

DietAid: Your Go-to Web Service for A Healthy Diet

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Motivation

<ul style="list-style-type: none">• Online diet advice and meal plans might be too general and not suitable to a patient's needs	→ Personally tailored meal plans based on the patient's medical history
<ul style="list-style-type: none">• Online content susceptible to mis/dis-information	→ Diet advice verified by real medical professionals
<ul style="list-style-type: none">• Difficulty in scheduling and updating personalized meal plans	→ Centralized access to approved meal plans and up-to-date professional comments/advice
<ul style="list-style-type: none">• Lack of medical professional advice	→ Direct coordination with medical professionals



Solution:

**Centralized, diagnosis-based meal plan
generator and manager moderated by
medical professionals**

- Scope: Individual hospitals, and we can start from there

Planning





Requirements Gathering

Methodology: Questionnaires, interviews

Target Stakeholders: Health professions, patients from different ages.



Requirements Gathering

Questions for Health Professions:

1. What challenges have you faced when providing dietary recommendations to patients?
2. How do you currently track and monitor patient compliance with their dietary plans?
3. What criteria do you typically use to determine the appropriate dietary plan for a patient with a specific diagnosis?
4. What role do you envision the system playing in your current clinical workflows?
5. What specific features or functionalities would be most useful to you when creating and managing patient dietary plans?
6. How do you see the system improving patient outcomes and promoting healthier dietary habits?



Requirements Gathering

Questions for Patients:

1. What challenges have you faced when trying to follow dietary recommendations from your doctor or healthcare professional?
2. How do you currently track your progress and compliance with your dietary plan?
3. What specific features or functionalities would be most helpful to you when trying to follow a dietary plan?
4. How do you think a system like Dietaide could help you better manage your dietary needs?
5. What concerns or challenges do you have regarding using a system like Dietaide to manage your dietary needs?

