Organization Name:	Gen8
Team Number:	8
Team Member Names:	Mary Pesado, Kate Ueda, Lore Schwartz, Anthony Ho, Irene Duong, Randeep Laller, Jooah Bae

Requirements Specifications, Use Cases and Domain Models

Content

Requirements Specifications

I. Functional Requirements		M	S	C	W
Product					
1.1	The system will be able to filter room listings based on input fields of the following: ● Building type and floor ● Facility type ● Day ● Week	X			
1.2	The system will have a default landing page of available room listings on the current day in calendar format.		X		
1.3	The system will require a user's Netlink ID to sign in to use the web application, such as to book/cancel rooms.	X			
1.4	A confirmation email will be sent directly to the user's email (either school or personal) with any additional information related to the booking, such as: ● Booking ID ● Student ID or Staff ID ● Building type and floor ● Facility type ● Date ● Booked Time	X			
1.5	The system will allow users to book study rooms for a maximum of 5 consecutive hours.	X			
1.6	The system only shows room availability within one week and allows users to book a study room one week in advance.	X			
1.7	After 30 minutes of inactivity, the system will check and prompt the user with a popup window to see whether they would like to continue their existing session or sign off.			X	
1.8	Immediately upon entering the web application, the system will display all current available study spaces.		X		
1.9	UVic Faculty and Staff (e.g., Teaching Assistants, Professors, Librarians, etc.) will be able to register a booking for themselves.	X			
1.10	System handlers must be able to login with UVic credentials to update the listings regularly or make any changes to the current listings.	X			
1.11	If the user logs out while performing a booking action, their information will be temporarily saved and the user can continue the booking session when they log in again.		X		

I. Functional Requirements	M	S	C	W
1.12	The system will prompt an alert if the room, that the user chooses but has not been at the confirming step in the booking process yet, is booked by another user.	X			
1.13	Users should be able to cancel bookings on their own.		X		
Security					
2.1	The system must log users out after 1 hour of inactivity.		X		
Usability					
3.1	When the system rejects a booking, the system shall guide the user to resolve the cause of the issue. For example: ● Highlighting mandatory input fields that were missed by the user. ● Displaying error messages in layman's terms.		X		
3.2	The system shall direct the user to a webpage indicating that their session has timed out. For example: ● On the same webpage, a popup prompt to ask users to sign in again to continue to use the service.			X	
3.3	Users can save and mark their favorite spots for efficient booking.			X	
3.4	Users can view their booking history.			X	
3.5	The system shall have a report/help button for users to contact the help desk in case any problems occur or a bug is found.	X			

II. Non-Functional Requirements	M	S	C	W
Compatibility					
4.1	The system shall be compatible with common browsers (e.g., Chrome, Firefox, Edge, Safari, Opera, etc.) ● Chrome 64.0.3282 and later versions. ● Firefox 58 and later versions. ● Edge 88 and later versions. ● Safari 12.1.2 and later versions. ● Opera 54 and later versions.	X			
4.2	The system shall run on web browsers on the following operating systems: Windows, MacOS, or Linux. ● Windows 7 and later versions. ● macOS 10.12 Sierra and later versions. ● Linux 18 and later versions.	X			

II. Non-Functional Requirements	M	S	C	W
4.3	The system shall run and be properly formatted on mobile web browser (iOS and Android) ● iOS 11 and later versions. ● Android 9.0 and later versions.	X			
Reliability / Performance				
5.1	The system will display available room listings for booking with a latency of less than 5 minutes.		X		
5.2	The system must be able to handle high-volume booking requests of approximately more than 10,000 requests during peak periods of midterm seasons and can adapt to drastic load changes without affecting the quality of operations.	X			
5.3	The system should be checked and maintained at least every 6 months and takes no longer than 8 hours for maintenance.	X			
5.4	The web application must be operational 24 hours, 7 days a week; apart from site maintenance/updates (which can only take preferably up to a maximum of 1-2 hours at night).	X			
5.5	The system will contain all data and methods from pre-existing booking systems, including information on each specific study room and booking ability.	X			
Security / Privacy				
6.1	The system must regularly perform encrypted data backups of sensitive user information.		X		
6.2	Users can log in with a maximum of 2 devices.		X		
6.3	The web application will follow all UVic's policies, such as its Protection of Privacy and Access to Information policy, guaranteeing the safety of the Netlink accounts' personal information stored (e.g., student personal/school information, passwords, rooms previously booked, etc).	X			
Usability				
7.1	The system shall score at least 90 on the Lighthouse Performance test to ensure that users can navigate the information and other booking details on the website seamlessly.		X		
7.2	The system shall score at least a 70/100 on the System Usability Scale (SUS) to achieve average usability standards.		X		

| II. Non-Functional Requirements	M	S	C	W

7.3	Users
	    ● <u>With</u> prior experience of interacting with the system shall be able to book a room within 10 minutes.
	    ● <u>Without</u> prior experience of interacting with the system shall be able to book a room within 20 minutes.
				X	

7.4	Users can cancel their booking 30 minutes in advance.		X		
7.5	Once a study room is chosen to be booked, the user will need to confirm their booking, which will remain reserved for a duration of 20 minutes prior to the final confirmation.		X		

Use Cases

I.   Use Case Diagram
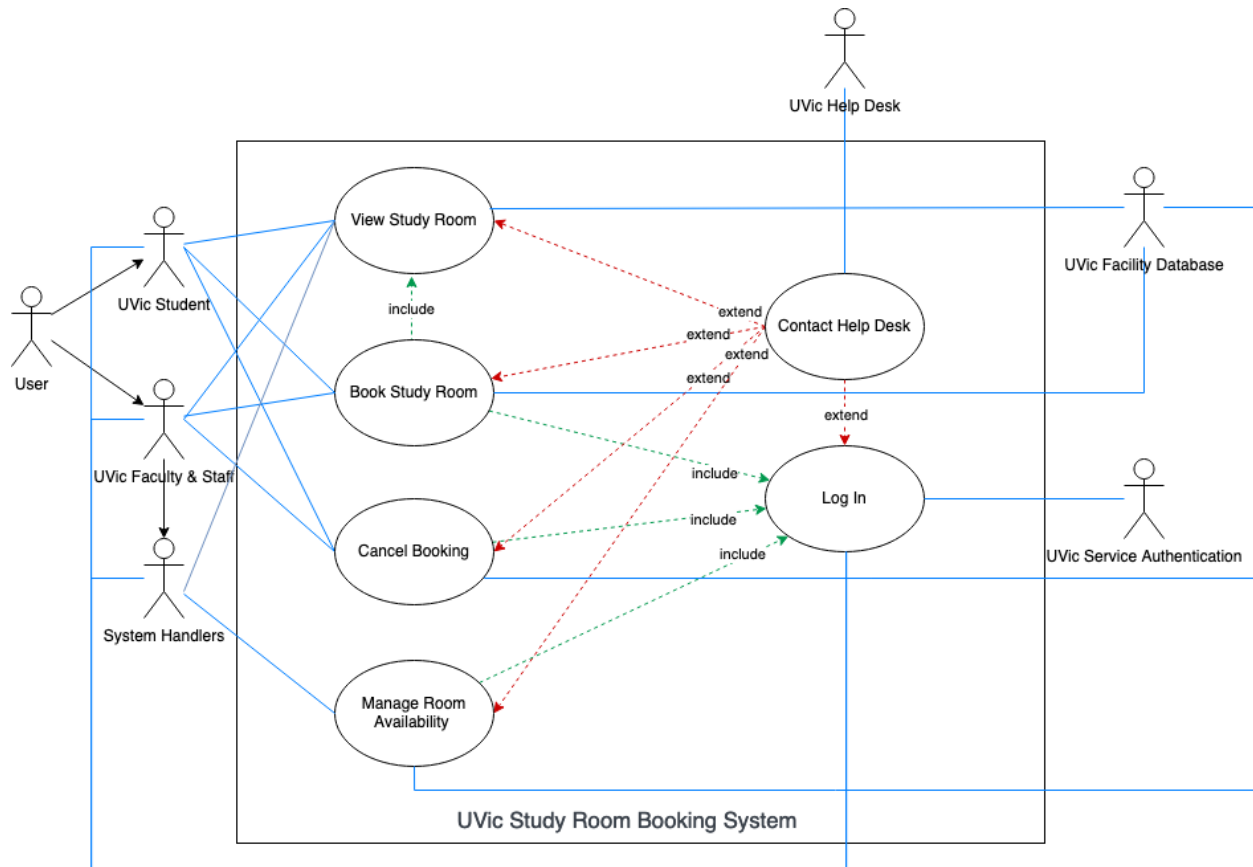
Figure 1.1 - Use Case Top Level Diagram for StudyUp
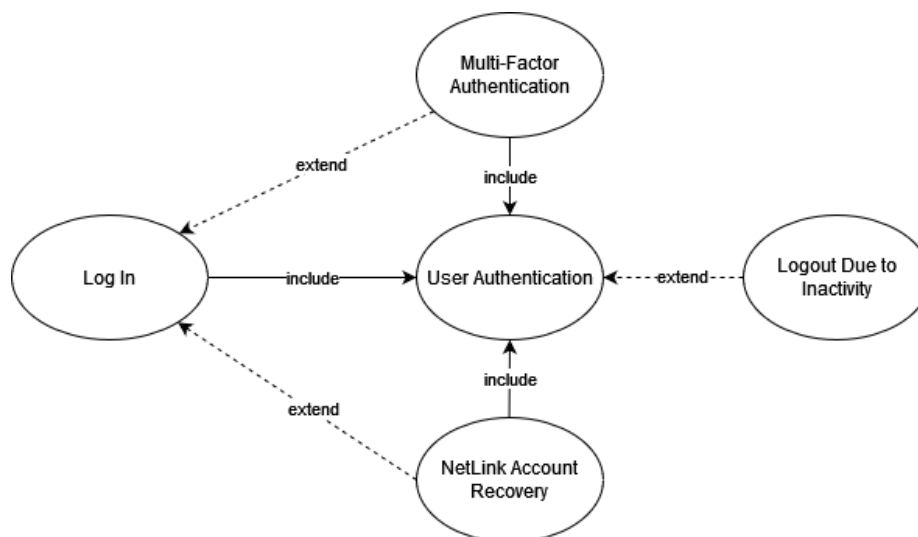
II. Use Case Specifications

UC-01. Log In

Figure 1.2 - LogInUser Exploded Diagram

Name of Use Case:	LogIn		Use Case ID:	UC-01
Created by:	Gen8	Last Updated By:	Kate Ueda	
Date Created:	25/10/2022	Last Revision Date:	27/10/2022	
Description:	To offer access to the study room booking system, the system authenticates the user by checking their student, staff, or faculty identification number and logs users into the web application for study room booking services.			
Actors:	UVic Staff & Faculty, System Handlers, UVic Students, and UVic Service Authentication			
Preconditions:	The user has a valid Netlink account.			
Postconditions:	The user is now logged into the system.			

Main Flow:	1. The user is taken to the UVic login portal where they can enter their login details
	2. The user is asked to input their Netlink ID and passphrase.
	3. **IF** the user input is validated after pressing the 'Sign In' button:
	3.1 The user is now logged into the system.
	3.2 The user can log in with a maximum of two devices.
	4. **ELSE**:
	4.1 The user is asked to put their information again.
Alternate Flow:	1. **WHILE** the user forgets their passphrase in Main Flow 1:
	1.1 The user can attempt to recover their account.
	2. **WHILE** the user has enabled multi-factor authentication (MFA) on their account after Main Flow 3:
	2.1 The user can follow the multi-factor authentication process during their login session.

Name of Use Case:	UserAuthentication			Use Case ID:	UC-01.1
Created by:	Gen8		Last Updated By:	Kate Ueda	
Date Created:	25/10/2022		Last Revision Date:	27/10/2022	
Description:	The UVic login portal grants the user a certificate during a login attempt and the UVic service authentication system uses the certificate to provide the user a token to allow access to the UVic login portal.				
Actors:	UVic Staff & Faculty, System Handlers, UVic Students, and UVic Service Authentication				
Preconditions:	The unauthenticated user is attempting to access the UVic login portal.				
Postconditions:	The authenticated user is successfully logged into the system.				

Main Flow:	1. **WHILE** the user attempts to access the UVic login portal by providing their Netlink ID and passphrase:
	    1.1 The user retrieves a certificate from the UVic portal.
	    1.2 The UVic service authentication system asserts the user's identity with the certificate and provides an authentication token.
	    1.3 The authentication token grants the user access to the UVic login portal.
	    1.4 The user is brought to UC-01 Main Flow 3.1.				

Alternate Flow:	None.				

Name of Use Case:	InactivityLogout			Use Case ID:	UC-01.2

Created by:	Gen8	Last Updated By:	Kate Ueda
Date Created:	25/10/2022	Last Revision Date:	27/10/2022
Description:	The system logs out the user after one hour of inactivity.		
Actors:	UVic Staff & Faculty, System Handlers, UVic Students, and UVic Service Authentication		
Preconditions:	The user must not interact with the system for over an hour.		
Postconditions:	The user is logged out of the system.		

Main Flow:	1. **WHILE** the user remains inactive in the system:
	    1.1 The system logs the user out.
	    1.2 The user is taken to the UVic Login Portal at UC-01 Main Flow 1.		

Alternate Flow:	None.		

Name of Use Case:	NetLinkAccountRecovery		Use Case ID:	UC-01.3
Created by:	Gen8	Last Updated By:	Kate Ueda	
Date Created:	25/10/2022	Last Revision Date:	27/10/2022	
Description:	The user can attempt to recover their passphrase if they have forgotten it.			
Actors:	UVic Staff & Faculty, System Handlers, UVic Students, and UVic Service Authentication			
Preconditions:	The user cannot log in and they don't remember their account passphrase.			
Postconditions:	The user has recovered their account passphrase.			

Main Flow:	1. **WHILE** the user forgets their passphrase in UC-01 Main Flow 1:
	    1.1 The user hits the 'Forgot your password?' link to recover their password.
	    1.2. The user is taken to the NetLink account recovery page.
	    1.3. The user follows the instructions of the page to recover their password.
	    1.4. The user is taken to the UVic login portal in UC-01 Main Flow 1.			

Alternate Flow:	None.			

Name of Use Case:	MultiFactorAuthentication		Use Case ID:	UC-01.4
Created by:	Gen8	Last Updated By:	Kate Ueda	

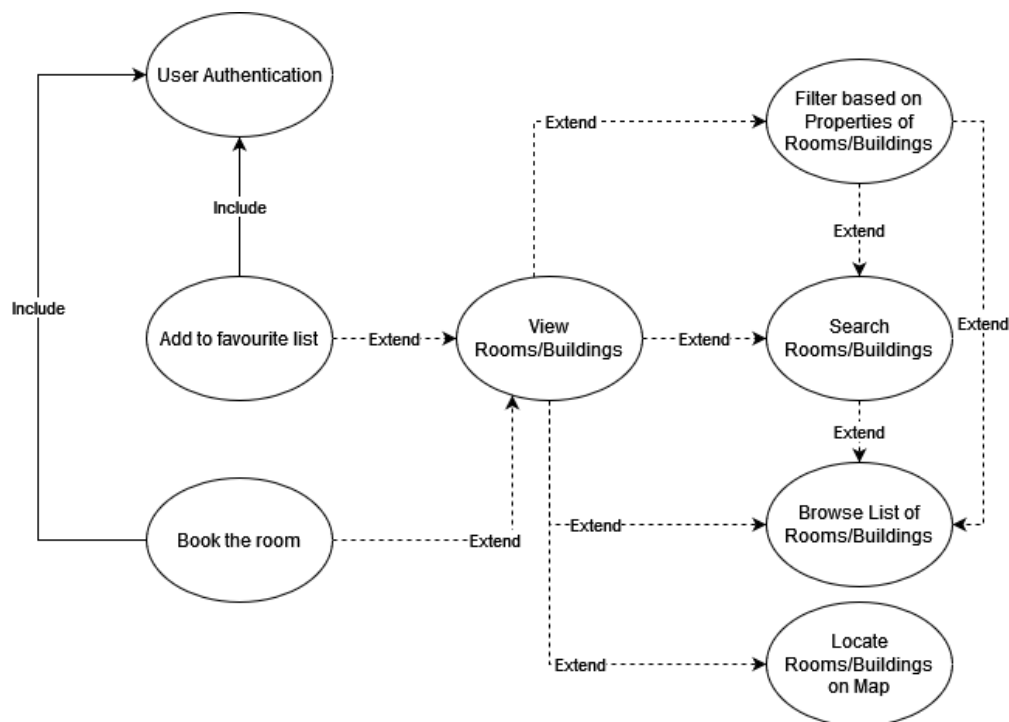| Date Created:	25/10/2022	Last Revision Date:	27/10/2022
Description:	The UVic service authentication system requires the user to present a combination of two or more credentials to verify their identity for login.		
Actors:	UVic Staff & Faculty, System Handlers, UVic Students, and UVic Service Authentication		
Preconditions:	The user is attempting to login after providing their authenticated Netlink ID and passphrase.		
Postconditions:	The user's second credentials are verified and they are able to successfully log in.		
Main Flow:	2. **WHILE** the user has enabled multi-factor authentication (MFA) on their account after UC-01 Main Flow 3: 2.1. A pop-up tab will ask the user during their login session to follow the MFA process, such as opening an authenticator application. 2.2. The user is now logged into the system and taken to UC-01 Main Flow 3.1.		
Alternate Flow:	None.		

UC-02. View Study Rooms/Buildings

Figure 1.3 - ViewRooms/Buildings Exploded Diagram

Name of Use Case:	ViewStudyRoom		Use Case ID:	UC-02
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	
Description:	Once the system grants the user access, the user can view and book available study rooms.			
Actors:	UVic Student, UVic Staff & Faculty, System Handlers, UVic Facility Database			
Preconditions:	The user is on the landing page.			
Postconditions:	None.			

Main Flow:	1. The user wants to view the available study rooms that offer study room booking service.
	
	2. **IF** the user has any conditions/preference for the study rooms:
	
	  2.1. They can filter their search based on the facility and condition of the rooms. (UC-02.3)
	
	  2.2. They can view the list of rooms based on the building.
	
	3. **IF** the user chooses to display results in grid view or list view:
	
	  3.1 **IF** the user views the building:
	
	    3.1.1 **FOR EACH** of the buildings:
	
	      The user can see a summary of the building.
	
	      The user can see the name of the building.
	
	      The user can see the number of total study rooms of the building.
	
	      The user can see the images of the building.
	
	  3.2 **IF** the users view the study room:
	
	    3.2.1 **FOR EACH** of the study room:
	
	      The user can see a summary of the study room.
	
	      The user can check the floor and building that the study room is located in.
	
	      The user can see the facilities of the room (size, devices such as projectors, accessibility needs, etc.).
	
	      The user can see the next available time slots to book the room.			

Alternate Flow:	1. The user can view a room or building that they booked before:
	
	  1.1. The user goes to User Preference -> Booking History.
	
	2. The user can view a room or building that they marked/added as their favorite study spot.
	
	  2.1. The user goes to User Preference -> Favourites.			

Name of Use Case:	SearchRoomsBuildings		Use Case ID:	UC-02.1
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	
Description:	Users can perform search actions to find the room they want to view.			
Actors:	UVic Student, UVic Staff & Faculty, System Handlers, UVic Facility Database.			
Preconditions:	The user has any conditions/preference for the study rooms they want to find.			
Postconditions:	None.			
Main Flow:	1. The users locate the search box on the page. 2. The users fill the box with the building's name or room name. 3. The users hit the "Search" button. 4. The system will display the list of results.			
Alternate Flow:	None.			

Name of Use Case:	FilterPropertiesOfRooms/Buildings		Use Case ID:	UC-02.2
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	
Description:	Users can perform filter actions to find the room they want to view.			
Actors:	UVic Student, UVic Staff & Faculty, System Handlers, UVic Facility Database.			
Preconditions:	A list of rooms is displayed for users.			
Postconditions:	Filter is applied successfully.			

Main Flow:	1. The users locate the filter tool at the top or left of the list.
	2. They can filter based on the facility and condition of the rooms.
	   2.1 Users can filter based on the size of the rooms.
	   2.2 Users can filter based on the time slots they want to view
	   2.3 Users can filter based on the facility of the rooms (projector, etc.)
	   2.4 Users can filter based on the distance to a location.
	3. The users can choose how many rooms are displayed on the page.
	4. The users hit "Apply" to apply the filter.
	5. The system displays the list fitting user preference.			

Alternate Flow:	None.			

Name of Use Case:	BrowseListOfRooms/Buildings		Use Case ID:	UC-02.3
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	
Description:	Users can scroll to view the list of the rooms.			
Actors:	UVic Student, UVic Staff & Faculty, System Handlers, UVic Facility Database.			
Preconditions:	None.			
Postconditions:	None.			
Main Flow:	1. The list of rooms is displayed for the user. 2. Users can choose to switch between grid or list view. 3. Users can scroll to view the list of rooms. 4. Users can move to the next page by hitting the arrow button at the end of the page, or go to a specific page.			
Alternate Flow:	None.			

Name of Use Case:	LocateRooms/BuildingsOnMap		Use Case ID:	UC-02.4
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	
Description:	Users can scroll to view the list of the rooms.			
Actors:	UVic Student, UVic Staff & Faculty, System Handlers, UVic Facility Database.			
Preconditions:	None.			
Postconditions:	None.			

Main Flow:	1. Users choose to view the map of UVic.
	2. Users can perform actions on map:
	    2.1. Users can drag the map to locate the building.
	    2.2. Users can zoom in/out map to view.
	3. **IF** users hovers on the building:
	    3.1. A tooltip shows the name of the building and number of available study spaces.
	4. **IF** users click on the building:
	    4.1. Users can view the information of the building as described in step 3.1 of UC-02.			

Alternate Flow:	None.			

| Name of Use Case:	AddToFavouriteList		Use Case ID:	UC-02.5
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	
Description:	Users can add room to their favourite list.			
Actors:	UVic Student, UVic Staff & Faculty, System Handlers, UVic Facility Database.			
Preconditions:	The user is viewing a room.			
Postconditions:	The room is added to the user's favourite list successfully.			
Main Flow:	1. When viewing a room, users can hit the "Heart" icon. 2. The room is added to the user's favourite list.			
Alternate Flow:	None.			

UC-03. Book Study Room
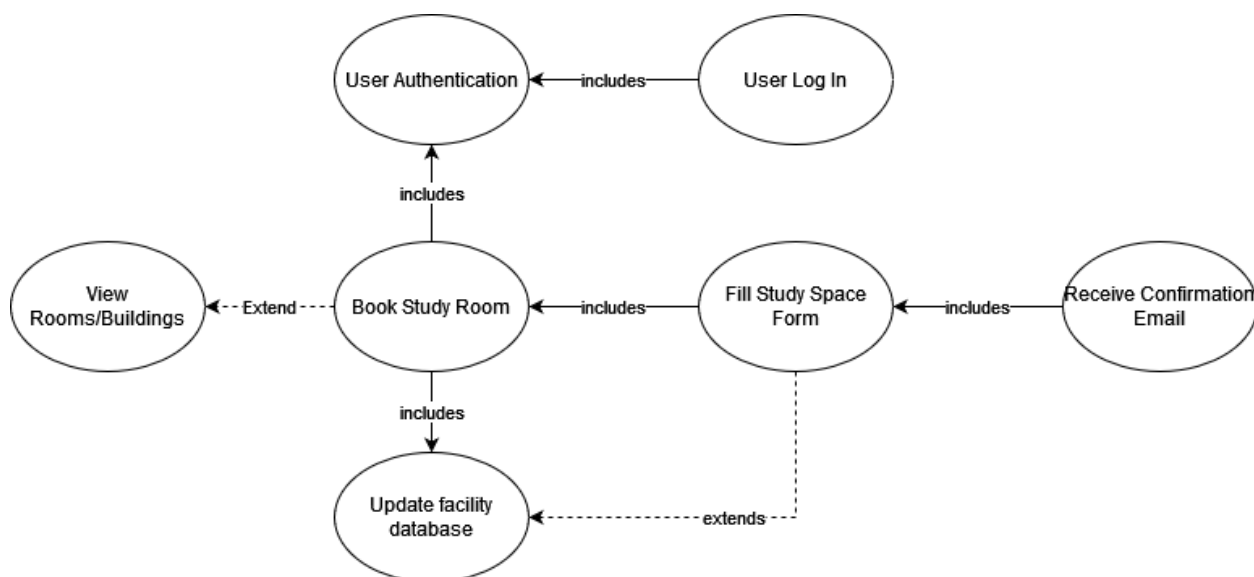
Figure 1.4 - BookStudyRoom Exploded Diagram

Name of Use Case:	BookStudyRoom		Use Case ID:	UC-03
Created by:	Gen8	Last Updated By:	Lore Schwartz	
Date Created:	27/10/2022	Last Revision Date:	27/10/2022	

Description:	The user will be able to reserve a study room for a predetermined period of time.
Actors:	UVic Student, UVic Faculty & Staff, UVic Facility Database
Preconditions:	The user must be logged into the system and has decided upon their choice of room, study period, and duration of their session.
Postconditions:	None.
Main Flow:	1. The user selects the "Book" button. 2. The system temporarily reserves the room for 20 minutes. 3. The user must complete the mandatory form regarding session details (UC-03.1). 4. **WHILE** the form has not been successfully completed, or the information they input is incorrect: 4.1 The user will be prompted to reinput their data. 5. The form is successfully completed by the user. 6. The user finalizes their booking by confirming their inputted information. 7. The system recognizes that the study space is officially booked. 8. Use Case 03.3 is triggered and the system updates the study spaces availability for that specific time slot. 9. The system will display to users that the study space has been booked. 10. Use Case 03.2 is triggered and a confirmation email is sent to inform the user the details of their booking.
Alternate Flow:	1. **IF** The user fails to complete the form within the allotted 20-minute grace period 1.1. The space is available to be booked again by other users and the use case ends. 2. **ELSE** The user successfully completes the form and officially books their selected study space. 3. The system saves the booking and is subsequently updated.

Name of Use Case:	FillStudySpaceForm		Use Case ID:	UC-03.1
Created by:	Gen8	**Last Updated By:**	Lore Schwartz	
Date Created:	27/10/2022	**Last Revision Date:**	28/10/2022	
Description:	The user fills out a form regarding session details to officially book the study space booking.			
Actors:	UVic Student, UVic Faculty & Staff, UVic Facility Database			

Preconditions:	1. The user must be logged into the system.
	2. The user must attempt to book a study space prior to this use case.
Postconditions:	None.
Main Flow:	1. The user is prompted to fill out a form regarding session details.
	2. The user confirms the date and duration for the study room to be booked.
	2.1. **WHILE** the time slot is not correct or exceeds the limitation:
	2.1.1 The booking action cannot be performed.
	2.1.2 The user will be prompted to edit the duration of their booking as it currently exceeds the given limitation.
	3. **IF** the form is successfully completed by the user:
	3.1 UC-03.3 IF Alternate Flow Path is triggered.
	3.2 The use case ends.
	3.3 The user is returned to Use Case 03.
	4. **ELSE**
	4.1 UC-03.3 IF Alternate Flow Path is triggered.
	4.2 The use case ends.
Alternate Flow:	None.

Name of Use Case:	ReceiveBookingConfirmationEmail		**Use Case ID:**	UC-03.2
Created by:	Gen8	**Last Updated By:**	Anthony Ho	
Date Created:	27/10/2022	**Last Revision Date:**	27/10/2022	
Description:	The user will receive an email regarding session details to their booked study space.			
Actors:	UVic Student, UVic Faculty & Staff, UVic Facility Database			
Preconditions:	1. The user must be logged into the system and has confirmed their study space session.			
Postconditions:	None.			

Main Flow:	1. The user receives an email (to either their school or personal email) from the system regarding the session details.
	1.1 The email includes the Booking ID of the session.
	1.2 The email includes the time the user performed the booking action.
	1.3 The email includes the Student/Staff ID of the user.
	1.4 The email provides the Building, Floor, and Facility Type of the study space.
	1.5 The email provides the Date and Time booked for the session.
	1.6 The email provides verbal confirmation that the study space was successfully booked by the user.
Alternate Flow:	None.

| Name of Use Case:	UpdateFacilityDatabaseAfterBooking		Use Case ID:	UC-03.3
Created by:	Gen8	Last Updated By:	Anthony Ho	
Date Created:	27/10/2022	Last Revision Date:	27/10/2022	
Description:	The system will update the availability of the existing study spaces.			
Actors:	UVic Student, UVic Faculty & Staff, UVic Facility Database			
Preconditions:	1. An attempt to book a study space prior has finished or been in progress.			
Postconditions:	None.			
Main Flow:	1. The system will check if the StudySpace Form has been completed.			
	2. The system will book the user's selected study space according to the form's details and update the UVic facility database that the status of the study space is unavailable.			
	3. The Gen8 system schedule is updated to represent the fact that the designated study room has been booked at the allotted time decided upon by the user.			
	4. No other users will be permitted to attempt to book this study space during the designated time.			
Alternate Flow:	1. **IF** The user has prompted a form to be filled, the user's selected study space will be temporarily reserved and canceled 20 minutes afterwards. The use case then ends.			
	2. **ELSE** The form has been completed and the user successfully completes the form and officially books the study space.			
	3. The system is subsequently updated.			

UC-04. Cancel Booking
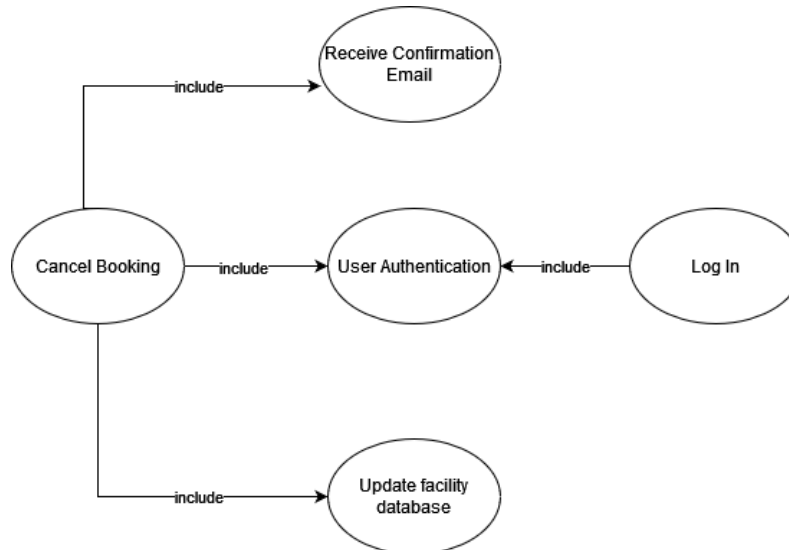
Figure 1.5 - CancelBooking Exploded Diagram

Name of Use Case:	CancelBooking		Use Case ID:	UC-04
Created by:	Gen8	**Last Updated By:**	Randeep Singh Laller	
Date Created:	27/10/2022	**Last Revision Date:**	27/10/2022	
Description:	The system allows users to cancel a confirmed booking.			
Actors:	UVic Student, UVic Faculty & Staff, UVic Service Authentication, UVic Facility Database			
Preconditions:	The user must have a confirmed booking.			
Postconditions:	The booking is canceled.			

Main Flow:	1. The user wants to cancel a booking.
	2. The user goes to the booked room list.
	3. The user selects the reservation that needs to be canceled.
	4. The user presses the "Cancel" button.
	5. **IF** the user is canceling the booking before 30 minutes of the reservation time:
	5.1 The user gets a popup to confirm the action as this cannot be undone.
	5.2 The user confirms the action.
	5.3 The booking is canceled.
	5.4 The user receives an email to confirm their cancellation request.
	6. **ELSE** the system doesn't allow the user to cancel the booking.
	6.1 The user gets a popup that the cancellation cannot be done.
Alternate Flow:	None.

Name of Use Case:	ReceiveCancellationConfirmationEmail		Use Case ID:	UC-04.1
Created by:	Gen8	**Last Updated By:**	Randeep Singh Laller	
Date Created:	27/10/2022	**Last Revision Date:**	27/10/2022	
Description:	The system sends a detailed email to the user to confirm their cancellation for the study space.			
Actors:	UVic Student, UVic Staff & Faculty, UVic Service Authentication, UVic Facility Database			
Preconditions:	The user must have canceled the booking.			
Postconditions:	The system sends the detailed email successfully.			
Main Flow:	1. The user receives an email (to either their school or personal email) from the system regarding the session details.			
	1.1 The email includes the Booking ID that the user canceled.			
	1.2 The email includes the time the user performed the cancel action.			
	1.3 The email includes the Student/Staff ID of the user.			
	1.4 The email provides the Building, Floor, and Facility Type of the study space.			
	1.5 The email provides the Date and Time slot of the study space that the user booked .			
	1.6 The email provides verbal confirmation that the study space was successfully canceled by the user.			
Alternate Flow:	None.			

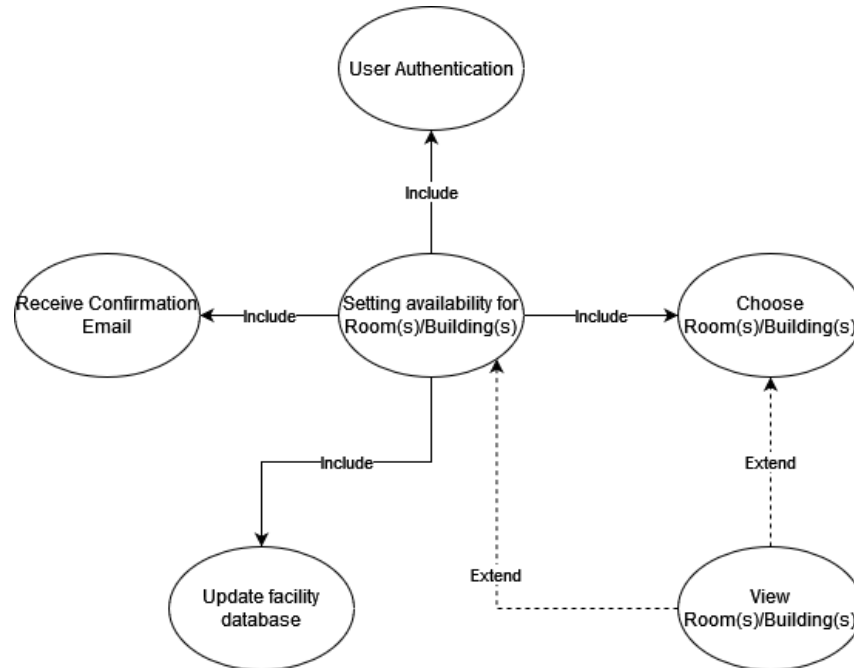| Name of Use Case:	UpdateFacilityDatabaseAfterCanceling		Use Case ID:	UC-04.2
Created by:	Gen8	Last Updated By:	Randeep Singh Laller	
Date Created:	27/10/2022	Last Revision Date:	27/10/2022	
Description:	The system updates the current listings after a booking is canceled.			
Actors:	Uvic Facility Database			
Preconditions:	The booking is canceled by the user.			
Postconditions:	The current listings are updated successfully.			
Main Flow:	1. The booking is canceled by the user. 2. **IF** the listing is still valid: 2.1 The system adds the listing to the current listings for users to book. 3. **ELSE** The listing is archived. 1. The system will check if the cancellation request is valid. 2. The UVic facility database will update the status of the study space to available. 3. The Gen8 system schedule is updated to represent the fact that the designated study room has been booked at the allotted time decided upon by the user. 4. Other users now can book this study space during the designated time.			
Alternate Flow:	None.			

UC-05. Manage the Availability of Rooms/Buildings

Figure 1.6 - ManageRooms/BuildingsAvailability Exploded Diagram

Name of Use Case:	ManageRoomsBuildingsAvailability		Use Case ID:	UC-05
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	
Description:	The user manages the availability of the rooms or buildings. For example, if the faculty wants to organize some events in some study rooms, they may want to manage the system to make these rooms unavailable for the students to book for a period of time. Or the actor can set some rooms only available for booking in some period of the year (for example, near the exam season).			
Actors:	System handlers, UVic Facility Database			
Preconditions:	System handlers have a valid Netlink account and are logged into the system.			
Postconditions:	None.			

Main Flow:	1. The user chooses room(s) to manage as described in UC-05.1
	2. The user update the availability for the set of room(s) as described in UC-05.2
	3. The user receives an email to confirm the change (UC-05.3)
	4. **IF** the user confirms their choice:
	4.1 The new setting is saved.
	5. **ELSE**
	5.1 No change is made.
Alternate Flow:	None.

Name of Use Case:	ChooseRoom(s)/Building(s)		Use Case ID:	UC-05.1
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	
Description:	The user chooses a set of rooms or buildings to update the availability.			
Actors:	System handlers, UVic Facility Database			
Preconditions:	System handlers have a valid Netlink account and are logged into the system.			
Postconditions:	None.			
Main Flow:	1. The user chooses the building they want to update.			
	1. The user chooses the room(s) to manage:			
	1.1. The user can choose a room based on its property.			
	1.2. The user can choose a set of rooms based on some conditions:			
	1.2.1. These rooms have the same facilities.			
	1.2.2. These rooms are on the same building/floors.			
Alternate Flow:	None.			

Name of Use Case:	SettingAvailabilityForRoom(s)/Building(s)		Use Case ID:	UC-05.2
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	
Description:	The user updates the availability of the set of rooms that they choose in UC-05.1.			
Actors:	System handlers, UVic Facility Database			

Preconditions:	System handlers have a valid Netlink account and are logged into the system. System handlers performed UC-05.1.
Postconditions:	The new settings are applied to the chosen room(s) successfully.

Main Flow:	1. The user can set availability for the rooms:
	    1.1. The user can set the room (un)available for booking in a period of time.
	    1.2. The user can set the room (un)available for booking in a repeated period of time.
	    1.3. The user can set the room (un)available for booking permanently.
	    1.4. The user can set the room (un)available for booking for some type of students (for example, students in that department, master students only, etc.).
	3. The user is asked to confirm their action.

Alternate Flow:	None.

Name of Use Case:	ReceiveManagementConfirmationEmail		Use Case ID:	UC-05.3
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	
Description:	The system handlers will receive an email to confirm the change they made to the list of rooms.			
Actors:	System handlers, UVic Facility Database			
Preconditions:	System handlers performed UC-05.2.			
Postconditions:	System handlers receive an email confirming their action successfully.			

Main Flow:	1. The user receives an email from the system regarding the session details.
	    1.1 The email includes the ID of the session.
	    1.2 The email includes the time the user performed the management action.
	    1.3 The email includes the ID of the user.
	    1.4 The email provides the Building, Floor, and Facility Type of the room(s) the user updated.
	    1.5 The email provides verbal confirmation that the change is updated.			

Alternate Flow:	None.			

Name of Use Case:	UpdateFacilityDatabaseAfterManaging		Use Case ID:	UC-05.4
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	

Description:	The system handlers will receive an email to confirm the change they made to the list of rooms.
Actors:	UVic Facility Database
Preconditions:	System handlers confirm their choice in UC-05.2.
Postconditions:	The database is updated successfully.
Main Flow:	1. The system will check if the management request is valid. 2. The UVic facility database will update the status of the study spaces that the user made change. 3. The Gen8 system schedule is updated to represent the new schedule changed by the user.
Alternate Flow:	None.

UC-06. Contact Help Desk
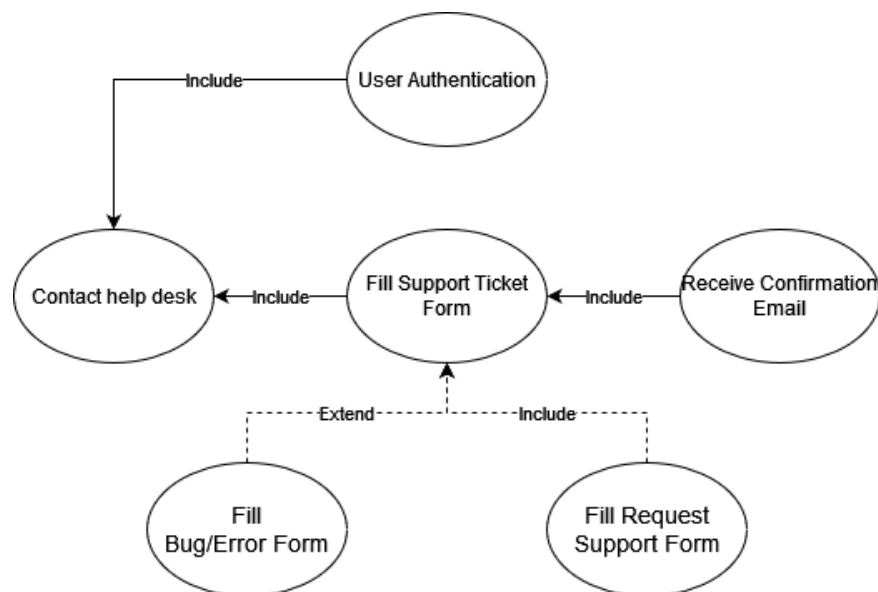
Figure 1.7 - ContactHelpDesk Exploded Diagram

Name of Use Case:	ContactHelpDesk		Use Case ID:	UC-06
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	25/10/2022	Last Revision Date:	25/10/2022	
Description:	Users can contact the help desk for support if they have any difficulty while using the system.			
Actors:	UVic Students, UVic Staff & Faculty, System handlers, UVic Help Desk, UVic Authentication Service			
Preconditions:	UVic Students, UVic Staff & Faculty, System handlers have a valid Netlink account and are logged into the system.			
Postconditions:	UVic Help Desk receives the ticket from UVic Students, UVic Staff & Faculty, or System handlers.			
Main Flow:	1. The user presses the "Contact for support" button. 2. The user is asked to choose the type of support from UVic Help Desk as described in UC-06.1. 3. The user is taken to UC-06.2 or UC-06.3 based on their selection. 4. The user is taken to a page showing that their request was submitted successfully. 5. The user receives an email to confirm that their request has been sent to the UVic help desk.			
Alternate Flow:	1. The user can contact UVic Help Desk directly in person (in Clearihue Building) and remotely (by email or phone).			

Name of Use Case:	SelectHelpType		Use Case ID:	UC-06.1
Created by:	Gen8	Last Updated By:	Jooah Bae	
Date Created:	27/10/2022	Last Revision Date:	28/10/2022	
Description:	The user clicks the 'Contact Help Desk' button. Then the user selects the help desk type from the two choices: Report a bug and/or error, or request help with the system.			
Actors:	UVic Students, UVic Staff & Faculty, System handlers, UVic Help Desk, UVic Authentication Service			
Preconditions:	1. The user must be logged into the system with a valid NetLink ID.			
Postconditions:	1. The user should be on the form to either report a bug/or error or request help after the selection.			

Main Flow:	1. The user is prompted to fill out a help form regarding errors, bugs, or requests for help.
	2. **WHILE** the user is not logged in:
	    2.1 The user is prompted to log in.
	3. User selects the type of help from the two options: 'Report Bug or Error', or 'Request Help' with the website.
	    3.1 The user is returned to use case UC-06.2 or UC-06.3, according to their help type selection.

Alternate Flow:	None.

Name of Use Case:	FillBugAndErrorHelpDeskForm		Use Case ID:	UC-06.2
Created by:	Gen8	**Last Updated By:**	Jooah Bae	
Date Created:	27/10/2022	**Last Revision Date:**	28/10/2022	
Description:	The user fills out a form reporting system errors, or bugs with the system and submits the form.			
Actors:	UVic Students, UVic Staff & Faculty, System handlers, UVic Help Desk, UVic Authentication Service			
Preconditions:	1. The user must be logged into the system. 2. The user has selected the help type of 'Report Bug or Error' from UC-06.1			
Postconditions:	1. The report from the user is submitted. 2. UVic Help Desk receives the bug/error ticket. 3. The system sends out a confirmation email to the user.			

Main Flow:	1. The user is prompted to fill out a form regarding the error or bug.
	    1.1 **WHILE** the user is timed out or logged out due to inactivity:
	        1.1.1 The user is prompted to log in.
	2. The user needs to fill in the required fields:
	    2.1. The user needs to fill in their information (Name, Email, etc.)
	    2.2. The user needs to fill in description of the problem:
	        2.2.1. A brief description about the issue to provide the help desk with some context of what the issue is.
	        2.2.2. Steps to reproduce the issue (if possible)
	    2.3. The user can submit documents to clarify their request (images, videos, etc.)
	3. The user hits the "Submit" button.
	4. The form is sent to UVic Help Desk.			

Alternate Flow:	None.			

Name of Use Case:	FillRequestHelpDeskForm		Use Case ID:	UC-06.3
Created by:	Gen8	Last Updated By:	Jooah Bae	
Date Created:	27/10/2022	Last Revision Date:	28/10/2022	
Description:	The user fills out a form requesting for help with the system and submits the form.			
Actors:	UVic Students, UVic Staff & Faculty, System handlers, UVic Help Desk, UVic Authentication Service			
Preconditions:	1. The user must be logged into the system. 2. The user has selected the help type of 'Request Help' from UC-6.1			
Postconditions:	1. The report from the user is submitted. 2. UVic Help Desk receives the request ticket. 3. The system sends out a confirmation email to the user.			

Main Flow:	1. The user is prompted to fill out a form regarding their request for help with the system.
	    1.1 **WHILE** the user is timed out or logged out due to inactivity:
	        1.1.1 The user is prompted to log in.
	2. The user needs to fill in the required fields:
	    2.1. The user needs to fill in their information (Name, Email, etc.)
	    2.2. The user needs to fill in description of the problem:
	        2.2.1. A brief description about the issue to provide the help desk with some context of what the issue is.
	        2.2.2. Steps that the user made (if possible).
	        2.2.3. Goal that the user wants to achieve.
	    2.3. The user can submit documents to clarify their request (images, videos, etc.)
	3. The user hits the "Submit" button.
	4. The form is sent to UVic Help Desk.			

Alternate Flow:	None.			

Name of Use Case:	ReceiveSupportConfirmationEmail		Use Case ID:	UC-06.4
Created by:	Gen8	Last Updated By:	Irene Duong	
Date Created:	27/10/2022	Last Revision Date:	27/10/2022	

Description:	The system sends a detailed email to the user to confirm their support ticket has been received by UVic Help Desk.
Actors:	UVic Student, UVic Staff & Faculty, UVic Help Desk
Preconditions:	The user must submit a support ticket to the UVic Help Desk prior.
Postconditions:	The system sends the detailed email successfully.
Main Flow:	1. The user receives an email (to either their school or personal email) from the system regarding the session details. 1.1 The email includes the Ticket ID. 1.2 The email includes the time the user performed the request action. 1.3 The email includes the Student/Staff ID of the user. 1.4 The email contains a copy of the description of the ticket. 1.6 The email provides verbal confirmation that the support ticket was successfully submitted to the UVic help desk by the user.
Alternate Flow:	None.

Domain Models - DFD

I. Context level Data Flow Diagram
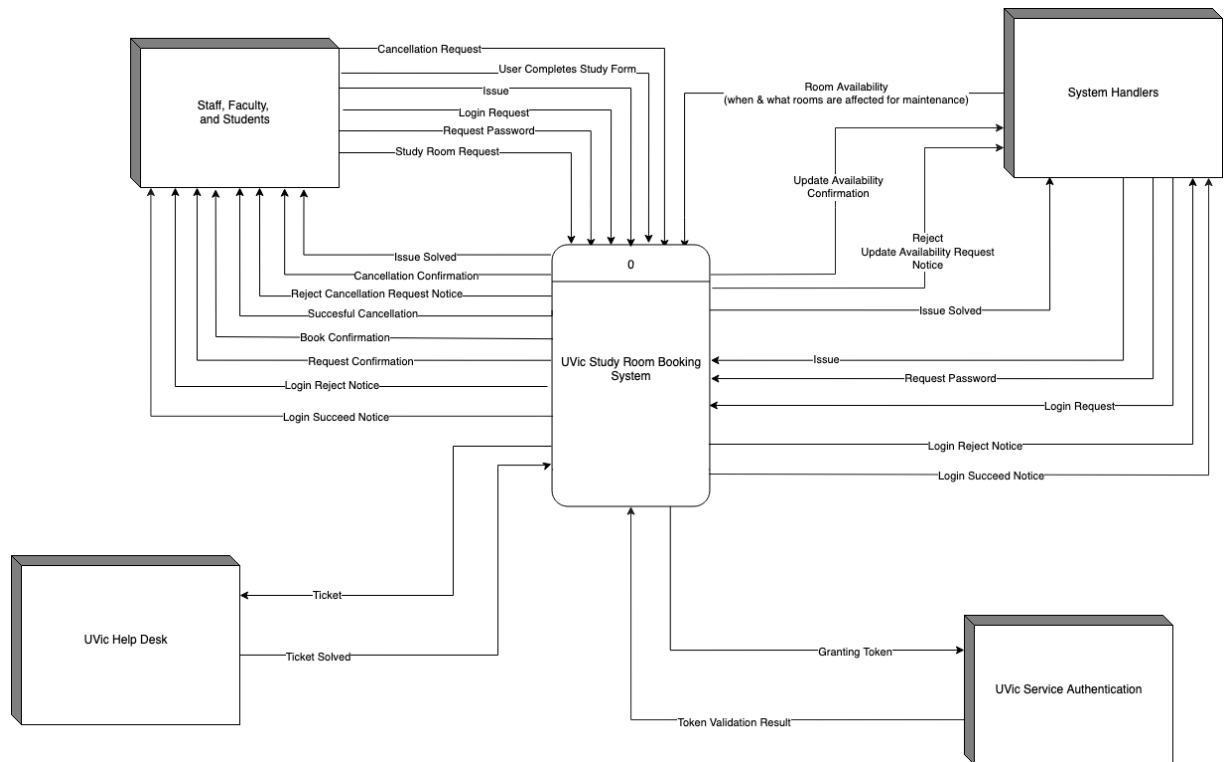
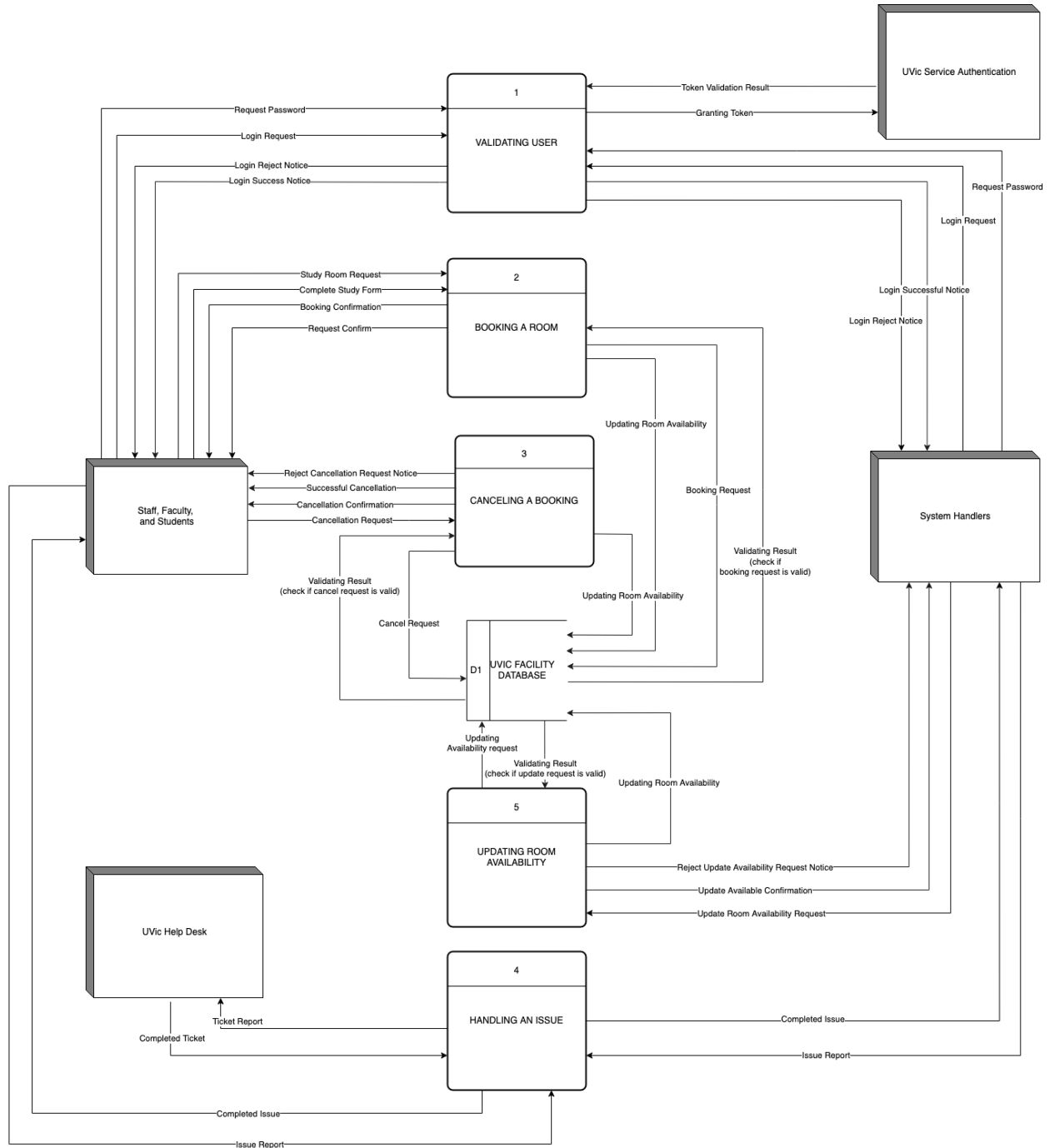*Figure 2.1 - Context Diagram for StudyUp*

II.   Level 0 Data Flow Diagram

Figure 2.2 - Level 0 Data Flow Diagram for StudyUp

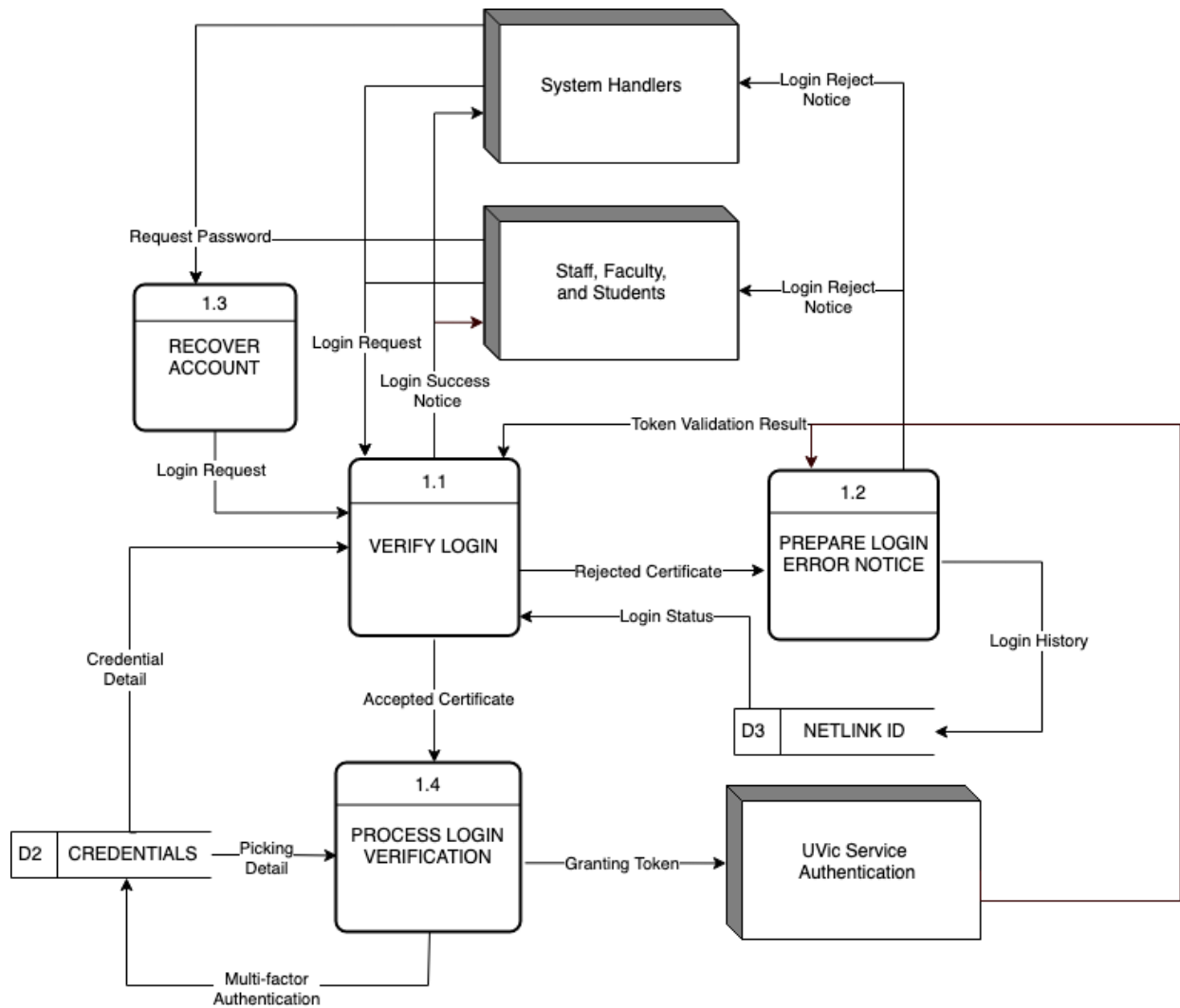# III. Level 1 Data Flow Diagram

Log In

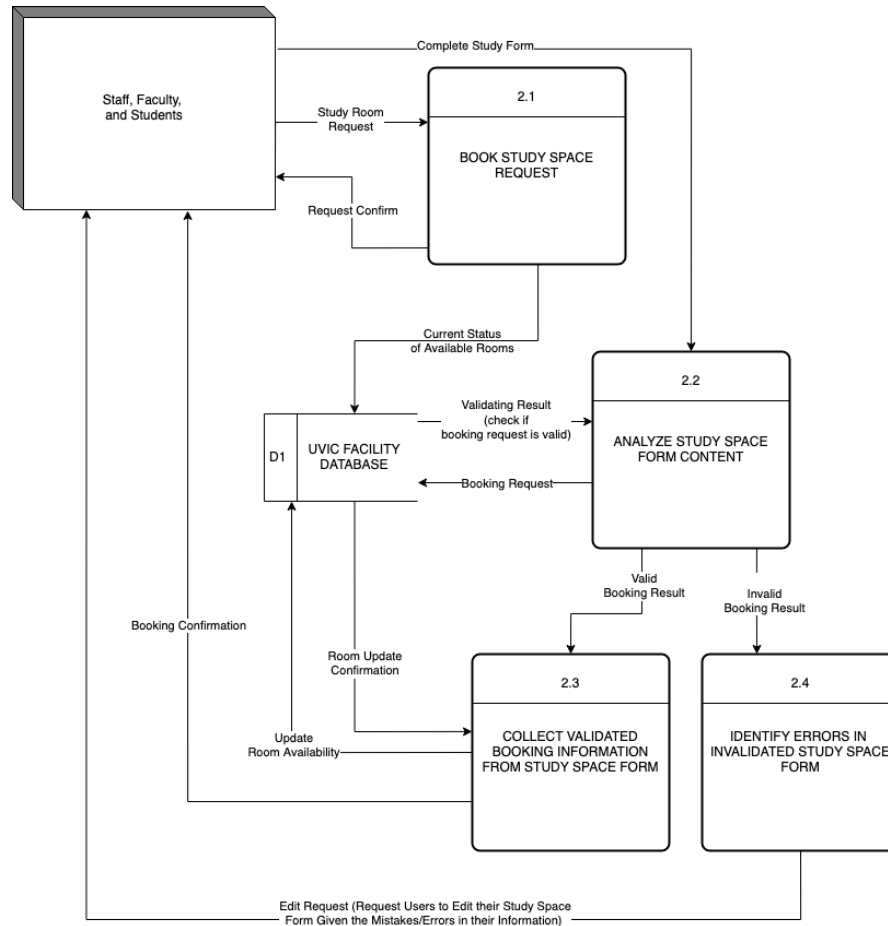*Figure 2.3 - Validating User Data Flow Diagram*

Book Study Room

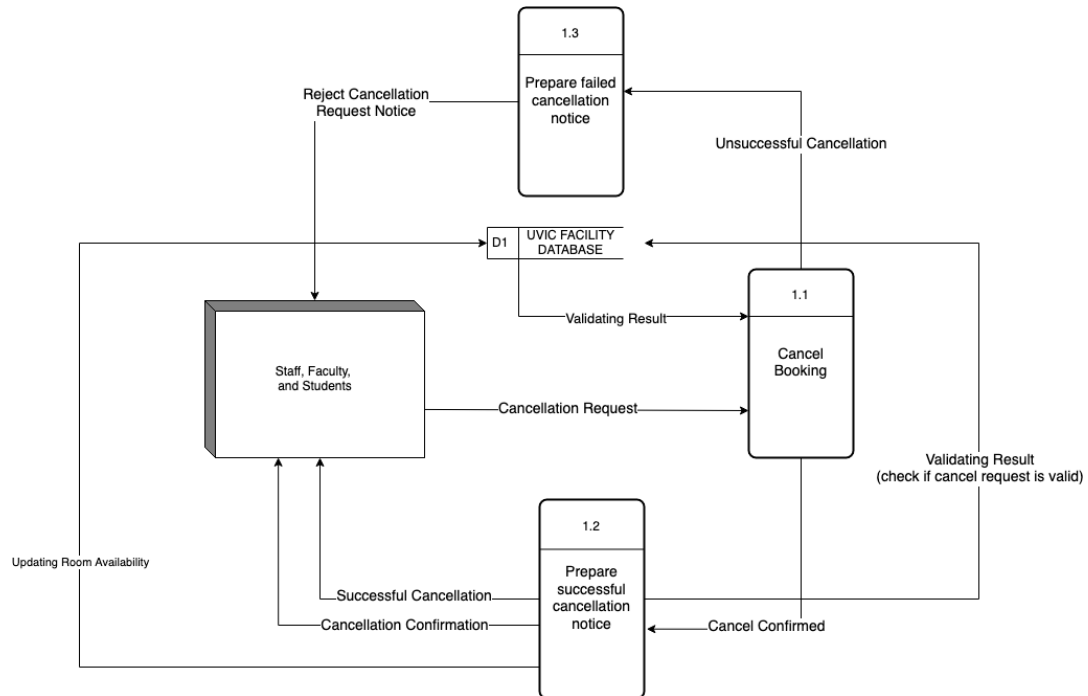*Figure 2.4 - Booking A Study Room Data Flow Diagram*

Cancel Booking

Figure 2.5 - Cancel Booking Data Flow Diagram
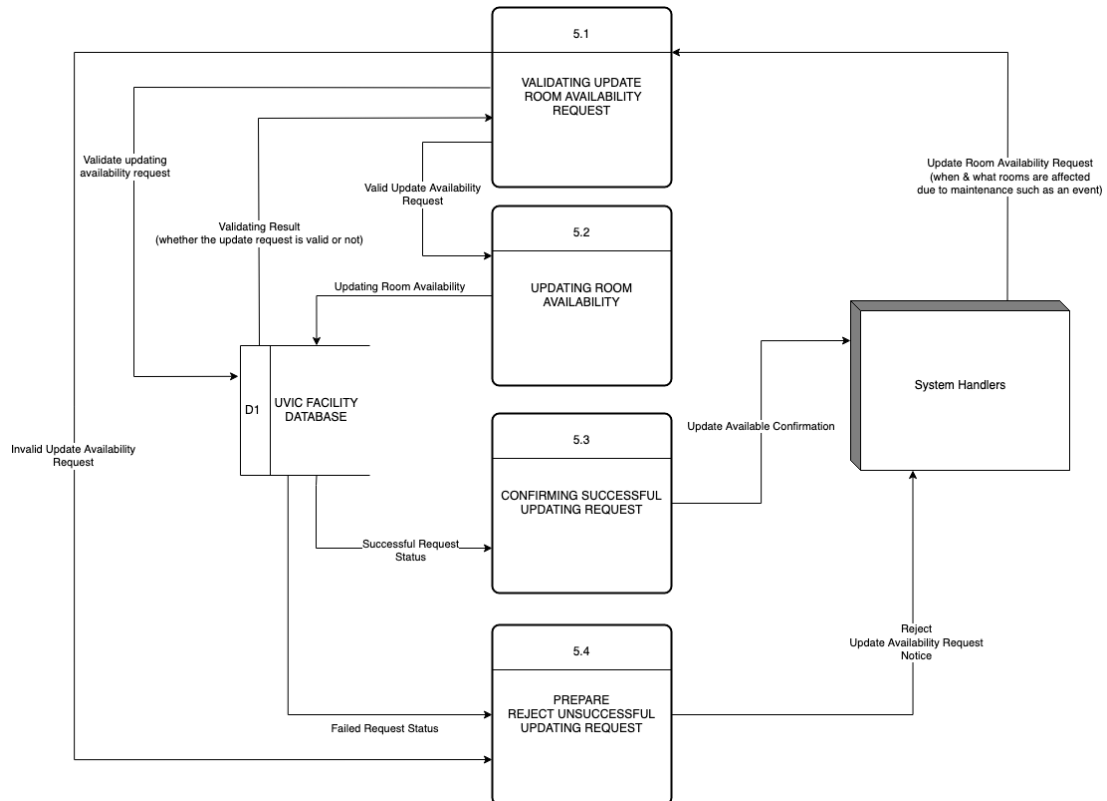
Manage the Availability of Rooms

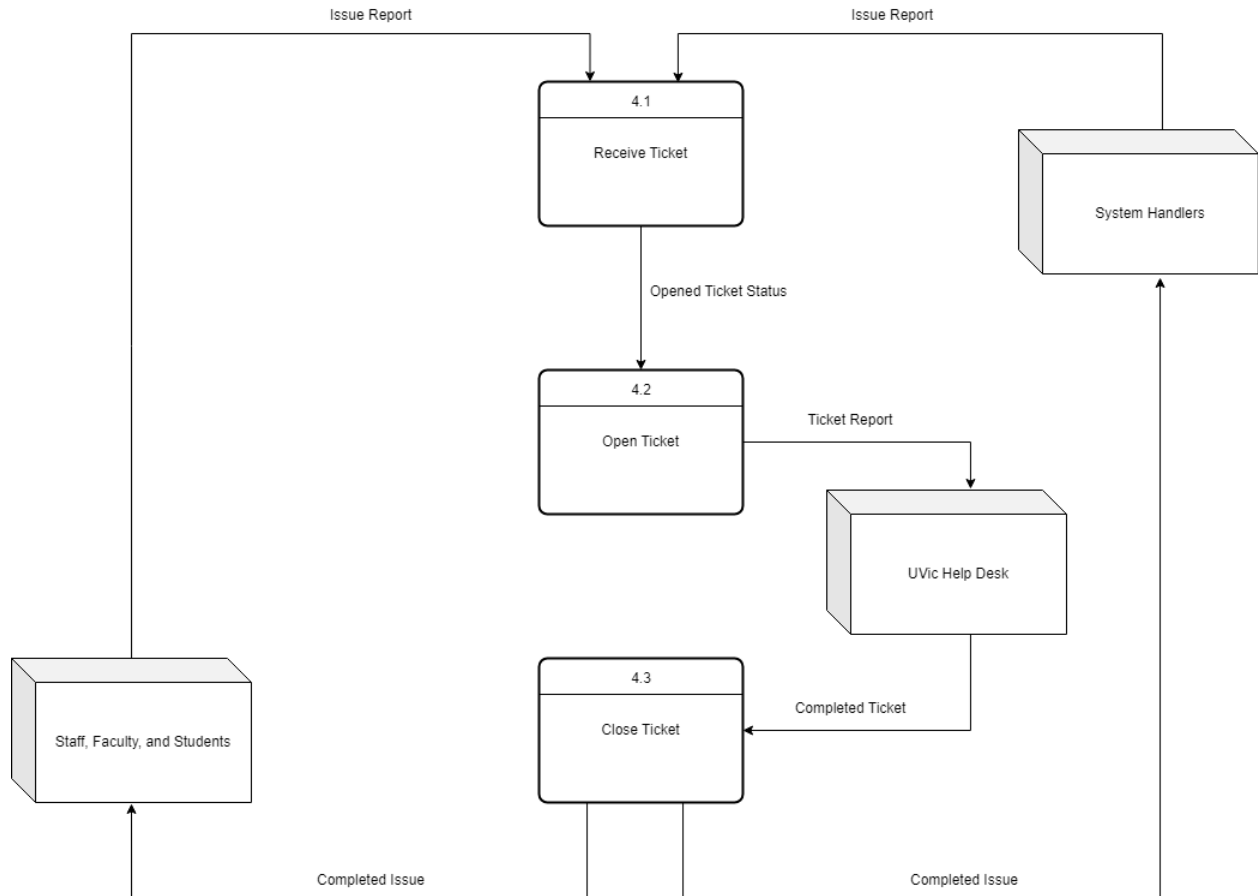*Figure 2.6 - Manage Rooms/Buildings Availability Data Flow Diagram*

Handling An Issue

Figure 2.6 - Handling An Issue Data Flow Diagram