prototypes

04. BCE diagram

05. Class diagram

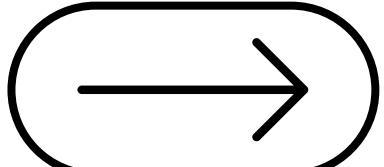
06. Sequence Diagrams

07. Dialog map

08. SE principles

09. Design Principles

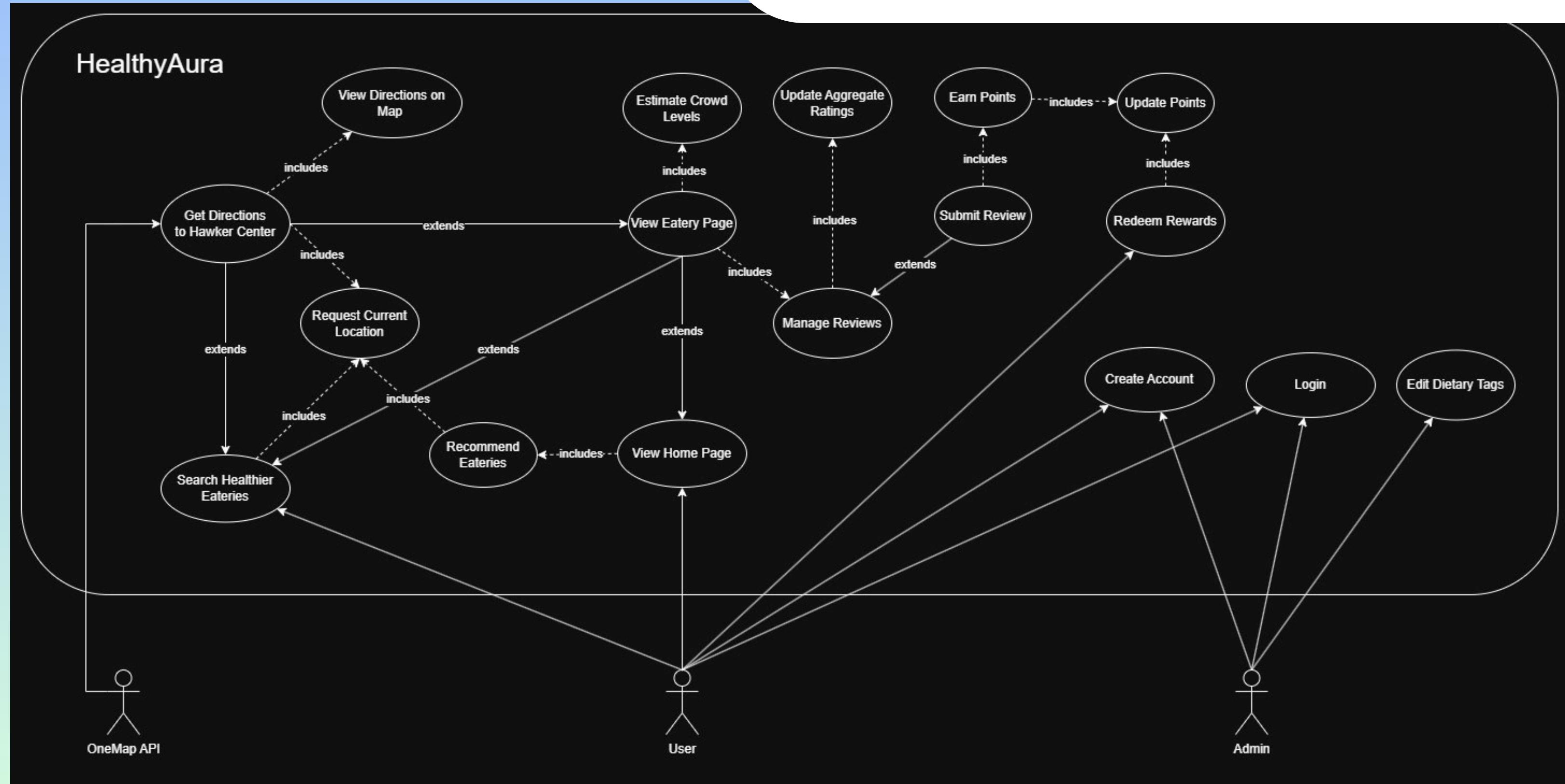
10. Tracability Matrix



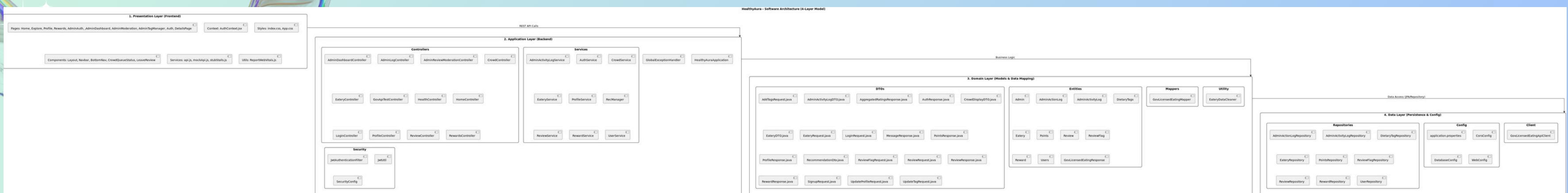
# FUNCTIONAL REQUIREMENTS

- The system shall perform user authentication to allow Users to use the application.
- The system shall suggest food options based on user history and preferences.
- The system shall allow Users to discover the location of healthier eateries
- The system enables users to share feedback and see aggregated ratings.
- The system shall provide crowd estimation for Users.
- The system shall allow users to redeem rewards for using the application.
- The system can direct Users to the location of their desired eatery.
- The system shall allow authenticated Admins to manage content quality and verify sensitive information.

