



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

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**SCSJ 2253 SYSTEM MODELLING AND  
REQUIREMENTS ENGINEERING**

*Software Requirements Specification*

**UTM-ALIS**

**Version 1.0**

**26/04/2019**

**Software Engineering Department, Faculty of  
Engineering**

**Prepared by: QuadSquad**

## MARKING TEMPLATE: ASSIGNMENT 2

CRITERIA	MARKS
<b>Use-Case Diagram (15 m)</b>	
Correctness of the use cases	/ 10
Correctness of the relation between use cases	/5
<b>Use-Case Documentation (25m)</b>	
Clarity of use case description and all elements in use case documents.	/5
Correctness of the scenario specified in the document	/5
Complete flow of events for each use case documented	/15
<b>Sequence Diagrams (20 m)</b>	
Appropriate classes for every scenario	/10
Appropriate message passed between classes	/5
Logical stereotype assigned for every identified classes	/5
<b>Activity Diagrams (20 m)</b>	
Appropriate flow of activities for every scenario	/10
Correctness of the flow of activities	/5
<b>Domain Class Diagram (20 m)</b>	
Correctness of the classes identified	/10
Correctness of the relationship between classes identified	/5
State Diagram for the specified classes (at least 2)	/20

## Revision Page

### a. Overview

The existing system works by storing data from multiple servers in a database. The data collected will be used to produce a comprehensive report and statistic. In addition, if the end-user requests for something, the database will send the relevant information requested by the end user. The servers take information from UTM Space, UTM Franchise Student Database and UTM Database. The existing system has a considerable amount of features, the following are some: News, Events Contribute/Donate Now, Career, Facility Reservation, Check Reservation, Join the site, Find a friend, Forum, Update my details.

### b. Target Audience

UTM Alumni Students, CICT UTM, UTM Alumni Department, Alumni Associates, UTM Board of Management, Faculties or Schools, Industrial Organizations

### c. Project Team Members

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### d. Version Control History

Version	Primary Author(s)	Description of Version	Date Completed
2.0	<ul style="list-style-type: none"><li>- Bellarina Chew</li><li>- MD Karimul</li><li>- Nik Adam</li><li>- Nursyahira</li></ul>	<ul style="list-style-type: none"><li>- Completed specific requirements</li></ul>	24/4/19
3.0	<ul style="list-style-type: none"><li>- Bellarina Chew</li><li>- MD Karimul</li><li>- Nik Adam</li><li>- Nursyahira</li></ul>	<ul style="list-style-type: none"><li>- Corrected specific requirements</li><li>- Overall Description</li></ul>	26/4/19

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# **1. Introduction**

## **1.1 Purpose**

The purpose of this user requirement definition is to describe in detail about the proposed UTM ALIS. This document describes the functions, as-is process flow, to-be process flow, business rule. This document is meant to convey an in-depth understanding of the entire proposed system and also its flow.

The audience (stakeholder) for the user requirement document are:

1. UTM Alumni
2. CICT UTM
3. UTM Alumni Department
4. Alumni Associates
5. UTM Board of Management
6. Faculties or Schools
7. Industrial Organizations

## **1.2 Scope**

The software product to be produced is UTM ALIS, a web-based application. This product acts a platform for alumni to connect with each other. The product features automated facility booking system that allows alumni or public users to book facilities online, job searching which will provide more job opportunity for UTM alumni, it will also feature report and statistic generation for UTM top management further use. This product will also include find-a-friend feature which allows alumni, students, and public users to reconnect reach out to other alumni. The scope of the system however, does, not cover the integration with social websites. The product helps alumni to connect with their old friends from the campus within clicks. It also helps the university to generate income. The goal of the system is as below:

### UTM Board of Management's Goal :

Cost cutting by automating manual processes

Generating income via facility reservation system and endowment fund system

### UTM Alumni' Goal :

Connecting with their old friends from their university

Establish business relationship with other alumni as well as the industry

## **1.3 Definitions, Acronyms and Abbreviation**

Alumni - Men and women who have completed their studies at a college or university

UTM - Universiti Teknologi Malaysia

ALIS - Alumni Integrated System

## **1.4 References**

ALUMNI | meaning in the Cambridge English Dictionary. (n.d.). Retrieved from <https://dictionary.cambridge.org/dictionary/english/alumni>

## **1.5 Overview**

The topic that will be discussed in the following section is the overall description of the proposed system and its specific requirements. The overall description will cover product perspective that will specify system interfaces, user interface, hardware interfaces, software interfaces, communication interfaces, memory, operations, and site adaptations. In addition, the overall description will also include product functions, user characteristics, constraints, assumption and dependencies, and apportioning of requirements. The specific requirements will cover external internal requirements that will specify user interfaces, hardware interfaces, software interfaces, and communication interfaces. It will also cover system features, performance requirements, design constraints, software system requirements, and other requirements.

## 2. Overall Description

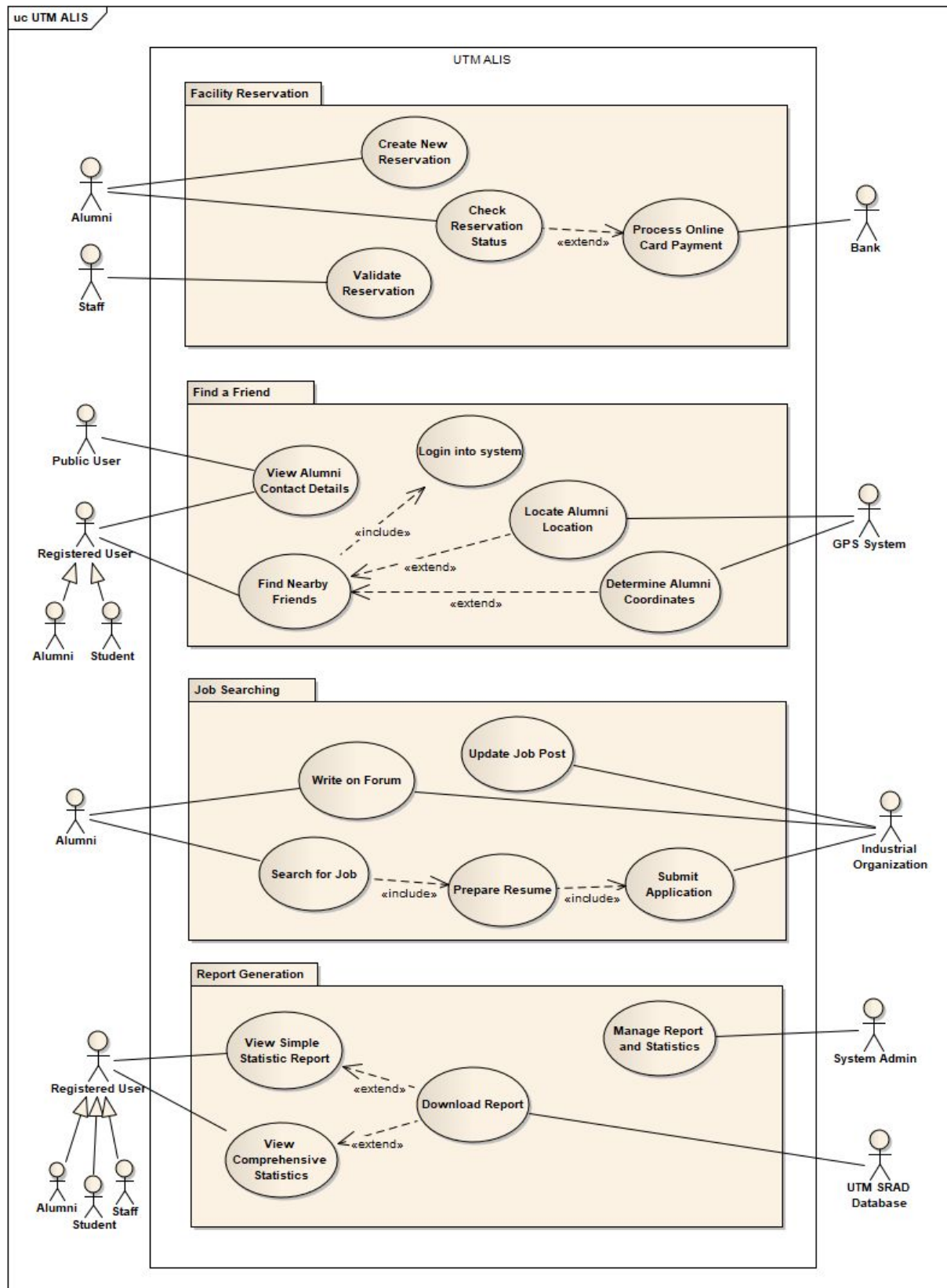


Figure 2.1: Use Case Diagram of UTM-ALIS



## **2.1 Product Perspective**

The product is under UTM license. It is a web based system implementing client-server model. The UTM ALIS provides simple mechanism for users to share and acquire knowledge.

The following are the main features that are included in UTM ALIS:

- Find a Friend
- Facility Reservation
- Job Searching
- Report Generation

### **2.1.1 System Interfaces**

The UTM-ALIS displays four subsystems; Find a Friend, Facility Reservation, Job Searching, and Report Generation. Find a Friend allows both public users and registered users (students and alumni) to access alumni contact details as well as locate nearby alumni location with their coordinates. Since location is involved, this subsystem has to rely on an external GPS System. Facility Reservation allows registered users to reserve facilities under Rumah Alumni. Upon reservation, this subsystem will inform Rumah Alumni staff for validation. If the reservation is accepted, the registered user will have to pay for the venue via bank transfer (debit or credit card). Once payment is done, the system will send the confirmation email to the registered user as well as updating their Google Calendar for the upcoming date. This subsystem would have to rely on two external systems; online banking and Google Calendar. The Job Searching subsystem allows registered users to apply for jobs to various industrial organizations. The organizations have the authority to access this subsystem to update job vacancies. This gives multiple job offers for registered users to choose from. If the registered user is interested in a particular offer, he/she has to apply for it. Once application is accepted, the registered user is notified via email. This subsystem also includes a forum wherein registered users can write down any inquiries or updates regarding jobs. This subsystem does not interact with any external systems as organizations are given access to the subsystem. The Report Generation subsystem allows registered users to access statistics regarding alumni. Registered users have the option to view or download both simple and comprehensive report generated by the subsystem. The subsystem retrieves information from UTM Database to create reports. This subsystem only interacts with one external system - UTM Database.

### **2.1.2 User Interfaces**

The use interface shall follow web based UI style and functionality conventions. The interface has a side menu at the left hand side of the screen, which will allow users to easily switch between the different parts of the system. In the homepage upto top it will have UTM logo and Alumni written in curved alphabets, beside that there will be links to access “My UTM”, “Map and Location” and “Help”. The first tab or menu is named “Dashboard”, it will have the overview details of the alumni or stuff logged in. The next menu is called “Find a friend”. It will have a Search box field up top and beside it will have a filter button. By clicking the filter button one can see “Filter by class”, “Filter by year”, “Filter by Country” and “Filter by state”. If a user enters a name and then filters through the filtering option the search will be much faster and easier. Then the third menu item will be “Facility reservation”. In it there will be options for what facility the user wants to book. There will be three main option “Hall”, “BBQ center” and “Shop Lot”. When the user clicks in the desired one a page will show up, showing a calendar which will show the user which date the hall is already booked and which date it is available. Under that there will be a form asking for users reservation and personal details. And finally under that there will be a submit button and at the right side there will be a chart that will show how much the payment is.

The fourth menu item named “Job Searching”, shall have a big interactive banner which will show if any company give job vacancy details. Under that it will have a option of few job offering company’s ad. Where the user if interested can fill up the form and send their CV directly to the company. Finally in the last menu item named “Statistics and report generation” users can view the statistics and reports and under that there will be two buttons, one to view more comprehensive statistics another will prompt the user to download the statistics that they are viewing. Also in the Upper right corner will house for user’s photo and a dropdown menu which will allow user to logout or edit their profile.

### **2.1.3 Software Interfaces**

The system is web based so any operating system as long as they have a web browser that supports JavaScript, HTML5 and server languages will be able to run it. Such as, Chrome, Firefox, Opera, Safari, Microsoft Edge. Any OS such as, Windows (from vista to 10), Linux distros, OSX till Mojave, Android 3 to 9, ios 9 to 12, Windows mobile. The system requires a properly configured version of Windows or Mac or Linux, Android or ios to run the browser. The Windows should have Microsoft .NET Framework installed. Android should have any webview implementation integrated for version 5 to 9.

### **2.1.4 Communication Interfaces**

All data transferred between the servers and the individual devices shall use TCP/IP networking protocol or an Ethernet or a WIFI connection. This system is not closed thus can be access through any browser from anywhere in the world and has firewall to protect from unauthorised access.

### **2.1.5 Memory**

The targeted users pc have between 4GB to 8GB RAM or memory. Therefore the System should not consume more than 1GB of user ram and minimum of 200 MB space left for chrome or any other uptodate browser to install and open the system.

### **2.1.6 Site Adaptation Requirements**

Site configuration for the UTM ALIS System is expected to encompass the following steps:

The servers should be installed on the CICT.

New data tables created for this system must be installed on the CICT's new combined database and populated prior to system activation.

Chrome or any other up to date browser in the user PC to access the system.

No customisation or special software is required for the user end to run system.

## 2.2 Product Functions

The major function that UTM ALIS system will perform are following:

- Facility Reservation:
  - By this function the user will be able to create new reservation for a facility.
  - User will be able to check reservation status.
  - And can pay for their reservation through online banking or card payment.
- Find a Friend:
  - By this function the user will be able to view Alumni contact details.
  - User will be able to find nearby friends if they have a login credential.
  - With their account the user will also be able to locate alumni location or determine alumni coordinates.
- Job Searching:
  - By this function the user will be able to search for jobs, prepare their resumes and submit it directly to their desired industry.
  - User will also be able to write to their desired industry's forum page if they have any questions or enquiries.
  - And the industries will be able to post their job advertisements.
- Report Generation:
  - Users will be able to view two different types of statistics.
  - With Simple statistics users can view the report of number of alumni and their job status.
  - With comprehensive reports they can view endowment funds and employability reports.
  - If the users want they can download the statistics reports and save it for future use.
  - System admin can log in and either add , edit or delete any statistics if necessary.

## 2.3 User Characteristics

The system will be used by the alumni, general public, staff of the university, industrial stuff and system admin.

- The user shall be familiar with a booking procedure, writing on forums.
- The user shall have an average knowledge of computers and internet.
- The user should know the methods of transactions and payment.
- The user should have at least matriculation and comfortable with English.
- The system admin shall have knowledge about how database and server works.

## 2.4 Constraints

- There will only be one administrator.
- The delete operation for statistics is available only to the administrator. To reduce the complexity of the system, there is no check on delete operation. Hence, administrator should be very careful before deletion of any record and he/she will be responsible for data consistency.
- The delete operation on writing on forums is available to users and also system administrator. And check on delete operation is present here to reduce accidental deletion of any post.
- The use of external applications such as Google calendar, SPSS have to be licensed, or else developer should bare all responsibilities if lawsuited,
- The security of alumni data is ensured by the developer of the system, upon leakage of data developer will be responsible.

## **2.5 Assumption and Dependencies**

- If there is no internet connection, the system would restore its previous version via cache. During this period, the subsystem's functions will not be operational.
- If the GPS system is not working, registered users may not locate alumni and their coordinates.
- If online banking is not working, all facility reservations will be on hold until it is functional again.
- If UTM-Database is not working, registered users may not view and download both simple and comprehensive reports.

## **2.6 Apportioning of Requirements**

- The system will have a chat feature directly with one of the staff with desired industries.
- The system will have new halls and spaces available for facility reservation.
- The system will have a friend tracker with full user control of the alumni.  
Example: If the alumni wants they can disable this live location share to avoid privacy breach.
- The system will have a news feed where the alumni can post their recent achievements and can share exciting news with fellow alumni.
- The system will have a on site messaging feature with which alumni can easily chat with one another.

