

Hackathon Project Phases Template

Project Title: AI-Powered Logo Generator

Team Name: (Sketch Squad)

Team Members:

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Phase-1: Brainstorming & Ideation

Objective: Develop an AI-powered tool that generates unique and professional logos based on user preferences.

Key Points:

1. Problem Statement:

- Many small businesses and startups struggle with creating professional logos due to high costs and limited design skills.
- Existing logo generators lack customization and creativity.

2. Proposed Solution:

- An AI-driven platform that generates logos based on user inputs such as industry, color preferences, and style.
- Offers customization options and instant previews.

3. Target Users:

- Small business owners and entrepreneurs.
- Freelancers and graphic designers looking for quick inspiration.
- Marketers and content creators.

4. Expected Outcome:

- A functional web-based AI logo generator that produces high-quality logos with customization options.
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Phase-2: Requirement Analysis

Objective: Define the technical and functional requirements for the Logo Generator.

Key Points:

1. Technical Requirements:

- **Programming Language:** Python (FastAPI for backend)
- **Backend:** OpenAI's DALL-E API for logo generation
- **Frontend:** React.js with Tailwind CSS
- **Database:** Firebase (for storing user-generated logos)

2. Functional Requirements:

- User input collection (industry, colors, style, symbols, etc.).
- AI-powered logo generation based on parameters.
- Customization tools for font, color, and icon selection.
- Download options in different formats (PNG, SVG, PDF).

3. Constraints & Challenges:

- Ensuring high-quality and unique AI-generated logos.
 - Optimizing API response time for smooth user experience.
 - Providing a free-tier while managing API costs.
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Phase-3: Project Design

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

Key Points:

1. System Architecture:

- User enters design preferences.
- Backend processes input and requests AI-generated logo.
- AI generates logo and returns variations.
- User customizes and downloads the final logo.

2. User Flow:

- Step 1: User selects preferences (industry, colors, style, etc.).
- Step 2: AI generates multiple logo options.
- Step 3: User selects and customizes the best logo.
- Step 4: User downloads the final design.

3. UI/UX Considerations:

- Clean and intuitive interface for easy navigation.
 - Real-time customization preview.
 - Accessibility features for a better user experience.
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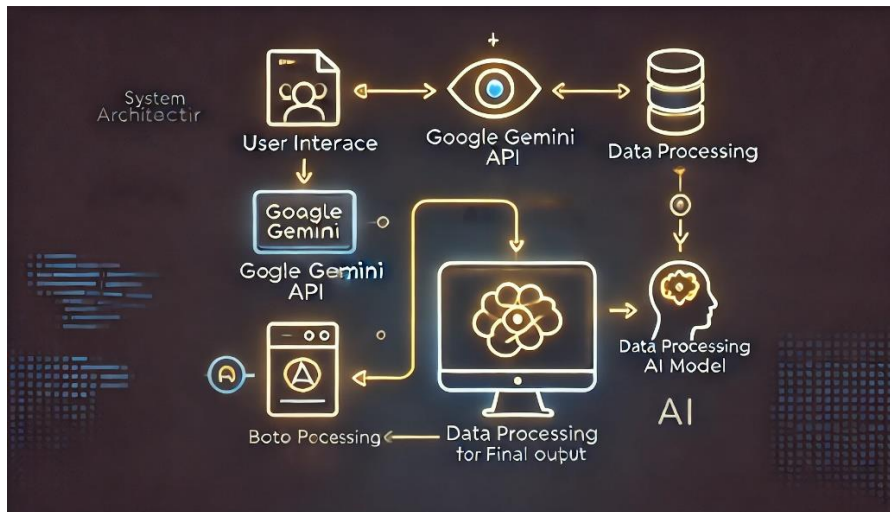
Phase-4: Project Planning (Agile Methodologies)

Objective: Break down development tasks for efficient completion.

Sprint Task		Priority	Duration	Deadline	Assigned To	Dependencies	Expected Outcome
Sprint 1	Environment Setup & API Integration	<div></div> High	6 hours	End of Day 1	Member 1	OpenAI API Key, Python, React setup	API connection established & working
	Frontend UI Development	<div></div> Medium	3 hours	End of Day 1	Member 2	API response format finalized	Basic UI with input fields
Sprint 2	AI Logo Generation & Customization	<div></div> High	4 hours	Mid-Day 2	Member 1 & 2	API response, UI elements ready	Working AI-powered logo creation
Sprint 2	Error Handling & Debugging	<div></div> High	2 hours	Mid-Day 2	Member 3 & 4	API logs, UI inputs	Improved API stability
Sprint 3	Testing & UI Enhancements	<div></div> Medium	2 hours	Mid-Day 2	Member 2 & 3	API response, UI layout completed	Responsive UI, better user experience
Sprint 3	Final Presentation & Deployment	<div></div> Low	1 hour	End of Day 2	Entire Team	Working prototype	Demo-ready project

Phase-5: Project Development

Objective: Implement core features of the Logo Generator.



Key Points:

1. Technology Stack Used:

- **Frontend:** React.js with Tailwind CSS
- **Backend:** FastAPI
- **AI Model:** OpenAI's DALL-E API
- **Database:** Firebase

2. Development Process:

- Implement API authentication and integration.
- Develop AI-powered logo generation logic.
- Optimize UI for real-time previews and edits.

3. Challenges & Fixes:

- **Challenge:** Slow API response times.
 - **Fix:** Implement caching for frequently generated logos.
- **Challenge:** Limited API calls per minute.
 - **Fix:** Optimize queries to request only necessary logo details.

Phase-6: Functional & Performance Testing

Objective: Ensure that the AI Logo Generator works as expected.

Test Case ID	Category	Test Scenario	Expected Outcome	Status	Tester
TC-001	Functional Testing	Generate logo based on selected industry	AI should return relevant logos	✅ Passed	Tester 1
TC-002	Functional Testing	Customize font and color	UI should update in real-time	✅ Passed	Tester 2
TC-003	Performance Testing	API response time under 500ms	Fast logo generation	⚠️ Needs Optimization	Tester 3
TC-004	Bug Fixes & Improvements	Fix incorrect logo styling	Data accuracy should be improved	✅ Fixed	Developer
TC-005	Final Validation	Ensure UI is responsive across devices	UI should work on mobile & desktop	❌ Failed - UI broken on mobile	Tester 2
TC-006	Deployment Testing	Host the app using Vercel	App should be accessible online	🚀 Deployed	DevOps

Final Submission

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