Study Space
Analysis Document
Version 0.0 - 5/29/2017

1. Introduction

Study Group Finder is a web-based application that allows students in any university to post and find study group locations. By doing so, students will be able to help each other achieve their academic goals as well as make new acquaintances.

2. Object Classification

2.1 Entity Objects

Beacon- a Beacon created by a Host that Users may join
BeaconList- a list of Beacons
ChatDB- a way for users to communicate through text
Guest- a person who does not own an account
Host- a User that created a Beacon
Profile- a User's profile they can edit
User- a person that created an account with username and password

2.2 Boundary Objects

BeaconCreationWindow- Where a User can create a Beacon by entering location and course code then becomes a Host to that Beacon
BeaconControlWindow- window with all options to control the Beacon
BeaconChatWindow- a Chat including all Users and Guests in that Beacon
BeaconConfirmationWindow- window confirming the credentials of a beacon
BeaconFailedJoinWindow- window shown when joining beacon has failed
BeaconJoinedWindow-Window notifying User that they joined a Beacon
BeaconUserWindow- window which shows User the Beacon they are currently in
ChatBar- a bar containing all chat instances to that user
ChatWindow- window of which user sends and receive messages
EditProfileView- a window where Users can edit their Profile
FilterBeaconView- window where Users can filter Beacons through classes
HomeWindow- the main window view of all operations to Users and Guests
LoginWindow- window where users can enter their credentials to login
ProfileWindow- Displays a Users profile
SearchWindow- window where Users apply filters to BeaconList

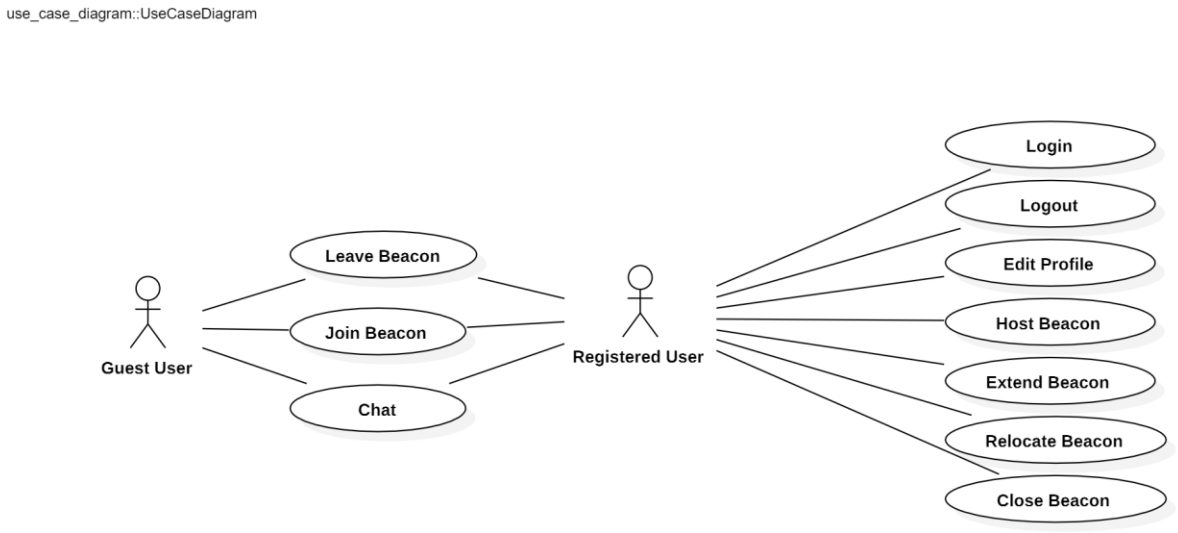
2.3 Control Objects

ApplySearchFilters- applies filters to beaconlist
BackToSearch-redirects back to searchwindow after a failed search
ChangeToHost- changes user to host
CreateBeacon- creates the beacon
CloseBeacon-allows Host to close the beacon
CancelChanges- cancels changes made to a Users ProfileWindow
DisplayResults- displays results of a search
ExtendBeacon- allows Host to extend the time of their beacon
EnterInfo- writes info to the beacon

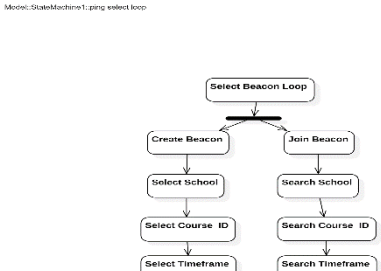
FailedCreation- notifies Host of failed beacon creation
InviteUser- invites user to chat
JoinBeacon- joins a User to a beacon
JoinChat- controller to join a chat
Login- logs in a User to their account
Logout- logs out a User from their account
LeaveChat- User leaves Chat
NotifyUser- notifies user if an invitation to a Beacon
SaveChanges- saves changes made to a Users ProfileWindow
SendMsg-coordinates sending a message
ProfileSearch- filters profiles by User
RelocateBeacon- allows Host to relocate a beacon
RegisterBeacon-Registers beacon to BeaconList
ValidateBeacon- validates beacon creation
ValidateUser- validates a Users credentials upon login

3.Diagrams

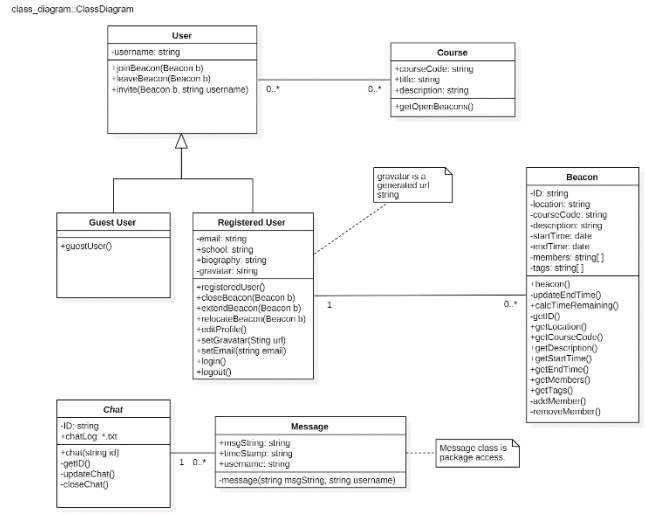
Use Case



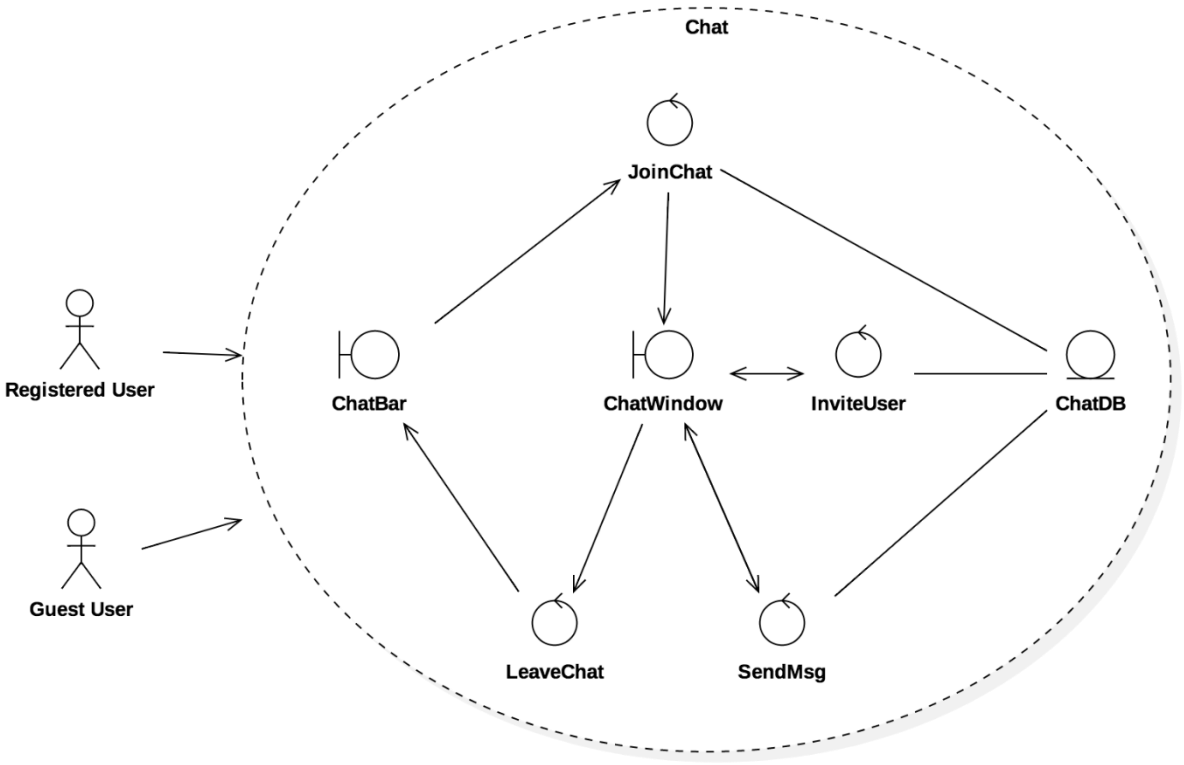
State Diagram

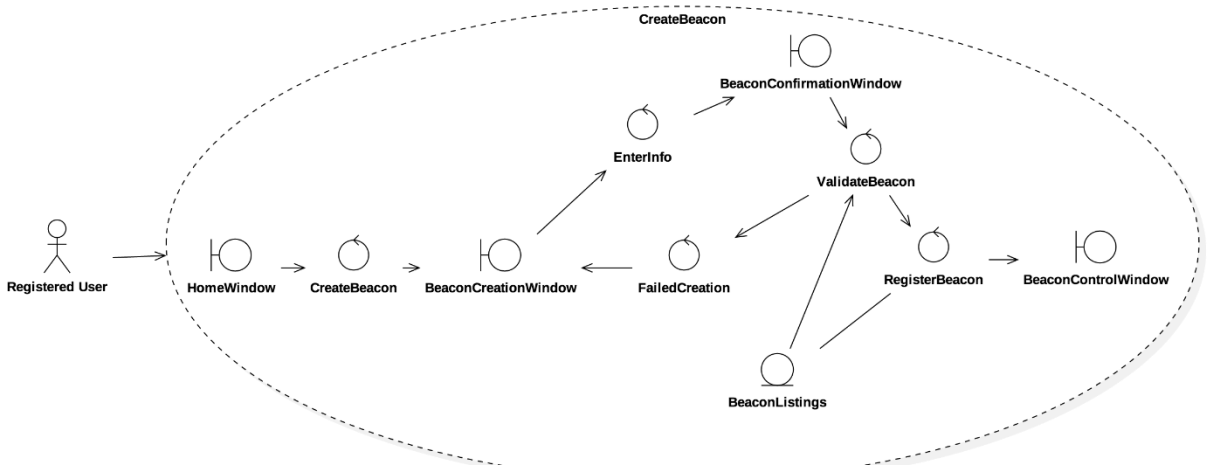


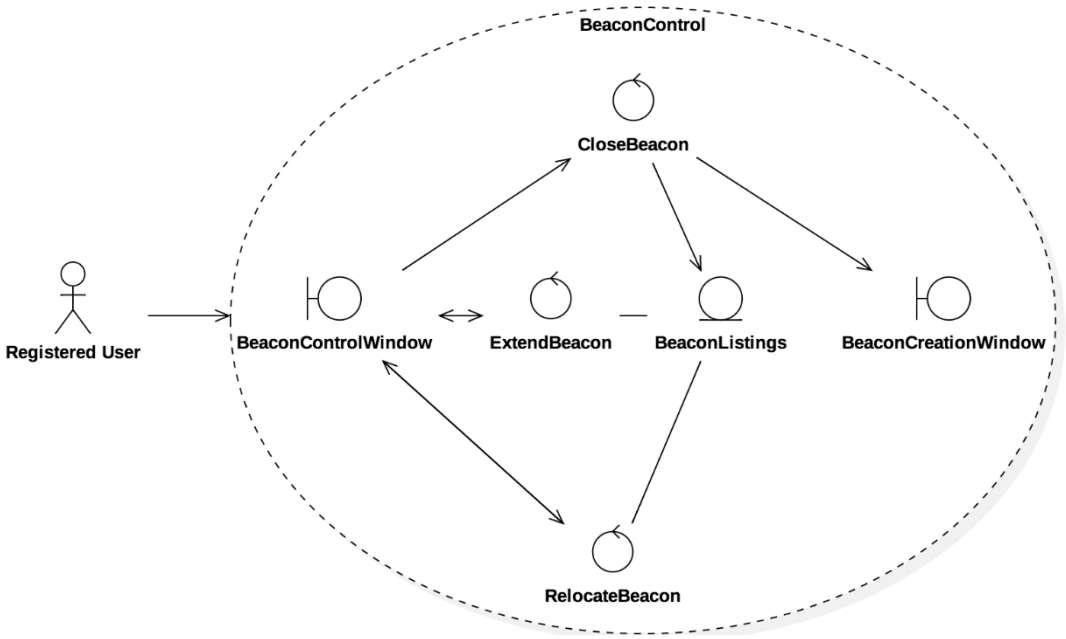
Class Diagram

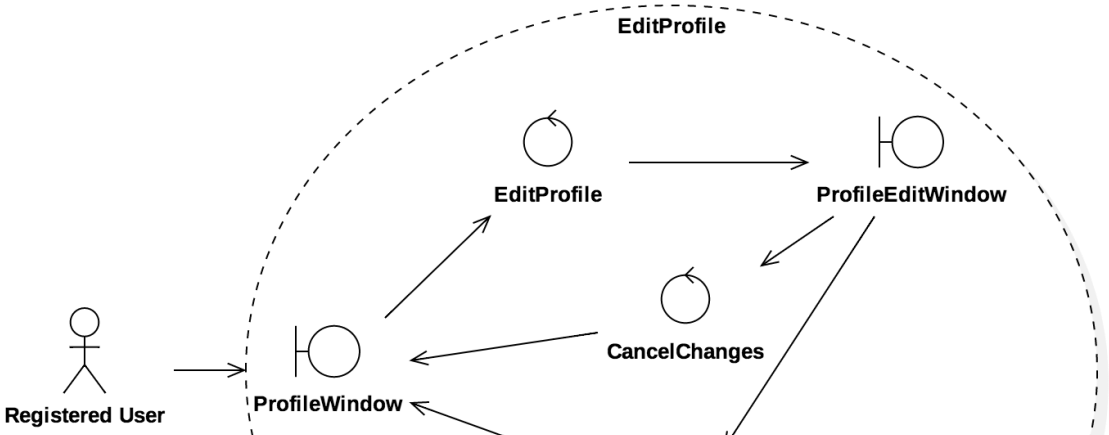


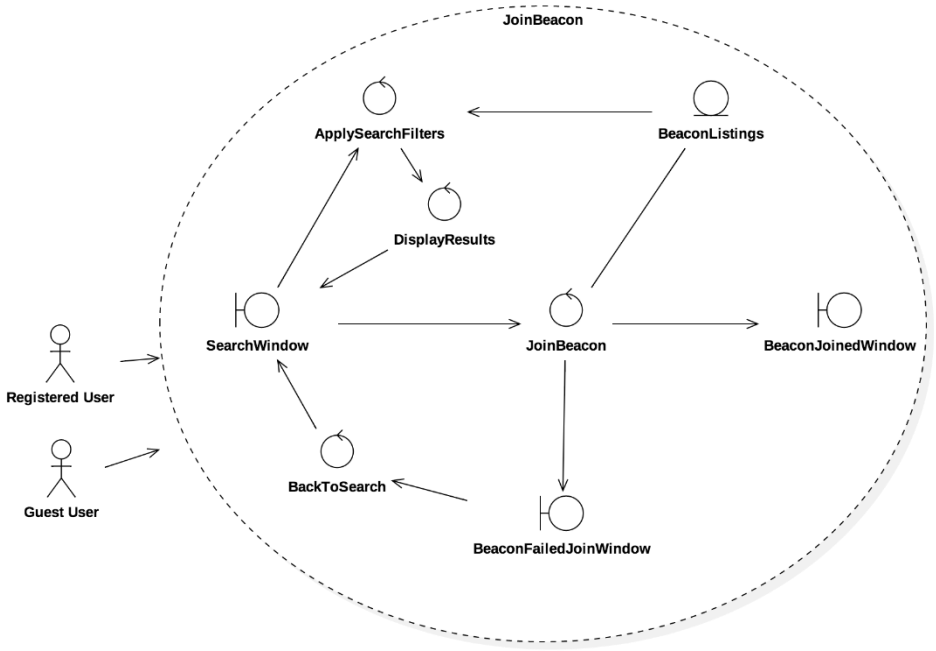
Robustness Diagrams

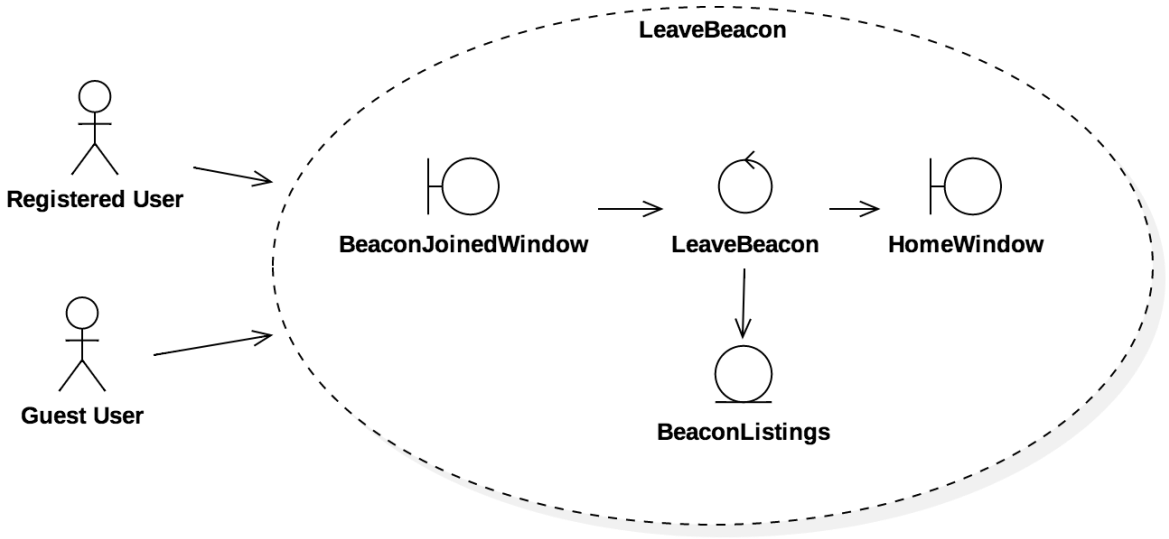


