

Case Study- New module for Healthcare App

INDEX

Case Study Framework-

- **List Assumptions/Limitation Scope**
- **Create Use Case Diagrams**
- **Create As-is workflow diagram**
- **Create To-be workflow diagrams**
- **Create User story/Acceptance Criteria**
- **Create Prototypes**
- **Present Case Study**

Problem Statement

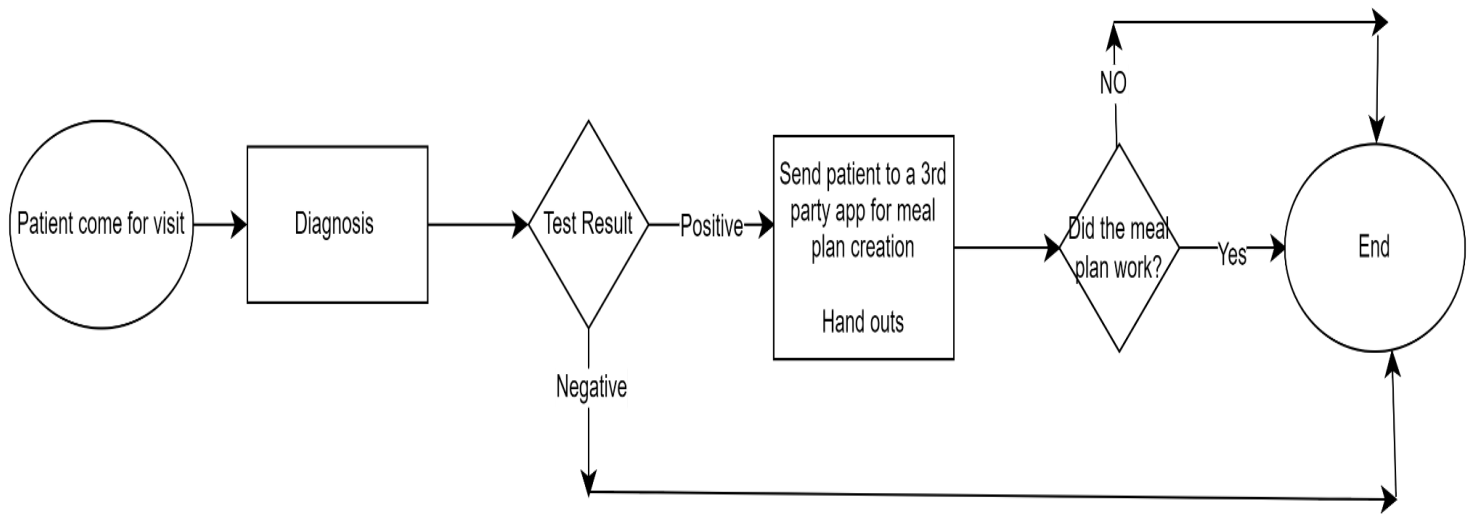
The members of an organisation want to introduce a section called Recipe to their website which can help the food sensitive community to cook their own recipe based on their preference and others to contribute pertaining to the context.

