



IT 309 SOFTWARE ENGINEERING

PROJECT DOCUMENTATION

Meal Mentor/Nutri Glow

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18/06/2024

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- **Introduction:**

We apologize for not providing a deployment link for our mobile application. Unfortunately, hosting a mobile application requires a paid service for deployment, which we are currently not set up for. We appreciate your understanding and assure you that we are exploring options to make the application easily accessible in the future. Thank you for your patience and support.

- **About The Project**

The Meal Mentor project represents a groundbreaking endeavor in the realm of meal planning and dietary management, offering users a sophisticated yet user-friendly platform to transform their culinary experiences. By leveraging cutting-edge technology and innovative design principles, Meal Mentor aims to streamline every aspect of the meal preparation process, from recipe discovery to grocery shopping and meal tracking. With a diverse array of features, including customizable dietary preferences, personalized recipe recommendations, and seamless integration with fitness apps, Meal Mentor caters to the individual needs and preferences of each user, fostering a culture of healthy eating and culinary exploration. Through its commitment to excellence in both functionality and user experience, Meal Mentor seeks to empower individuals to take control of their diets, make informed food choices, and embark on a journey towards improved health and well-being.

Github link:

https://github.com/FarisAllouch/nutri_glow.git

- **High-level Plan**

In the upcoming section, we'll outline our product roadmap and release schedule, integrating the Agile methodology to detail our development approach. The product roadmap will highlight important milestones and feature priorities, while the release schedule will provide a timeline for delivering gradual product updates. These documents will serve as guides for delivering value to users, sticking to project goals, and adjusting to changing requirements in an Agile manner.

Quarters	Timeframe	Release Name	Features	Goals	Metrics
Q1	First half of May	Initial Launch	User registration, authentication, basic, recipe search, profile management	Establish core functionality and user base	Number of registered users, login success rate
Q2	First half of June	Feature Growth	Advanced recipe search, meal planning, shopping list integration	Enhance user experience and engagement	Number of meal plans created, user retention

Sprint 1

Sign up for Meal Mentor service.

Log in to Meal Mentor account.

Reset Meal Mentor account
password.

View personal profile on Meal
Mentor.

Search for recipes based on dietary
preferences.

View recipe details, including
ingredients and instructions.

Add recipes to a meal plan.

View meal plan for the current week.

Remove recipes from the meal plan.

Sprint 2

Customize dietary preferences (e.g., vegetarian, vegan, gluten-free) in Meal Mentor profile.

Explore meal recommendations based on dietary preferences.

Filter recipes by meal type (breakfast, lunch, dinner, snacks).

Add ingredients from recipes to a shopping list.

View and edit the shopping list.

Share recipes or meal plans with friends via social media or email.

Save favorite recipes for future reference.

Sprint 3

Add custom recipes to Meal Mentor.

Rate and review recipes.

Receive notifications for upcoming meals in the meal plan.

Sync Meal Mentor account across multiple devices (e.g., web, mobile app).

Explore seasonal or trending recipes.

Access Meal Mentor support resources and FAQs.

Track nutritional information for meals and recipes (calories, macros).

Sprint 4

Integrate Meal Mentor with fitness apps to track meal-related fitness goals.

Schedule automated grocery deliveries based on the shopping list.

- **Project Requirements**

Here is the prioritized and detailed list of features for our project, known as the product backlog.

- **Sign up for Meal Mentor service**

- **Project Requirement:** Users should be able to create a new account to access the Meal Mentor service.
- **Acceptance Criteria:**
 - Users should fill out a registration form with required information such as name, email, and password.
 - Password should be at least 8 characters long.
 - Upon successful registration, users should receive a confirmation email.

- **Log in to Meal Mentor account**

- **Project Requirement:** Registered users should be able to log in to their Meal Mentor account.
- **Acceptance Criteria:**
 - Users should enter their registered email and password.
 - Upon successful login, users should be redirected to their dashboard.

- **Reset Meal Mentor account password**

- **Project Requirement:** Users should be able to reset their password if forgotten.
- **Acceptance Criteria:**
 - Users should provide their registered email for password reset.
 - A password reset link should be sent to the provided email.
 - Users should be able to set a new password through the provided link.

- **View personal profile on Meal Mentor**

- **Project Requirement:** Users should be able to view and manage their profile information.
- **Acceptance Criteria:**
 - Users should be able to access their profile settings from the dashboard.
 - Profile settings should include options to update personal information.

- **Search for recipes based on dietary preferences**
 - **Project Requirement:** Users should be able to search for recipes based on dietary preferences.
 - **Acceptance Criteria:**
 - Users should have options to filter recipes by dietary preferences such as vegetarian, vegan, gluten-free, etc.
 - Search results should display relevant recipes based on selected preferences.
- **View recipe details, including ingredients and instructions**
 - **Project Requirement:** Users should be able to view detailed information about each recipe.
 - **Acceptance Criteria:**
 - Users should be able to click on a recipe to view its details.
 - Recipe details should include ingredients, preparation instructions, and nutritional information.
- **Add recipes to a meal plan**
 - **Project Requirement:** Users should be able to add recipes to their meal plan.
 - **Acceptance Criteria:**
 - Users should have the option to add recipes to their meal plan from the recipe details page.
 - Meal plan should display added recipes for each day of the week.
- **View meal plan for the current week**
 - **Project Requirement:** Users should be able to view their meal plan for the current week.
 - **Acceptance Criteria:**
 - Users should access their meal plan from the dashboard.
 - Meal plan should display recipes for each day of the week along with meal times.
- **Remove recipes from the meal plan**
 - **Project Requirement:** Users should be able to remove recipes from their meal plan.
 - **Acceptance Criteria:**
 - Users should have the option to delete recipes from their meal plan.
 - Deleted recipes should be removed from the meal plan display.

- **Customize dietary preferences in Meal Mentor profile**
- **Project Requirement:** Users should be able to customize their dietary preferences in their Meal Mentor profile.
- **Acceptance Criteria:**
 - Users should navigate to their profile settings.
 - Profile settings should include options to select dietary preferences such as vegetarian, vegan, gluten-free, etc.
 - Changes to dietary preferences should be saved upon submission.
- **Explore meal recommendations based on dietary preferences**
- **Project Requirement:** Users should receive personalized meal recommendations based on their selected dietary preferences.
- **Acceptance Criteria:**
 - Meal Mentor should analyze user's dietary preferences and recommend recipes accordingly.
 - Recommended recipes should align with user's chosen dietary restrictions.
- **Filter recipes by meal type (breakfast, lunch, dinner, snacks)**
- **Project Requirement:** Users should be able to filter recipes by meal type to find relevant options.
- **Acceptance Criteria:**
 - Users should have filter options for breakfast, lunch, dinner, and snacks.
 - Filtered results should display recipes suitable for the selected meal type.
- **Add ingredients from recipes to a shopping list**
- **Project Requirement:** Users should be able to add ingredients from recipes to a shopping list for easy grocery planning.
- **Acceptance Criteria:**
 - Users should have the option to add individual ingredients or entire recipes to their shopping list.
 - Shopping list should display all added ingredients with options for quantity adjustments.

