Software Requirements Specification

for

Social Media website

**Version 1.0 approved**

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**Revision History**

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| **Name** | **Date** | **Reason For Changes** | **Version** |
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# Introduction

## Purpose

*The purpose of this SRS document is to define the requirements for the social media website*

*is to create an online platform that enables users to connect, share content, and engage in social interactions.*

## Project Scope

The social media website encompasses the development of a comprehensive platform that facilitates event creation, editing, and deletion. It also includes features like event sharing, notifications, user settings, and search functionality.

## 1.3 Definitions, Acronyms, and Abbreviations

**•User:** An individual registered on the social media website.

**•Post:** User-generated content shared on the platform.

**•** **Chat**: Real-time messaging between users.

**1.4 Overview**

*This Software Requirements Specification (SRS) outlines the requirements for the*  *Social Media Website aims to connect users globally, providing a seamless experience for sharing moments, engaging with diverse content, and fostering meaningful connections. Key features include user profiles, post creation, event management, messaging, and advanced search functionalities.*

*Provide a brief description of the main components and modules of the social media website. Highlight key features, such as user profiles, content sharing, messaging, etc.*

## References

*IEEE SoftwareIEEE Software Engineering Standards Committee, “IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications,” IEEE, New York, 1998 Engineering Standards Committee, “IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications,” IEEE, New York, 1998.*

*Pressman, Roger S. "Software Engineering: A Practitioner's Approach." McGraw-Hill, 2014.*

1. *Ambler, Scott W. "Introduction to UML 2 Activity Diagrams." http://www.agilemodeling.com/artifacts/activityDiagram.htm*
2. *MongoDB Documentation. "MongoDB Manual." https://docs.mongodb.com/manual/*
3. *Express.js Documentation. "Express.js - Fast, unopinionated, minimalist web framework for Node.js." https://expressjs.com/*
4. *React Documentation. "React - A JavaScript library for building user interfaces." https://reactjs.org/*
5. *Node.js Documentation. "Node.js® - JavaScript runtime." https://nodejs.org/*

# Overall Description

## Product Perspective

*The “Social media” includes user profiles, content creation and sharing features, engagement mechanisms (likes, comments, shares), real-time updates, privacy settings, and algorithms for content discovery.*

## Product Features

*The main functions of the “social mrdia” application include:*

***Direct Messaging****:Enable users to send private messages directly to other users within the platform.*

***Group Messaging****:Support group conversations, allowing users to create and participate in chat groups with multiple participants.*

***Media Attachments****:Allow users to send images, videos, and other media files as attachments in their messages.*

***Read Receipts****:Implement read receipts to let users know when their messages have been seen by the recipient.*

***Message Editing and Deletion****:Provide the ability to edit or delete messages after they have been sent.*

***Stickers and Emojis****:Include a variety of stickers and emojis to enhance the expressiveness of messages.*

***Voice Messages****:Allow users to send and receive voice messages as an alternative to text.*

***Message Search****:Implement a search functionality within messages, making it easy for users to find specific conversations or content.*

***Notification Preferences:****Allow users to customize their notification settings for new messages, ensuring a personalized experience.*

## User Classes and Characteristics

*There are three classes of users who will interact with the “ social media” application:*

***Individual Users:*** *These are private users who use the application for personal time management. They create personal profiles, connect with friends and family, share updates, photos, and engage with content from others.*

***Content Creators:*** *Users with a focus on creating and sharing content to a wider audience.They regularly produce and post content, engage with their followers, and may collaborate with brands for sponsored content.*

***Business:****Users representing businesses, brands, or organizations.They use the platform for marketing and brand promotion, sharing product updates, interacting with customers, and potentially running advertising campaigns.*

**2.4 Operating Environment**

*The “ social media website" application will operate on various platforms, including Windows, macOS, Linux, iOS, and Android. It will be a cross-platform application that can run on desktop computers, laptops, tablets, and smartphone.*

## 2.5 Design and Implementation Constraints

*The “social media website" include privacy regulations, security measures, browser and device compatibility, scalability challenges, content moderation considerations, cultural sensitivity, legal compliance, and resource limitations.*

**2.6 User Documentation**

*User documentation will be provided to help users understand how to use the “ social media website " project includes clear guides on account setup, profile customization, feature usage, privacy settings, security measures, and troubleshooting, ensuring a smooth user experience.*

***2.7* Assumptions and Dependencies**

It is assumed user internet access and familiarity with social media, the project depends on reliable APIs, secure server infrastructure, regulatory compliance, browser compatibility, and sustained user engagement.

