Step 1: Download Required Files and Models

- Access the Google Drive: Visit the provided Google Drive link to access all necessary files.

- Download Key Components:

    - Wav2Vec2 Model: Required for Bengali speech recognition.
    - GPT-2 Fine-tuned Model: For generating responses. If you prefer to train the model yourself, download the “gpt2-bengali” folder.
    - Dataset: The train.csv file, essential for training or fine-tuning the model.
    - Code Notebook: group_13 Bangla Voice Bot.ipynb containing the project code.

Step 2: Adjust File Paths in the Code

- Update all file paths in the code notebook (group_13 Bangla Voice Bot.ipynb) to match the locations where you've stored the downloaded files on your system.

Step 3: Install Necessary Dependencies

Execute the following commands in your Python environment to install the required libraries:

pip install pandas librosa numpy IPython matplotlib nltk scikit-learn gensim tqdm transformers sounddevice

pip3 install torch torchvision torchaudio --index-url https://download.pytorch.org/whl/cu118

pip install git+https://github.com/csebuetnlp/normalizer

Step 4: Install Local Dependencies

Some dependencies are to be installed from the local directory, which are available in the Google Drive:

- jiwer
- bnunicodenormalizer
- Components of pyctcdecode and its dependencies: attrs, exceptiongroup, hypothesis, numpy (specific version), pygtrie, sortedcontainers, pyctcdecode.

Ensure to install these by navigating to their respective directories.

Step 5: Running the Code

Open the group_13 Bangla Voice Bot.ipynb notebook in a Jupyter environment. Execute the cells in sequential order from top to bottom.

Versions of Dependencies Used:

Torch: 2.1.1
CUDA: 11.2
Python: 3.9.18