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Hackathon Project Phases Template for the **Audio2art** project.

Hackathon Project Phases Template

Project Title:

AUDIO2ART: transforming voice into visuals

Team Name:

AUDIO VISIONARIES

Team Members:

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Phase-1: Brainstorming & Ideation

Objective:

Understand the problem statement, define the scope, and identify the key challenges in converting voice input to images using AI.

Key Points:

1. **Problem Statement:**
    - Audio2Art is an advanced project powered by cutting-edge AI technology and transformer models designed to convert audio prompts into stunning visual representations.
    - This innovative system bridges the gap between auditory and visual experiences, providing users with the ability to generate images from voice descriptions effortlessly.
    - Audio2Art is versatile and can be utilized across various scenarios, offering creative solutions tailored to different user needs.
2. **Proposed Solution:**

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- **Audio2Art is an innovative AI-powered platform that transforms audio prompts into captivating visual representations. We used models of generative ai tools like Gemini ai, google Gemini, Claude and also models like transformers and diffusers.**

3. **Target Users:**

    - **Create visuals from voice prompts effortlessly.**
    - **Transforms ideas into visuals for learning and creativity.**
    - **Generate AI art for storytelling and branding.**

4. **Expected Outcome:**

    - It should generate high-quality images accurately based on voice prompts. The generated images must reflect the prompts intent with clarity.

Phase-2: Requirement Analysis

Objective:

Analyze technical requirements, frameworks, and datasets for the project.

Key Points:

1. **Technical Requirements:**

    - Programming Language: Javascript
    - Backend: Javascript
    - Frontend: **Html, Css**
    - Database: **Not required initially (API-based queries)**

2. **Functional Requirements:**

    - Convert text prompts into high quality visuals using AI model.
    - Enable users to refine style, colors, or elements in generated art.
    - Provide **a simple, interactive UI for input, preview, and modifications**.
    - Allow users to download and share their AI-generated artwork easily.

3. **Constraints & Challenges:**

    - Understanding and processing voice commands.
    - Managing speed and performance efficiently.
    - Ensuring a smooth and user-friendly experience.

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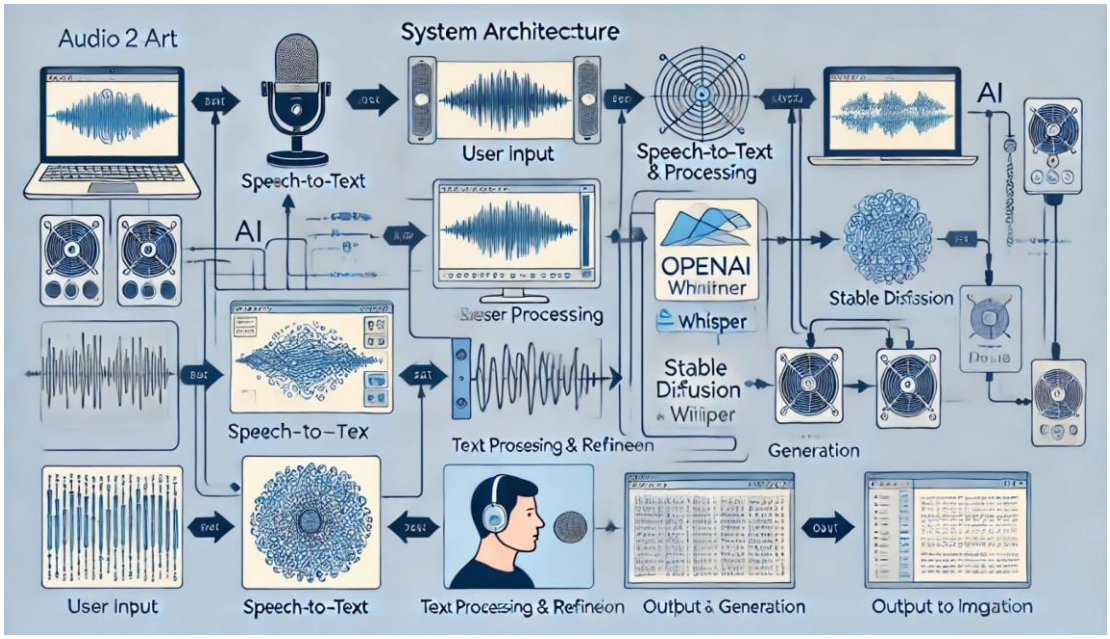
Phase-3: Project Design

Objective:

Design the system architecture and workflow for converting audio input to images.



Key Points:

1. **System Architecture:**
    - User provides a voice prompt.
    - NLP (Natural Language Processing) enhances and refines the prompt.
    - AI model creates visuals from prompt.
    - App shows and saves the generated image.
2. **User Flow:**
    - Step 1: User gives a voice prompts.
    - Step 2: App converts speech to text.
    - Step 3: AI creates an image from the text.
    - Step 4: Users sees, edits, and saves the image.
3. **UI/UX Considerations:**
    - **Smooth transition from voice input to image output**.
    - **Let users adjust styles, colors, or filters.**

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- **Easy options to download or share generated image.**

Phase-4: Project Planning (Agile Methodologies)

Objective:

Plan development sprints and assign tasks using Agile methodology.

To ensure an efficient development process, we followed Agile methodologies. We divided our work into multiple sprints with clear deliverables.

Sprint Plan:
- *Sprint 1*: Implement Audio-to-Text Conversion Module.
- *Sprint 2*: Develop Text Processing and Enhancement.
- *Sprint 3*: Implement and Fine-Tune Text-to-Image Generation.
- *Sprint 4*: Build User Interface and Connect All Components.
- *Sprint 5*: Testing, Debugging, and Final Refinements

Phase-5: Project Development

Objective:

Implement the Audio2Art system and integrate all components.

Key Points:

1. **Technology Stack Used:**
    - **Frontend: Html, Css**
    - **Backend:** Javascript
    - **Programming Language: Javascript**
2. **Development Process:**
    - Implement **speech-to-text, AI image generation, and UI components.**
    - Develop the interface and connect all components
    - Optimize **performance and improve user interaction.**
3. **Challenges & Fixes:**
    - **Challenge:** API keys are not working

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Fix: Not fixed yet.

Phase-6: Functional & Performance Testing

Objective:

Ensure accuracy, speed, and usability of the Audio2Art system.

Test case ID	Category	Test Scenario	Expected outcome	Status
TC-001	Voice input	Voice recognition	Voice recognized successfully	Passed
TC -002	Functional testing	Generating image	Image generated	Failed

- Functionality: Ensure correct mapping of audio input to generated images.
- Performance: Optimize model inference time.
- User Testing: Collect feedback and refine UI/UX.

Final Submission

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