
Hackathon Project Phases Template

Project Title:
Flavour Fusion – AI-Powered Recipe Generator

Team Name:
Tech Pioneer

Team Members:
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Phase-1: Brainstorming & Ideation

Objective:
Develop an AI-driven web application that generates customized recipe blogs using Google's Generative AI. Users can enter a recipe topic and word count, and the app will generate well-structured, engaging content while also including a

1. **Proposed Solution:**
    - An AI-powered web app that generates recipe blogs based on user input.
    - Incorporates real-time engagement by including a programmer joke in the generated content.
    - Allows users to review and edit content for customization
2. **Target Users:**
    - Food bloggers looking for automated, engaging recipe content.
    - Small businesses needing efficient content generation.
    - Home cooks and culinary enthusiasts seeking structured recipes.
3. **Expected Outcome:**
    - A fully functional AI-powered recipe generator that enhances content creation efficiency and user engagement.

Phase-2: Requirement Analysis

Objective:
Define the technical and functional requirements for Flavour Fusion.

Key Points:
1. **Technical Requirements:**
    - **Frontend:** HTML, CSS
    - **Backend:** Python
    - **AI Integration:** Google Gemini API
    - **Database:** Kaggle Datasets
    - **Deployment:** Google Colab (testing), Render (hosting)
2. **Functional Requirements:**
    - Accept user inputs for recipe topic and word count.
    - Generate structured recipe blogs using Gemini API.
    - Generate structured recipe blogs using Gemini API.
    - Allow users to review, edit, and store content.
3. **Constraints & Challenges:**
    - Ensuring AI-generated content remains relevant and structured.
    - Managing API limits and optimizing calls for better performance.
    - Providing a seamless UI experience with HTML/CSS.

Phase-3: Project Design

Objective:
Develop the architecture and user flow of the application.

Key Points:
1. **System Architecture:**
    - User inputs recipe topic & word count via the frontend.
    - Backend processes the request and interacts with the Gemini API.
    - AI generates the recipe blog and programmer joke.
    - The generated content is displayed for user review and storage.
2. **User Flow:**
    - Step 1: User enters recipe topic and word count.
    - Step 2: Backend sends request to Gemini API for content generation.
    - Step 3: AI generates structured blog content and a joke.
    - Step 4: Content is displayed, allowing users to review and edit.

3. **UI/UX Considerations:**
    - Simple and user-friendly design.
    - Clear input fields for topic and word count.
    - Readable content display with editing options.

Phase-4: Project Planning (Agile Methodologies)

Objective:

Break down development tasks for efficient completion.

Sprint Planning:

Sprint	Task	Priority	Duration	Deadline	**Assigned To**	Dependencies	Expected Outcome
Sprint 1	Setup Environment & API Integration	High	6 hours (Day 1)	End of Day 1	Member 1	API Key, Python Setup	API connection established & working
Sprint 1	Frontend UI Development	Medium	2 hours (Day 1)	End of Day 1	Member 2	Basic UI setup	Input fields & UI structure ready
Sprint 2	AI Recipe Generation Logic	High	3 hours (Day 2)	Mid-Day 2	Member 1& 2	API response format ready	Working AI-based content generation
Sprint 2	User Review & Content Editing	High	1.5 hours (Day 2)	Mid-Day 2	Member 1&4	API logs, UI inputs	Improved API stability
Sprint 3	Testing & UI Enhancements	Medium	1.5 hours (Day 2)	Mid-Day 2	Member 2& 3	API response, UI layout completed	Responsive UI, better user experience
Sprint 3	Final Presentation & Deployment	Low	1 hour (Day 2)	End of Day 2	Entire Team	Working prototype	Demo-ready project

Phase-5: Project Development

Objective:
Implement core features of Flavour Fusion.

Key Points:

1. **Technology Stack Used:**
    - **Frontend:** HTML, CSS
    - **Backend:** Python
    - **AI Integration:** Google Gemini API
    - **Database:** Kaggle Datasets
    - **Deployment:** Google Colab (testing), Render (hosting)

2. **Development Process:**
    - Implement user input handling for recipe topics and word count.
    - Integrate Gemini API for AI-driven content generation.
    - Develop logic for joke generation and content review.
    - Optimize content structure for SEO and readability.

3. ## Challenges & Fixes:
    - **Challenge:** Maintaining engaging and relevant AI-generated content.
      Fix: Fine-tune AI prompts and formatting techniques.
    - **Challenge:** API rate limits affecting response times.
      Fix: Implement caching for frequently generated topics.

Phase-6: Functional & Performance Testing

Objective:

Ensure that Flavour Fusion operates correctly and efficiently.

Test Cases:

Test Case ID	Category	**Test Scenario**	**Expected Outcome**	Status	Tester
TC-001	Functional Testing	User inputs "Pasta Recipe" with 300 words	Generates structured recipe blog	Passed	Tester 1
TC-002	Functional Testing	Generates a joke within content	Displays a relevant programmer joke	Passed	Tester 2
TC-003	Performance	API response time under 1sec	Quick content generation	Needs Optimization	Tester 3
TC-004	Usability	User edits generated content	Allows modifications	Passed	Tester 4
TC-005	Deployment	Host app using Render	App is accessible online	Deployed	DevOps

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Final Submission

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