**Software Requirements Specifications**

**for**

**ParaBank**

Version 1.0

Prepared by:

ARANYAA KHATAWATE

PREETI PALLAVI

SHOBHIT AGRAWAL

NEHA ANN SHYGEN

AKANKSHA GOEL

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1. **SOFTWARE REQUIREMENTS**

**1.1 Frontend**

* HTML/CSS: For structuring and styling the pages. (HTML5, CSS3)
* JavaScript: For client-side scripting. (ES14)
* Bootstrap: A CSS framework for responsive design. (5.3.3)
* React.js: A JavaScript library for building user interfaces. (18.2.0)
* FontAwesome: For adding icons to your forms. (6.5.0)

**1.2 Backend**

* Node.js: For server-side scripting. (18.17.0)
* Express.js: A web application framework for Node.js. (4.18.2)
* Django: A high-level Python web framework. (4.2.5)
* Spring Boot: A Java-based framework for building web applications. (3.1.2)

**1.3 Database**

* MongoDB: A NoSQL database for storing user information. (6.0.6)

**1.4 Authentication modules**

* Passport.js: Authentication middleware for Node.js (0.6.0)
* JWT (JSON Web Tokens): For secure token-based authentication. (9.0.0)
* OAuth: For secure authorization. (2.0)
* Firebase Authentication: For easy-to-implement authentication services. (10.3.0)

**1.5 Additional Tools**

* jQuery: For simplifying JavaScript tasks. (3.6.4)
* Axios: For making HTTP requests. (1.5.0)
* Redux: For state management in React applications. (4.2.1)

**2. HARDWARE REQUIREMENTS**

### **2.1 Development Environment**

* **Processor:** Intel Core i5 or AMD Ryzen 5 (or higher)
* **RAM:** 16 GB (32 GB recommended for smoother performance)
* **Storage:** 512 GB SSD (1 TB SSD recommended)
* **Graphics:** Integrated graphics are sufficient, but a dedicated GPU can help with certain development tasks.
* **Operating System:** Windows 10/11, macOS, or a Linux distribution (e.g., Ubuntu)

### **2.2 Server Environment**

* **Processor:** Intel Xeon E5 or AMD EPYC (or higher)
* **RAM:** 32 GB (64 GB recommended for handling higher loads)
* **Storage:** 1 TB SSD (2 TB SSD recommended for better performance and scalability)
* **Network:** High-speed internet connection with at least 1 Gbps bandwidth
* **Operating System:** Linux (e.g., Ubuntu Server, CentOS) or Windows Server

### **2.3 Database Server**

* **Processor:** Intel Xeon E5 or AMD EPYC (or higher)
* **RAM:** 32 GB (64 GB recommended for large databases)
* **Storage:** 1 TB SSD (2 TB SSD recommended for better performance)
* **Network:** High-speed internet connection with at least 1 Gbps bandwidth
* **Operating System:** Linux (e.g., Ubuntu Server, CentOS) or Windows Server

### **2.4 Additional Hardware**

* **Backup Storage:** External hard drives or cloud storage solutions for regular backups.
* **Redundant Power Supply:** To ensure continuous operation in case of power failure.
* **Cooling System:** Adequate cooling to maintain optimal server temperatures.
* **Non-Functional Requirements:**
  + Security Standards Compliance: Adherence to industry security standards and regulations.
  + Performance Metrics: Site should handle up to 10,000 concurrent users with minimal latency.
  + Scalability: Ability to scale the system to accommodate future growth.
  + Usability: Intuitive and user-friendly interface.

**Deliverables**

* **Design Mockups and Prototypes:** Visual representations of the user interface and user experience.
* **Development Codebase:** Complete code for the Login Page, Forgot Password Page and New Registration Page, including backend and frontend components.
* **Testing Reports:** Documentation of all testing phases, including unit tests, integration tests, and user acceptance tests.
* **Final Deployed Site:** Fully functional Login Page, Forgot Password Page and New Registration Page deployed on the production server.

**3. MODULES**

**3.1. Login Page**

Description: The login page will be available on the landing page of the website through which the user can enter his/her details and login to the site.

Priority: This page will be a high priority page  
  
Features of page:

For the login page, we need the following technical requirements:

1. Title – Customer login – A heading tag
2. First Label – Username: Type - Text Field, Length - 30 characters, Required, Editable
3. Second Label – Password: Type – Password Field – Minimum 8 characters and maximum 30 characters with alphabets, numbers and special characters, Required, Editable, View Password option,
4. Login button – A clickable button by which the user can login to the site which redirects the user to the home page.

Stimulus/Response: All the entered information is first authenticated with the central database using a query. If the information is valid according to the database, the user is redirected to the home page. If not, the user is prompted to check the login details using a dialog box.

**3.2. USER REGISTERATION PAGE**

The register page will be used by new users. It will be accessible through a clickable link “Register” on the login page.

Priority: The page will be a high priority page.

The technical requirements of the user registration page are:

1. First Name: Type - Text Field, Maximum Length - 30 characters, Required, Editable
2. Last Name: Type - Text Field, Maximum Length - 30 characters, Optional, Editable
3. Address: Type- Text Field, Maximum Length- 50 characters, Required, Editable
4. City: Type – Text Field, Maximum Length – 30 characters, Required, Editable
5. State: Type - Text Field, Maximum Length – 20 characters, Required, Editable
6. Zip code: Type – Numeric, Length – 6 digits, Required, Editable
7. Phone: Type- Numeric, Maximum Length- 10 digits, Required, Editable
8. SSN: Type- Numeric, Length- 9 digits, Required, Editable
9. Username: Type - Text Field, Length – 8 to 20 characters, Required, Editable
10. Password: Alphanumeric Field (Validation: min 8 characters, 1 Uppercase,1 lowercase,1 digit,1 special character)
11. Confirm: Alphanumeric Field (Validation: Should match with Password field)
12. Register button: A clickable button using which user can submit their details to register.

Stimulus/Response: SSN and zip code fields are validated when the user enters these fields. Upon clicking the register button, all the personal details entered by the new user are added into the database and the user is redirected to the login page to login with the newly created credentials.

**3.3. FORGOT LOGIN PAGE**

Description and Priority: This is a high-priority page to help the user out just in case the user is unable to recollect information and details to login to the website, they have an option to click on “Forgot Login Info”.

FEATURES:

* First Name & Last Name: It's an editable text field to be entered by the user having a mix of uppercase and lowercase characters with a max limit of 50 characters.
* Address: It's an editable text field to be entered by the user having a mix of uppercase, lowercase characters, numbers, special characters, etc with a max limit of 500 characters.
* City, State: It's an editable text field to be entered by the user having a mix of uppercase and lowercase characters with a max limit of 20 characters.
* Zip code: It’s an editable numeric field with length of 8
* SSN: It’s an editable numeric field with length of 9

Stimulus/Response: Once all the fields are filled and the user clicks on “Find my login info”, the database will process the query and retrieve the user’s login information.