How to Run the Project

To successfully run the Multilingual Voice Message Translation System, follow the steps below. This project is developed in Python and uses libraries such as Gradio, Whisper, Google Translate API, and gTTS for speech processing. It provides a web interface to upload a voice message in one language and returns an audio output in the selected translated language.

1. Prerequisites Installation

Before running the project, ensure Python 3.8 or higher is installed on your system. Then set up a virtual environment and install required libraries:

python -m venv venv

venv\Scripts\activate

pip install --upgrade pip

pip install gradio openai-whisper googletrans==4.0.0-rc1 gTTS

Note: Some additional dependencies like ffmpeg may be needed for audio handling. Install it via:

pip install ffmpeg-python

2. Project File Structure

Make sure your project folder (e.g., voice_translation_project/) contains:

- app.py – the main application file

- Optional: requirements.txt – list of dependencies

- venv/ – virtual environment folder

3. Running the Application

Activate the virtual environment (if not already activated):

venv\Scripts\activate

Then run the app:

python app.py

This will launch the Gradio web interface. You'll see a local URL like:

Running on local URL: http://127.0.0.1:7860

Open this URL in your browser.

4. Using the Interface

1. Upload a voice message in any supported language (Tamil, Hindi, Malayalam, Kannada, Arabic, French, English).

2. Select the desired output language from the dropdown.

3. Click "Submit".

4. The interface will:

   o Detect and transcribe the input language

   o Translate the text

   o Convert it into speech in the selected language

5. The translated audio will be played back or available for download.

5. Output and Logs

• All actions happen within the Gradio interface.

• Any errors or debug logs will be shown in the command prompt (CMD) window.