Multi-Lingual Sentiment Analyser

Description

This is a project that will get the sentiments of people with their voices or speech , It will also display the sentiment even when a text or sentence of any language is given as input .

The Speaker can speak any language and the receiver (who does or does not know the language of the speaker) will be able to understand the tone , sentiments of the speaker through our model .

Nearly , 6500 languages are spoken in this World and it is very difficult to know them all . Especially in a Country Like INDIA where over 22 languages are spoken officially with so much diversity , Everyone cannot understand what you are trying to convey over mobile phone or it is very difficult to understand the Sentiments and Moods of Different people with different Languages and that is where Our Project Comes into play by showing the accurate Sentiment of people through their speech or even texts in any Languages .

When a Phone Call is Run or an Audio is Played . Our Model will Display the Respective Sentiment of the Speaker so that the Receiver can Understand Easily

Features :

Takes any Language Voice as Input file and displays the Sentiment of the Speaker in the Audio given as Input .

Takes any Language Text and Displays the Respective Sentiment and Display the Right Sentiment .

In here , we have Used five Sentiments :

- Very Unhappy
- Not Satisfactory
- Moderate
- Satisfactory
- Good and Happy

The Sentiments are Displayed as **Emoji**

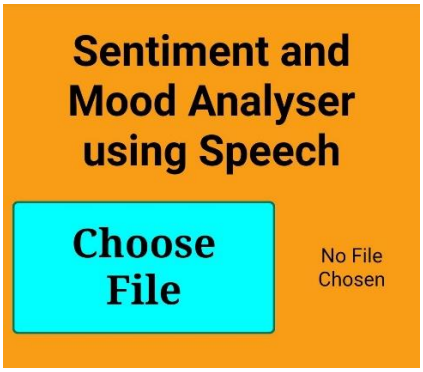
Input : Voice / Speech / Audio File

Output : Sentiment of Speaker

How it Works :

- The User gives Recording File / Speech / Audio File as Input In Our Website , In the Files Upload Section
- Once , the audio file as been given as Input . The Speech is Converted to text Using Our speech Recognition Python Model .
- We have used Python Inbuilt Library to Convert any Language to English . Hence the Speech in Any language is converted to a Common Natural Language Processing .
- After it has been converted , We have used Sentiment Classifier Model to predict the Sentiment of the given Input .
- Ranging from Values of -1 to 1 using textblob module of Python , we have set 5 different sentiment according to the word weight , differentiating between negative and positive and moderate , sentence , noun phrase and complete analysis on the texts.
- The Output is Displayed as an **Emoji** for the Respective Sentiment . We have Used the Sentiment Classifier Model to get the Present Sentiment of the Speaker .

(Example) Input :



Output :

```
Worst
😠
```

(For User)

From Developers Point of View : (Shall be Displayed for User if Needed)

```
it was a very bad experience for me
-0.9099999999999998


Worst
😠


total No. of words:
 8
Word Counts:
 defaultdict(<class 'int'>, {'it': 1, 'was': 1, 'a': 1, 'very': 1, 'bad': 1, 'experience': 1, 'for': 1, 'me':
1})
The words are:
 ['it', 'was', 'a', 'very', 'bad', 'experience', 'for', 'me']
The Sentences are :
 [Sentence("it was a very bad experience for me")]
```

In the image attached above the Speaker had said "**it was a bad experience for me**" in His native Language . Our Model Projected the right sentiment of the Speaker , so as to be understandable by a person who doesn't know the Language .

Packages and Modules Used :

- We have Used HTML , CSS and JavaScript for the Front-End , For User's Interface .
- The Entire Backend and the Entire Processing of the Project is Using Python .
- We have used Flask to deploy our python files and project it as a website .
- We used the following python modules for our Project : Textblob , flask , googletrans, PyAudio , SpeechRecognition , emoji , nltk .

Usage :

- This Can be Used by Any Individual in the World by giving the recorded speech as input file and getting back the sentiment of the Speaker .
- It can be Used in Customer Feedback Centres , Where Call Centre Employees get Easily understand the sentiments of the Customer Via Phone Call .
- Now , any Person in the World can easily understand the Mood or the Sentiment of Any other Person with any other Language through his Speech or Voice .
- This can be Used by Travellers , Migrants . People who are new to a City or a Town or to new Country .
- As our Model Converts any Language to English , it would be helpful in both the ways .
- This will be Later on Build as a Web App by Us and Can be Used parallelly when a Phone call is Run or When a Audio is Played .

Note :

There are few Chances that the model might Not Run on Certain IDE because of Environment Issues with the IDE . So We have attached an Alternative Code that will take text as Input and display the Sentiment Rightly . File named as "compiler_text_sentiment.py"

This Project is Done By :

Sreeram S :

Developed the Emotion Recognition Model , Sentiment Classifier Model and developed the front-end that Is the User Interface and deployed in Flask .

S G Harish :

Developed the Speech Recognition Model , Language Translation Model , Language Recognition Model . Speech to Text Conversion Model .