- **View and edit the shopping list**
- **Project Requirement:** Users should be able to view and edit their shopping list.
- **Acceptance Criteria:**
 - Users should access their shopping list from the dashboard.
 - Shopping list should display all added ingredients with options for quantity adjustments and removal.
- **Share recipes or meal plans with friends via social media or email**
- **Project Requirement:** Users should be able to share recipes or meal plans with friends via social media or email.
- **Acceptance Criteria:**
 - Users should have options to share recipes or meal plans from the recipe details page or meal plan view.
 - Sharing options should include social media platforms and email.
- **Save favorite recipes for future reference**
- **Project Requirement:** Users should be able to save their favorite recipes for future reference.
- **Acceptance Criteria:**
 - Users should have the option to save recipes as favorites from the recipe details page.
 - Saved favorites should be accessible from the user's profile.
- **Track nutritional information for meals and recipes (calories, macros)**
- **Project Requirement:** Users should be able to track the nutritional information for meals and recipes.
- **Acceptance Criteria:**
 - Nutritional information such as calories, macros (protein, carbs, fat), and other relevant metrics should be displayed for each recipe.
 - Users should have the option to view a summary of nutritional information for their entire meal plan.

- **Add custom recipes to Meal Mentor**
- **Project Requirement:** Users should be able to add their own custom recipes to Meal Mentor.
- **Acceptance Criteria:**
 - Users should have an option to create and submit their own recipes through a form.
 - Custom recipes should include details such as ingredients, preparation instructions, and optional nutritional information.
- **Rate and review recipes**
- **Project Requirement:** Users should be able to rate and review recipes to share their feedback with the community.
- **Acceptance Criteria:**
 - Users should have options to rate recipes on a scale (e.g., 1 to 5 stars).
 - Users should be able to write and submit reviews for recipes, including comments and feedback.
- **Receive notifications for upcoming meals in the meal plan**
- **Project Requirement:** Users should receive notifications for upcoming meals in their meal plan.
- **Acceptance Criteria:**
 - Users should receive notifications via email or push notifications on the Meal Mentor app.
 - Notifications should remind users of scheduled meals and provide links to recipe details.
- **Sync Meal Mentor account across multiple devices (e.g., web, mobile app)**
- **Project Requirement:** Users should be able to sync their Meal Mentor account across multiple devices for seamless access.
- **Acceptance Criteria:**
 - Users should be able to log in to their Meal Mentor account from any device and access their saved data.
 - Changes made on one device should be reflected on all synced devices in real-time.

- **Explore seasonal or trending recipes**
- **Project Requirement:** Users should have access to seasonal or trending recipes for inspiration.
- **Acceptance Criteria:**
 - Meal Mentor should feature a section for seasonal or trending recipes.
 - Users should be able to browse and explore curated collections of recipes based on current trends or seasons.
- **Access Meal Mentor support resources and FAQs**
- **Project Requirement:** Users should have access to support resources and FAQs for assistance.
- **Acceptance Criteria:**
 - Meal Mentor should provide a dedicated section for support resources and FAQs.
 - Users should be able to find answers to common questions and troubleshoot issues through the support section.
- **Schedule automated grocery deliveries based on the shopping list**
- **Project Requirement:** Users should be able to schedule automated grocery deliveries based on their shopping list.
- **Acceptance Criteria:**
 - Meal Mentor should integrate with grocery delivery services to facilitate automated orders.
 - Users should have options to schedule recurring deliveries or one-time orders directly from the shopping list.
- **Integrate Meal Mentor with fitness apps to track meal-related fitness goals**
- **Project Requirement:** Users should be able to integrate Meal Mentor with fitness apps to track meal-related fitness goals.
- **Acceptance Criteria:**
 - Meal Mentor should offer integrations with popular fitness tracking apps such as Fitbit or MyFitnessPal.
 - Users should be able to sync meal data with their fitness apps to monitor calorie intake and track progress towards fitness goals.

26. Change password

- **Project Requirement:** Users should be able to change their password for their Meal Mentor account.
- **Acceptance Criteria:**
 - Users should navigate to their account settings or profile page.
 - A form for changing the password should be provided, requiring users to input their old password and enter a new password.
 - The new password must meet security criteria, such as a minimum length of 8 characters.
 - Upon successful password change, users should receive a confirmation message.

27. Log out from Meal Mentor account

- **Project Requirement:** Users should be able to log out from their Meal Mentor account.
- **Acceptance Criteria:**
 - A "Log out" button or option should be accessible from the dashboard or account settings.
 - Upon clicking "Log out," users should be immediately logged out of their account and redirected to the login page.
 - After logging out, users attempting to access restricted pages should be redirected to the login page.

28. View system status and maintenance updates

- **Project Requirement:** Users should have access to information about the system's status and any ongoing maintenance updates.
- **Acceptance Criteria:**
 - Meal Mentor should provide a dedicated section or page for system status and maintenance updates.

- Users should be able to access this section from the dashboard or navigation menu.
- The system status page should display information about uptime, scheduled maintenance, and any ongoing issues or outages.
- Users should receive notifications or alerts regarding scheduled maintenance or unexpected downtime.

29. Provide feedback and suggestions

- **Project Requirement:** Users should have the ability to provide feedback and suggestions to the Meal Mentor team.
- **Acceptance Criteria:**
 - Meal Mentor should offer a feedback form or link accessible from the dashboard or navigation menu.
 - The feedback form should include fields for users to input their comments, suggestions, and any issues they encounter.
 - Users should have the option to submit feedback anonymously or provide their contact information for follow-up.
 - Meal Mentor should acknowledge receipt of feedback and provide a channel for users to track the status of their submissions.