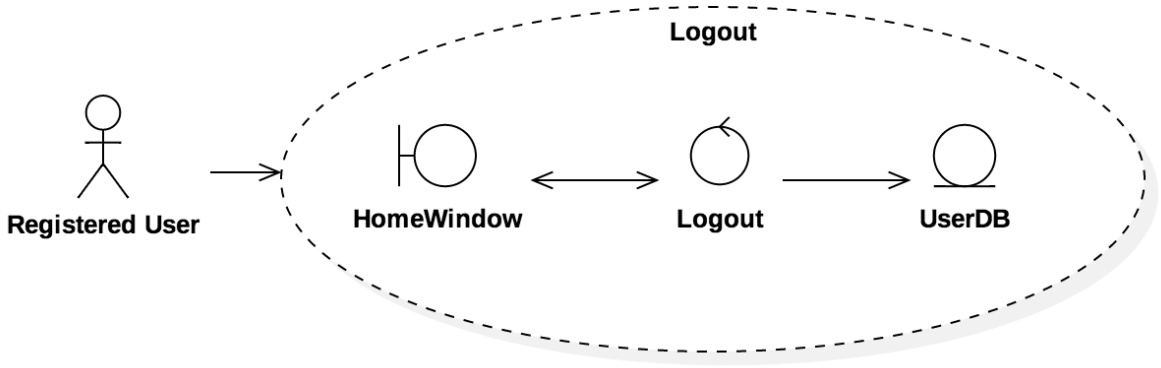

CreateBeacon
BeaconConfirmationWindow
EnterInfo
ValidateBeacon
Registered User
HomeWindow
CreateBeacon
BeaconCreationWindow
FailedCreation
RegisterBeacon
BeaconControlWindow
BeaconListings

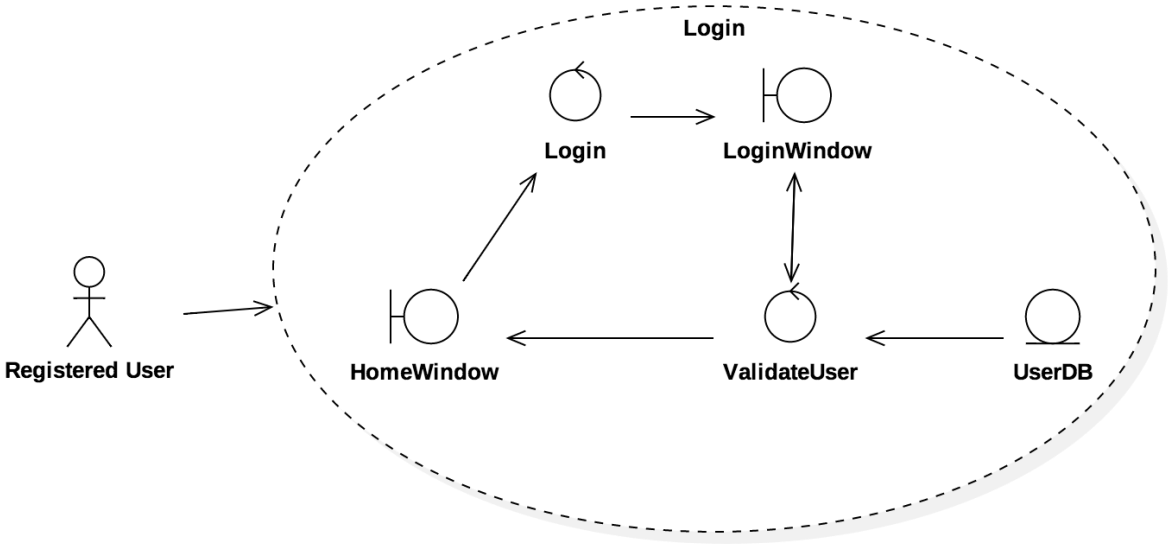

BeaconControl
CloseBeacon
Registered User
BeaconControlWindow
ExtendBeacon
BeaconListings
BeaconCreationWindow
RelocateBeacon


EditProfile
EditProfile
ProfileEditWindow
CancelChanges
Registered User
ProfileWindow

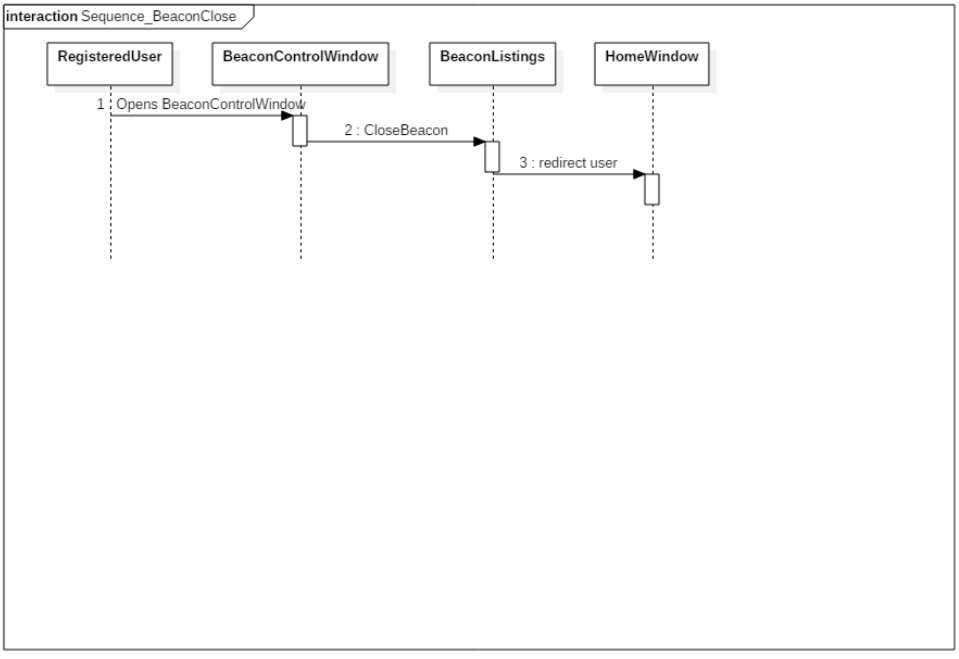

JoinBeacon
ApplySearchFilters
BeaconListings
DisplayResults
SearchWindow
JoinBeacon
BeaconJoinedWindow
Registered User
Guest User
BackToSearch
BeaconFailedJoinWindow

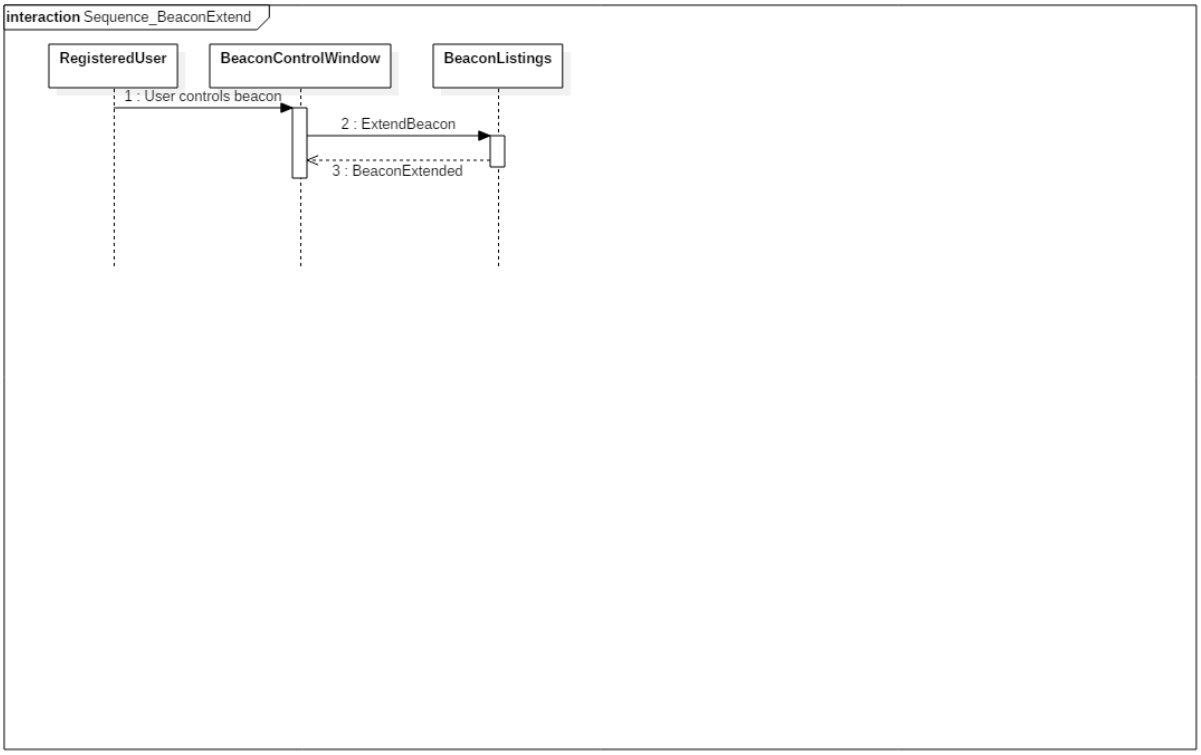

LeaveBeacon
Registered User
Guest User
BeaconJoinedWindow
LeaveBeacon
HomeWindow
BeaconListings

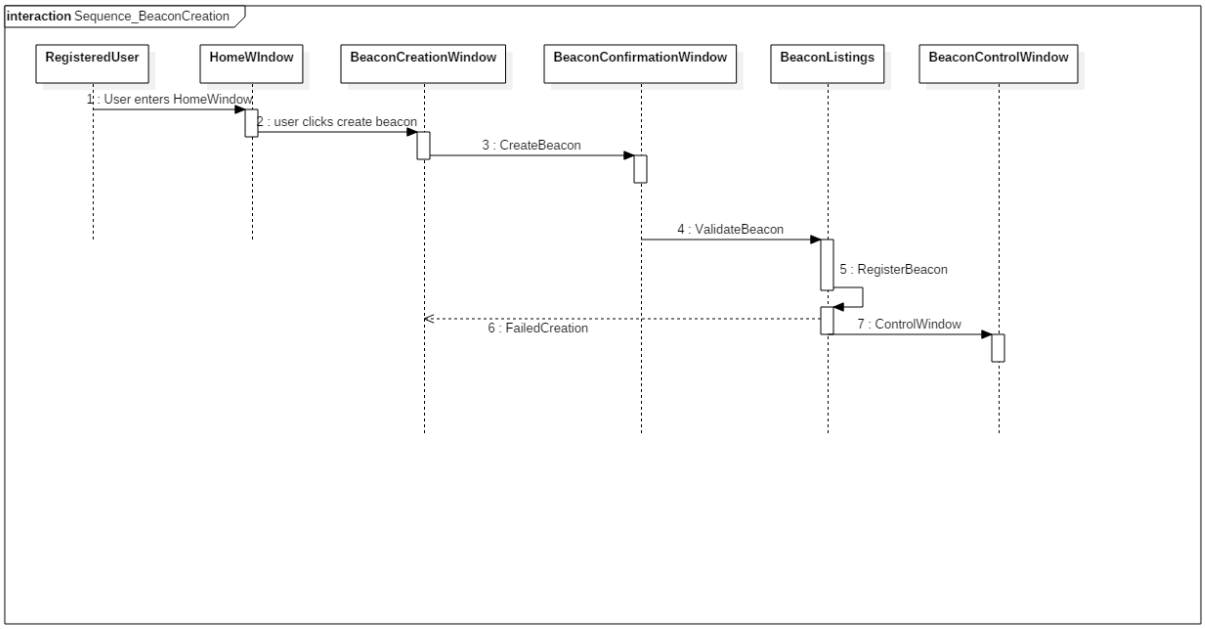


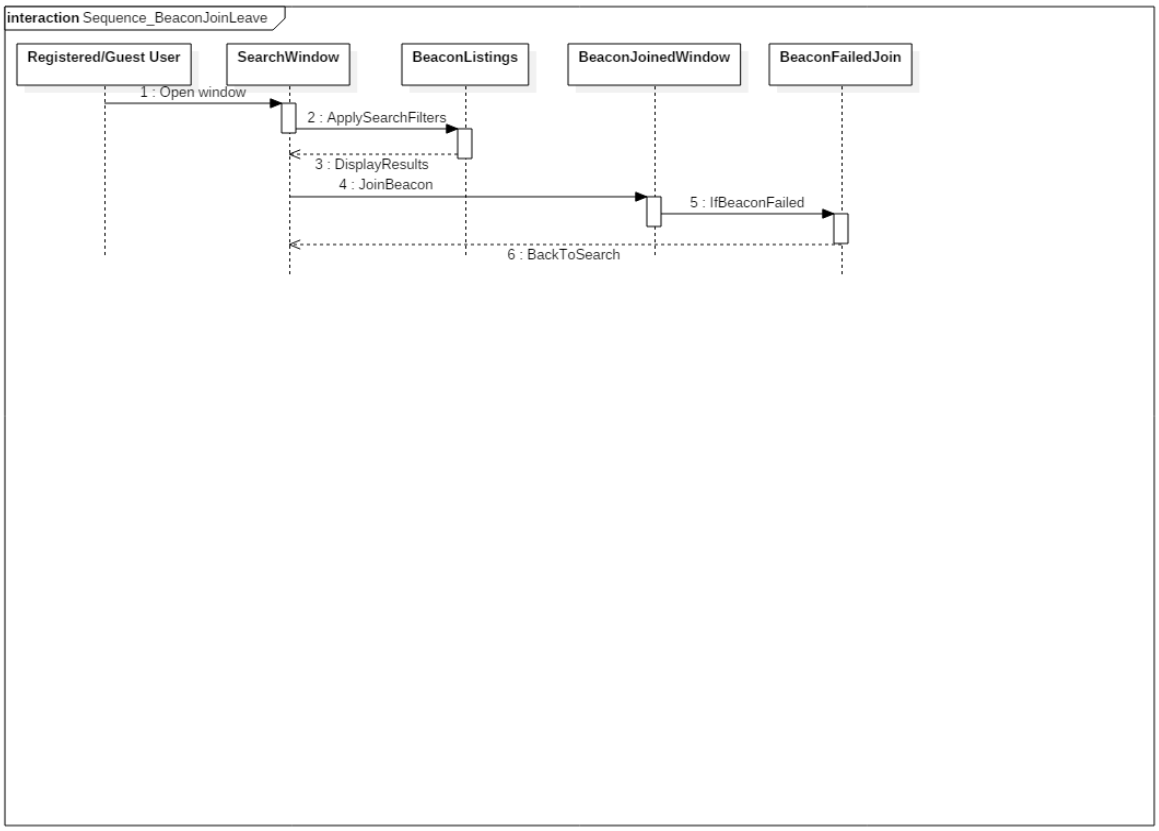


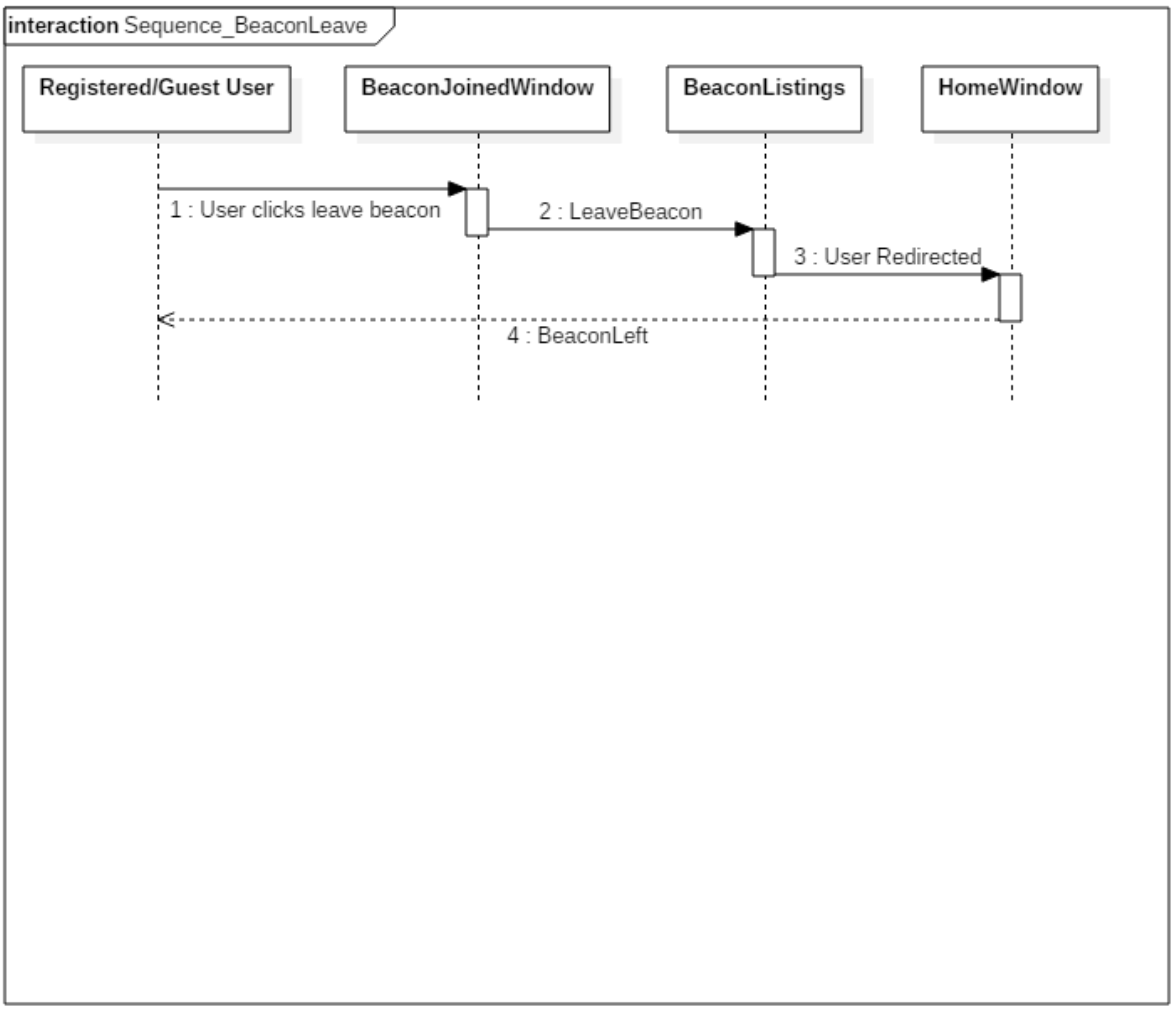
Sequence Diagrams

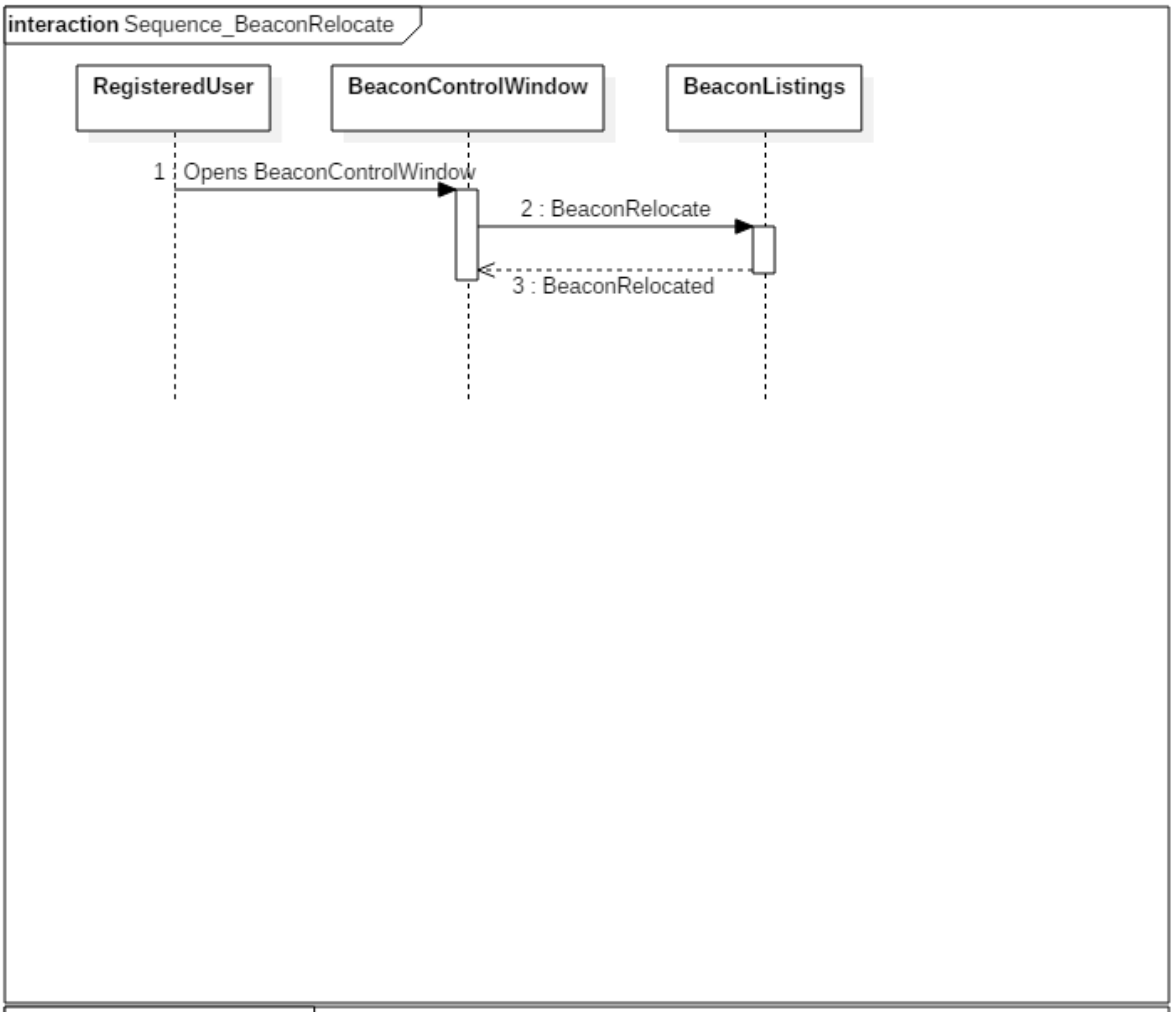


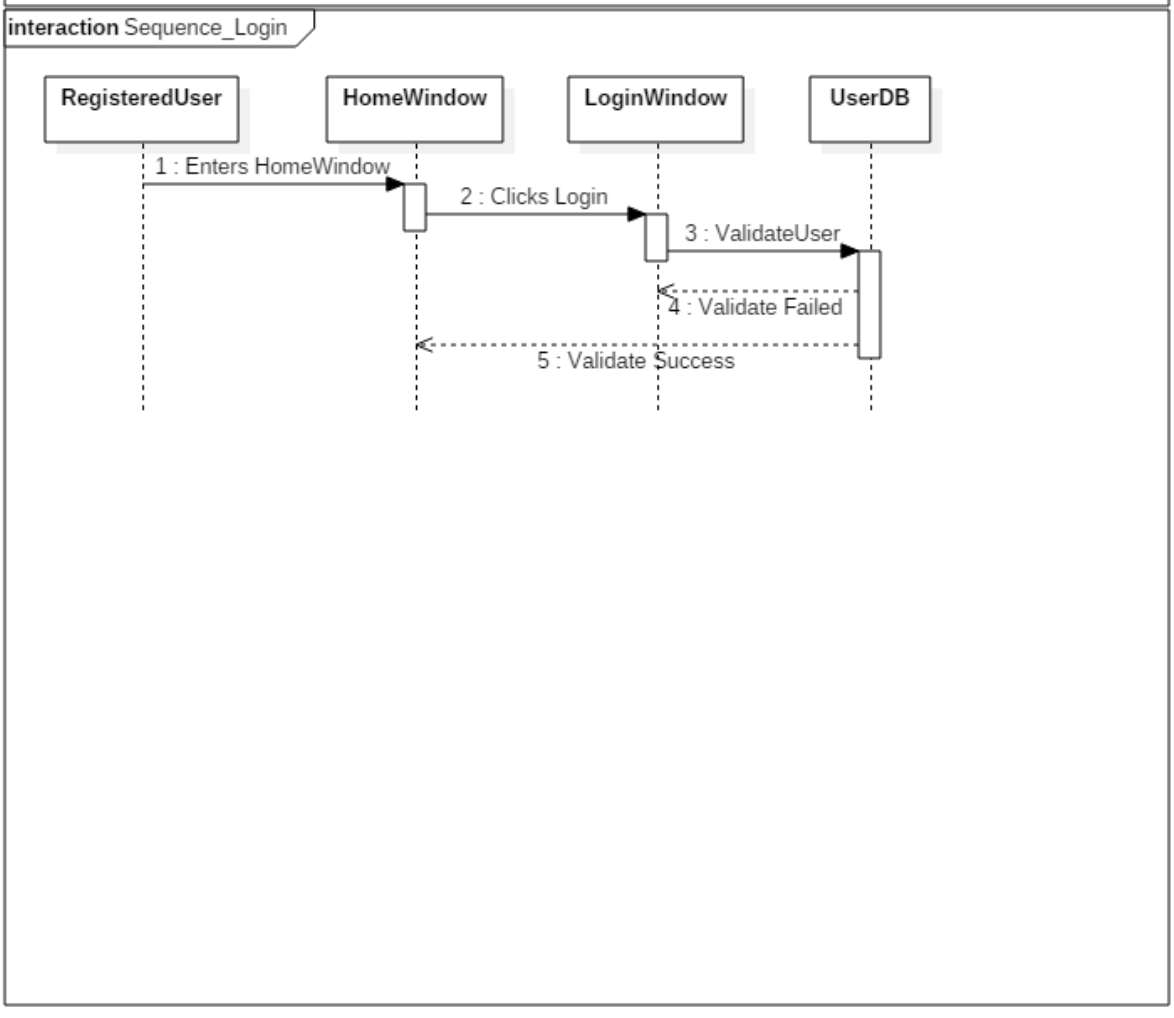

interaction Sequence_BeaconExtend
RegisteredUser
BeaconControlWindow
BeaconListings
1 : User controls beacon
2 : ExtendBeacon
3 : BeaconExtended

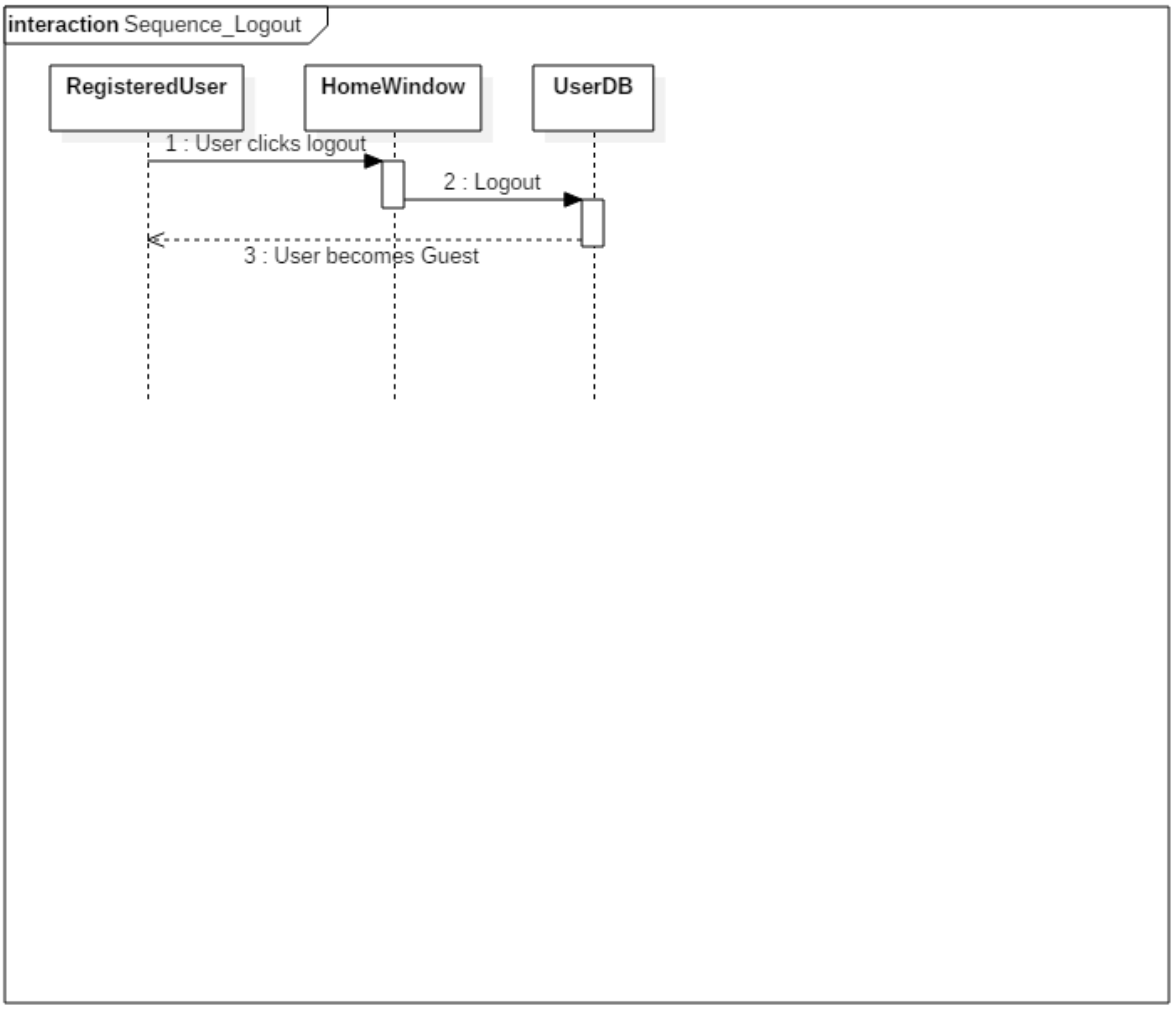

interaction Sequence_BeaconCreation
RegisteredUser
HomeWIndow
BeaconCreationWindow
BeaconConfirmationWindow
BeaconListings
BeaconControlWindow
1 : User enters HomeWindow
2 : user clicks create beacon
3 : CreateBeacon
4 : ValidateBeacon
5 : RegisterBeacon
6 : FailedCreation
7 : ControlWindow


interaction Sequence_BeaconJoinLeave
Registered/Guest User
SearchWindow
BeaconListings
BeaconJoinedWindow
BeaconFailedJoin
1 : Open window
2 : ApplySearchFilters
3 : DisplayResults
4 : JoinBeacon
5 : IfBeaconFailed
6 : BackToSearch


interaction Sequence_BeaconLeave
Registered/Guest User
BeaconJoinedWindow
BeaconListings
HomeWindow
1 : User clicks leave beacon
2 : LeaveBeacon
3 : User Redirected
4 : BeaconLeft


interaction Sequence_BeaconRelocate
RegisteredUser
BeaconControlWindow
BeaconListings
1 : Opens BeaconControlWindow
2 : BeaconRelocate
3 : BeaconRelocated


interaction Sequence_Login
RegisteredUser
HomeWindow
LoginWindow
UserDB
1 : Enters HomeWindow
2 : Clicks Login
3 : ValidateUser
4 : Validate Failed
5 : Validate Success


interaction Sequence_Logout
RegisteredUser
HomeWindow
UserDB
1 : User clicks logout
2 : Logout
3 : User becomes Guest