



Report Title: Multi language Voice to Binary Conversion and Audio Wave Show

Department: Computer Science and Engineering

Course Title: Data Communication (LAB)

Course Code: CSE-304

Course Teacher:

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Submitted By:

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ID: 16201073

Sec: A2

Project No: 2

Project Name: Multi language Voice to Binary Conversion and Audio Wave Show using Python.

Objectives: To Learn Voice Recognitions using Google API and Binary Conversion

Programming Language:

I use Python programming language with some library and Google API to Recognize the voice to complete this project

Python Library:

- os
- pip
- playsound
- speechrecognition
- gtts
- binascii
- bs4
- pygame
- matplotlib

Requirements:

- Python2.7
- IDLE
- Audio Files
- Windows 7/8/10 Operating System.

Algorithm:

Step 1: Start IDLE

Step 2: import os, pip, playsound, speech_recognition, gtts, binascii, bs4, pygame

Step 3: Declare Variable for Audio, Recognizer, text

Step 4: Play Audio & Listen audio from the source audio

Step 5: Recognize Voice using Google API "recognize_google(audio)"

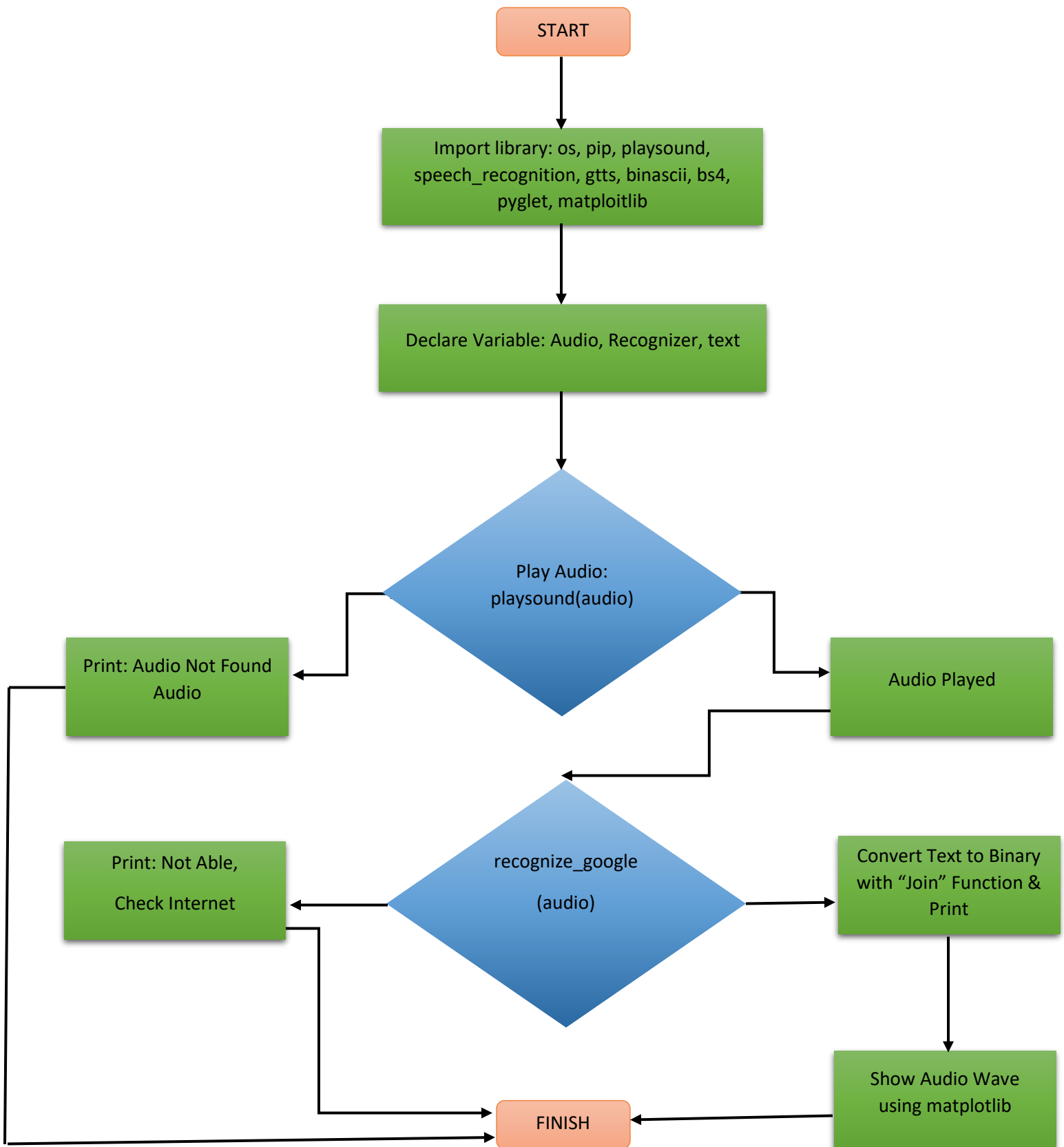
Step 6: Print the Text

Step 7: Convert Text into Binary using "Join" function

Step 8: Print Binary Representation

Step 9: Finish

Flowchart:



