# A Python-based social media sentiment analysis dashboard

## Overview:

The objective of this project is to develop a Python-based social media sentiment analysis dashboard. The dashboard will allow the client to analyze comments or users' interactions with social media accounts of musicians before and after they release their music, and provide insights on frequently used words, hashtags, users, and comments sentiment.

## Key Features of the Project:

### Data Collection:

The first step in the process is to collect data from various social media platforms such as Twitter, Facebook, Instagram, YouTube, and TikTok. This data will be collected using their respective APIs and stored in a CSV file.

In order to keep the data relevant, the code will set time boundaries in Python, which will ensure that data is only collected within a specific time frame, before and after the music release date.

### Data Cleaning & Preprocessing:

Before carrying out the sentiment analysis, it is important we clean and preprocess the data. This can involve removing unnecessary characters, converting emoji to words, handling missing data, removing stop words, and performing other transformations to prepare the data for analysis.

### Sentiment Analysis:

Once the data has been collected and preprocessed, the sentiment analysis will be performed on each comment to classify them as positive, negative or neutral. This analysis will be performed using some machine learning algorithms that have been trained on a pre-existing dataset.

### Dashboard:

The final step is to create a dashboard that displays the collected data in a visually appealing and readable format. The dashboard will include graphs, charts, and other visualizations that will help users to quickly analyze the data and gain insights on frequently used words, hashtags, users, and comment sentiment.

## Outcomes:

1. Development of a Python-based social media sentiment analysis.
2. Data collection from various social media platforms such as Twitter, Facebook, Instagram, YouTube, and TikTok.
3. Data cleaning and preprocessing to prepare the data for analysis.

4. Sentiment analysis of each comment to classify them as positive, negative, or neutral.
5. Insights on frequently used words, hashtags, users, and comment sentiment.
6. A visually appealing and easy-to-read dashboard that displays the collected data in the form of graphs, charts, and other visualizations.

## Tasks:

1. Obtain the APIs of various social media platforms to collect data from them.
2. Develop a Python script to collect data from the social media platforms within the time parameters.
3. Set up a CSV file to store the collected data.
4. Preprocess the collected data by removing unnecessary characters, handling missing data, removing stop words, and performing other transformations.
5. Analyze the data to provide insights on frequently used words, hashtags, users, and comment sentiment.
6. Train a machine learning algorithm on a pre-existing dataset to perform sentiment analysis on each comment.
7. Classify each comment as positive, negative, or neutral.
8. Develop a dashboard that displays the collected data in a visually appealing and easy-to-read format.
9. Integrate the sentiment analysis and data visualization code into the dashboard.
10. Test the dashboard to ensure it is working as expected.
11. Share the dashboard and other deliverables with the client.

## Conclusion:

In summary, this project will involve developing a Python-based social media sentiment analysis dashboard. The dashboard will allow the client to analyze social media accounts of musicians before and after they release their music, and provide insights on frequently used words, hashtags, users, and comment sentiment. By including data cleaning and preprocessing, the project will ensure that the analysis is performed on high-quality data, leading to more accurate results.