

## PROJECT REQUIREMENTS

### Project Name

ToolShare

### Functional Requirements

- Allow students and staff to find, book, and share university-owned equipment through a secure online platform.
- Create an inventory database where admins can add, update, or remove equipment details such as names, descriptions, and availability.
- Provide a search feature for users to filter equipment by category, location, or availability dates.
- Enable a booking system with calendar-based scheduling, including conflict checks and automated email notifications for confirmations, reminders, and cancellations.
- Offer a personal dashboard for users to view their booking history and upcoming reservations, and for admins to manage reservations and generate usage reports.
- Integrate with the university's single sign-on (SSO) system to ensure secure user logins.

### Technical/Performance Requirements

- Use a technology stack including React for the front end, Node.js/Express for the back end, and a database like MongoDB or MySQL, hosted on a cloud service such as AWS or Heroku.
- Implement data encryption and role-based access control (RBAC) to secure user information and bookings.
- Achieve 99% uptime with automatic database backups.
- Ensure scalability to handle a growing inventory and user base without significant downtime, while keeping hosting costs around \$20-50 per month.