PRD Document – Team 19

**1. Project Objectives**

* **Purpose of the Application**: The Smart Neighborhood Exchange app will enable local communities to optimize resource sharing, reduce redundant purchases, and foster community engagement by allowing users to list, share, and reserve resources like tools, appliances, and event spaces.

**2. Feature Descriptions**

* **Major Features**: List and define the key features the application will provide.
* **Resource Sharing and Scheduling**: Users can list items they want to share and allow others to reserve them.
* *User Story*: As a community member, I want to list my available items (e.g., tools or appliances) so that neighbors can reserve them, reducing the need to purchase new ones.
* *Acceptance Criteria*: Users should be able to add a new listing with details like title, description, image, category, and availability.
* **Community Events**: Users can list community spaces for reservation and organize events, as well as view other organizer's events.
* *User Story*: As a user, I want to organize community spaces (like meeting rooms or garden plots) for events and workshops.
* *Acceptance Criteria*: Users should be able to view and reserve community spaces with a calendar feature showing availability.
* **Notifications**: The system will notify users when they have a message, a new booking, or a new review.
* *User Story*: As a user, I want to receive notifications about my reservations to keep track of shared resources.
* *Acceptance Criteria*: Notification tracker should be sent for reservation confirmations.
* **User Profiles**: Users can create and manage profiles
* *User Story*: As a user, I want to view and manage my profile with the ability to update information and view my review rating.
* *Acceptance Criteria*: Profile creation and editing with name, email, image, and location, that includes overall star rating of the person's resources.
* **Dashboard and Leave Reviews:** The system will allow users to view RSVP events, view messages, create a new listing for resources, view their listed resources, reviews of their listings, and resources they’ve booked with the ability to cancel and leave reviews of them.
* *User Story:* As a community member, I want to view RSVP events, messages, view my resource reviews, and add resources so that I can stay informed and actively participate in the community.
* *Acceptance Criteria:* The dashboard should display RSVP events, enable view message, show resource reservation reviews, add resources, and provide an option to add new resources.
* **Messages:** The system will enable communication between users through a chat interface.
* *User Story*: As a user, I want to send and receive messages so that I can communicate effectively within the community.
* *Acceptance Criteria*: A messaging system should allow users to exchange messages, display profile pictures and timestamps, and send notifications for new messages.
* **Security and Trust**: Implement ID verification and manage personal data privacy.
* *User Story*: As an admin, I want to ensure that user data is protected and that only verified users can interact with the app.
* *Acceptance Criteria*: ID verification and appropriate visibility control for personal details.

**3. Technical Specifications**

* **Tech Stack**:
* Backend: Python with Flask
* Frontend: HTML, CSS, JavaScript (React or Vue.js)
* Database: SQLite
* **Special Requirements**:
* **Security Measures**: Implement security for data validation, protection against SQL injection, cross-site scripting (XSS), and cross-site request forgery (CSRF).
* **User Authentication**: Secure login and registration with encrypted passwords.
* **Data Validation**: Server and client-side validation for secure data handling.

**4. Timeline and Milestones**

* **General Timeline (18 Days)**:
* **Days 1-3**: Project Planning (PRD, wireframes, initial setup)
* **Days 4-6**: Database Design and Backend Setup (user profiles, resources, messages, reviews)
* **Days 7-9**: Backend Development Continued (CRUD operations, messaging, reviews)
* **Days 10-12**: Frontend Development (responsive UI for main features)
* **Days 13-14**: Frontend Interactivity (form validation, messaging)
* **Day 15**: Testing (unit testing, UI/UX checks)
* **Day 16**: Security Enhancements (input validation, security protocols)
* **Day 17**: Documentation (ERD diagrams and user manual)
* **Day 18**: Final Review and Presentation