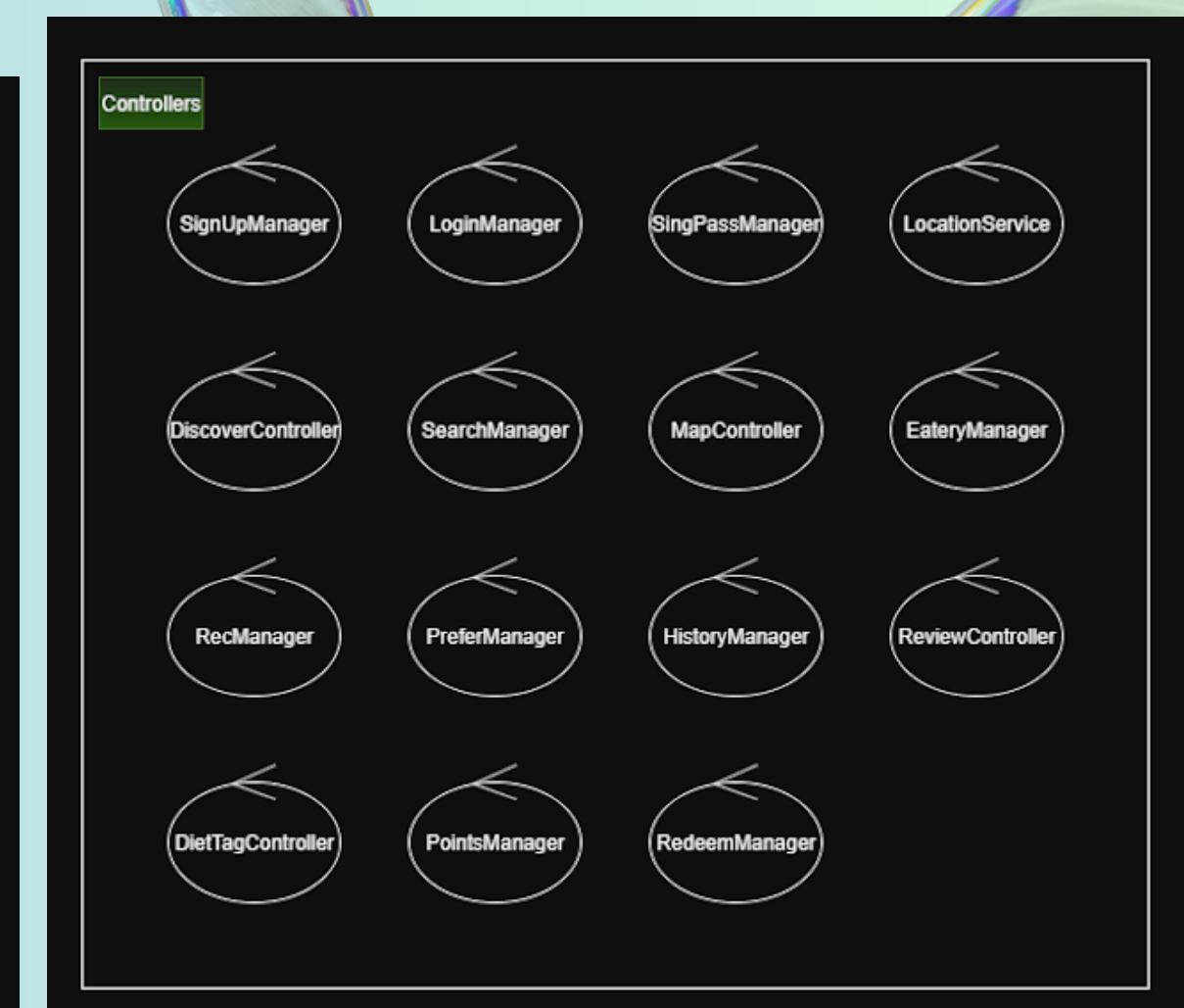
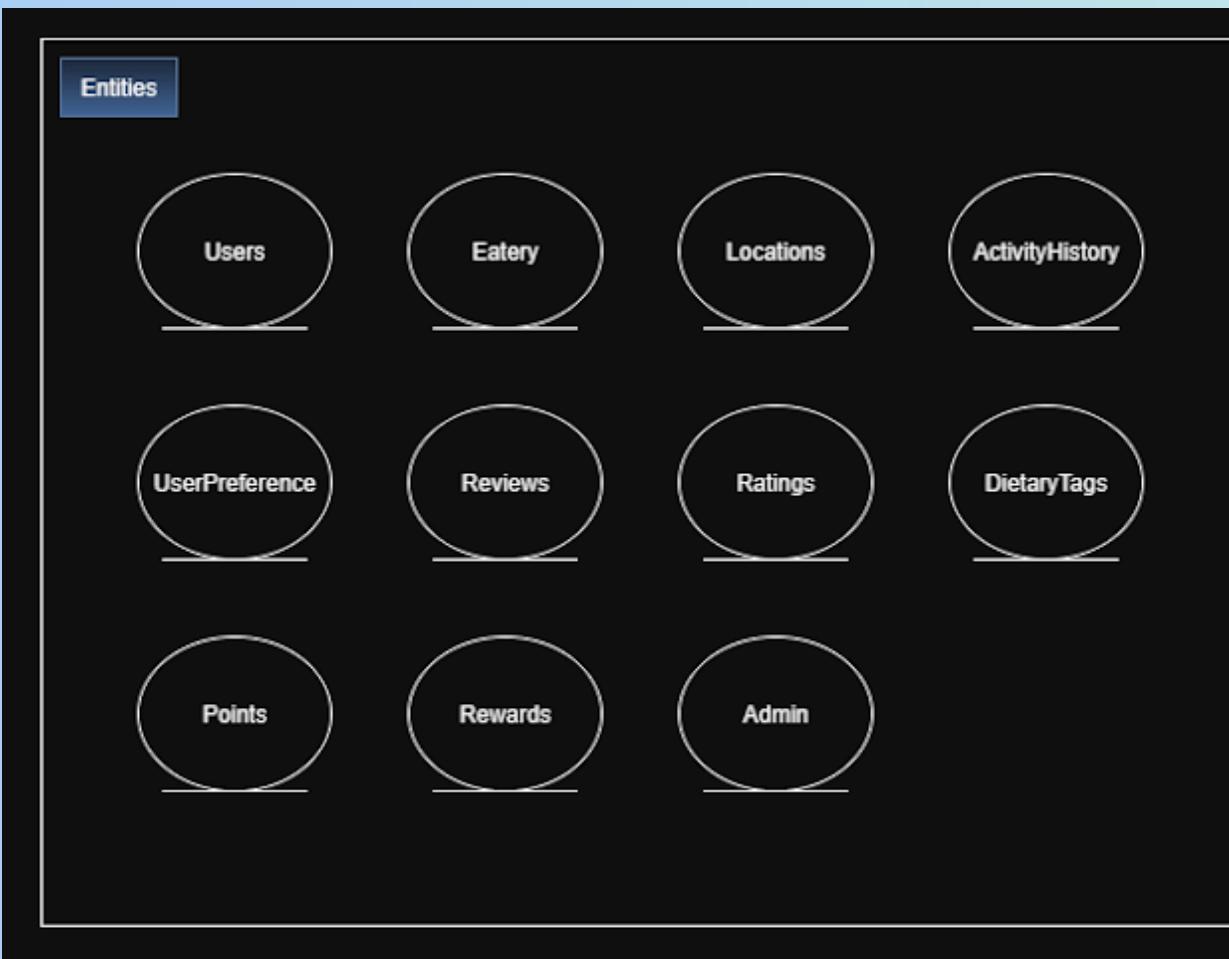
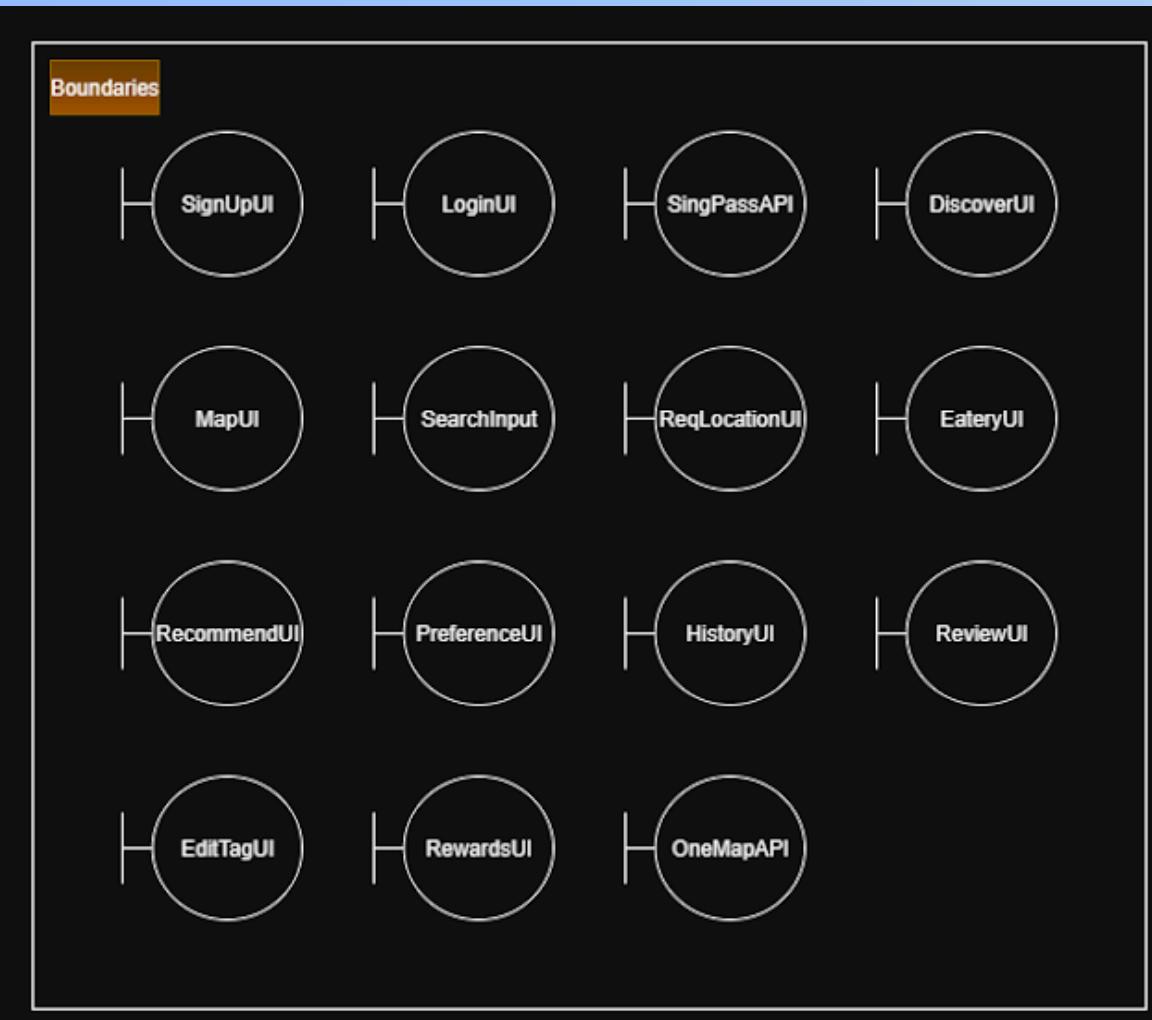
# Use Case Diagram



