**Product Requirements**

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|  | **Group 3: Bug Biters** |
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| Revision Number | Revision Date | Summary of Changes | Author(s) |
| *0.1* | *09/27/2016* | *Initial revision* | *Umang Garg, Ronak Shettigar, Devang Sawant, Chaitanya Gadiyam, Rohan Shiroor, Poornima Ubale* |
| 0.2 | 10/11/2016 | Updated Use Case Diagram, Use case Descriptions and User Stories | *Umang Garg, Ronak Shettigar, Devang Sawant, Chaitanya Gadiyam, Rohan Shiroor, Poornima Ubale* |
| 0.3 | 12/05/2016 | Updated Use Case Description Main Flow | *Umang Garg, Ronak Shettigar, Devang Sawant, Chaitanya Gadiyam, Rohan Shiroor, Poornima Ubale* |

# Brief problem statement

To develop a product called Tool Share for a funding group (Investiny Corp.) which is chartered to create applications for the benefit of communities all around the country. Tool Share enables neighbors in a community to be able to share items of common use. Tool Share allows anyone to easily register and share or borrow items.

Tool Share is intended to improve communities by providing an easy mechanism for sharing items between neighbors. It is user friendly, has straightforward navigation, displays list of items available in a community and status of those items.

Tool Share creates a share zone for each community with a unique zip code and enables sharing of items within the share zone. The product also provides user a list of statistics for a specific share zone.

# Stakeholders

**Investiny Corp. Product Owner** – will act as principle representative for Tool Share product needs. He/she champions the product with the Board of Directors, helps facilitate product decisions and has the ultimate say on when and what features should be released.

**Software Engineering Team** – is responsible for the day-to-day operations and coordination of all aspects related to the software product's life-cycle. This include, among others: planning and delegation of team roles and responsibilities; elicitation and clarification of requirements; analysis and design; implementation, testing and release of all software components.

**Beta Testing Team** – represent the target user base for Tools Share. Will be available in later phases of the project to conduct acceptance testing and provide feedback on product release.

# Users profile

The target user must:

- have basic experience using computers and browsing the internet. Has filled out online forms or surveys and may have purchased or sold a product.

- have a computer with access to the internet

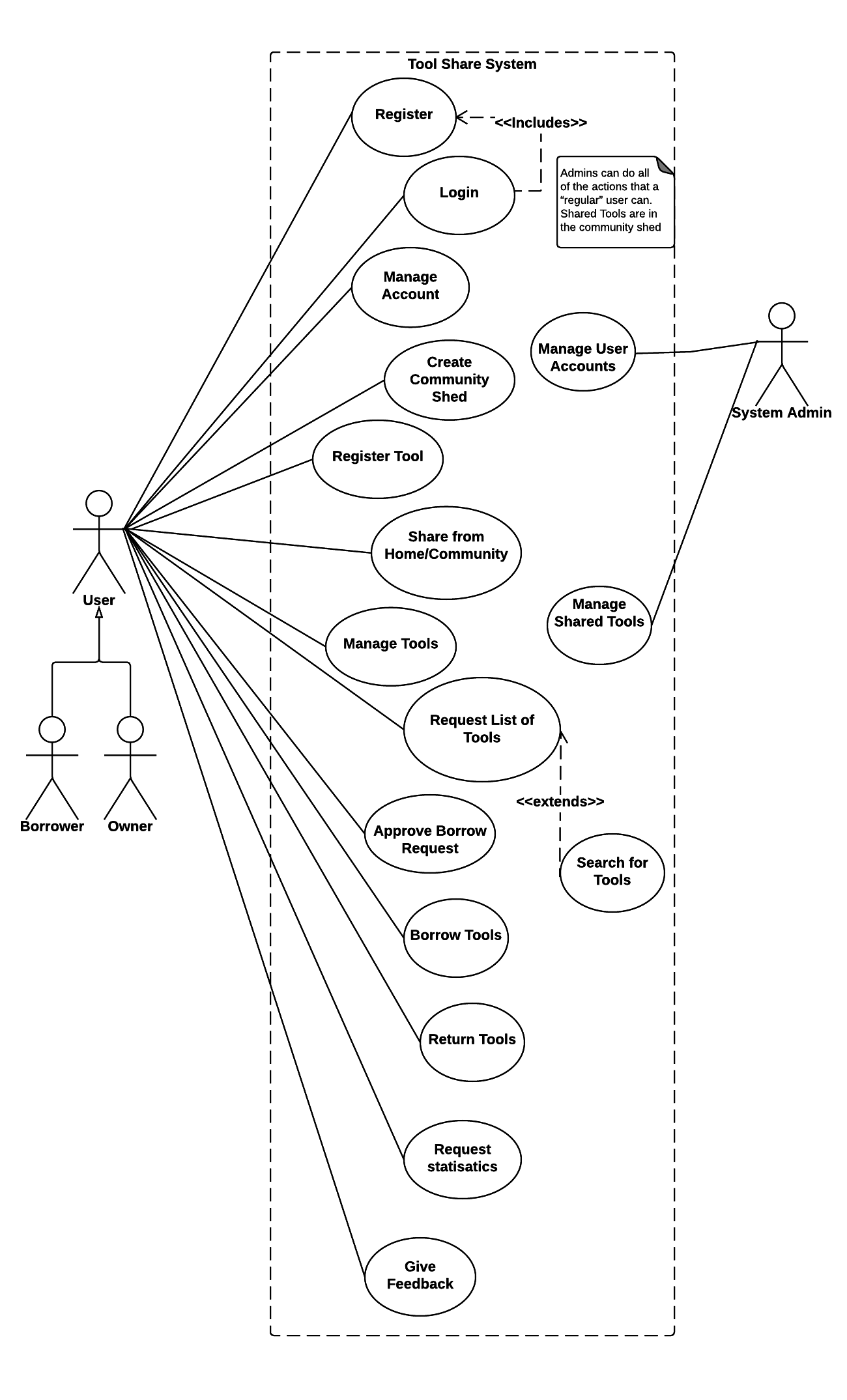
- have an interest in improving their community by lending or borrowing items of common use with others living near by

- is willing to share information such as home address and contact information

# System requirements

At a high-level this project will be source controlled in SVN, run on Django using python, sqlite and needs to be compatible with the latest browsers.

Although the application needs to be accessible through the internet, deployments and demonstrations for this phase of the project will take place within the RIT Software Engineering environment. To this end, you must understand and document the target platforms from the perspective of the client browser as well as that of the server. Make sure to capture versions or software dependencies, programming languages and hardware specifications that are available for your use and proceed only after you document and confirm these with the customer.



# Feature requirements (user stories)

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| No. | User Story Name | Description | Release |
| **1** | Registration | User shall provide personal information such as first name, last name, house address, zip code, e-mail address, telephone number, state, city, username and password to the System upon registering and becoming a User.  Upon registration, user will be asked to create a share zone if he is the first user for that zipcode.  He will be given two options either to create a community shed or Login. | R1 |
| **2** | Login | User can login to the system by providing username and password to the system. | R1 |
| **3** | Account Management - change personal info | User shall be able to change personal information such as first name, last name, house address, e-mail address, telephone number, city, state and after registration.  System will warn User if changing of community and effect any necessary changes to the item list. | Beta |
| **4** | Account Management - change user preferences | User shall be able to change preferences such as pickup arrangements after registration. | R2 |
| **5** | Community Shed creation | User shall be able to create a Shed for his Share Zone. A Shed has a physical location where tools from several Users can be stored.  Shed creator becomes Coordinator of said shed. | Beta |
| **6** | Tool Management – registration | User can register a tool by providing items information such as tool name, select category from dropdown, description, condition, location(Home or Community Shed), upload image, special instruction, pick-up preference.  System will require a unique field to distinguish between similar tools (for example: two laser blasters but mine has “Buzz A 113” edged on its handle) | Beta |
| **7** | Sharing – from Home | Tool cannot be shared from two places (Shed and Home) simultaneously  User must physically have possession of tool prior to sharing it. | Beta |
| **8** | Sharing – from Community Shed | Tool cannot be shared from two places (Shed and Home) simultaneously.  User must physically move the tool to Shed prior to being allowed to share it.  Shed Coordinator can, from time to time, verify and change status of tools in Community Shed (for example: a tool was returned but never marked as present or tool has gone missing) | R1 |
| **9** | Sharing – change location of tool | User can change a previously registered tool to be shared elsewhere.  System will prevent relocation when tool has an unresolved future reservation. | R2 |
| **10** | Sharing – change availability | User can change availability of a tool. (for example: on blackout dates when he/she will be using the tool, or be away/unwilling) | Beta |
| **11** | Sharing – approving a borrower | System will notify User upon a request to borrow his/her tool.  User owner of tool must approve the borrower when his/her tool is not at a Community Shed.  System will notify borrower of decision by owner and update tools status if necessary. | R1 |
| **12** | Tool Listing – availability | User can request from System a list of all tools and their availability. List shall be sorted by System**.**  Only tools in User's Share Zone will be visible | R1 |
| **13** | Borrowing - request | User can select to borrow a tool for specified days if the tool is available. Borrower should add a request message.  Owner of tool will need to “Approve” or “Reject” the request to borrow unless tools is in a Community Shed were it is always automatically approved.  Upon approval, System will create Reservation with requested dates and update availability of the borrowed tool.  Upon rejection, owner of tool must provide a reason for “Reject”.  System will send notification email to borrower or lender including reason or message where applicable**.** | R1 |
| **14** | Borrowing – returning | Borrower will return the tool to the pickup location unless otherwise agreed with tool owner.  Borrower will notify the System that tool has been “Returned”**.**  Owner of tool will need to notify/acknowledge to the System that tool has been “Returned” unless request to borrow was made from a Community Shed were it will be acknowledged by Shed Coordinator.  System will update availability of the returned tool. | Beta |
| **15** | Tool Management – deactivation and reactivation | User can deactivate a tool they previously added to the System. Neither the tool nor its reservations are shown by default, but the system still retains the information about the tool. A tool may be re-activated at any time.  System will require confirmation in case of possible conflicts.  System will notify borrowers of tool being deregistered and update relevant information to disable availability of tool. | Beta |
| **16** | Tool Management – Status | User owner of tool can request from System a list of registered owned tools and their status. | Beta |
| **17** | Community Statistics | User can request a list of statistics for their specific Share Zone. Upon request System will verify association and display such listing.  Statistics that may be included:  - most active lenders  - most active borrowers  - most used tools  - most recently-used tools | R2 |
| **18** | Feedback | User(Borrower) can provide feedback for tool condition after the completion of transaction. | Beta |
| **19** | Categories | The tools will be categorized according to different functionalities & types. | **Pending** |
| **20** | Search | The user can search for desired tools. | **Pending** |

