Software Requirements Specification

for

REACT -Social Media Website



20/04/24

Nitin Singh

Prepared for Continuous Assessment 3

Spring 2024

\*\*REVISION HISTORY\*\*

\*\*CLIENT APPROVAL\*\*

\*\*1. INTRODUCTION\*\*

- \*\*1.1 PURPOSE\*\*

- \*\*1.2 SCOPE\*\*

- \*\*1.3 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS\*\*

- \*\*1.4 REFERENCES\*\*

- \*\*1.5 OVERVIEW\*\*

\*\*2. GENERAL DESCRIPTION\*\*

- \*\*2.1 PRODUCT PERSPECTIVE\*\*

- \*\*2.2 PRODUCT FUNCTIONS\*\*

- \*\*2.3 USER CHARACTERISTICS\*\*

- \*\*2.4 GENERAL CONSTRAINTS\*\*

- \*\*2.5 ASSUMPTIONS AND DEPENDENCIES\*\*

\*\*3. SPECIFIC REQUIREMENTS\*\*

- \*\*3.1 EXTERNAL INTERFACE REQUIREMENTS\*\*

- \*\*3.1.1 User Interfaces\*\*

- \*\*3.1.2 Hardware Interfaces\*\*

- \*\*3.1.3 Software Interfaces\*\*

- \*\*3.1.4 Communications Interfaces\*\*

- \*\*3.2 FUNCTIONAL REQUIREMENTS\*\*

- \*\*3.2.1 User Registration and Authentication\*\*

- \*\*3.2.2 Post Creation\*\*

- \*\*3.2.3 Commenting\*\*

- \*\*3.2.4 Liking\*\*

- \*\*3.2.5 Hashtagging\*\*

- \*\*3.2.6 Deleting the post \*\*

- \*\*3.5 NON-FUNCTIONAL REQUIREMENTS\*\*

- \*\*3.5.1 Performance\*\*

- \*\*3.5.2 Reliability\*\*

- \*\*3.5.3 Availability\*\*

- \*\*3.5.4 Security\*\*

- \*\*3.5.5 Maintainability\*\*

- \*\*3.5.6 Portability\*\*

- \*\*3.7 DESIGN CONSTRAINTS\*\*

- \*\*3.9 OTHER REQUIREMENTS\*\*

\*\*4. ANALYSIS MODELS\*\*

- \*\*4.1 DATA FLOW DIAGRAMS (DFD)\*\*

\*\*5. GITHUB LINK\*\*

\*\*6. CLIENT APPROVAL PROOF\*\*

\*\*A. APPENDICES\*\*

- \*\*A.1 APPENDIX 1\*\*

- \*\*A.2 APPENDIX 2\*\*

---

This outline covers the basic structure of an SRS. You would need to fill in the details under each section based on the specific requirements of your social media website project, such as detailed descriptions of each functional requirement, performance metrics, security measures, etc.

Certainly! Let's dive into more detail for each section of the Software Requirements Specification (SRS) for the social media website project:

---

\*\*1. INTRODUCTION\*\*

\*\*1.1 PURPOSE:\*\*

The purpose of this document is to define the requirements for the development of a social media website. This platform will allow users to share photos, comment on them, like them, and add hashtags for categorization and discovery. By clearly outlining the project's objectives and functionalities, this document serves as a guide for the development team and ensures alignment with client expectations.

\*\*1.2 SCOPE:\*\*

The scope of the project includes the design, development, testing, and deployment of a fully functional social media website. Key features to be implemented include user registration and authentication, photo posting, commenting, liking, and hashtagging. However, features such as messaging, video sharing, and advanced analytics are considered out of scope for this initial phase.

\*\*1.3 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS:\*\*

- \*\*User:\*\* Refers to any individual who registers and uses the social media website.

- \*\*Post:\*\* A piece of content uploaded by a user, typically consisting of a photo, caption, and optional hashtags.

- \*\*Comment:\*\* A response or reaction added by a user to a post.

- \*\*Like:\*\* A gesture of approval or appreciation given by a user to a post.

