Requirements Definition

*Community Tool Rental*

**1.** **Introduction and Context (Brady)**

Not everyone has room for a massive tool collection, but everyone has needs for tools from time to time. No matter how careful you are or how happy you think you may be with your home or garden, there is always work to be done. Our goal is to ease the process of finding all the tools you need for whatever project you need to do.

We will accomplish this goal through building a website. Once a user creates an account, they will be able to rent any tool currently in our inventory. After a user is done using the tool, they can return it and it will be added back to the inventory so others can rent it. Inventory management will be taken care of by the admin team, who will inspect the tools and remove them from the site if they are no longer in working condition.

**2.** **Users and their Goals(Spencer)**

*This section contains identifies of the users of the proposed system and their goals, illustrated and supported by Use Case diagrams. Here “users” is a board term that could include other software systems.*

**3.** **Functional Requirements**

1. User Authentication

1.1 System must require users to authenticate before allowing them access to system features

1.2 Users have limited access rights

1. User Profile Management

2.1 The system will allow users to create a profile with a username and password

2.1.1 Usernames will be unique and case sensitive

2.1.2. Passwords will be required to be at least 8 characters long

2.2 The system will not allow users access to other profiles

2.2.1 User information and data will be protected

1. Administrator Profile Management

3.1 The system will allow a single administrative profile

3.2 The administrator will maintain full user rights and access

3.2.1 The administrator will have access to user data and information

3.2.2 The administrator will not have access to user passwords

3.3 The system will allow administrator to delete and add users

3.3.1 The system will require the administrator to approve user accounts

1. Tool Listing Features

4.1 The system will display tools within a grid format

4.1.1 The grid will display a checkbox next to each tool signifying the user’s selection

4.1.2 The grid will display a brief description of each tool

4.2 The system will allow the tools to be grouped in different categories

4.2.1 The system will allow tools to be grouped by project, availability, and name

1. Tool Reservation System

5.1 Tools will be reserved by users on a first come basis

5.2 The system will allow for scheduled reservations

5.3 The system will restrict users from reserving above the maximum of 10 tools at a single time

5.3.1 The system will allow users to make future reservations as long as the scheduled reservation does not place the user above 10 tools during the future period

1. Tool Analysis Features

6.1 The system will track the amount of times a tool is used

6.2 The system will track the overall usage of community tools

**4.** **Non-functional Requirements**

Our team will follow a waterfall development method with weekly updates. We will use the time given to us on Tuesdays and Thursdays to update ourselves and hold each other accountable to stay on-time with our deliverables and other progress.

In executing our waterfall approach we will attempt to overlap our work with testing such creating something like a smaller sashimi. We will constantly test our code as we are writing it, saving time in the future and helping to minimize bugs at the end of the project.

Our team also has a slack channel that will be used to maintain our teamwork in the time that we won’t be together. There we will ask questions and post our updates periodically so as to build moral and motivate each other.

**5.** **Future Features**

Possible future features include:

* Tool condition system
  + Each tool would have its own description and condition rating from poor to new
* Reservation of tools
  + Tools could be reserved weeks in advance
  + This would include a queue of users waiting to use tools
* Check out limit
  + Limit the number of tools a single user can check out at a time
* Automatic email informing user to return merchandise 24 hours before it is due
* Premium customer status
  + Users could pay to have access to more tools for a longer time
* Phone app
  + Functions similarly to website, but built for android and ios devices
* Text reminders to return tools before due date
* Individual pages for each tool
* Page to report a problem with a tool
* Ratings and comments on tools
* Financial transactions handled on website as opposed to in person
* Run ads on website

**6.** **Glossary**

* Database: A structured set of data held in a computer, especially one that is accessible in various ways.
* Application: A program or piece of software designed and written to fulfill a particular purpose of the user
* Authentication: The process or action of verifying the identity of a user or process.
* Administrator: Someone who can make changes on a computer that will affect other users of the computer. Administrators can change security settings, install software and hardware, access all files on the computer, and make changes to other user accounts
* User: A person who utilizes a computer or network service. Users of computer systems and software products generally lack the technical expertise required to fully understand how they work
* Front end: Relating to or denoting the part of a computer system or application with which the user interacts directly.
* Back end: The part of a computer system or application that is not directly accessed by the user, typically responsible for storing and manipulating data.
* Interface: A shared boundary across which two or more separate components of a computer system exchange information. The exchange can be between software, computer hardware, peripheral devices, humans, and combinations of these.
* Profile:A visual display of personal data associated with a specific user, or a customized desktop environment. A profile refers therefore to the explicit digital representation of a person's identity. A user profile can also be considered as the computer representation of a user model