### 3. Specific Requirements

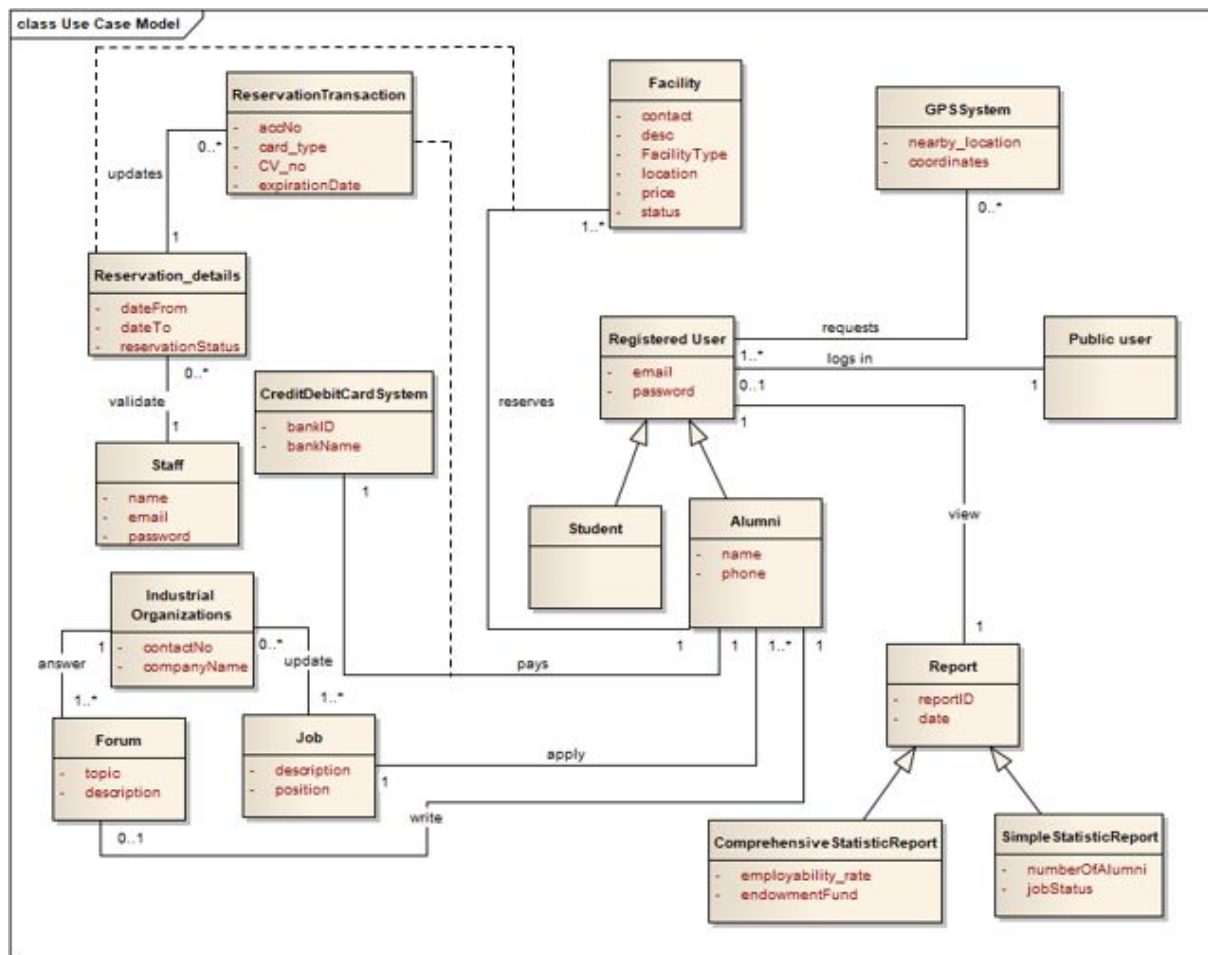


Figure 3.1: Domain Model of UTM-ALIS

## 3.1 System Features

### 3.1.1 Module Find a friend

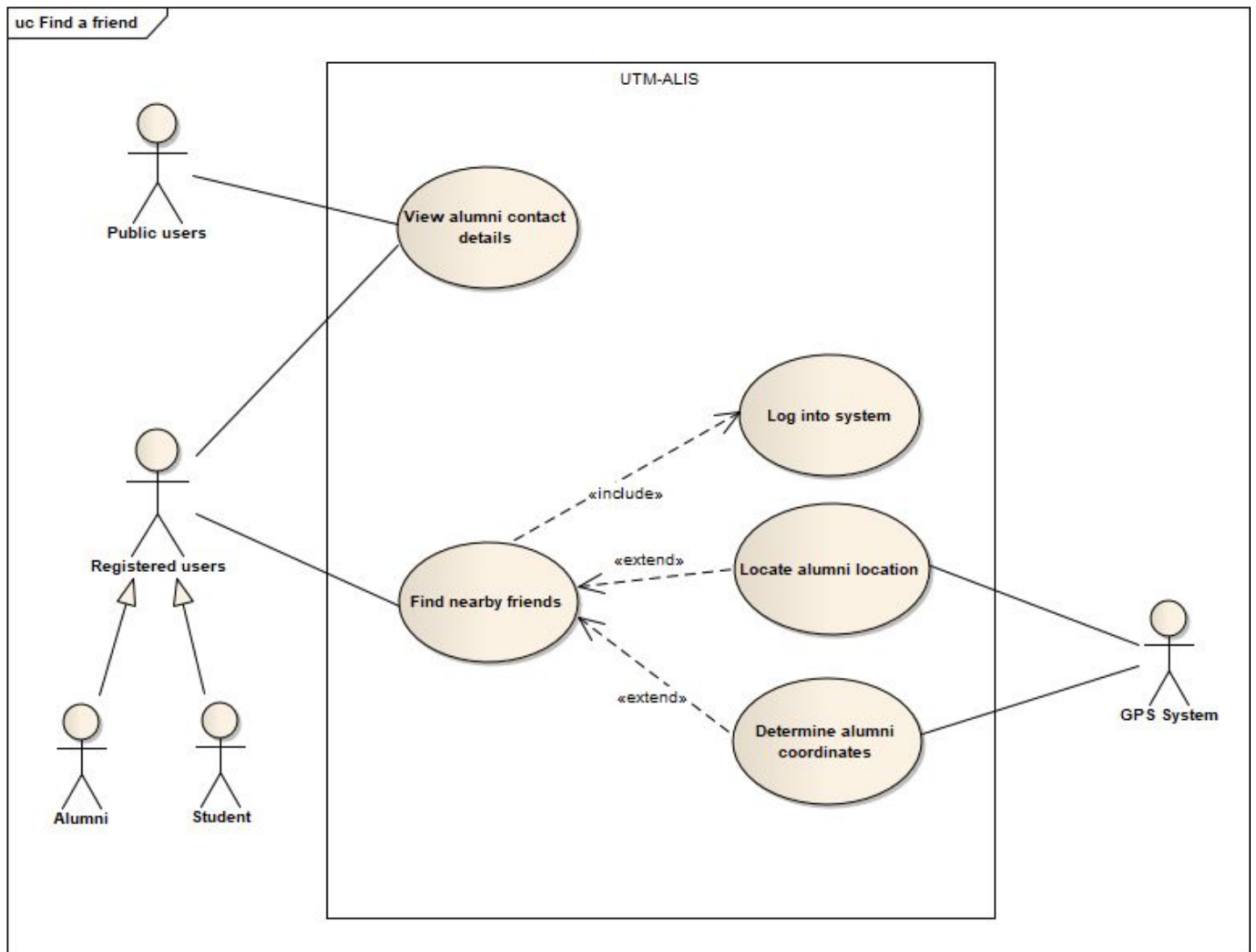


Figure 3.1.1: Find a Friend



### 3.1.1.1 UC001: Use Case <View alumni contact details>

Use Case Name :	UC001: View alumni contact details	
Scenario :	View alumni details for “Nik Adam Danish”.	
Triggering Event :	User types in alumni details	
Brief Description :	When user types in alumni details, the system will find and retrieve the corresponding details from the UTM database managed by CICT	
Actors :	Registered Users, Public Users	
Related Use Cases :	-	
Stakeholders :	Alumni department: to provide primary definition CICT department: to provide alumni data	
Preconditions :	-	
Postconditions :	Alumni contact details must be available	
Flow of Events :	Actor	System
	1. Public user types in alumni details  2. Public user selects desired profile	1.1 Find corresponding alumni details. If no details match, execute exception 1. 1.2 Retrieve alumni details 1.3 Display list of alumni alumni profiles  2.1 Display alumni contact details
Exception conditions :	1. System will display error message. a. Choose to search new alumni b. Exit system	

Table 3.1.1.1: Use Case Description for <View alumni contact details>

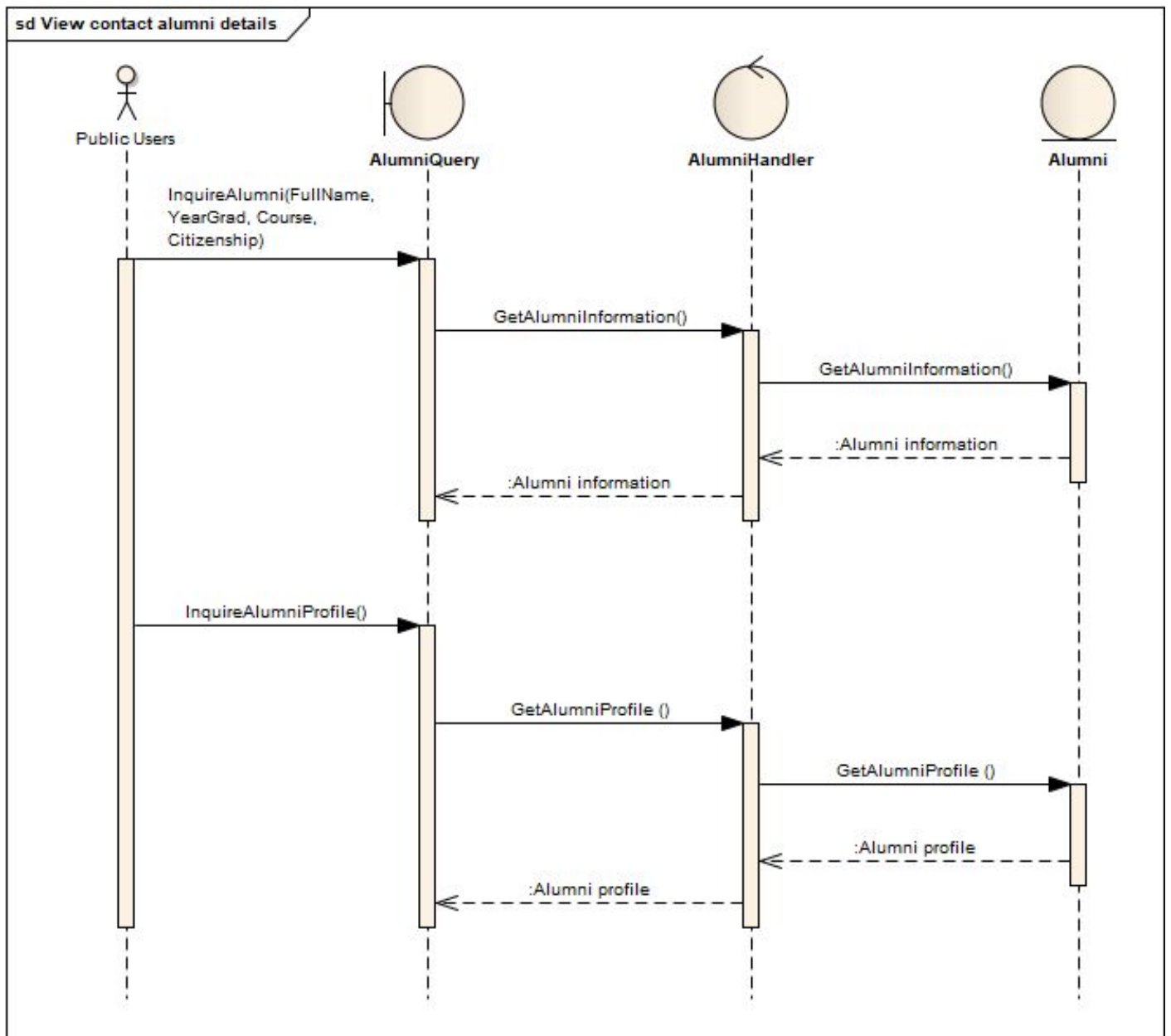


Figure 3.1.1.1: System Sequence Diagram of <View alumni contact details>

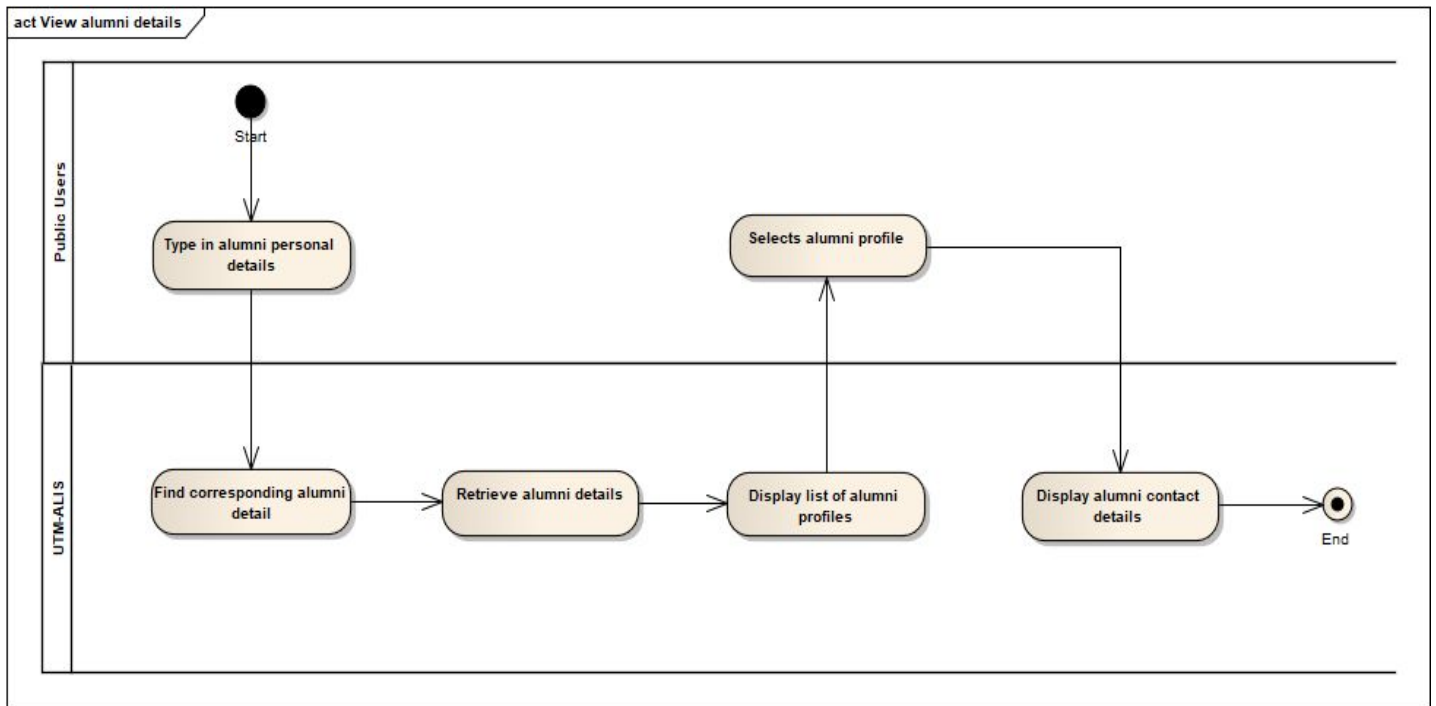


Figure 3.1.1.2: Activity Diagram of <View alumni contact details>

### 3.1.1.2 UC002: Use Case <Find nearby friends>

Use Case Name :	UC002: Find nearby friends	
Scenario :	Find alumni nearby UTM	
Triggering Event :	User clicks “Find nearby Friends”.	
Brief Description :	When user clicks “Find nearby Friends”, the system will request location from GPS System. GPS System will retrieve alumni location and display it in the system	
Actors :	Registered Users, GPS System	
Related Use Cases :	-	
Stakeholders :	Alumni department: to provide primary definition GPS System: to retrieve alumni location CICT department: to provide alumni data	
Preconditions :	User has to be logged in to system	
Postconditions :	Alumni location has to be available Alumni coordinates has to be available	
Flow of Events :	<div>Actor</div> <div>System</div>	
	1. Registered user clicks “Find nearby Friends” and select search distance. If no nearby nearby alumni are found, exception 1 is executed. 2. GPS System retrieves alumni location 3. GPS System retrieves alumni coordinates	2.1 Display alumni location on interactive map. 3.1 Display alumni coordinates.
Exception conditions :	1. Display error message <ul style="list-style-type: none"> <li>a. Choose to search new alumni</li> <li>b. Exit system</li> </ul>	