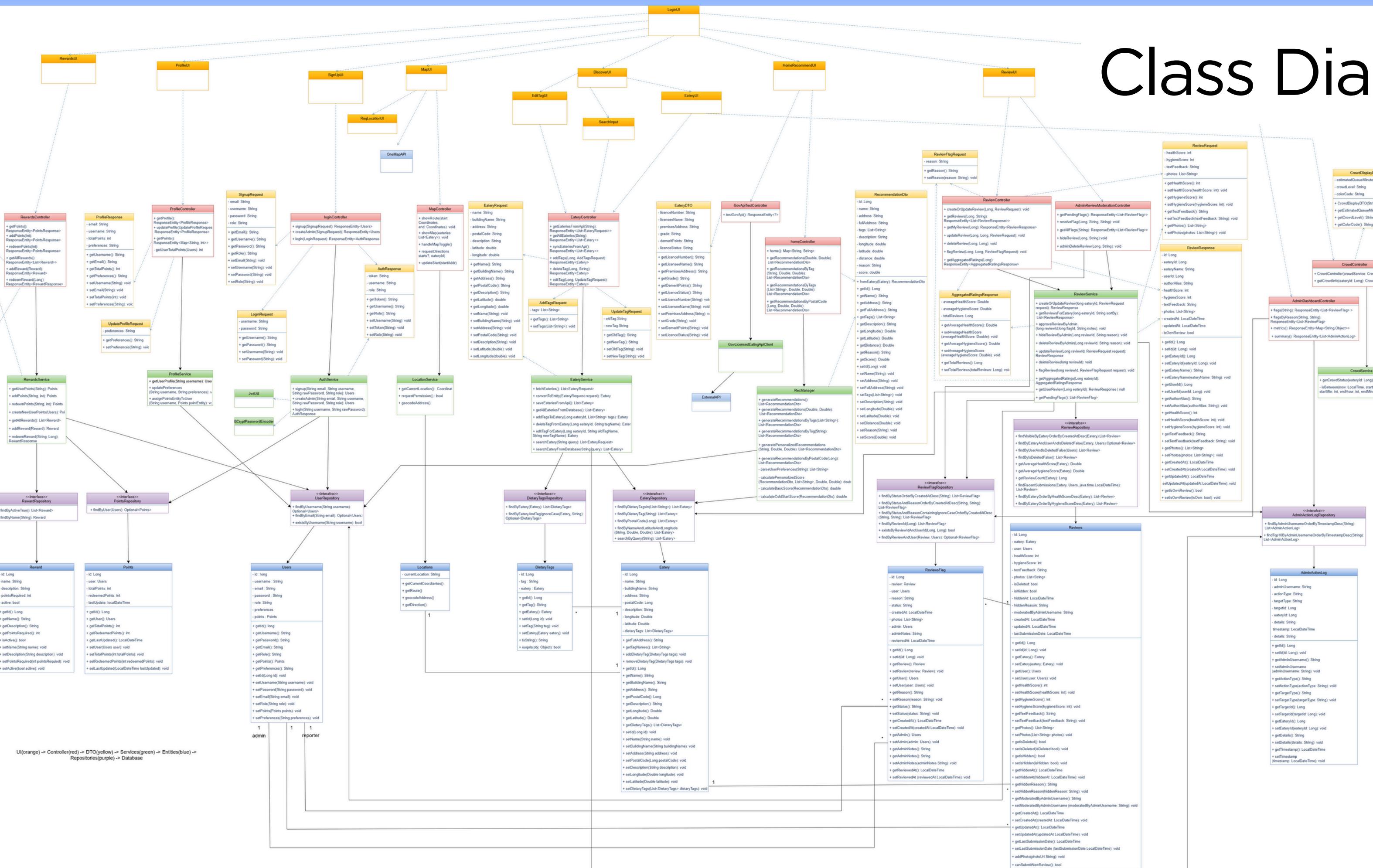
# ARCHITECTURE



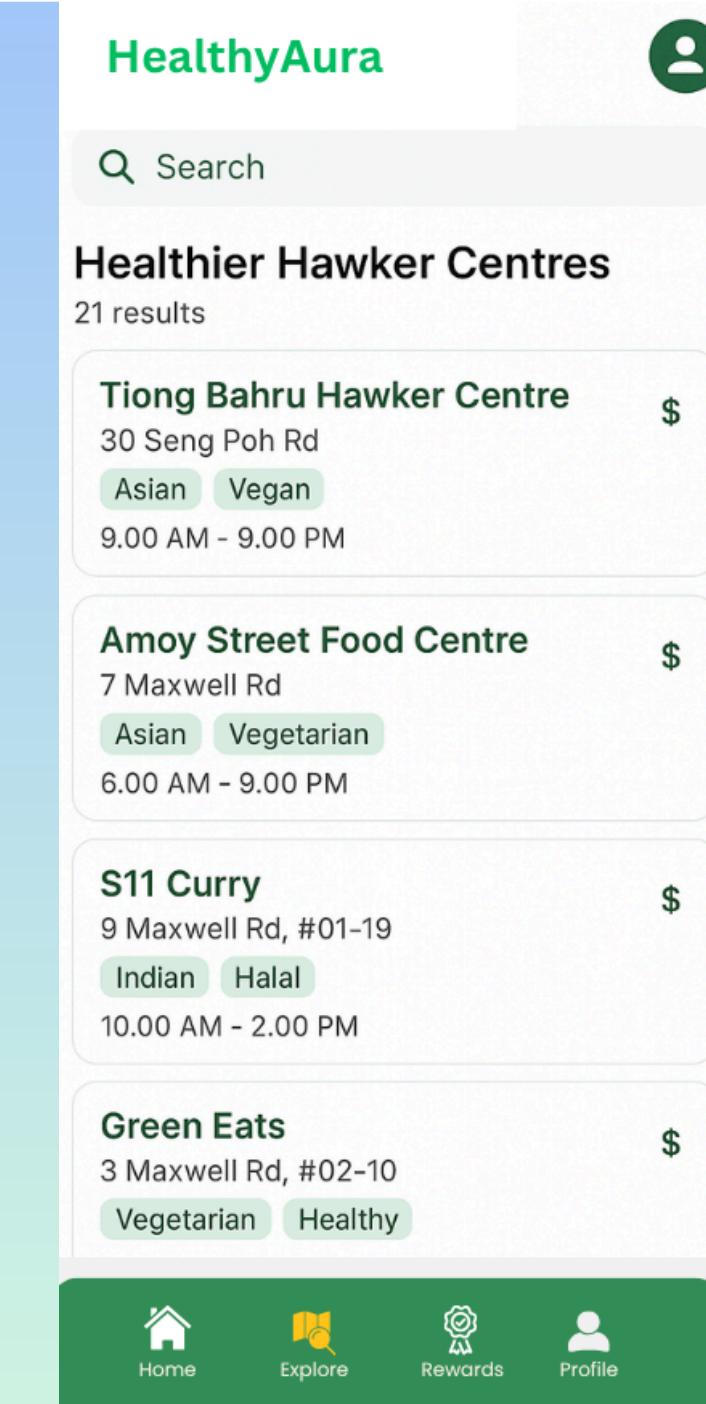
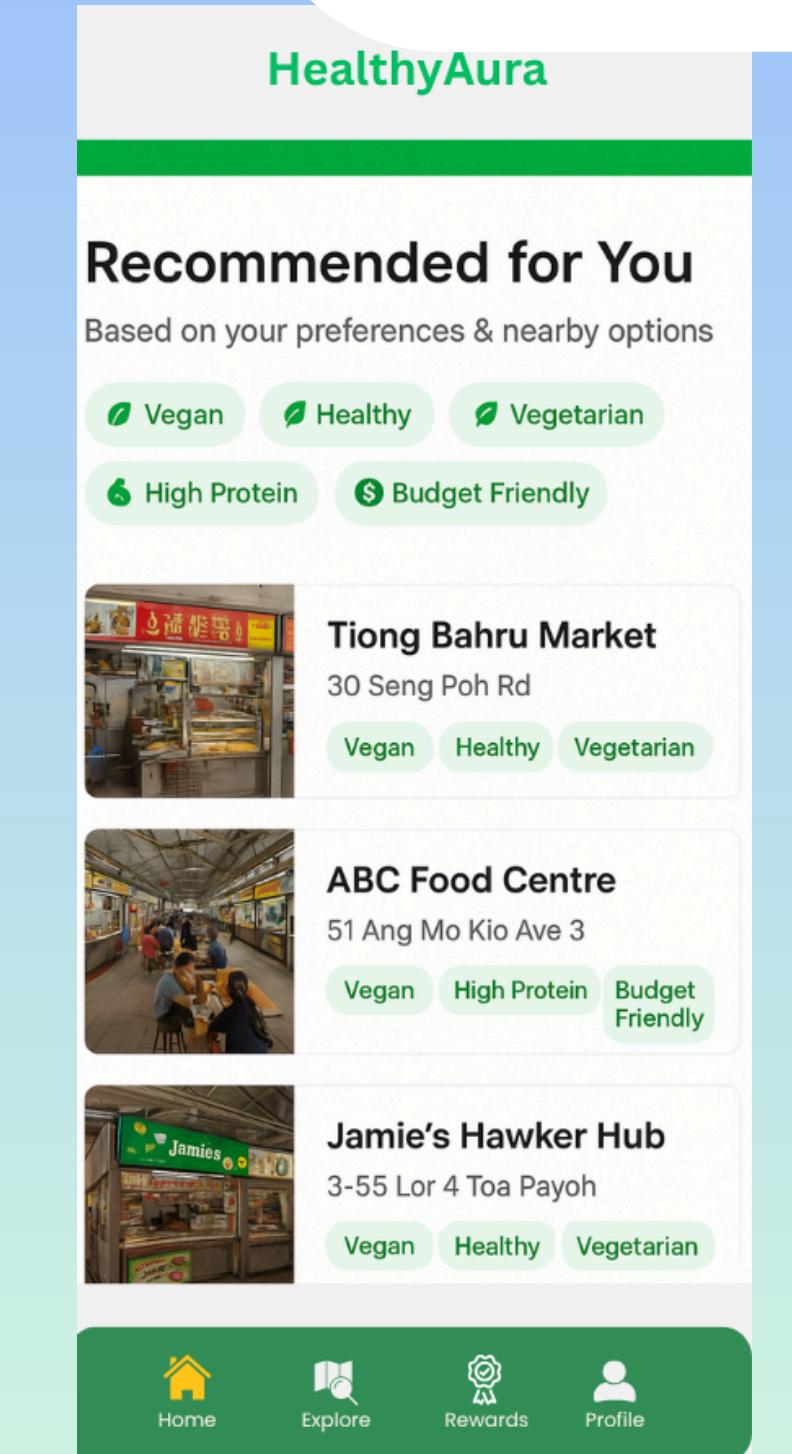
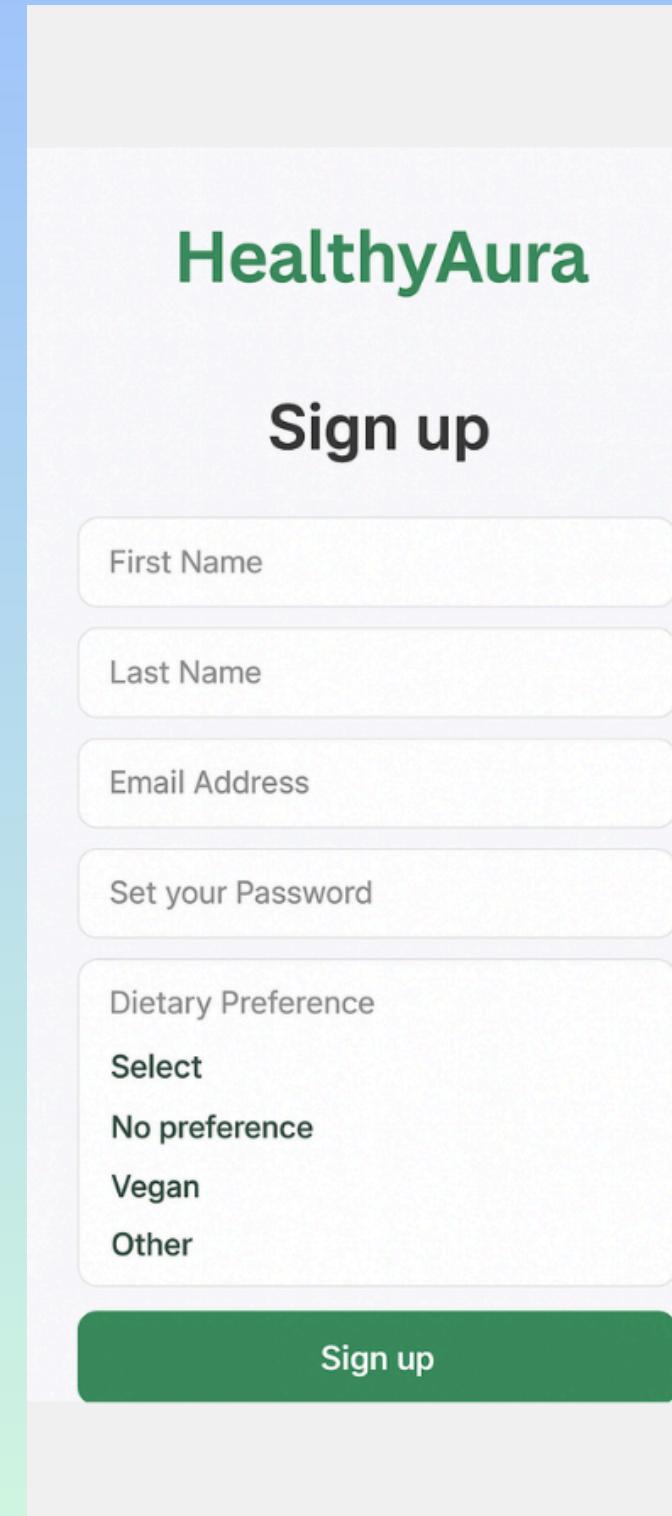
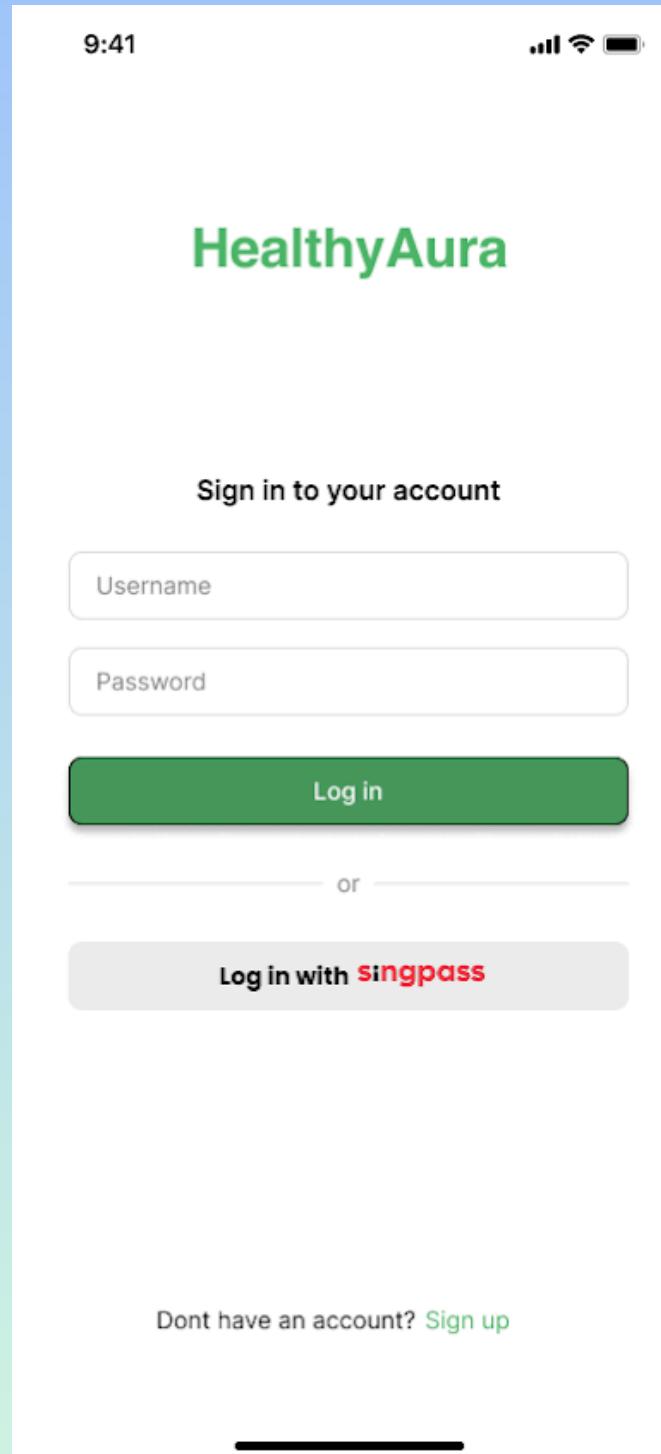
# BOUNDARY, CONTROL & ENTITY DIAGRAMS



# Class Diagram



# UI Prototype



# UI Prototype

**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

Gardens by the Bay  
East Coast Beach, ECP

44 min 1 hr 28 13 min 23 min

23 min (7.8 km) - Very steep hill

Preview Steps

Home Explore Rewards Profile

**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

**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!  
★★★★★

Home Explore Rewards Profile

# UI Prototype

## 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   Experiences

\$10 FairPrice Voucher   Spa Treatment

500 Points   1,200 Points

Redeem   Redeem

Home   Explore   Rewards   Profile

## 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

## HealthyAura

### Edit Personal Information

Name  
Alex P.

