**AI-Powered Tribal Dictionary Builder**

**1. Project Title**

**AI-Powered Tribal Dictionary Builder**

**2. Team Details  
Team No-7  
Team Lead Name:** Ramya Sri Lakshmi  
**Team Members:**

* Ramya Sri Lakshmi
* Gani Lakshmi
* Bhaskar
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  **Mentor:** Praveen

**3. Introduction**

Many tribal languages in India are disappearing because they are not documented properly. People from outside tribal communities find it difficult to communicate and understand these languages. Our project uses Artificial Intelligence (AI) to collect tribal words and automatically translate them into English, Hindi, or other languages. This will help preserve tribal languages and make communication easier.

**4. Objectives**

* To build a digital dictionary for tribal languages.
* To translate tribal words into English/Hindi automatically using AI.
* To preserve tribal languages and support easy communication.
* To create a simple tool that can be used by both tribal people and outsiders.

**5. Problem Statement**

Tribal languages are not well documented and are at risk of being lost. Outsiders face difficulties in communication, and there is no easy way to learn or translate tribal words. Without proper preservation, valuable culture and knowledge may disappear.

**6. Proposed Solution**

We propose an AI-powered dictionary builder that:

* Takes tribal words as input.
* Uses AI/ML models to generate translations in English/Hindi.
* Stores the words and translations in a searchable dictionary.
* Provides a user-friendly web/app interface for access.

**7. Features**

* User-friendly interface to add and search words.
* AI-powered automatic translation.
* Multi-language support (Tribal → English, Hindi, etc.).
* Dictionary storage with word history.
* Option for voice input/output (future enhancement).

**8. Technology Stack**

* **Frontend:** React, Tailwind CSS
* **Backend:** Python (Flask/Django) or Node.js, Express.js
* **Database:** MongoDB / MySQL
* **AI/ML Tools:** Python (NLTK, Transformers, Hugging Face models)
* **Other Tools:** GitHub, Google Colab, Docker

**9. System Design / Architecture**

**Flow:**  
User Input (Tribal word) → AI Model (Translation) → Database (Store word + meaning) → Display (Dictionary Interface)

(You can add a simple block diagram with 4 blocks: User → AI Model → Database → Output)

**10. Implementation**

1. Data Collection – Gather tribal words and meanings.
2. Preprocessing – Clean and prepare data.
3. Model Training – Use AI/ML models for translation.
4. Backend – Build APIs to connect AI with dictionary.
5. Frontend – Create user-friendly web/app interface.
6. Testing – Check accuracy and usability.

**11. Challenges Faced**

* Lack of ready-made datasets for tribal languages.
* Difficulty in achieving accurate translations.
* Limited resources for rare tribal dialects.
* Time required for training AI models.

**12. Results / Output**

* Successfully created a prototype dictionary.
* Tribal words can be translated into English/Hindi.
* Users can add new words and meanings to grow the dictionary.

**13. Future Scope**

* Add more tribal languages.
* Support speech-to-text and text-to-speech.
* Mobile app version for offline use.
* AI-based grammar and sentence translation.

**14. Conclusion**

The **AI-Powered Tribal Dictionary Builder** helps preserve tribal languages by documenting and translating them into common languages. It reduces communication gaps, supports education, and helps protect cultural heritage.