Table 3.1.1.2: Use Case Description for <Find nearby friends>

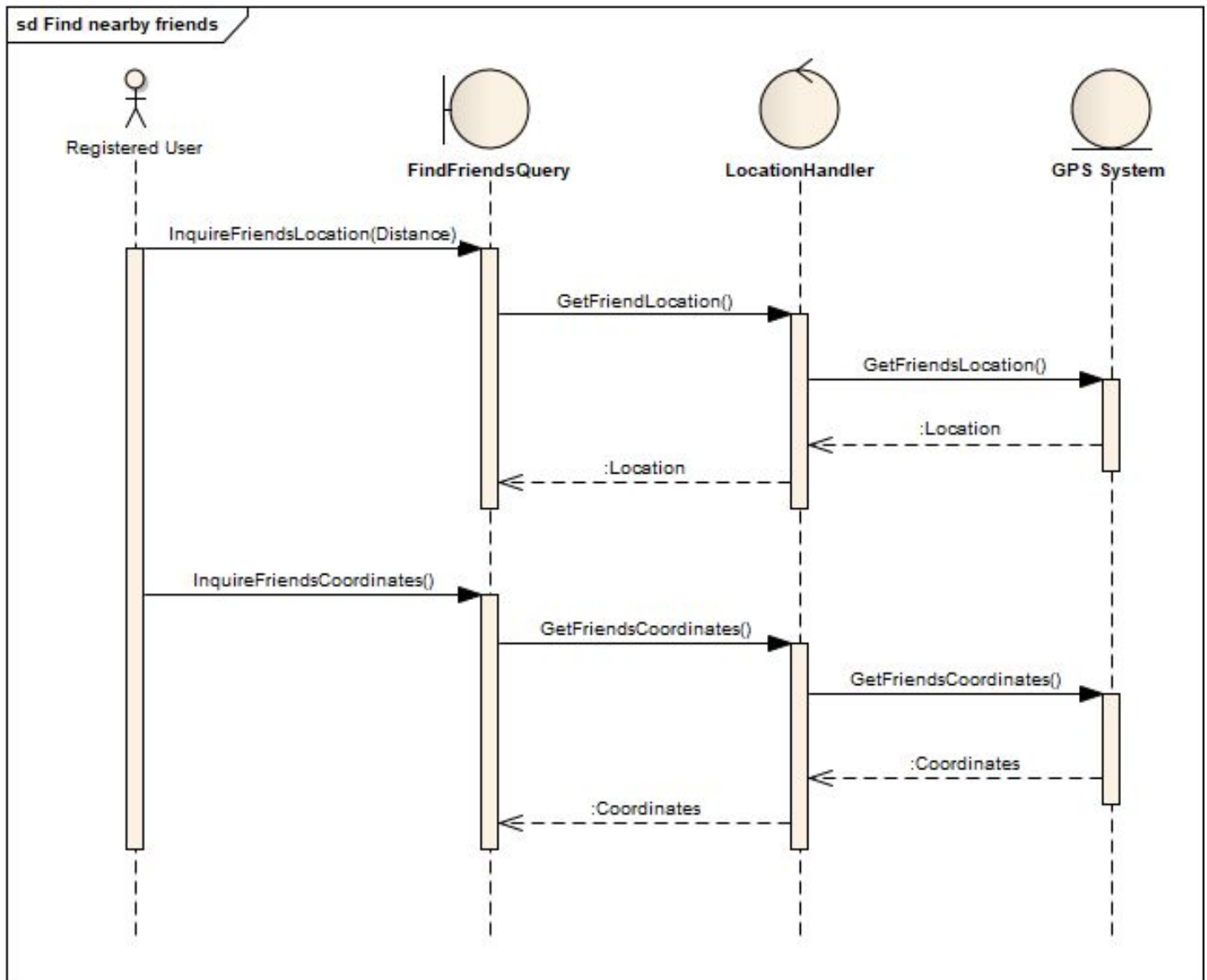


Figure 3.1.2.1: System Sequence Diagram of <Find nearby Friend>

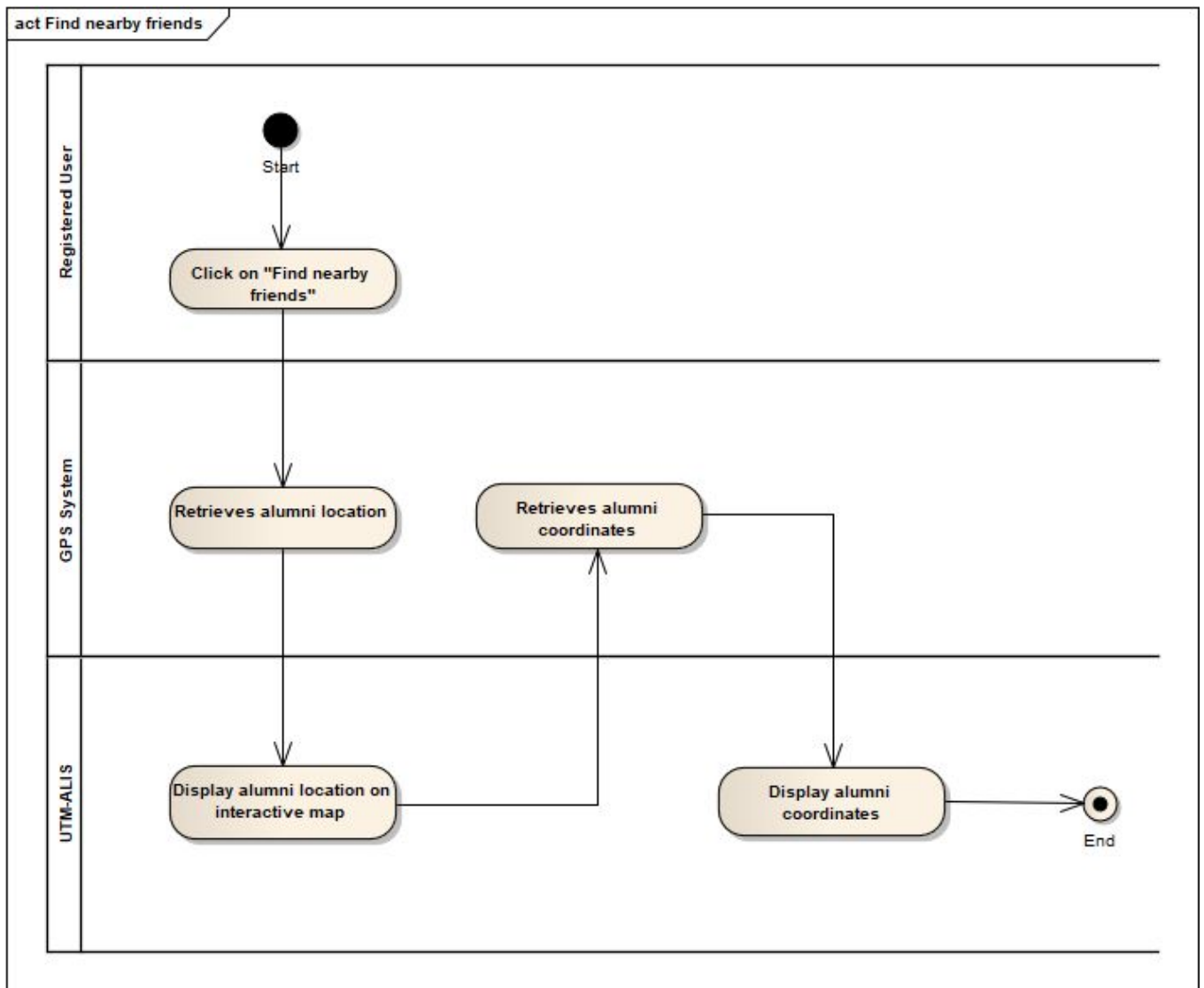


Figure 3.1.2.2: Activity Diagram of <Find nearby Friend>

### 3.1.2 Module reserve facility

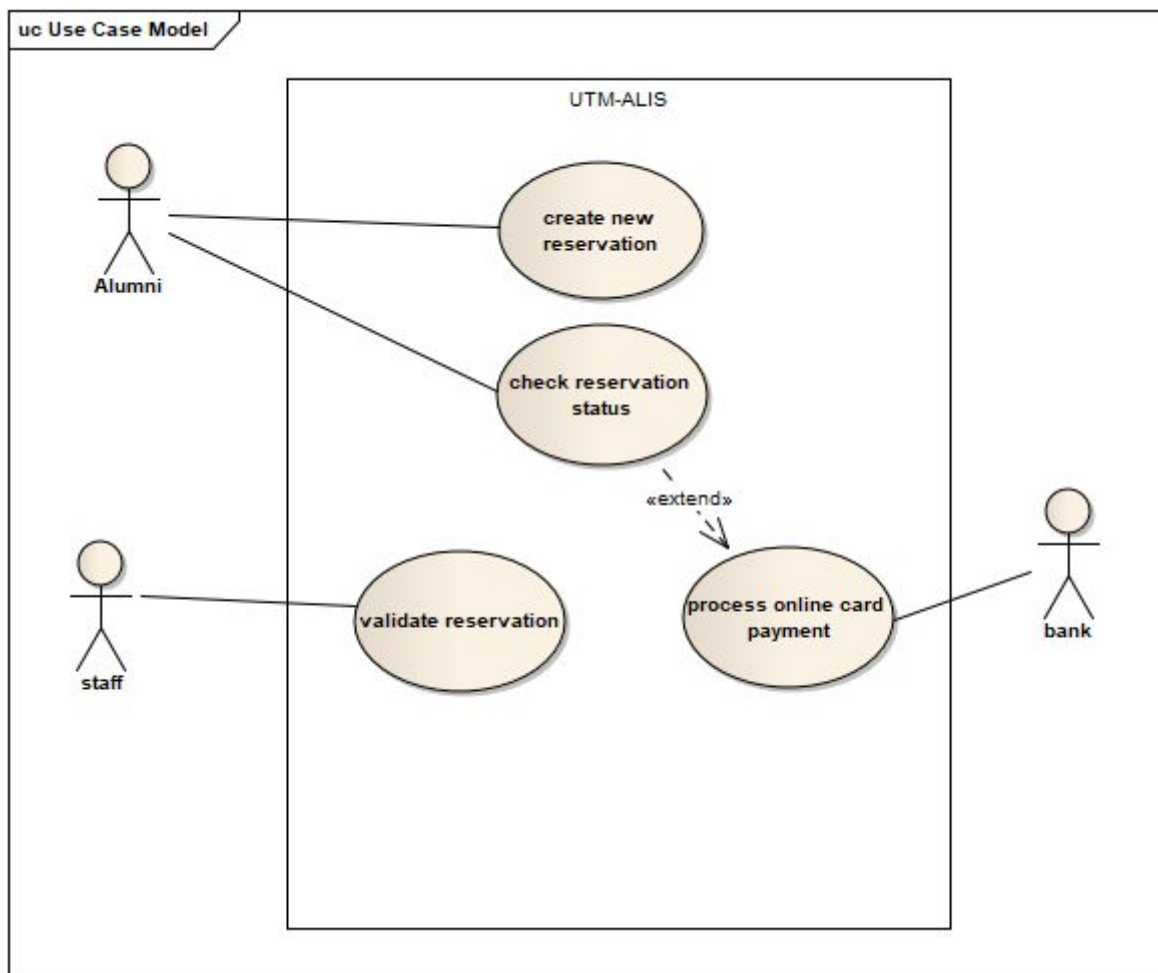


Figure 3.1.2: Facility reservation

### 3.1.2.1 UC001: Use Case <Create new reservation>

Use Case Name :	UC001- Create new reservation	
Scenario :	Reserve an event hall for an event on next Monday to Wednesday.	
Triggering Event :	Alumni search for available event hall for desired date period.	
Brief Description :	When Alumni search for facility to reserve, the system will list available facility according to desired date, display facility details on selected available facility and create a new reservation.	
Actors :	Alumni	
Related Use Cases :	-	
Stakeholders :	UTM Alumni Department : To provide primary definition.	
Preconditions :	Alumni must login as a registered UTM-ALIS member. Catalog and facility must exist for request.	
Postconditions :	Reservation request must be created. Staff will be notified through email for new reservation validation. Reservation transaction must be created for reservation payment.	
Flow of Events :	<div>Actor</div> <div>System</div>	
	2. Alumni selects date and type of facility. 3. Alumni selects facility. 4. Alumni clicks on “book now” button to book facility. 5. Alumni enters personal information on required fields. 6. Alumni submits reservation request.	1.1 Displays available facility list.  2.1 Displays facility information. 3.1 Compute total. 3.2 Display total  6.1 Add a facility reservation request
Exception conditions :	1.1 If no facility available on desired date, then display error message.	

