
FEASIBILITY STUDY REPORT

for

TOXIC CONTENT REMOVAL FROM SOCIAL MEDIA

Version 1.0

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1 Executive Summary

1.1 Introduction

The aim of the project is to develop a social media website without toxic content. Toxic content, including hate speech, harassment, and offensive language, in comment section of social media, can have a bad impact on individuals' mental and emotional well-being. The purpose of this software requirement specification is to define the requirements and scope for a social media without toxic content. The website will automatically detect and remove such content by deep learning, online spaces become safer and more inclusive for users of all backgrounds and sensitivities.

1.2 Purpose

Now a days toxic content in social media are removed by reporting the content by several people. But it takes time and before its removal, it is visible to all users across different age groups. To avoid this problem we analyze the content (comment or Image) by deep learning techniques like Text Classification and Text Recognition and remove it.

1.3 Desired Solutions

- Combinations of texts are analyzed by deep learning models and analyzed.
- Toxic sentences are classified by Text Classification and if toxic then removed.
- Text from images are recognized by Optical Character Recognition and if toxic then removed.

1.4 Sources Used

- Instagram
- Facebook
- Youtube
- Twitter
- Reddit

2 Technical Feasibility

Based on the research conducted, the following were found necessary to satisfy the system's functional and non-functional requirements.

2.1 Product Requirements

Hardware Requirements

- Requires a powerful server with GPU support, Good RAM, and high-speed internet, ensuring security, and effective monitoring.
- Client Device - Smartphone or PC to run the website.

Software Requirements

- Cloud-storage platform - MongoDB serves as a repository to store and retrieve the data from website.

2.2 Development Requirements

Hardware and Software Requirements

- Tensor Flow / Google Colab - used to train the machine learning model.
- Android Studio / VS Code - IDE to develop Flutter application.
- Windows / Linux Computer

Skill Requirements

- React Framework - To create website interface.
- NodeJS - To create and maintain server.
- JavaScript - Programming language used by React framework

- Python - To program the machine learning model
- NoSQL - Non-Relational Database used in MongoDB

Our project is technically feasible as it can be implemented with the required hardware infrastructure, algorithms, and processing capabilities for effective toxic content removal from social media.

3 Economic Feasibility

3.1 Estimated Hardware Cost

No hardware cost is required to develop the social media website.

3.2 Estimated Software Cost

In this project we use open source resources and the only cost required is Colab subscription - Rs.1000

3.3 Conclusion

The project can be developed and deployed using the given hardware and software. Hence, the project is economically feasible.

4 Legal Feasibility

Based on the referenced papers and previous works, there appears to be no legal conflicts in development, deployment or any other stages of the project.

5 Operational Feasibility

5.1 Throughput and Response Time

React.js primarily runs on the client-side (in the user's web browser) and focuses on providing a fast and responsive user experience.

Node.js is known for its non-blocking, event-driven architecture, which can provide high concurrency and responsiveness, making it suitable for applications requiring real-time interaction.

MongoDB depend on factors like the volume of data, the complexity of queries, and the indexing strategy. Since we are using structured data storage, it will give best throughput and response time.

Since we are using pretrained models and we are retraining the models for our need, we get best response time and throughput.

5.2 Timeliness and Data Accuracy

React.js renders user interfaces; data accuracy and timeliness depend on server-side data management.

Node.js enables real-time updates and ensures timely data delivery to React.js.

MongoDB stores data with accuracy hinging on developer-set validation rules; timeliness relies on indexing and query optimization.

Kaggle offers datasets and machine learning tools; timeliness and accuracy depend on data quality and effective machine learning algorithms.

5.3 Resource Utilization

- ReactJs is the best framework for web user interface development.
- NodeJs can be used for best server side implementation.
- Kaggle allows users to select hardware resources based on their needs. Users can optimize resource usage by selecting the appropriate hardware and efficiently utilizing machine learning resources.
- Also phases of project are divided among group members for effective utilisation of manpower.

5.4 Reliability

Since we are using machine learning models which include deep learning techniques, they can learn from the users and improve themselves. Machine learning models in kaggle are very agadvanced and verified by other users. So they are reliable.

5.5 Scalability and Flexibility

NodeJS gives strong server-side scalability, efficient for handling many concurrent connections and in case of flexibility; versatile, suitable for various server-side applications.

MongoDB is horizontally scalable, ideal for managing large datasets and allows flexible schema design for adaptable data modeling.

5.6 Compatibility with New System

Existing code, libraries, and frameworks in javascript are seamlessly integrated and function correctly within the coding environment. Updating or modifying code will be compatible with the new environment. Third-party libraries and dependencies are also compatible with the new system.

5.7 User Adoption

The social media platform offers a user-friendly interface, engaging content for users to join and remain active on the platform. Building a sense of community, fostering connections, and continuously improving the user experience are key to encouraging adoption and retention.

6 Scheduling Feasibility

When it comes to the implementation, the front-end includes designing and developing User Interface using ReactJS which can be done in 2 months.

The back-end part includes JavaScript and database operations in MongoDB using NoSQL can be done in 2 months.

The machine learning part includes training which can be done in 1 month.

Phase	Modules	Duration
1	Front-end	2 months
2	Back-end	2 months
3	Machine Learning	1 month

Table 6.1: Schedule