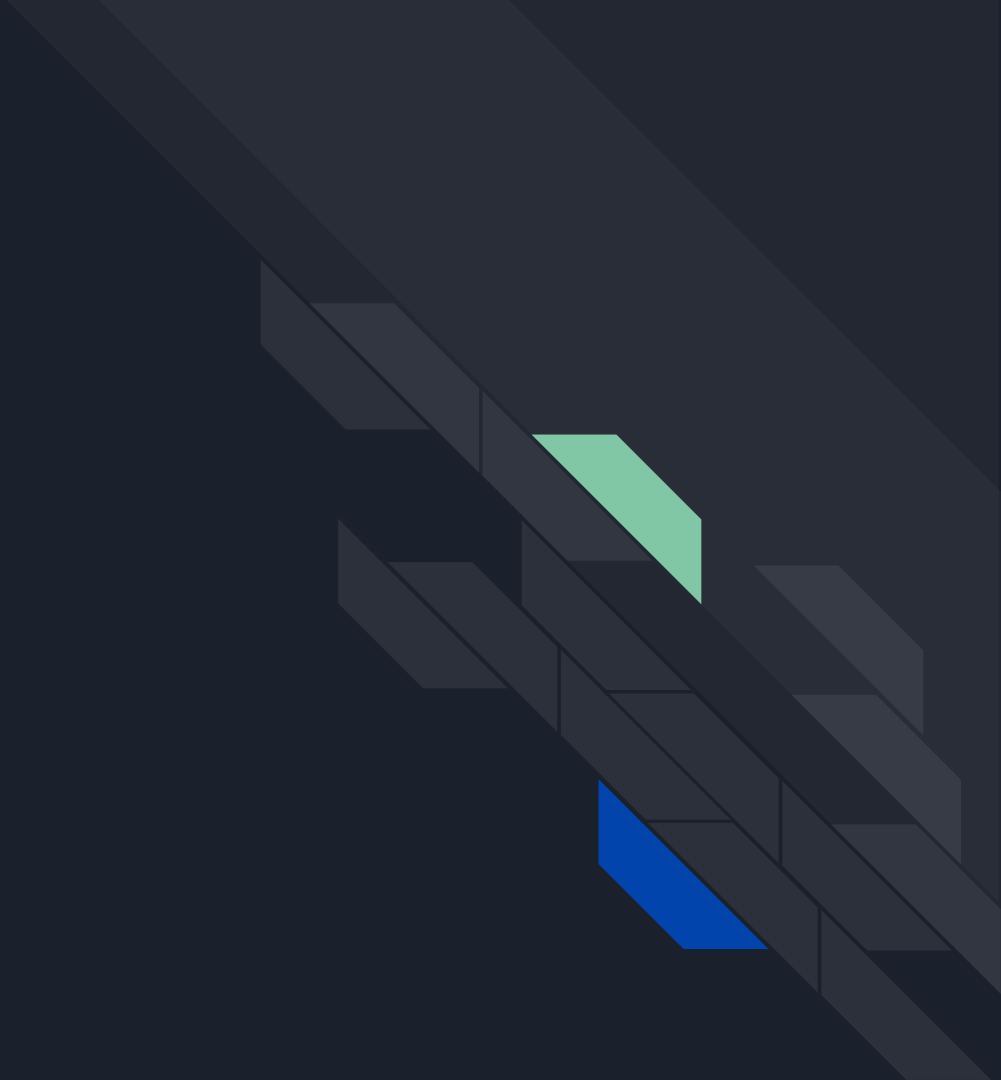


Requirements Gathering

Answers Highlight:

- User-friendly interface.
- Easy access to high quality diet recommendations.
- Feedback from doctor.
- Progress tracking.

