Hackathon Project Phases Template

Project Title: Flavour fusion

Team Mannar

Members:

- M.Akshith(team leader)
- Rukwith Reddy
- Yashasvi krishna
- Prem kumar

Phase-1: Brainstorming & Ideation

Objective: Develop an AI-powered web application that simplifies and enhances recipe blogging by generating engaging, high-quality content based on user inputs.

Key Points:
Problem Statement:-
-Food bloggers struggle with time-consuming content creation.- Maintaining a unique and engaging writing style is challenging.- Many users need structured recipes without extensive manual effort.

Proposed Solution:-
-An AI-powered application using Google's Generative AI to generate structured, high-quality recipe content.

- Allows users to input recipe topics and customize content length.- Provides personalized, well-structured, and SEO-optimized recipes.

Target Users:

- Food bloggers who want to generate quick and engaging content
.- Home cooks seeking structured and easy-to-follow recipes.
- Businesses looking to automate content for recipe websites.

Expected Outcome: A functional AI-powered recipe blogging platform that generates high-quality content based on user preferences

Phase-2:Requirement Analysis

Objective:
Define technical and functional requirements for the Flavour Fusion web application.
Key Points:
Technical Requirements:
- Programming Language: Python
- Backend: Flask
- Frontend: Streamlit
- AI Model: Google Generative AI
- Database: Not required initially (API-based)

Functional Requirements:
- User inputs recipe topics and desired word count.
- AI generates structured, engaging, and SEO-optimized recipes.
- User-friendly interface for viewing and editing recipes.

Constraints & Challenges:
- Ensuring AI-generated content aligns with user preferences.
- Handling API rate limits and optimizing API calls.
- Creating an intuitive and appealing UI.

Phase-3: Project Design

Objective: Design the architecture and user flow of the application
Key Points: System Architecture:
1. User enters a recipe topic and word count.
2. The backend processes the request using Google Generative AI.
3. AI generates a detailed, structured recipe.
4. The frontend displays the generated recipe with formatting options.

User Flow:
Step 1: User enters a topic (e.g., "Vegan Chocolate Cake").
Step 2: Backend calls Google Generative AI API to generate the recipe.
Step 3: The app displays the structured recipe with formatting options

UI/UX Considerations:
- Minimalist, user-friendly interface.
- Options for content customization and formatting.
- Dark & light mode for better user experience.

Phase-4: Project Planning (Agile Methodologies)
Objective:
Break down development tasks for efficient completion.

sprint	**TASK**	**Priority**	**Duration**	deadline	Assigned to	dependencies	Expected outcome
sprint1	Setup Environment & API Integration	High	6hours	End of Day 1	Rukwith	API Key, Flask setup	API connection established
sprint2	Develop ui (stremlit interface)	Medium	3hours	End of Day 1	Akshith	API response format finalized	Basic UI ready
sprint3	AI powered generation	High	4hours	End of Day 1	Prem	API,UI elements ready	AI-generated content

sprint4	Error Handling & Debugging	High	2hours	Mid Day 2	Rukwith Prem	API logs, UI inputs	Improved API stability
sprint5	UI Enhancements & Testing	Medium	2hours	Mid Day 2	Yashasvi	UI layout finalized	Responsive UI

PHASE-5: Project Development
Objective:
Implement core features of the Flavour Fusion Web App
Key Points:
1. Technology Stack Used:
•Frontend: Streamlit
•Backend: Flask
•AI Model: Google Generative AI
•Programming Language:Python

2. Development Process:
•Implement API Key authentication and AI integration.
•Develop recipe content generation logic.
•Optimize queries for better performance.

3.Challenges &Fixes:

•Challenge: AI content quality varies

•Fix:Optimize API calls to fetch only necessary data.

Phase-6:

Functional & Performance Testing Objective:

Ensure the Flavour Fusion web app functions correctly.

Test case id	category	**Test scenario**	**Expected outcome**	**status**	**tester**
TC–001	Functional	Query “vegan Chocolate cake”	AI generates a structured recipe	passed	Akshith
TC–002	Functional	Query “best desert under 30 minutes”	AI generates quick dessert recipe	passed	Prem
TC–003	performance	API response under 5s to 10s	Fast response time	optimized	Yashasvi
TC–004	Bug fixes	Fix incorrect ingredients listings	Accurate ingredient lists	fixed	Rukwith
TC–005	Ui testing	Ensure ui is responsive	desktop support	fixed	Akshith
TC–006	deployment	Host app using streamlit	Accessible online	deployed	Team Mannar

Final Submission:-

Project Report (following template)

- Demo Video (3-5 minutes)
- GitHub Repository Link
- Presentation