Product Requirements

Team Account: f610-01a | Team Name: Group1-"Valar Djangoeris"

Brief problem statement

The purpose of this project is to create the Tool Share application, on behalf of Investiny Corp. This web-based application's main functionality will be to allow neighbors to exchange commonly used tools. Tool Share will be an easy-to-use application, enabling the registration and sharing or borrowing of items in a few easy and straightforward steps. Thus, the final product will be characterized with navigation ease and clarity of information. In addition, this application will be easily extendible to include a variety of different kinds of tools or items in the future.

Stakeholders

Investiny Corp. Board of Directors – will have the role of the monitoring body, especially with regards to the financial side of the project. Although it will be in their best interest for the final product to succeed, the board of directors will not directly be engaged with the planning and the execution of the project. oversee the project's funding and expenses.

Investiny Corp. Product Owner – will have the role of the main representative of the Tool Share product, its needs, requirements and features. S/he will serve as a liaison between the Software Engineering team and the Board of Directors, while also being the main decision maker, facilitator and the person who gives the ultimate green-light for any kind of functionality, feature or behavior of the Tool Share product in all of its releases.

Users of Tool Share - or the end users of the Tool Share product, will have the role of Borrowers and Owners of the tool and also Administrators/Community Shed Coordinators. They will be the ones that will use the application day-to-day to their own benefit.

• Administrator/Community Shed Coordinators - will have the additional responsibility of approving new users in their Share Zone and taking care of the Community Shed, both physically and virtually with having the tools, their status and location updated.

Software Engineering Team – will have the role of planning, modeling, designing, constructing, deploying and maintaining the Tool Share product. This will include among others, self-organization, specification and validation of requirements with the Investiny Corp. Product Owner, documentation, coding and testing of all the components, and other related and neccessary software engineering activities until the end of the product's life-cycle.

Beta Testing Team – is a sample of the targeted users of Tool Share. They will have the role of participating in acceptance testing for the product, in later phases, and offering feedback after testing.

Users profile

The intended Tool Share users must:

- possess or have access to a computer with internet access and a up-to-date browser.
- have a basic understanding on how to use a computer, browse the web, and have experience with forms and online purchases or sales.
- be ready to share personal information, e.g. home address and phone number, with the rest of their neighboring community.
- be invested in helping out to make their neighboring community better by renting items with their neighbors, or borrowing items and returning them in a proper condition.
- (applicable for Admins/Community Shed Coordinators only) be willing to perform additional tasks of organizing and coordinating the Community Shed, and approving incoming new Users.

System requirements

The following table describes the software and hardware system requirements to run the Tool Share application. They pertain to the tools and systems present in the RIT Software Engineering Department, where the deployment for the demonstration phase of the project will take place.

SNo.	Туре	Specifications
1	Operating Systems	Windows7 , Linux, Unix.
2 Integrated development environment (IDE) PyCharm,Python IDE,Notepad++		PyCharm,Python IDE,Notepad++
3	Language\Framework	Python v3.4.3 \ Django1.9.1.
4	Database	sqlite 2.6.0.
5	Supported Browsers	Internet Explorer, Google Chrome, Mozilla Firefox
6	Version Control	SVN

Feature requirements (user stories)

The feature requirements and their descriptions are the result of the agreement between the customer and the software engineering team. They are subject to change in the future. The Release column provides information as to in which Release will the feature requirements become available. Those features that have both releases mentioned, will only partially be delivered in R1 and fully in R2. Information in italics in the description stories suggests that that particular part of description will be delivered in R2.

No.	User Story Name	Description	Release
1	Registration	Registrant will provide personal information and	
		preferences to the System on registering page to become a	
		User, which include: • First and Last name	R1/R2
		Age	K1/KZ
		• Email	
		Address	
		 Zipcode 	
		 Login ID and password 	
		 Pickup arrangements for upcoming shared tools 	
		Preferred notification reminder frequency	
		System will assign the Hear to an existing Chara Zone	
		System will assign the User to an existing Share Zone based on the zip code that is provided by him/her.	
		based on the zip code that is provided by him her.	
		If there is no existing Share Zone pertaining to the	
		zipcode been created to the zip code provided by the	
		registrant, the system shall create a new Share Zone and	
		make the User the administrator of the Share Zone.	
2	Registration	The Administrator will receive notifications when a new	R2
	approval	User has filled out the registration information and	
		provided a zip code pertaining to the Administrator's Share Zone.	
		Share Zone.	
		The Administrator will either 'Approve' or 'Reject' the	
		request to join the Share Zone, based on the presence or	
		not of that person in the neighboring community(zip code	
		area).	
		There will be no formal mode of notification sent to the	
		User after the Administrator has made her/his decision. If	
		the User is approved, s/he can login. If not, s/he cannot	
		login.	

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			granted the responsibility of the Coordinator of said Share Zone. The authority to create a Shed for a Share Zone belongs to Administrators of given Share Zone. Only one Shed per Share Zone will be allowed by the	
			system.	
	9	Tool Management – Registration	The User can register a tool by providing information on the tool. That information includes: Name of the tool Picture Category of the tool Tool condition Description Special instructions System will also require an additional field to be filled out whose purpose is to differentiate between tools of similar descriptions. This will be the field that will set similar	R1/R2
			tools apart.	
			1	
			Regarding the Pickup Arrangements, the User can either use the default options that s/he provided during Registration or set a new one.	
•	10	Sharing – From Home	The User will have the option of changing the location of a registered tool to his/her home.	R2
			The system will make sure that no Tool is listed to be shared in two places simultaneously.	
			As a precondition for this use-case, the Tool must be physically located at User's home prior to making the change.	
•	11	Approving - Sharing From Home	Shed Coordinator receives a notification that a User has changed the location of a tool previously located in the Community Shed.	R2
			Shed Coordinator acknowledges or not the change of the location.	
			The system updates the location of the tool accordingly.	

		The User gets notified of the Shed Coordinator's decision.	
12	Sharing – From Community Shed	The User will have the option of changing the location of an already registered tool to a Community Shed.	R2
		The system will make sure that no Tool is listed to be shared in two places simultaneously.	
		As a precondition for this use-case, the Tool must be physically located in the Shed prior to making the change in its location.	
13	Approving - Sharing From Community Shed	The Shed Coordinator will receive a notification that a User has relocated the tool in his/her Community Shed. The Shed Coordinator acknowledges or does not	R2
		acknowledge the relocation.	
		The System updated the location of the tool accordingly. User gets notified of the Shed Coordinator's decision.	
14	Community Shed - Change Tool Status	The Shed Coordinator can, from time to time, verify and change/update status of tools in Community Shed. Such changes might include Tools that have been returned but not updated through the system, Tools that have been set to be shared from there and other situations of this kind.	R2
		These changes will be the result of physical changes in the status of the Tools. All changes made will be sent in forms of notifications to	
15	Sharing – Change Tool Location	Users that have put the said Tools on reserve. The User can change a previously registered tool to be shared elsewhere than its initial location.	R2
		As a precondition for this use-case, the Tool must be physically located in the new location prior to any changes in its location in the system.	
		The system will not enable this option when a future reservation is pending and unresolved	
16	Sharing – Change Tool Availability	The User can change the availability of a tool for a specified time frame.	R2

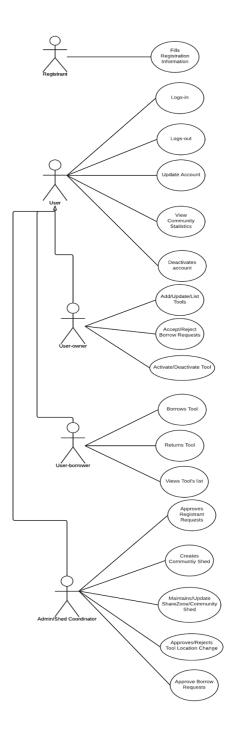
	1		1
		The User might need to use this feature when the tool is being used by him/her, when s/he will be out, or for other reasons that would render the Tool unavailable to be borrowed.	
17	Sharing – Approving a Borrowing	The system will notify the User that a request to borrow his/her tool has been made by another User.	R1/R2
	Request	The User- owner of Tool must approve, or reject thereof, the request made by User- borrower when his/her tool is not at a Community Shed. <i>In case of rejection, the User-owner has to specify an accompanying reason for rejection.</i>	
		The system will notify the User borrower of the User-owner's decision. The status of the Tool will also be updated accordingly.	
18	Tool Listing – Availability	The Users of the ToolShare can have access to the list of all the tools that have been registered in the system. The system will only display the tools that are within the User's Share Zone.	R1/R2
		The list of Tools will be sorted alphabetically based on the category of the tools. The list will also have information about the availability of all the Tools (available, unavailable).	
19	Borrowing - Request	The User has the option of making a request to borrow a tool for a given timeframe that s/he specifies . The User can attach an optional message to the request. In order for the User to be able to do that, the tool should be available in the specified time period.	R1/R2
		Once the request has been made by the User, it is sent to User owner of tool. S/he will have to either 'Approve' or 'Reject' the request. If the User owner of the tool decides to Reject the request, a reason for this rejection will be provided.	
		If the tool requested is located in the Community Shed, the request gets automatically approved by the system.	

20	Borrowing – Arrangements	In case of approval, the system will put the requested Tool on Reservation for the specified timeframe. The User-borrower of the tool when requesting a tool can see a message, written by the User-owner, regarding arrangements for the pick-up of the Tool. When provided with this message, the User-borrower can decide if s/he wants to request the tool for a specified	R1/R2
21	Borrowing - Returning	Once the specified timeframe is up, the User-borrower will have to return the tool. User-borrower will return the tool at the pickup location unless otherwise agreed with tool owner. User-borrower will notify the System that tool has been "Returned". The User-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 the Shed Coordinator. The system will update the availability of the returned Tool accordingly.	R2
22	Tool Management – Deactivation and Reactivation	The system will allow the User-owner to deactivate a owned and registered Tool, given that the Tool is not borrowed. If the Tool is borrowed, the User-owner will no longer have the option of setting a Tool as deactivated. The system will retain the Tool information, including potential reservations made, but it will make the Tool unavailable. The User will also have the option of reactivating the said Tool. All the Users who had previously reserved the Tool should be notified for the deactivation and reactivation of said Tool.	R2

23	Tool Management – Status	The system will provide the User with an option to view the Tools s/he owns along with their status. The Tools will be sorted by their categorial names. On a single page, 20-25 tools will be displayed.	
24	Community Statistics	The User can request statistical reports for a specific Share Zone, such as most active lenders, most active borrowers, most used tools, most recently-used tools, worst quality users, best quality users. The system should query the associations between different entities and report the results.	R2
25	Admin - Updates/ Maintains Share Zone	The Administrator of a Share Zone can from time-to-time make changes in his/her Share Zone. Changes might include deleting Users, changing their status, changing tools' status and other changes of similar nature.	R2

Use-case Diagrams

Overview



A more detailed breakdown of the use-cases can be seen in the figures below.

Registrant

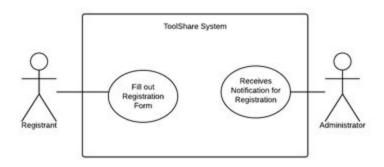


Figure 1 Registration (UC1)

User

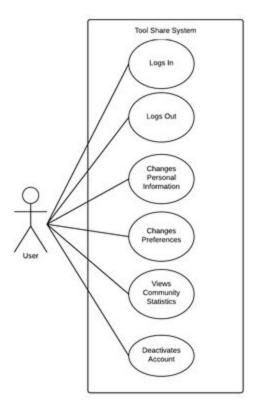


Figure 2 Use-cases performed by all Users (including Admin) (UC3-7, UC25)

User-owner

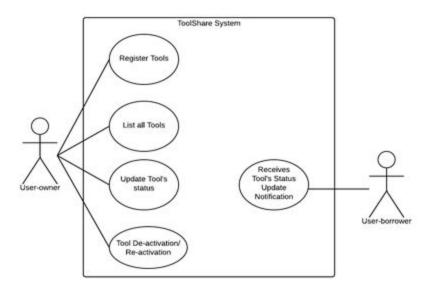


Figure 3 Use-cases performed by User-owner (UC10, UC17, UC23-24)

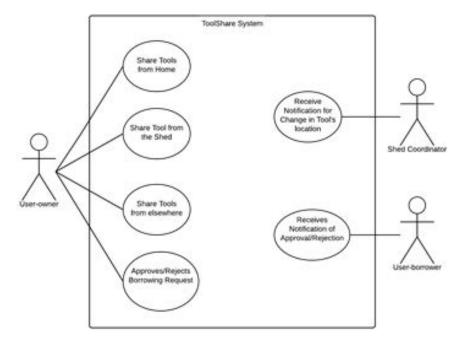


Figure 4 Use-cases performed by User-owner cntd. (UC11, UC13, UC16, UC18)

User-borrower

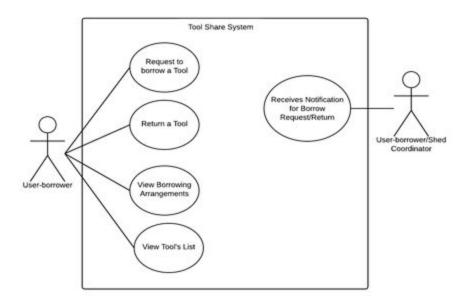


Figure 5 Use-cases performed by User-borrower (UC19-22)

User-Shed Coordinator

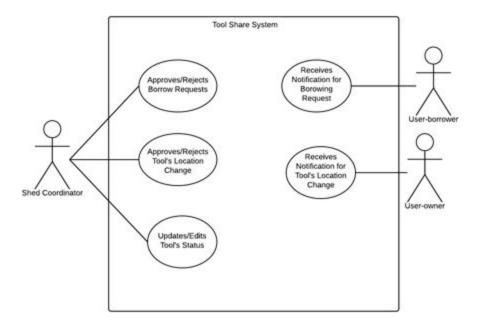


Figure 6 Use-cases performed by Shed Coordinator (UC9, UC12, UC14-15)

User-Administrator

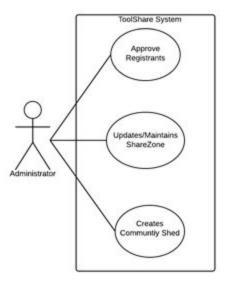


Figure 7 Use-cases performed by Administrator (UC2, UC8, UC26)

Use-Case Descriptions

Use Case ID:	UC1		
Use Case Name:	Registration		
Created By:	Palak Sharma	Last Updated By:	Adriana Sejfia
Date Created:	09/12/2016	Date Last Updated:	10/10/2016

Actors:	Registrant
Description:	Registrant fills out the registration information and his/her account is sent for approval by the Administrator of the Share Zone prior to becoming a User.
Trigger:	Registrant visits the Tool Share site.
Preconditions:	Registrant has internet access.
Postconditions:	Registrant's account is sent to the Administrator for approval.
Normal Flow:	 The system displays the website home page. The Registrant selects the register option and fills the following information: First Name Last Name Age Email Address Login ID Password Address Zip code Notification Preferences Pick-up location for registered tools The system validates the Registrant's details provided in the registration form. Based on the zip code, the system associates the Registrant with a Sharezone. The Registrant's account gets sent to the Administrator of the Share Zone for approval.

Alternative Flows:	 3.a.1. The system notifies the Registrant if any of the input does not pass validation. 3.a.2. The Registrant has the option of submitting again certain input. 1.3.a.3. The use-case continues from step 3 of the Normal Flow. 6.a.1. If the sharezone does not exist for the zip code, the system will create a new Share Zone. 6.a.2. The Registrant is automatically made the Administrator of that Share Zone. 6.a.3. The use-case continues to step 7 of the Normal Flow.
Exceptions:	3.e.1. The system notifies the Registrant if any exception occurs during registration that renders the registration unavailable at the time.3.e.2. The system notifies the Registrant if there is an existing account with the same email address and asks him/her to log in with that email address.
*Includes:	N/A
Priority:	1
*Supplemental Information:	The system will create the User's account, but it will be kept invisible. Based on the decision made by the Admin, the account will either become visible or deleted.

Use Case ID:	UC2
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Use Case Name:	Registration approval		
Created By:	Anupama Garani	Last Updated By:	Adriana Sejfia
Date Created:	09/27/2016	Date Last Updated:	09/27/2016

Actors:	Administrator
Description:	Administrator approves the account of the Registrant, now the User The User is able to log in to the system.
Trigger:	Administrator receives the approval request for the Registrant .
Preconditions:	User has filled out the registration form. Admin is a registered user in the system. Admin has logged in the system.
Postconditions:	User's account is created successfully
Normal Flow:	 The system displays the homepage. The administrator receives the notification that the Registrant wants to register and access the Share Zone. The Administrator approves the request. The system saves and activates the User's account.
Alternative Flows:	N/A
Exceptions:	 3.e.1. Admin rejects the Registrant's request. 3.e.2. The system does not activates the User's account. 4.e.1. The system notifies the User if his/her request cannot be processed at the time being due to technical difficulties.
*Includes:	N/A
Priority:	1
*Supplemental Information:	Admin only rejects the request of the User to join the Share Zone if s/he is not aware of his/her presence in the given zip code area. There will be no formal mode of notification to let the User know that his/her account has been created successfully (as per the customer's request).

Use Case ID:	UC3		
Use Case Name:	User- Logs in		
Created By:	Anupama Garani	Last Updated By:	Adriana Sejfia
Date Created:	09/14/2016	Date Last Updated:	10/10/2016

Actors:	User
Description:	User can login if s/he inputs the correct credentials.
Trigger:	User wants to log in.
Preconditions:	User must be a registered user in the system.
Postconditions:	User is logged in successfully
Normal Flow:	 The system displays the login page. The User types in the login ID and the password The system validates the User's input. The User is logged into the application. The system displays the home page.
Alternative Flows:	3.a.1. The system notifies the User if the input provided does not pass validation.3.a.2. The use-case continues from step 2 of the Normal Flow.
Exceptions:	4.e.1. The system notifies the User if the login ID is not associated with any account and asks the User to register first.4.e.2. The system notifies the User if it cannot process the request at the time being due to technical issues.
*Includes:	N/A
Priority:	1
*Supplemental Information:	N/A

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Use Case ID:	UC4
Use Case Name:	User-Logs Out

Created By:	Palak Sharma	Last Updated By:	Adriana Sejfia
Date Created:	09/27/2016	Date Last Updated:	09/27/2016

Actors:	User
Description:	User will be able to log out of the sharezone application.
Trigger:	User opens the website URL.
Preconditions:	User visits the Tool Share website. User is a registered user in the system. User has logged in to the system.
Postconditions:	User is able to successfully logout of the system.
Normal Flow:	 The User is in his/her homepage. The User chooses to log out of the system. The system asks for User's confirmation. The User confirms and the system logs out the User and directs him/her to the application's main page. The system ends the user session for the application.
Alternative Flows:	N/A
Exceptions:	3.e.1. The User does not confirm and s/he continues to be logged in.4.e.1. An appropriate error message is displayed to the user in case the system is not able to logout the user.
*Includes:	N/A
Priority:	1
*Supplemental Information:	N/A

Use Case ID:	UC5		
Use Case Name:	Account Management - Change Personal Info		
Created By:	Anupama Garani Last Updated By: Adriana Sejfia		
Date Created:	09/14/2016	Date Last Updated:	10/10/2016

Actors:	User
Description:	User will be able to alter or update the personal information in his/her account.
Trigger:	Any modification of information pertaining to the User in the real world.
Preconditions:	User is a registered user in the system. User is logged in to the system.
Postconditions:	User successfully modifies the information.
Normal Flow:	 The system displays the homepage. The User goes to My Profile page. The User makes the wanted changes in any of the fields provided in the registration. If the user changes the zip code, s/he is informed on how this change will affect his Share Zone assignment and any relevant Tool reservations. The system validates the User's input. The User is asked to confirm the changes. The system make the necessary updates accordingly.
Alternative Flows:	 4.a.1. If the zipcode is not assigned a Share Zone prior to this procedure, then a new share zone is created for the user. 4.a.2. The User becomes the Administrator of the new Share Zone. 4.a.3. The use-case continues from step 5 of the Normal Flow. 5.e.1. If the User's input does not pass validation, the system notifies the User of that. 5.e.2. The use-case continues from step 3 of the Normal Flow.

Exceptions:	6.e.1 If the User does not confirm the changes made, the system does not update anything. 6.e.2. The system notifies the User if his/her request cannot be processed at the time being due to technical difficulties.
*Includes:	N/A
Priority:	1
*Supplemental Information:	The user will not be allowed to change the username.

Use Case ID:	UC6	

Use Case Name	Account Management - Change User Preferences		
Created By:	Anupama Garani	Last Updated By:	Adriana Sejfia
Date Created:	09/15/2016	Date Last Updated:	09/27/2016

Actors:	User	
Description:	User will be able to change his/her account preferences.	
Trigger:	Changes in the personal preferences of the user	
Preconditions:	User is a registered user in the system. User has logged in to the system.	
Postconditions:	User's modified preferences are saved to the account	
Normal Flow:	 The system displays the homepage. The User selects the Change Preference option. The User changes the relevant information(notification frequency and/or pick-up arrangements) The system asks the User to confirm the input. The system validates the input. The system saves the User's preferences and updates the User's account accordingly. 	
Alternative Flows:	5.a.1. The system notifies the User if the provided input does not pass validation.5.a.2. The use case continues from step 3 of the Normal Flow.	
Exceptions:	 4.e.1. If the User does not confirm changes, the use-case ends. 4.e.2. The system does not make any changes. 6.e.1. The system notifies the User if his/her request cannot be processed at the time being due to technical difficulties. 	
*Includes:	N/A	
Priority:	3	
*Supplemental Information:	N/A	

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Software Engineering Department

Use Case ID:	UC7
Use Case Name:	Account Management - Deactivate Account

Created By:	Prashnna Gyawali	Last Updated By:	Adriana Sejfia
Date Created:	09/26/2016	Date Last Updated:	09/27/2016

Actors:	User	
Description:	User will be able to deactivate the account from the system.	
Trigger:	User wants to deactivate his/her account.	
Preconditions:	User is a registered user in the system. User has logged in to the system.	
Postconditions:	User's account is deactivated from the system.	
Normal Flow:	 The system displays the homepage. The User selects the Account Management option. The User selects the Deactivate Account option. The system asks the User to confirm his/her selection. The system checks for any borrowed, on-reserve tools or tools located in the Community Shed. The system cannot find any conflicts. The system deactivates the User's account. The system updates the Tool-list and the User-list accordingly. The system notifies User's that have put this User's tools on reservation about the deactivation of the account. 	
Alternative Flows:	6.a.1. If the User has tools in the Community Shed, the system asks the User what is to be done with those tools.6.a.2. If the User selects the Donate to Community Shed option, the tools remain in the Community Shed.6.a.3. The use-case continues from step 4 of the Normal Flow.	
Exceptions:	6.e.1. If the system finds that the User has borrowed tools, it will not allow him/her to deactivate his/her account. 6.e.2. If the system finds that the User has tools listed in the Community Shed, and if the User does not select the Donate to Community Shed Option, the system will not allow the User to deactivate the account without resolving this conflict.	

	4.e.1. If the User does not confirm the selection, the use-case ends and no changes are made.
*Includes:	N/A
Priority:	2
*Supplemental Information:	N/A

Use Case ID:	UC8		
Use Case Name:	Community Shed- Creation		
Created By:	Ahad Saad	Last Updated By:	Adriana Sejfia

Date Created:	09/13/2016	Date Last Updated:	09/27/2016	
Actors:	Administrator	Administrator		
Description:	Administrator will b	e able to create a Shed for his/her Sh	nare Zone	
Trigger:	Administrator wants	s to create a Community Shed.		
Preconditions:		egistered user in the system. egged in to the system.		
Post conditions:	Community Shed is	successfully created in the system.		
Normal Flow:	 The system displays the website home page. The Administrator selects the option to create a Community Shed and fills the information(address and zip code). The system validates the details provided. The Community Shed is successfully created. The system makes the Admin Community Shed Coordiantor 			
Alternative Flows:	3.a.1. If the input provided by Admin does not pass validation, the system notifies the Admin of that.3.a.2. The use-case continues from step 2 of the Normal Flow.			
Exception Flows:	4.e.1. If the Community Shed is not successfully created, the system reports a proper error message to the user. The user is redirected to application home page.			
Includes*:	N/A			
Priority:	1			
Supplemental Information:*	The system will have the option of creating a Community Shed available only for Administrators and only if there is no Community Shed available. As soon as a Share Zone is created, a Community Shed is also created with the Administrator's address. However this is kept invisible, until the Administrator purposefully activates it by invoking this use-case.			

Use Case ID:	UC9		
Use Case Name:	Tool Management	– Registration	
Created By:	Ahad Saad	Last Updated By:	Adriana Sejfia
Date Created:	09/13/2016	Date Last Updated:	10/10/2016

Actors:	User
Description:	User will be able to register a tool by providing information regarding the tool.
Trigger:	User wants to register a tool in the system
Preconditions:	User is a registered user in the system. User has logged in to the system.
Post conditions:	The system saves the Tool and its relevant information and makes the relevant updates to the Tool's list.
Normal Flow:	 The system displays the website home page. The User goes to My Tool Page The User selects the option of adding a tool. The User provides information regarding the tool. The User submits the information of tool. The system validates the information provided. The system saves the Tool and makes the necessary updates to the Tool's list.
Alternative Flows:	5.a.1. If the information does not pass validation or information is missing, the system notifies the User of that.5.a.2. The use-case continues from step 4 of the Normal Flow.
Exception Flows:	6.e.1. If the tool information is not saved successfully, the system reports the user with proper error message.
*Includes:	N/A
Priority:	1
*Supplemental Information:	N/A

Use Case ID:	UC10
Use Case Name:	Sharing – from Home

Created By:	Ahad Saad	Last Updated By:	Adriana Sejfia
Date Created:	09/13/2016	Date Last Updated:	10/11/2016
Actors:	User, Shed Coordin	nator	
Description:	User can set a prev	iously registered tool to be share	ed from home.
Trigger:	User physically cha	anges the location of the Tool to	home.
Preconditions:	User is a registered user in the system. User has logged in to the system. User has registered the Tool and has put its location in the Community Shed.		
Post conditions:	The system notifies the Shed Coordinator that a Tool registered there has changed its location.		
Normal Flow:	 The system displays the website home page. The User selects the tool he/she wants to share from home. The User selects the home sharing enabled option. The system notifies the Shed Coordinator that a Tool registered there has changed its location. 		
Alternative Flows:	N/A		
Exception Flows:	3.e.1.If the tool information is not saved successfully, the system reports the user with proper error message.		
*Includes:	N/A		
Priority:	1		
*Supplemental Information:	N/A		

Use Case ID:	UC11
Use Case Name:	Approving - Sharing From Home

Created By:	Adriana Sejfia	Last Updated By:	Adriana Sejfia
Date Created:	9/27/2016	Date Last Updated:	9/27/2016

Actors:	Shed Coordinator
Description:	Shed Coordinator is notified about a User's attempt to change the location of a Tool located in the Community Shed. Shed Coordinator has to approve, or reject, this change based on the physical location of the tool.
Trigger:	User changes the location of a tool located in the Community Shed.
Preconditions:	Shed Coordinator is a registered user in the system. Shed Coordinator is logged in with his/her account in the system.
Postconditions:	The Tool's location is updated to home in the system.
Normal Flow:	 The system displays the homepage. The Shed Coordinator receives a notification that a User has attempted to change the location of a Community Shed tool to his/her home. If the tool has been physically relocated to User's home, Shed Coordinator approves the request. The location of the tool is updated accordingly in the system. The User is notified of the Shed Coordinator's decision.
Alternative Flows:	 1.a.1. If the tool is to be shared from another location than the User's home, the user has to specify that. 1.a.2. Shed Coordinator is notified that the tool will be located in another address. 1a.3. Shed Coordinator approves the request. 1.a.4. The use-case continues from step 2 of the Normal Flow.
Exceptions:	A.

	2e.1. If the tool has not been physically relocated to User's home, Shed Coordinator rejects the request. 2e.2. The location of the tool remains unchanged. B. 2e.1. If the Shed Coordinator neither approves, nor rejects the request, the location of the tool remains unchanged.
*Includes:	N/A
Priority:	2
*Supplemental Information:	N/A

Use Case ID:	UC12

Use Case Name:	Sharing - From Community Shed		
Created By:	Prashnna Gyawali	Last Updated By:	Adriana Sejfia
Date Created:	09/12/2016	Date Last Updated:	09/27/2016

Actors:	User-owner, Shed Coordinator.	
Description:	User-owner changes the location of the Tool to Community Shed.	
Trigger:	User-owner changes the physical location of the Tool	
Preconditions:	User-owner is a registered user in the system. User-owner has logged in to the system. User-owner has registered the Tool.	
Postconditions:	The Shed Coordinator is notified of the change in the Tool's location.	
Normal Flow:	 The system displays the homepage. The User-owner selects the tool that s/he wants to share from Community Shed. The system asks the User-owner to confirm the change. The system checks for possible conflicts. The system notifies the Shed Coordinator of the User-owner's request. 	
Alternative Flows:	N/A	
Exceptions:	 2.e.1. If there is no Community Shed in the User-owner's Share Zone, and if the User-owner is not an Admin, the change cannot be made. 2.e.2. If there is no Community Shed in the User-owner's Share Zone, and if the User-owner is also an Admin, s/he can create the Community Shed in his/her own home. All of his/her Tools' location will be updated to the Community Shed. 3.e.1. If the User-owner does not confirm the change, the use-case ends and the system does not undertake anything. 	

	4.e.1. If some Users have put the tool on reservation or are currently borrowing it, no changes can be made to the location of the Tool. The system notifies the User-owner of this.
*Includes:	N/A
Priority:	3
*Supplemental Information:	In order for the Tool's location to be ultimately updated, the Shed Coordinator has to approve the change. This is dealt with in another use-case. The system will allow the User-owner to change the location of the Tool only to the Community Shed in his/her Share Zone.

Use Case ID:	UC13
Use Case Name:	Approving- Sharing from Community Shed

Created By:	Adriana Sejfia	Last Updated By:	Adriana Sejfia
Date Created:	9/27/2016	Date Last Updated:	9/27/2016

Actors:	Shed Coordinator, User-owner
Description:	Shed Coordinator is notified that a tool's location has been updated to the Community Shed s/he coordinates. S/he approves or rejects this change, based on the physical location of the tool, and the location of the tool is updated accordingly in the system.
Trigger:	User changes the location of the tool from Home to Community Shed.
Preconditions:	Shed Coordinator is a registered user in the system. Shed Coordinator has logged in with his/her account in the system.
Postconditions:	The Tool's location has been updated to Community Shed in the system.
Normal Flow:	 The system displays the homepage. Shed Coordinator is notified that the User has changed the location of the tool from home to Community Shed. If the tool is physically located in Community Shed, the Shed Coordinator approves the change of location. The system updates the location of the tool accordingly. The User-owner is notified about the Shed Coordinator's decision.
Alternative Flows:	2.a.1. If the tool is not physically located in the Community Shed, but will be soon, the Shed Coordinator postpones the approval until the tool arrives.2.a.2. The use case continues from step 3 of the Normal Flow.
Exceptions:	2e.1. If the tool is not physically located in Community Shed, and Shed Coordinator has no information that it will be brought there, s/he rejects the change of the location. 2e.2. The system does not change the location of the tool.

	2e.3. If the Shed Coordinator neither approves nor rejects the request, the system does not change the location of the tool.
*Includes:	N/A
Priority:	2
*Supplemental Information:	N/A

Use Case ID:	UC14		
Use Case Name:	Community Shed – Change Tool Status		
Created By:	Adriana Sejfia	Last Updated By:	Adriana Sejfia

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Date Created:	9/20/2016	Date Last Updated:	9/28/2016
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Actors:	Shed Coordinator
Description:	Shed Coordinator can verify/change the location/status of any Tool located in the Community Shed s/he coordinates.
Trigger:	Shed Coordinator wants to check the status/view the Tools located in the Community Shed s/he coordinates.
Preconditions:	Shed Coordinator is a registered user in the system. Shed Coordinator is logged in to the system
Postconditions:	Shed Coordinator changes the location/status of Tools in the Community Shed.
Normal Flow:	 The system displays the homepage. The Shed Coordinator selects the Tools List options. The system displays the list of the Tools, their status and their location. The Shed Coordinator can make any changes to the status or the location of the tools.
Alternative Flows:	N/A
Exceptions:	3.e.1. The system will let the Shed Coordinator know if his/her request cannot be processed at the time being due to technical difficulties.
*Includes:	N/A
Priority:	3
*Supplemental Information:	N/A

Use Case ID:	UC15
Use Case Name:	Sharing - Change Location of Tool

Created By:	Prashnna Gyawali	Last Updated By:	Adriana Sejfia
Date Created:	09/12/2016	Date Last Updated:	09/27/2016

Actors:	User-owner	
Description:	User-owner will be able to change the location of his/her Tool.	
Trigger:	User-owner has physically changed the location of the Tool.	
Preconditions:	User-owner is a registered user in the system. User-owner has logged in to the system. User-owner has registered the Tool previously.	
Postconditions:	The Tool's location is updated to the new location.	
Normal Flow:	 The system displays the homepage. The User-owner selects the tool that s/he wants to move to different location. The User-owner specifies the new address. The User-owner is asked to confirm the change. The system validates the input and checks for conflicts. The system confirms the change. The system notifies the Users in the Share Zone of the change. 	
Alternative Flows:	5.a.1. The system notifies the User-owner if the address does not pass the validation.5.a.2. The use-case continues from step 3 of the Normal Flow.	
Exceptions:		

	4.e.1. If the User-owner does not confirm the changes, the use-case ends here and no changes are made in the system. 6.e.1. The system notifies the User-owner if his/her request cannot be processed at the time being due to technical difficulties.
*Includes:	N/A
Priority:	3
*Supplemental Information:	N/A

Use Case ID:	UC16			
Use Case Name:	Sharing - Change Tool Availability			
Created By:	Prashnna Gyawali Last Updated By: Adriana Sejfia			

Date Created: 09/12/2016	Date Last Updated:	09/27/2016
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Actors:	User-owner	
Description:	User-owner changes the availability of his/her registered Tools for specified timeframes. The system makes the necessary updates and notifies Users that have reserved those Tools.	
Trigger:	User-owner will not have the Tool available for a specific time period.	
Preconditions:	User-owner is a registered user in the system. User-owner has logged in to the system. User-owner has registered the Tool previously.	
Postconditions:	The availability of the Tool is changed in the system. The Users that have reserved that Tool are notified of the change.	
Normal Flow:	 The system displays the homepage. The User-owner enters the website and goes to the tools section. The User-owner selects the tool/s for which/whom s/he wants to change the availability. The User-owner will changes the availability of the tool. If changing from available to unavailable, User-owner will add the 'from-to' dates for which the Tool will be unavailable. The User-owner may put the reason for the particular tool being unavailable(optional). The system will ask the User-owner to confirm the change. The system will check for conflicts. If it finds no conflicts, the system will update the status of the Tool accordingly. The system will notify the Users that have reserved that Tool of the change in status. 	
Alternative Flows:	5.a.1. If the User-owner puts dates in the past, the system will notify the User that that is not allowed. 5a.2. The use-case continues from step 5 of the Normal Flow.	

Exceptions:	 9.e.1. If the tool is currently borrowed by another User, the User-owner cannot change the status of the tool. 9.e.2. The system notifies the User-owner if his/her request cannot be processed at the time being due to technical difficulties. 7.e.1. If the User-owner does not confirm the changes, the use-case ends here and no changes in the system are made.
*Includes:	N/A
Priority:	2
*Supplemental Information:	N/A

Use Case ID:	UC17
Use Case Name:	Sharing – Approving a Borrowing Request

Cr	eated By:	Mazen Alotaibi	Last Updated By:	Adriana Sejfia
Date	e Created:	09/14/2016	Date Last Updated:	10/10/2016

Actors:	User-owner	
Description:	System will notify the User-owner when a request is made to borrow his/her tool. The User-Owner has to approve the request. The system will notify User-borrower of the User-owner's decision and update the status of the tool accordingly.	
Trigger:	User-borrower has requested to borrow User-owner's tool.	
Preconditions:	User-owner is a registered user in the system. User-owner has logged in the system.	
Postconditions:	The system will update the Tool's status accordingly. The system will notify the User-borrower of the decision.	
Normal Flow:	 The system displays the homepage. The notification button signals a new notification The User-owner goes to MyTools, views the request made by User-borrower for the Tool in the Other's Requests. The User-owner approves the request made by User-borrower. The system updates the availability of the Tool accordingly (puts it in reservation for the specified timeframe in the request). 	
Alternative Flows:	N/A	
Exceptions:	2.e.1. If the User-owner does not approve the request of the User-borrower, s/he will have to write a reason for rejection. 2.e.2. User-borrower is notified of the decision of the User-borrower. 2.e.3. The Tool's availability is not changed.	
*Includes:	N/A	
Priority:	1	
*Supplemental Information:	N/A	

Use Case ID:	UC18		
Use Case Name:	Tool Listing – Availability		
Created By:	Mazen Alotaibi	Last Updated By:	Adriana Sejfia
Date Created:	09/14/2016	Date Last Updated:	10/10/2016

Actors:	User	
Description:	The User requests a list of all the tools and their availability in the User's Share Zone.	
Trigger:	User searches for tools and their availability.	
Preconditions:	User is a registered user in the system. User is logged in the system.	
Postconditions:	The system will display a list of available tools in the User's Share Zone only.	
Normal Flow:	 The system displays the homepage. The User selects the option of requesting a list of all tools and their availability. The system will display a list of tools in the User's Share Zone and their availability. 	
Alternative Flows:	N/A	
Exceptions:	2.e.2 The system notifies the User if the list cannot be displayed at the given time due to any technical problems.	
*Includes:	N/A	
Priority:	2	
*Supplemental Information:	The system will display only tools in the User's ShareZone.	

Use Case ID:	UC19		
Use Case Name:	Borrowing - Request		
Created By:	Adriana Sejfia	Last Updated By:	Adriana Sejfia

Date Created:	9/14/2016	Date Last Updated:	9/27/2016
Actors:	User-borrower, User-owner, Shed Coordinator		
Description:	User-borrower requests to borrow an available tool from User-owner or Shed. The User-owner is notified of the request. If the Tool is in the Shed, the request is approved automatically.		
Trigger:	User-borrower vis	its the system's website.	
Preconditions:	User-borrower has	a registered user in the system. I logged in to the system. Inted out or put on reservation	
Postconditions:	made by User-born If the Tool request	a notification to User-owner rower. ed is in a Shed, the system requested timeframe by U	puts the Tool on
Normal Flow:	 The User-both The User-both The User-both The User-both The User-both The system of User-borrow 	displays the homepage. borrower goes to Tools, Borrower selects a tool to borrower specifies the dates tool for. borrower can write an accompressed to the design of the request. motifies the User-owner of the tool and the dates where	rrow. s/he needs to npanying message the tion regarding
Alternative Flows:	Coordinator is notify 5.a.2. The request go	ets automatically approved is notified that her/his requ	:

	3.a.1. If the dates specified are in the past, the system notifies the User-borrower that that is an unacceptable date. 3.a.2. The use-case continues from step 3 of the Normal Flow.
Exceptions:	8e.1. User-borrower cancels the request to borrow the tool. 8e.2. User-owner/Shed Coordinator is notified of this. 8e.3. Tool's availability is updated accordingly.
*Includes:	N/A
Priority:	1
*Supplemental Information:	N/A

Use Case ID:	UC20
Use Case Name:	Borrowing - Arrangements

Created By:	Adriana Sejfia	Last Updated By:	Adriana Sejfia
Date Created:	9/14/2016	Date Last Updated:	10/10/2016

Actors:	User-borrower
Description:	User-borrower of the tool sees an accompanying message regarding borrowing arrangements and the instructions for the tool, written by the user-owner.
Trigger:	User-borrower wants to borrow a tool.
Preconditions:	User-owner has provided the borrowing-arrangements message. User-borrower is a registered user and has logged in.
Postconditions:	User-borrower is informed on arrangements and instructions about the tool.
Normal Flow:	 The system displays the homepage. The user-borrower selects a tool. The User-borrower views information regarding borrowing arrangements for the tool. TheUser-borrower can proceed with borrowing the tool or continue searching.
Alternative Flows:	N/A
Exceptions:	4.e.1.The system notifies the User-borrower that the pick-up arrangements for a tool cannot be viewed at that given time due to technical issues.
*Includes:	N/A
Priority:	3
*Supplemental Information:	This use-case is optional.

Use Case ID:

Use Case Name:	Borrowing - Returning		
Created By:	Adriana Sejfia	Last Updated By:	Adriana Sejfia
Date Created:	9/14/2016	Date Last Updated:	10/10/2016

Actors:	User-borrower, User-owner	
Description:	The User-borrower notifies the system that the tool has been returned, and the User-owner/Shed Coordinator acknowledges the return.	
Trigger:	User-borrower visits the Tool Share site.	
Preconditions:	User-borrower has borrowed the owner's tool. User-borrower is a registered user within the system. User-owner is a registered user within the system. User-borrower has logged in the system with her/his account. User-owner has logged in the system with her/his account. Shed Coordinator has logged in the system with her/his account.	
Postconditions:	The returned Tool becomes available for borrowing by the system.	
Normal Flow:	 The system displays the homepage. The User-borrower notifies the system that the tool has been returned. The User-borrower fills out the Quality of the Tool form. The system notifies the User-owner that the User-borrower has marked the tool as returned. The User-owner acknowledges that the tool has been returned. The. User-owner confirms the Quality of the Tool form. The system updates the availability of the tool accordingly. The tool is ready to be borrowed. 	

Alternative Flows:	 4.a.1. If the tool was borrowed from a Community Shed, the notification gets sent to the Shed Coordinator. 3.a.2. If the Shed Coordinator acknowledges that the Tool has been returned, the use-case continues from step 4 of the Normal Flow. 6.a.1. User-owner does not confirm the Quality of the Tool form. 6.a.2. Owner changes the Quality of the Tool form. 6.a.3. Use-case continues from step 6 of the Normal Flow.
Exceptions:	 4.e.1. User-owner/Shed Coordinator does not acknowledge that the tool has been returned. 4.e.2. The tool does not become available until this conflict is resolved. 2.e.1. The system cannot update the status of the tool at the time-being due to technical difficulties. The User-borrower is notified of that.
*Includes:	N/A
Priority:	1
*Supplemental Information:	N/A

Use Case ID:

Use Case Name:	Tool Management – deactivation and reactivation		
Created By:	Palak Sharma	Last Updated By:	Ahad Saad
Date Created:	09/14/2016	Date Last Updated:	10/10/2016

Actors:	User-owner	
Description:	The system will support deactivation and reactivation of registered tools. The User-owner can deactivate and/or reactivate his/her registered Tools.	
Trigger:	User-owner wants to deactivate or reactivate a tool.	
Preconditions:	User-owner is a registered user and has logged in. User-owner has registered the Tool previously.	
Postconditions:	Tool is deactivated/reactivated in the system. The Users that had reserved it are notified.	
Normal Flow:	 The system displays the homepage. The User-owner selects the deactivation option for the registered tool. The system verifies whether the tool is borrowed by any User at the time of deactivation. If validation is successful, the system updates the tool status to unavailable and marks it as deactivated. The system notifies the Users who have previously reserved the Tool regarding the deactivation of tool. 	
Alternative Flows:	2.a.1.The User-owner clicks on the reactivate button for the registered tool which was deactivated. 2.a.2. The system updates the tool status to available and marks its as activated. 2.a.3. The system notifies the Users that had previously reserved the Tool of its renewed availability. 2.a.4. Use case ends.	
Exceptions:	3.e.1. If the validation fails, the system reports the User- owner that the tool cannot be deactivated.	

	3.e.2. The User-owner is reported with any exception, if the reactivation or deactivation is not successful due to technical difficulties.
*Includes:	N/A
Priority:	2
Supplemental Information:	N/A

Use Case ID: UC23

Use Case Name:	Tool Management – Status		
Created By:	Palak Sharma	Last Updated By:	Ahad Saad
Date Created:	09/14/2016	Date Last Updated:	10/10/2016

Actors:	User-owner
Description:	The system will provide an option to the User-owner to view all of his/her registered tools and their status.
Trigger:	The User-owner wants to see his/her registered Tools.
Preconditions:	The User-owner is a registered user in the system. The User-owner is logged in the system.
Postconditions:	The User-owner is able to view his/her tools and their status.
Normal Flow:	 The system displays the home page. The user-owner selects the Show My Tools option. The system displays the list of the tools with their status. Sorted alphabetically as per their categories.
Alternative Flows:	N/A
Exceptions:	3.e.1. If the system fails to display the tools records, an error is reported to the user.
*Includes:	N/A
Priority:	3
*Supplemental Information:	N/A

Use Case ID:	UC24
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Use Case Name:	Community Statistics		
Created By:	Palak Sharma	Last Updated By:	Adriana Sejfia
Date Created:	09/14/2016	Date Last Updated:	10/10/2016

Actors:	User	
Description:	The system will allow the User to view his/her ShareZone related statistics.	
Trigger:	The User wants to see statistics regarding his/her ShareZone.	
Preconditions:	The User is a registered user in the system. The User has logged in the system.	
Postconditions:	The User is able to view the requested statistics.	
Normal Flow:	 The system displays the homepage. The User selects the "Show statistics" option. The User specifies the specific information s/he wants to see. The system provides the required information. 	
Alternative Flows:	N/A	
Exceptions:	4.e.1. If the system is not able to display statistics to the user, proper error message should be communicated to the user.	
Includes:*	N/A	
Priority:	3	
Supplemental Information:*	The system will only display statistics only on the User's Share Zone.	

Use Case ID:	UC25		
Use Case Name:	Admin – Updates/Maintains Share Zone		
Created By:	Adriana Sejfia	Last Updated By:	Adriana Sejfia
Date Created:	9/24/2016	Date Last Updated:	10/10/2016

Actors:	Administrator
Description:	Administrator of a Share Zone can from time-to-time make changes in his/her Share Zone. Changes might include deleting Users, changing their status, changing tools' status and other changes of similar nature.
Trigger:	Administrator wants to make changes in Share Zone pertaining to physical changes.
Preconditions:	Administrator is a registered user in the system. Administrator has logged in to the system.
Postconditions:	The system saves the changes made by the Administrator.
Normal Flow:	 The system displays the homepage. The Administrator selects the element to be changed. The Administrator makes the relevant changes (deletes user, changes user's or tool's status). The Administrator is asked to confirm the changes. The system validates the changes. If no problems are encountered in validation, the system saves the changes. The system makes the relevant updates to itself accordingly.
Alternative Flows:	N/A
Exceptions:	6.e.1. If there are problems with validation, like the Administrator is trying to delete another Administrator or Shed

	Coordinator, the system will not allow to proceed with the use-case.
	4.e.2. If the Administrator does not confirm the changes, the use-case ends and no changes are undertaken by the system.
	6.e.2. The system notifies the Administrator if his/her request cannot be processed at the time due to technical difficulties, displaying the proper error message.
*Includes:	N/A
Priority:	2
*Supplemental Information:	N/A