Modeling





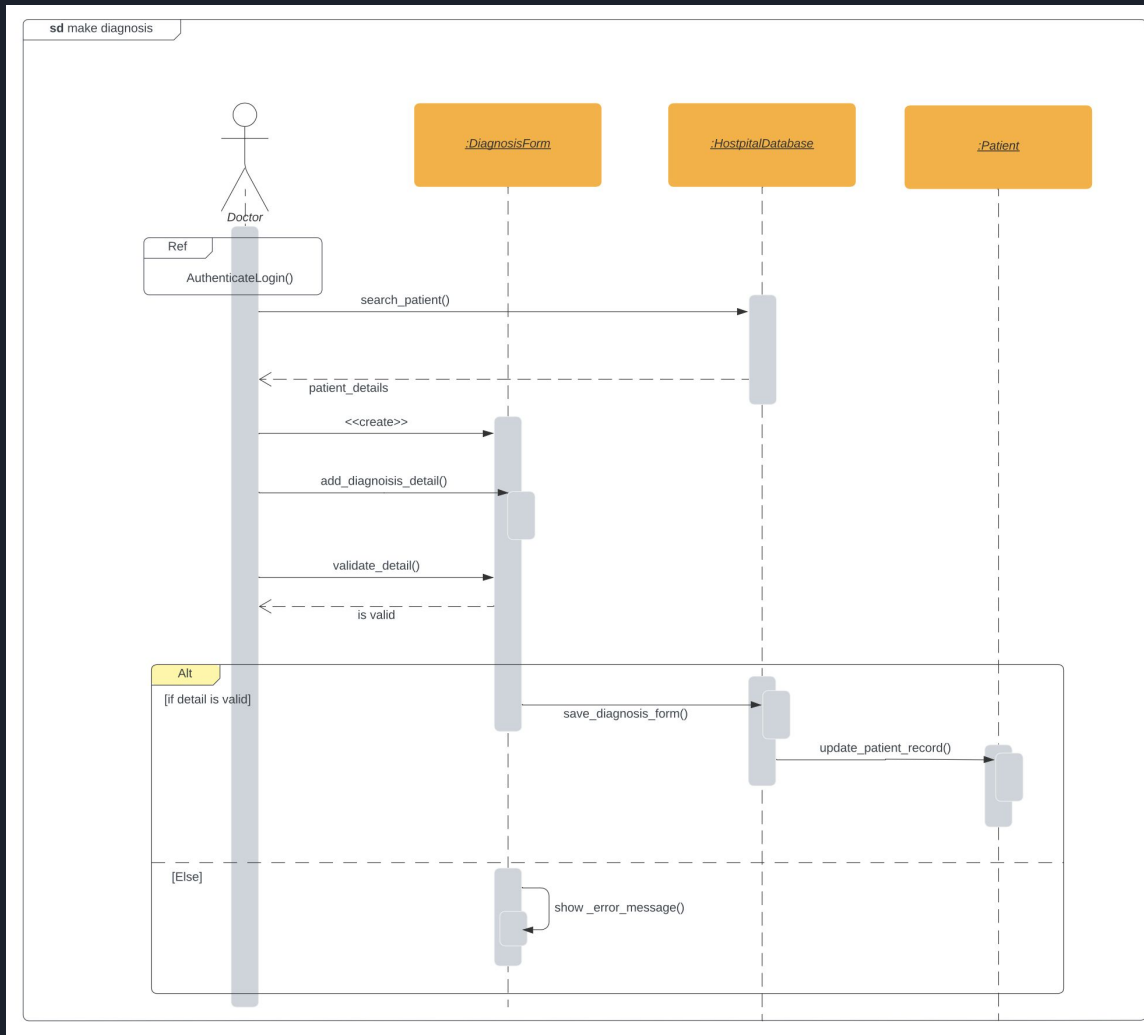
Main Use Cases

- Doctor submits diagnosis for patients
- Patients generate meal plan from a