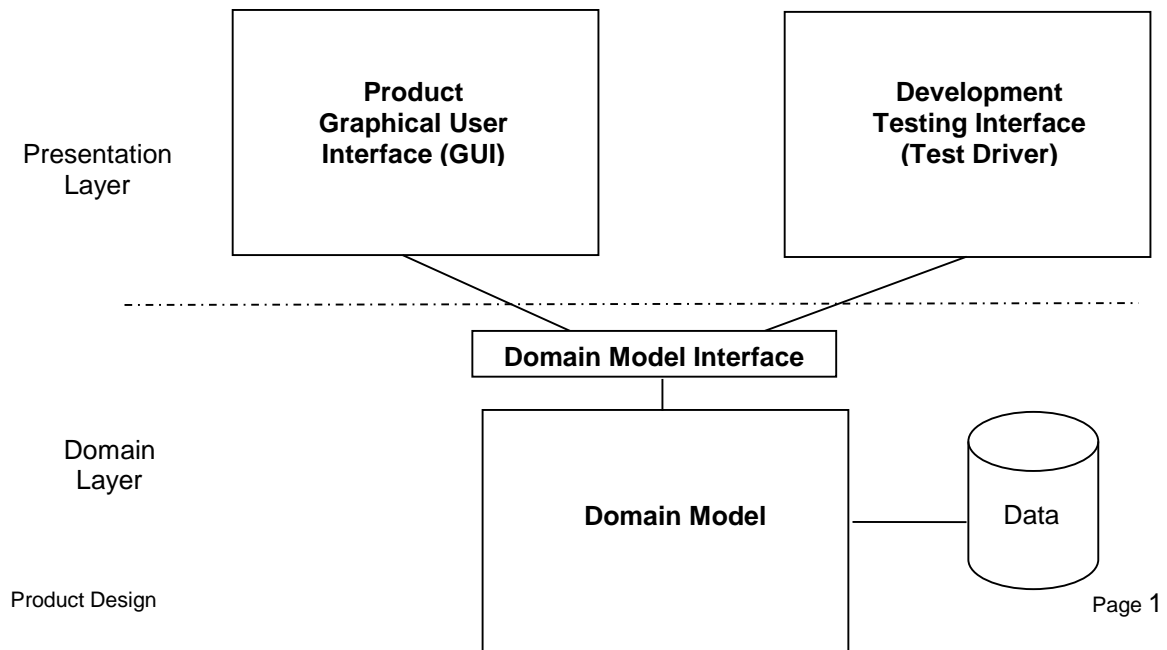


**Product Design****Group3: Bug Biters**

<b><i>Revision Number</i></b>	<b><i>Revision Date</i></b>	<b><i>Summary of Changes</i></b>	<b><i>Author(s)</i></b>
0.1	09/27/2016	Initial revision	Ronak Shettigar, Devang Sawant, Chaitanya Gadiyam, Rohan Shiroor, Poornima Ubale Umang Garg

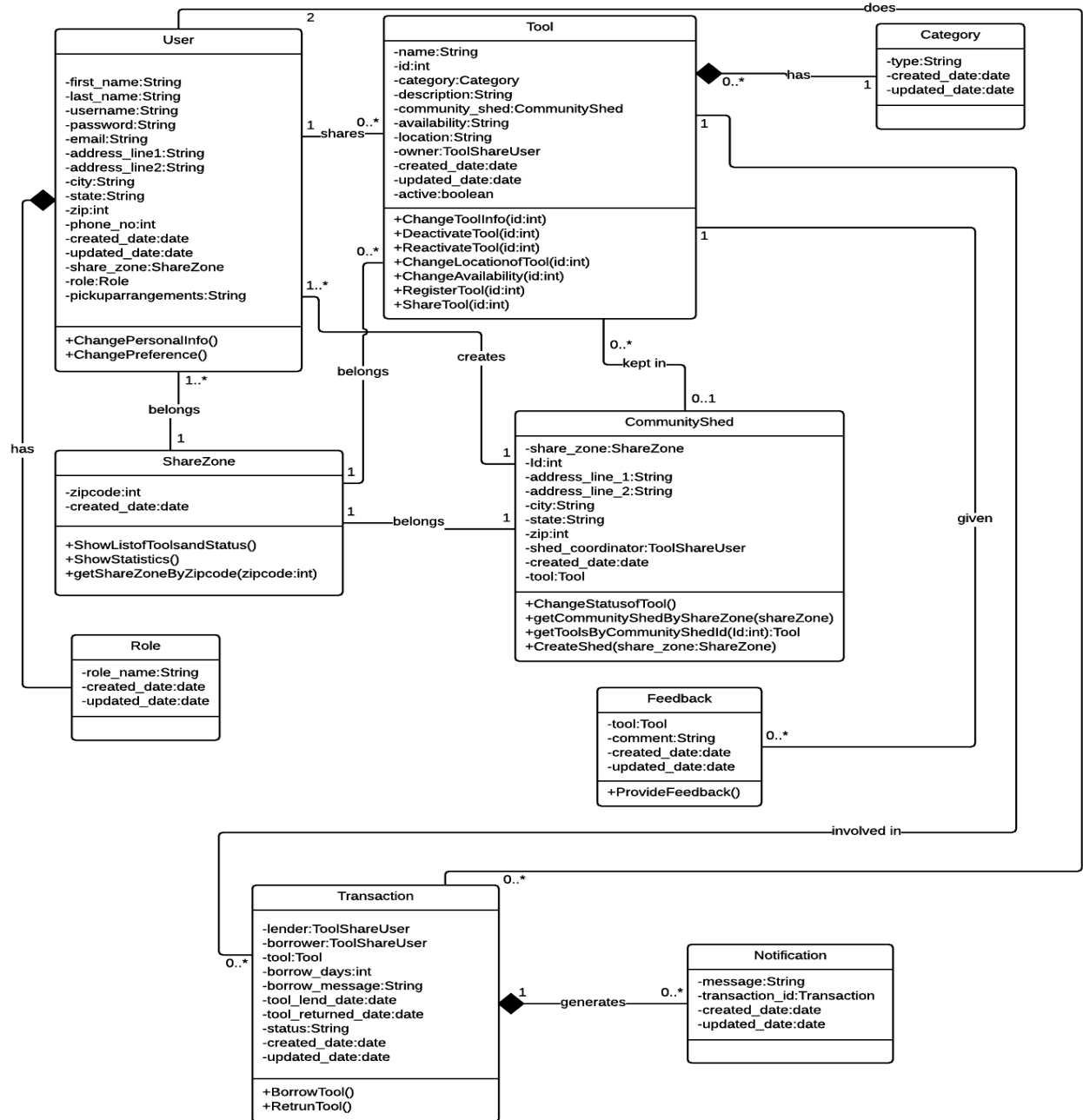
**Architectural Overview**

## Components and Functions

User Management	<p>Component state:</p> <p>Responsible for maintaining all user accounts information such as name, loginID (username), password, address, user preferences</p> <p>Component behavior:</p> <p>Services provided include registration, login, changing user account information, deleting accounts</p>
Tool Management	<p>Component state:</p> <p>Responsible for maintaining tool information such as item name, category, picture, description, location</p> <p>Component behavior:</p> <p>Services provided include changing tool information, changing tool location, changing tool availability, tool deactivation and tool reactivation</p>
Tool Sharing and Allocation	<p>Component state:</p> <p>Responsible for maintaining tool availability, tool status, borrow requests</p> <p>Component behavior:</p> <p>Services provided include changing tool status, changing tool availability, sending a borrow request, approving/rejecting a borrow request</p>
Tool Listing	<p>Component state:</p> <p>Responsible for maintaining list of tools with their availability for each share zone</p> <p>Component behavior:</p> <p>Services provided include sorting and displaying list of</p>

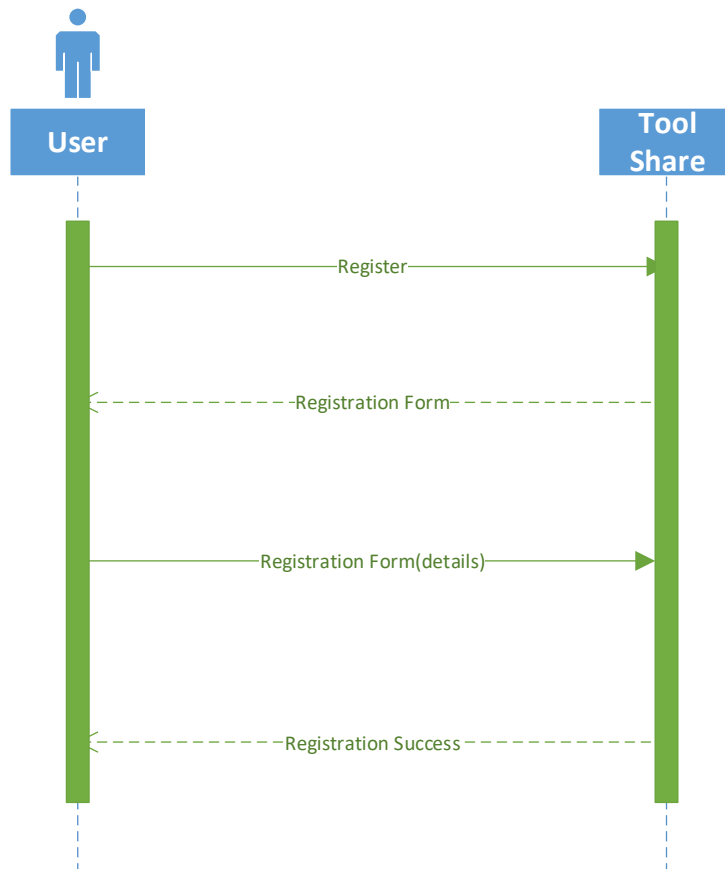
	tools and their availability
Community Statistics	<p>Component state:</p> <p>Responsible for maintaining community statistics such as most active lenders, most active borrowers, most used tools, most recently-used tools</p> <p>Component behavior:</p> <p>Services provided include providing list of statistics for a specific share zone</p>
Share Zone management	<p>Component state:</p> <p>Responsible for maintaining share zone information such as zip code, number of active users and community shed information of the share zone such as community shed location, shed coordinator</p> <p>Component behavior:</p> <p>Services provided include creating a new share zone, updating share zone information, creating community shed, changing community shed information</p>
Notifications and Reminders	<p>Component state:</p> <p>Responsible for maintaining user's notifications and reminders</p> <p>Component behavior:</p> <p>Services provided include sending notifications to user when change occurs in tool status and/or tool availability, enabling/disabling reminders, changing reminder frequency, sending e-mail reminders about tool availability, tool return date.</p>

## Class Diagram

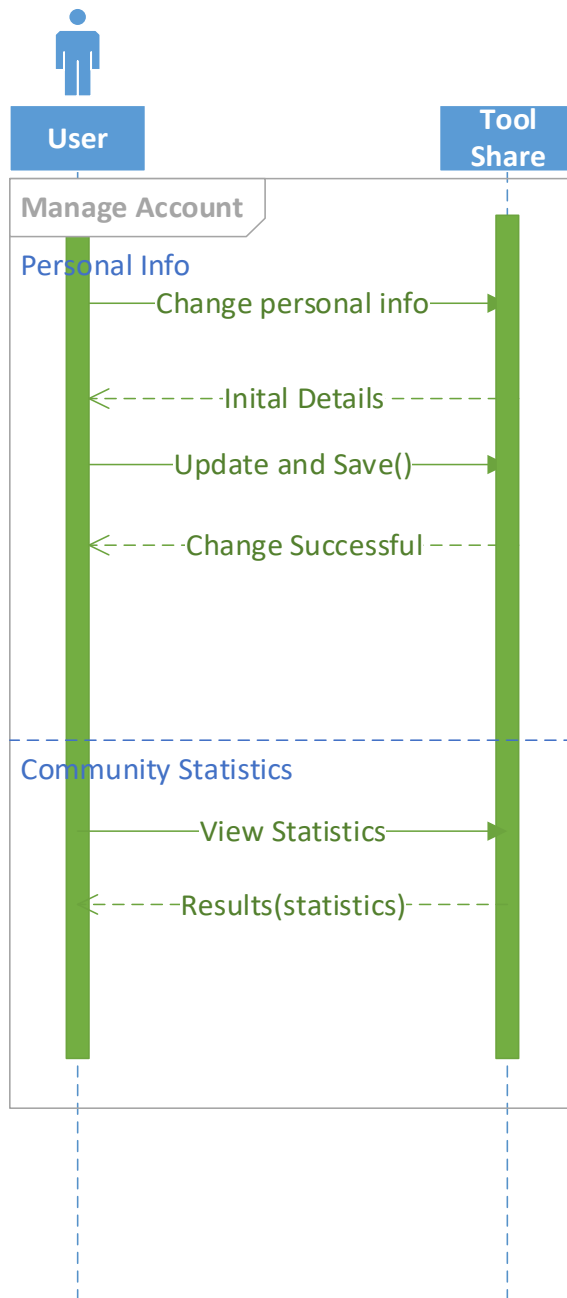


## Sequence Diagrams

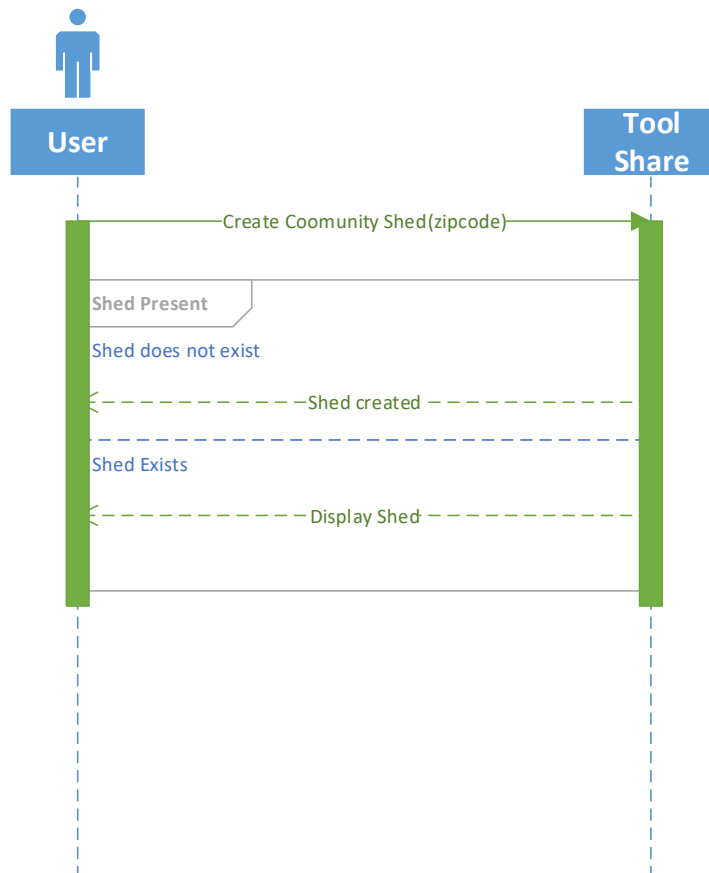
User Registration:



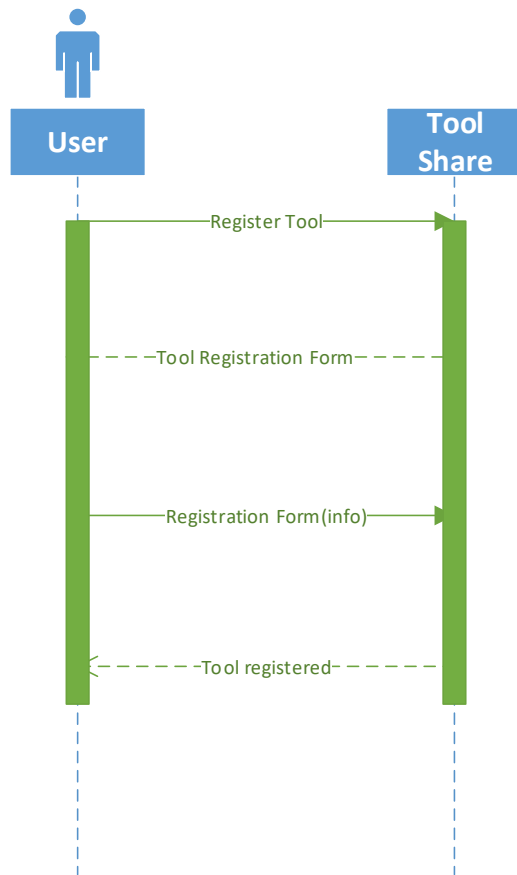
Manage Account:



Create Shed:

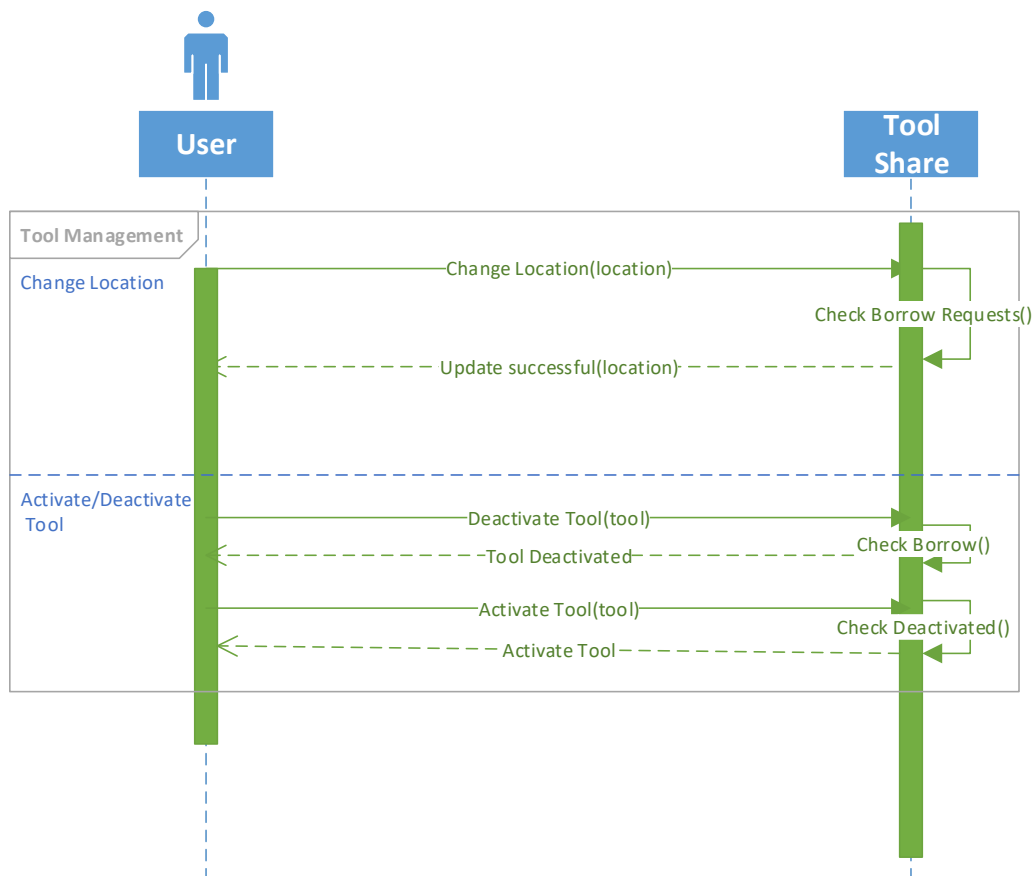


Register Tool:

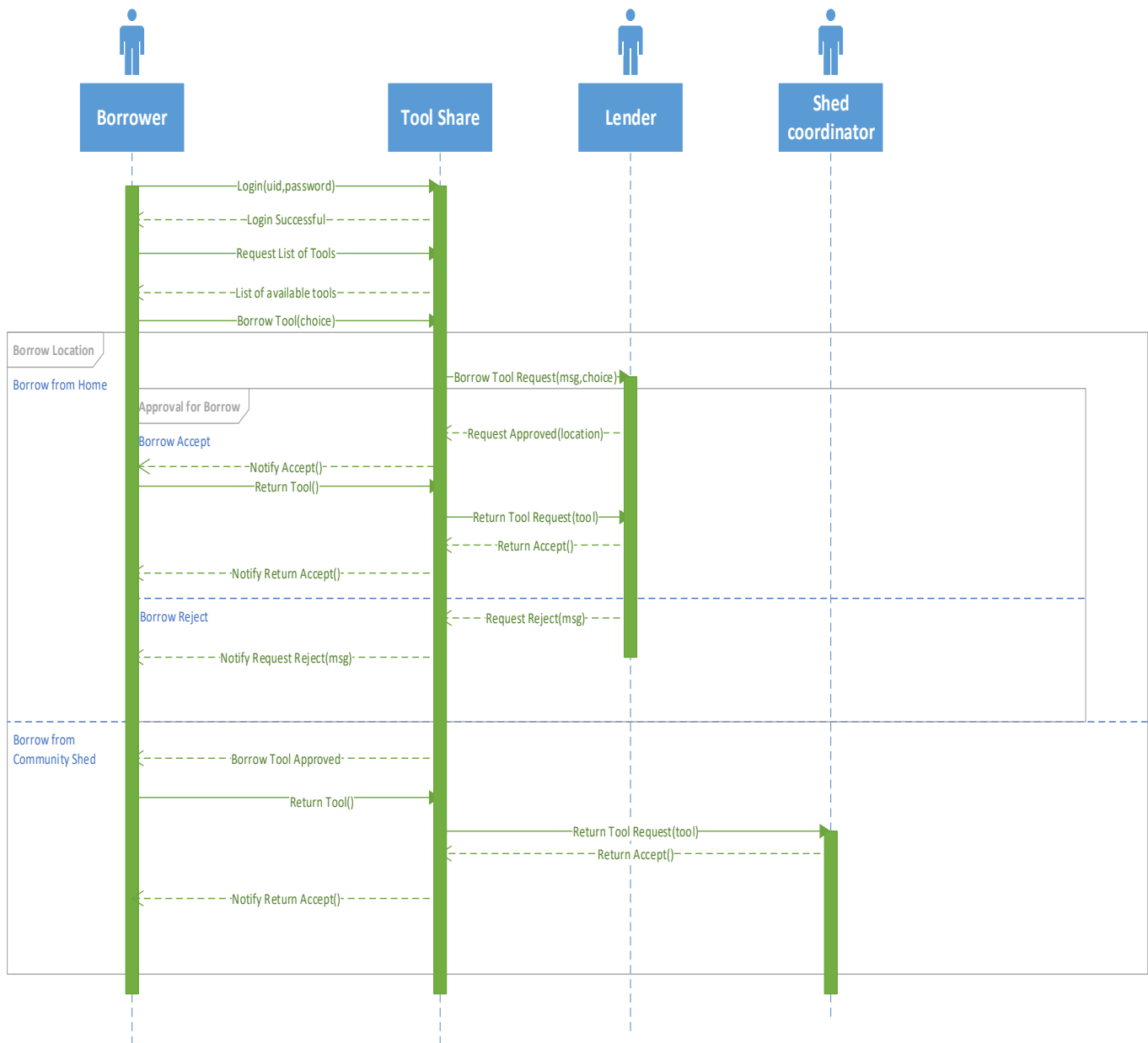




## Manage Tools:



## Borrow &amp; Return Tool:



## Design Rationale

The initial design considered did not be actually mapped to the functionalities. In the class diagram there were few number of classes although which tried to capture most important functionalities could not do it. The initial class diagram had 4 classes User, Tool, Community Shed and Share Zone. They were not enough to capture the functionalities so more a better design had to be made. An improved class diagram was then prepared which can now be traced to the code. Similarly, more components and functions were added to the list so as to complete the design. This is still a work in progress and the design will change with changes in future requirements. The change will be carried over to the code.