College Name: Daffodil Institute of IT

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Project Title: Smart Diet Recommendation System using Artificial Intelligence

Objectives:

- **Personalized Diet Planning**
  Develop an AI-driven application that generates a customized 30-day diet chart based on body parameters (age, height, weight, BMI, health conditions) and food habits.
- **Strict Adherence Monitoring**
  Provide a daily "to-do list" diet plan that must be strictly followed. If the user skips a day, the system resets the plan to ensure discipline.
- **Specialized Roja Diet for Ramadan**
  Offer a unique fasting-based diet plan (Suhoor & Iftar guidance) during Ramadan to ensure nutritional balance.

- **Health & Fitness Tracking**
  Track user's progress (weight changes, calorie intake, and health goals) to dynamically adjust future diet recommendations.

Limitation of the Existing system:

- **Generalized Recommendations**
  Current diet apps often provide generic diet plans, not personalized to individual health parameters and cultural food preferences.
- **Lack of Discipline Features**
  Most diet apps allow users to skip or ignore recommendations without consequences, reducing effectiveness.
- **No Support for Religious Fasting**
  Limited or no support for fasting-based dietary requirements such as Ramadan (Roja diet).
- **Low Motivation & Accountability**
  Existing systems do not enforce accountability; users often abandon diet plans midway without reminders or resets.

Proposed System:

- **AI-Powered Diet Generator:**
  An intelligent engine that analyzes user input (body parameters, food habits, goals) and generates a tailored 30-day diet plan.
- **Daily To-Do Diet List:**
  Each day's meal plan is shown as a checklist. Skipping meals or not completing tasks forces a restart from day 1.
- **Roja Diet Mode:**
  A dedicated Ramadan module that provides Suhoor and Iftar meal suggestions, focusing on balanced nutrition during fasting.
- **Progress Tracking & Adjustment:**
  The app monitors progress (weight, energy levels, meal completion) and auto-adjusts upcoming diet charts.

- **Alerts & Notifications:**
  Sends reminders for meals, hydration, and progress updates.

Requirements (Hardware/Software/Other):

- **Hardware:**
  - Intel i5 Processor (or equivalent)
  - 8GB RAM
  - 500GB SSD Storage
  - External server hardware for cloud hosting
- **Software:**
  - Apache HTTPD or NGINX
  - Pyton 3.12<
  - Postgresql Database
  - RedisDB
  - Mobile platform SDK (for Android and iOS)
  - Payment Gateway APIs for bKash, Nagad, and international remittance providers

Features of your Project:

- **User Registration & Profile Setup** (body metrics, goals, food preferences).
- **Personalized 30-Day Diet Chart** generated by AI.
- **Daily To-Do Diet List** with reset-on-failure mechanism.
- **Special Ramadan Diet Support** (Suhoor & Iftar plans).
- **Nutrient & Calorie Tracking** for every meal.
- **Gamification & Rewards** (badges for consistency, motivation tracking).

- **Progress Dashboard** (weight trends, diet adherence, calorie analysis).
- **Smart Notifications** (meal reminders, hydration alerts).

Workflow Diagram of your Project:

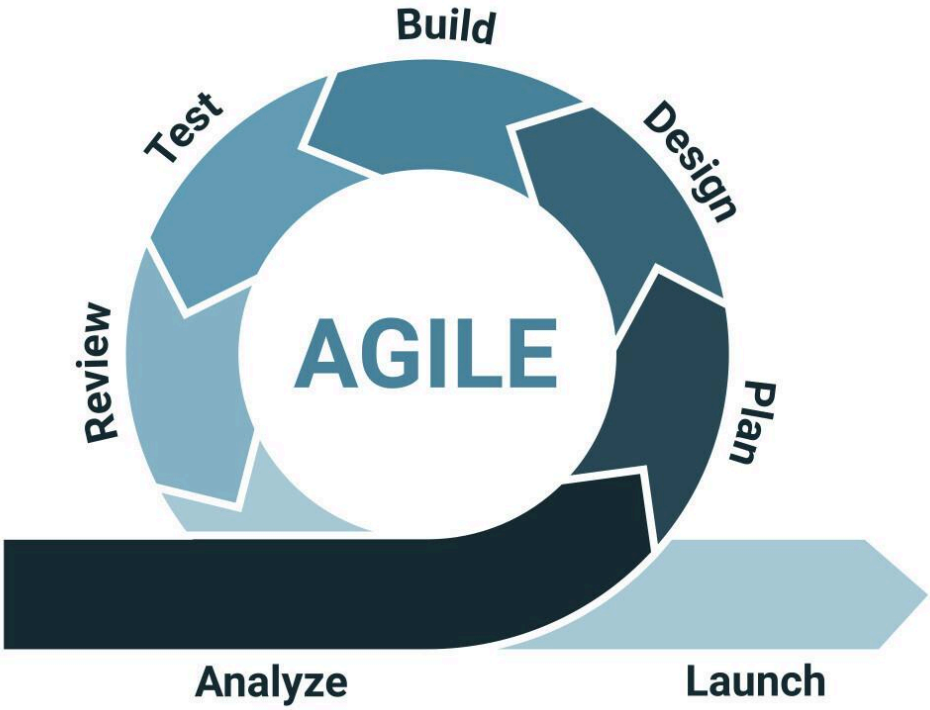

Fig: Agile Model.

Future Enhancement:

- **Integration with Wearables:** Connect with fitness bands & smartwatches for real-time calorie burn tracking.
- **AI Chat Support:** An AI chatbot dietitian to answer food and health-related queries instantly.
- **Recipe Suggestions:** Provide easy-to-cook recipes based on daily diet requirements.

- **Doctor/Nutritionist Collaboration:** Option to share progress reports with healthcare professionals.
- **Cultural & Regional Diets:** Expand beyond Ramadan to include vegetarian, keto, diabetic-friendly, and other cultural diet plans.

Gantt Chart:

As per the instruction of the project supervisor.

It is hereby declared that this project or any part of it has not been submitted elsewhere for the award of any degree.

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Approval of the Batch Coordinator
Comments:

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Comments: