Minor Project

Report on

EMOTION ANALYSIS FROM TEXT

submitted in partial fulfillment of the requirements for the award of degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE & ENGINEERING

by

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

B.V.RAJU INSTITUTE OF TECHNOLOGY

(UGC Autonomous, Accredited by NBA & NAAC)

Vishnupur, Narspur, Medak(Dist.), Telangana State, India - 502313

2021 - 2022

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the Minor Project entitled
"EMOTION ANALYSISFROM TEXT", being submitted by

K. Dheeraj Kumar Reddy (20211A05E0)

K. Bhargav (20211A05D0)

K. Bhavish Naga Sai (20211A05D1)

In partial fulfillment of the requirements for the award of degree of BACHELOR OF TECHNOLOGY in COMPUTER SCIENCE AND ENGINEERING to B.V.RAJU INSTITUTE OF TECHNOLOGY is a record of bonafide work carried out during a period from May 2021 to July 2022 by them under the guidance of **Mr. P N V Syamala Rao M M.Tech (Ph.D)**, Assistant Professor, CSE Department.

This is to certify that the above statement made by the students is/are correct to the best of my knowledge.

Mr. P N V Syamala Rao M.Tech (Ph.D),

Assistant Professor

The Project Viva-Voce Examination of this team has been held on _____8th August, 2022.

Dr. Ch. Madhu Babu

Professor & HoD-CSE

CANDIDATE'S DECLARATION

I/We hereby certify that the work which is being presented in the projecten titled **"EMOTION ANALYSIS USING TEXT"** in partial fulfillment of the requirements for the award of Degree of Bachelor of Technology and submitted in the Department ofComputer Science and Engineering,

B. V. Raju Institute of Technology, Narsapur is an authentic record of my own work carried out during a period from May 2021 to July 2022 under the guidance of **Mr. P N V Syamala Rao M M.Tech (Ph.D)**, Assistant Professor. The work presented in this project report has not been submitted by me/us for the award of any other degree of this or any other Institute/University.

K. Dheeraj Kumar Reddy (20211A05E0)

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K. Bhavish Naga Sai (20211A05D1)

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The success and final outcome of this project required a lot of guidance and assistance from many people and I am extremely fortunate to have got this all along the completion. Whatever I/we have done is due to such guidance and assistance. I/We would not forget to thank them.

I/We thank **Mr. P N V Syamala Rao M.Tech (Ph.D),** Assistant Professor for guiding me/us and providing all the support in completing this project. I am/We are thankful to **Dr. Lanke Pallavi**, our section project coordinator for supporting me/us in doing this project. I am/We are thankful to Mr. V. Pradeep Kumar, project coordinator for helping me/us in completing the project in time. I/We thank the person who has my/ourutmost gratitude is **Dr. Ch. Madhu Babu**, Head of CSEDepartment.

I am/We are thankful to and fortunate enough to get constant encouragement, support and guidance from all the staff members of CSE Department.

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EMOTION ANALYSIS

ABSTRACT

We know that these days technology has been developing at a rapid pace, similarly in the same way the human emotions are also being developed in a complex manner.

Detecting a person's emotions is a difficult task but detecting the emotions using text written by a person is even more difficult as a human can express his emotions in any form.

Recognizing this type of emotion from a text written by a emotion analyzer plays an important role in applications such as chatbot, customer support forum, customer reviews etc.

- Let me explain about this analysis with a small example.
- EXAMPLE:
- In simple words, consider if the customer did not like the product by investing the large amount then he will surely give his feedback like "I am very angry by your product services and going to file a complaint regarding this issue". When you read this kind of feedback then you will be sure that the customer is completely angry about product services and we have to improve it as soon as possible.
- But when we read a reply like: "I was asked to sign a third party contract a week out from stay. If it wasn't an 8-person group that took a lot of wrangling I would have cancelled the booking straight away. Bathrooms - there are no standalone bathrooms. Please consider this
  - you must clear out the main bedroom to use that bathroom... "

It takes a toll on us for

understanding Coding Language-

Python.

Key Words: Emotions, Analysis, Communication, Real-World Problems.

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1. INTRODUCTION

1.1 Motivation

Usually, these days the valuation of reviews has become a tedious task. In olden days, the customers were usually less and their reviews were manually given to owner. Due to result of technology booming the applications built on technology increased widely. The use of applications like Amazon, Flipkart, Twitter, Instagram, Facebook increased dramatically. Also the problems arise due to some external factors also increased. These kinds of problems are brought to the notion of these companies via reviews.

