OnlyFoods

Functional Requirement

Login & Profile:
1. The User must be able to sign up for an account if they haven't yet
    1.1. The user must be able to key in a username
    1.2. The user must be able to key in an email
2. The System must verify the account's legitimacy to allow login
    2.1. The System must verify the user's email to allow login
        2.1.1. If the user's email is invalid, the system should not allow the user to login
            2.1.1.1. When the user's email is invalid, the system shall display an error message
    2.2. The System must verify the user's account status to allow login
        2.2.1. If the user's account has any outstanding statuses (suspended/banned), the system should not allow the user to login
        2.2.2. When the user's account has any outstanding statuses, the system shall display an error message
3. The user should be able to manage their profiles
    3.1. The user should be able to change profile pictures
    3.2. The user should be able to change Usernames
    3.3. The user should be able to change other personal information
        3.3.1. The user should be able to change their height
        3.3.2. The user should be able to change weight
        3.3.3. The user should be able to change their target calorie intake

User:
1. The user must be able to interact with the post
    1.1. The user must be able to like the post
    1.2. The user must be able to comment on the post
    1.3. The user must be able to share the post to other social media
        1.3.1 When a user is writing a post, the user must be able to select the ingredient used in the post
        1.3.2 When a user is writing a post, the user must be able to select the input the weight or amount of the ingredient used
        1.3.1 When a user is writing a post, the user must be able to select the category of the food
        1.3.1 When a user is writing a post, users must be able to input photos
2. The user must be able to see the ingredients used in a post
3. The user must be able to find posts based on available ingredients
4. The user must be able to find posts based on target calorie
5. The user must be able to track their daily calorie intake

6. The user must be able to track their daily macronutrients and micronutrients intake
7. The user must be able to set their diet goals based on their fitness goals
8. The user must be able to follow other users
9. The user must be able to perform a search on other users
10. The user should be able to create and share posts
    10.1. The system should provide a post-creation template to the content creator upon request.
        10.1.1. The user should include a description of the post.
        10.1.2. The user should select the ingredients used from a list of existing ingredients.
            10.1.2.1. The user should be able to input their own ingredients if the list is not sufficient.
            10.1.2.2. The user should indicate how many grams of said ingredients are used
        10.1.3. The user should include a picture of the food.
11. The system should automatically calculate the nutritional content (calories, carbohydrates, fats, dietary fiber, etc.) of posts based on the ingredients provided.

Admin:
1. The admin should be able to review all posts.
    1.1. Upon flagging of posts by the user, admins should verify the posts with at least 20 flags and be able to delete them.
        1.1.1. The system should generate a report that notifies the user of the reasons for the deletion of the post.
2. The admin should be able to manage all users
    2.1. Upon flagging of an account by repeatedly receiving at least 3 flagged posts, the admin should verify the flagged account and be able to set a punishment.
        2.1.1. The admin should be able to suspend user accounts
            2.1.1.1. The admin should be able to choose a specific duration to suspend.
                2.1.1.1.1. The admin should be able to revoke suspensions early if necessary.
        2.1.2. The admin should be able to ban user accounts
            2.1.2.1. The admin should be able to choose a specific duration to ban.
                2.1.2.1.1. The admin should be able to revoke bans early if necessary.
        2.1.3. The admin should be able to delete user accounts.

Non-Functional Requirement

Performance:
1. The system should load pages within 5 seconds for an average user.
2. Nutritional content calculations should be processed within 1 second after the post is submitted.

3. The website should be responsive and work seamlessly across different devices (e.g., mobile phones, tablets, desktops).
4. Provide immediate feedback (within 2s) on user actions (e.g., successful login, post submission success or failure).
5. The website should work correctly across different web browsers (e.g., Chrome, Firefox, Safari, Edge).

Usability
1. The user should receive search results within 2 seconds of submitting a query. (Search Functionality)
2. The website must be fully flexible, displaying correctly on screens ranging from 320px (mobile) to 2560px (large desktop).
3. Automatically compress images to 70% of their original size without noticeable quality loss.
4. UI should be user-friendly, with identifiable logos or headings to mitigate confusion when browsing.
5. The website should support multiple major languages if required. (English, Mandarin)
6. The user should be able to navigate the website with a maximum of 3 clicks to access any primary feature (e.g., recipe creation, profile management).

Scalability
1. The system should handle up to 10,000 concurrent users with less than a 10% increase in page load time.
2. The website should be able to increase capacity by adding more servers or upgrading server resources as needed.

Reliability
1. The system must maintain an uptime of 99.9%, allowing for a maximum of 8.77 hours of downtime per year.
2. Perform automatic backups every 24 hours, with data retention for at least 30 days.
3. The system should be fully recoverable within 2 hours in the event of a catastrophic failure.
4. The website should handle errors and provide meaningful error messages to users.
5. Regular backups of the website data should be performed for data recovery in case of catastrophic failures or data loss.