- \*\*Hashtag:\*\* A keyword or phrase preceded by the "#" symbol, used to categorize and organize posts.

\*\*1.4 REFERENCES:\*\*

- [Social Media Platform Guidelines](link): Provides best practices and guidelines for designing and developing social media platforms.

- [Web Development Standards](link): Industry standards and conventions for web development, ensuring compatibility and usability.

\*\*1.5 OVERVIEW:\*\*

The social media website project aims to create a user-friendly platform for sharing photos and engaging with other users through comments, likes, and hashtags. By leveraging modern web technologies and adhering to established standards, the website will provide an intuitive and seamless user experience.

---

\*\*2. GENERAL DESCRIPTION\*\*

\*\*2.1 PRODUCT PERSPECTIVE:\*\*

The social media website will function as an independent platform, accessible via web browsers on desktop and mobile devices. It will integrate with existing authentication systems for user registration and login, and may utilize third-party APIs for features such as photo uploading and hashtag suggestions.

\*\*2.2 PRODUCT FUNCTIONS:\*\*

- \*\*User Registration and Authentication:\*\* Users can create accounts with unique usernames and passwords, and authenticate themselves to access the website's features.

- \*\*Post Creation:\*\* Users can upload photos, add captions, and optionally include hashtags to categorize their posts.

- \*\*Commenting:\*\* Users can add comments to posts, initiating conversations and interactions with other users.

- \*\*Liking:\*\* Users can express their approval or appreciation for posts by liking them.

- \*\*Hashtagging:\*\* Users can add hashtags to their posts to make them discoverable by other users interested in similar topics.

\*\*2.3 USER CHARACTERISTICS:\*\*

The target users of the social media website are individuals of all ages who are interested in sharing photos and connecting with others online. Users are expected to have basic internet literacy and familiarity with social media platforms.

\*\*2.4 GENERAL CONSTRAINTS:\*\*

- \*\*Budget:\*\* The project budget is limited and must be managed effectively to ensure the timely delivery of the website.

- \*\*Technological Limitations:\*\* The website must be compatible with a wide range of devices and browsers to maximize accessibility.

- \*\*Legal Requirements:\*\* The website must comply with relevant laws and regulations regarding user privacy, data protection, and online content.

\*\*2.5 ASSUMPTIONS AND DEPENDENCIES:\*\*

- \*\*Assumption:\*\* Users have access to stable internet connections for seamless interaction with the website.

- \*\*Dependency:\*\* The website relies on external APIs for certain functionalities, such as photo uploading and hashtag suggestions.

---

\*\*3. SPECIFIC REQUIREMENTS\*\*

\*\*3.1 EXTERNAL INTERFACE REQUIREMENTS:\*\*

\*\*3.1.1 User Interfaces:\*\*

The user interface (UI) of the website will be designed to be intuitive and visually appealing, with easy navigation and responsive layouts to accommodate different screen sizes. It will include components such as:

- \*\*Homepage:\*\* Displays a feed of posts from followed users and trending hashtags.

- \*\*Post Page:\*\* Shows a single post with options for liking, commenting, and adding hashtags.

- \*\*Profile Page:\*\* Provides an overview of a user's profile, including their posts and followers.

\*\*3.1.2 Hardware Interfaces:\*\*

The website will be accessible on any device with a modern web browser, including desktop computers, laptops, tablets, and smartphones.

\*\*3.1.3 Software Interfaces:\*\*

The website may integrate with external software systems or services through APIs for functionalities such as user authentication, photo uploading, and hashtag analysis.

\*\*3.1.4 Communications Interfaces:\*\*

The website will use standard web protocols (HTTP, HTTPS) for communication between the client (browser) and the server, ensuring secure and reliable data transmission.

\*\*3.2 FUNCTIONAL REQUIREMENTS:\*\*

\*\*3.2.1 User Registration and Authentication:\*\*

- Users can create accounts by providing a username, email address, and password.

- Account activation may require email verification or confirmation.

- Users can log in securely using their registered credentials.

\*\*3.2.2 Post Creation:\*\*

- Users can upload photos from their devices or import them from external sources.

- Users can add captions and optional hashtags to their posts.