But when the reviews are given in huge long sentences a normal review validator cannot understand. So, to help them out I have created my own Emotion calculator from given reviews.

1.2 Problem Definition

We know that these days technology has been developing at a rapid pace, similarly in the same way the human emotions are also being developed in a complex manner.

Detecting a person's emotions is a difficult task, but detecting the emotions using text written by a person is even more difficult as a human can express his emotions in any form. So, we created an emotional analyzer using python.

1.3 Objective of Project

The objective of the emotional analyzer is to get the correct emotion of the reviews given by the customers and solve them by knowing the meaning of every line written by the customer along with its emotion.

1.4 Limitations of Project

- The emotional analyzer works only for the English language
- There may be spelling mistakes in the reviews which are not corrected by the analyzer

2. LITERATURE SURVEY

2.1 Introduction

We know that these days technology has been developing at a rapid pace, similarly in the same way the human emotions are also being developed in a complex manner.

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- But when we read a reply like: "I was asked to sign a third party contract a week out from stay. If it wasn't an 8 person group that took a lot of wrangling I would have cancelled the booking straight away. Bathrooms - there are no stand alone bathrooms. Please consider this
  - you have to clear out the main bedroom to use that bathroom. Other option is you walk through a different bedroom to get to its en-suite.
  Signs all over the apartment - there are signs everywhere - some helpful - some telling you rules..."

2.2 Existing System

- This is the existing system is available on the website named: https://text2emotion.herokuapp.com/
- Here in this website if we give a text in the given box.
- By using text2emotion package the given text is given a particular score for each emotion if available.
- The score is given between 0 and 1.
- The system also shows the pictorial representations of emotions too.

2.3 Disadvantages of Existing system

- The emotional analyzer works only for the English language
- There may be spelling mistakes in the reviews which are not corrected by the analyzer

2.4 Proposed System

The Proposed System is:

- We are going to use this system in social media to eradicate the hate spreading users.
- We can embed this system with feedback system to get the correct feedback emotion
- This system will also have emojis for the outputs.

3. ANALYSIS

3.1 Introduction

We know that these days technology has been developing at a rapid pace, similarly in the same way the human emotions are also being developed in a complex manner.

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3.2 Software Requirement Specification

3.2.1 Hardware requirements

- Processor : Intel i5, 2.4GHz, 64bitproccesor
- RAM : 4 GB RAM
- Hard Disk : 100 GB
- Internet Access

3.2.2 Software requirements

- OS : Windows Unix, Kali Linux, Ubuntu
- Programming Language :Python
- Code Executor: Python 3.9 versioned IDLE Window.
- Domain: Data Science

4. DESIGN

4.1 Introduction

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Signs all over the apartment - there are signs everywhere - some helpful - some telling you rules..."