Table 3.1.2.1: Use Case Description for <Create new reservation>



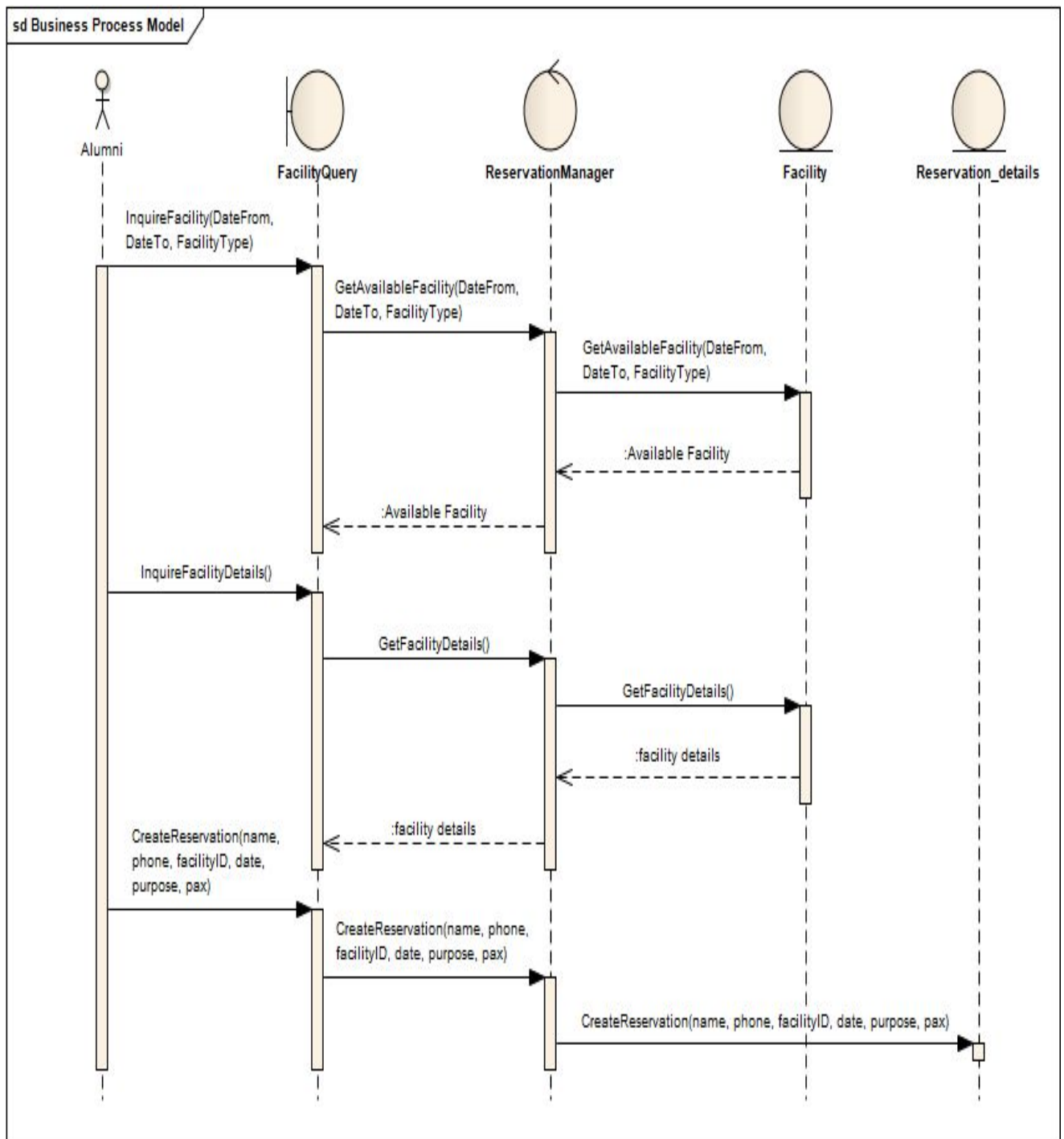


Figure 3.1.2.1: System Sequence Diagram of <Create new reservation>

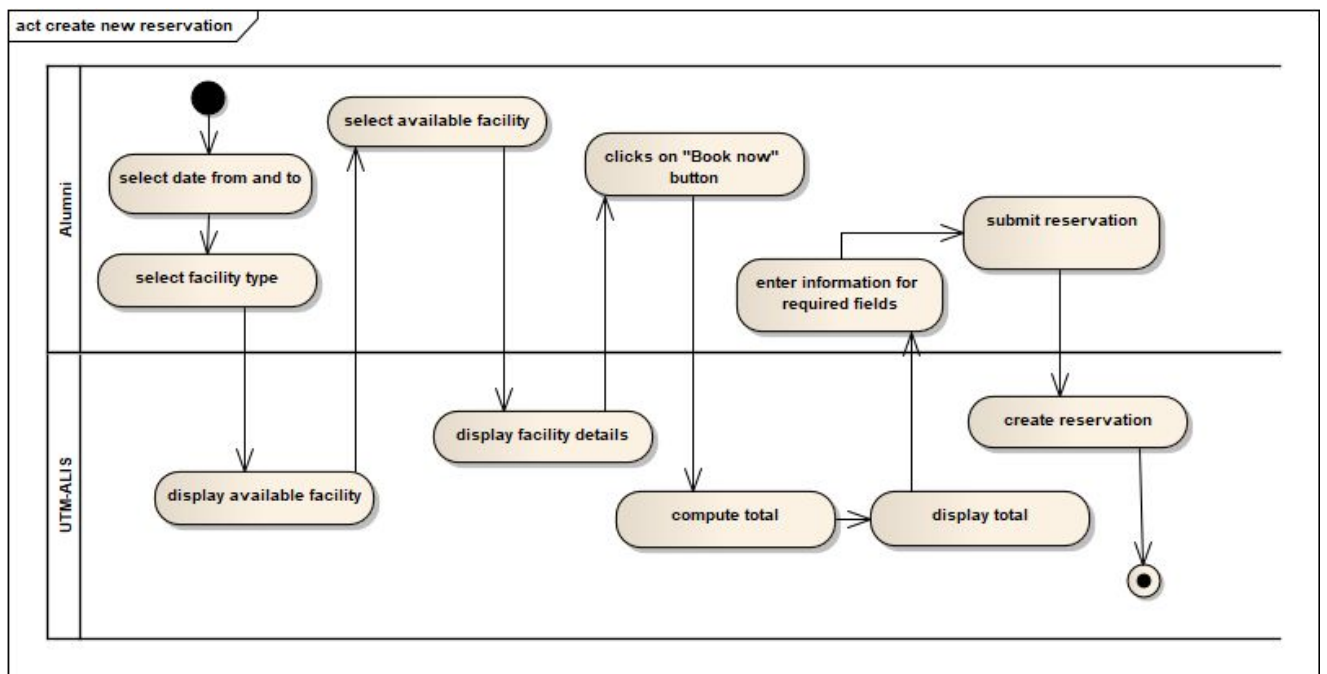


Figure 3.1.2.2: Activity Diagram of <Create new reservation>

### 3.1.2.2 UC002: Use Case <Validate reservation>

Use Case Name :	Validate reservation	
Scenario :	Staff log in to UTM-ALIS to check for notification.	
Triggering Event :	Staff received an email noticing that there is a new reservation validation to validate in UTM-ALIS.	
Brief Description :	When staff goes through reservation request information, staff validate reservation whether it is accepted or rejected. The system then update Alumni reservation status.	
Actors :	Staff	
Related Use Cases :	-	
Stakeholders :	UTM Alumni Department : to provide primary definition.	
Preconditions :	Staff must login as staff. Reservation must exist for validation.	
Postconditions :	The reservation status is updated for Alumni to check.	
Flow of Events :	Actor	System
	1. Staff clicks "Validate reservation".  2. Staff selects reservation request from list.  3. Staff validate reservation and click on reservation status choice.	1.1 Display list of reservation request 2.1 Display reservation request details 3.1 Update reservation status
Exception conditions :	1.1 If reservation list is empty, then display "no new reservation" message.	

Table 3.1.2.2: Use Case Description for <Validate reservation>

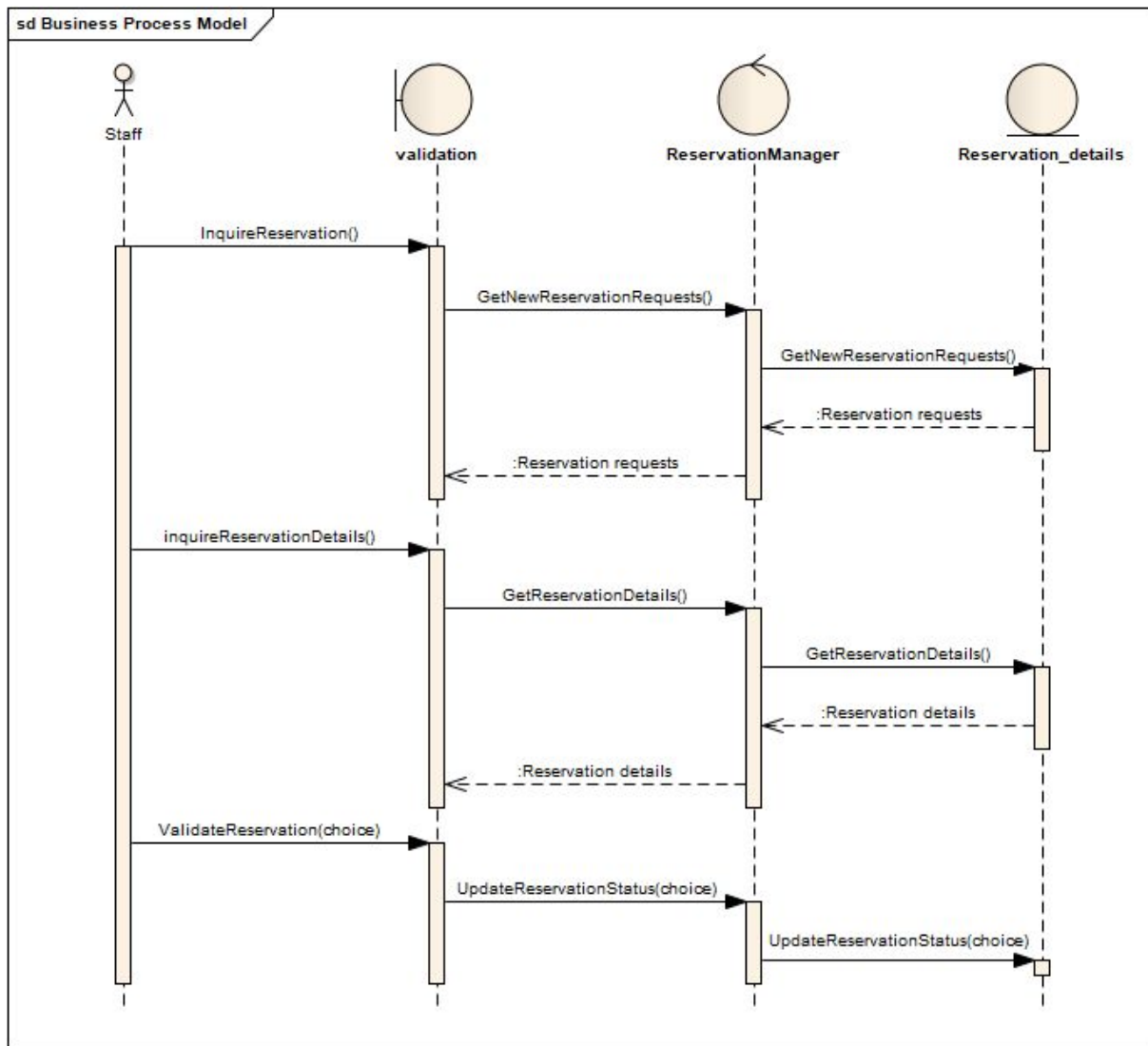


Figure 3.1.2.3: System Sequence Diagram of <Validate reservation>

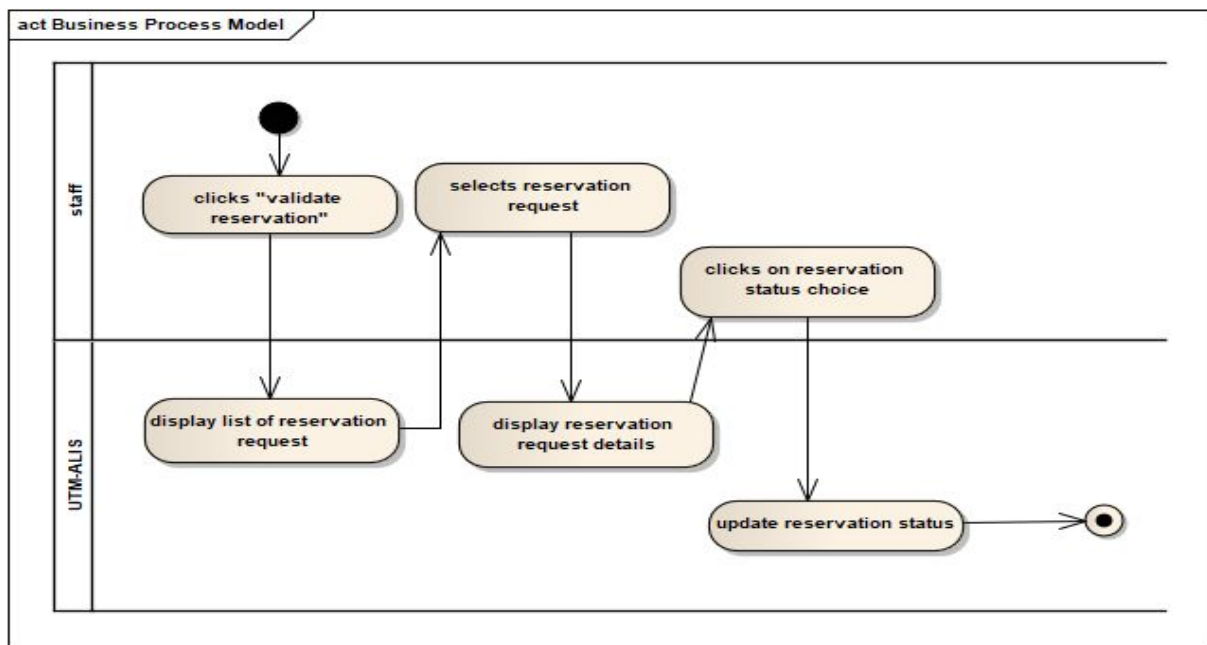


Figure 3.1.2.4: Activity Diagram of <Validate reservation>

### 3.1.2.3 UC002: Use Case <Check reservation status>

Use Case Name :	Check reservation status	
Scenario :	Check reservation status on previous reservation of an event hall for an event on next Monday to Wednesday.	
Triggering Event :	Alumni checks for reservation status to know whether the reservation is approved by staff.	
Brief Description :	When Alumni checks for reservation status, the system display status whether it is accepted, pending or rejected. Bank verifies payment. System creates order transaction and facility will not be available for others to reserve or shown upon search.	
Actors :	Alumni, bank	
Related Use Cases :	Extends : process online card payment	
Stakeholders :	UTM Alumni Department : to provide primary definition.	
Preconditions :	Alumni must login as a registered UTM-ALIS member. Reservation must exist for request.	
Postconditions :	The reservation must be associated to the Alumni.	
Flow of Events :	<div>Actor</div> <div>System</div>	
	1. Alumni clicks "Check On reservation". 2. Alumni selects reservation from list. 3. Alumni clicks "submit payment". 4. Alumni enters card information and click "pay". 5. Bank verifies Payment	1.1 Display list of reservation made 2.1 Display reservation status 3.1 Calculate total amount 3.2 Display total amount 3.3 Display input fields for card information 5.2 Create order transaction 5.3 Send booking confirmation email
Exception conditions :	2.1 If reservation status shows "rejected" or "pending", then use case ends. 3.1 If payment is not made within 3 days, reservation will be cancelled. 5.1 If payment is rejected, then reservation will be on hold for 3 days.	

