**ToolExchange** (Working name): Project Backlog

Jackson Didat, Tanner Metzmeier, Joe Porter

**Problem Statement**

Many people encounter an issue in their everyday lives that will require the use of tools and equipment, whether it be fixing a malfunctioned automobile or simple home improvement. Many people have to go and buy expensive equipment to aid them with such ailments, equipment they may only have to use for that one occasion. Or, people will hire a professional to do a job which could cause them to spend more money than they have to. With “ToolExchange”, users can search their area for power tools that other users have made available to be borrowed/rent. Users can even put up their own equipment for use by other users.

**Background Information**

ToolExchange is targeted towards people who need to perform some task that requires the use of some sort of tool(s) or equipment. After doing some research, we have not found any relevant competing platforms that performs the functionality that we are planning to achieve. There will be a general hub displaying some tools and equipment in the area, with filter and search options making it more convenient for users to find their tools.

**Functional Requirements**

**Sprint 1:**

1. As a user, I would like to create or sign in to my own ToolExchange account.
2. As a user, I would like to have the option to sign in using my Facebook or Google account.
3. As a user, I would like to have a tab with my profile information including profile pic, areas of interest (for tools and equipment), rating system, and number of successful tool exchanges.
4. As a user, I would like to see a map view of my surrounding area.
5. As a moderator, I would like to have all data stored using Firebase.

**Sprint 2:**

1. As a user, I would like to have tools or equipment displayed to me upon signing in.
2. As a user, I would like to have the option to filter the displayed tools or equipment by location.
3. As a user, I would like to have the option to filter the displayed tools or equipment by type (category), rental price.
4. As a user, I would like to have the option to filter the displayed tools or equipment by rental price.
5. As a user, I would like to see an annotation of the tools and equipment around me on the map view.

**Sprint 3:**

1. As a user, I would like to have the ability to click on the annotation on the map to see more details about the tool or equipment.
2. As a user, I would like to see the top users based on their ratings
3. As a user, I would like to have the option to chat with other users
4. As a moderator I would like to filter possible spam and hateful content from the app.
5. As a moderator, I would like to confirm or deny possible tools or users posted using the app.

**Non-functional Requirements**

**Sprint 1:**

1. Run application on iOS device
2. Application must integrate with Firebase Database system
3. Must update database in realtime
4. Must be able to quickly get data about users and tools/equipment and have a responsive UI
5. Must be responsive to user interactions

**Sprint 2:**

1. Must be able to handle heavy traffic especially during peak times (Tool Exchanges)
2. Must be able to detect entry into selected location
3. Must be able to send push notification quickly
4. Must be able to handle network requests in background without interrupting main thread
5. Must have reliable information retrieval

**Sprint 3:**

1. App must be consistent in performance
2. Must have simple but powerful UI
3. The app must be scalable
4. Database structure must be efficient for quick data lookups
5. Map must update in real-time