Assumption\Identity Scope

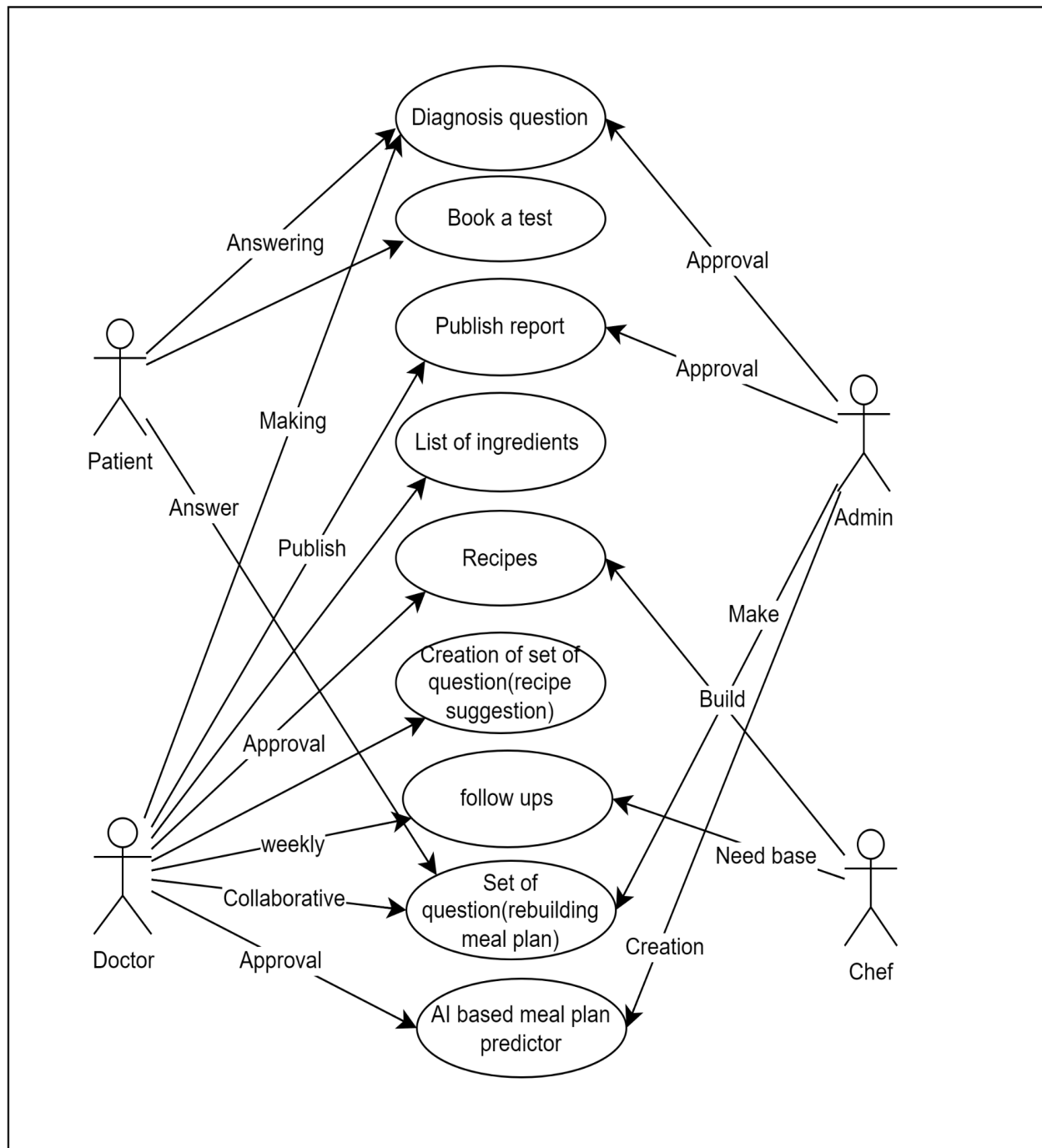
Assumptions

- **Current providers/caregivers are sending patients to other resources for recipes.**
- **Printed materials are available; but they can't be distributed via email or send them to internal sites.**
- **There is a large population of gut sensitive patient patient**
- **All the ingredients that are available are enough for making a good set of recipes**