4.2 DFD / ER / UML diagram (any other project diagrams)

Use-Case Diagram

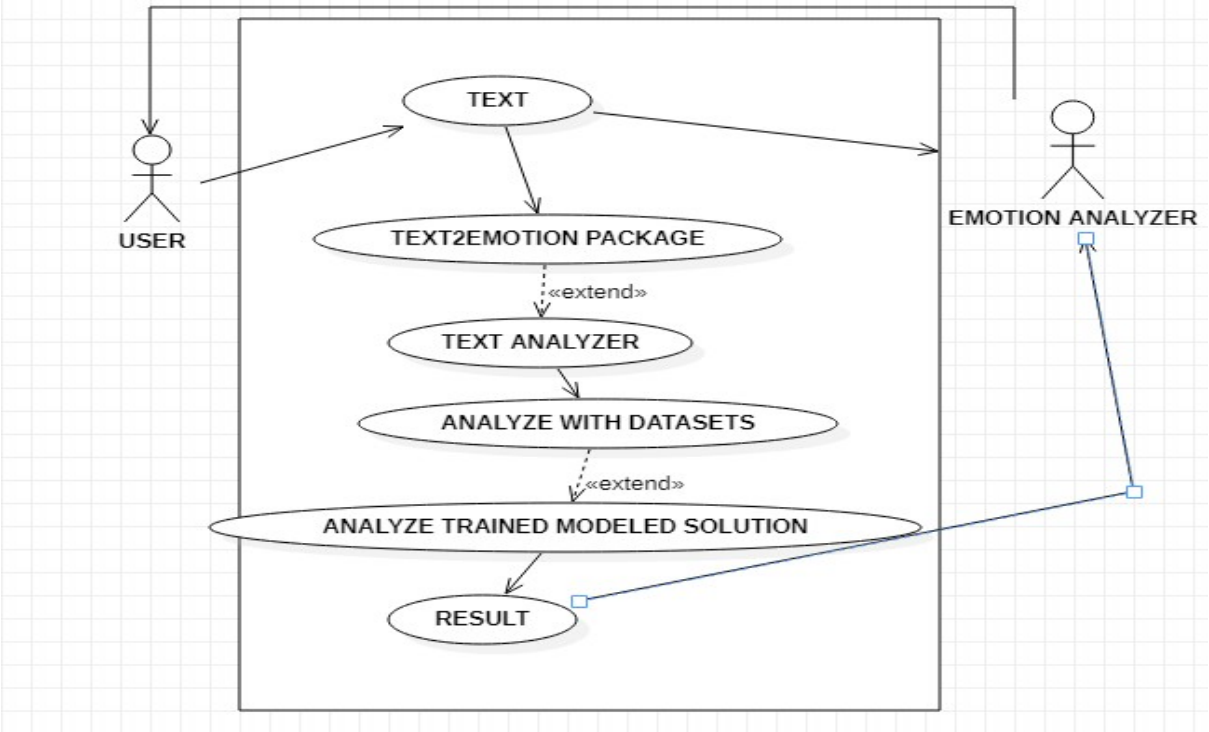