Table 3.1.2.3: Use Case Description for <check reservation status>

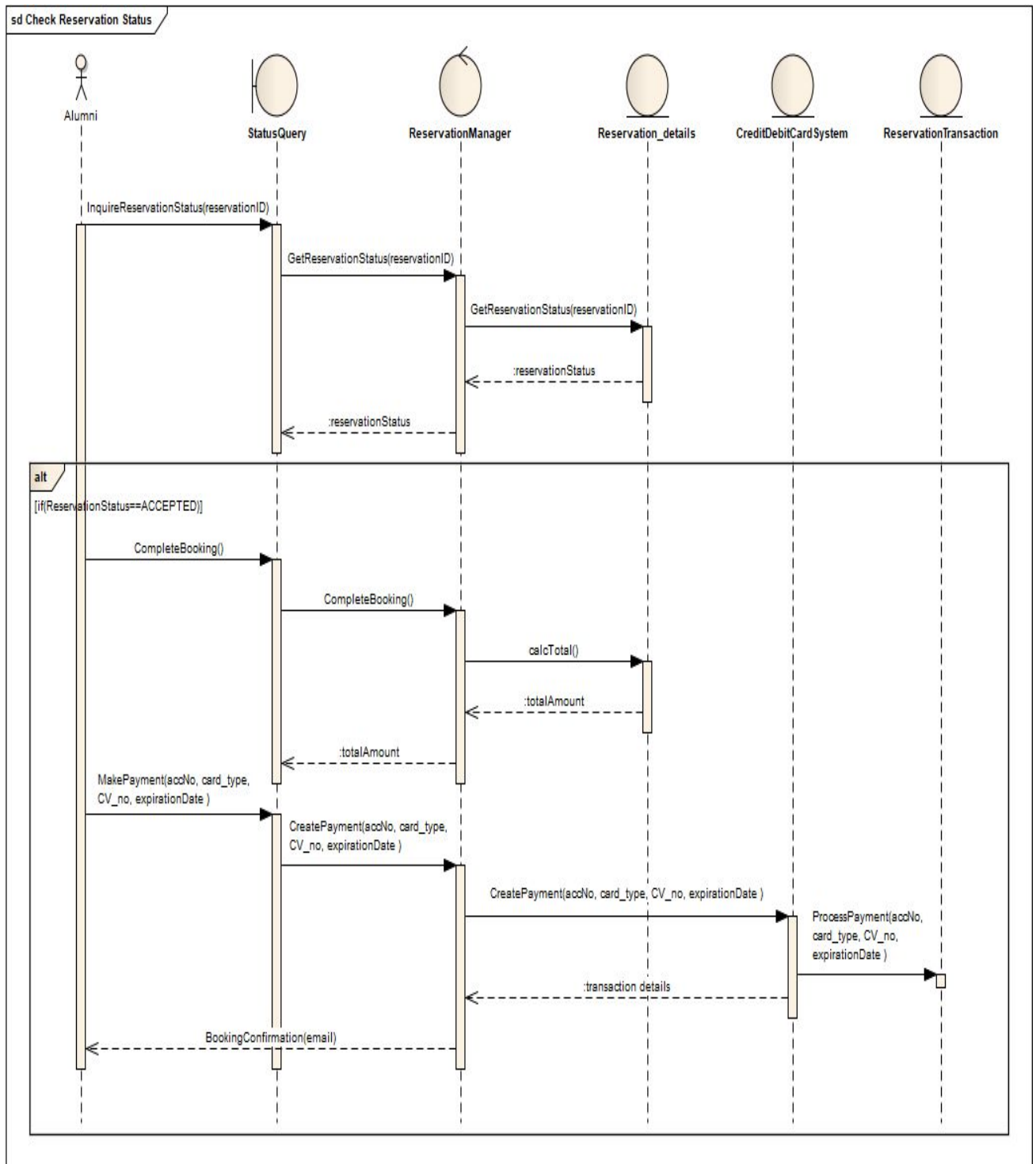


Figure 3.1.2.5: System Sequence Diagram of <Check reservation status>

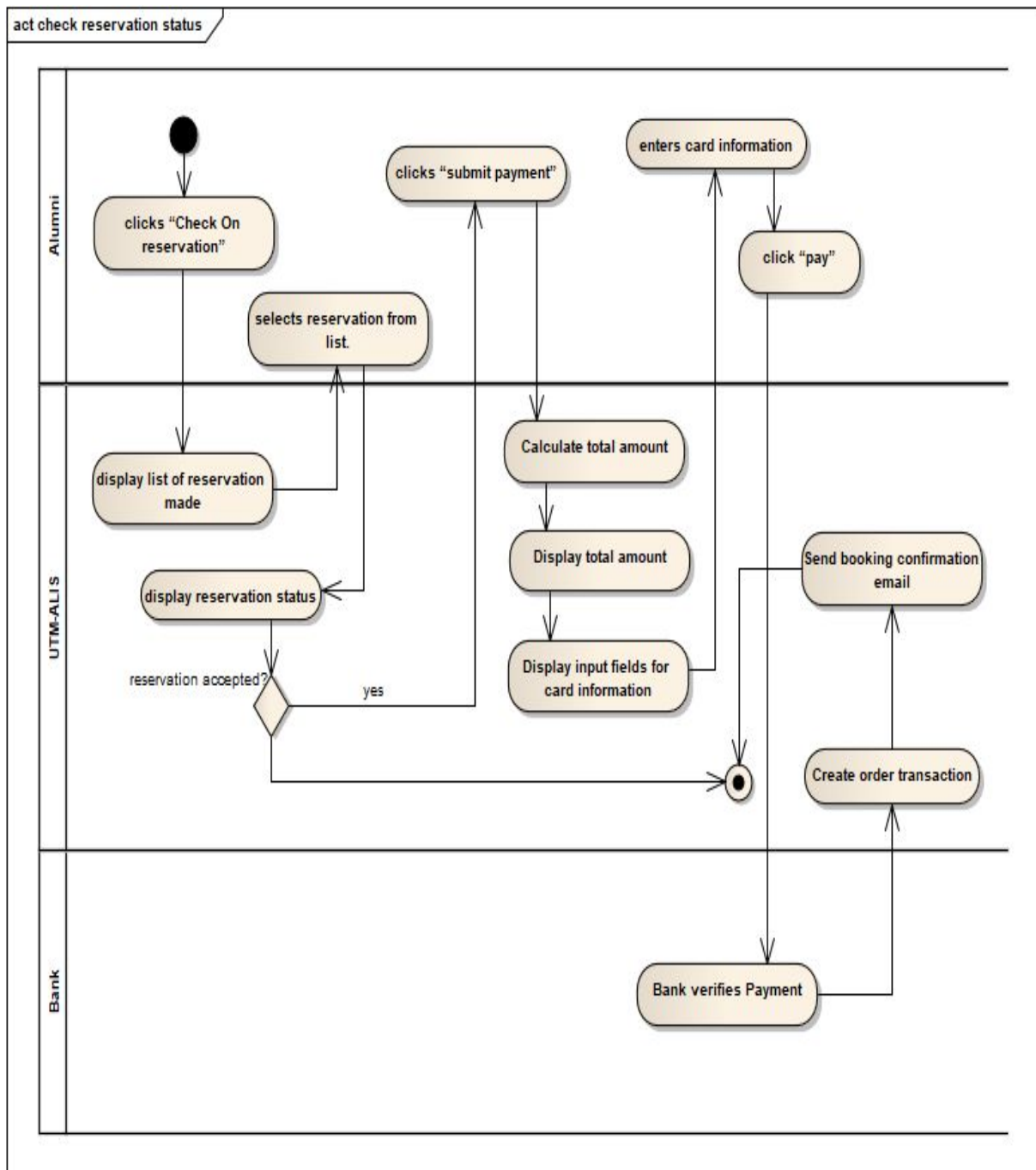


Figure 3.1.2.6: Activity Diagram of <Check reservation status>



### 3.1.3 Module Job Searching

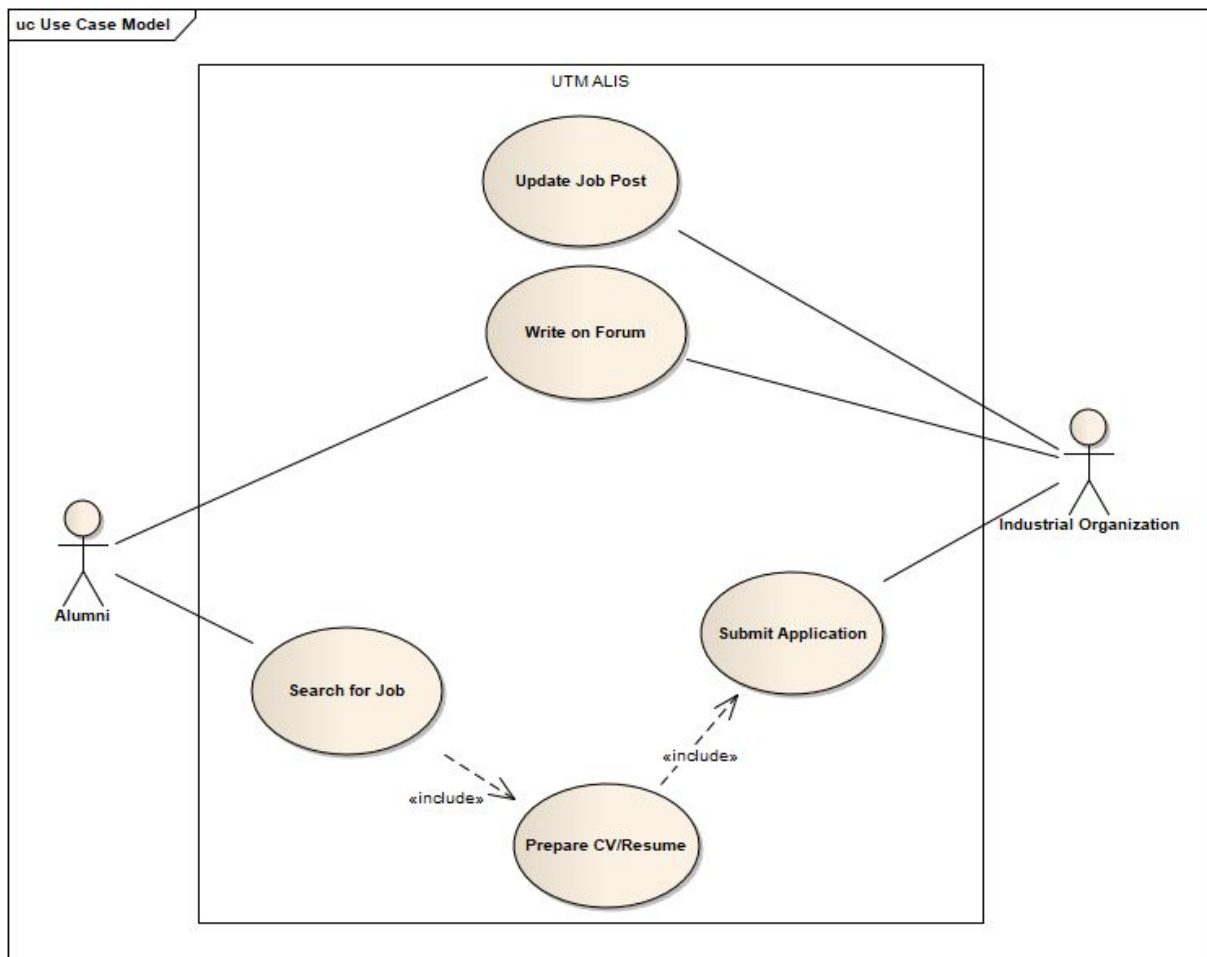


Figure 3.1.3: Search Job

### 3.1.3.1 UC001: Use Case <Update Job Post>

Use Case Name :	UC001 -Update Job Post	
Scenario :	Industrial organization update job post on UTM-ALIS.	
Triggering Event :	New job post updated.	
Brief Description :	When there is a new job post posted by organizations, the system will filter the job according to keywords that is related to field.	
Actors :	Industrial Organizations	
Related Use Cases :	-	
Stakeholders :	Alumni :To provide job description.	
Preconditions :	Industrial Organizations need to login as employer in UTM ALIS.	
Postconditions :		
Flow of Events :	Actor	System
	<ol style="list-style-type: none"> <li>1. Industrial Organizations select “Search for Job” on navigation bar.</li> <li>2. Industrial Organizations select “Job Post”.</li> <li>3. Industrial Organizations update job vacancy. To add Exception 1 is executed, to alter Exception 2 is executed and to delete Exception 3 is executed.</li> <li>4. The system sort the job post according to field (computer science, mechanical engineering etc.) using keywords.</li> </ol>	<ol style="list-style-type: none"> <li>1.1 Displays job post.</li> <li>3.1 Display sorted job vacancy according to field by keywords</li> </ol>
Exception conditions :	<ol style="list-style-type: none"> <li>1. Industrial Organizations select “Add Job Post”, then write job position and description.</li> </ol>	

	<ol style="list-style-type: none"> <li>2. Industrial Organizations select “Alter Job Post” to correct any mistakes.</li> <li>3. Industrial Organizations select “Delete Job Post” to delete occupy job post.</li> </ol>
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Table 3.1.3.1: Use Case Description for <Update Job Post>

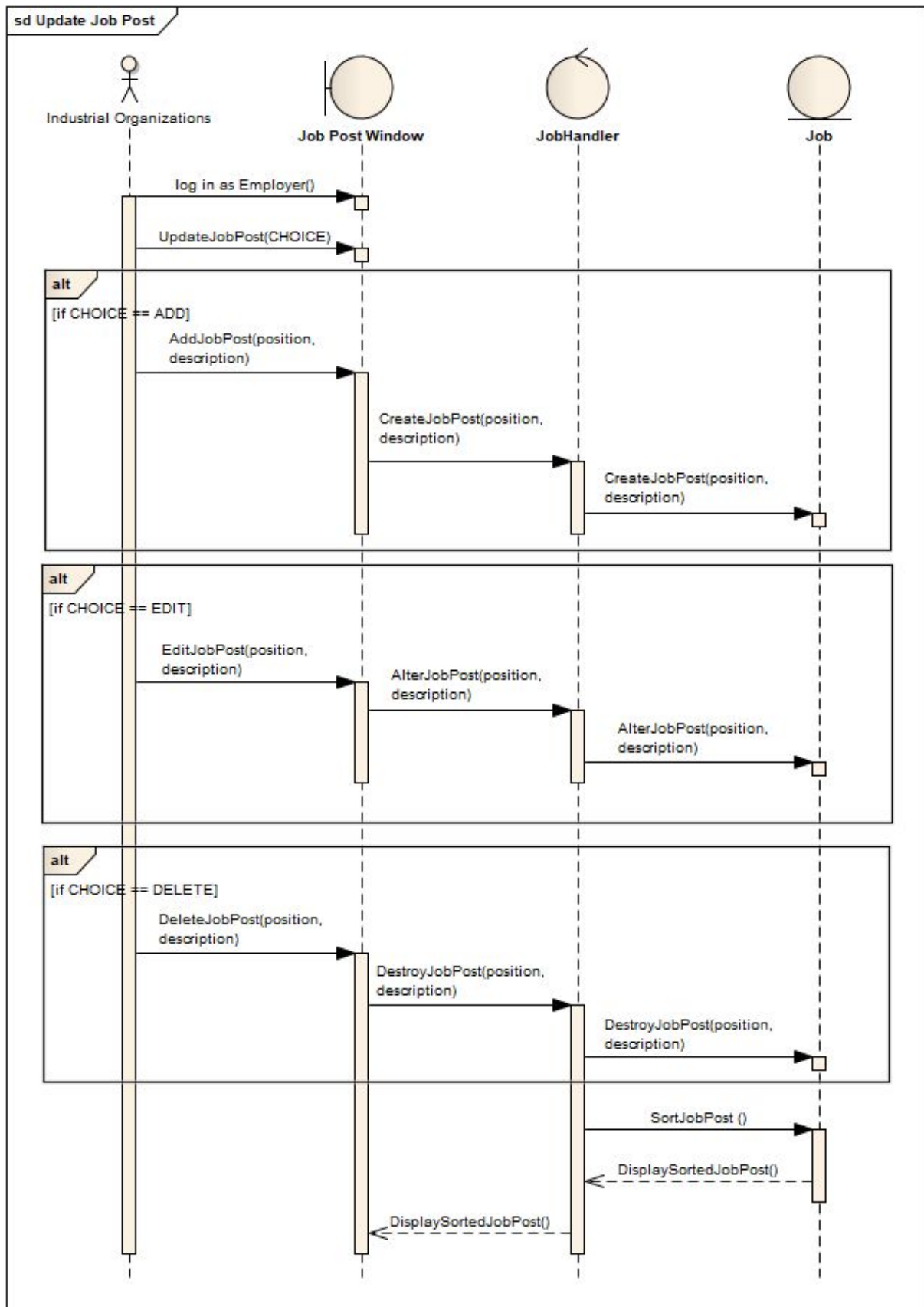


Figure 3.1.3.1 : System Sequence Diagram of <Update Job Post>

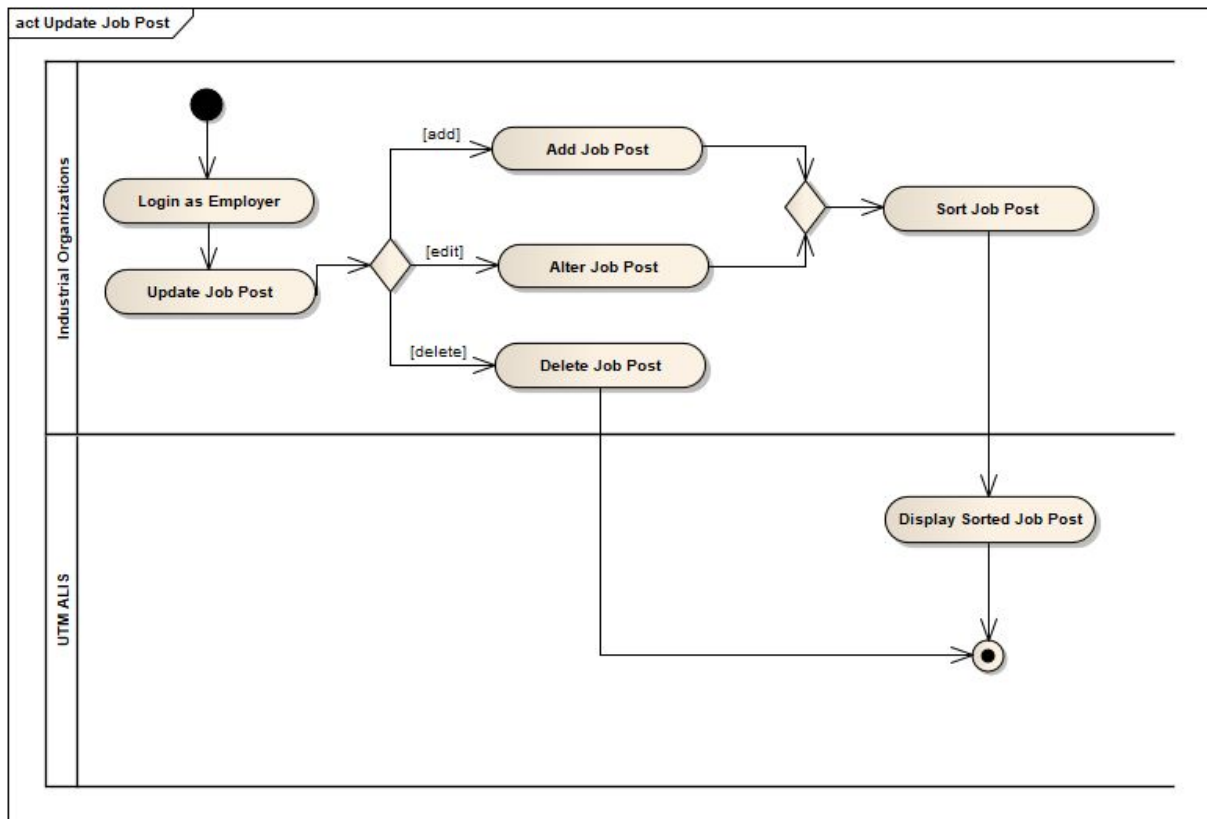


Figure 3.1.3.2 : System Activity Diagram of <Update Job Post>

### 3.1.3.2 UC003: Use Case <Write on Forum>

Use Case Name :	UC002 -Write on Forum	
Scenario :	Alumni or industrial organizations starts a topic/question in the forum.	
Triggering Event :	New topic was posted in the forum.	
Brief Description :	The alumni can write any topic according to their interest, for instance discussion about new technology that requires further research, finding people or team to lead the research, asking opinion from experts.	
Actors :	Alumni,Industrial Organizations	
Related Use Cases :	-	
Stakeholders :	Alumni : To get answers from the Industrial Organizations	
Preconditions :	Alumni and Industrial Organizations need to login in UTM ALIS.	
Postconditions :	The forum is active for discussion.	
Flow of Events :	Actor	System
	<ol style="list-style-type: none"> <li>1. Alumni and Industrial Organization select "Search for Job" on navigation bar, then select "Forum".</li> <li>2. Alumni need to select "Add Topic" to start and write the topic. The alumni can target specific industrial organizations to answer in the forum.</li> <li>3. Industrial Organization will be notified to answer in the forum.</li> <li>4. The Industrial Organizations need to select "For Employer" to enter and answer in the forum.</li> </ol>	<ol style="list-style-type: none"> <li>1.1 Display the forum to the public</li> <li>3.1 Display the edit option to Alumni.</li> <li>5.1 Display topic that need to be answered to Industrial Organizations.</li> </ol>
Exception	-	

conditions :

