

EX.NO.: 12

AUDIO TO TEXT CONVERTER USING SPEECH RECOGNITION

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To analyze text data from two distinct corpora (Brown and Inaugural) by performing n-gram frequency analysis, generating random sentences based on unigram frequencies, and computing perplexity to evaluate the predictive power of bigram models.

PROCEDURE:

1. Install the SpeechRecognition library using the following command:
> pip install SpeechRecognition
2. Import the speech_recognition module to handle audio-to-text processing.
3. Select a .wav audio file containing the speech to be transcribed.
4. Use the AudioFile() method from SpeechRecognition to load the file.
5. Create an instance of the Recognizer class to process and transcribe the audio file.
6. Read and Process the Audio File:
> Use recognizer.record() to capture the audio data.
7. Use the recognizer.recognize_google() method to transcribe the speech into text.
8. Print the transcribed text.

CODE AND OUTPUT

```
import speech_recognition as sr

# Function to convert audio file to text
def audio_to_text(audio_file):
    # Initialize the recognizer
    recognizer = sr.Recognizer()

    try:
        # Load the audio file
        with sr.AudioFile(audio_file) as source:
            print("Processing audio...")
            audio_data = recognizer.record(source) # Read the entire audio file

        # Recognize (convert speech to text)
        text = recognizer.recognize_google(audio_data)
        return f"Text: {text}"

    except sr.UnknownValueError:
        return "Speech Recognition could not understand the audio."
    except sr.RequestError as e:
        return f"Could not request results from Google Speech Recognition service; {e}"

# Example usage
audio_file_path = "harvard.wav" # Replace with the path to your .wav file
output = audio_to_text(audio_file_path)
print(output)
```

Processing audio...

Text: the still smell of old buildings it takes heat to bring out the order a cold storage find with him Tales of pastor are my favourite is just for food is th