Security
1. Implement optional 2FA for user accounts, with support for SMS and authenticator apps (e.g., Google Authenticator).
2. Passwords must contain letters, numbers and symbols.
3. The website should protect sensitive data through encryption
4. The website should be free from known vulnerabilities and regularly updated.
5. The website should comply with data protection regulations like PDPA.

Maintainability
1. The website's code should be well-organized, documented, and adhere to coding standards. (OOP principles)
2. The website should be designed in a way that allows easy updates and maintenance.
3. There should be a system for logging errors and monitoring the system health.

Data Dictionary

| Term	Definition
Account	The combination of username, email, and password that allows a user to access and use the system's features.
Account Deletion	The permanent removal of a user's account and all associated data by an admin.
Admin	A user role with elevated privileges to manage the system, including reviewing, suspending, banning, or deleting user accounts and posts.
Authentication	The process of verifying the identity of a user, typically through credentials like a username and password.
Automatic Nutritional Calculation	A feature that calculates the nutritional content of a post based on the ingredients provided by the user.
Ban	Disciplinary actions taken by an admin to restrict or revoke a user's access to the system permanently.
Category	A classification for food posts, selected by the content creator when creating a post (e.g., "Breakfast,", "Dinner").
Comment	A textual response from a user to a post. Comments are visible to other users interacting with the post.
Content Moderation	The process of reviewing and managing user-generated content to ensure it complies with guidelines.
Content Sharing	The ability for users to distribute posts or media to other platforms or social networks.

Daily Calorie Intake	The total number of calories consumed by a user in a day, which the system can help track.
Delete User Account	The removal of a user's account and all associated data from the system by an admin.
Diet Goals	Objectives related to nutrition and fitness, such as weight loss or muscle gain, which users can set and track.
Email Verification	A process that confirms the validity of a user's email address, often involving sending a confirmation link to the provided email.
Error Message	Clear and helpful messages provided to users when something goes wrong, guiding them on how to resolve the issue.
Flag	A process where users can report content that violates guidelines or is inappropriate, triggering a review by admins.
Follow	An action taken by a user to subscribe to updates from another user, allowing the follower to see the following user's posts in their feed.
Food Category	A classification of food items, such as desserts, main courses, or snacks, that can be selected when creating a post.
Height	A personal metric provided by the user that can be updated in their profile.
Ingredients	Food item that builds up to a dish in the post. They can be selected from the database or keyed in by a content creator when creating a post. Ingredients are used to calculate the nutritional content of a post.
Like	An action taken by a user to show appreciation for a post. The total number of likes is displayed on the post.
Login	Accessing of the user account on the website after authentication
Macronutrients	Essential nutrients required in large amounts, such as proteins, fats, and carbohydrates.
Micronutrients	Essential nutrients needed in smaller amounts, such as vitamins and minerals.
Nutritional Content	The calculated information about the calories, carbohydrates, fats, dietary fiber, and other nutrients in a post, based on the ingredients provided.

Passwords	Secret keys or codes used by users to authenticate themselves and gain access to the system.
Personal Information	Data related to an individual, such as name, email, height, weight, and dietary preferences.
Photos/Images	Visual content that users can upload to enhance their posts.
Post	Content created by a user (content creator) that includes text, images, videos, ingredients, and preparation steps. Posts can be liked, commented on, shared, and flagged.
Post Deletion	The removal of content by an admin, typically in response to guideline violations or user reports.
Post Submission	The process of creating and submitting content for publication on the system.
Post-Creation Template	A pre-designed format provided to users to help them structure their posts, including sections for text, images, and nutritional information.
Profile	The user's personal information stored in the system, including username, email, profile picture, height, weight, and target calorie intake.
Profile Management	The set of features that allows users to update their personal information, such as usernames, profile pictures, and contact details.
Profile Picture	An image uploaded by the user to visually represent their account. It can be updated by the user.
Report	A system-generated document sent to a user when their post is deleted, detailing the reasons for deletion.
Reporting System	A mechanism that allows users to flag inappropriate content for review by an admin.
Revoke Suspension/Ban	The action of lifting a suspension or ban, allowing the user to regain access to the system before the originally set duration ends.
Search	The action of finding specific posts, users, or ingredients within the system using keywords or filters.
Share	An action taken by a user to distribute a post to other social media platforms or users within the system.

