Hackathon Project Phases Template for the AutoSage App project.

Hackathon Project Phases Template

Project Title:

Flavour Fusion: AI-Driven Recipe Blogging.

Team Name:

Genies of Gen-AI

Team Members:

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Phase-1: Brainstorming & Ideation

Objective:

The objective is to create innovative, AI-powered recipes that blend diverse flavors and ingredients, offering unique culinary experiences.

Key Points:

1. Problem Statement:

   ○Traditional recipe blogs often lack personalized, innovative content that merges diverse ingredients and flavors, limiting the discovery of unique culinary experiences.

2. Proposed Solution:

   Develop an AI-powered platform that analyzes user preferences, dietary needs, and trending ingredients to create tailored recipes, fostering innovation in the kitchen and enhancing the food discovery process.

3. Target Users:

   ○ Home cooks, food bloggers, and culinary enthusiasts looking for innovative, personalized recipes to experiment with.
   ○ Additionally, health-conscious individuals and those with dietary restrictions seeking tailored meal ideas and flavor combinations.

4. Expected Outcome:

   A dynamic pla orm that delivers unique, tailored recipes, enhancing users' cooking experiences and encouraging culinary explora on.

Phase-2: Requirement Analysis

Objective:

To provide a pla orm that leverages AI to create innova ve recipes, allowing users to discover new and exci ng flavor combina ons.

Key Points:

1. Technical Requirements:

   ○ AI Algorithms
   ○ Ingredient Database
   ○ Natural Language Processing (NLP)
   ○ User Profile Integra on
   ○ Mobile and Web Interface

2. Functional Requirements:

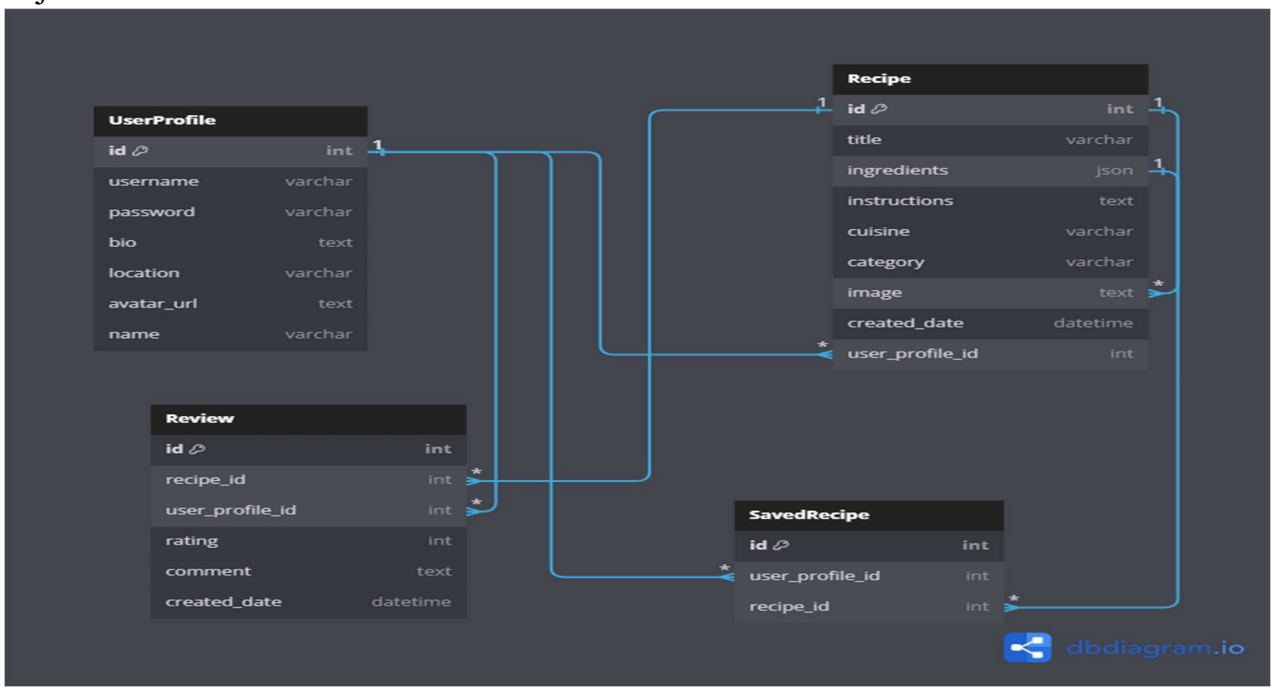
- Recipe Genera on
  - Ingredient Search and Suggestions
  - User Profile Management
  - Recipe Customization 3.

Constraints & Challenges:

- Data Accuracy
  - User Preferences Complexity
  - AI Recipe Generation Quality

Phase-3: Project Design

Objective:



Key Points:

1. System Architecture:

   ○ User Interface (UI) Layer
      ○ API Gateway
      ○ Business Logic Layer
      ○ Data Layer
2. User Flow:

   ○ Step 1: Sign Up/Log In and set up a personalized profile with dietary preferences. ○ Step 2: Search or Generate Recipes using available ingredients, with AI-powered suggestions.
      ○ Step 3: Rate, Save, Share recipes, and create shopping lists for easy ingredient purchasing.
      UI/UX Considerations:

      一 Easy Navigation: Simple layout with clear sections and personalized recipe suggestions.
      二 ○ Interactive & Engaging: High-quality visuals, interactive recipe cards, and sharing options.
      ○ Responsive & Accessible: Mobile-friendly, fast loading, and accessibility features for all users.

