Movie Review Sentiment Analysis

A python project for course INT-213, School of Computer Science and Engineering, Lovely Professional University, Phagwara, Punjab.

Submitted By:

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Contribution:

- Initial GUI interface
- Bug fixing
- Second prototype
- Research

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Contribution:

- File handling
- Main algorithm
- Minor GUI changes
- Report

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Contribution:

- Research
- Bug fixing
- PPT
- Algorithm

Contents:

Acknowledgement:

I wholeheartedly would like to thank Mr. Ishan Kumar, our beloved professor and mentor, without whom this project would not have been possible. His lectures and guidance were more than ample in acquiring relevant and necessary intel on the project.

I also thank my batch mates and close friends who have been there for every beck and call as and when needed in identifying and correcting minor bugs and in finishing up the project.

Movie Review Sentiment Analysis

Project Overview:

The project is built on Python 3. The purpose of the project was to implement learnt concepts through hands on training, which I assume the project has successfully delivered.

Movie Review Sentiment Analysis is a program to analyze the reviews of a critic. The program judges the reviews or comments posted, via an algorithm, and ranks the review on being ‘positive’ or ‘negative’.

Technicalities:

- ## Modules:

  Tkinter- Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications. Tkinter provides a powerful object-oriented interface to the Tk GUI toolkit.

  Sys- The **sys module** in Python provides various functions and variables that are used to manipulate different parts of the Python runtime environment. It allows operating on the interpreter as it provides access to the variables and functions that interact strongly with the interpreter.

  Os- The OS module in Python provides functions for interacting with the operating system. OS comes under Python's standard utility modules. This module provides a portable way of using operating system-dependent functionality. The *os* and *os.path* modules include many functions to interact with the file system.

- ## File system:

  Txt files- For the purpose of the project, only .txt files have been used. The text files are data banks that store the positive, negative and neutral words.

Code:

- **Logic:**
  - Build a GUI that takes:
    - Input text
    - Has a ‘submit’ button
    - Has a ‘clear’ button
    - Has 3 output areas- positive, negative and overall review
  - Create 3 txt files:
    - Positive.txt for positive words
    - Negative.txt for negative words
    - Neutral.txt for neutral words
  - Break the Input text from interface into a list
  - Compare each list item with all 3 files
  - When item found in a file, increment the file counter
  - Use a simple percentage algorithm to judge the amount of positivity
  - Display the result

- **Pseudo Code:**
  - Start
  - Import tkinter module
  - Create clearAll function
    - Put empty string in each label and entry field
  - Create sent_analysis function