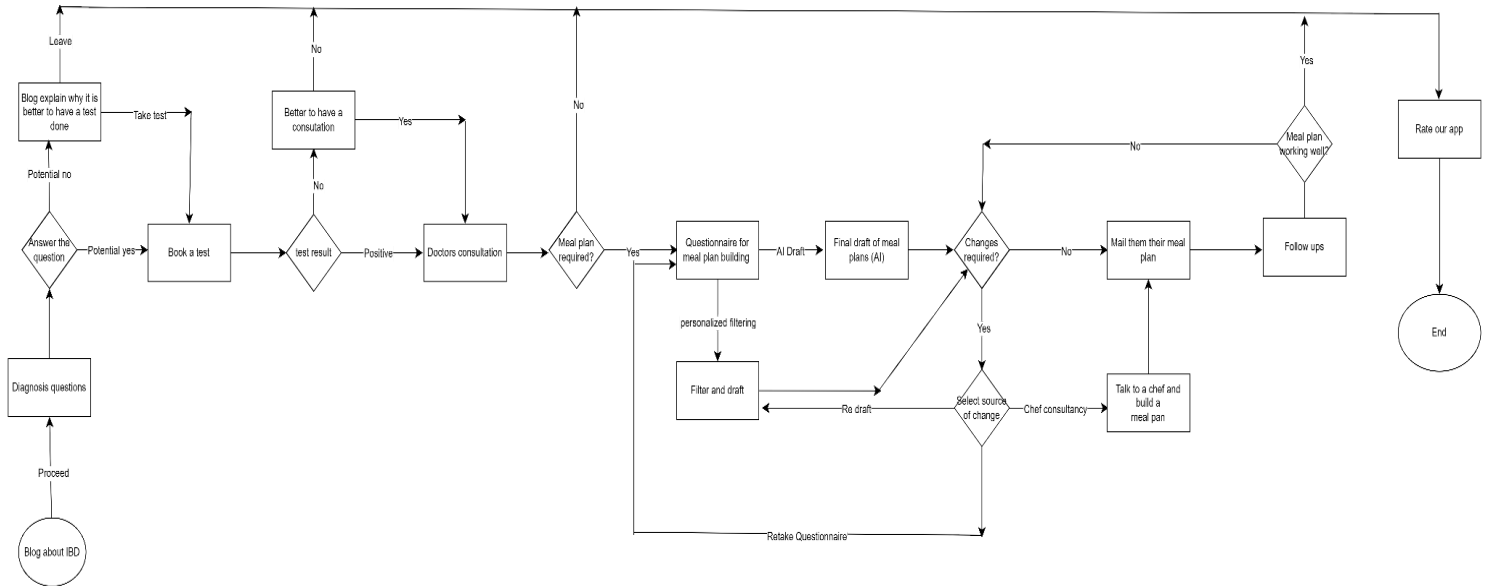
AS-IS(Current State) Workflow Diagram



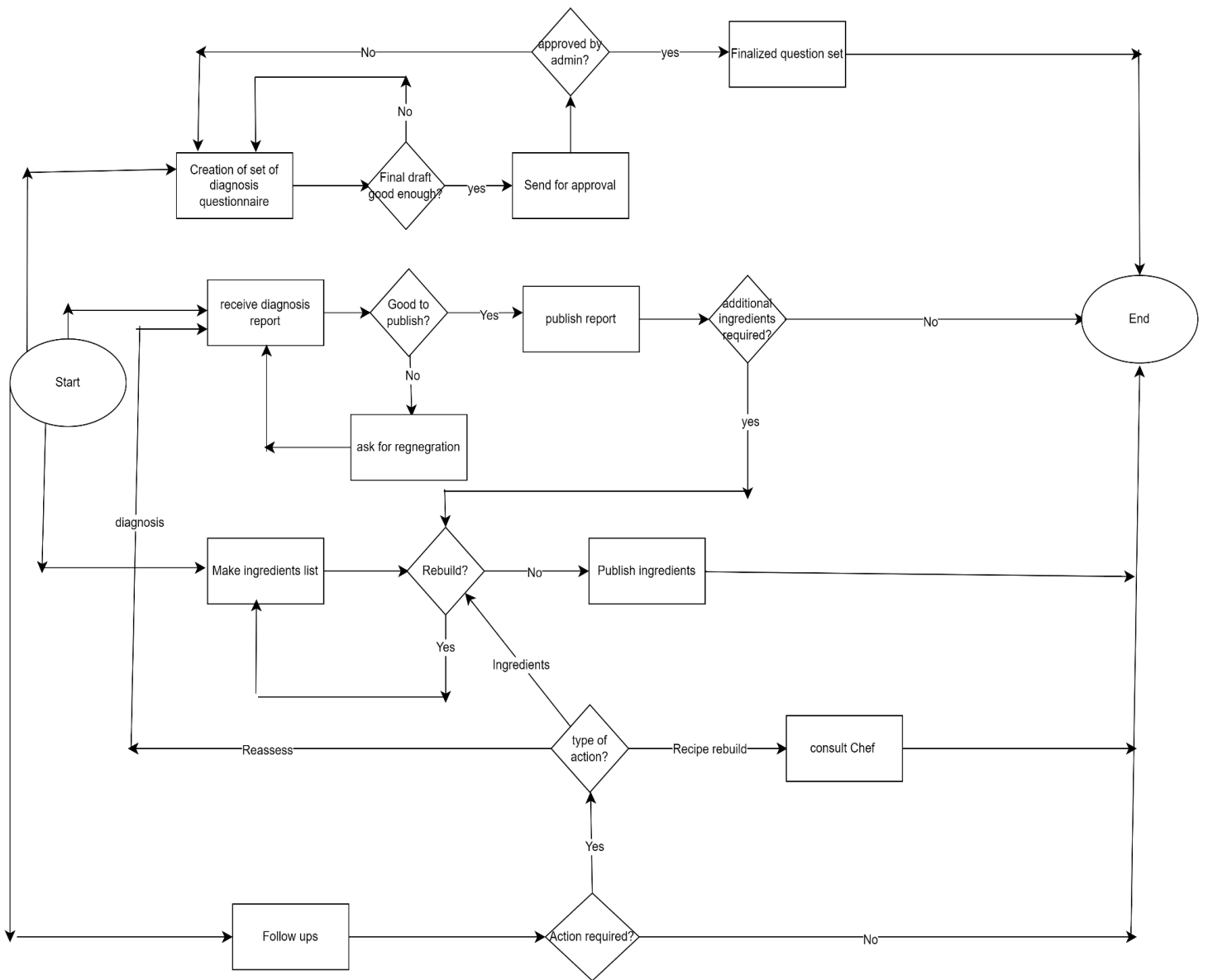