Fig.1 Sequence Diagram

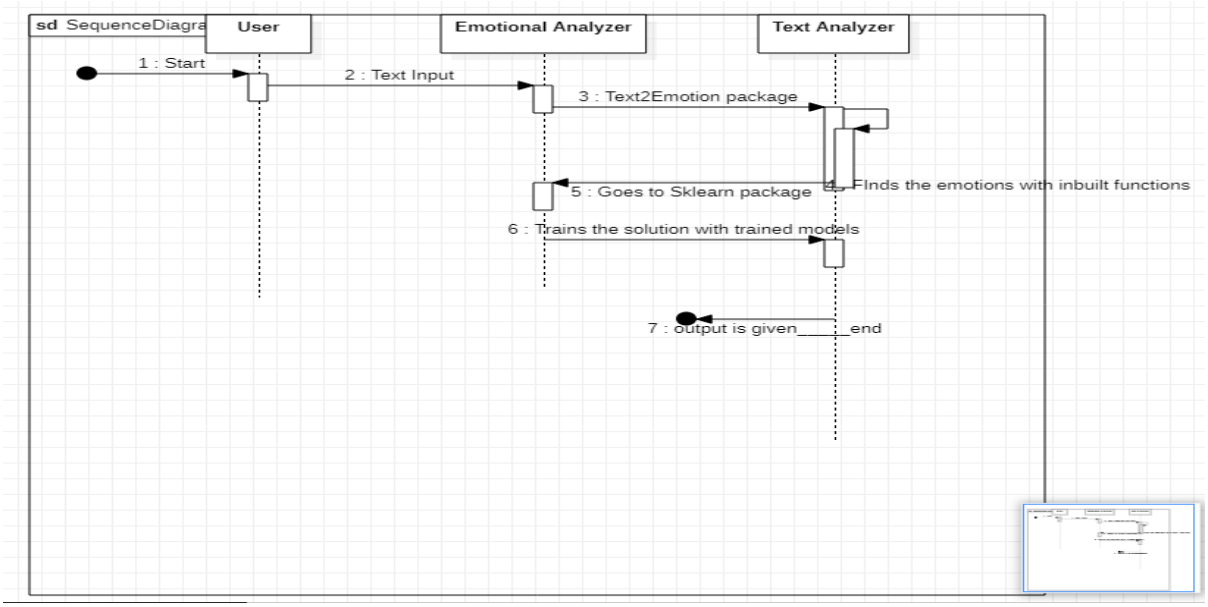
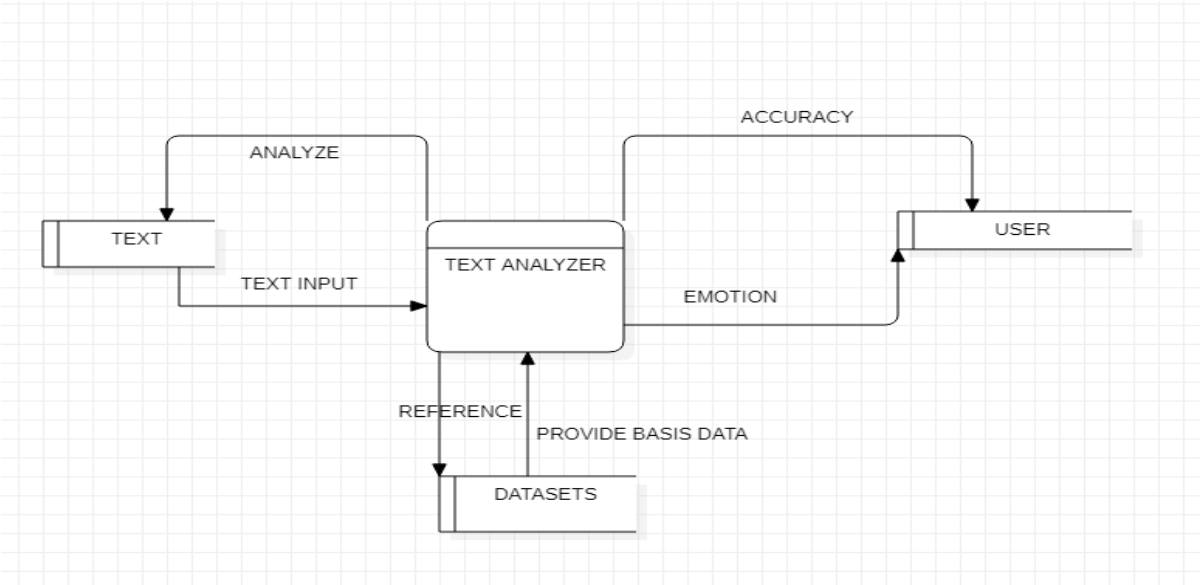