# System Features

***This section provides a detailed description of each system feature and its functional requirements. For each feature, include:***

***A brief description***

***Social media websites include user profiles, news feeds, content sharing, friend/connection systems, privacy settings, likes/comments, notifications, messaging, hashtags, explore pages, events/groups, analytics, search functionality, visual content emphasis, and security features to enhance user engagement and interaction.***

## System Feature 1: Creating Events

3.1.1 Description and Priority

*Description: The system allows users to create events on the social media website. An event can be a gathering, celebration, or any activity that users want to share with their network.*

3.1.2 Stimulus/Response Sequences

* + *User navigates to the "Create Event" section.*
  + *User inputs event details (title, date, time, optional location, and optional description).*
  + *User may add images, videos, or other multimedia content related to the event.*
  + *The system validates and stores the event details in the database.*
  + *Generates a unique identifier for the event.*

3.1.3 Functional Requirements

*REQ-1: The system must provide a user interface with a "Create Event" option.*

*REQ-2: Users must be able to input event details, including a title, date, and time.*

*REQ-3: Users should have the option to provide a location and description for the event, but these fields are optional.*

*REQ-4: User may add images, videos, or other multimedia content related to the event.*

## System Feature 2 Viewing Events

*3.2.1 Description and Priority*

*Description: This feature allows users to view the details of existing events on the social media*

*Priority: Medium*

*3.2.2 Stimulus/Response Sequences*

* + *User navigates to the social media website.*
  + *User selects an existing event.*
  + *System displays the details of the selected event.*

*3.2.3 Functional Requirements*

*REQ-1: The system must provide a user-friendly interface.*

*REQ-2: Users should be able to select an existing event on the social media website.*

*REQ-3: The system should display the details of the selected event, including the title, date, time, location, and description.*

# External Interface Requirements

## User Interfaces

*The user interface include features such as user registration, profiles, news feed, posting and sharing content, friend/connection management, notifications, messaging, search and discovery, privacy settings, events and groups, content moderation, mobile responsiveness, analytics, advertising interfaces, accessibility features, and feedback mechanisms. These aspects collectively contribute to creating a user-friendly, engaging, and secure interface for the platform.*

## Hardware Interfaces

*The hardware interfaces for a social media website typically involve server infrastructure, storage systems, and network components to ensure seamless data transfer and user interactions. This includes servers for hosting the website, databases for storing user data, and networking equipment to facilitate communication between servers and users.*

## Software Interfaces

The software interfaces of a social media website include the user interface for interaction, APIs for third-party integration, database interfaces for data management, backend interfaces for server-side processes, connections to external services, mobile app interfaces, and interfaces for content delivery networks. These components work together to enable seamless user experiences and platform functionality.

## Communications Interfaces

Communication interfaces in a social media website involve the ways different software components exchange information. This includes interactions between the user interface, server backend, and external services. APIs enable communication with third-party applications, while database interfaces manage data interactions.

# Other Nonfunctional Requirements

## Performance Requirements

*The “ social media website" for quick response, scalability, and efficient data handling to deliver a fast and reliable user experience.The application should also synchronize data with other applications quickly and efficiently.*

## Safety Requirements

*The “social media website" application should handle user data securely. Prioritize user data protection, encryption, and content moderation to ensure a secure social media platform.*

## Security Requirements

*The “Social media website” to implement robust encryption, multi-factor authentication, regular security audits, and strict access controls to safeguard user data on the social media website.*

## Software Quality Attributes

*The social media platform, crucial software quality attributes include usability, scalability, reliability, and security to ensure a seamless and trustworthy user experience. Several software quality attributes are of significant importance:*

