**Audio Transcription Web Application**

**Introduction:** This document provides an overview of an audio transcription web application built using Flask, HTML, and the OpenAI API. The application allows users to upload audio files in MP3 or WAV format, transcribe the audio content using the OpenAI transcription model, and download the resulting transcription as a text file.

**1. HTML File:**

* **Structure:** The HTML file provides the user interface for the web application.
* **Elements:**
  + **Upload Audio Button:** Allows users to select and upload audio files from their local device.
  + **Transcribe Button:** Initiates the transcription process after selecting an audio file.
  + **File Name Display:** Shows the name of the uploaded audio file.
  + **Transcription Display:** Displays the transcription result obtained from the OpenAI API.
  + **Download Transcription Link:** Enables users to download the transcription as a text file.

**2. Flask App (app.py):**

* **Routes:**
  + **Index Route ("/"):** Renders the HTML template for the main page.
  + **Transcribe Route ("/transcribe"):**
    - Handles the transcription process upon receiving the uploaded audio file.
    - Calls the OpenAI API to transcribe the audio content.
    - Extracts the transcription text from the API response.
    - Renders the HTML template with the transcription displayed.
  + **Download Transcription Route ("/download\_transcription"):**
    - Allows users to download the transcription text as a text file.
    - Writes the transcription to a temporary text file and sends it as an attachment.

**3. OpenAI Transcription Model:**

* **Integration:** The application utilizes the OpenAI API to transcribe audio files.
* **Model:** Uses the "whisper-1" model for audio transcription.
* **Transcription:** Extracts the transcription text from the API response and displays it to the user.

**Conclusion:** The audio transcription web application provides a convenient way for users to transcribe audio files online. With the integration of Flask, HTML, and the OpenAI API, users can easily upload, transcribe, and download audio transcriptions in text format. This application can be further enhanced with additional features such as language detection and translation capabilities.

**Output:-**

