PROJECT REPORT

on

CHAT SENTIMENT ANALYZER

(CSE V Semester Mini project)

2022-2023

Submitted to:

Mr. Aniruddha Prabhu

(CC-CSE-V-Sem)

Submitted by:

Harshit Narang

Roll. No.: 2011076

CSE-B-V-Sem

Session: 2022-2023

DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

GRAPHIC ERA HILL UNIVERSITY DEHRADUN

CERTIFICATE

Certified that Mr. Harshit Narang has developed mini project on **"Chat Sentiment Analyzer"** for the CS V Semester Mini Project Lab in Graphic Era Hill University, Dehradun. The project carried out by the student is their own work as best of my knowledge.

Mr. Aniruddha Prabhu

Class Co-ordinator

CSE-B-V SEM

ACKNOWLEDGMENT

We would like to express our gratitude to The Almighty Shiva Baba, the most Beneficent and the most Merciful for completion of project.

We wish to thank our parents for their continuing support and encouragement. We also wish to thank them for providing us with the opportunity to reach this far in our studies.

We would like to thank particularly our project Co-ordinator Mr. Aniruddha Prabhu for his patience, support, and encouragement throughout the completion of this project and having faith in us.

We also acknowledge them who help us in developing the project.

At Last but not the least we greatly indebted to all other persons who directly or indirectly helped us during this work.

Mr. Harshit Narang

Roll No: 2011076

CSE-B-V SEM

Session: 2022-2023

GEHU, Dehradun

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ABSTRACT

WhatsApp is one of the biggest applications for information sharing. Social data Analysis is the analysis of people's interaction in social context. The data analysed here is collected through social networking application called WhatsApp. Sentiment analysis allows us to grab a hint of inclination of people's views in favour or against of any subject. This project is about the Sentiment Analysis of WhatsApp on a general chat. The basic motivation to use this chat is to observe, examine and analyse how the person criticize a situation either by expressing their aggression against each other or supporting their views and points, as we all condemn such inhuman activities in our own way.

Whatsapp has been the most used mode of communication and has been an efficient one too. It consists of many conversations in groups and individuals. So, there might be some hidden facts in them. This project takes those chats and provide a deep analysis of that data. Being any topic, the chats are it provide the analysis in an efficient and accurate way. The main advantage of this project is that it has been built using libraries like pandas, seaborn, matplotlib, emoji etc. They are used to create data frames and plot graphs in an efficient way.

PROJECT INTRODUCTION

WhatsApp is a great source of data to analyse many patterns and relationships between two or more people chatting personally or even in groups. If you want to know how we can analyse the sentiments of a WhatsApp chat, this article is for you. In this article, I will walk you through the task of WhatsApp chat sentiment analysis using Python.

To analyse the sentiments of a WhatsApp chat, we need to collect data from WhatsApp. Most of you must be using this messaging app, so to collect data about your chat, simply follow the steps mentioned below:

1. **For iPhone:**
    1. Open your chat with a person or a group
    2. Just tap on the profile of the person or the group
    3. You will see an option to export chat down below
2. **For Android:**
    1. Open your chat with a person or a group
    2. Click on the three dots above
    3. Click on more
    4. Click on the export chat

METHODOLOGY FOLLOWED

DATA ANALYSIS: It is a process of cleaning, transforming, inspecting and modelling data with the goal of discovering some useful information and finally indicating some conclusions. Analysis means it breaks a whole component into its separate components for individual examination. Data analysis is a process for acquiring raw data and transforming it into useful information for decision-making by users. This project provides a basic statistical analysis WhatsApp chat. Following are the analysis made:

- To find total messages, total words, total media and links shared in the WhatsApp chat
- To find the most active people in the group.
- To find the most used emojis in the group.
- To find the busiest day and least busy in a month.
- To find the most frequently and commonly used words in the group.
- To find the frequency of chat in every day and month.

PROPOSED SYSTEM: Data pre-processing is the initial part of the project, it is to understand the implementation and usage of various python inbuilt modules. These various modules provide better user understandability and code representation. The following libraries are used such as NumPy, pandas, matplotlib, sys, re, emoji, seaborn etc. It analyses the data and gives top statistics like total messages, total media, links, images shared, graphs showing the activity map weekly and monthly, monthly timeline, daily timeline, mostly busy users, chart most common words used, emojis used.

