

Business Scope:

The project aims to develop a sentiment analysis system for a social media platform to enhance user experience and moderating content. The system will analyze user-generated content (textual data) to determine the sentiment expressed in posts and comments. The primary goal is to identify and flag content that contains hate speech, offensive language, or any form of harmful communication. The sentiment analysis system will contribute to creating a more positive and respectful online environment.

Functional Requirements:

1. User Authentication:

- The system should have user authentication to ensure that only authorized users can access the sentiment analysis features.

2. Text Input:

- Users can input textual data, including posts and comments, for sentiment analysis.

3. Sentiment Classification:

- The system should classify the sentiment of the input text into categories such as positive, neutral, offensive, or hate speech.

4. Flagging Mechanism:

- Content identified as offensive or containing hate speech should be flagged for review by moderators.

5. Dashboard for Moderators:

- A user interface for moderators to review flagged content, take appropriate actions, and provide feedback to improve the model.

6. Feedback Loop:

- The system should have a feedback mechanism where user reports and moderator actions are used to continuously improve the sentiment analysis model.

Non-Functional Requirements:

1. Performance:

- The system should be able to process sentiment analysis for a large volume of text data in real-time, ensuring minimal latency.

2. Accuracy:

- The sentiment analysis model should strive for a high level of accuracy, minimizing false positives and false negatives.

3. Scalability:

- The system should be scalable to accommodate the growing user base and increasing data volume.

4. Security:

- User data and analysis results should be stored and transmitted securely. Access to sentiment analysis features should be controlled through secure authentication mechanisms.

5. Reliability:

- The system should be reliable, with minimal downtime and the ability to recover from failures.

6. Adaptability:

- The sentiment analysis model should be adaptable to changes in language usage and evolving online communication patterns.

7. Compliance:

- The system should adhere to data protection and privacy regulations, ensuring that user data is handled in accordance with applicable laws.

8. User-Friendly Interface:

- The user interface for both regular users and moderators should be intuitive and easy to use.

9. Feedback Mechanism:

- The system should facilitate an efficient feedback loop, allowing moderators to provide feedback on the accuracy of sentiment analysis results.

10. Monitoring and Logging:

- Implement comprehensive monitoring and logging to track system performance, user interactions, and model accuracy over time.