Reporting No:4 Week No:4 From :02/06/2025 To :06/06/2025

College ID: 22IT121

Project Title: Speech-to-Phoneme Normalization with CMU Dictionary and TTS

WEEKLY REPORT

Work done in last week (Attach supporting Documents):

02/06/2025 Monday

9:30 – 11:30	Integrated a pronunciation scoring algorithm into the Flask pipeline.Compared recognized phone sequence against CMU phone to compute similarity.
12:00– 2:30	Added a scoring view to the UI to show how close the pronunciation is to native phone sequence.
3:00– 5:00	Tested scoring with different recordings and fine-tuned scoring criteria.

03/06/2025 Tuesday

9:30 – 11:30	Enhanced Flask UI to highlight matching and mismatched phonemes.
12:00– 2:30	Implemented color-coding (green for match, red for mismatch) in the rendered page.
3:00– 5:00	Checked functionality across different browsers and phone recordings.

04/06/2025 Wednesday

9:30 – 11:30	Added API endpoint (/api/score) to retrieve scoring and phone match in JSON format.
12:00– 2:30	Checked API responses manually and with curl/POSTman.
3:00– 5:00	Integrated API endpoint into UI with Javascript fetch for future expansion.

05/06/2025 Thursday

9:30 – 11:30	Added a history page (history) to view previous recordings alongside their scores and phone sequences.
12:00– 2:30	Implemented pagination and database storage for recordings and scores.
3:00– 5:00	Tested pagination, database operations, and UI display for numerous recordings.

06/06/2025 Friday

9:30 – 11:30	Finalized all components and cleaned up codebase. Removed redundancy and added comments.
12:00– 2:30	Prepared final documents and walkthrough of the application.
3:00– 5:00	Backup of files, code, and reports for submission and future improvement.

Reason for incomplete work:

1. N/A

Plans for next week:

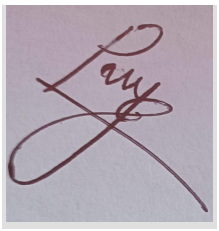
Prepare a **final presentation slide deck** with:

- ❖ Introduction
- ❖ Project pipeline
- ❖ UI walkthrough
- ❖ API demonstration
- ❖ Scoring algorithm and results

1. Perform **final testing** across different devices and browsers.
2. Gather **feedback from professors and peers** for future improvements.
3. Prepare for **project submission and demonstration** in the lab.
4. Compile all code, reports, and documents into a **final submission folder**.

References:

1. Speech-to-Text: SpeechRecognition, Google API
2. Text-to-Speech: pyttsx3
3. Phoneme Dictionary: NLTK cmudict
4. Audio: Sounddevice
5. Deployment: PythonAnywhere, WebRTC
6. UI: Flask, HTML, CSS



Signature of External Guide **Signature of Internal Guide**

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