SOFTWARE REQUIREMENTS SPECIFICATION

FOR

SOCIAL MEDIA MANAGEMENT SYSTEM

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1. Introduction

1.1 Purpose

This document specifies the software requirements for the Social Media Management System (SMMS), version 2.0. SMMS is a comprehensive platform designed to facilitate the management, scheduling, monitoring, and analysis of social media content and interactions. This SRS covers the entire scope of SMMS, including its core functionalities and subsystems.

1.2 Document Conventions

This SRS follows standard documentation conventions, including the use of Times New Roman font, with headings in bold and subheadings in italics. Priority levels for requirements are indicated by a numeric scale, with higher numbers indicating higher priority. Priority inheritance is assumed, meaning that higher-level requirements' priorities extend to their detailed requirements unless otherwise specified.

1.3 Intended Audience and Reading Suggestions

This document is intended for various stakeholders involved in the development and implementation of SMMS, including:

- - Developers: To understand the technical specifications and design of the system.
- - Project Managers: To gain insight into project requirements, timelines, and resource allocation.
- - Users: To understand the features and functionalities they can expect from SMMS.
- - Testers: To derive test cases and scenarios for verification and validation.
- - Documentation Writers: To prepare user manuals and instructional materials.

The document is organized into sections to cater to different reader types. We recommend starting with the overview sections (Sections 1 and 2) for a general understanding of SMMS. Developers should delve into the technical details in Section 3, while project managers may find Section 4 on project constraints and Section 5 on

system features particularly relevant. Users and marketing staff should explore Section 6, which outlines user requirements, and testers should refer to Section 7 for test cases and scenarios.

1.4 Product Scope

The Social Media Management System (SMMS) is designed to streamline the management of social media accounts and content across various platforms,and provide cross-platform compatibility to support multiple social media networks.

. Its primary purpose is to help businesses and individuals effectively manage their online presence, engage with their audience, and analyze social media performance.

Key objectives and benefits of SMMS include:

- - Efficient scheduling and posting of social media content.
- - Real-time monitoring of social media interactions and mentions.
- - In-depth analytics and reporting to track engagement and ROI.
- - Cross-platform compatibility to support multiple social media networks.
- - Integration with third-party tools and platforms for enhanced functionality.

SMMS aligns with corporate goals by empowering businesses to build and maintain a strong online presence, drive brand awareness, and ultimately achieve their marketing and growth objectives.

1.5 References

- - Cafeteria Ordering System, Release 1.0 , dated [November 4, 2002]
- -Software requirement Specification IEEE template
- -Hootdesk API Reference (1.0.0)

2. Overall Description

2.1 Product Perspective

The Social Media Management System (SMMS) is a new, self-contained product designed to assist individuals and businesses in managing their social media presence. It is not a replacement for existing systems but rather a stand-alone solution. The SMMS can integrate with various social media platforms through APIs to provide a unified interface for posting, scheduling, analytics, and monitoring of social media content. It may also interface with other marketing and analytics tools used by businesses.

2.2 Product Functions

- User account management, including registration and authentication.
- Social media account integration for platforms such as Facebook, Twitter, Instagram, LinkedIn, etc.
- Content scheduling and publishing across multiple social media accounts.
- Content creation and editing tools, including image and video uploads.
- Analytics and reporting on social media performance metrics.
- Social media monitoring for mentions, comments, and messages.
- Collaboration features for teams managing social media accounts.
- Integration with third-party analytics tools for more in-depth analysis.
- Customizable dashboards and data visualization.