Email  
spboxes@gmail.com

Phone  
+1234567890

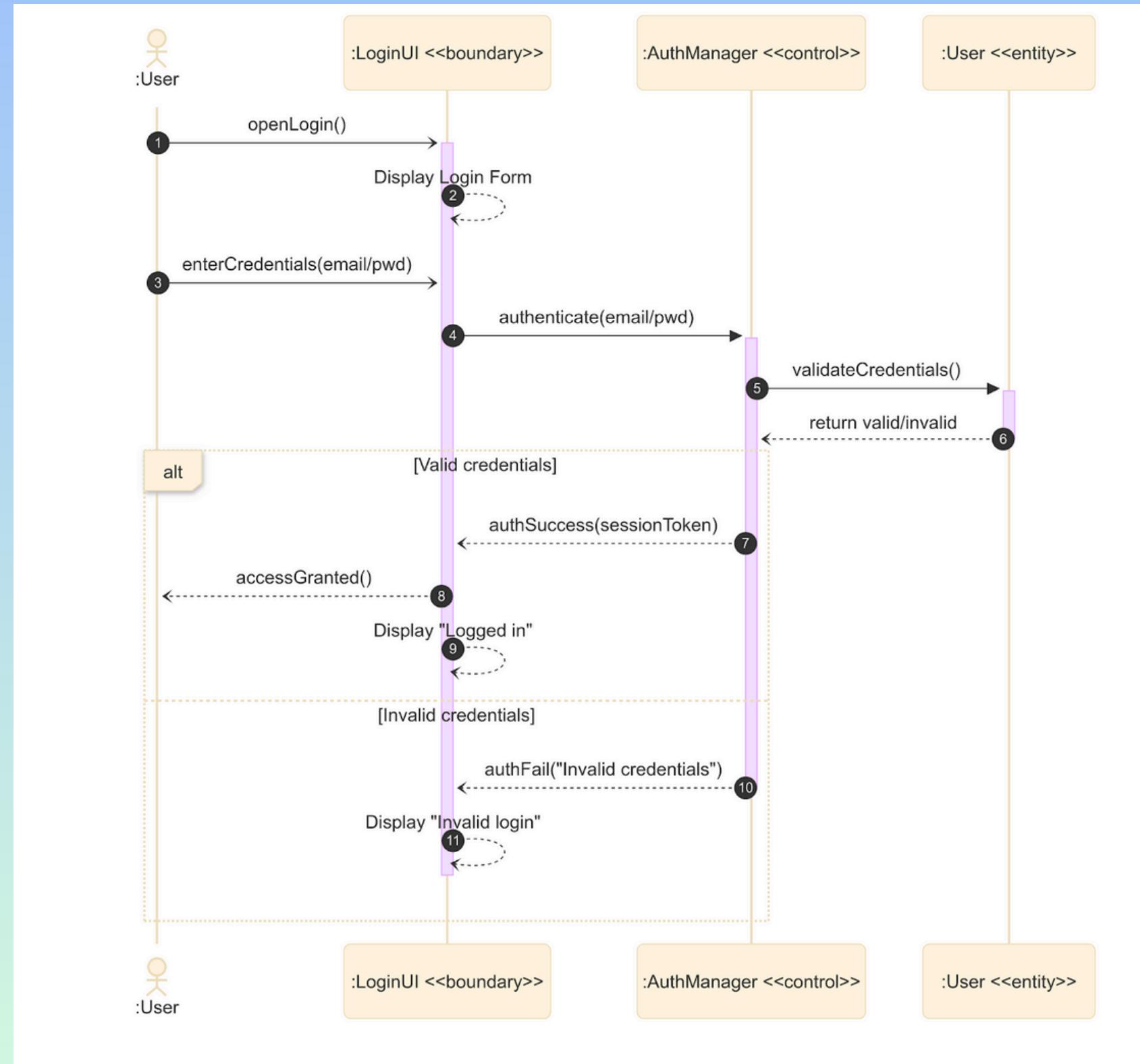
Save

Home   Explore   Rewards   Profile

**Live Demo**

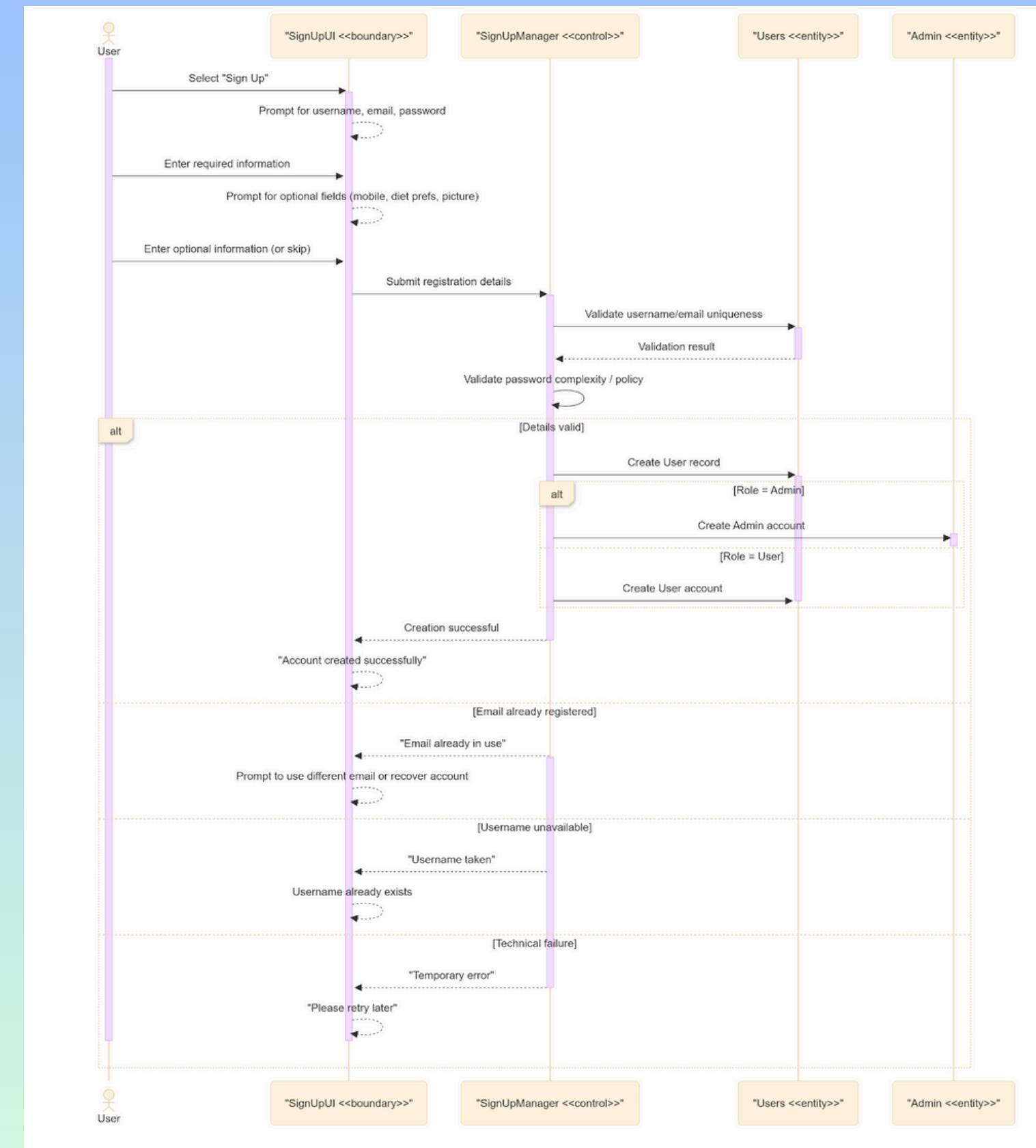
# Login Page

# Sequence Diagrams



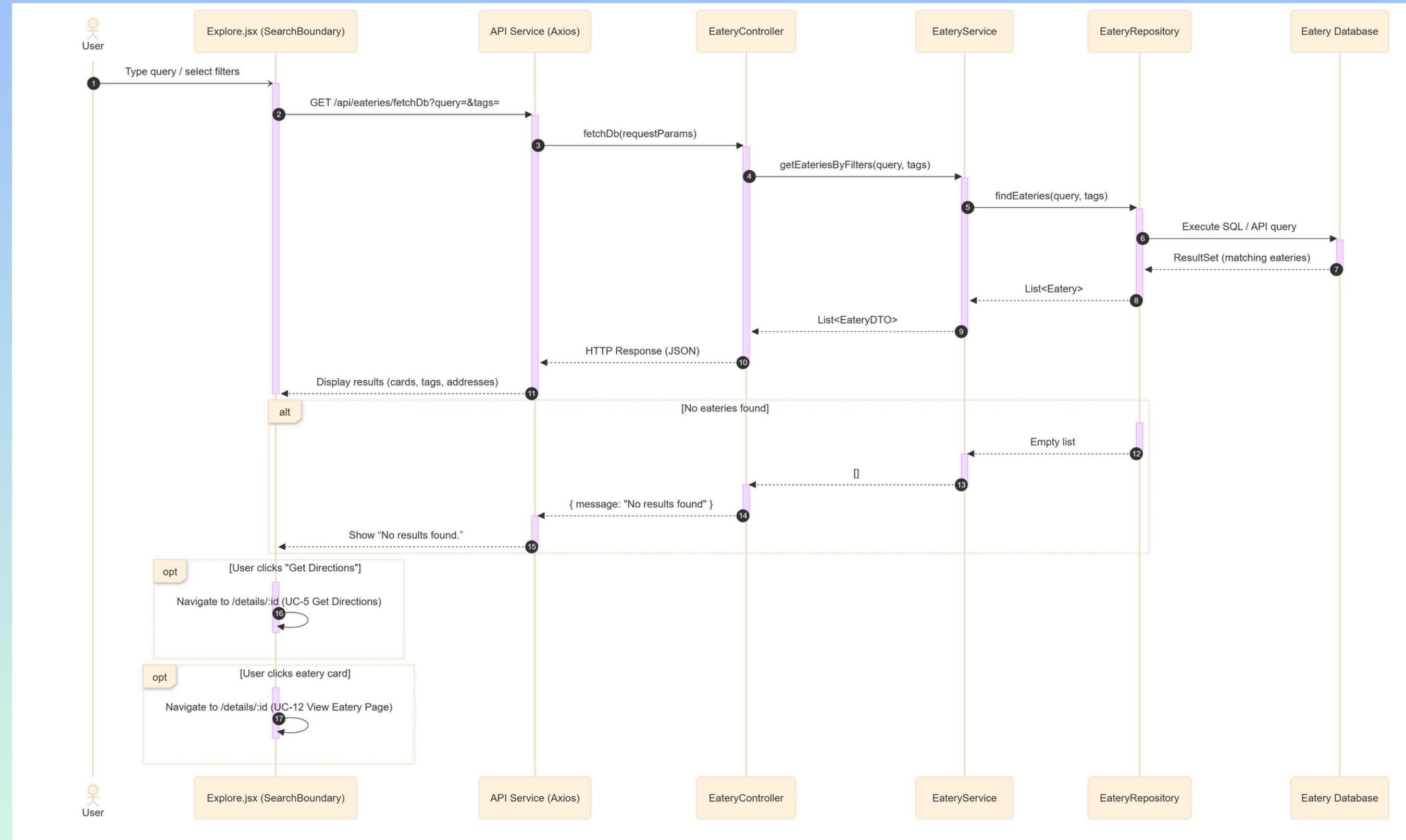
# Sign Up Page

# Sequence Diagrams



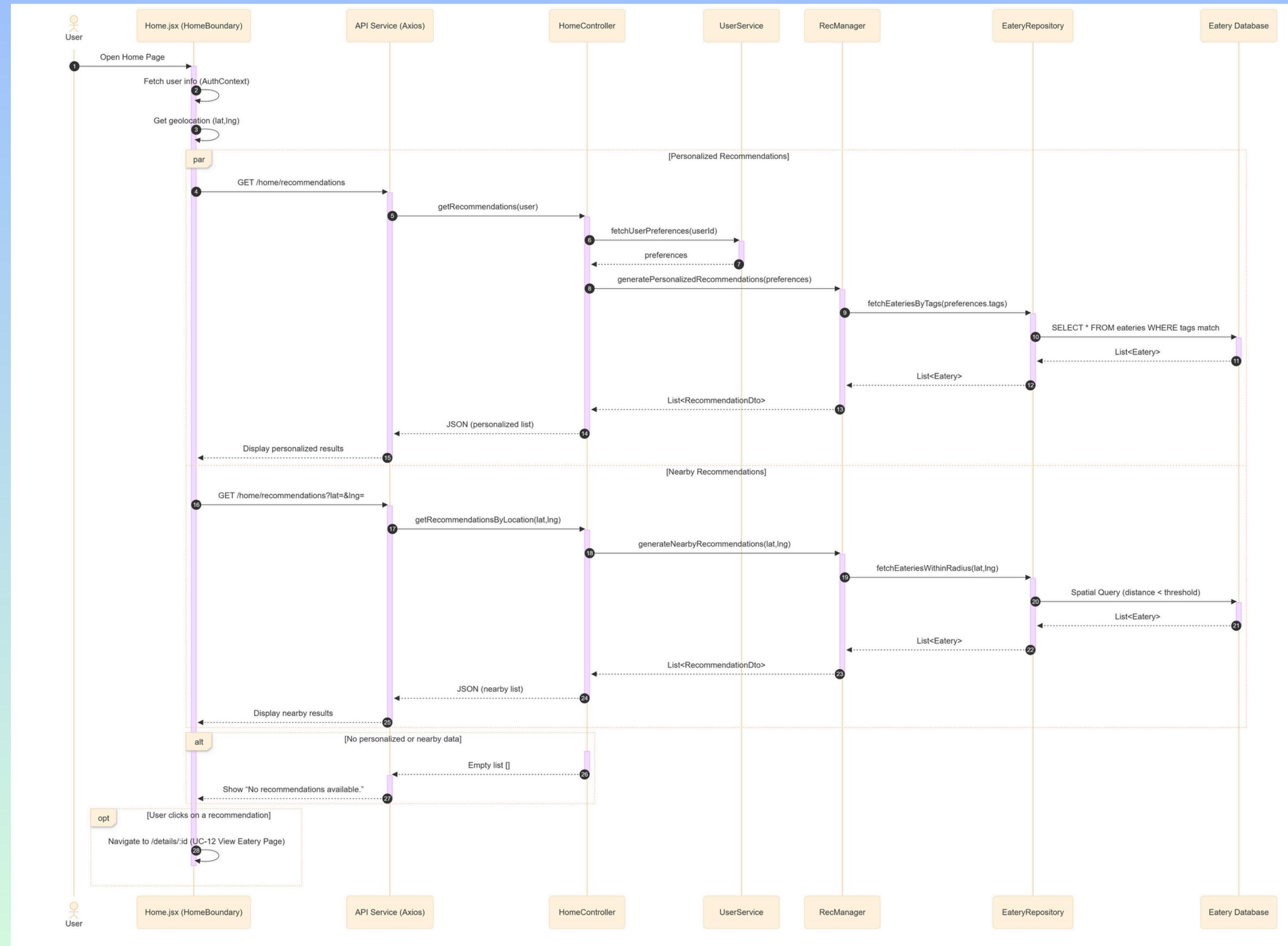
# Search Page

# Sequence Diagrams



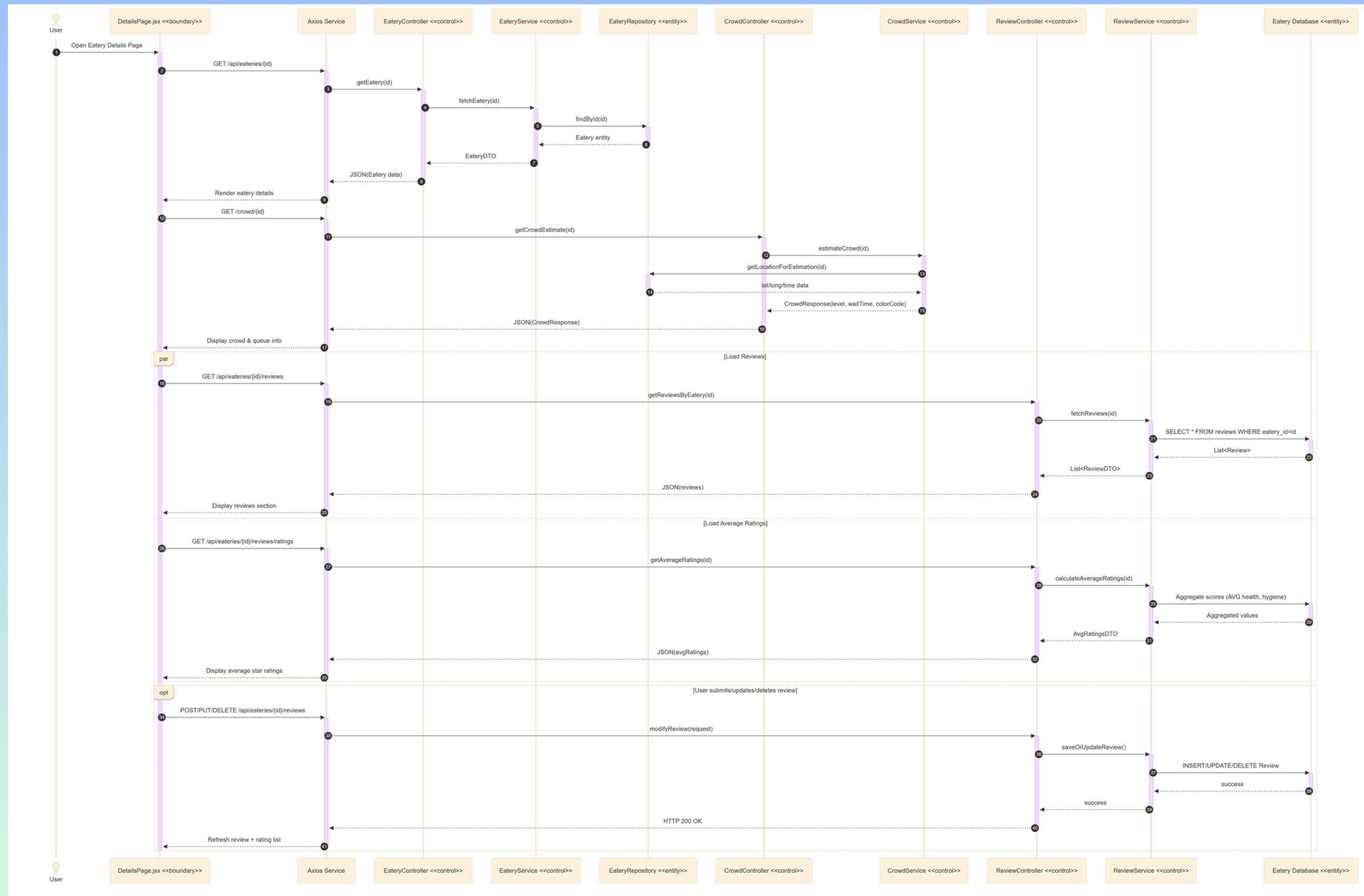
# Home Page

# Sequence Diagrams



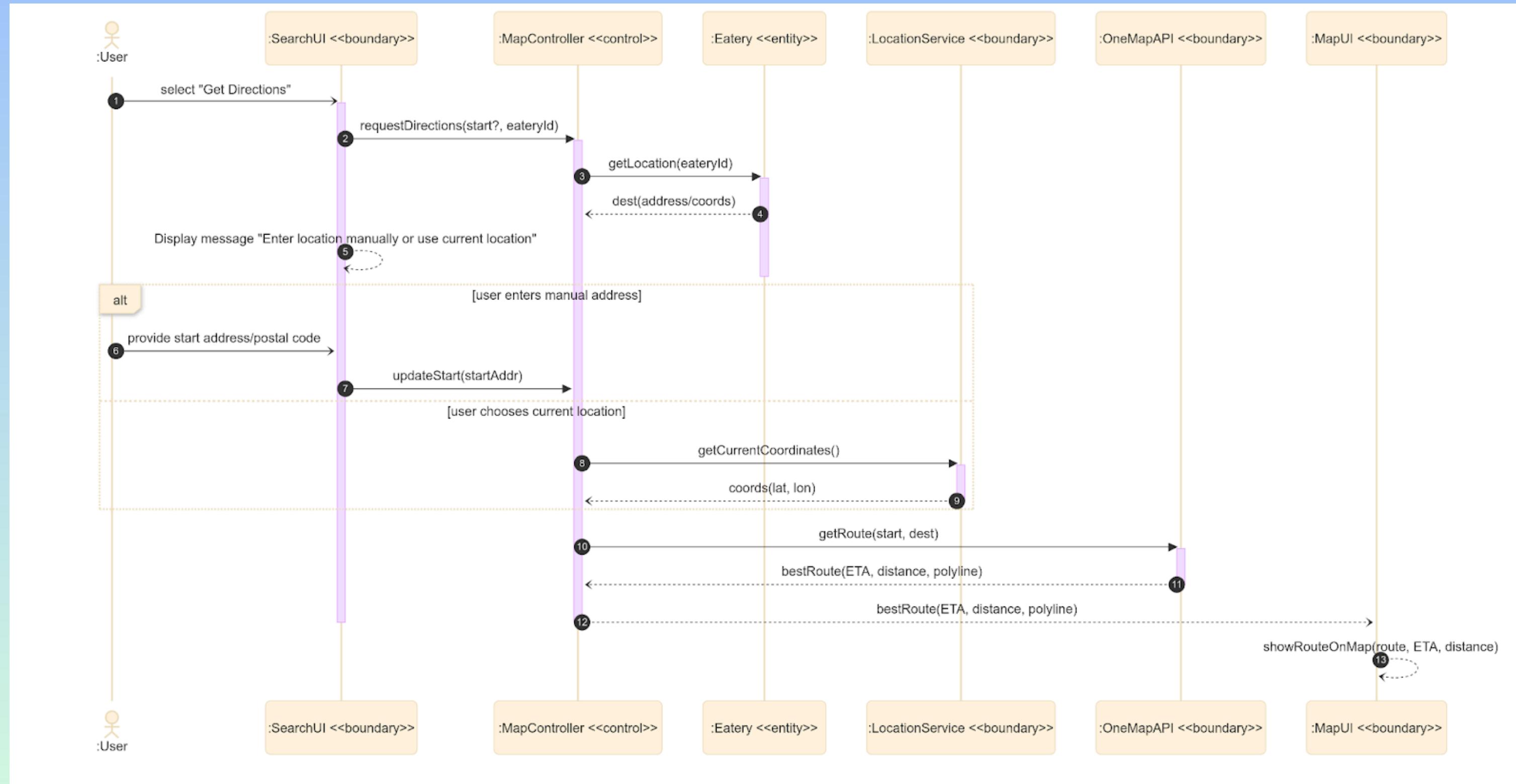
# Eatery Page

# Sequence Diagrams



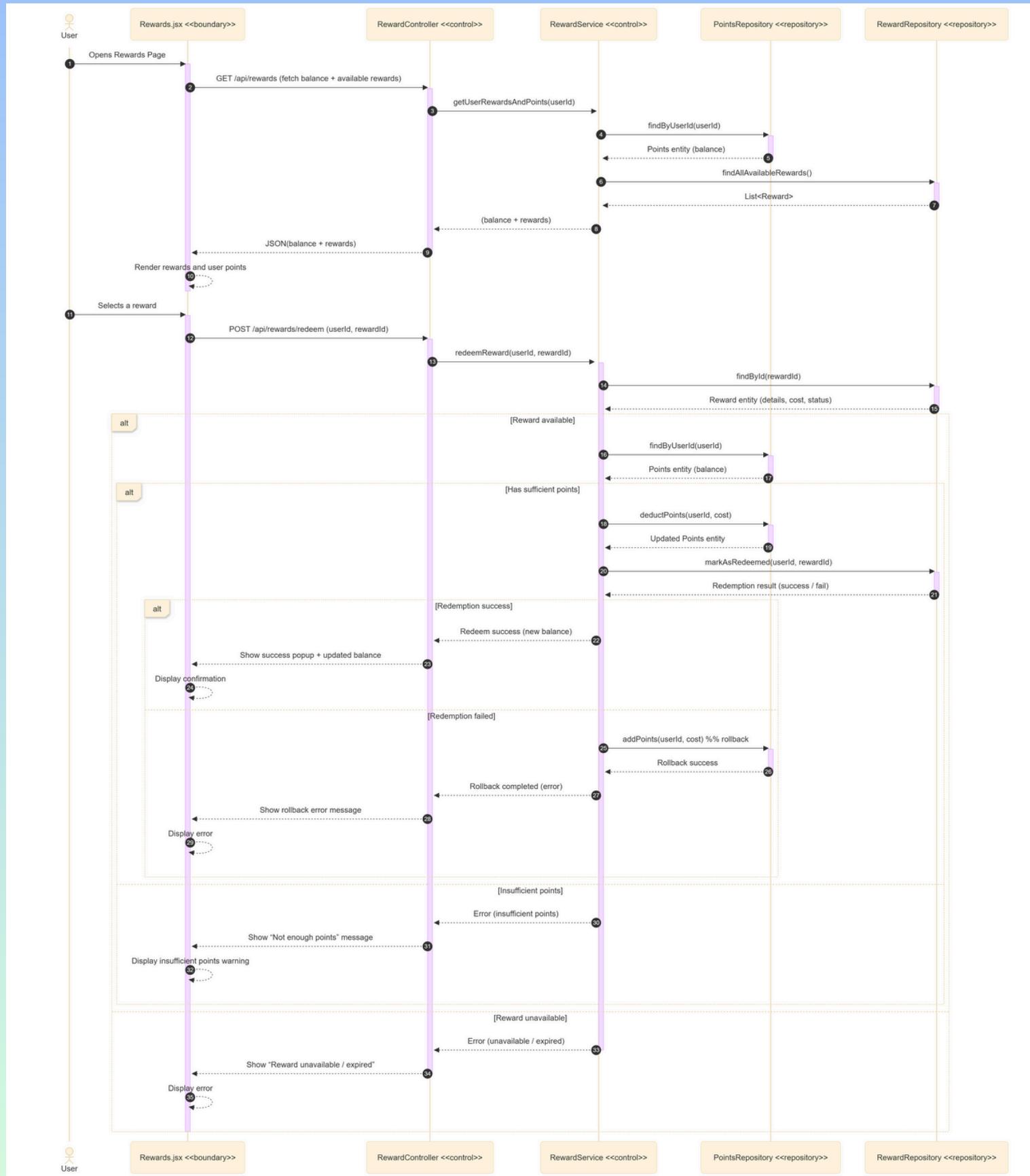
# Get Directions

# Sequence Diagrams

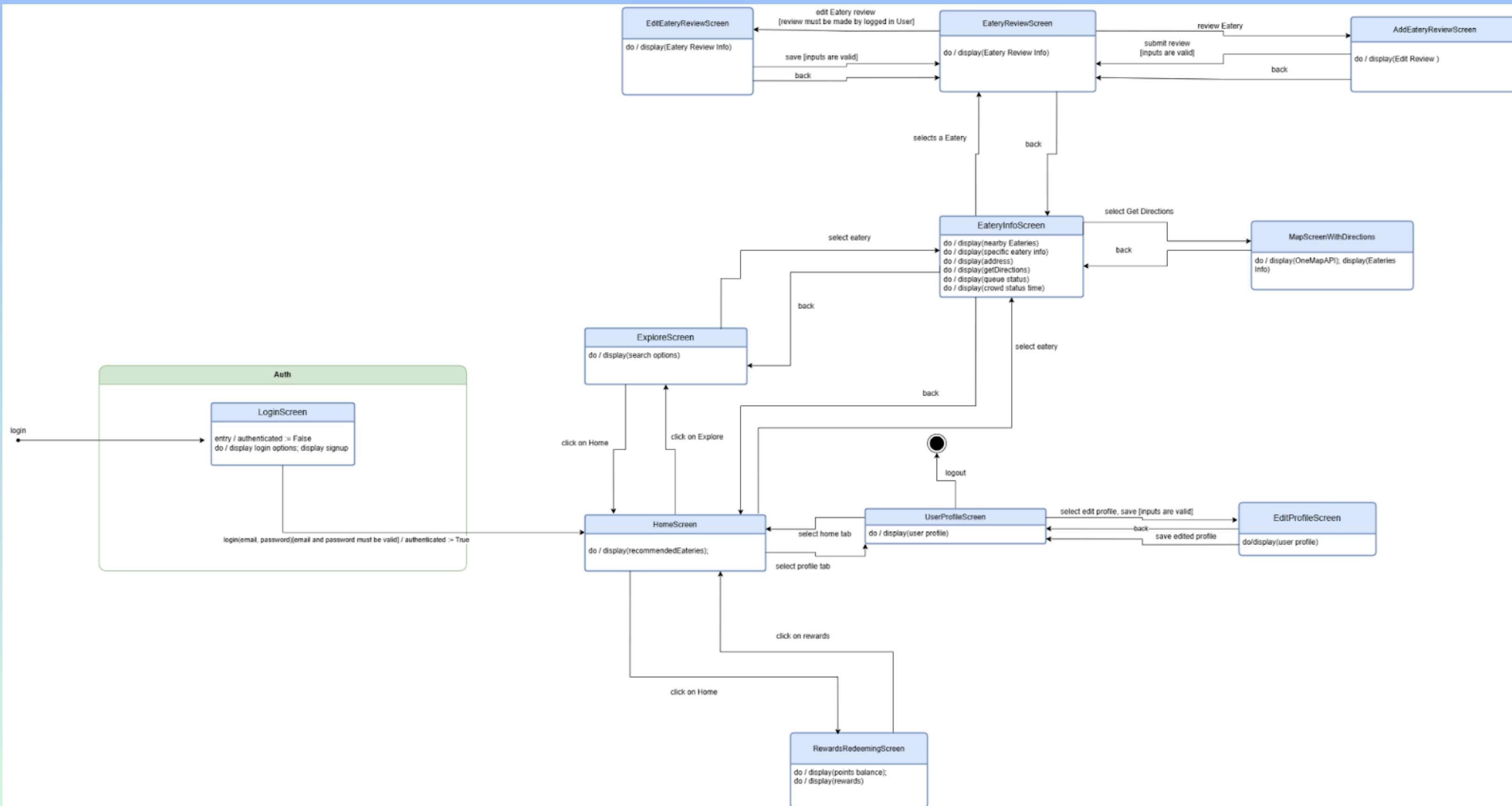


# Redeem Rewards

# Sequence Diagrams



# Dialog Map



# Software Engineering Principles



## Layered Architecture :

- Clear separation between frontend and backend



## Design Patterns:

- Repository Pattern to abstract data access
- DTO Pattern to separate API contracts from internal models



## Version Control & Collaboration:

- Used Git branches for frontend/backend features
