Software Requirements Specification

For

Social Networking

Prepared by V.SUBASH

IIIrd Year Biomedical Engineering

ALPHA COLLEGE OF ENGINEERING

**8thMAR 2023**

Contents:

1. Introduction 1

2. Overall Description 1

3. External Interface Requirements 3

4. System Features 3

5. Other Non-functional Requirements 4

6. Other Requirements 5

# Introduction

## Purpose

The purpose of this Software Requirement Specification is to give an overview of the functional and non-functional requirements of a social networking website.

## Document Conventions

|  |  |
| --- | --- |
| ***TERM*** | ***Definition*** |
| 1. *FRU* | *Functional Requirement: User Registration and profile settings.* |
| 1. *FRF* | *Functional Requirement: Friends and suggestions.* |
| 1. *FRP* | *Functional Requirement: Posts.* |
| 1. *FRC* | *Functional Requirement: Chat.* |

## Intended Audience and Reading Suggestions

The purpose of this document is to cater to a diverse range of audiences. It serves as a contractual agreement between the stakeholders and is designed to provide an in-depth understanding of the system requirements to stakeholders' authorities, the design team, developers, project managers, team leads, supervisors, security analysts, and the testing team.

## Product Scope

The online platform for social networking is created to foster a lively and engaging social environment for students. It allows users to stay connected with their existing friends and family, and also enables them to connect with new people they have not met before through messaging and sharing pictures.

Additionally, the website provides a comprehensive blogging feature, which enables users to express their thoughts and ideas with their entire network. Users can customize their blogs by incorporating photos and videos to create a more immersive and engaging experience for their readers

## References

List any other documents or Web addresses to which this SRS refers. These may include user interface style guides, contracts, standards, system requirements specifications, use case documents, or a vision and scope document. Provide enough information so that the reader could access a copy of each reference, including title, author, version number, date, and source or location.

# Overall Description

## Product Perspective

The social networking website allows users to connect with their family and friends all over the globe. It gives a global platform for users around the world to connect with each other. Users can also share photos, videos, and blog and engage themselves in chatting. Besides it provides scope for advertisement. This is an independent product and will be the first release of the product.

## Product Functions

The social networking site provides a convenient platform for users to create an account and login at their convenience. Upon registration, users can customize their profiles, including adding or editing personal information and choosing the visibility of various profile sections. Additionally, users can upload a profile picture to personalize their account. The site enables users to connect with friends and family through a common interface, facilitating easy communication and engagement. Users can search for friends using the search feature, which provides accurate results if matching profiles are available. Furthermore, users can share their thoughts and updates with their connections by posting statuses, which will be visible to their network

## User Classes and Characteristics

Standard users may belong to any demographic group including any gender, nationality that can use computer’s browser. The site requires its users to be above 16 years of age. It does require its users to have any specific computer knowledge. User interface is in English language so users should have a basic English reading knowledge.

## Operating Environment

HARDWARE REQUIREMENTS:

* Intel core i3(8th gen)
* 2gb Ram
* 512 KB Cache Memory
* Hard disk 10 GB
* Microsoft Compatible 101 or more Key Board

SOFTWARE REQUIREMENTS:

* Operating System: Windows 10 or 11

## Design and Implementation Constraints

1.The website is compatible with Microsoft Edge, Chrome versions 27.0 and above, and Firefox versions 30 and above.

2.The website is available in English language exclusively.

3.CA-issued certificates are mandatory for using HTTPS on the website.

4.The initial version of the website is optimized for desktop browser viewing.

## User Documentation

The social networking website will not provide any documentation. Online tutorial will be served when users register to the site.

## Assumptions and Dependencies

1. There will be availability of Internet via 3G, 4G, 5G or Wi-Fi.

2. The user of the site should be well acquainted with English language.

3. The user should have a valid email address in order to register into the website.

4. Central server of the system must be able to handle all the incoming requests simultaneously.

5. The user should have basic knowledge of computers and Internet.

# External Interface Requirements

## User Interfaces

The website will be accessed by standard users via a web browser, and therefore, it is essential to include a login page for users to access the site. New users who are accessing the website for the first time will be required to fill in their registration details. Once logged in, users will be directed to their profile page, which will feature a wall displaying posts shared by their friends. The users will have the ability to log out, search for people, and modify their personal settings from their home page.

## Software Interfaces

1. **E-mail Interface**

This interface uses the SMTP/POP services provided by third party to send emails to the required user. This service will notify users with required actions through a conventional medium.

2. **Captcha Service Interface**

Captcha services will be used for human identification

## Communications Interfaces

The social networking website is based on HTTPS. Moreover TCP/IP is used for chatting functionality.

# System Features

<This template illustrates organizing the functional requirements for the product by system features, the major services provided by the product. You may prefer to organize this section by use case, mode of operation, user class, object class, functional hierarchy, or combinations of these, whatever makes the most logical sense for your product.>

## System Feature 1

ID- FRU1

Name- User Registration

Description - User will create an account if there is no existing account associated with user,

email-id. User should enter account details such as name, email-id, contact number, birth date and password. All these are required fields and account creation cannot proceed

unless these are filled. User is registered after this information is validated and user agrees

with the terms and conditions. User must be 18 years old or more. Contact number should be a 10-digit numeric field. First and lag name should not exceed 20 characters each. Password should be at least 8 characters long, at most 15 characters including at least one capital and small letter, a special character and a number.

Dependency - None

## System Feature 2

ID - FRU2

Name – Login

Description - User must be registered in order to Login. Input will be the email id and

password for login. The hash of password should match to the hash of password stored in the database. If three attempts of password are wrong then a Captcha should appear. If more than

8 attempts go wrong, then the account will be locked and an e-mail will be sent to the user

notifying about the wrong password attempts. To unlock the account, user must click on the unlock link sent to him in the email. If user clicks on forgot password, then reset password link should be emailed to the user. Input to each field must be validated.

Dependency - FRU1

## System Feature 3

ID – FRU3

Name - Add/Edit Education

Description - A part of building user profile. User should be able to add the educational details. These fields can remain empty. User must be logged in and his account should be marked as verified to be able to add education. Input to each field must be validated.

Dependency - FRU2

## System Feature 4

ID- FRU4

Name – Add/Edit Personal information

Description - A part of building user profile. User should be able to add the personal details like language, gender, about user and his interests. These fields can remain empty. User must be logged in and his account should be marked as verified to be able to add personal information. Input to each field must be validated.

Dependency- FRU2

## System Feature 5

ID – FRU5

Name - Add account information

Description - A part of building user profile. User should be able to add the account details like name, birth date, email-id, phone number and address. Name, birth date and email-id cannot be empty while the other two can remain empty. User must be logged in. Input to each field must be validated.

Dependency -FRU2

## System Feature 6

ID- FRU6

Name - Edit account information

Description - A part of building user profile. User should be able to edit the account details like name, birth date, email-id, phone number and address. Name, birth date and email-id cannot be empty while the other two can remain empty.

Dependency -FRU2

## System Feature 7

Id – FRU7

Name - Upload Profile Picture

Description - User should be able to upload the profile picture. The size of profile picture should be at least 160px\* 160px. User may leave this field empty. Profile image may or may not be visible to all depending on the user wish.

Dependency-None

## System Feature 8

Id- FRU8

Name - Set account visibility settings

Description –User should be able to make account details private or public according to his wish. By default, the account details will be visible to public.

Dependency -None

## System Feature 9

ID- FRU9

Name - Set personal information visibility

Description- User should be able to make personal information private or public according to his wish. By default, the personal information will be visible to public.

Dependency –None

## System Feature 10

ID – FRU10

Name - Show Profile

Description - Any logged.in user should be able to see any user profile.

Dependency -FRU1, FRU2

## System Feature 11

Id - FRU11

Name - Delete Account

Description - User may delete his account permanently depending on his wish. User will be removed from his friends list once deleted. User information will be cleared.

Dependency - FRU1, FRU2

## System Feature 12

Id – FRF1

Name - Add Friend

Description - A registered user should be able to send friend requests to other users. User can send friend request to already registered users. User can search his friend among the registered users and then send a friend request to him/her.