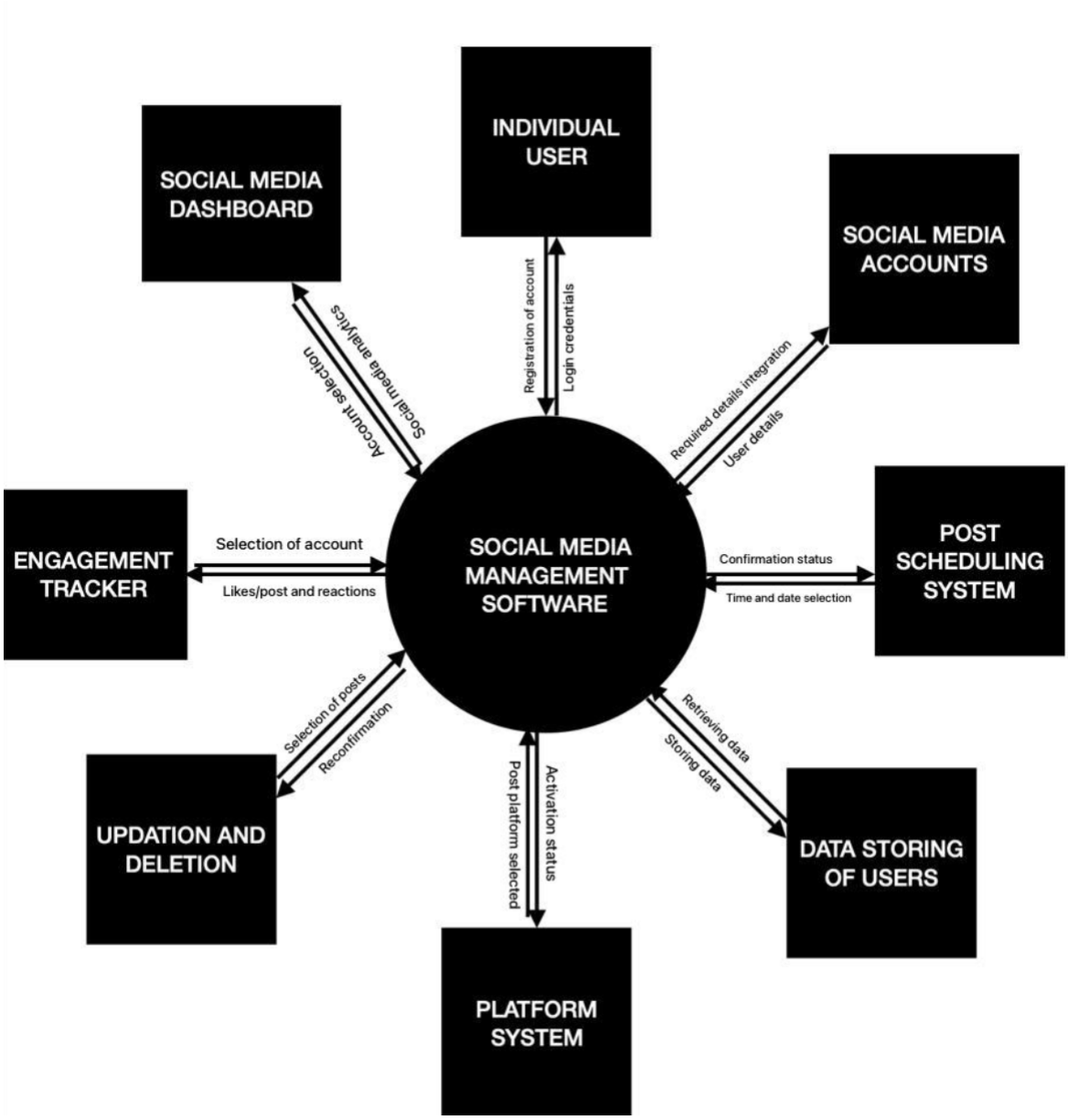

FIGURE 1

Context diagram for release 1.0 of the Social Media ManagementSoftware.

2.3 User Classes and Characteristics

- Individual Users: These users may include influencers, bloggers, or personal brands. They have varying levels of technical expertise and focus on personal or small-scale social media management.
- Small to Medium Businesses: These users may have a marketing team and require more advanced features for managing their social media presence.
- Large Enterprises: These users may have extensive social media accounts across various platforms, requiring advanced analytics, team collaboration, and scalability.

2.4 Operating Environment

The SMMS will operate in the following environment:

- Hardware Platform: Compatible with standard personal computers and mobile devices.
- Tech Stack
- Operating System: Compatible with major operating systems, including Windows, macOS, iOS, and Android.
- Frontend : Frontend will be made using JavaScript(React) and CSS.
- Backend : Backend will be made using JavaScript(NodeJS).
- Tech Stack: Implemented using MERN (MongoDB, Express, React, NodeJS).
- Browsers: Compatible all chrome based web browsers such as Chrome, Firefox, Safari, and Edge.
- Social Media Platforms: Integration with major social media platforms and their APIs (e.g., Facebook, Twitter, Instagram).
- Database: Requires a compatible database system for storing user data and analytics like MongoDB
- 2.5 Design and Implementation Constraints

- API Limitations: The SMMS is dependent on the APIs provided by social media platforms, and any changes or restrictions imposed by these platforms may affect functionality.
- Security Considerations: Ensuring the security and privacy of user data and social media accounts is paramount. Compliance with data protection regulations is necessary.
- User Interface Consistency: The system should provide a consistent and intuitive user interface across various devices and platforms.
- Third-party Tool Integration for analytics: Integration with third-party analytics and marketing tools may be subject to limitations imposed by those tools.

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2.5 User Documentation

The following user documentation components will be delivered with the SMMS:

- User Manuals: Comprehensive guides on how to use the SMMS, including step-by-step instructions.
- Online Help: Contextual help within the application for quick assistance.
- Tutorials: Video and written tutorials for beginners and advanced users.
- Knowledge Base: Frequently asked questions (FAQs) and troubleshooting guides.
- API Documentation: For developers looking to extend or customize the system.
- The specifics of each section may vary depending on the unique features and requirements of the SMMS in question.

2.6 Assumptions and Dependencies

Assumptions:

- The social media management system will integrate with major social media platforms (e.g., Facebook, Twitter, Instagram) through their publicly available APIs.
- Users will have access to a stable and high-speed internet connection to use the system effectively.
- Users are familiar with the basic operation of popular social media platforms and their terminology.
- The system will be hosted on a cloud infrastructure (e.g., AWS, Azure) with adequate scalability and reliability.