The working of the system is given in the figure given below:

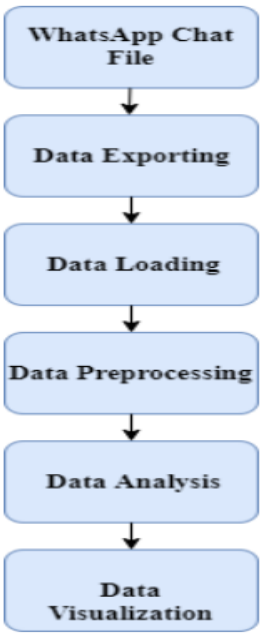


Figure: Flowchart of Proposed System

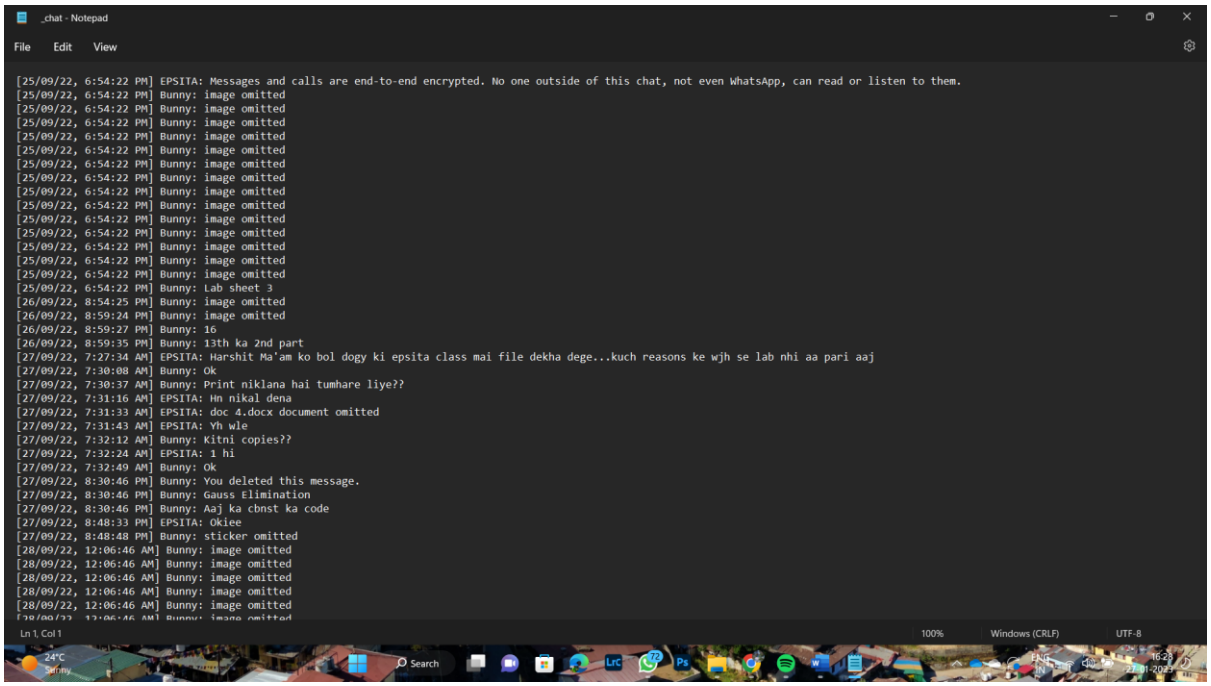
Advantages

1. The image can only be viewed by the receiver as the image is encrypted using AES and the key is only known to the sender and receiver.
2. Since the image is encrypted using AES, it is more secure than the DES and triple DES.
3. Since the key size is 192 bits, it makes the encryption and decryption more secure.

Disadvantages

1. The file size to be transmitted becomes large since it contains encrypted data.
2. Since the file size is huge it can be suspected to contain some critical information.

SCREENSHOTS



Chat Data Set Used in The Code

```
C:\Users\ASUS\anaconda3\python.exe "C:\Users\ASUS\Desktop\Mini 5th\main.py"
          Date         Time  Author  ... Positive  Negative  Neutral
0     25/09/22   6:54:22 PM   Bunny  ...    0.000       0.0    1.000
1     25/09/22   6:54:22 PM   Bunny  ...    0.000       0.0    1.000
2     25/09/22   6:54:22 PM   Bunny  ...    0.000       0.0    1.000
3     25/09/22   6:54:22 PM   Bunny  ...    0.000       0.0    1.000
4     25/09/22   6:54:22 PM   Bunny  ...    0.000       0.0    1.000
..         ...          ...     ...  ...      ...       ...      ...
462   18/11/22    2:48:56 PM  EPSITA  ...    0.000       0.0    1.000
463   22/11/22  10:05:20 PM   EPSITA  ...    0.000       0.0    1.000
464   22/11/22  10:05:28 PM   EPSITA  ...    0.000       0.0    1.000
465  22/11/22  10:06:03 PM    Bunny  ...    0.000       0.0    1.000
466   22/11/22  10:06:57 PM   EPSITA  ...    0.714       0.0    0.286

[467 rows x 7 columns]

Process finished with exit code 0
```

CODE OUTPUT

CONCLUSION

We can conclude that the capabilities of the WhatsApp application and the power of the python programming language in implementing our data analysis intended, cannot be overemphasized. The system was done with python, and the python libraries that were implemented includes, Streamlit, Emoji, NumPy, Pandas, Re, Matplotlib, URLextract, collection and Seaborn. Finally results that we intended were obtained. The future of our project is it is mainly useful for organisers. Then will get to know who is more and least active in the group. Depending on that they can take decisions.

Reference

- https://thecleverprogrammer.com/2021/06/06/whatsapp-chat-sentiment-analysis-using-python/

- https://www.geeksforgeeks.org/