Fig.2 DFD Diagram



4.3 Module design and organization

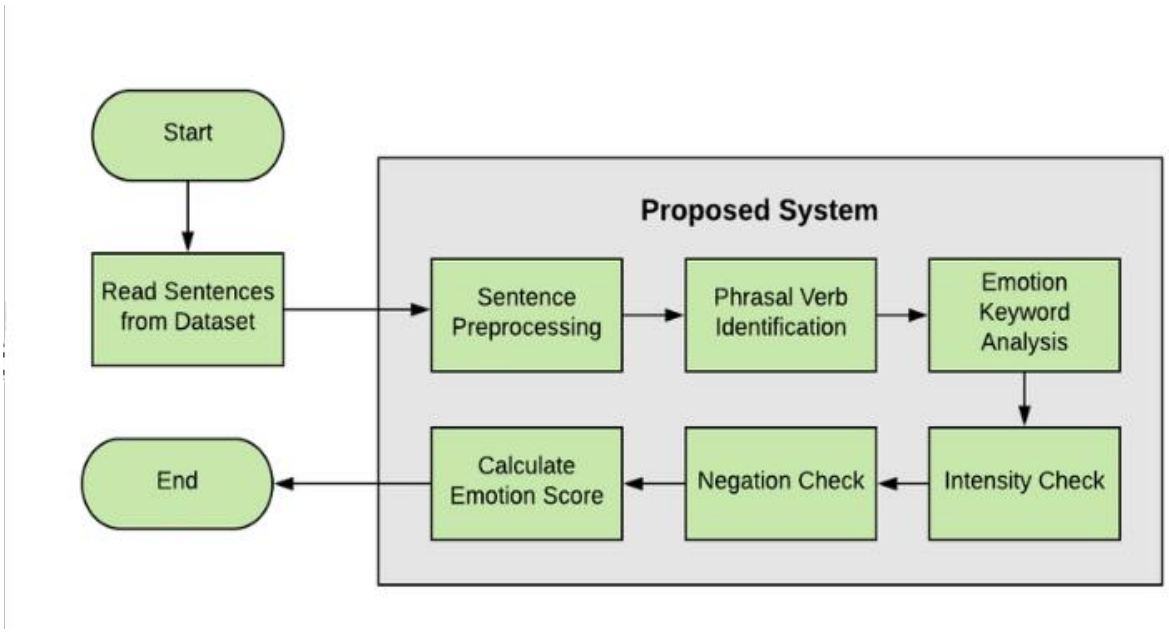


Fig.3

Modules

- removing_shortcuts: Here, we are going to convert shortcut words to its actual words.
- Ex: idk is converted to I don't know
- removing_not text: negative words are converted positive words.
- Ex: not sad is converted to happy emotion
- cleaning: Here, the unnecessary texts like pronouns url heads are removed.
- Ex: I am happy to happy
- get_emotion: The remaining adjectives after cleaning text, emotions related to the adjectives are assigned to them.
- Lemmatization: Grouping of different forms of the same word.
- Ex: cats, cat, kittens all are brought into the category of cats
- stop_words: Commonly used words like I , are, the in the given text .