Use Case diagram



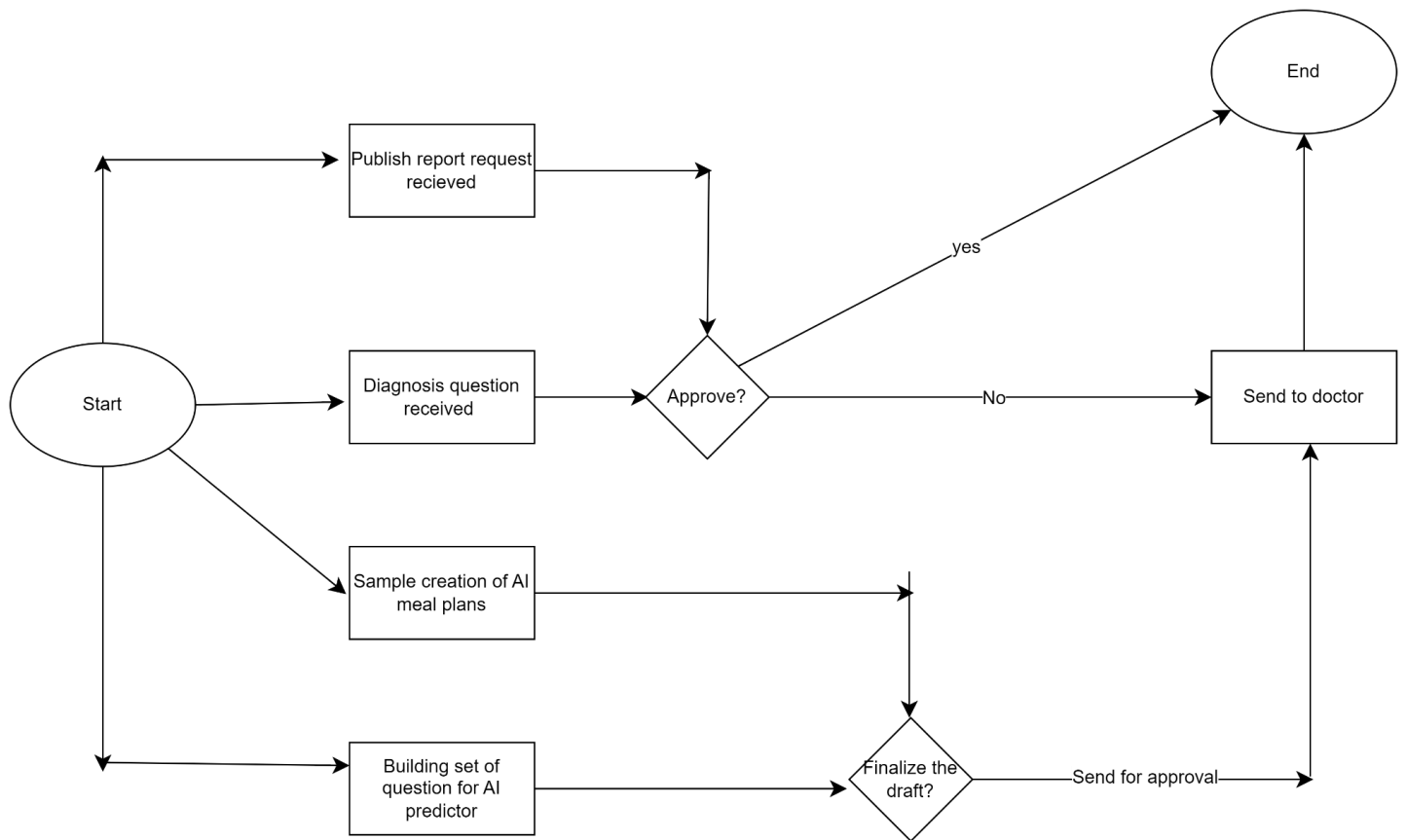
Persona level workflow diagram- Patients(overall flow of website)