*5.4.1 Usability:*

*Priority: High*

*Description: Usability in a social media website involves creating an intuitive and user-friendly interface. This includes easy navigation, clear information presentation, and efficient interaction design to enhance the overall user experience. Features like straightforward registration, intuitive content sharing, and accessible settings contribute to a high level of usability. Regular user testing and feedback are essential for continuous improvement.*

*5.4.2 Reliability:*

*Priority: High*

*Description: Reliability in a social media website ensures consistent and dependable performance. This involves minimizing downtime, preventing crashes, and maintaining data integrity.*

*5.4.3 Security:*

*Priority: High*

*Description: Security in a social media website is paramount to protect user data and privacy. This involves implementing measures such as secure user authentication, encrypted communication, and robust access controls. Regular security audits, vulnerability assessments, and prompt patching of any identified issues are crucial.*

*5.4.4 Maintainability:*

*Priority: Medium*

*Description: The codebase should be well-structured and modular, making it easier for developers to maintain, extend, and update the software. This will be evaluated based on code maintainability metrics.*

*5.4.5 Interoperability:*

*Priority: Medium*

*Description:* *Interoperability in a social media website is important for seamless interaction with other platforms and services. This involves using standardized data formats and communication protocols to enable integration with external applications or networks.*

*5.4.6 Flexibility:*

*Priority: Medium*

*Description:* *Flexibility in a social media website can be valuable for accommodating diverse user preferences and evolving trends. This involves designing the system to easily adapt to changing requirements, allowing for the integration of new features and functionalities.*

*5.4.7 Availability:*

*Priority: High*

*Description: Availability in a social media website is crucial for ensuring that the platform is consistently accessible to users. This involves minimizing downtime, implementing effective backup and recovery mechanisms, and having a robust infrastructure.*

*5.4.8 Testability:*

*Priority: Low*

*Description: Testability in a social media website involves designing the system in a way that facilitates effective testing. This includes creating modular components for ease of unit testing, providing clear interfaces for integration testing, and automating various testing processes..*

**6.Other Requirements**

To build a successful social media website, it's crucial to prioritize security to protect user data, ensure reliable performance, offer a user-friendly experience, and design the platform to adapt to changing trends and preferences. This approach ensures a robust, engaging, and sustainable digital space

**Appendix A: Glossary**

* *SRS (Software Requirements Specification): A document that outlines the functional and non-functional requirements for a software project, serving as a foundation for its design and development.*

***User****: An individual registered on the social media website.*

***Post****: User-generated content shared on the platform.*

***Chat****: Real-time messaging between users.*

**Appendix B: Analysis Models**

An analysis model for a social media website typically involves assessing user engagement, content trends, and platform performance. It may include metrics like user interactions, post reach, sentiment analysis, and demographic insights to inform strategic decisions and enhance user experience. Additionally, monitoring for fake accounts or inappropriate content is crucial for maintaining a healthy online community.

**Appendix C: Issues List**

*The Issues List for the social media website is a dynamic document that tracks various open issues and concerns throughout the development process. It's crucial for ensuring that all aspects of the SRS are properly addressed. Here are a few sample entries:*

1. ***User Authentication Security***
   * ***Issue:*** *Inadequate security in the current user authentication system.*
   * ***Status:*** *Open*
   * ***Priority:*** *High*
   * ***Resolution:*** *Conduct a security audit, implement password encryption, and adhere to best practices.*
2. ***Real-time Updates for Interactions***
   * ***Issue:*** *Inconsistencies in delivering real-time updates for post interactions.*
   * ***Status:*** *Open*
   * ***Priority:*** *Medium*
   * ***Resolution:*** *Explore more efficient real-time communication mechanisms, such as WebSocket technology.*
3. ***Event Creation Workflow***
   * ***Issue:*** *User difficulties in the event creation process, specifically regarding date and time input.*
   * ***Status:*** *Open*
   * ***Priority:*** *Medium*
   * ***Resolution:*** *Conduct user testing, simplify date and time input, and provide clear instructions.*
4. ***Mobile Responsiveness***
   * ***Issue:*** *Incomplete responsiveness on smaller screens, affecting the mobile user experience.*
   * ***Status:*** *Open*
   * ***Priority:*** *Low*
   * ***Resolution:*** *Implement responsive design principles to enhance the user interface for various screen sizes.*