**Use case description:**

**Use Case – Register:**

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| **Use Case Number:** | UC\_01 |
| **Use Case Name:** | Register |
| **Overview:** | User shall provide personal information and preferences to the System for registering and becoming a User. |
| **Actor(s):** | User |
| **Pre-condition(s):** | 1. System has been setup and configured. 2. System is running and open for registrations. 3. User has accessed website via URL |
| **Scenario Flow:** | **Main Flow:**   1. User selects the option Join Now. 2. System requests user to provide first name, last name, email, Username, password, confirm password, Address line 1, Address Line 2, State, City, Zip code, Telephone. 3. User provides first name, last name, email, Username, password, confirm password, Address line 1, Address Line 2, State, City, Zip code, Telephone. 4. System verifies required information is provided.  * If information is invalid or username already exists, System displays error message. Return to Step 2  1. System requests user's preferences for e-mail reminders and pickup arrangements. 2. User provides preferences for e-mail reminders and pickup arrangements. 3. System verifies required information is provided.  * If information is invalid, System displays message. Return to Step 5  1. If user's zip code is new to the System, new Share Zone is created 2. System associates user with corresponding Share Zone 3. System displays confirmation of registration |
|  | **Alternate Flows:**  After Step (2) System will display the option to Cancel the registration process. The following steps would occur:   1. User selects option to cancel during registration 2. System requests confirmation to cancel 3. User confirms intent 4. System returns to main screen |
| **Post Condition:** | User completes registration. System stores user's information. |

**Use Case – Login:**

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| **Use Case Number:** | UC\_02 |
| **Use Case Name:** | Login |
| **Overview:** | User provides username and password to login to the Tool Share system |
| **Actor(s):** | User |
| **Pre-condition(s):** | 1. User has previously registered with the system. 2. User has accessed website via URL |
| **Scenario Flow:** | **Main Flow:**   1. User selects option to login 2. System requests user to provide username and password. 3. User provides username and password. 4. System verifies provided username and password.  * If username or password is invalid, System displays message. Return to Step 2  1. System logs the user into the system and displays the user's home page |
| **Post Condition:** | User logs into the system. |

**Use Case – Approve Borrow Request:**

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| **Use Case Number:** | UC\_03 |
| **Use Case Name:** | Owner approving request from borrower. |
| **Overview:** | Owner of the tool approves a tool request from borrower. |
| **Actor(s):** | Owner, Borrower |
| **Pre-condition(s):** | 1. Borrower has requested a tool. 2. System sent notification to owner about the request. 3. Owner has accessed website via URL and logged into the system. |
| **Scenario Flow:** | **Main Flow:**   1. Owner opens the requests page. 2. Owner selects the request of a tool which is at home. 3. System displays the options to approve and reject. 4. Owner selects option to approve the request. 5. System changes the status of the tool as request approved. 6. System notifies the borrower about the change in status of the tool. |
|  | **Alternate Flows:**  After Step (3) the following steps would occur:   1. Owner selects option to reject the request. 2. System changes the status of the tool as request rejected. 3. System notifies the borrower about the change in status of the tool. |
| **Post Condition:** | Owner approves/rejects the request from borrower. System changes the status of the tool. |