Dependency - FRU1

## System Feature 13

Id – FRF2

Name - Accept/Ignore Friend Request

Description - If a user gets a friend request from another user, then the user receiving the request should have an option to accept or ignore the friend request. If the user selects to accept the friend request, the requester is added to the friend of the acceptor. If the user selected to ignore the request, the sender continues to see the status of the request as “request sent” and the request is removed from the queue of the request receiver.

Dependency - FRF1

## System Feature 14

ID- FRF3

Name - Delete Friend

Description – Any registered user should be able to un-friend any of the existing friends Dependency - FRU1, FRF1

## System Feature 15

ID - FRF4

Name - List Friends

Description - Whenever the user is on any person's profile page, he should have an option to view currently open user profile's friends on a page. User can have many friends and the maximum number of friends shown at a time will be 20, and paging will be implemented to show more friends if the user has more than 20 friends.

Dependency- FRU2, FRU1, FRF1

## System Feature 16

ID- FRF5

Name - Search User

Description - User should be able to search for his/her friends who may be registered on the site. User will put the name of the friend and click search after which the search results will display all the people registered on the site by the searched name. When the search results are displayed the maximum number of results shown at a time will be 20, and paging will be implemented to show more results. Dependency - FRU 3

## System Feature 17

ID- FRF6

Name - Invite Friend

Description - User should be able to invite more friends to join the social network. User will be given an option to enter the email address of the person to invite. User will be able to invite one friend at a time.

Dependency - FRU 3, FRU1

## System Feature 18

ID - FRP1

Name – Post

Description- A registered user can share posts with his friends. The post can only be plain English text with maximum 500 characters. User can enter the post in the designated text area and on clicking POST button, should be visible to the user and his friends.

Dependency- FRU2

## System Feature 20

ID- FRP3

Name - Comment

Description -For each post visible to the user he has the ability to comment on it to his opinion. The comment can contain only text and cannot exceed 500 characters in length. To comment, user can see a text area under the post, where he can enter the text.

Dependency- FRU 3, FRP1

## System Feature 21

ID- FRP4

Name - Delete Comment

Description - A user can delete a comment written by him or a comment on his posts. For deleting a post that he is authorized to delete, a user can see a delete link near the comment.

Dependency- FRU2, FRP3

## System Feature 22

ID - FRC1

Name -Chat

Description - User should be able to initiate chat with any user in the friend list who is online. The other user must seamlessly understand that the chat has been initiated and chat message must be forwarded to the intended user. User should be able to receive messages from any user in the friend list who is online. Thus, the receiving entity can send message back to the originator, thus, completing a two-way conversation. The message cannot be greater than 250 characters in length. Dependency - FRU2.

# Other Nonfunctional Requirements

## Performance Requirements

1. **Scalability**

System should be able to handle a large number of users. For e.g., handling around Thousand users at the same time.

2. **Speed**

The application should be fast. It should not slow down with increase in the number of

users. Search functionality should be fast to enable better end-user experience. The system

should be quick enough to be able to respond to the user actions within a short period of time.

E.g., the search user functionality of the site should perform a quick search among the users on the database.

## Security Requirements

* During user registration, the given email address is validated.
* The password should be at least 8 characters, containing at least a small character and one capital, a number and a special character.
* Password is stored as a hash value in database.
* We are transferring all data via HTTPS i.e., via SSL so that the data is encrypted during the transit. Thus, safeguarding the user information.
* Re-Captcha service is used during registration for human identification.

## Software Quality Attributes

1. **Usability**

• User interface should be simple and clear to beak to understand by any user.

2. **Availability**

• The system should be available at all times. It should be ensured that there should be minimum or no downtime to ensure better user experience.

• The system should be reliable. It should yield correct results if a user performs searches for a person. Also, if the user sends message, the system should ensure that the correct message is delivered to the correct destination without any loss or change in content.

3. **Testability**

• The application should be testable. A separate test environment should be set up where testers and the Quality Assurance engineers can test the application for bugs and/or incomplete or missed requirements.

4. **Maintainability**

• The system should be developed in such a way that it is extensible. It should be easy to incorporate new features requirements or accommodate a change in the existing

requirements.

# Other Requirements

Define any other requirements not covered elsewhere in the SRS. This might include database requirements, internationalization requirements, legal requirements, reuse objectives for the project, and so on. Add any new sections that are pertinent to the project.