

### **Functional Requirement:**

- Data Collection: The app should be able to fetch real-time tweets from Twitter's API based on specified search queries or user accounts.
- Sentiment Analysis: The app should use a machine learning algorithm or model to analyze the sentiment of each tweet accurately. It should classify tweets as positive, negative, or neutral based on their content.
- Accuracy and Reliability: The sentiment analysis should yield high accuracy and reliability in categorizing tweets correctly, minimizing false positives or false negatives.
- User Interaction: The app should offer a user-friendly interface to interact with the sentiment analysis results, allowing users to explore and filter the analyzed tweets based on sentiment categories or other criteria.

### **Hardware and Software Requirements:**

1. Windows 10 (64-bit) or higher windows 10 (64-bit) or higher.
2. Intel Core i3 or higher processor
3. 8 GB RAM or higher
4. Android Studio
5. Android SDK

6. VS Code

7. Google Colab Notebook

### **Product Backlog:**

- User authentication: Allow users to create accounts and log in securely to access the sentiment analysis app.
- Twitter data integration: Implement a feature to retrieve and analyze tweets from Twitter's API.
- Sentiment analysis algorithm: Using a machine learning algorithm to analyze the sentiment of tweets accurately.
- Positive sentiment analysis: Train the machine learning model to accurately identify and classify tweets with positive sentiment.
- Negative sentiment analysis: Train the machine learning model to accurately identify and classify tweets with negative sentiment.
- Neutral sentiment analysis: Train the machine learning

model to accurately identify and classify tweets with neutral sentiment.

- Real-time analysis: Enable real-time analysis of incoming tweets, providing sentiment scores and categorization in near real-time.
- Sentiment visualization: Develop a visualization component to display sentiment analysis results, such as sentiment trends or sentiment distribution.
- User interface design: Design an intuitive and user-friendly interface for users to interact with the app and view sentiment analysis results.
- Performance optimization: Optimize the app's performance and response time to handle a large volume of tweets efficiently.

### **Workflow Diagram:**

# Workflow diagram