Phase-4: Project Planning (Agile Methodologies)

Objective:

Break down development tasks for efficient completion.

Sprint	Task	Priority	Duration	Deadline	Assigned To	Dependencies	Expected Outcome
Sprint 1	Environment Setup & API Integration	🔴 High	6 hours (Day 1)	End of setup	Member 1	Google API key, established & ready for use	Day 1 API connection Recipe API
Sprint 1	Frontend UI Development	⚪ Medium	2 hours (Day 1)	End of Day 1	Member 2	API response format finalized	Basic UI with input fields and initial design
Sprint 2	Recipe Search & Generation Functionality	🔴 High	4 hours (Day 2)	Mid-Day 2	Member 1 & 2 Assigned	API response, Recipe model setup	Recipe generation feature working with filters

Sprint	Task	Priority	Duration	Deadline	Dependencies	Expected Outcome
Sprint 2	Personalization & Customization Features	🟡 Medium (Day 2)	2 hours	Mid-Day 2 (Day 2)	Member 3 User profile data, API connection	Users can input preferences and get customized recipes
Sprint 2	Error Handling & Debugging	🔴 High	1.5 hours	Mid-Day 2 (Day 2)	Member 1 & 4 API logs, User inputs handling edge cases	Improved API stability,
Sprint 3	UI Testing & Enhancements	🟡 Medium (Day 3)	2 hours	Mid-Day 3 (Day 3)	Member 2 & 3 Recipe generation, UI layout	Responsive UI with better user experience
Sprint 3	Integrate Shopping List Feature	🟡 Medium (Day 3)	2 hours	Mid-Day 3	Member 1 & 4 Recipe API, Shopping API integration	Users can generate shopping lists for recipes
Sprint 3	Final Testing & Debugging	🔴 High	2 hours	End of Day 3 (Day 3)	Entire Team	Recipe generation, shopping list	Bug-free and fully functional application
Sprint 4	Final Presentation & Deployment	🟢 Low	1 hour	End of Day 4 (Day 4)	Entire Team	Working prototype	Demo-ready project with deployed working features

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Sprint Planning with Priorities

Sprint 1 – Setup & Integra on (Day 1)

- (🔴 High Priority) Set up environment & install dependencies.
- (🔴 High Priority) Integrate Recipe API.
- (🟡 Medium Priority) Build basic UI with input fields.

Sprint 2 – Core Features & Debugging (Day 2)

- (High Priority) Implement recipe search & AI genera on.
- (High Priority) Debug API & handle errors.
- (Medium Priority) Set up user profile & preferences.

Sprint 3 – Tes ng, Enhancements & Submission (Day 2)

- (Medium Priority) Test API responses & refine UI.
- (Medium Priority) Enhance personaliza on features.
- (Low Priority) Final demo & deployment.

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Phase-5: Project Development

Objective:

Create an AI-driven recipe pla orm that personalizes meal sugges ons based on user preferences, dietary needs, and available ingredients

Key Points:

1. Technology Stack Used:

- Frontend: Streamlit
- Backend: Google Gemini API
- Programming Language: Python

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2. Development Process:

- Implement API key authen ca on and Gemini API integra on.
- Develop recipe genera on and customiza on logic based on user input.
- Op mize search queries for recipe relevance and performance.

3. Challenges & Fixes:

- Challenge: Slow API response mes.
  Fix: Implement caching to store frequently accessed recipes.
- Challenge: Limited API calls per minute.
  Fix: Op mize queries to fetch only essen al data

Phase-6: Functional & Performance Testing

Objective:

Ensure that the Flavour Fusion App works as expected.

Test Case ID	Category	Test Scenario	Expected Outcome	Status	Tester
001	Func onal TC-Tes ng	Query "Vegan dinner recipes with spinach and tofu"	Relevant vegan recipes with spinach and tofu should be displayed.	✅ Passed	Tester 1
002	Func onal TC-Tes ng	Enter available ingredients (e.g., "chicken, tomatoes")	AI should generate a recipe based on the ingredients provided.	✅ Passed	Tester 2
TC-003	Performance Tes ng	Load the home page with recipe sugges ons	The page should load within 3 seconds.	✅ Passed	Tester 3

004	Func onal TC- Tes ng	Update dietary preferences in the profile	Profile should reflect updated preferences (e.g., vegan).	☑ Passed	Tester 1
TC-005	Performance Tes ng	Generate 10 recipe sugges ons in real- me	Recipes should be generated and displayed within 5 seconds.	☑ Passed	Tester 2

Final Submission

1. Project Report Based on the templates
2. Demo Video (3-5 Minutes)
3. GitHub/Code Repository Link
4. Presentation