Table 3.1.3.2: Use Case Description for <Write on Forum>

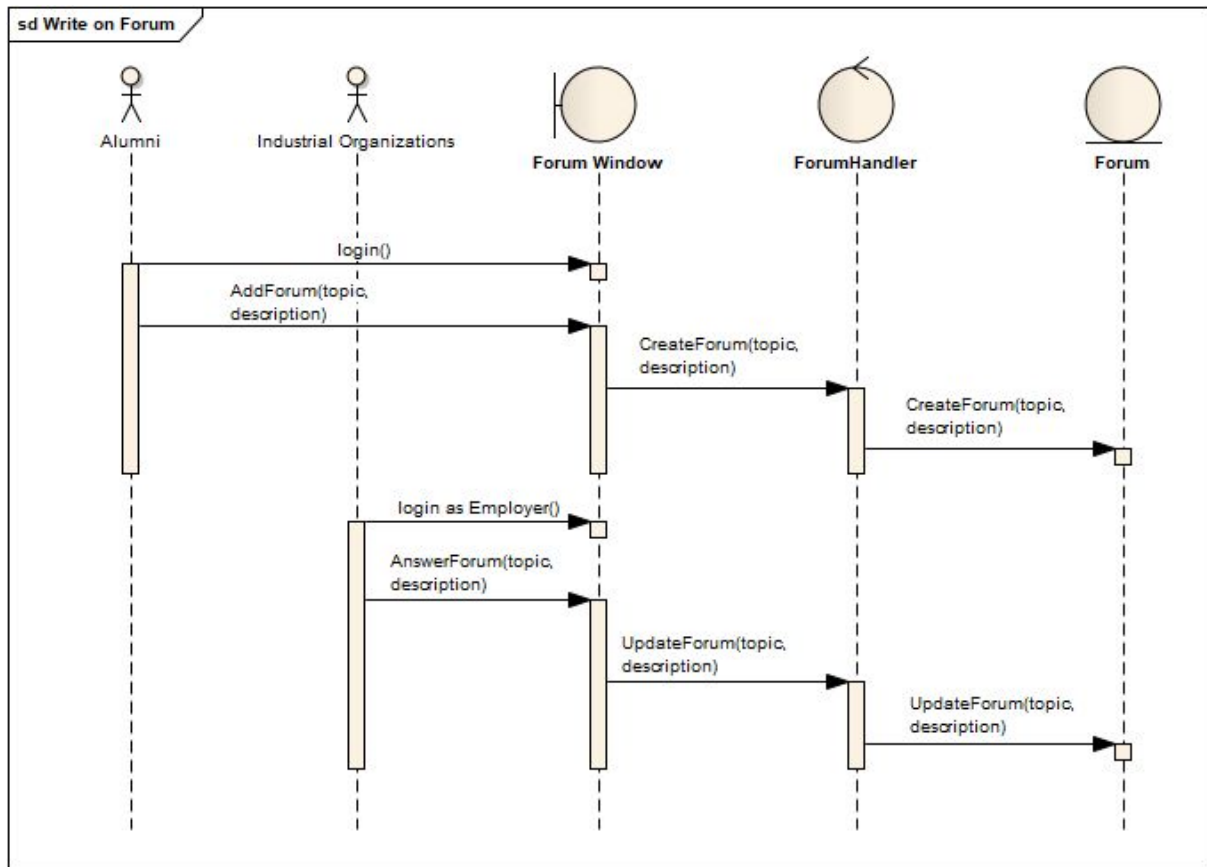


Figure 3.1.3.3 : System Sequence Diagram of <Write on Forum>

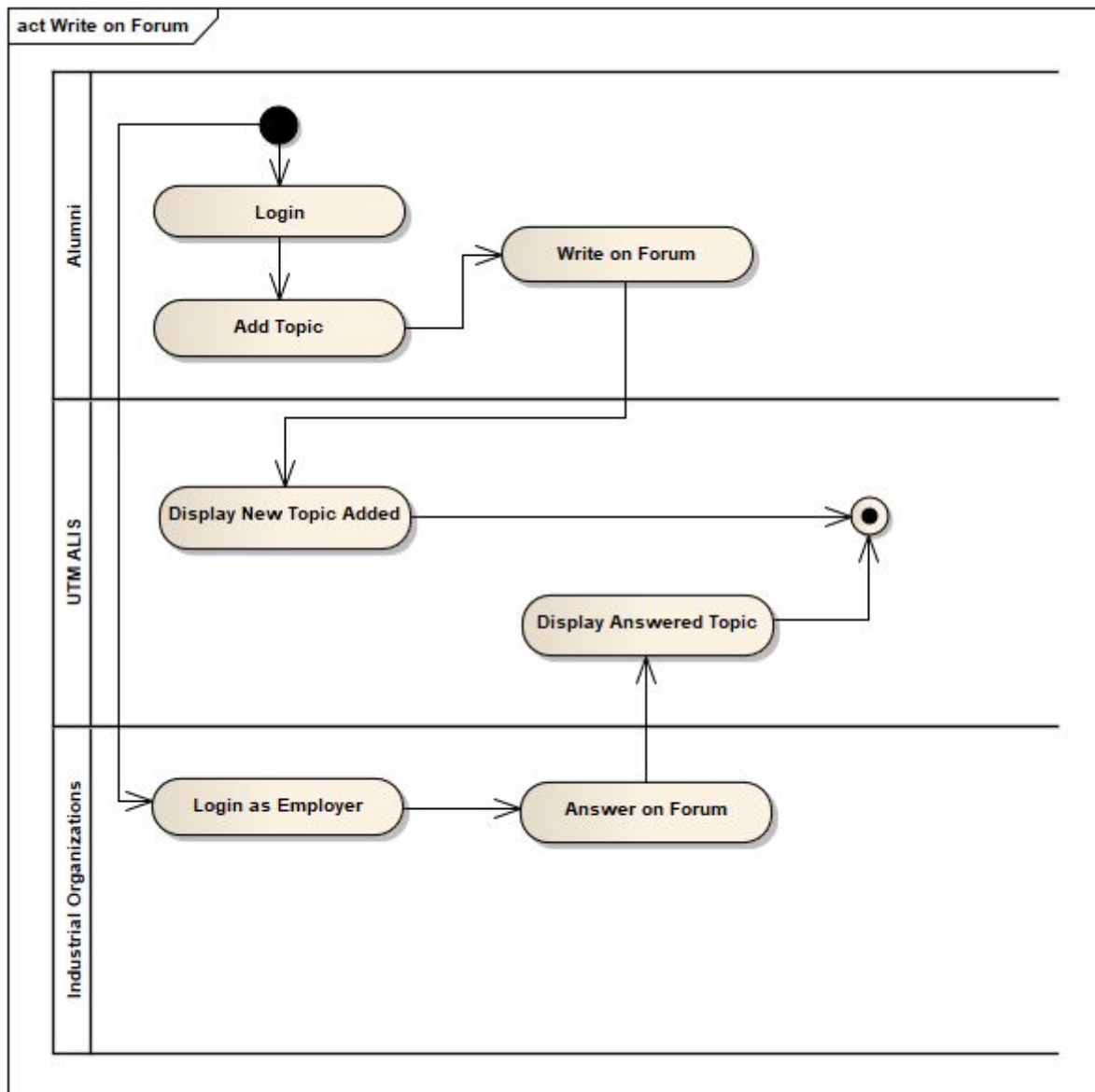


Figure 3.1.3.4 : System Activity Diagram of <Write on Forum>



### 3.1.3.3 UC003: Use Case <Search for Job>

Use Case Name :	UC003 -Search for Job	
Scenario :	Alumni searching for new job.	
Triggering Event :	Alumni selects at least one job post.	
Brief Description :	One of the platform for alumni to find new job, they can see the job post posted by industrial organizations.	
Actors :	Alumni	
Related Use Cases :	UC004 -Prepare Resume	
Stakeholders :	Alumni : To provide primary definition.	
Preconditions :	Alumni need to login in UTM ALIS.	
Postconditions :		
Flow of Events :	Actor	System
	<ol style="list-style-type: none"> <li>1. Alumni select "Search for Job" on navigation bar, then select "Job Post".</li> <li>2. Alumni search for desired job post. If there is no result, Exception 1 is performed.</li> <li>3. Alumni can go through available job post.</li> <li>4. If Alumni is interested to apply for job, Use Case: UC004 Prepare for Resume is performed.</li> </ol>	3.1 Display all job post.
Exception conditions :	<ol style="list-style-type: none"> <li>1. Job post not available <ol style="list-style-type: none"> <li>1.1 The system shall display "Job post not found". The use case resumed normal flow 4.</li> </ol> </li> </ol>	

Table 3.1.3.3: Use Case Description for <Search for Job>

Use Case Name :	UC004 -Prepare Resume	
Scenario :	Alumni are ready to apply for a job.	
Triggering Event :	When the Alumni want to make resume conveniently.	
Brief Description :	The alumni may use the easy resume maker in the system. The alumni only provides their personal details and the resume maker will organize them in professional manner.	
Actors :	Alumni	
Related Use Cases :	UC005 Submit Application	
Stakeholders :	Alumni : To provide easy way to make resume	
Preconditions :	Alumni need to select desired job post.	
Postconditions :		
Flow of Events :	Actor	System
	<ol style="list-style-type: none"> <li>1. Alumni need to click on "Prepare Resume".</li> <li>2. Alumni must provide related details according to the template.</li> <li>3. Alumni need to submit after the resume was completed, Use Case: UC005 Submit Application is performed.</li> </ol>	2.1 Display resume template.
Exception conditions :	-	

Table 3.1.3.4: Use Case Description for <Prepare Resume>

Use Case	UC005 -Submit Application
----------	---------------------------

Name :		
Scenario :	Alumni submitted a job application to Industrial Organizations.	
Triggering Event :	Alumni submit application after CV/Resume was prepared.	
Brief Description :	Alumni that have prepared their resume need to submit their application in the system, the Industrial Organizations will review the application. Accepted Alumni will be notified through email.	
Actors :	Alumni,Industrial Organizations	
Related Use Cases :		
Stakeholders :	Industrial Organizations : To get new employee.	
Preconditions :	Alumni need to prepare resume before submit job application.	
Postconditions :		
Flow of Events :	Actor	System
	<ol style="list-style-type: none"> <li>1. Alumni click “Submit Application” after completing the resume.</li> <li>2. Industrial Organizations select“For Employer” to login and review the applications.</li> <li>3. Alumni that has been selected for interview will be notified through email.</li> </ol>	1.1 Store submitted job applications.
Exception conditions :	-	

Table 3.1.3.5: Use Case Description for <Submit Application>

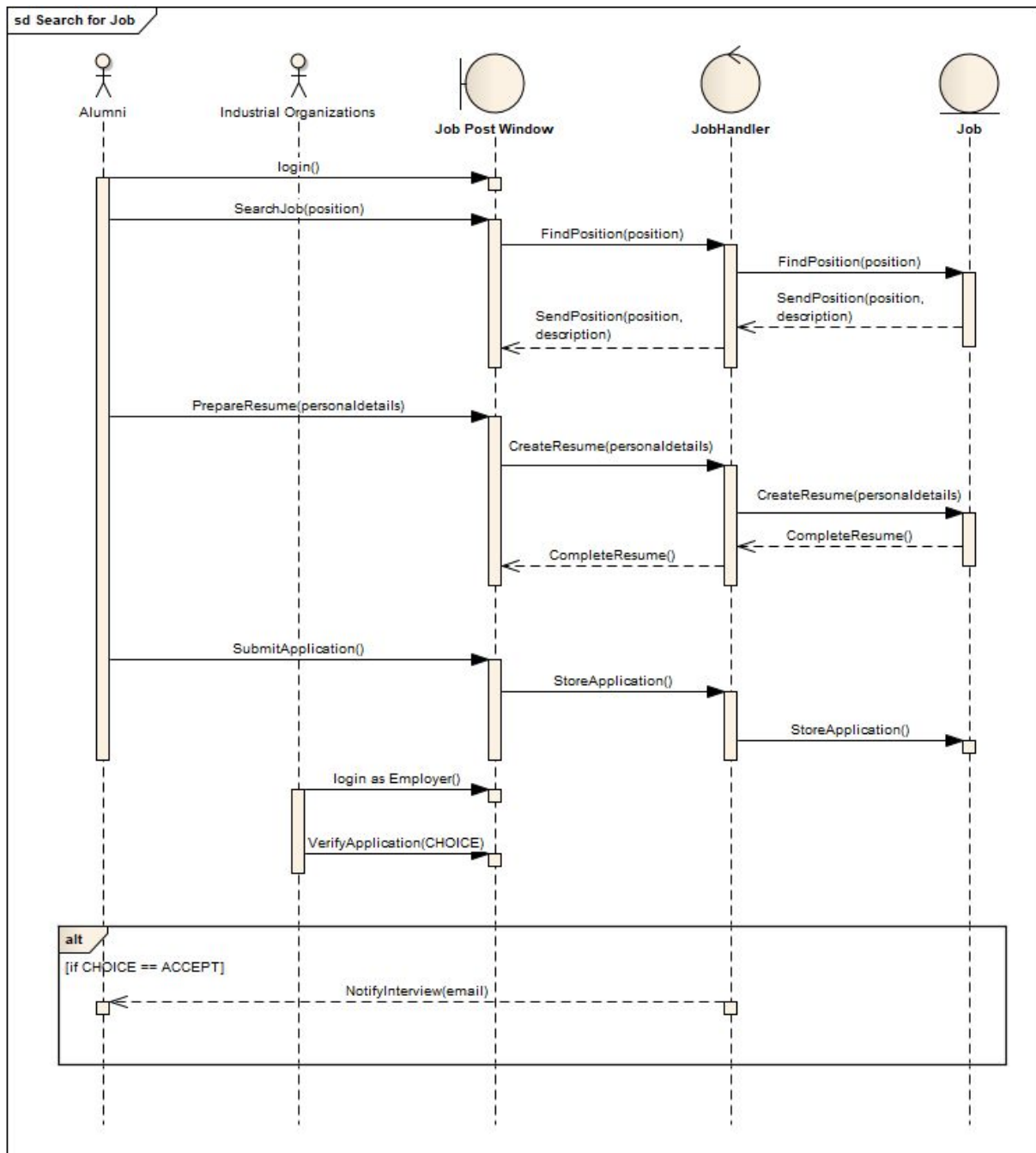


Figure 3.1.3.5 : System Sequence Diagram of <Search for Job>

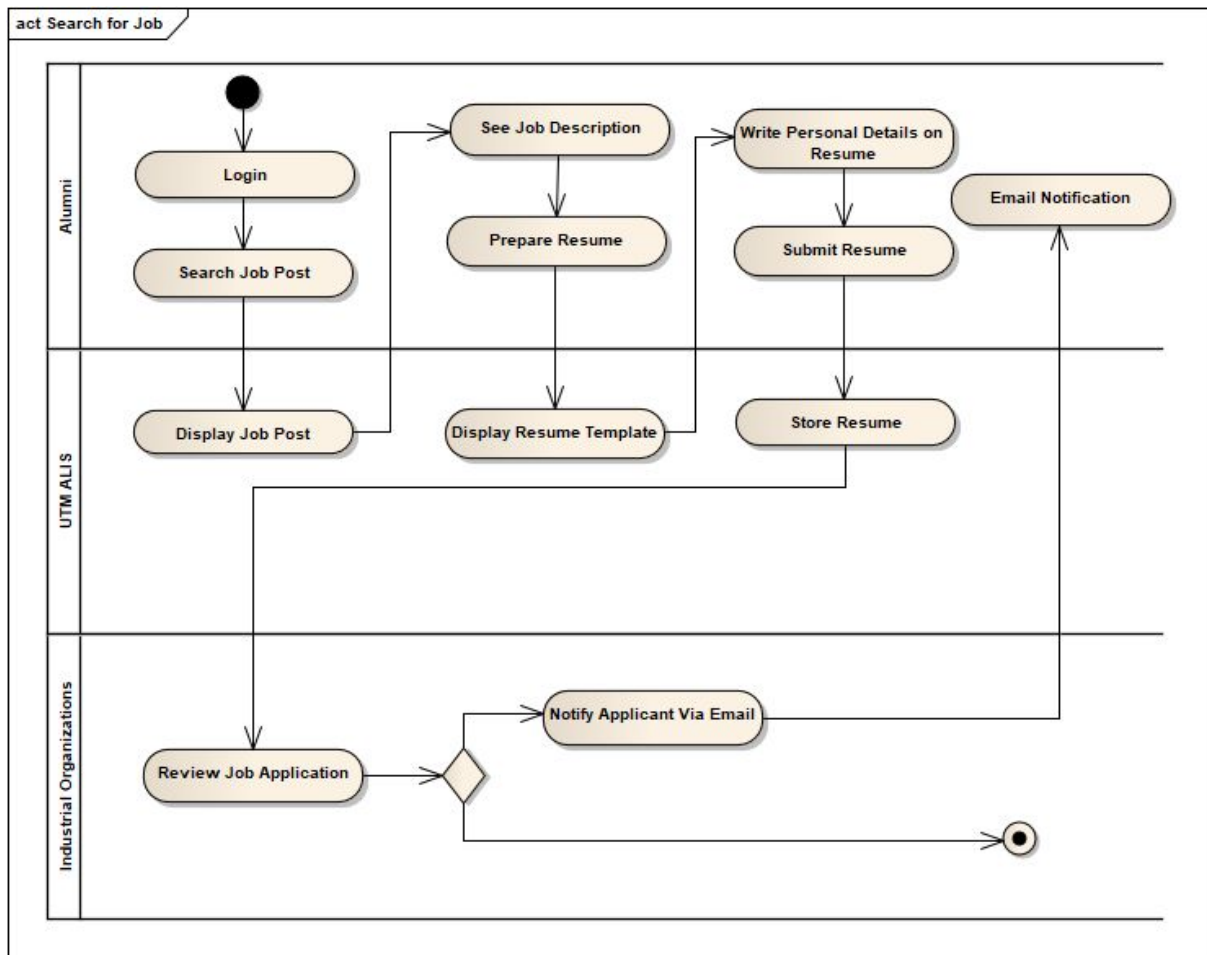


Figure 3.1.3.6 : System Activity Diagram of <Search for Job>

### 3.1.4 Module Report generation

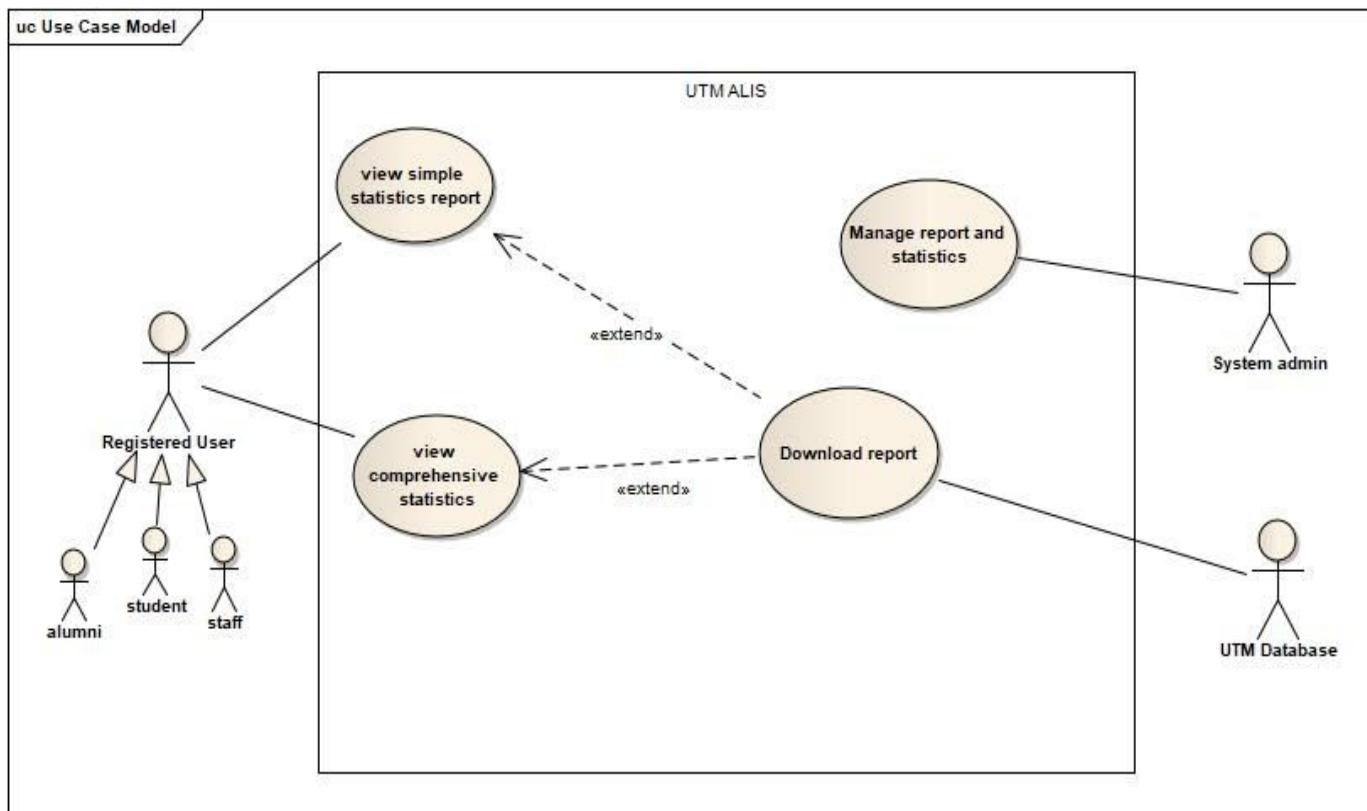


Figure 3.1.4: Use case for Module report generation

### 3.1.4.1 UC001: Use Case <View simple statistics report>

Use Case Name :	UC001 - View simple statistics report	
Scenario :	Registered User selects to view the simple statistics report	
Triggering Event :	Registered User wants to download simple statistic report for research purpose.	
Brief Description :	Registered User selects his/her desired simple statistics and then selects download option to download desired report to save for offline uses.	
Actors :	Registered User, UTM-Database	
Related Use Cases :	UC003 - Download report	
Stakeholders :	<p>Faculties or Schools : To provide alumni details.</p> <p>CICT : To provide alumni data.</p>	
Preconditions :		
Postconditions :	The registered user successfully views the desired report and downloads it if needed.	
Flow of Events :	Actor	System
	<ol style="list-style-type: none"> <li>1. Registered user clicks “simple statistics report”.</li> <li>2. Registered user selects simple statistic from list.</li> <li>3. Registered user clicks “download” to download the report.</li> </ol>	<ol style="list-style-type: none"> <li>1.1 Display list of simple statistics</li> <li>2.1 Display selected report in PDF.</li> <li>2.2 Provide download and view comprehensive report option for the selected report.</li> <li>3.1 Retrieve report from UTM-Database.</li> <li>3.2 Download report.</li> </ol>
Exception conditions :	<ol style="list-style-type: none"> <li>3.1 If user did not click “download” then use case ends.</li> <li>3.2 If the system can’t reach the UTM database then show “Unexpected Error” while downloading a report file.</li> </ol>	

Table 3.1.4.1: Use Case Description for <View simple statistics report>

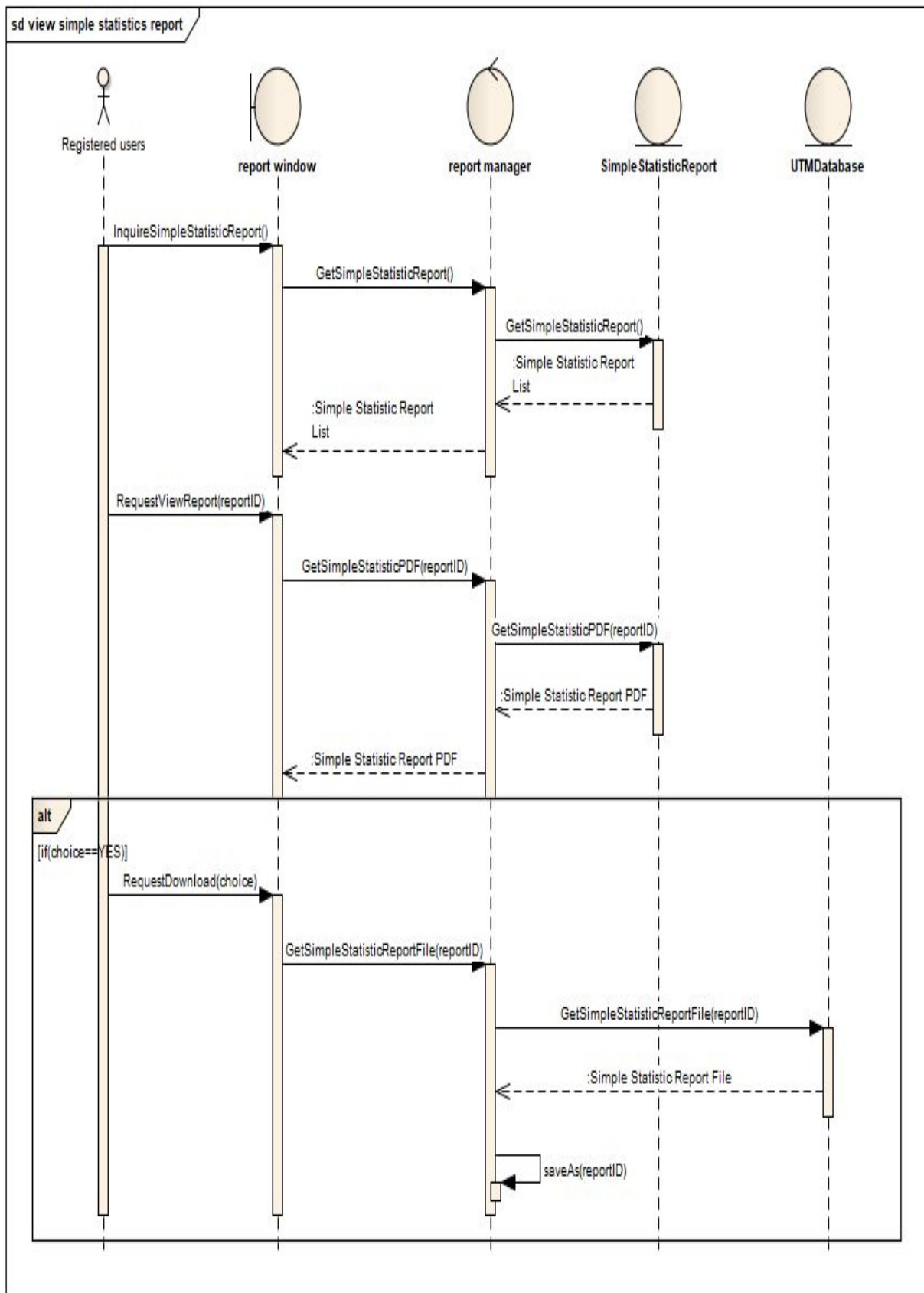


Figure 3.1.4.1 : Sequence diagram for <view simple statistics report>



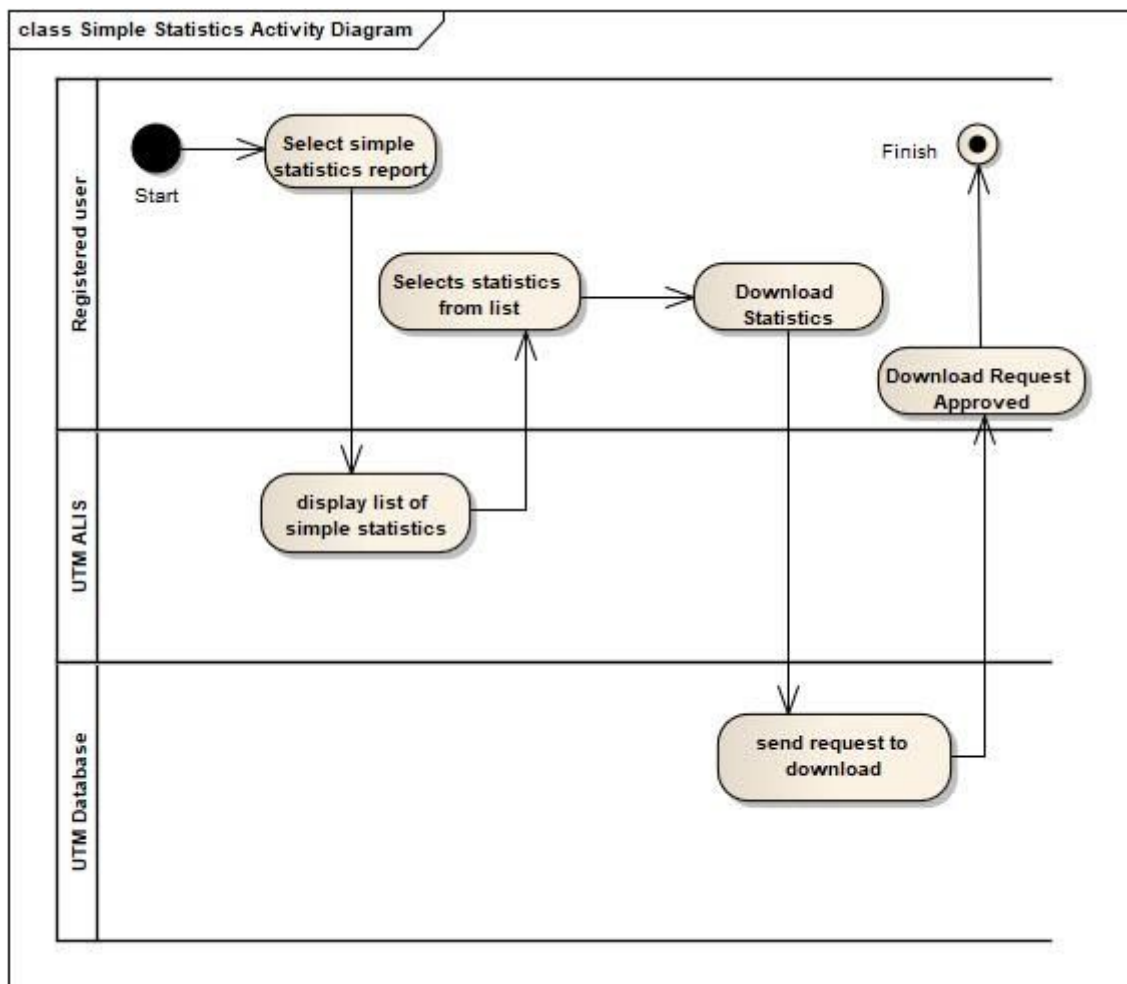


Figure 3.1.4.2: Activity diagram for <view simple statistics report>

### 3.1.4.2 UC002: Use Case <View comprehensive statistics report>

Use Case Name :	UC002 - View comprehensive statistics report	
Scenario :	Registered User selects to view the comprehensive statistics report	
Triggering Event :	A list of statistics will show.	
Brief Description :	Registered User selects his/her desired comprehensive statistics and then selects download option to download desired report to save for offline uses.	
Actors :	Registered User, UTM-Database	
Related Use Cases :	UC003 - Download report	
Stakeholders :	<p>Faculties or Schools : To provide alumni details.</p> <p>CICT : To provide alumni data.</p>	
Preconditions :		
Postconditions :	Registered User successfully views the desired report and downloads it if needed.	
Flow of Events :	Actor	System
	<ol style="list-style-type: none"> <li>1. Registered user clicks “simple statistics report”.</li> <li>2. Registered user selects simple statistic from list.</li> <li>3. Registered clicks “view comprehensive report”.</li> <li>4. Registered user clicks “download” to download the report.</li> </ol>	<ol style="list-style-type: none"> <li>1.1 Display list of simple statistics</li> <li>2.1 Display selected report in PDF.</li> <li>2.2 Provide download and view comprehensive report option for the selected report.</li> <li>3.1 Display comprehensive report in PDF.</li> <li>4.1 Retrieve report from UTM-Database.</li> <li>4.2 Download report.</li> </ol>
Exception conditions :	<ol style="list-style-type: none"> <li>3.1 If user did not click “download” then use case ends.</li> <li>3.2 If the system can’t reach the UTM database then show “Unexpected Error” while downloading a report file.</li> </ol>	

Table 3.1.4.2: Use Case Description for <View comprehensive statistics report>

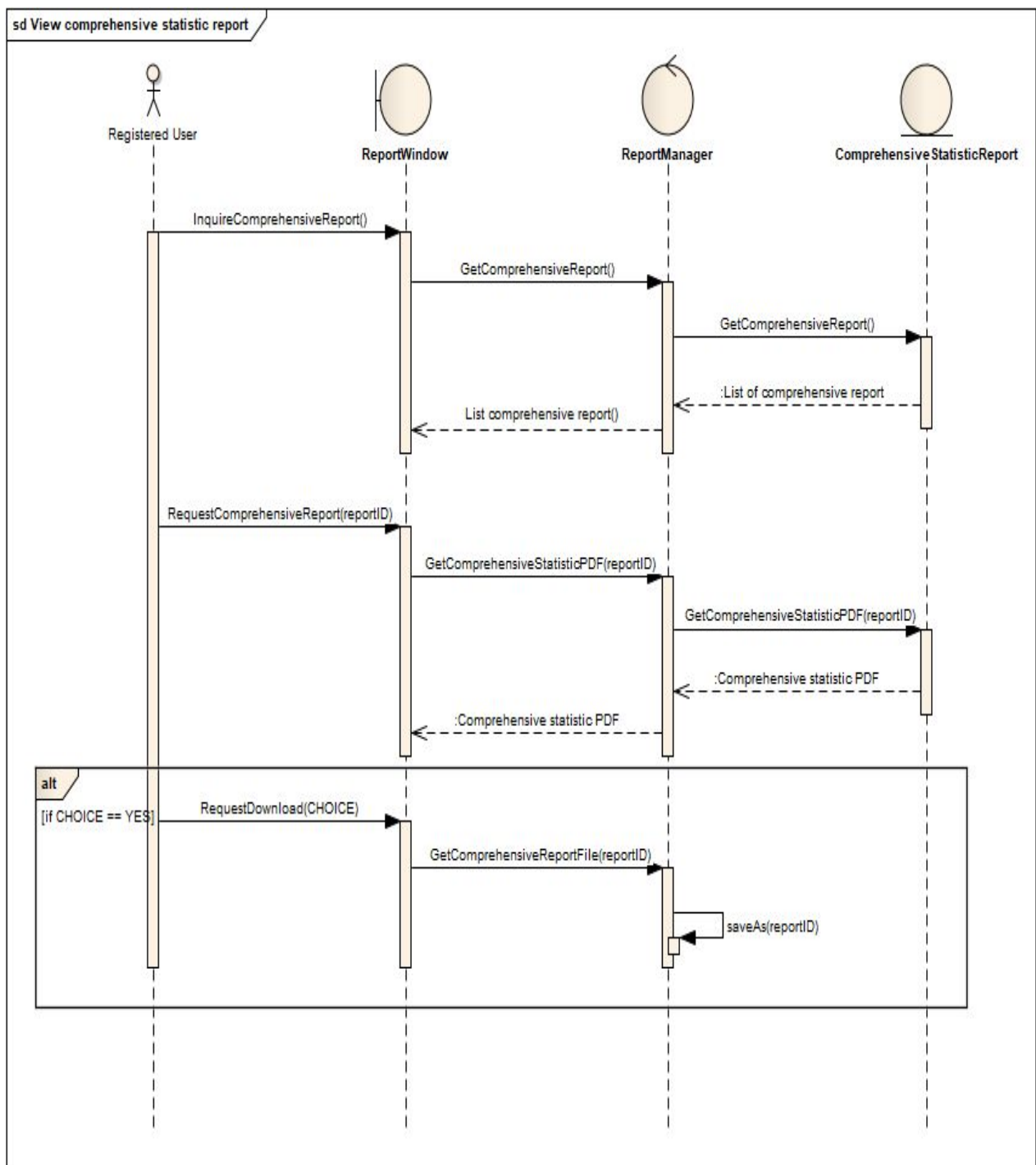


Figure 3.1.4.3 : Sequence diagram for <view comprehensive statistics report>

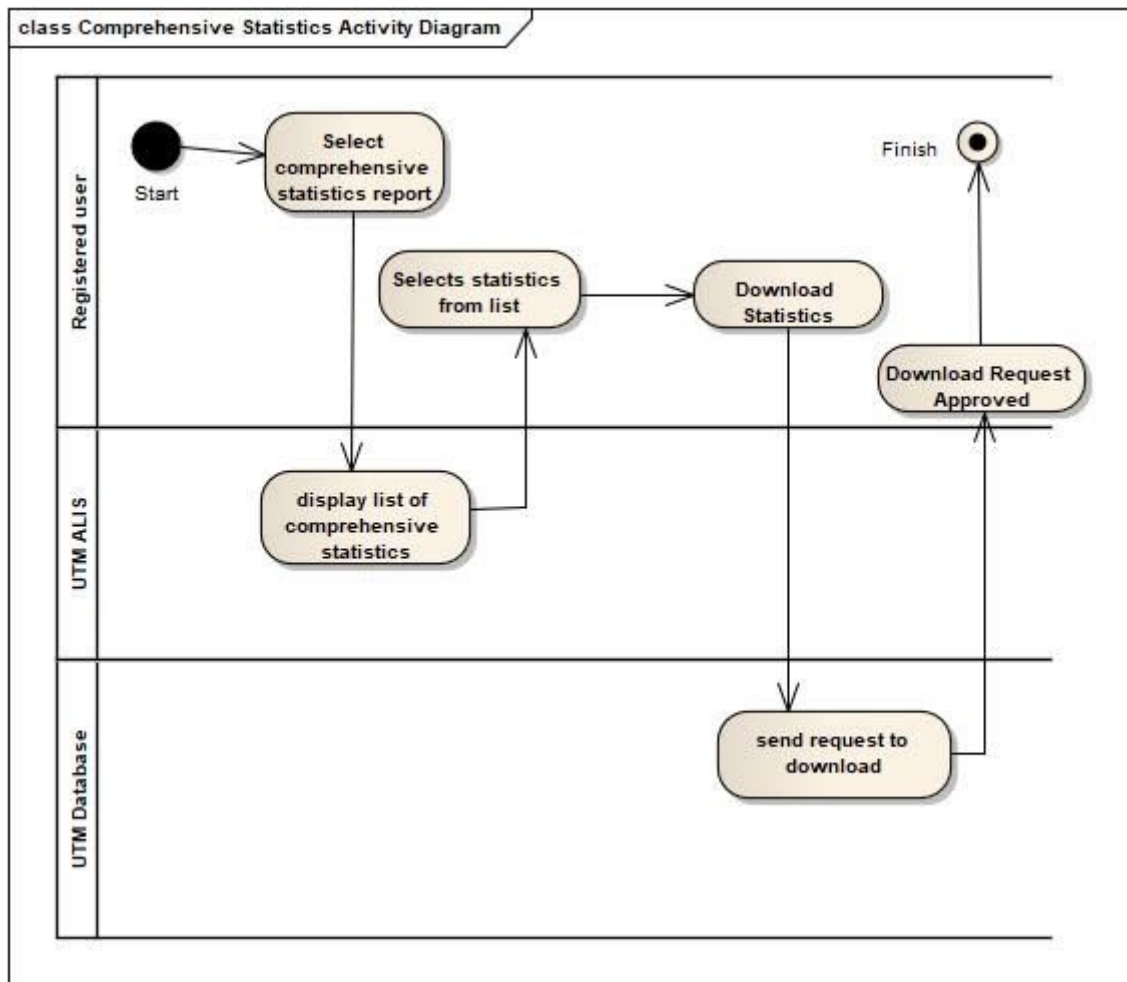


Figure 3.1.4.4 : Activity diagram for <view comprehensive statistics report>

### 3.1.4.3 UC003: Use Case <Manage reports and statistics>

Use Case Name :	UC004 - Manage reports and statistics	
Scenario :	System admin has to delete and outdated report.	
Triggering Event :	An old report will be removed from the system.	
Brief Description :	System admin selects a report and then a menu appears. He/she chooses delete statistics from menu and then deletes the statistics.	
Actors :	System admin	
Related Use Cases :	-	
Stakeholders :	<p>Faculties or Schools : To provide alumni details.</p> <p>CICT : To provide alumni data.</p>	
Preconditions :	-	
Postconditions :	The system admin successfully update the reports.	
Flow of Events :	<div>Actor</div> <div>System</div>	
	<ol style="list-style-type: none"> <li>1. System admin selects a Statistics report, either simple or comprehensive.</li> <li>2. System admin selects “add statistics” from options.</li> <li>3. System admin selects statistics to delete.</li> <li>4. System admin selects “edit statistics” from options.</li> <li>5. System admin selects statistics to delete.</li> <li>6. System admin selects “delete statistics” from options.</li> <li>7. System admin selects statistics to delete.</li> </ol>	<ol style="list-style-type: none"> <li>1.1 Displays options to add statistics, edit statistics or delete statistics.</li> <li>2.1 Displays list of statistics.</li> <li>3.1 Delete selected statistics.</li> </ol>
Exception conditions :	2.1 If system admin doesn't choose any of the items from menu an error message will show.	

Table 3.1.4.3: Use Case Description for <Manage reports and statistics>

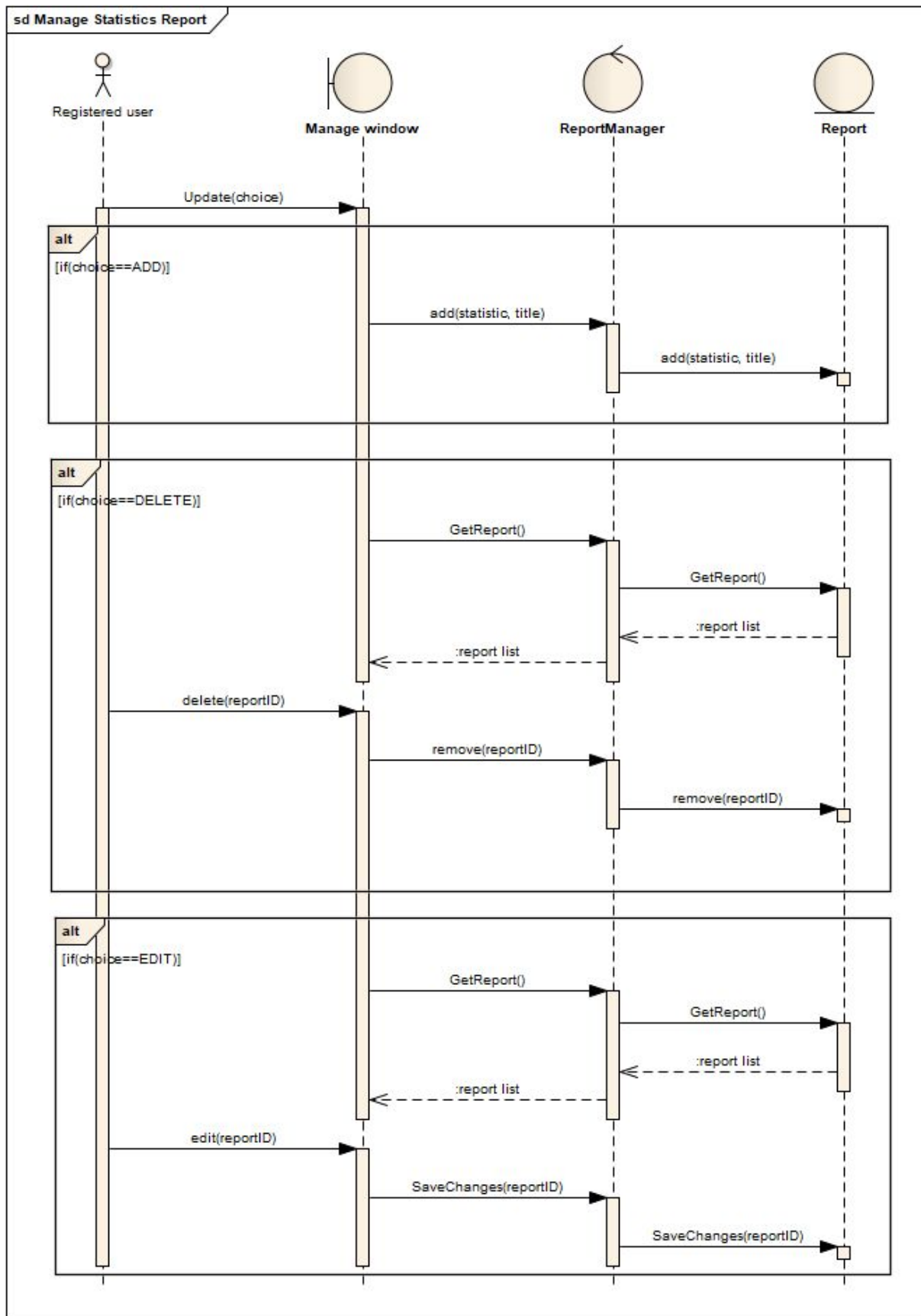


Figure 3.1.4.5 : Sequence diagram for <manage statistics report>

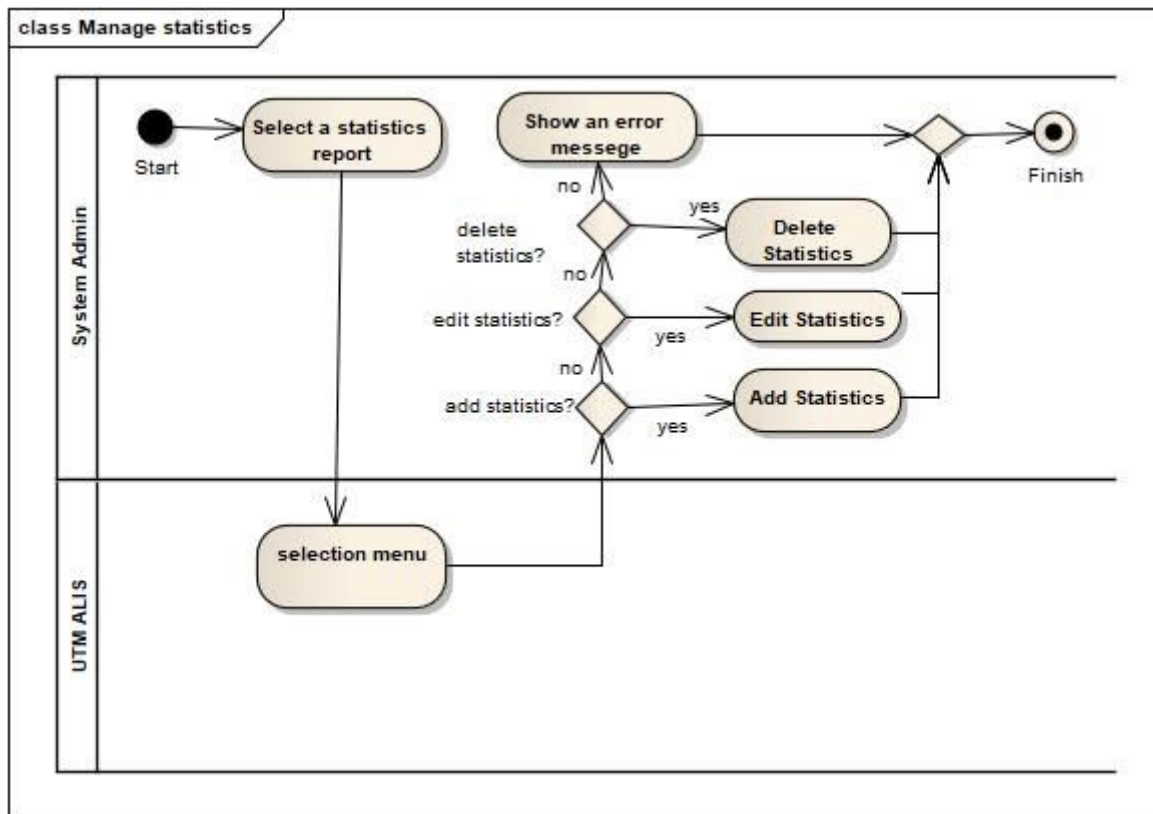


Figure 3.1.4.6 : Activity diagram for <manage statistics report>



## **3.2 Performance Requirements**

### Find a Friend

- The system shall be able to find searched alumni within 10 seconds
- The system shall detect nearby alumni within 5 seconds.

### Facility reservation

- The system shall load the all pages within 5 seconds.
- The system shall be secured so that information leakage won't occur.

### Job Searching

- The system shall be able to refresh the forum less than 5 seconds.
- The system shall display search job post results within 10 seconds.

### Report and statistics

- The system shall be able to load the reports with in 7 seconds.
- The latency between download button and downloading shall be maximum 10 seconds.

## **3.3 Design Constraints**

- The information gathered from the system must be used appropriately without eliciting ill intentions.
- The budget of the system shall adhere to the budget of the set by CICT
- The system has to be completed before 2021
- The system has to follow the style guide UTM has agreed to
- The system has to follow the usability outlines UTM has agreed to
- The system has to follow the design principles UTM has agreed to
- The system has to be able to integrate with the other services, such as bank transfer, facility reservation, etc.

### **3.4 Software System Attributes**

- The system has to be a reliable platform for all users.
- The system has to reach a basic level of adequacy to fulfil in order to fully utilize the functionality and features of the system.
- The system has to reduce the impact of operational mistakes done in both software (input errors) and hardware aspects.
- The system has to be maintainable - it has to be suitable for debugging. Maintainability depends on readability, extensibility, and testability
- The system has to be readable and understandable for programmers in order for debugging
- The system has to be extensible - this allows modifications at appropriate locations without unwanted side effects
- The system is suitable for testing - it allows the programmer to follow program execution for debugging
- The system has to be efficient
- The system has to be portable -the system has to easily adapt to run on other computers than the original source

### **3.5 Other Requirements**

- The system should be able to upgrade to available latest update.