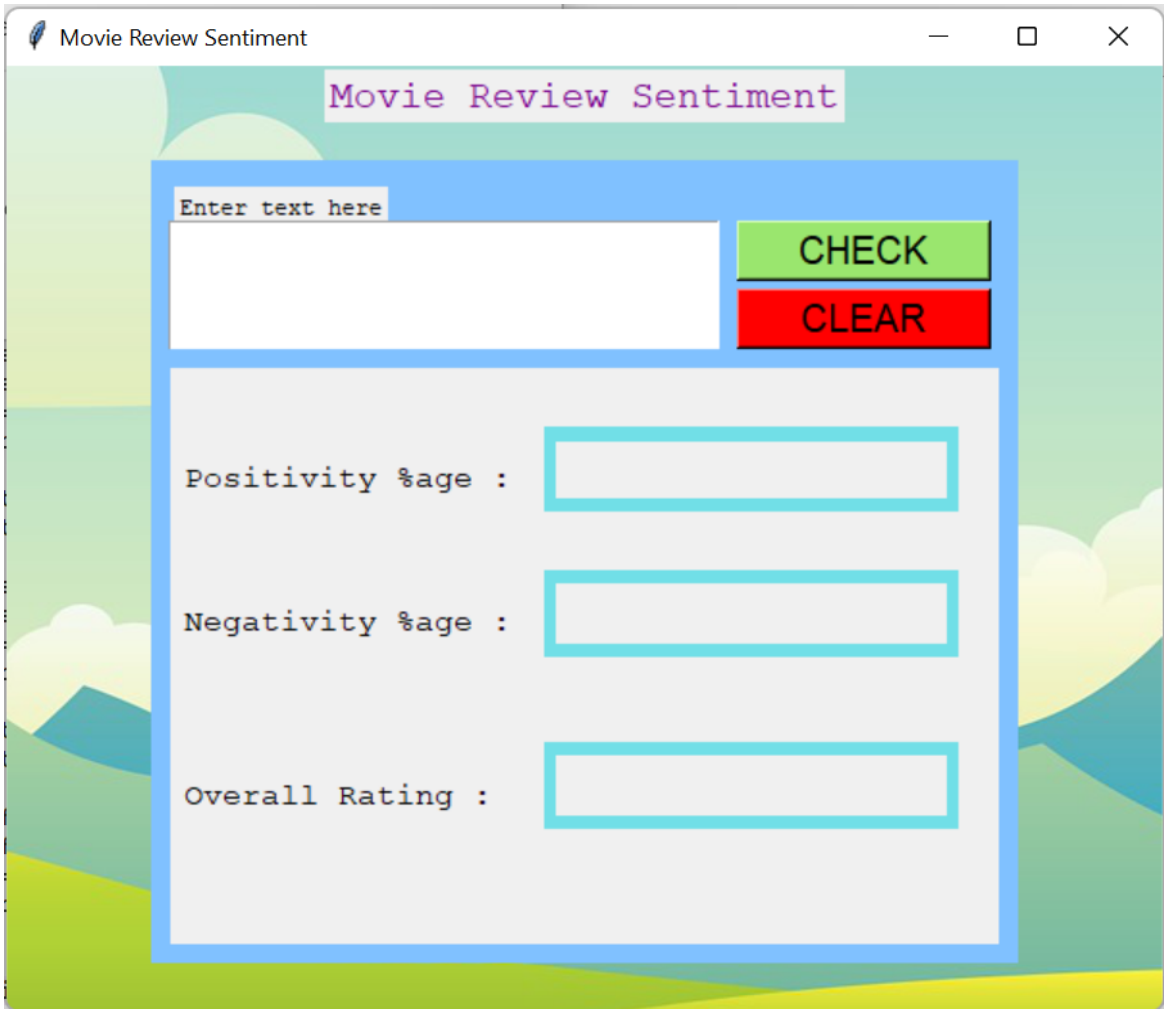
- Use get method to take the string entered in the entry field in a variable ‘sentence’
- Use split method to make a list of the words in the string as ‘listing’
- Import the os and sys modules
- Check if positive.txt, negative.txt and neutral.txt exits.
- Open the files in read mode
- Run a loop for each word in the listing
- Convert each word in lower case
- Run a loop for each word in neutral.txt
- Search if word in listing is found in neutral.txt
- If found, move to next word in listing
- Else: search for the word in positive.txt
- If found, move to next word in listing and increment pst=pst+1
- Else: search the word in negative.txt
- If found, move to next word in listing and increment ngt=ngt+1
- Close all the files
- If pst+ngt==0, it means entered text is neutral, call function display(0,0)
- Else:
- P_percent = pst/(pst+ngt) * 100
- N_percent = ngt/(pst+ngt) * 100

- Call function display(p_percent,n_percent)
- If(p_percent-n_percent >80), give 5 stars
- If(p_percent-n_percent >60), give 4 stars
- If(p_percent-n_percent >40), give 3 stars
- If(p_percent-n_percent >20), give 2 stars
- Else: give 1 stars

❖ Create Display function
- With two parameters (p_percent,n_percent)
- Create 2 labels to print the values in p_percent and n_percent

❖ Make root object for Tk class
❖ Place background image on the root window
❖ Create a label for the heading
❖ Create an input frame on the root
❖ Create an entry field on the input frame
❖ Place 2 buttons on the input frame – Check and Clear
❖ Create a result frame on the root window
❖ Create 3 labels within the result frame that act as output area
❖ END

Screen shots:




Movie Review Sentiment
Movie Review Sentiment
Enter text here
It is a good movie
CHECK
CLEAR
Positivity %age :
100.0 %
Negativity %age :
0.0 %
Overall Rating :

Conclusion:

The project has been built by combining various concepts such as strings, functions, classes and objects, modules, file handling, Graphical user interface etc. This project has taught us how to build real life applications using simple concepts and algorithms.

References:

- Tutorialspoint
- GeeksforGeeks
- Wikipedia
- Github

GITHUB links to project: