WhatsApp Chat Explorer

Introduction :

- The WhatsApp Chat Explorer is a data visualization and analysis tool designed to extract meaningful insights from WhatsApp chat histories.

- It allows users to upload their chat logs and analyze various patterns, including word frequency, emoji usage, and conversation trends over time.

- The tool provides an intuitive interface using Streamlit and leverages various data processing techniques to generate insights from chat messages.

Libraries :

The project utilizes multiple Python libraries for data analysis, visualization, and UI development. The key libraries include:

- **pandas** - For handling tabular data.
- **re (Regular Expressions)** - For parsing chat text and extracting metadata.
- **plotly & matplotlib** - For graphical data visualization.
- **wordcloud** - For generating word clouds from messages.
- **emoji** - For extracting and analyzing emojis.
- **Streamlit** - For building the web-based user interface.

Process Overview :

1. Data Extraction

- The chat data is uploaded as a `.txt` file.
- The `func_use_extract_data.py` script parses the text to extract metadata such as **date, time, author, and message content**.
- Regular expressions are used to identify timestamps and separate messages from metadata.
- A pandas DataFrame is created with structured data including an additional column for **emoji extraction**.

2. Data Analysis

Several functions in `func_analysis.py` process the extracted data:

- **authors_name()** - Identifies unique participants in the chat.
- **stats()** - Calculates the number of messages, media files, and emojis used.
- **popular_emoji()** - Lists emojis with their frequency.
- **word_cloud()** - Generates a word cloud representation of frequently used words.
- **active_date() & active_time()** - Finds the most active dates and times for chat activity.
- **day_wise_count()** - Analyzes messaging trends based on days of the week.
- **num_messages()** - Tracks the number of messages over time.
- **chatter()** - Displays the most active participants in the chat.

3. Visualization

The analysis results are visualized through:

- **Bar charts** for emoji distribution.
- **Word clouds** for most-used words.
- **Polar plots & line graphs** for day-wise and time-wise trends.

4. User Interface

- The **Streamlit-based UI** allows users to upload their chat files.
- Users can select date formats and specify individual participants for analysis.
- Results are displayed with various interactive graphs and textual summaries.

Conclusion :

The WhatsApp Chat Explorer provides a comprehensive solution for analyzing WhatsApp conversations. By integrating multiple data processing techniques and visualization tools, it transforms raw chat logs into meaningful insights. The tool is beneficial for both personal and professional use, helping users understand their messaging patterns effectively.
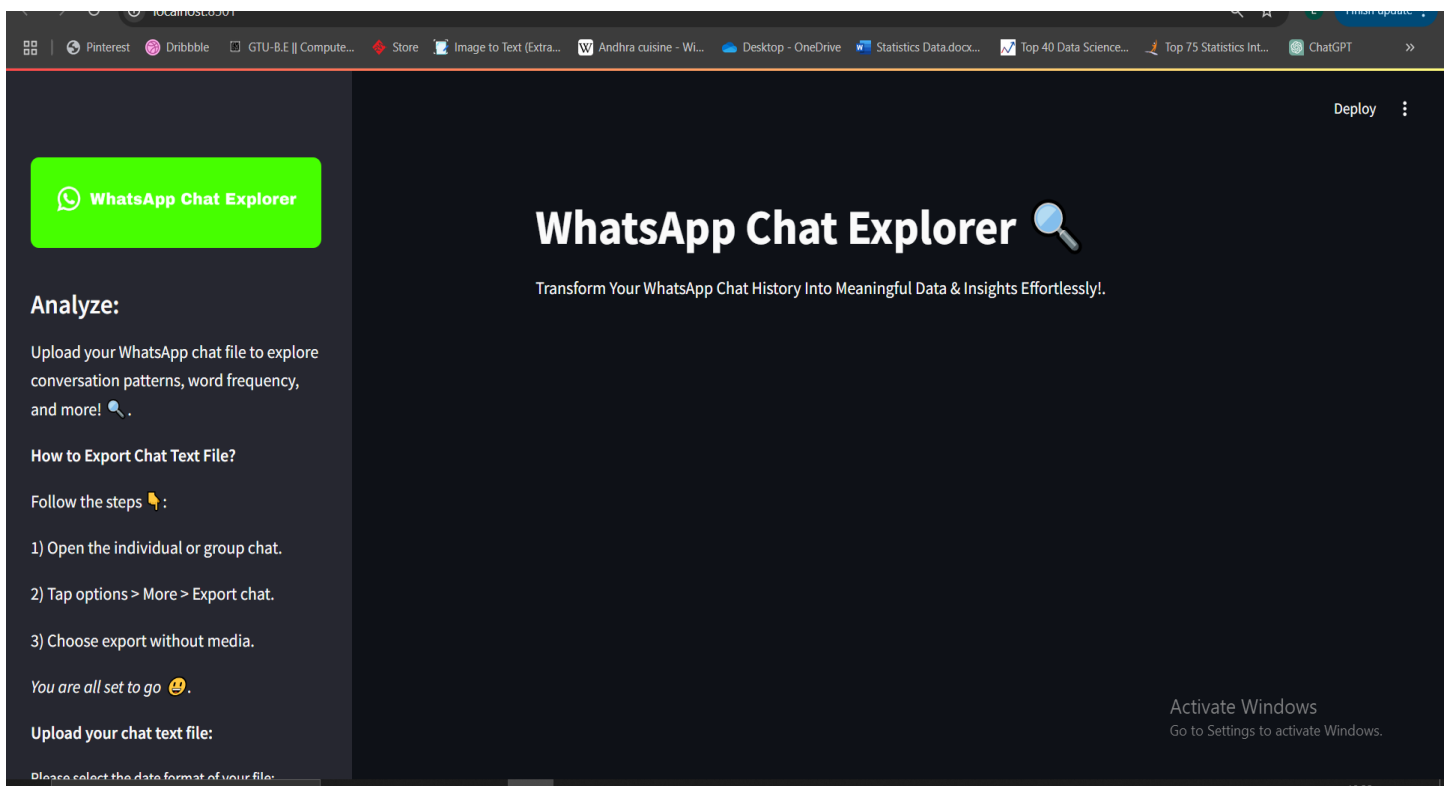
Output Image :