30. Access privacy and data protection information

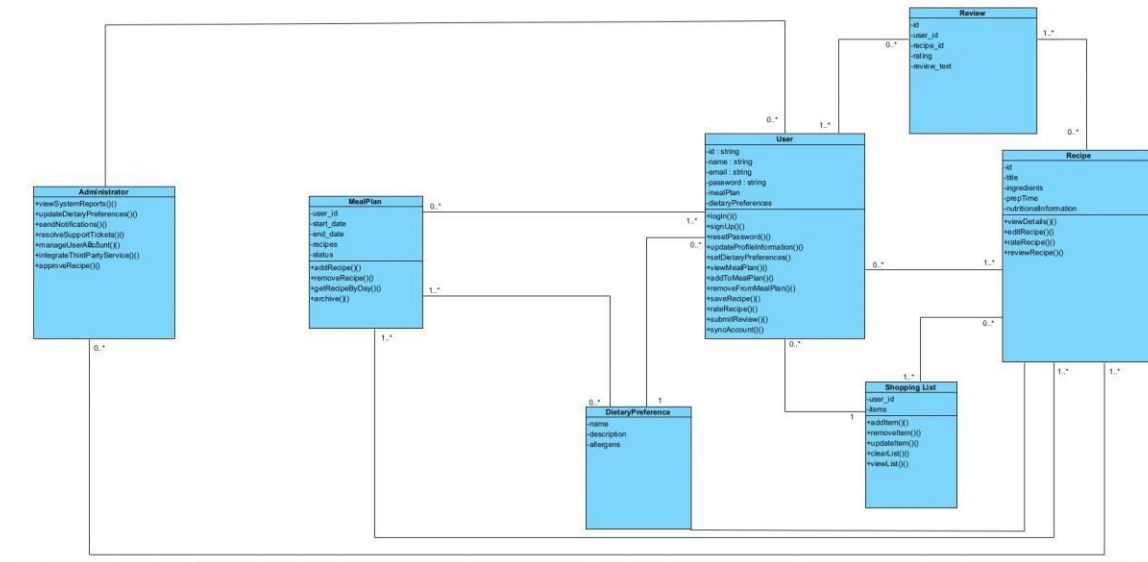
- **Project Requirement:** Users should have access to information about privacy policies and data protection measures implemented by Meal Mentor.
- **Acceptance Criteria:**
 - Meal Mentor should provide a dedicated section or page for privacy and data protection information.
 - Users should be able to access this section from the dashboard or navigation menu.
 - The privacy page should detail Meal Mentor's policies regarding data collection, storage, and usage, as well as information about user rights and consent.

- Users should have the option to review and agree to Meal Mentor's privacy policies during account registration or at any time from their account settings.