Dependencies:

- The project depends on the availability and reliability of third-party social media APIs, which may change or become unavailable.
- The project relies on a secure authentication mechanism for user access, which may depend on external identity providers.
- Integration with external analytics and reporting tools is dependent on their APIs and compatibility.

3. External Interface Requirements

3.1 User Interfaces

The user interface of the Social Media Management System will include the following elements:

- Dashboard: The main dashboard will display a summary of social media accounts, scheduled posts, and engagement metrics.
- Post Composer: Users can create and schedule posts with a WYSIWYG editor and media upload functionality.
- Analytics Dashboard: Access to detailed analytics for each social media account, including engagement, reach, and demographics.
- User Profile: Users can manage their profiles, including adding or removing connected social media accounts.

- Notification Centre: A notification centre will display alerts and messages related to the user's social media accounts.

3.2 Hardware Interfaces

The Social Media Management System does not have direct hardware dependencies, as it operates in a cloud-based environment. Users can access the system from any device with an internet connection and a compatible web browser.

3.3 Software Interfaces

- Social Media APIs: The system will interface with the APIs of various social media platforms (e.g., Facebook Graph API, Twitter API) to fetch and post data.
- Authentication Services: User authentication will rely on OAuth 2.0 for social media account access and a custom user authentication system.
- Database: The system will interact with a database (e.g., MySQL, PostgreSQL) to store user profiles, scheduled posts, and analytics data.
- Third-party Analytics Tools: Integration with external analytics tools (e.g., Google Analytics) will involve APIs or data import/export mechanisms.

3.4 Communications Interfaces

- HTTP/HTTPS: The system will use HTTP/HTTPS for communication with external APIs and web services.
- Email Notifications: Users may receive email notifications for account activity and alerts.
- WebSocket: Real-time updates, such as new engagements and messages, will be delivered to the user interface via WebSocket for a responsive user experience.
- API Rate Limiting: The system will adhere to rate limits and pagination methods specified by social media APIs to prevent abuse.

4. System Features

4.1 User Authentication

- 4.1.1 Description and Priority

This feature allows users to authenticate into the system using their social media credentials or email/password. Priority: High.

- 4.1.2 Stimulus/Response Sequences

User enters username and password.

System verifies credentials.

If valid, the system grants access; otherwise, it displays an error message.

- 4.1.3 Functional Requirements

REQ-1: The system shall provide options for users to log in using their email/password.

REQ-2: User passwords shall be securely hashed and stored in the database.

REQ-3: Upon successful authentication, the system shall redirect the user to their dashboard.

4.2 Content Scheduling

- 4.2.1 Description and Priority

This feature allows users to schedule posts and updates on their connected social media accounts. Priority: High.

- 4.2.2 Stimulus/Response Sequences

User selects a date and time for a post.

User composes the content.

System saves the post and publishes it at the scheduled time.

- 4.2.3 Functional Requirements

REQ-4: The system shall provide a calendar-based interface for scheduling posts.

REQ-5: Users shall be able to attach media (images, videos) to their scheduled posts.

REQ-6: The system shall support scheduling posts on multiple social media platforms simultaneously.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The system shall support concurrent scheduling of up to 10 posts per user.

Posts must be published within 30 seconds of the scheduled time.

Response times for user interactions (e.g., post scheduling, login) shall be less than 1 second under normal load conditions.

5.2 Security Requirements

User credentials shall be encrypted during transmission using HTTPS.

The system shall implement role-based access control to restrict certain functionalities to administrators.

Password reset requests shall be validated through email confirmation.

5.3 Usability Requirements

The user interface shall be intuitive and user-friendly, requiring minimal training for users to navigate and perform tasks.

The system shall provide tooltips and help sections for guiding users through complex tasks.

This is just a simplified example of how you could structure an SRS for a Social Media Management System. Depending on your specific project, you may need to include more detailed requirements, use cases, diagrams, and other relevant information.

5.4 Software Quality Attributes

- Usability: The system must have an intuitive user interface with a low learning curve.
- Availability: The system should have at least 99.9% uptime during normal operation.

- Scalability: The system should handle a growing number of users and social media platforms efficiently.
- Reliability: The system must not lose data and should recover gracefully from failures.
- Interoperability: The system should be compatible with major social media platforms (e.g., Facebook, Twitter).
- Maintainability: Code should be well-documented, and updates should be easy to implement.
- Portability: The system should be accessible via web browsers on major operating systems.

5.5 Business Rules

- Posting to social media profiles requires user authentication and authorization.
- Content flagged as inappropriate must be reviewed and possibly removed by moderators.
- Users can schedule posts for specific times and dates.

6. Other Requirements

- The system should support data storage and retrieval in compliance with international data protection laws.
- Internationalization support: The system should be available in multiple languages.
- Legal requirements: The system must comply with copyright and intellectual property laws.
- Reuse objectives: Code components should be designed for reusability in future projects.

Appendix A: Glossary

- SMMS: Social Media Management System

- GDPR: General Data Protection Regulation

Appendix B: Analysis Models

- Data Flow Diagrams depicting data flow within the system.
- Entity-Relationship Diagrams representing database relationships.