# PROJECT TOPIC: SENTIMENTAL ANALYSIS ON SOCIAL MEDIA

**Group No.:** G58

**Project Group Members:**

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**Project Supervisor:** Dr. Zubair Ashraf (Assistant Professor)

**About the Project:**

Project, "Sentiment Analysis on Social Media," endeavors to delve into the intricate realm of sentiments articulated across various social media platforms. Leveraging state-of-the-art natural language processing techniques, our project seeks to decode and categorize user sentiments, distinguishing between positive, negative, and neutral expressions. By meticulously analyzing the tone and context of user-generated content, our system aims to extract nuanced insights that go beyond the surface of textual data.

The primary goal of this project is to contribute to a comprehensive understanding of public opinions circulating on social media. As these platforms serve as virtual hubs for diverse conversations, the sentiment analysis will shed light on prevailing attitudes, emotions, and trends within the online community.

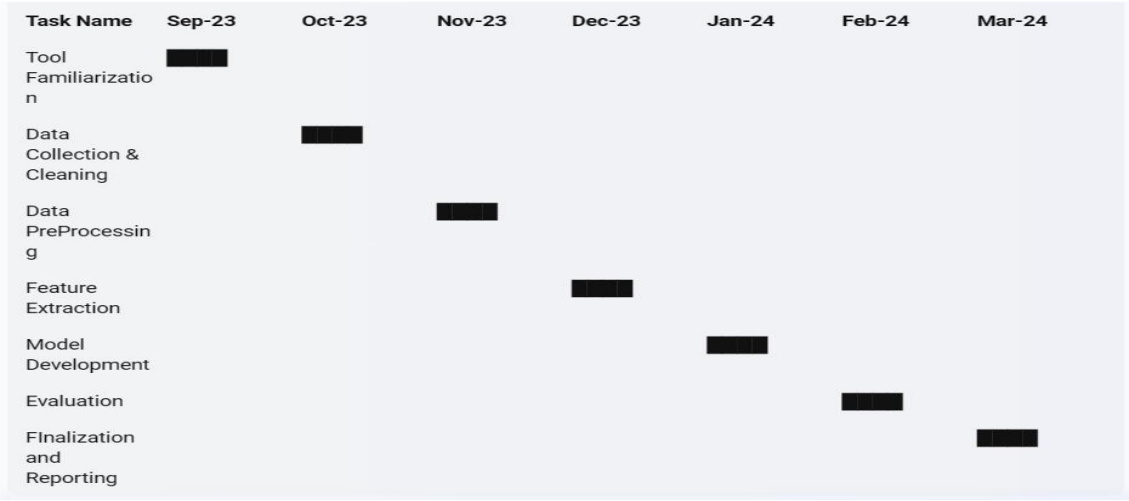
**Motivation:** The significance of this project lies in its potential to extract meaningful insights from the vast pool of social media data. As a major project, it addresses the growing need to comprehend the sentiments of online users, contributing to social and market research. The innovative aspect lies in the application of sentiment analysis algorithms to the dynamic and unstructured nature of social media content.

**Project Planning:** Certainly, here's a rough Gantt chart outlining the phases and their approximate timeframes for completing the sentimental analysis project using machine learning:

1. Research and Learning Phase
    - Research and selection of required tools (Python, libraries -matplotlib, pandas, word cloud)
    - Installation and setup of the development environment
2. Data Collection

- Identification of social media sources for data collection
- Development of scripts or procedures for data scraping
- Initial data gathering and storage

3. Data Pre-processing
   - Cleaning and filtering of collected data
   - Removal of irrelevant information, duplicates, and noise
   - Structuring data for further analysis
4. Feature Extraction
   - Implementation of bag-of-words and TF-IDF techniques for feature extraction
   - Development of algorithms to identify key features in the text
5. Model Development
   - Selection of appropriate machine learning algorithms (Logistic Regression, XG Boost, Decision Tree)
   - Training and fine-tuning of sentiment analysis model
6. Evaluation
   - Testing the model with a separate dataset
   - Fine-tuning based on evaluation results
   - Documentation of model performance metrics
7. Finalization and Reporting
   - Final review and adjustments
   - Preparation of the final project report
   - Submission and presentation of the project




**Tools required:**

- **Hardware Requirements:** Computer
  Processor
  RAM
- **Software Requirements:** Python with necessary libraries (matplotlib, pandas, world cloud)
  Flask for web development
  HTML, CSS, JavaScript for interface design

**Signature of Project Supervisor:** _____