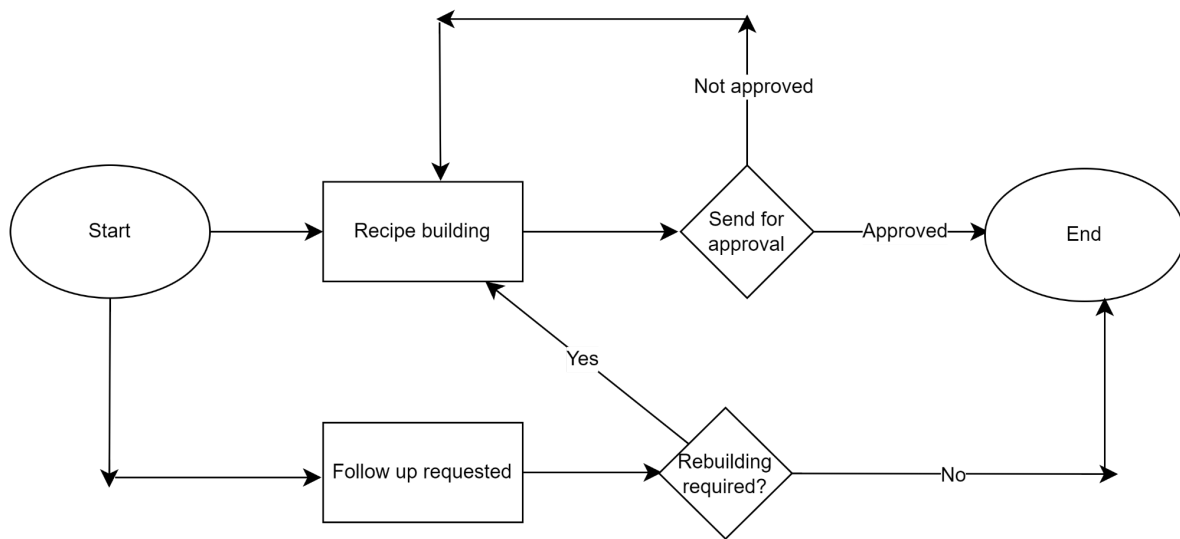
Persona level workflow diagram- Doctor



Persona level workflow diagram- Admin



Persona level workflow diagram- Chef



Product backlogs

Epics

1. Patient Onboarding and Initial Consultation

- **Guide patients through an initial assessment, consultation options through AI questionnaire model, and testing if necessary.**

2. Automated Diagnosis and Testing Feedback

- **Provide patients with feedback on their test results, including further consultation and treatment options if required.**

3. Personalized Meal Plan Creation and Revision

- **Develop AI-generated meal plans and enable customization through patient feedback and chef consultation.**

4. Continuous Follow-Up and Feedback Collection

- **Regularly track patient satisfaction with their meal plans and make adjustments based on follow-ups and app feedback.**

5. User Engagement and Satisfaction Enhancement

- **Improve patient engagement by offering educational blogs, consultations, and app feedback collection.**

User Stories

Epic 1: Patient Onboarding and Initial Consultation

- **As a patient, I want an initial assessment to determine if I need a test, so I can understand my health requirements(AI prediction)**
- **As a patient, I want the option to book a test or consult a doctor based on my assessment, so I can get appropriate guidance.**
- **As a patient, I want explanations and blog articles on why tests or consultations are beneficial, so I feel informed about the process.**

