Phase 2: Basic Pronunciation Feedback and Phoneme Analysis (Week 2-3/4)

**1. Phoneme Detection**

* **Team Members:** Bhanu (B), Jatin (J)
* **Tasks:**
  + **Jatin:** Implement phoneme detection using Google Speech API or Kaldi.
  + **Bhanu:** Assist with the integration of phoneme detection into the backend.
* **Technology:**
  + Backend: Google Speech API or Kaldi (Python).
  + Framework: Flask.

Note: Contact me J ASAP, after going through the tools.

**2. Audio Processing (Pitch/Tone Analysis)**

* **Team Members:** Bhanu(B), Amit (Am), Anmol (A)
* **Tasks:**
  + **Bhanu:** Work on backend logic for analyzing pitch and tone using Python libraries like pydub or librosa.
  + **Amit:** Design a UI to provide visual feedback (graphs, indicators) on voice quality and tone analysis.
  + **Anmol:** Assist Amit with the frontend, ensuring smooth visualization of pitch/tone feedback in the UI.
* **Technology:**
  + Backend: Python (librosa, pydub).
  + Frontend: React (for visual feedback).

**3. Pronunciation Feedback (Correct/Incorrect)**

* **Team Members:** Bhanu (B), Bhumika (Bu)
* **Tasks:**
  + **Bhanu:** Implement logic to compare user pronunciation with reference phonemes and determine correctness.
  + **Bhumika:** Build the UI component that provides real-time feedback to the user on their pronunciation accuracy.
* **Technology:**
  + Backend: Python (Flask).
  + Frontend: React.

**4. User Feedback UI for Pronunciation**

* **Team Members:** Amit (Am), Bhumika (Bu), Anmol (A)
* **Tasks:**
  + **Amit & Bhumika:** Design the UI for showing the pronunciation feedback.
  + **Anmol:** Work on the front-end interactivity to make the feedback real-time and visually intuitive.
* **Technology:**
  + Frontend: React, CSS.

**Additional Roles:**

* **Data Logging and Analysis**:
  + **Team Members:** Bhanu (B), Jatin (J)
  + **Tasks:** Collect data from pronunciation and pitch analysis for further user insights.
  + **Technology:** Firebase (for storing logs).
* **Error Handling and Debugging**:
  + **Team Members:** Anmol (A), Bhanu (B)
  + **Tasks:** Implement error handling for phoneme detection and pitch analysis.
  + **Technology:** Python logging, Firebase.

Note: Some members have not been providing status updates, causing delays in our progress. Please ensure timely communication to avoid obstacles and help us meet our project goals efficiently.

There are other works too but due to inconsistencies we are lacking to much behind the scenes.

**Phase 2 Deadline:**

**· Start Date: 21 September 2024**

**· Duration: (2-3) weeks**

**· Deadline: 8th Oct 2024**