SOFTWARE REQUIREMENT SPECIFICATION DOCUMENT

0.Preface

This document takes us through the complete description of our project , a MERN stack based web application Developer-Connector.Now a days there are so many social media apps around us, some for youth , some for professionals . This web application will be exclusively made and customized for developers across various domains.

MERN stack development being one of the most powerful technologies existing right now, this app uses it to create a platform for developers to interact , collaborate and share their knowledge with each other. Several features like viewing each other's github profile , posting , liking , commenting will be added in this project.

We sincerely hope developing this application would be a great experience for us and using it for users.

All the Best!

PRAGATI SINHA
SANDIP KUMAR BURNWAL

1.Introduction

a)Context

Understanding this document requires complete knowledge of MERN stack development and all the libraries included in it .
MERN Stack : Here M stands for MongoDb , E for expressJS , R for reactJS and N for NodeJS. While mongoDB is the database , express is middleware , react is for frontend and nodejs for backend. All are javascript framework and this project will be completely done in javascript language.

b)Problem Statement

A MERN stack based social network web application to connect developers so that they can discuss and get connected with each other to collaborate over various projects.

c)Scope of the Document

This project will cater only to the requirements listed in this document , any further requirements won't be entertained.

d)Summary/overview of the document and its structure

This document provides the complete view of every aspect of our project.Including how we will go about this project i.e. the workflow. Description of the use case scenario. Who are the stakeholders , what is their mode of interaction.Description of our final product. What functions our project will be able to perform . How users will interact with the product , Performance requirement , what software product quality attribute we want to enhance , schedule and budget of the project.

2.General Description

a)Workflow

We will use the waterfall model for this project.

i) Requirement Analysis : As we have already made this document requirement analysis for this project is done.

ii) System Designing :

a) MongoDb is used as the database for this application.We will create collections for storing user login details that are id , password , for profile details and for user posts.
b) Then all the necessary API routes will be designed.
c) Finally we will design the frontend.

iii) Implementation

i) Backend development : We will start with the backend part of this project. As its a MERN stack based development backend will be done in ExpressJs running on top of NodeJs. Postman will be used for testing the routes

i) User register route will be created
ii) All the necessary routes for authentication will be created to give the JWT.
iii) User login route will be created
iv) Profile route will be created for creating and updating profile.
v) All the post related routes will be created.

The order of creation will be according to the design.

ii) Fronted Development : Fronted development will be done using ReactJs.We will get an HTML, css template suited for this application and use it . The routes and pages will be created according to the order in which it was created in the backend.

iii) Redux : Redux will be used with thunk middleware. All the necessary alerts like password is no matching or profile updated , etc will be done with the help of redux . It will be used to update the current state as well as redux is kind of a state manager.

iv) Further Fronted: After starting with redux other pages like profile dashboard , posts and comments etc will be created and connected to the backend.

iv) Testing & v)Deployment : After the testing final application it will be deployed using heroku.

b)Use-cases/User Scenarios

For the users to be able to register on the web application , login ,log out able to create their profile ,update it , view each other's profile , post ,like comment all comprise the use cases.

c)Overview all Description of the Software Product

This social network web application created on the MERN stack based web development frameworks will provide a platform for developers from various domain to interact and collaborate with each other .The database used is MongoDb , nodejs and express js in backend along with react + redux in frontend .
This product will be usable by programmers from all ages along with one with poor eyesights.
People will just need a mouse click and keyboard to interact with the product.
It will have various functionalities like creating professional profiles , posting , commenting , sharing project ideas , viewing other people's profiles etc.
It will provide high security to the user making hacking of their account almost impossible.
It will be fast, efficient and able to take 750 -1000 developers into its community.

3.Functional Requirements

i) Register : Users will have to register to use this application. They will have to provide their email ids and set passwords . We will give a minimum length of 6 for the password.They will also have to confirm the password.

ii) Login : Registered users will be able to login into their account by providing correct email id and password.

iii)Profile making and Updating: They will be able to make their full professional profile and update it whenever they like . They will be given the option to add their job description , education , skill set , bio and use their github username to show their github repositories.

iv) View each other's profile: Every user will be able to view other users' profiles and their github repositories.

v) Posts : Users will be able to post and discuss projects from various domains.

vi) Like / Comment : Users will also be able to like and comment on each other's posts.

4.Interface Requirements

i) Mouse Click: A GUI (graphical user interface) is a system of interactive visual components for computer software. We will use GUI in our software. The user will be able to interact with the software through GUI objects like cursor and button and icons(for submitting , updating , likes etc). One mouse click will make the user interact with the software.All the GUI will be created using React - Redux.

ii) KeyBoard : The keyboard will be used by User to type login / register details and profile details . Keyboards will also be used for typing the post and commenting on another person's post. Form tag in react will be used for this.

5.Performance Requirements

- Login/register to the account shouldn't take much time .
- Alerts should be generated and states should be changed as soon as the user makes interaction with software.
- All the routing should happen on just one button click . For that we will use switch tag in reactjs for increasing the routing of the system.

6.Design Constraints

Target User : Software developers from various domains.Obviously development cannot be done without a desktop. So we can safely say that our target users are desktop users.However one can start development from a young age and continue till old age . So our target users are from all ages (except infants and young children).They might have poor eyesight so we need to work keeping all these constraints in mind .

- As this app is made for developers so we will try to keep the U.I. as clean as possible.
- As developers are desktop users . This application would be dedicated to run best on desktop.
- Very light colours will be used in color schema as it is soothing for eyes.
- Standard font size will be followed which is appropriate for specs users as they are developers.

7.Non-Functional Requirements

Usability:We will increase the usability of our software by making the experience extremely good for our target audience.

1. They will be easily able to recognize whether this software is for them.
2. It will have high operatiblity.Easy to work with.
3. It will protect the user from making any errors.
4. As it is dedicated to developers it will have clean , eye soothing visuals.

Security : We will make our software as secure as possible for our Users.

1. We will use the bcrypt library from NodeJs to do the password- hashing .
2. We provide authenticated routes through JSON web-token.

a)Measure :

Usability:

- It can be measured through visuals.
- How easy to work with the software.

Security:

- Hashing" a password refers to taking a plain text password and putting it through a hash algorithm.No matter the size of the original string the output is always of the same length.However since hash algorithm always predicts same result for the same input password it becomes predictable for hackers
- A salt is a random string . Hence hashing + salting that is adding random string to hashed password makes it unpredictable. As now the same input password will give different results .
- It would take 22 years to crack a bcrypt encrypted password.
- We can increase the number of salt rounds and hence more hashing will be done making the decoding through brute even more difficult.

8.Schedule & Budget Estimates

Gantt Chart

teams	Number of members	Budget (Total)
Designing team	7	30 lacs per annum

Backend development team	3	20 lacs per annum
Front-end development	5	10 lacs per annum
Project Manager	1	40 lacs per annum

This a 2 month long project hence
TOTAL BUDGET = 60 lacs