5. IMPLEMENTATION & RESULTS

5.1 Introduction

We know that these days technology has been developing at a rapid pace, similarly in the same way the human emotions are also being developed in a complex manner.

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5.2 Explanation of Key functions

get_emotion function

After the processes like not word conversion, lemmatization,

stop words removal, text cleaning processes are done only a few words of text are left out. For each word there is an emotion for its usage. In this function we define an emotion to it and later convert into a human understandable number.

5.3. Method of Implementation

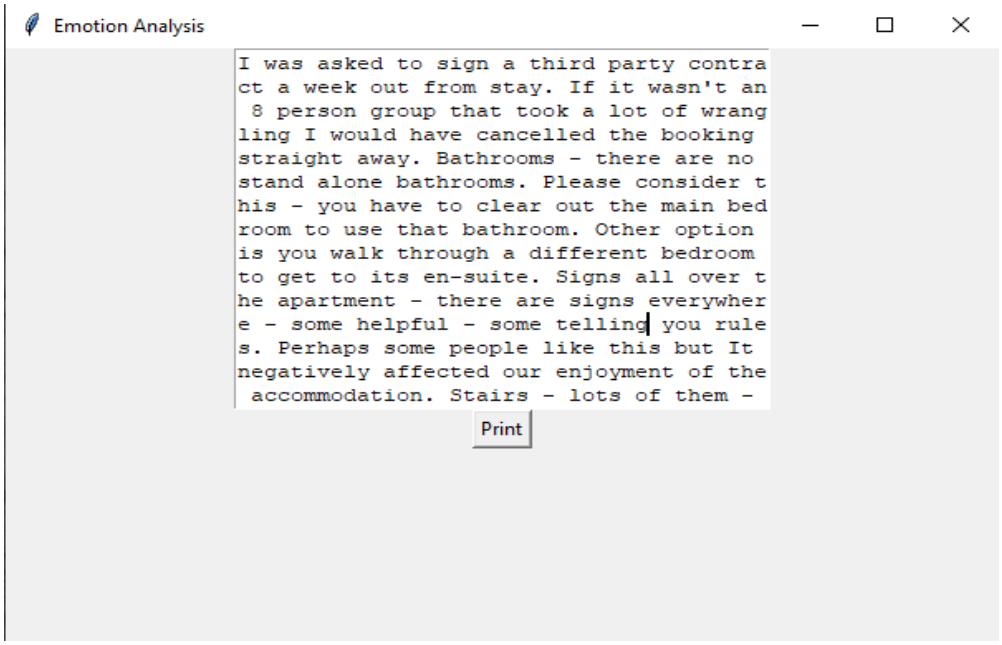
Code

```
import nltk

#Activation of text2emotion package

nltk.download('omw-1.4')

import tkinter as tk

#Used for new Window creation

import pandas as pd

# Used for converting dict into Series

import matplotlib.pyplot as mat

#pie plot and graph plot

import text2emotion as te

# emotion analyzer

# Frame is created

frame = tk.Tk()

# Frame title is given

frame.title("Emotion Analysis")

# Size of the frame

frame.geometry('600x400')

def printOP():

    # text input window opening

    # given text accepantance

    # taking the given input in the tkinter created box
```

```
    inp = inputtxt.get(1.0, "end-1c")

    # Just  a common statement
    print("The emotions in the text are:")

    # Emotion analysis

    # All the emotions are stored into a dictionary x

    # x contains emotions like Happy,Angry,Surprise,Sad,Fear

    # in terms of floating point numbers less than 1 and more than 0

    # i.e the values are between 0 and 1
    x=te.get_emotion(inp)

    # printing the emotion dictionary

    print(x)

    df=pd.Series(x,index=("Happy","Angry","Surprise","Sad","Fear"))

    # Converting the dictionary into Series

    # This is done user viewing friendly nature

    print(df)

    # Pie plotting of emotions


    mat.pie(df,labels=x.keys(),autopct='%1.1f%%')

    # showing the pie chart

    mat.show()

    # plottting the values on the graph

    mat.plot(df,'o')

    # showing the plotted graph
    mat.show()

# input text window opening
inputtxt=tk.Text(frame,height=15,width=40)

inputtxt.pack()

# print button creation

# command assigning to the button
printButton=tk.Button(frame,text="Print",command=printOP)

# the command assigned is printOP

printButton.pack()
```