Epic 2: Automated Diagnosis and Testing Feedback

- **As a patient, I want to receive clear results from my test, so I can understand if there's a need for further action.**
- **As a doctor, I want to review test results and decide if a consultation is necessary, so I can provide suitable advice for patients.**
- **As an admin, I want to assist with approving test results and ensuring patients receive appropriate feedback promptly.**

Epic 3: Personalized Meal Plan Creation and Revision

- **As a patient, I want to complete a questionnaire to help in building a personalized meal plan, so my dietary preferences and restrictions are considered.**
- **As a patient, I want to use AI to generate a draft meal plan for patients, so I can avail dietary solutions quickly.**
- **As a patient, I want to review and request changes to my meal plan if needed, so it better fits my needs.**
- **As a chef, I want to consult with patients to adjust their meal plans when requested, so the meals are practical and suitable.**
- **As a doctor, I want to ensure that finalized meal plans align with patient health requirements before sending them.**

Epic 4: Continuous Follow-Up and Feedback Collection

- **As a doctor, I want to schedule regular follow-ups to check if patients are satisfied with their meal plans, so adjustments can be made if needed.**
- **As a patient, I want the ability to provide feedback on my meal plan during follow-ups, so any necessary changes can be implemented.**
- **As an admin, I want to facilitate the follow-up and feedback processes, so we maintain high patient satisfaction.**

Epic 5: User Engagement and Satisfaction Enhancement

- **As a patient, I want to access educational content, such as blogs about various health topics, so I can learn more about maintaining my health.**
- **As an admin, I want to collect patient feedback on the app, so we can continuously improve the user experience.**
- **As a patient, I want to be able to rate the app after using it, so my input helps improve its services.**

Prototype Plan

1. Landing and Onboarding Screens

Objective: Help new users understand the app's purpose and gather essential information to personalize their experience.

- **Welcome Screen:**
 - A clean and welcoming design with the app's logo and a tagline, such as "Your Personalized Health and Meal Planner."
 - Buttons for "Sign Up" and "Login."
- **Sign-Up/Login:**
 - **Sign-Up:** Fields for name, email, password, and a prompt to agree to terms and privacy policies.
 - **Login:** Simple login page with fields for email and password.
 - Option to log in via Google or Apple accounts for convenience.
- **Onboarding Questionnaire:**
 - **Purpose:** Gather initial health and dietary preferences.
 - **Questions:**
 - Health conditions (e.g., diabetes, hypertension, allergies).
 - Dietary restrictions (e.g., vegan, gluten-free, no sugar).
 - Personal goals (e.g., weight loss, muscle gain, managing blood sugar).
 - Lifestyle (e.g., Activity, Sleep quality, workout frequency)
 - Progress bar to show steps remaining and make it feel achievable.

2. Home Screen

Objective: Provide quick access to key actions based on the user's role (Patient, Doctor, Admin, Chef).

- **Dashboard Layout:**
 - **Patients:** "Book a Test," "View Meal Plan," and "Consult Doctor."
 - **Doctors/Admins:** Links to "Manage Cases," "Approve Meal Plans," and "Review Reports."
 - **Chefs:** Access to "Assigned Meal Plans" and "Patient Feedback."

3. Diagnostic and Test Booking

Objective: Allow patients to book tests, consult doctors, and view results.

- **Test Booking Page:**
 - Page with options to book tests, along with a brief explanation of each test's purpose.
 - A prompt to explain why a particular test is recommended.
 - Booking confirmation page, with reminders for upcoming test dates.
- **Consultation Scheduling:**
 - Patients can schedule consultations by choosing available time slots from a doctor's calendar.
 - Doctors see a calendar view with patient appointments and reminders.
- **Results and Follow-Up:**
 - Patients: Can view test results and receive doctor recommendations based on results.
 - Doctors: Can write notes and suggest follow-up actions.

4. Meal Plan and Recipe Management

Objective: Generate AI-based meal plans, allow user customization, and enable doctor/chef review.