- Posts are displayed in the user's profile and the main feed.

\*\*3.2.3 Commenting:\*\*

- Users can view comments on posts and add their own comments.

- Comments may include text, emojis, and multimedia attachments.

- Comments are displayed chronologically below the post.

\*\*3.2.4 Liking:\*\*

- Users can like posts to show their approval or appreciation.

- The number of likes is displayed alongside each post.

- Users can unlike posts to remove their previous likes.

\*\*3.2.5 Hashtagging:\*\*

- Users can add hashtags to their posts by including "#" followed by a keyword or phrase.

- Hashtags are clickable and link to a search page displaying related posts.

**3.2.6 Deleting Posts:**

* Users should have the ability to delete their own posts.
* Upon selecting the delete option, users should be prompted for confirmation to ensure accidental deletions are avoided.
* Once confirmed, the post should be permanently removed from the website and no longer visible to other users.
* Deletion of a post should also remove any associated comments and likes to maintain data integrity.

\*\*3.5 NON-FUNCTIONAL REQUIREMENTS:\*\*

\*\*3.5.1 Performance:\*\*

- The website should load quickly, with minimal latency for page rendering and interactions.

- Response times for user actions (e.g., posting, commenting) should be within acceptable limits.

\*\*3.5.2 Reliability:\*\*

- The website should have high uptime, with minimal downtime for maintenance or updates.

- Data integrity should be maintained to prevent loss or corruption of user-generated content.

\*\*3.5.3 Availability:\*\*

- The website should be accessible 24/7, with provisions for handling spikes in traffic during peak usage periods.

- Maintenance and downtime should be scheduled during off-peak hours to minimize disruption to users.

\*\*3.5.4 Security:\*\*

- User data should be encrypted during transmission to prevent interception by unauthorized parties.

- User authentication should be secure, with measures in place to prevent account hijacking or unauthorized access.

- The website should employ best practices for data protection and privacy, including secure storage of user information and compliance with relevant regulations (e.g., GDPR).

\*\*3.5.5 Maintainability:\*\*

- The website should be easy to maintain and update, with modular code architecture and clear documentation.

- Code changes and updates should be version-controlled to facilitate collaboration

and rollback if necessary.

\*\*3.5.6 Portability:\*\*

- The website should be compatible with a wide range of devices and browsers, including popular desktop and mobile platforms.

- Responsive design principles should be applied to ensure optimal user experience across different screen sizes and resolutions.

\*\*3.7 DESIGN CONSTRAINTS:\*\*

- The website's design should follow established UX/UI principles and best practices for social media platforms.

- Visual elements and branding should be consistent with the client's brand identity and style guidelines.

\*\*3.9 OTHER REQUIREMENTS:\*\*

- The website should include provisions for reporting and moderating inappropriate content, such as hate speech or explicit imagery.

- User data should be handled responsibly and transparently, with clear policies regarding data collection, storage, and usage.

---

\*\*4. ANALYSIS MODELS\*\*

\*\*4.1 DATA FLOW DIAGRAMS (DFD):\*\*

A Data Flow Diagram illustrates the flow of data within the social media website, showing how information moves between users, posts, comments, and other components. It visually represents the processes, data stores, and data flows involved in the system's operation.

---

\*\*5. GITHUB LINK:\*\*

The GitHub link provides access to the project's repository, where the codebase, documentation, and other project files are stored. It enables collaboration among team members and allows for version control and tracking of changes throughout the development lifecycle.

\*\*6. CLIENT APPROVAL PROOF:\*\*

Documentation or evidence of client approval ensures that the requirements specified in the SRS are validated and accepted by the client. It serves as a formal agreement between the client and the development team, confirming mutual understanding and agreement on project deliverables.

---

\*\*A. APPENDICES\*\*

\*\*A.1 APPENDIX 1:\*\*

This appendix can include additional information or supplementary materials relevant to the project, such as mockups, wireframes, or user personas.

\*\*A.2 APPENDIX 2:\*\*

Similarly, this appendix can contain any extra documentation, diagrams, or reference materials that support the content of the SRS, providing further context or clarification where needed.

---