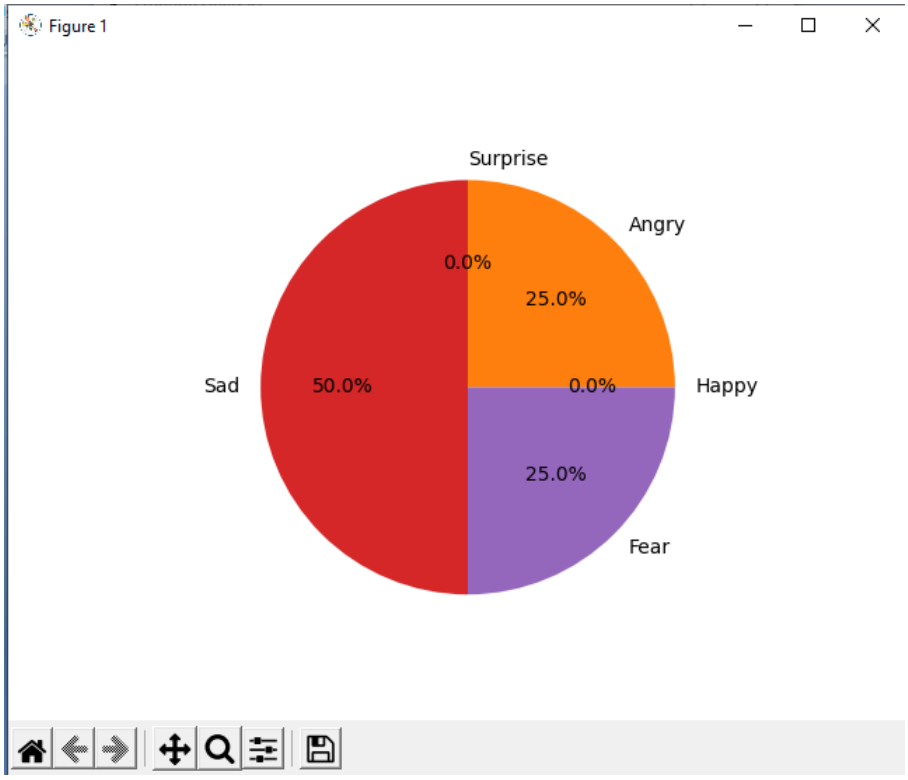
5.3.1 Output Screens

Input text Box

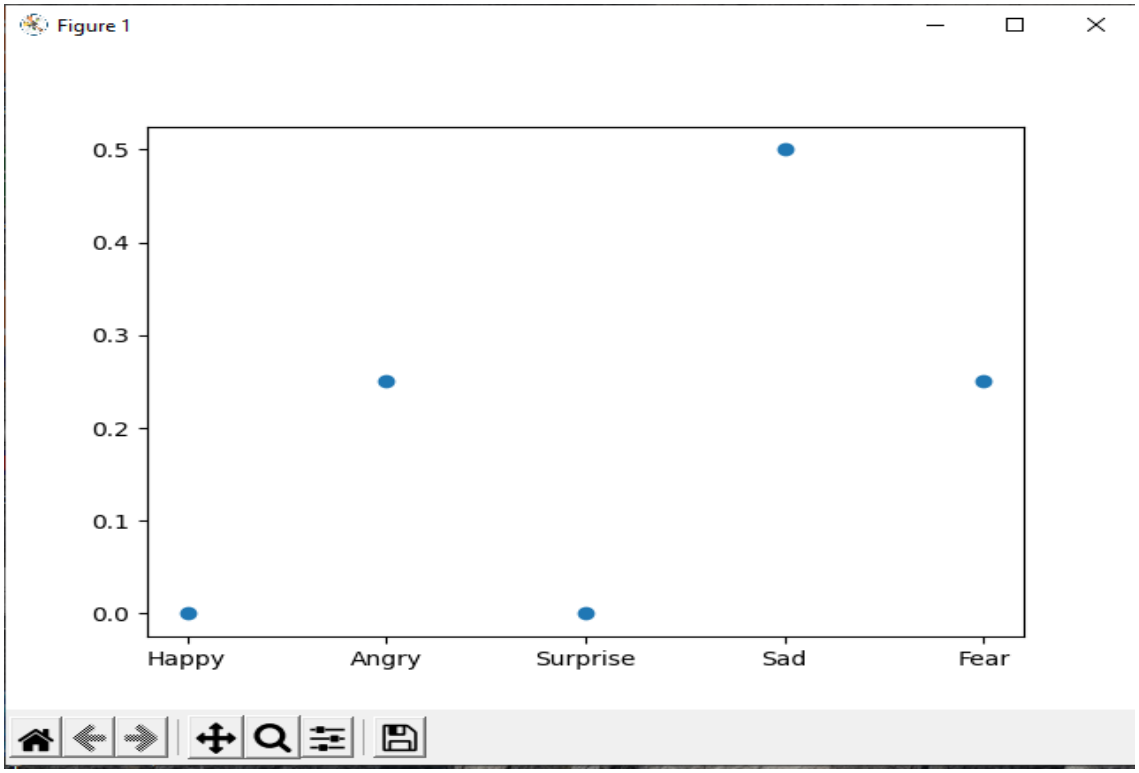


Output IDLE Window

Pie Chart of the emotions



Bar Plot of emotions



5.3.2 **Result Analysis**

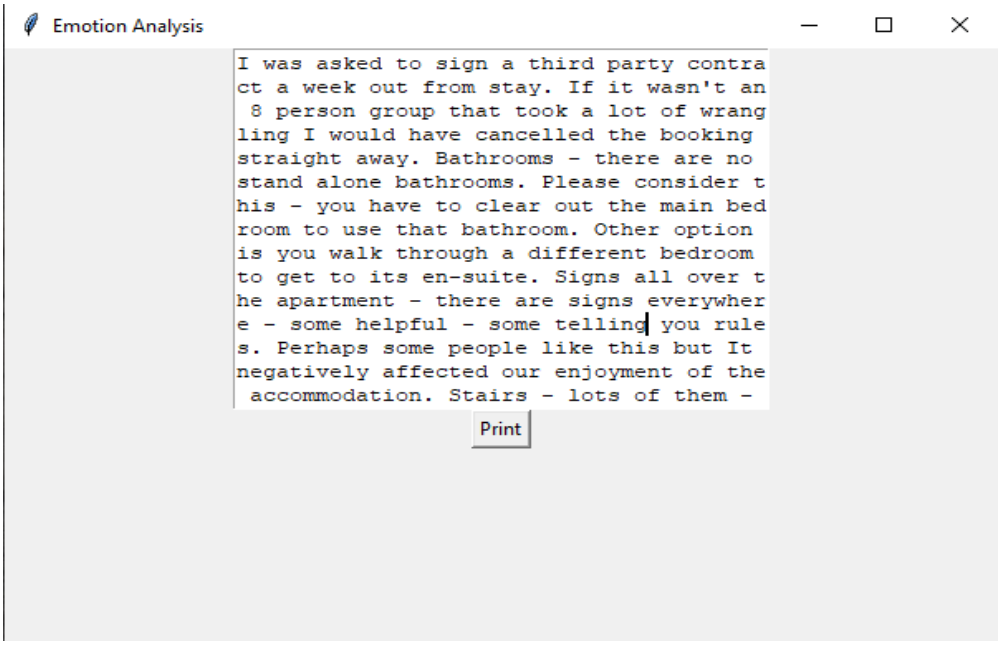
Output from Text2Emotion Home page website

```
#The output we received,
{'Angry': 0.12, 'Fear': 0.42, 'Happy': 0.04, 'Sad': 0.33, 'Surprise':
0.08}
```