Code:

```
#This Project is developed by Md Mehedi Hasan
print("#####")
print("Project : Bangla & English Voice To Text using Python")
print("Name      : Md Mehedi Hasan")
print("ID        : 16201073")
print("#####")
print("")
import os
import time
from playsound import playsound
import speech_recognition as sr
import binascii
import matplotlib.pyplot as plt
import numpy as np
import wave
import sys

#Bangla Voice To Text Code using Python With Google Cloud Speech API

r = sr.Recognizer()
voice = 'audio.wav'
with sr.AudioFile(voice) as source:
    print("Listening the Bengali audio file....")
    playsound('audio.wav')
    audio = r.listen(source)
    text = r.recognize_google(audio, language = 'bn-BD')
    print (text)
    shakeel = (text)
    print("")
    print("Binary Representation : ")
    print("")
    print(' '.join(format(ord(x), 'b') for x in shakeel))
print("#####")

#Bangla Voice To Text Code using Python With Google Cloud Speech API

voice = 'audio2.wav'
with sr.AudioFile(voice) as source:
    print("Listening the English audio file....")
    playsound('audio2.wav')
    audio = r.listen(source)
    text = r.recognize_google(audio)
    print (text)
    shakeel = (text)
    print("")
    print("Binary Representation :")
    print("")
    print(' '.join(format(ord(x), 'b') for x in shakeel))

print("#####")
```

```
#SHOW WAVE FORM OF AUDIO 1
spf = wave.open('audio.wav','r')

#Extract Raw Audio from Wav File
signal = spf.readframes(-1)
signal = np.fromstring(signal, 'Int16')

#If Stereo
if spf.getnchannels() == 2:
    print 'Just mono files'
    sys.exit(0)

plt.figure(1)
plt.title('Bangla Voice Analog Wave...')
plt.plot(signal)

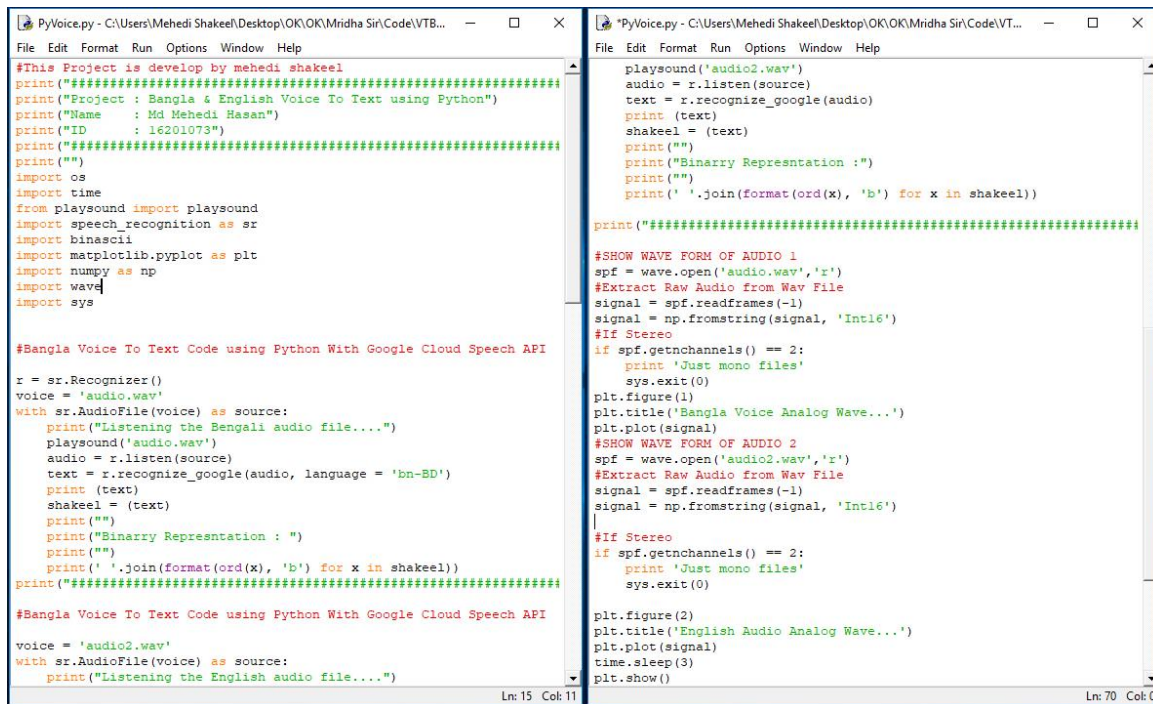

#SHOW WAVE FORM OF AUDIO 2
spf = wave.open('audio2.wav','r')

#Extract Raw Audio from Wav File
signal = spf.readframes(-1)
signal = np.fromstring(signal, 'Int16')

#If Stereo
if spf.getnchannels() == 2:
    print 'Just mono files'
    sys.exit(0)

plt.figure(2)
plt.title('English Audio Analog Wave...')
plt.plot(signal)
time.sleep(3)
plt.show()
```

Code Screenshot:



```

PyVoice.py - C:\Users\Mehedi Shakeel\Desktop\OK\OK\Mridha Sir\Code\VTB...
File Edit Format Run Options Window Help

#This Project is develop by mehedi shakeel
print("#####")
print("Project : Bangla & English Voice To Text using Python")
print("Name : Md Mehedi Hasan")
print("ID : 16201073")
print("#####")
import os
import time
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import speech_recognition as sr
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import matplotlib.pyplot as plt
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PyVoice.py - C:\Users\Mehedi Shakeel\Desktop\OK\OK\Mridha Sir\Code\VTB...
File Edit Format Run Options Window Help

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shakeel = (text)
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print("#####")

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signal = np.fromstring(signal, 'Int16')
#If Stereo
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plt.figure(2)
plt.title('English Audio Analog Wave...')
plt.plot(signal)
time.sleep(3)
plt.show()
Ln: 15 Col: 11
Ln: 70 Col: 0

```

Output :