diagnosis with their meal preference
- Doctor edit and approve the generated meal plan.

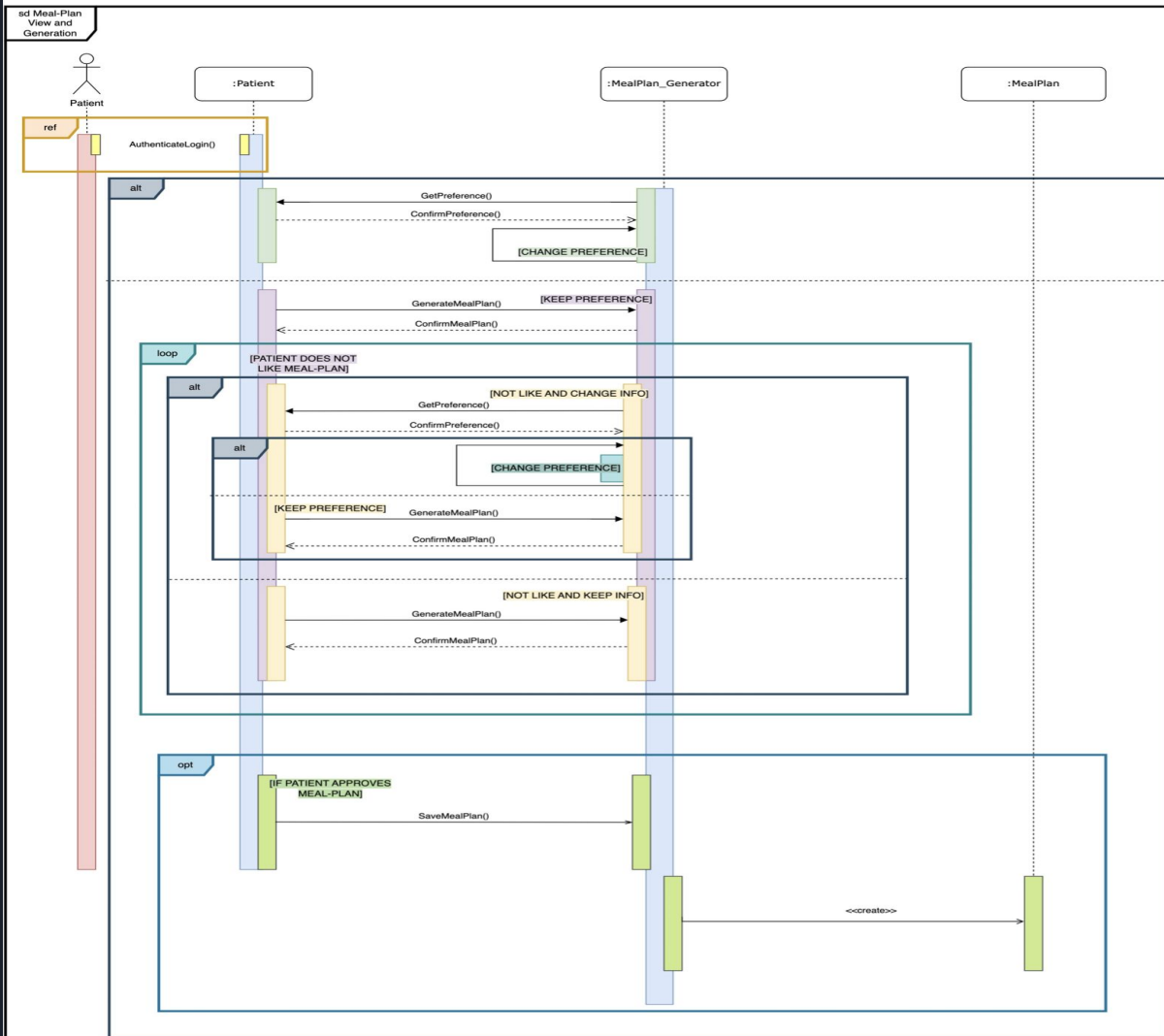
Future Features:

- Chat system?

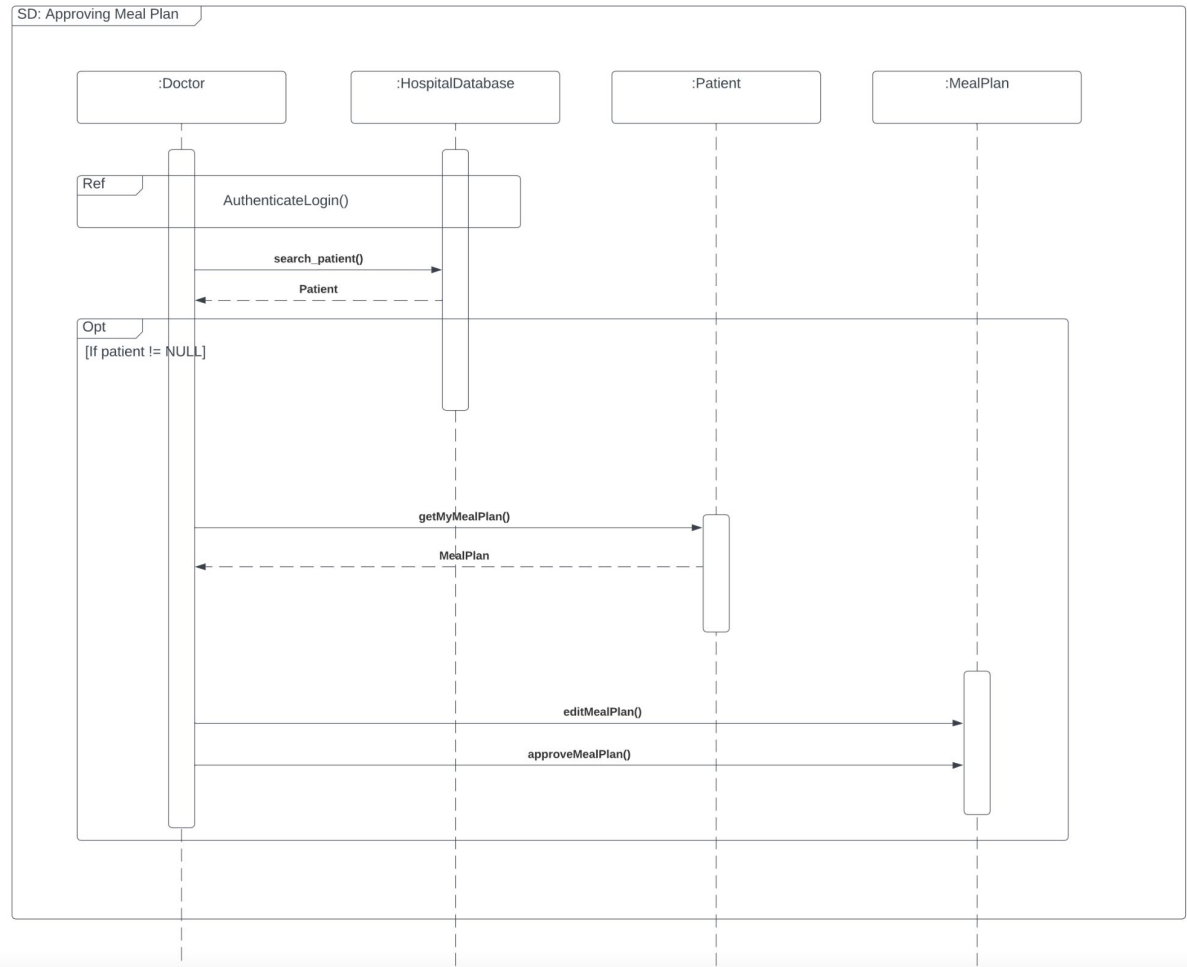
Use Case 1: Make Diagnosis



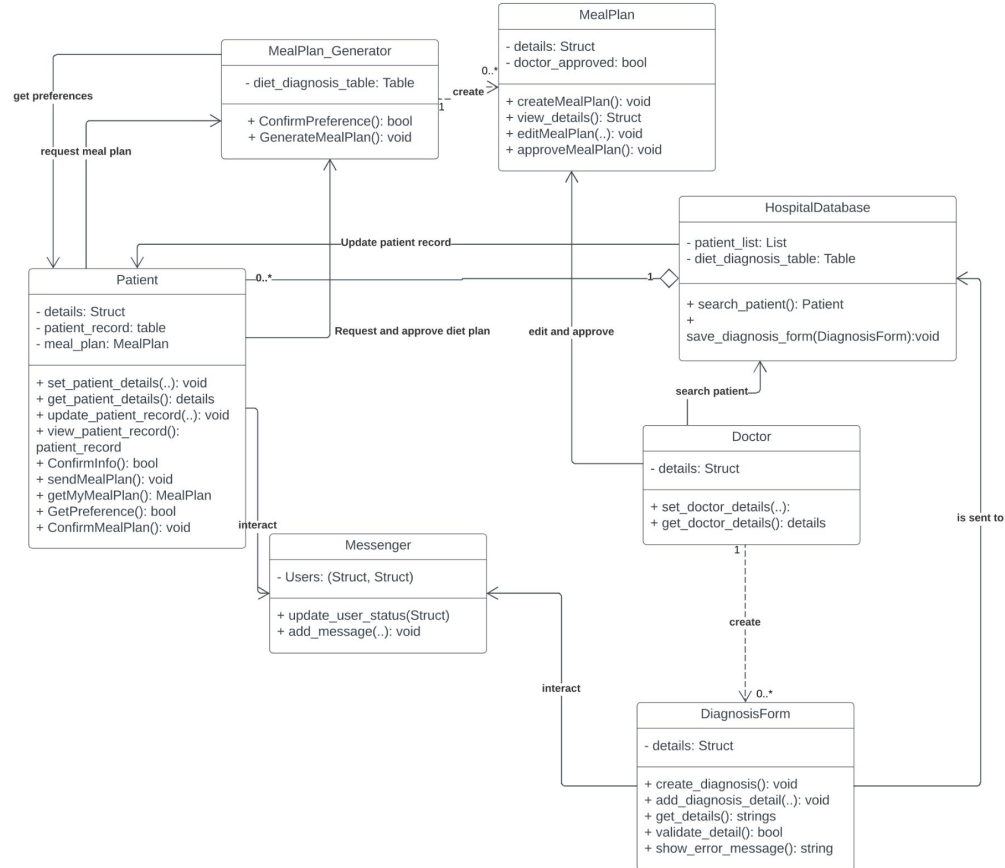
Use Case 2: Generate Diet Plan



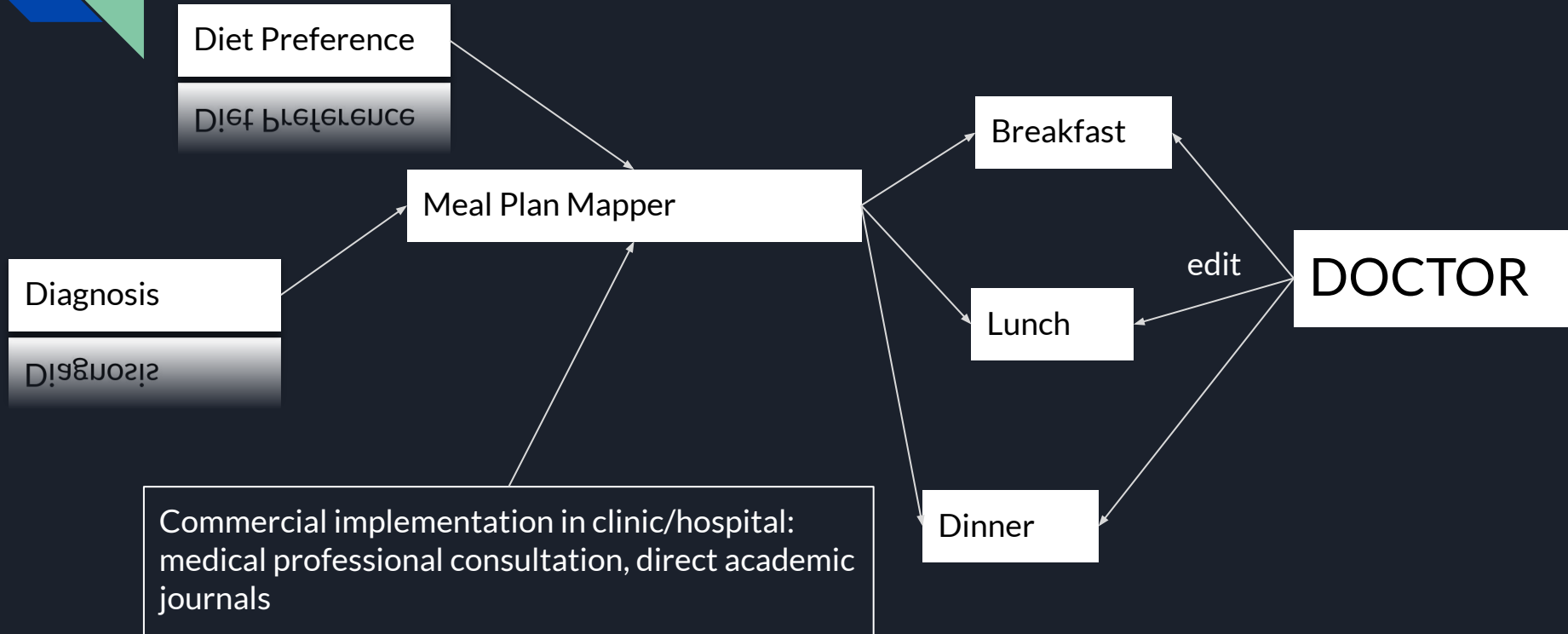
Use Case 3: Approve Diet Plan



Class Diagram



Core feature: the Diagnosis-Meal Plan Mapper



Construction

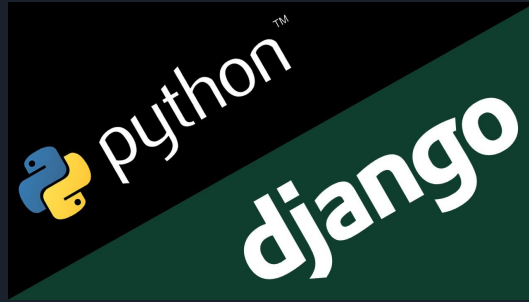


Technology Stack



Front End:

