Hackathon Project Phases Template for the **AI-Powered Multi Language Translator** project.

Hackathon Project Phases Template

Project Title:

Trans Lingua: AI-Powered Multi Language Translator

Team Name:

Team DYNAMOS

Team Members:

- B. Shivani
- B. Vijayalaxmi
- B. Tejaswini
- Ch. Nikhitha
- Ch. Nikhitha

Phase-1: Brainstorming & Ideation

Objective:

The objective of the **Trans lingua: AI-Powered Multi Language Translator** is to provide efficient and accurate translation services across multiple languages using advanced artificial intelligence techniques.

Key Points:

1. **Problem Statement:**
    - In an increasingly globalized world, language barriers remain a significant challenge to communication and collaboration across diverse cultures, industries, and regions.
    - Users also need better communication over people across the barriers.

2. **Proposed Solution:**

    - An AI-powered application using **Chat GPT** to provide **different language translation, reviews, and comparisons.**
    - This website offers **people to learn different languages.**
3. **Target Users:**

    - **Visitors.**
    - **People** who are poor in other languages that they are not familiar to it.
4. **Expected Outcome:**

    - A functional **AI-powered multi language translator** that provides accurately and efficiently translate text from one language to other language.

Phase-2: Requirement Analysis

Objective:

Define the technical and functional requirements for the AI- Powered Multi Language Translator.

Key Points:

1. **Technical Requirements:**

    - Programming Language: **HTML**
    - Backend: **Google ChatGPT AI**
    - Frontend: **User Interface (UI)**
    - Database: **Not required initially**
2. **Functional Requirements:**

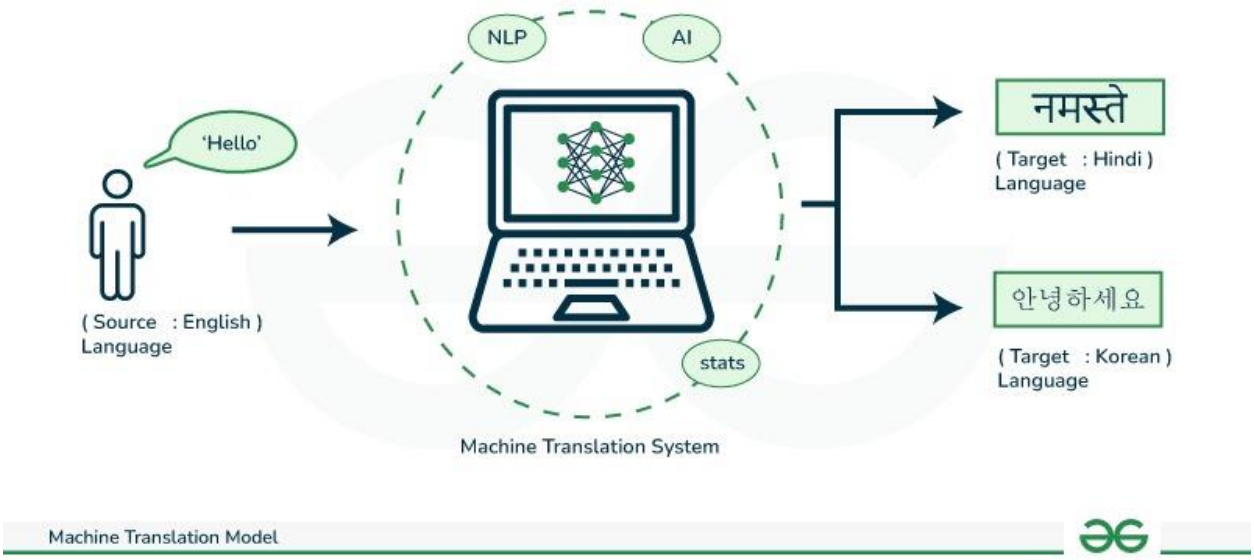
    - Ability to **translate languages** using Chat GPT AI.
    - Display **source languages and target languages.**
    - Provide **translating text in different languages.**
3. **Constraints & Challenges:**

    - Ensuring real-time updates from **Chat GPT AI.**
    - **User Interface (UI)** is intuitive.
    - Helping users to translate the text in different languages.
    - Providing a **User Interface (UI)** using **HTML**.