6. TESTING & VALIDATION

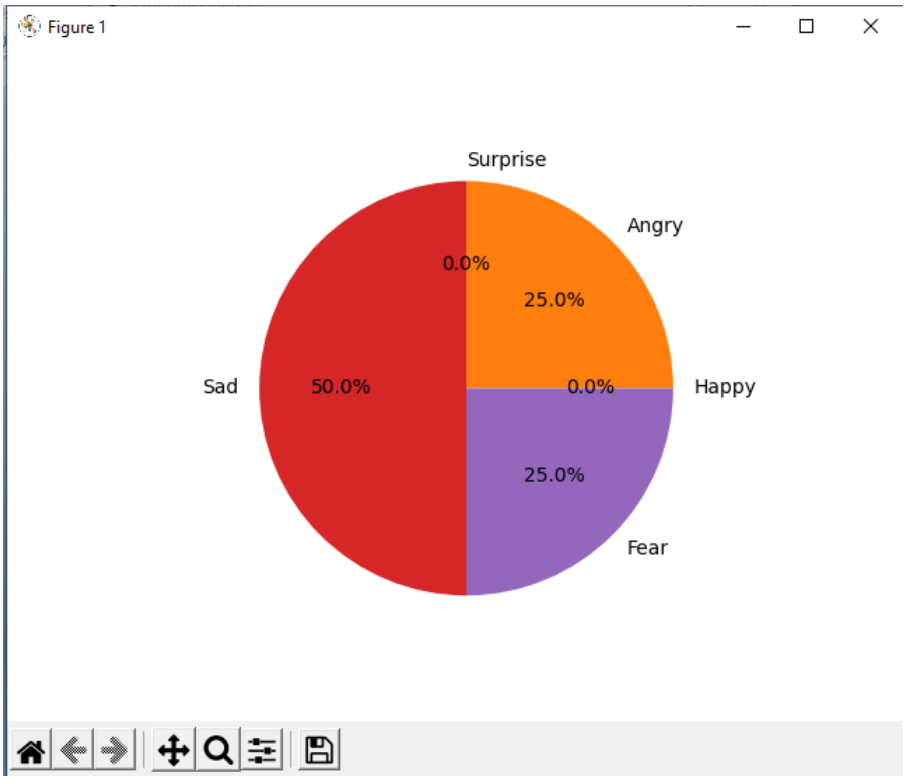
6.1 Design of test cases and scenarios

Input Text

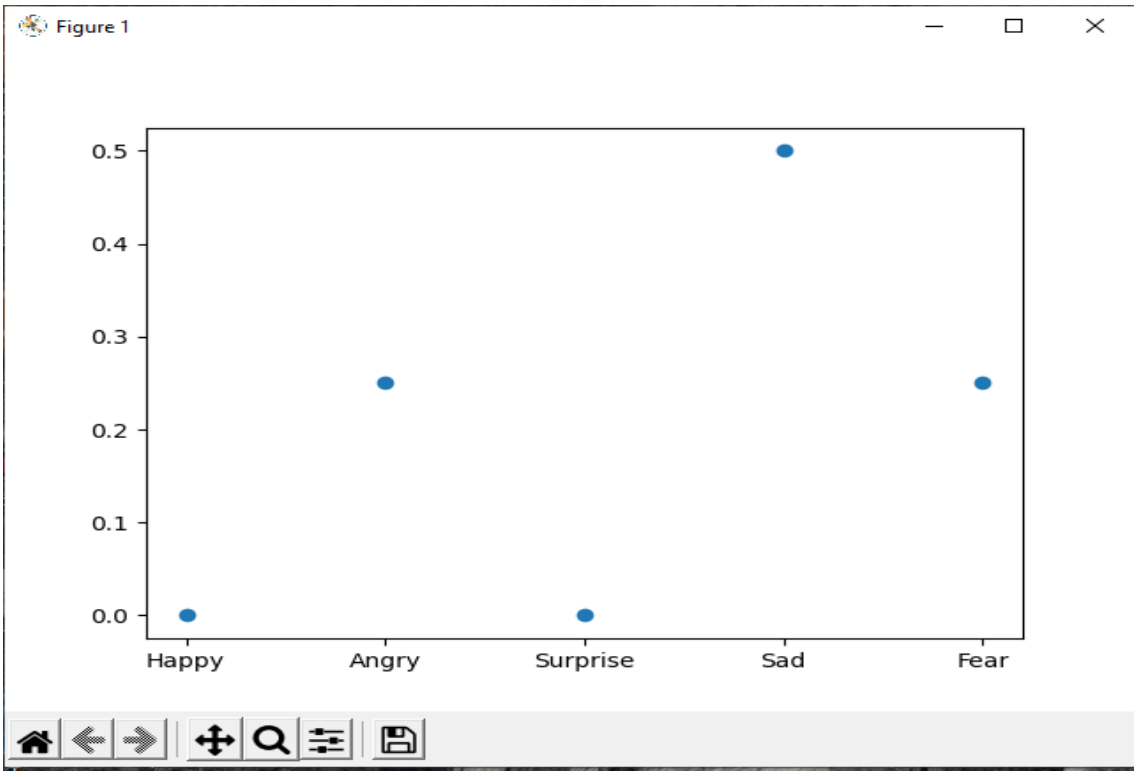


Output IDLE Window

Pie Chart



Bar Plot



7. CONCLUSION & FUTURE WORK

- To create a real user interface or also an standalone application of the emotion analysis
- Want to go with the same model of emotional analysis using text, image, audio, video, sound etc.
- Twitter tweet analysis
- Newspaper articles sentiment analysis

8. REFERENCES

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