- HTML
- CSS
- Bootstrap



Backend:

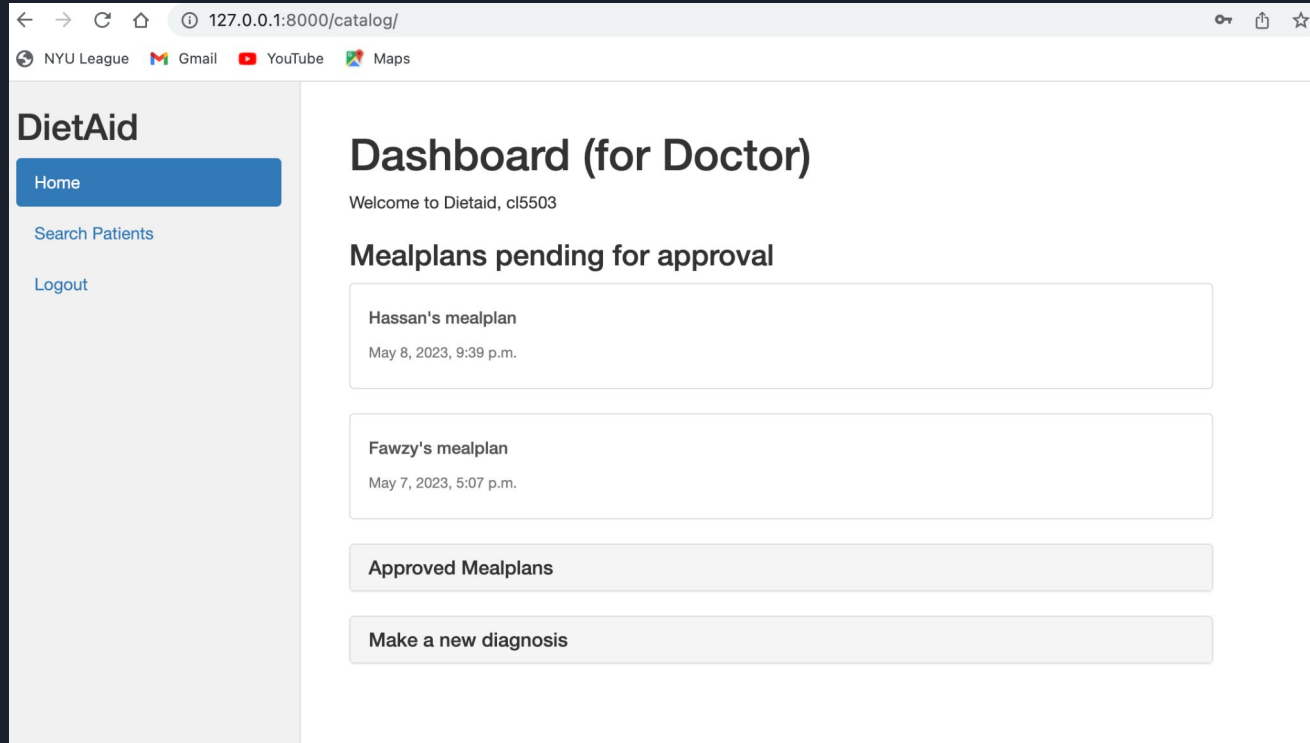
- Django
- Python



Database:

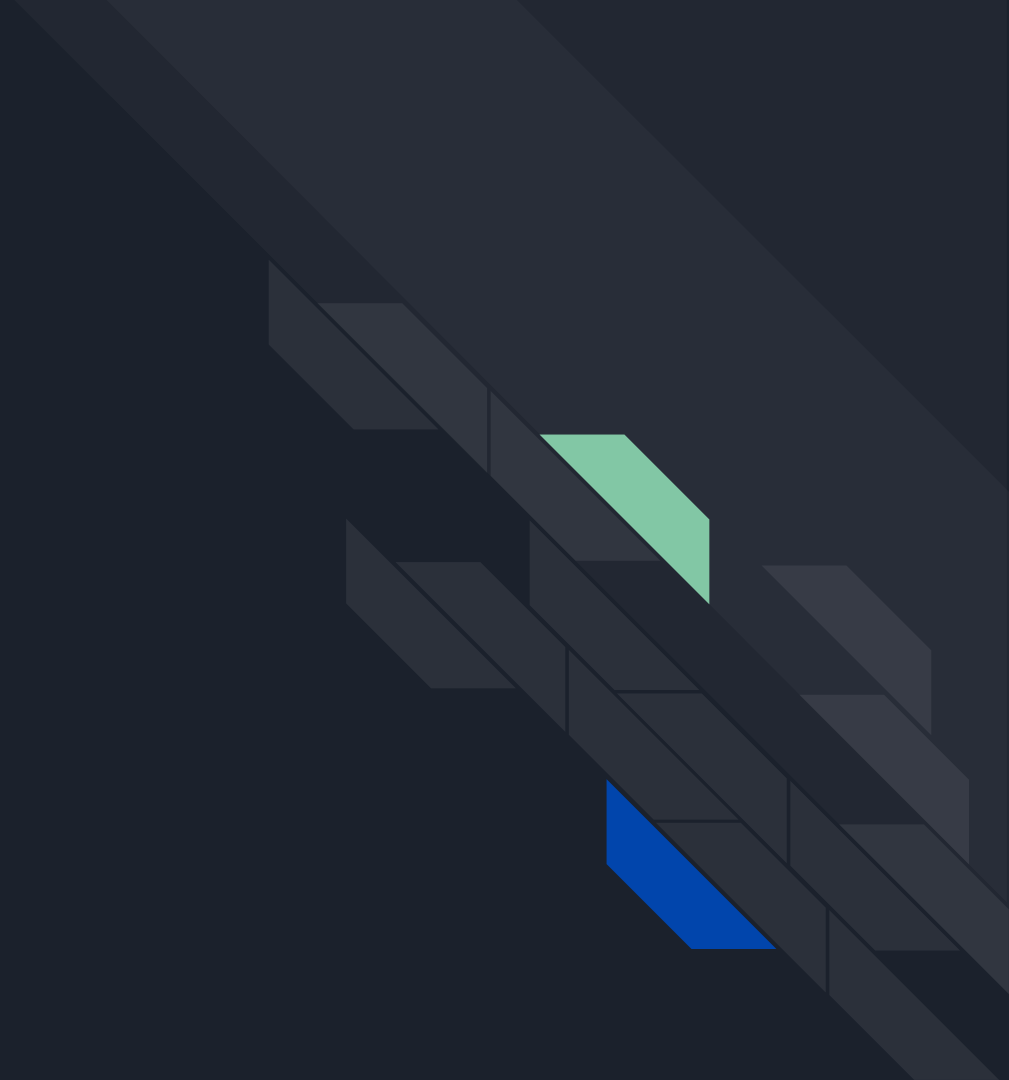
- SQLite

Web-App



Demo later ...

Testing





Test Cases

Main test cases included:

1. Patient login functionality.
2. Upload and select diagnoses functionality.
3. Access patient profile and medical record functionality.
4. Diagnosis-dietary correlation database functionality.
5. Automatic diet recommendation generation functionality.
6. Review and make adjustments and/or other recommendations functionality.
7. Patient approval functionality.
8. View generated diets functionality.

Technology Used

Manual Testing



Automated Testing





Approach to Testing

- Black-Box testing was approached first to make sure functionality behavior is expected on a surface-level.
- Once the black-box testing was completed, we moved onto white-box testing to ensure the logical structure of components.



Black-Box Testing

- UI Testing:

To ensure that the user interface of the software application is user-friendly and visually appealing

- Security Testing:

To ensure that url links cannot be accessed by unauthorized users.



White-box testing Testing

- Integration Testing:

Tested the interaction between different modules such as doctor and patient.

- Regression Testing:

Re-tested those interactions after adding and fixing features.

Demo Time