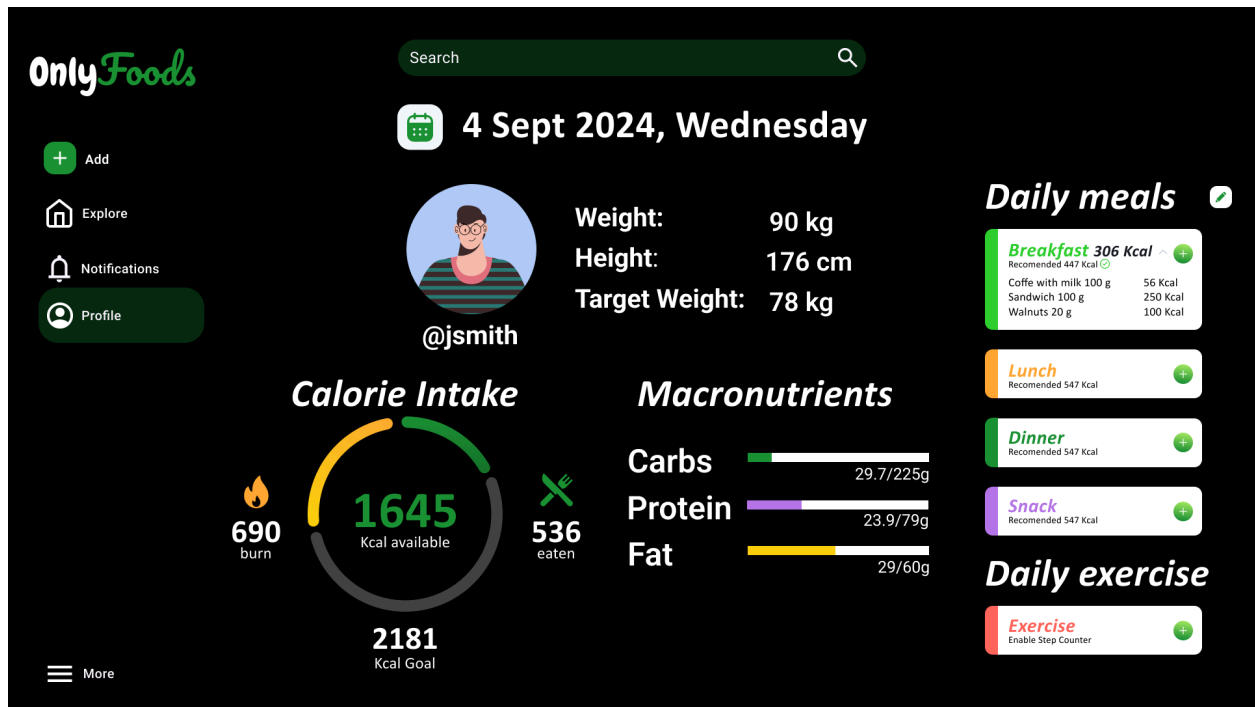|	
Sign Up	The process of creating a new user account in the system.
Suspend	A temporary restriction placed on a user account by an admin, preventing the user from accessing their account for a specified duration.
Suspension Duration	The duration of time during which a user is suspended or banned from the system.
Target Calorie Intake	A user-defined goal for daily calorie consumption, based on their fitness objectives.
User Interface (UI)	The visual and interactive elements of the system that users interact with.
Username	A unique identifier chosen by the user during account creation. It is used for logging in and displaying user information across the platform.
Users	An individual who can interact with the system, including creating an account, managing their profile, and interacting with content. Users are categorized into general users and admins.
Weight	A personal metric provided by the user that can be updated in their profile.