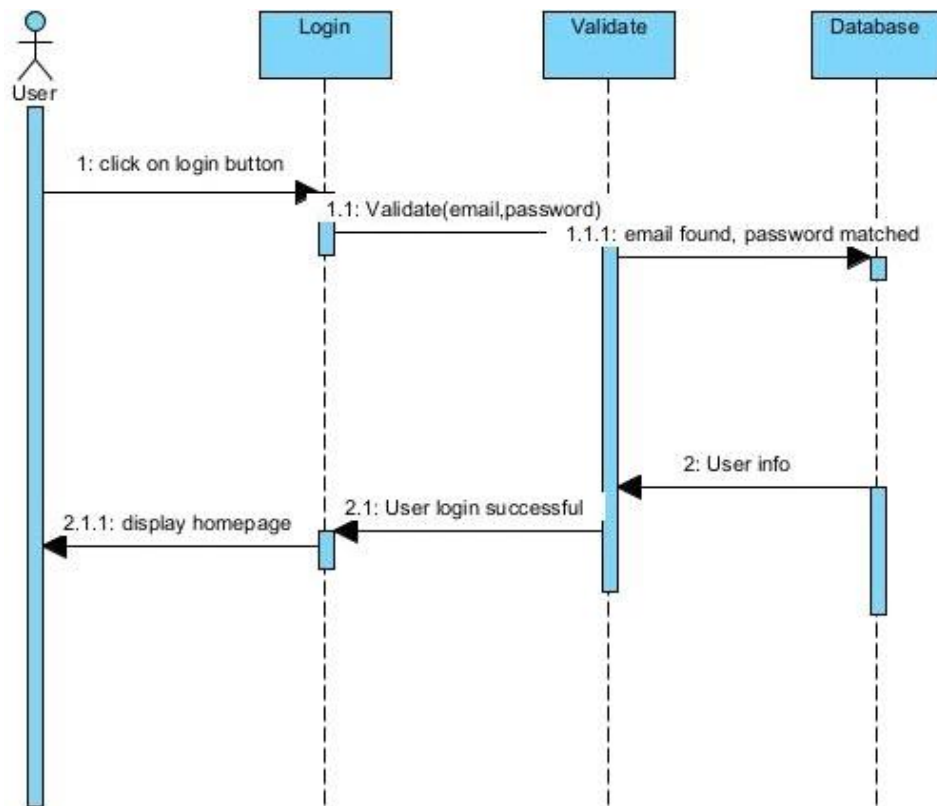
- **UML Diagrams**

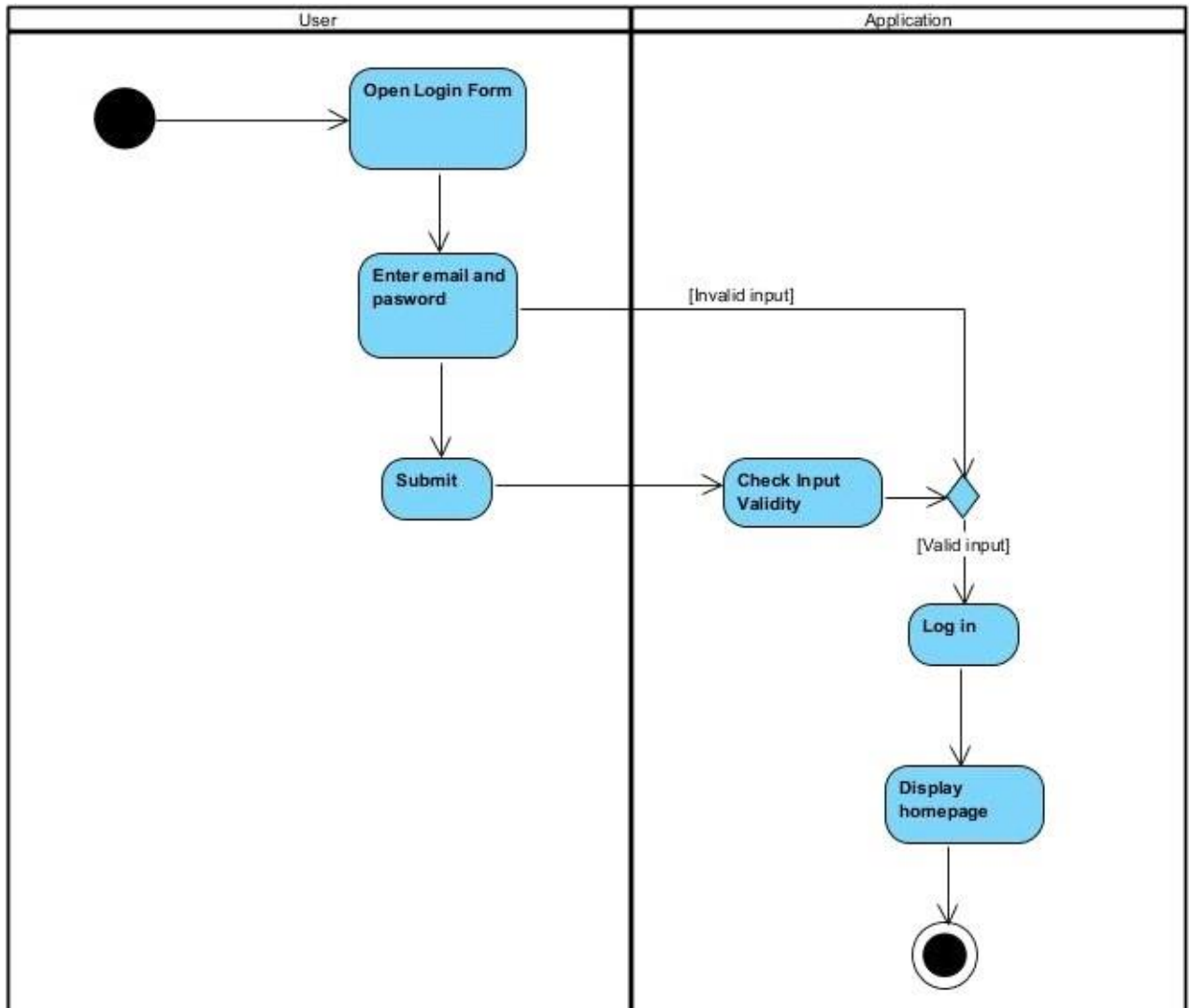
The next part explains the three key elements of the project, illustrated with Sequence and Activity Diagrams, alongside the product's framework represented in a Class diagram.

Class Diagram:

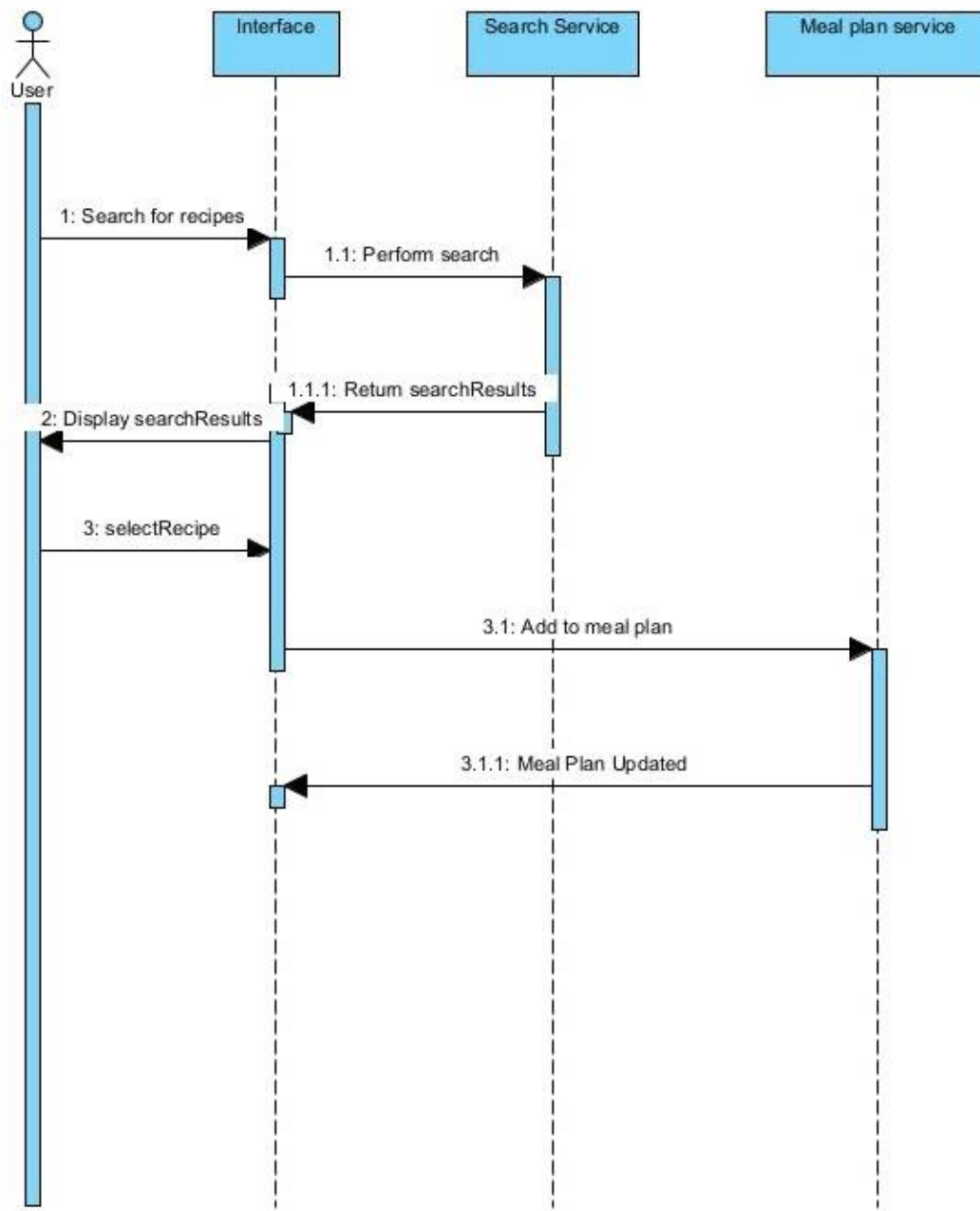


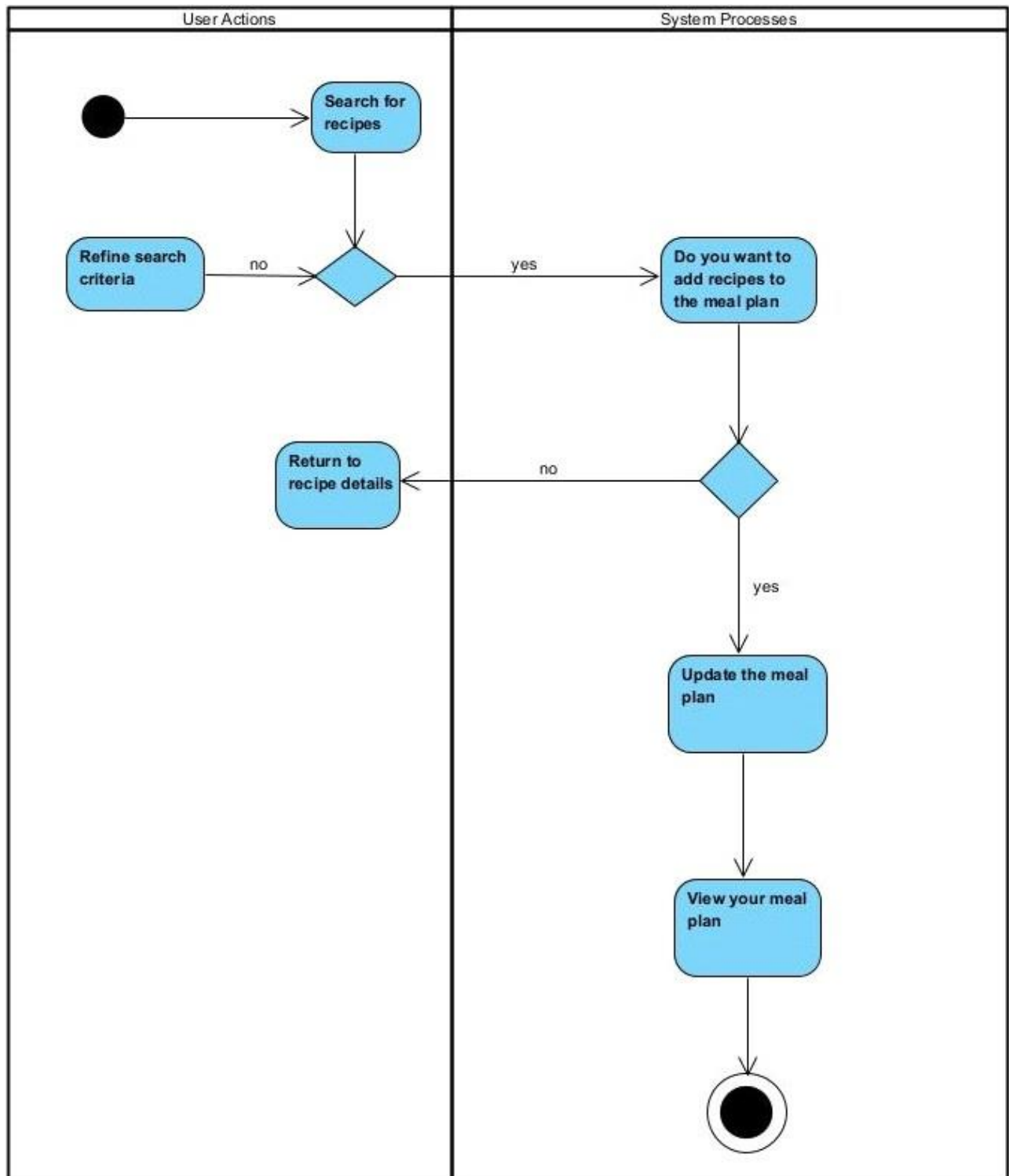
Login:



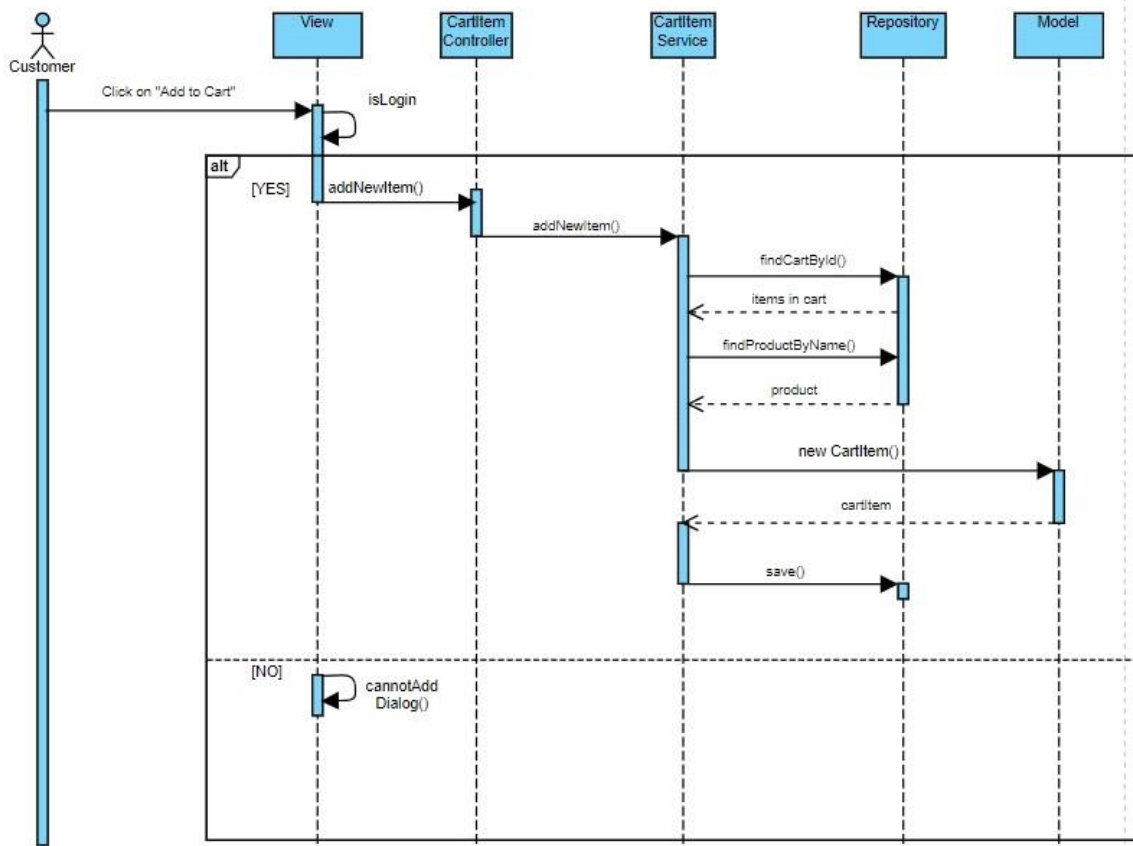


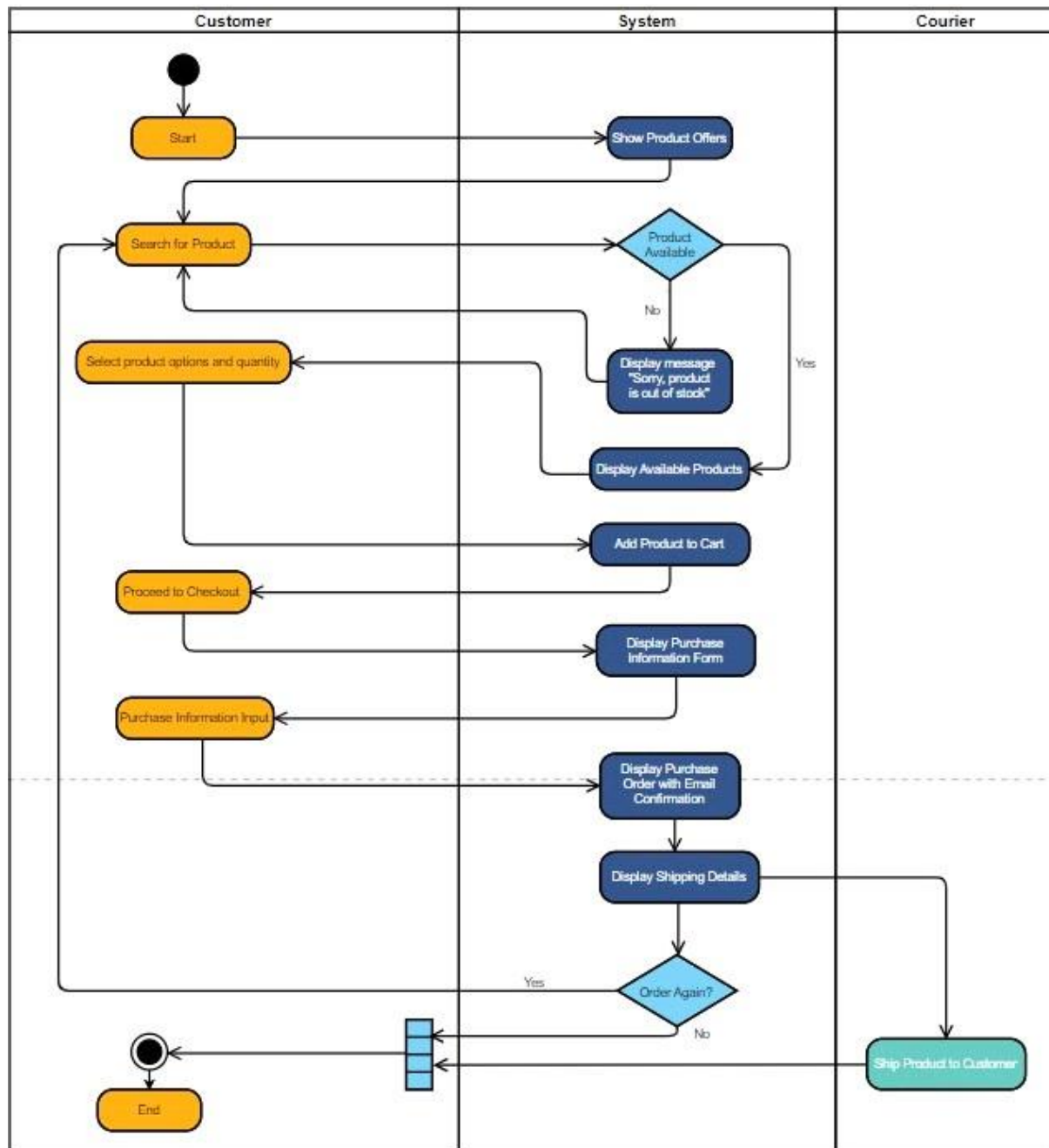
Search for Recipes:



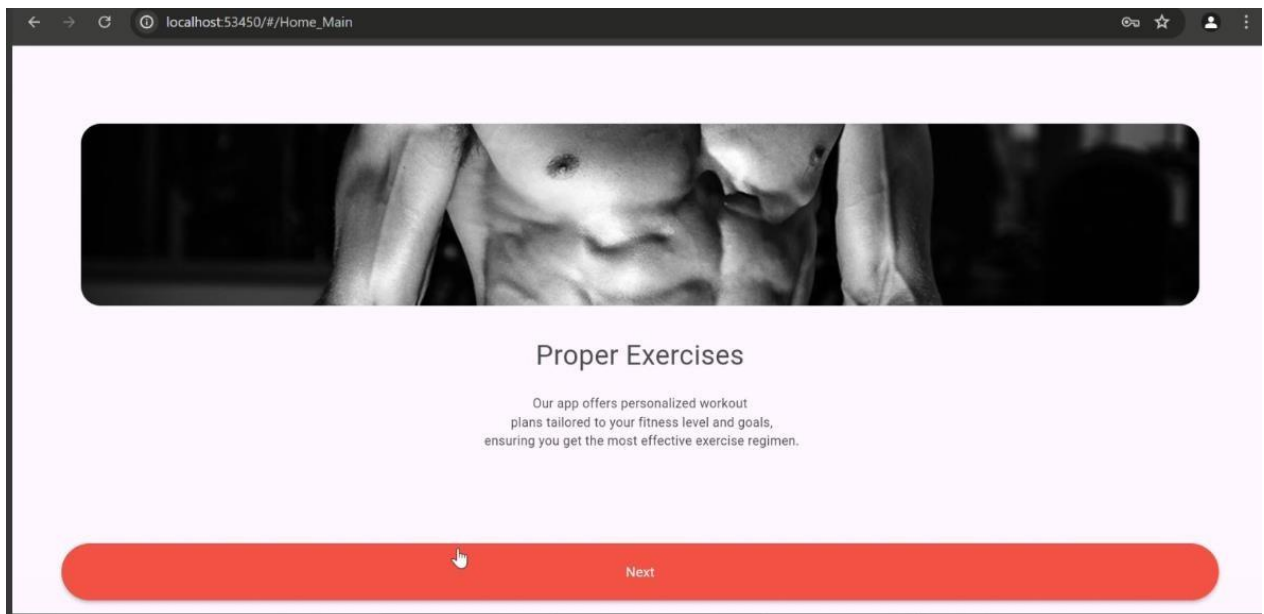


Shopping Cart:

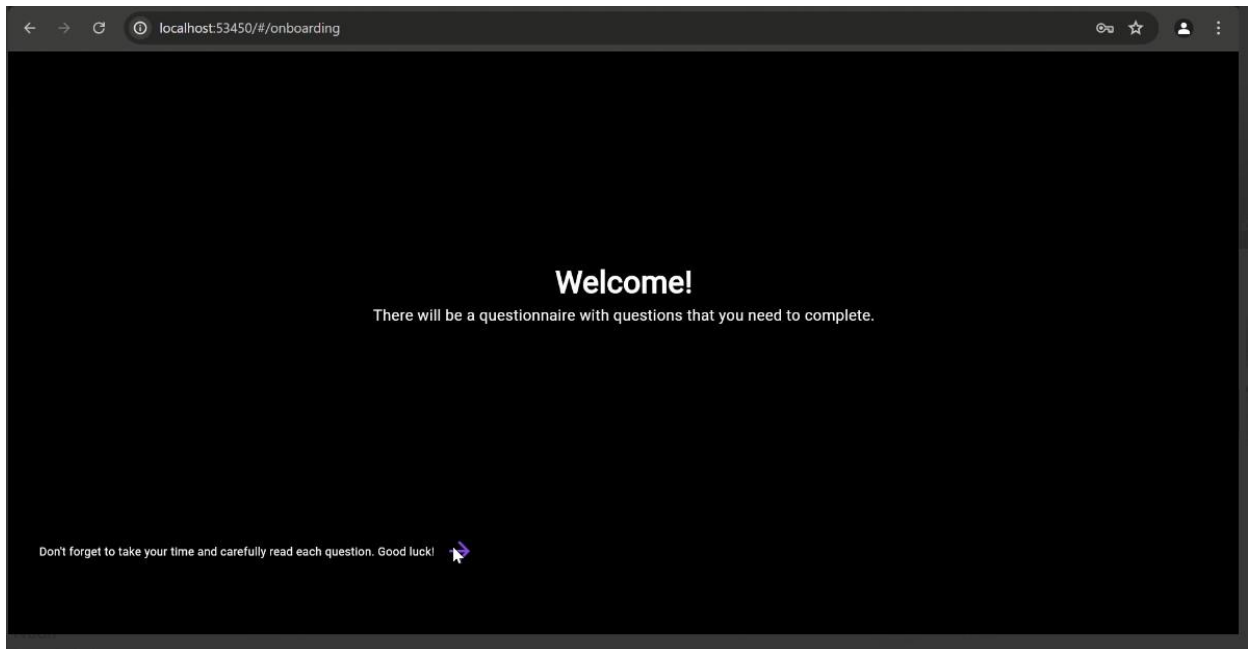




- **Project Functionalities and Screenshots**



This image shows the first page of our application "Meal Mentor" that users see after logging in. The page features a prominent black and white photograph of two individuals, focusing on their toned abdomens, which emphasizes the fitness aspect of the application. The headline "Proper Exercises" is displayed above a brief description which states: "Our app offers personalized workout plans tailored to your fitness level and goals, ensuring you get the most effective exercise regimen." Below the description, there is a large red button labeled "Next," inviting users to proceed further into the app.



This screen is part of the onboarding process for the "Meal Mentor" application. It features a simple, elegant design with a dark background. The message displayed reads: "Welcome! There will be a questionnaire with questions that you need to complete." Below the main text, there's a helpful reminder for users: "Don't forget to take your time and carefully read each question. Good luck!" This setup is designed to prepare users to provide necessary information that will tailor the app's recommendations to their individual dietary and fitness goals. The overall layout is clean and focused, minimizing distractions to enhance user engagement right from the start.