**Use Case – Manage Account:**

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| **Use Case Number:** | UC\_04 |
| **Use Case Name:** | Manage Account(User) |
| **Overview:** | User shall be able to change personal information and preferences |
| **Actor(s):** | User |
| **Pre-condition(s):** | 1. System has been setup and configured. 2. System is functional 3. User has accessed website via URL and logged into the system. |
| **Scenario Flow:** | **Main Flow:**   1. User selects change personal information option 2. System displays options that user can change 3. User selects the appropriate field he wants to change. For example, Change address 4. System allows user to edit information. 5. User selects Save button 6. System saves user information in the database |
|  | **Alternate Flows:**   1. User selects cancel button 2. System redirects user on previous page. |
| **Post Condition:** | User has successfully changed personal information and preferences. |

**Use Case – Create community shed:**

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| **Use Case Number:** | UC\_05 |
| **Use Case Name:** | Create community Shed |
| **Overview:** | User shall be able to create a community shed where tools from different users can be stored. |
| **Actor(s):** | User |
| **Pre-condition(s):** | 1. System has been setup and configured. 2. System is functional 3. User has accessed website via URL and logged into the system. |
| **Scenario Flow:** | **Main Flow:**   1. User selects create community shed option 2. System checks user’s zip-code and whether there is a community shed for the zip-code. 3. System creates a community shed if there is no other community shed for that zip-code and gives user the rights of a shed coordinator. |
|  | **Alternate Flows:**  1. User selects create community shed option  2. System checks for any shed in that zip-code and if there is a shed in that zip-code displays a message to the user that “Shed Already exists for this zip-code” |
| **Post Condition:** | User has successfully created a community shed |

**Use Case – Register Tool:**

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| **Use Case Number:** | UC\_06 |
| **Use Case Name:** | Register Tool |
| **Overview:** | User shall be able to register his tools |
| **Actor(s):** | User |
| **Pre-condition(s):** | 1. System has been setup and configured. 2. System is functional 3. User has accessed website via URL and logged into the system. |
| **Scenario Flow:** | **Main Flow:**   1. User selects register my tool option 2. System requests user for tool information such as tool name, category, description, status, image, location, condition, special instruction, pickup preference. 3. User provides all the necessary information and selects register tool 4. System stores the tool information and notifies user about successful registration |
|  | **Alternate Flows:**   1. User selects cancel button on register my tool page. 2. System redirects user on his previous page. |
| **Post Condition:** | User has successfully registered his tool |

**Use Case – Share tool from Home/Community Shed**

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| **Use Case Number:** | UC\_07 |
| **Use Case Name:** | Share tool from Home/ Community Shed |
| **Overview:** | User shall be able to share his tool from either home or community shed |
| **Actor(s):** | User |
| **Pre-condition(s):** | 1. System has been setup and configured. 2. System is functional 3. User has accessed website via URL and logged into the system. 4. User has registered his tool |
| **Scenario Flow:** | **Main Flow:**   1. User selects share tool option 2. System displays two option either share from home or share form community shed 3. User selects share from home option 4. System checks if the tool is also not shared from the community shed, if not system shares user’s tool with other users |
|  | **Alternate Flows:**   1. User selects share from community shed option 2. System checks if the tool is also not shared from home, if not system shares user’s tool from community shed 3. System notifies the shed coordinator about the user’s tool that is shared. |
| **Post Condition:** | User has successfully shared his tool |

**Use Case – Manage Tools**

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| **Use Case Number:** | UC\_08 |
| **Use Case Name:** | Manage tools (Change location or availability) |
| **Overview:** | User shall be able to change location or availability of his tool |
| **Actor(s):** | User |
| **Pre-condition(s):** | 1. System has been setup and configured. 2. System is functional 3. User has accessed website via URL and logged into the system. 4. User has registered tool 5. User has previously shared tool |
| **Scenario Flow:** | **Main Flow:**   1. User selects change location of tool option 2. System checks if tool has any unresolved future reservations 3. User provides new location of tool 4. System updates the tool location |
|  | **Alternate Flows:**   1. User selects change availability of tool 2. System checks if tool has any unresolved future reservations 3. User provides information about when the tool will be available next 4. System updates tool availability |
| **Post Condition:** | User has successfully changed location or availability of tool. |

**Use Case- Return Tool**

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| **Use Case Number:** | UC\_09 |
| **Use Case Name:** | Return Tool |
| **Overview:** | Borrower returns the borrowed tool. |
| **Actor(s):** | Owner, borrower, shed coordinator |
| **Pre-condition0(s):** | 1. Borrower has accessed website via URL and logged into the system 2. Borrower has borrowed the tool. 3. Borrower returns the tool |
| **Scenario Flow:** | **Main Flow:**   1. Borrower clicks on the return tool option. 2. Borrower updates the system about return of tool. 3. System send a notification to the Owner about the return. 4. The owner of the tool acknowledges the return the system. 5. The system changes status of tool to available. |
|  | **Alternate Flows:**   1. Borrower clicks on the return tool option. 2. Borrower updates the system about return of tool. 3. System send a notification to the Owner about the return. 4. The Shed coordinator acknowledges the return. 5. The system changes status of tool “Available”. |
| **Post Condition:** | Owner approves/rejects the request from borrower. System changes the status of the tool. For a community shed the borrow request is automatically approved. |

**Use Case: Borrow Tool**

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| **Use Case Number:** | UC\_10 |
| **Use Case Name:** | Borrow Request |
| **Overview:** | User requests to borrow a tool |
| **Actor(s):** | Owner, borrower |
| **Pre-condition(s):** | 1. Borrower is logged into the system. 2. Tool is available for the specified dates. |
| **Scenario Flow:** | **Main Flow:**   1. Borrower requests for the tool. 2. The owner of the system gets a request for tool borrow. 3. The owner of the tool approves the request to borrow. 4. The system creates a reservation for the approved tool. 5. The system changes availability of tool for the particular time period. 6. System sends a notification to the borrower about the request being approved. |
|  | **Alternate Flows 1:**   1. Borrower requests for the tool. 2. The owner of the system gets a request for tool borrow. 3. The owner of the tool rejects the request to borrow. 4. The owner of tool provides a reason for rejection. 5. System sends a notification to the borrower about the request being rejected by the owner and displays the message from owner. |
|  | **Alternate Flows 2:**   1. Borrower requests for the tool. 2. The tool to be borrowed is in the community shed. 3. System approves request. 4. System sends a notification to the borrower about the request being approved. |
| **Post Condition:** | Owner approves/rejects the request from borrower. System changes the status of the tool. If a tool was requested from a community shed, it is automatically approved. |

**Use Case: Request List of Tools**

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| **Use Case Number:** | UC\_11 |
| **Use Case Name:** | Request list of owner tools and status on request |
| **Overview:** | System can display a list of all tools and their availability to the user. List shall be sorted by System. The tools in User's Share Zone only will be visible. |
| **Actor(s):** | User |
| **Pre-condition(s):** | 1. System has been setup and configured.  2. User has accessed website via URL and logged into the system. |
| **Scenario Flow:** | **Main Flow:**   1. User selects the option to view the list of all tools. 2. System displays the list of tools available in the user’s shared zone in ascending order by default. 3. If user clicks on sort option system changes sorting order for the list of tools. |
| **Post Condition:** | System displays the sorted list of tools available in the user’s shared zone |

**Use Case: Request Statistics**

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| **Use Case Number:** | UC\_12 |
| **Use Case Name:** | Request list of statistics |
| **Overview:** | System can display a list of specific statistics to the user for their specific share zone on request |
| **Actor(s):** | User |
| **Pre-condition(s):** | 1. System has been setup and configured.  2. User has accessed website via URL and logged into the system. |
| **Scenario Flow:** | **Main Flow:**   1. User selects the option to view the list of statistics for their share zone 2. System displays the list of statistics of most active lenders, borrowers; most used tools and most recently used tools. |
|  | **Alternate Flows:**   1. There are no results for the view statistics request. 2. The system notifies that there were not enough entries made necessary for creating stats. |
| **Post Condition:** | System displays the list of community statistics to the user upon request. |

**Use Case: Manage Shared Tools**

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| **Use Case Number:** | UC\_13 |
| **Use Case Name:** | Manage Shared Tools |
| **Overview:** | Shed coordinator verifies the status of the tool. |
| **Actor(s):** | Shed coordinator |
| **Pre-condition(s):** | 1. Shed coordinator must have access to the tool share system. 2. Shed coordinator should be registered to the system. |
| **Scenario Flow:** | **Main Flow:**   1. Shed coordinator logs into the system. 2. Shed coordinator verify the status of tools and change the status of the tool if required. 3. System displays the message stating that status has been updated successfully. |
| **Post Condition:** | System changes the status of the tool. |