**User Manual for Social Media Analytics System**

**for GoPro**

**Overview**

This system and dashboard comprehensively analyze GoPro's social media presence on YouTube, TikTok, and Instagram. It includes data extraction, cleaning, analysis, and visualization. The system uses a variety of Python libraries, including NumPy, Pandas, Matplotlib, NetworkX, TextBlob, python-louvain, Seaborn, Dash, and Plotly.

**Data Extraction**

The first step is to extract data from GoPro's social media accounts. This is done using the following APIs:

* YouTube Data API
* SmartProxy social media API
* Requests Python module

**Data Storage**

The extracted data is then stored in a MySQL database named gopro\_data.

**Data Analysis**

The system performs a variety of social media analyses on the extracted data, including:

* User engagement analysis includes analyzing the likes, comments, and views of GoPro's social media posts across all three platforms.
* Diffusion of information among users: This involves visualizing the graph of information flow among users.
* Identification of top influential users: This is done by calculating the degree centrality values of the nodes.
* Hashtag keyword analysis involves identifying the most popular hashtags in GoPro's social media posts.
* GoPro comments - Natural Language Processing: Perform the semantic analysis on GoPro comments and identify each comment's polarity (positive, negative, or neutral).
* Social network analysis involves using the python-Louvain and NetworkX libraries to detect social network communities and calculate centrality measurements for the commented users.
* Content publishing calendar creation: This involves identifying the best posting days and times for GoPro's social media posts based on past performance.
* Future post scheduling predictions: predicting and recommending best posting days and times.
* Analysis of users currently involved with social media content: This involves developing a user engagement hashmap based on each user's views, likes, and comments and analyzing their engagement over time.

**Data Visualization**

The results of all of the above analyses are visualized in an HTML dashboard using the Dash and Plotly libraries.

**How to Use the System**

To use the system, you will need to have Python3 and MySQL installed on your machine. You will also need to install the following Python libraries:

* NumPy
* Pandas
* Matplotlib
* Requests
* NetworkX
* TextBlob
* python-louvain
* Seaborn
* Dash
* Plotly
* MySQL Connector

Once you have installed all of the necessary libraries, you can start the system by running the following command:

Create the gopro\_data database and tables using given SQL scripts in the resources folder.

Create a new YouTube API key

Get the Instagram session ID from your browser inspects

Get the Smart proxy social media API username and password

Store these access data in python gopro\_social\_media\_data\_extraction.ipynb

file

python gopro\_data\_extraction.ipynb

python gopro\_data\_analysis.ipynb

To open the dashboard, hit the localhost URL **in** your browser - http://127.0.0.1:8050/

The dashboard output:

* User Engagement: Detail analysis of user engagement with GoPro's social media posts (post statistics, likes vs comments, time series analysis).
* Diffusion of Information: Graph of information flow among users.
* Top Influential Users: Identifies the most influential users of GoPro's social media platforms.
* Hashtag Keyword Analysis: Identifies the most popular hashtags in GoPro's social media posts.
* GoPro Comments - Natural Language Processing:  Sentiment analysis of GoPro comments and identifies the most positive, negative, and neutral comments.
* Social Network Analysis:  Calculates centrality measurements for the commented users.
* Content Publishing Calendar: Identifies the best posting days and times for GoPro's social media posts.
* Predictive analysis for content posting schedule: Recommend best posting days and times.
* Analysis of user interaction with Social Media Content: The engagement heatmap and engagement of GoPro users over time..

**Conclusion**

This social media analytics system and dashboard provide a comprehensive and powerful tool for analyzing GoPro's social media presence. It can be used to identify trends, track performance, and make informed decisions about GoPro's social media strategy.