Use Case Model
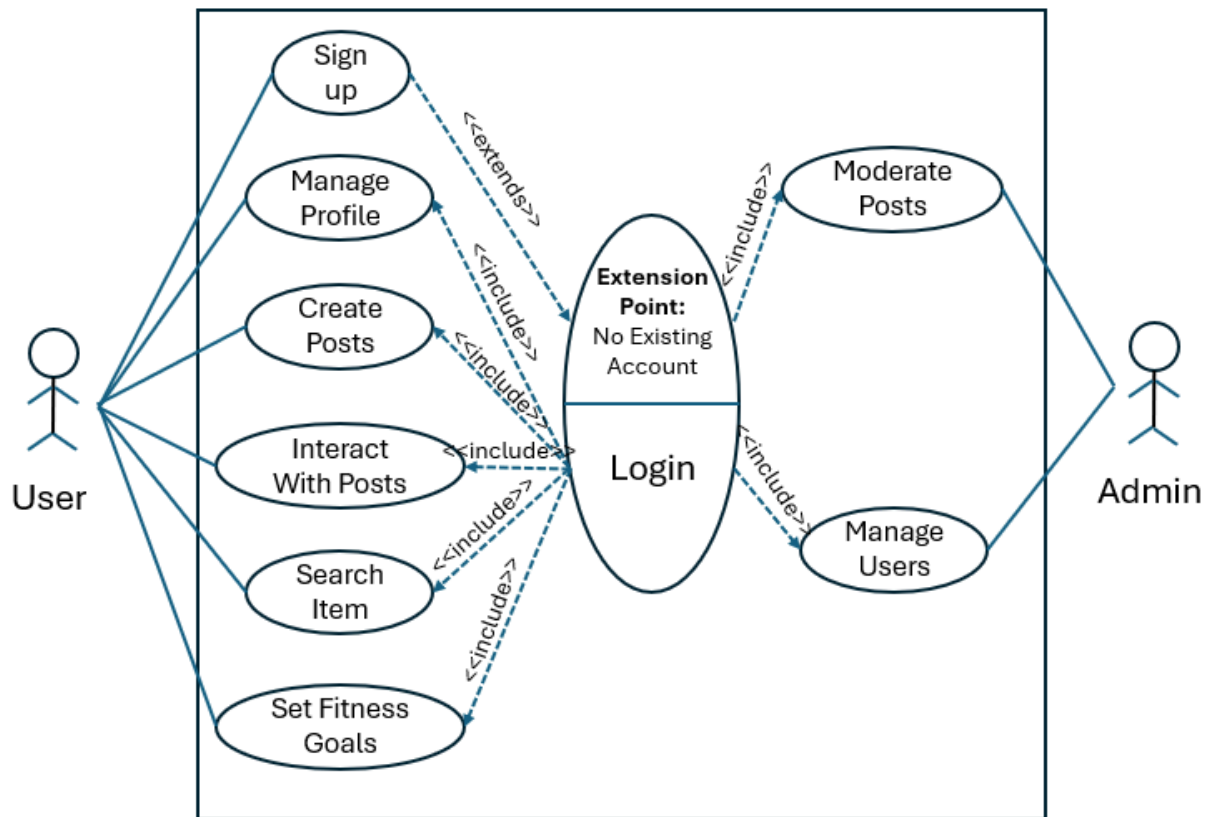
UI Mockups

Explore Page
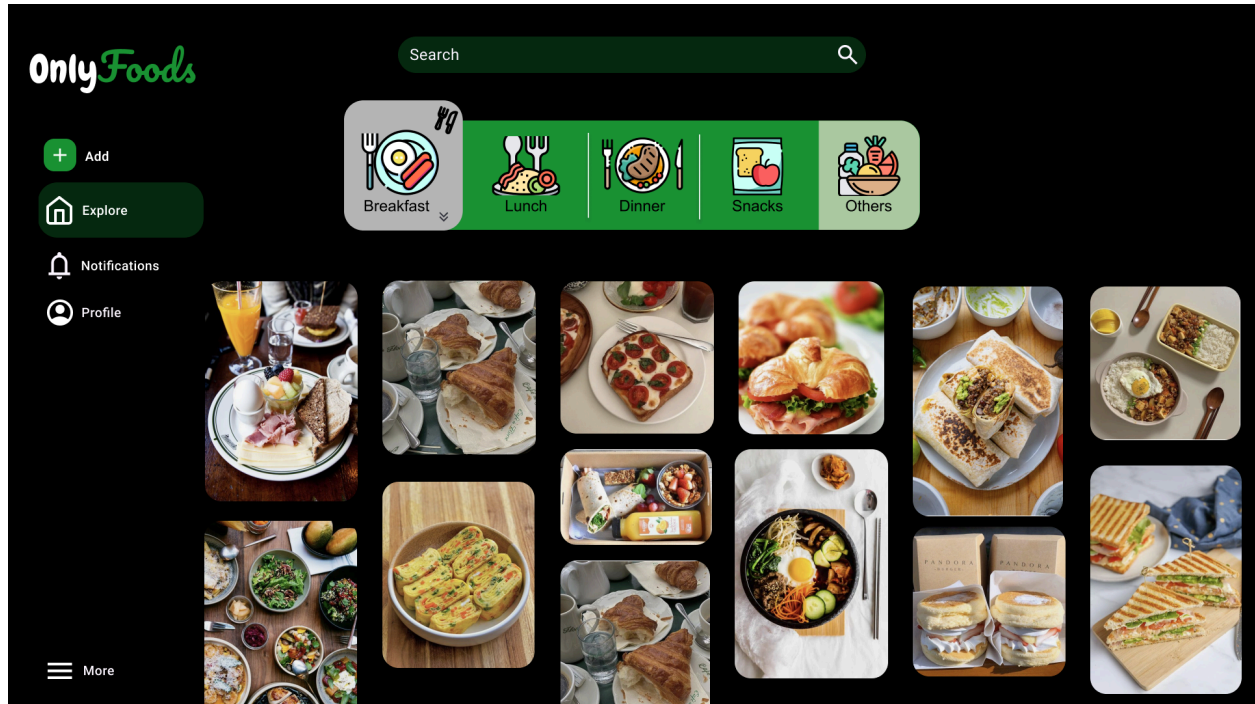
Profile Page

Notification Page