← → ↻ ⓘ localhost:53450/#/onboarding_main

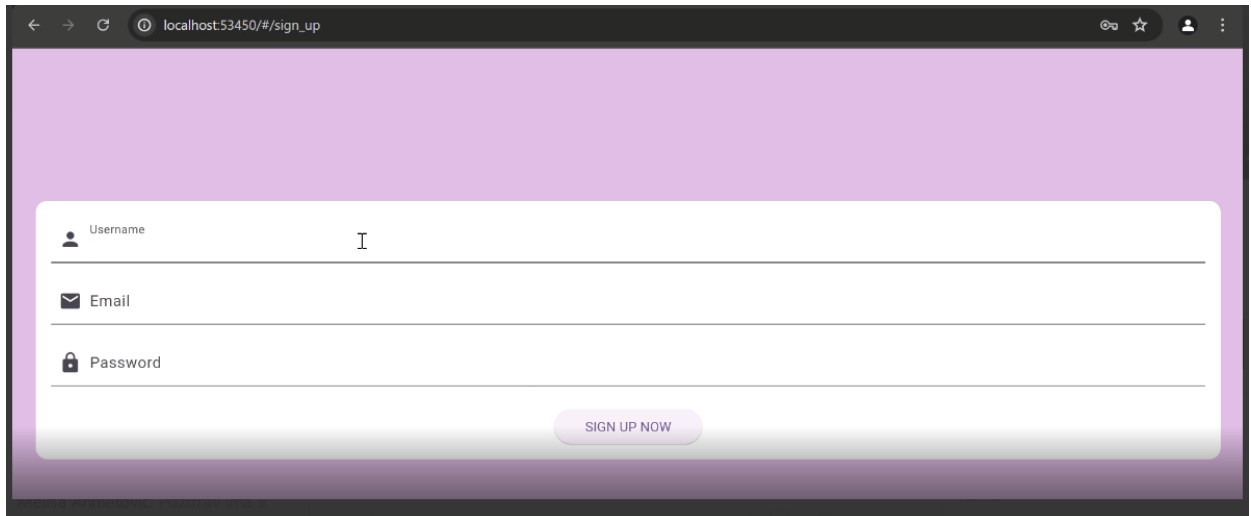
←

Your Height

6.8

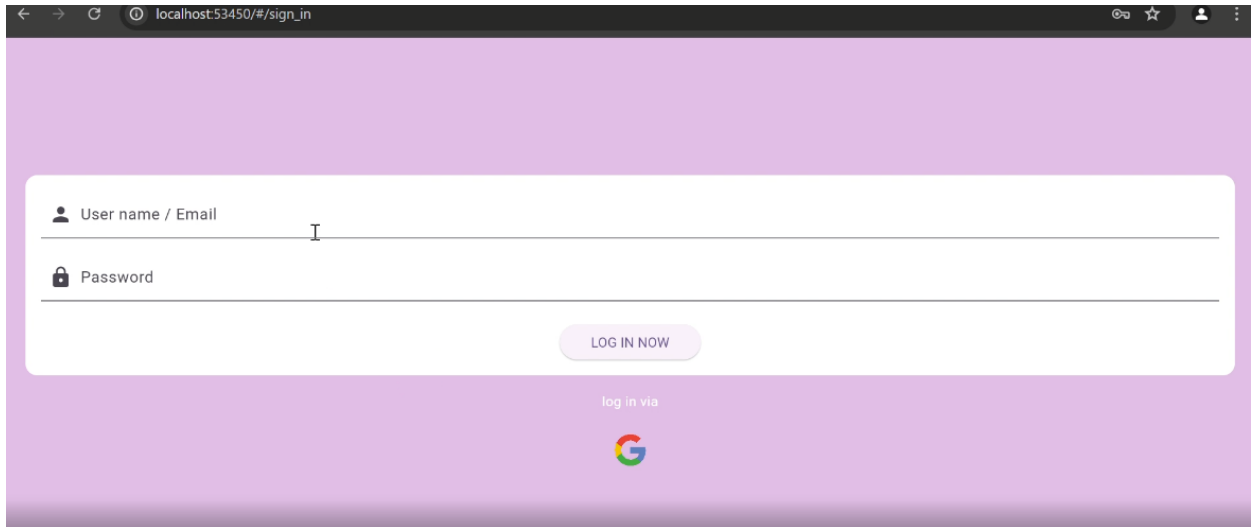
Next

This screen is another part of the onboarding process for the "Meal Mentor" application, specifically designed to collect information about the user's physical characteristics. The page displays a simple, clean interface where users are prompted to input their height. The heading "Your Height" is clearly marked above a text input field, which currently shows a placeholder or an example entry of "6.8". There is a "Next" button in purple at the bottom right corner, which users can click to proceed after entering their height. The back arrow in the top left corner allows users to return to the previous question if needed. This step is essential for tailoring the app's recommendations to the user's specific body dimensions and health objectives.





The screenshot displays a web browser window with the address bar showing 'localhost:53450/#/sign_up'. The page has a solid lavender background. A white rectangular form is centered on the page, containing three input fields stacked vertically. The first field is labeled 'Username' with a person icon on the left. The second field is labeled 'Email' with an envelope icon on the left. The third field is labeled 'Password' with a lock icon on the left. Below these fields is a light purple button with the text 'SIGN UP NOW' in white capital letters. The browser's address bar and navigation icons are visible at the top.

This screen is the sign-up page for the "Meal Mentor" application, showcasing a straightforward and user-friendly interface. The page features a simple lavender background, enhancing the visual appeal of the application. Users are prompted to enter their "Username," "Email," and "Password" into the respective fields, each marked with an appropriate icon for clarity. Below the input fields, there is a "SIGN UP NOW" button, prominently displayed to encourage new users to create their accounts and begin their journey with the app. This page is designed to ensure an easy and secure registration process, making it accessible for users to start personalizing their diet and fitness plans through the application.



This screen is the login page for the "Meal Mentor" application, designed with a minimalist and user-friendly interface. The page is set against a soothing lavender background. Users are provided with two input fields: one for the "User name / Email" and another for the "Password," each clearly labeled to guide users efficiently. Below these fields, there's a "LOG IN NOW" button for submitting the login credentials.

Additionally, there's an option to log in via Google, indicated by the Google logo and the text "log in via," which offers a convenient alternative for users who prefer to use their existing Google accounts for quicker access. This integration simplifies the login process, enhancing the user experience by providing flexibility in how users can access their accounts.

harun@gmail.com		Jun 18, 2024	Jun 18, 2024	MWh21kaOjdZKCOZEXWljVob...
dzemicharun@gmail.co...		Jun 18, 2024	Jun 18, 2024	K3WPJYiTSNXbN0tiUdJdTAV...

This image displays a sample of a user database for an application. The database includes two rows, each corresponding to a user account. Here are the details for each entry shown in the table:

1. Email Addresses:
 - First entry: harun@gmail.com
 - Second entry: dzemicharun@gmail.com
2. Date Created: Both accounts were created on June 18, 2024.
3. Date Updated: Both accounts were last updated on June 18, 2024.
4. API Keys:
 - For the first account: MWh21kaOjdZKCOZEXWljOb...
 - For the second account: K3WPJYiTSNXbN0tiUdJdTAV...

The table displays a checkmark next to each email, which might indicate that the email has been verified or another status confirmation. The API keys appear to be truncated for security reasons, showing only the beginning characters. This is a typical representation in database management systems where sensitive information is protected. Such structures help in efficiently managing user information while ensuring data security and integrity.

- **Tests**

Automated Testing for Meal Mentor Application

These automated tests were developed using Selenium in Python to verify the functionality of different features in the habit tracking application. The test scripts are stored in the "activity-app" directory of the project.

1. Test of Login Functionality

Description: This test confirms the functionality of the login process. It checks that users can log in using correct credentials.

Steps:

- Navigate to the application's login page.
- Input a valid username and password.
- Click the login button.
- Verify that the user lands on the dashboard or home page, which confirms a successful login.

Purpose: To ensure the login process functions properly, enabling users secure access to their accounts.

2. Test of Registration Functionality

Description: This test evaluates the registration process for new users. It ensures that a new user can successfully set up an account.

Steps:

- Visit the registration page of the application.
- Complete the registration form with accurate information (username, email, password, etc.).
- Submit the registration form.
- Confirm that the user sees a confirmation message or is redirected to the login page.

Purpose: To verify that new users can effortlessly register, thus increasing the application's user base.

- **Conclusion**

The implementation of automated testing using Selenium in Python for the habit tracking application plays a pivotal role in ensuring its robustness and reliability. Through the detailed tests described, including those for login and registration functionalities, the application demonstrates a high degree of operational integrity. These tests are not merely procedural but are critical in validating the seamless interaction that users experience with the application, thereby reinforcing user trust and satisfaction.

The successful execution of the login functionality test confirms that the security mechanisms in place are effective and that users can access their accounts without any discrepancies. This is essential for maintaining the privacy and security of user data, which is a top priority in today's digital environment. Similarly, the registration functionality test ensures that new users are able to join the platform smoothly, which is vital for the growth and scalability of the service.

Moreover, these automated tests contribute to the continuous development cycle of the application, allowing for rapid iterations and improvements. By automating the testing process, developers can quickly identify and rectify bugs before they impact the end-user experience, thus maintaining the application's quality over time. This proactive approach to testing not only minimizes downtime but also accelerates the deployment of new features, keeping the application competitive and relevant.

In conclusion, the integration of Selenium automated testing frameworks within the development process of the habit tracking application underscores a commitment to quality and user-centric design. It ensures that each feature not only meets the technical requirements but also aligns with user expectations and needs. As the application evolves, continuous testing will remain a cornerstone of development, essential for fostering innovation while ensuring reliability and user satisfaction.