Phase-3: Project Design

Objective:

Develop the architecture and user flow of the application.



Key Points:

1. **System Architecture:**
    - Accuracy for technical terms:
    - Query is processed using **Chat GPT AI.**
    - AI model fetches and processes translating text.
    - The frontend displays **User Interface (UI).**
2. **User Flow:**
    - Step 1: User enters a text (e.g., "Where are you?").
    - Step 2: The backend **calls the Chat GPT AI.**
    - Step 3: The application processes the text and translate into different languages.
3. **UI/UX Considerations:**
    - **User-friendly interface** for Translation.

- **Source language and Target Language**.

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 Day 1	Shivani	Google ChatGPT, HTML, User Interface (UI)	API connection established & working
Sprint 1	Frontend UI Development	🟡 Medium	2 hours (Day 1)	End of Day 1	Tejaswini	API response format finalized	Basic UI with input fields
Sprint 2	Translating Languages	🔴 High	3 hours (Day 2)	Mid-Day 2	Vijayalaxmi	API response, UI elements ready	Search functionality with filters
Sprint 2	Error Handling & Debugging	🔴 High	1.5 hours (Day 2)	Mid-Day 2	NIkitha	API logs, UI inputs	Improved API stability
Sprint 3	Testing & UI Enhancements	🟡 Medium	1.5 hours (Day 2)	Mid-Day 2	Nikitha	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

Sprint Planning with Priorities

Sprint 1 – Setup & Integration (Day 1)

(🔴 **High Priority)** Set up the **environment** & install dependencies.
(🔴 **High Priority)** Integrate **Google Chat GPT AI**.
(🟡 **Medium Priority)** Build a **basic UI with input fields**.

Sprint 2 – Core Features & Debugging (Day 2)

(🔴 **High Priority)** Implement **Translating functionalities**.
(🔴 **High Priority)** Debug API issues & handle **errors in queries**.

Sprint 3 – Testing, Enhancements & Submission (Day 2)

(🟡 **Medium Priority)** Test source code, refine UI, & fix UI bugs.
(🟢 **Low Priority)** Final **demo preparation & deployment**.

Phase-5: Project Development

Objective:

Implement core features of the AI-Powered Multi Language Translator.

Key Points:

1. **Technology Stack Used:**
    - **Frontend:** User Interface (UI)
    - **Backend:** Google Chat GPT AI
    - **Programming Language:** HTML
2. **Development Process:**
    - Implement **API key authentication** and **Gemini API integration**.
    - Develop **vehicle comparison and maintenance tips logic**.
    - Optimize **search queries for performance and relevance**.
3. **Challenges & Fixes:**
    - **Challenge:** Unknown language into User friendly language.
      Fix: Translating text to users for their queried results.
    - **Challenge:** Certain phrases in one language might not exist.
      Fix: Use localized translations that adapt to specific **regions or cultures**.

Phase-6: Functional & Performance Testing

Objective:

Ensure that the AI-Powered multi language translator application works as expected.

Test Case ID	Category	Test Scenario	Expected Outcome	Status	Tester
TC-001	Functional Testing	Query "Translating source language to target language"	Translation of text should be displayed.	✅ Passed	Shivani
TC-002	Functional Testing	Query "Where are you?"	Correct translation should be provided.	✅ Passed	Tejaswini
TC-003	Performance Testing	Starting translation for particular phrase.	API should return results quickly.	⚠ Needs Optimization	Nikitha
TC-004	Bug Fixes & Improvements	Fixed certain bugs or errors.	Text accuracy should be improved.	✅ Fixed	Vijaya
TC-005	Final Validation	Ensure UI is responsive across devices.	UI should work on mobile & desktop.	❌ Failed - UI broken on mobile	Nikitha
TC-006	Deployment Testing	Host the application using User Interface (UI).	Application should be accessible online.	🚀 Deployed	Shivani

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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**