- **Meal Plan Questionnaire:**
 - Patients fill out dietary preferences, desired meals per day, and any allergies or dislikes.
 - Includes options for meal preferences (vegetarian, low-carb, high-protein).
- **AI-Generated Meal Plan:**
 - The app generates a meal plan and shows it to the patient in an easy-to-read format.
 - Filters allow patients to view meals based on categories like breakfast, lunch, or dinner.
 - Button to "Request Changes," prompting doctor or chef consultation for adjustments.
- **Edit and Finalize Meal Plan:**
 - Doctors: Can approve or suggest changes based on patient health needs.
 - Chefs: Can customize recipes or add ingredients.
 - Patients receive a notification once the meal plan is finalized.
- **Recipe Details:**
 - Each meal shows ingredients, preparation steps, and nutritional info.
 - Easy-to-follow instructions with measurements and cooking times.

5. Follow-Up and Feedback Collection

Objective: Allow users to follow up with doctors and provide feedback.

- **Follow-Up Scheduling:**
 - Patients can schedule follow-up appointments with doctors.
 - Doctors can also set up recurring check-ins based on patient needs.
- **Feedback Form:**
 - Simple form for patients to share their experience with the meal plan and provide suggestions.
 - Ratings and comments on each meal or the overall plan.
- **Notification System:**
 - Alerts to remind patients of upcoming follow-ups or to complete feedback after receiving a new meal plan.

6. Educational Content and Rating

Objective: Provide users with educational content and gather app feedback.

- **Blog/Resources Section:**
 - Articles on health, dietary advice, and test explanations.
 - Categories for easy navigation, such as “Health Tips,” “Diet Advice,” and “Test Information.”
- **App Rating Screen:**
 - A prompt after initial onboarding or after completing a follow-up to rate the app.
 - Optional comments for additional feedback.

Case Study Outline

This case study will showcase the entire development process, with a focus on addressing user needs and creating a seamless experience.

1. Introduction

Problem Statement: Address issues in personalized health management, such as lack of tailored dietary plans, difficulty tracking health changes, and fragmented follow-ups.

Objectives: Build a comprehensive app to support personalized meal plans, improve patient engagement, facilitate doctor follow-ups, and enhance user education on health.

2. Research

- **User Research:**
 - **Patients:** Need personalized diet plans, accessible health guidance, and clear feedback mechanisms.
 - **Doctors:** Require a way to monitor patients' diet adherence and adjust plans based on health data.
 - **Chefs:** Need to create and modify meal plans based on patient requirements.
- **Market Research:**
 - Existing apps focus on general meal planning or fitness but lack collaboration between patients, doctors, and chefs.
 - Key differentiators: AI-driven meal customization, easy access to health resources, and collaborative meal plan management.

3. Solution Design

- **User Flow Diagrams:** Please refer above
- **Wireframes and Prototypes:**
 - This part will include;
 - wireframe images of key screens like the onboarding questionnaire, AI meal plan, follow-up scheduling, and educational resources.
 - Design choices aimed at accessibility (e.g., clean navigation, clear call-to-action buttons).

4. Development Process

- **Agile Methodology:**
 - Development followed agile sprints, each focusing on an epic.
 - Adjustments will be made based on stakeholder feedback and user testing results.
- **Epics and User Stories:**Please Refer above

5. Testing and Iteration

- **User Testing:**
 - Conducted with a small group of patients and doctors to test ease of use.
 - Feedback included requests for easier access to feedback options, simpler meal plan layouts, and more robust filtering options.
- **Usability Improvements:**
 - Based on feedback, improvements like clearer navigation, added filtering options, and streamlined follow-ups were implemented.
 - These will be added to the product backlogs as functional change.

6. Results and Outcomes

- **Key Metrics:**
 - Patient satisfaction scores, frequency of meal plan adjustments, engagement with educational resources, AI model accuracy.
- **User Testimonials:**
 - “The app makes managing my health so much easier with meal plans tailored to my needs.”
 - “The follow-up reminders keep me on track with my diet and health goals.”

7. Conclusion and Next Steps

- **Project Impact:**
 - Successfully created a personalized health management app, improving adherence to dietary plans and enhancing patient-doctor interaction.
- **Future Enhancements:**
 - Potential to expand AI capabilities, integrate more dietary options, and improve real-time health monitoring through devices.
 - Continuous UI/UX, functional changes according to user and stakeholder feedback