- Used dev merge to test merges before pushing it to main.
- Regular merges and code reviews to ensure team consistency.



## Documentation & Traceability:

- Each FR → Use Case → Class → Sequence → Implementation → Test mapped in the traceability matrix.

# Design Principles



## Security

- Data is encrypted or hashed (for passwords), user sessions are validated
- Access control ensures that admin-only functions can't be reached by standard users.



## Error-handling & validation:

- login lockout
- invalid inputs
- null checks.



## Modular Code Organisation

- Each feature (Eatery, Reward, Review, Crowd) in its own package/component.
- The system is divided into independent modules (e.g., authentication, search, rewards) so that changes in one part don't break others.
- Promotes scalability and plug-and-play upgrades (e.g., adding new APIs).



## Encapsulation

- Sensitive data (like user credentials and points balance) is hidden within entity classes and only accessed through defined methods.
- Improves security and reduces unintended side effects.

# Traceability Matrix

Functional Requirement ( ID )	Description	Related Use Case ID	Sequence Diagram	Implemented In (Code / Class)
FR 1	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 )	Auth.jsx, Profile.jsx, LoginController.java, ProfileController.java AuthService.java AuthContext.js, UserService.java,
FR 2	The system shall allow Users to discover the location of healthier eateries through search, sorting, and filtering.	UC-3 Search Healthier Eateries (+) UC-3.l1 Request Current Location)	Sequence Diagram – Search Page (UC-3)	Explore.jsx, EateryController.java, EateryService.java, EateryRepository.java

# Traceability Matrix

Functional Requirement ( ID )	Description	Related Use Case ID	Sequence Diagram	Implemented In (Code / Class)
FR 3	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	CrowdController.java, CrowdService.java
FR 4	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)	Explore.jsx, MapUI EateryController.java

# Traceability Matrix

Functional Requirement ( ID )	Description	Related Use Case ID	Sequence Diagram	Implemented In (Code / Class)
FR 5	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)	Home.jsx, HomeController.java, RecManager.java, UserService.java
FR 6	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	DetailsPage.jsx, ReviewController.java, ReviewService.java

# Traceability Matrix

Functional Requirement ( ID )	Description	Related Use Case ID	Sequence Diagram	Implemented In (Code / Class)
FR 7	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)	Rewards.jsx, RewardController.java, RewardService.java, PointsRepository.java
FR 8	The system shall allow authenticated Admins to manage content quality and verify information.	UC-8 Edit Dietary Tags	NA	AdminDashboard.jsx AdminAuth.jsx, AdminModeration.jsx, AdminTagManager.jsx, AdminDashboardController.java, AdminLogController.java, AdminReviewModerationController.java,

The background of the image features several translucent, iridescent liquid shapes that resemble soap bubbles or oil droplets. These shapes are curved and overlap each other, creating a sense of depth and movement against a light blue gradient background.

**THANK YOU!**