Deploy ⋮

WhatsApp Chat Explorer 🔍

Transform Your WhatsApp Chat History Into Meaningful Data & Insights Effortlessly!.

	Date	Time	Author	Message	emoji
0	2022-12-26 00:00:00	17:48	None	Messages and calls are end-to-end encrypted. Only peopl	
1	2022-12-27 00:00:00	9:23	Lav	<Media omitted>	
2	2023-01-01 00:00:00	10:10	Karn	Hi	
3	2023-01-01 00:00:00	10:10	Karn	Mne khali wt na practical ma output valu kri apse edit?	
4	2023-01-01 00:00:00	10:10	Lav	Saru	
5	2023-01-01 00:00:00	10:11	Karn	Aje moklse ?	
6	2023-01-01 00:00:00	10:11	Lav	Ha Sanj sudhi ma mokli apish Mare be Haji baki j che	
7	2023-01-01 00:00:00	10:11	Lav	atle hu Karish tyare sate Kari apish	
8	2023-01-01 00:00:00	10:11	Karn	Ha saru	
9	2023-01-01 00:00:00	10:12	Karn	Bhulto nai khali 😊	

Deploy ⋮

| | 2023-01-01 00:00:00 | 10:12 | Karn | Bhulto nai khali 😊 | |

Analyze All members together:

Total Messages 💬 : 5265 Total Media 🎞️ : 631 Total Emoji's 😄 : 513

Top 10 frequent use emoji:

😂 : 246

🤣 : 48

🙃 : 22

👍 : 18

🙅‍♀️ : 18

🔳 : 17

😑 : 14

😁 : 13

🙂 : 11

localhost:8501

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WhatsApp Chat Explorer

Analyze:

Upload your WhatsApp chat file to explore conversation patterns, word frequency, and more! 🔍.

How to Export Chat Text File?

Follow the steps 👇:

1) Open the individual or group chat.

2) Tap options > More > Export chat.

3) Choose export without media.

You are all set to go 😃.

Upload your chat text file:

Please select the date format of your file:

dd/mm/yyyy

😂 : 13

😊 : 11

♂ : 10

Visualize emoji distribution in pie chart:

Emoji Distribution

Count

250
200
150
100
50

Emoji

Activate Windows
Go to Settings to activate Windows.

13:36

---

localhost:8502

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Limit 200MB per file • TXT

Browse files

Karn.txt
271.0KB

Don't worry your data is not stored!

feel free to use 😊.

☑ Show Raw Data

To Analyze select

Member Name

All

☐ Hide

Activate Windows
Go to Settings to activate Windows.

18:30

Most active date:

Top 10 active date

Most active time for chat:

Top 10 active time

Deploy

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Browse files

Karn.txt
271.0KB

Don't worry your data is not stored!

feel free to use 😊 .

Show Raw Data

To Analyze select

Member Name

All

Hide

Number of messages

11:49

0   10   20   30   40   50
Number of messages

Day wise distribution of messages for All:

Friday

Wednesday   Monday

Tuesday   Saturday

Thursday   Sunday

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Show Raw Data

To Analyze select

Member Name

All

Hide

Number of messages as times move on

Date

Chatter:

Deploy

Date

Chatter:

Number of messages corresponding to author

Author

Author
■ Karn
■ Lav

Karn

Lav

0   500   1000   1500   2000   2500

MessageCount

Drag and drop file here
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☑ Show Raw Data

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☐ Hide