



**SECP2523 : DATABASE**

**SEMESTER 1 2023/2024**

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**DATABASE DESIGN DESCRIPTIONS:**  
**CONCEPTUAL DATABASE DESIGN**  
**FOR**  
**<Youth Ventures Student Portfolio Management System (StuPort)>**

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# CHAPTER 1

## Introduction

### 1.1 Overview about the company



Figure 1.1.1: Youth Ventures Company's Logo

In this project, we are having Youth Ventures Asia, a pioneering organization dedicated to empowering passionate youth across Southeast Asia which was founded in late 2018 as our main client in developing a new system. With a vision to make these young individuals competitive and globally relevant, this organization is on a mission to create a sustainable ecosystem where the dreams and aspirations of the youth can thrive. Mr. Hanif Marzuki Mohd Saipi, the client representative for Youth Ventures Asia, is a staunch advocate for youth development and envisions a future where the organization's mission aligns perfectly with addressing the challenges of easily finding more relevant connections and job opportunities. Both our client and company can be reached at +6017-750-1827. Generally, the organization had been grappling with a host of operational challenges, such as the intricate management of multiple program cycles, the arduous compilation of data from diverse databases, and the consistent recognition of student achievements across varying cycles. Therefore, implementing a new or improved system is crucial for the company to foster a more supportive academic management platform, help students to have systematic management and empower administrators and partners of Youth Ventures to manage more effective programs and activities.

## **1.2 Problems**

### **What does the current system do**

The current system in place, referred to as the Youth Ventures As-Is System, is characterized by manual and labor-intensive processes for managing student profiles and program data. This system relies on several inefficient practices, leading to various challenges:

#### **1. Manual Data Entry:**

Student profiles are managed through manual data entry. Information for each student needs to be input individually across different program cycles.

#### **2. Multiple Databases:**

The system relies on multiple databases for storing student information. Cross-referencing student achievements and milestones across various program cycles is challenging due to the decentralized nature of data storage.

#### **3. Recognition of students achievements:**

Difficulties in recognizing and acknowledging student achievements arise from the decentralized nature of data storage and the manual management of profiles.

#### **4. Collaboration between parties:**

The absence of a streamlined data sharing mechanism hampers efficient collaboration among clients, partners, and stakeholders.

#### **5. Operation of student data:**

The overall operational efficiency is compromised due to the manual nature of data management. The lack of a centralized platform for information further exacerbates inefficiencies.

## **Challenges Faced**

### **1. Inefficiencies and Errors:**

Manual data entry leads to errors, inefficiencies, and a time-consuming process.

### **2. Difficulty in Tracking Accomplishments:**

Challenges in tracking and recognizing student accomplishments due to the fragmented nature of data.

### **3. Limited Collaboration:**

Lack of a streamlined data sharing mechanism hinders effective collaboration among stakeholders.

### **4. Operational Inefficiency:**

Manual processes contribute to overall operational inefficiency.

The identified challenges prompted the organization to seek a transformative solution to streamline operations, enhance data management, and improve collaboration among stakeholders. The AI-IS system aims to address the manual and fragmented nature of the previous system, providing a more efficient, integrated, and collaborative solution for managing student profiles and program data.

### **1.3 Proposal**

Our proposed system, StuPort, is designed to revolutionize the operational framework of Youth Ventures Asia by addressing the current manual and fragmented system. StuPort, a web-based Student Portfolio Management System, aims to streamline data collection and administration for students, administrators, and master administrators. The key objectives include enhancing student management through streamlined processes, centralizing data for improved retrieval, fostering collaboration with a streamlined data-sharing mechanism, and significantly boosting overall operational efficiency.

StuPort comprises several modules to cater to specific user roles and functionalities. The Authentication Module establishes tailored interactions and permissions, including password and email management. The Profile Module facilitates seamless creation, viewing, editing, and deletion of profiles, ensuring efficient user control. The Dashboard Module provides customized dashboards for Master Admins, Admins, and Students, offering a comprehensive system overview. The Activity Module enables the management of various activities, allowing students to add personal activities and administrators to validate and publish events. The Registration Module is crucial for user onboarding, allowing users to register for activities under the oversight of Master Admins.

The Feedback Module plays a vital role in communication, enabling students to provide feedback on activities. Master administrators create feedback forms, and the feedback details are transparently displayed on student profiles, fostering improvement. The Reward Module manages the generation and retrieval of badges to acknowledge student accomplishments, promoting recognition and motivation. Lastly, the Resume Module empowers students to edit and download their resumes, ensuring streamlined personal information and experience management.

By implementing StuPort, Youth Ventures Asia can overcome current challenges, streamline operations, and create a more supportive academic management platform. The system aligns with the organization's vision of empowering passionate youth and fostering a sustainable ecosystem for their dreams to thrive. StuPort stands as a transformative solution poised to enhance data management, collaboration, and overall operational efficiency for Youth Ventures Asia.

## **1.4 Definitions, Acronyms and Abbreviations**

Number	Acronym(s)/Abbreviation(s)	Definition
1	StuPort	Youth Ventures Student Portfolio Management System
2	Admin	Administrator
3	Master Admin	Master Administrator

**Student** - One of the targeted main users of the system, they are students that are using the Youth Ventures system to manage their academic experiences.

**Client/ Partner/ Admin** - One of the targeted users of the system, they are the organizations, government agencies, private companies, universities, lecturers etc. that collaborate with Youth Ventures to manage their published activities and student's personal activities.

**Master Administrator** - One of the main users of the system, they are staff in Youth Ventures who will manage the system and the system database.

**Profile** - One of the entities in the system. Profile consists of personal information including name, gender, age, date of birth etc. will be filled by students while organization information will be filled by Admin.

**Registration** - One of the entities in the system. Registration links will be posted by Admin to be filled by the students who want to register the activity published by the Admin.

**Feedback** - One of the entities in the system. Feedback link form will be created by Master Admin to be filled by students who want to give rating and feedback to the activity

participated. Meanwhile, the organizer of the activity or related party will be notified and have the access to verify the student's activity.

# **CHAPTER 2**

## **Database System Requirements**

### **2.1 System Overview**

StuPort, the Student Portfolio Management System developed for Youth Ventures Asia, is a web-based solution designed to streamline the collection and administration of student information. With a focus on User Authentication and Profile Management, Dashboard Presentation, Activity Management and Registration Handling, Feedback Handling and Reward Allocation and Resume Management, StuPort aims to empower master administrators, administrators, and students. It does not handle financial transactions or replace academic platforms but rather enhances student management, centralizes data for easy retrieval and promotes better collaboration between Youth Ventures and its clients. By addressing the specific needs of master administrators, administrators and students, StuPort aims to achieve efficient student management, improved data management and enhanced collaboration, aligning with the objectives of Youth Ventures.

## **2.2 Module 1 : Authentication**

LEE YIK HONG is the person in charge of documenting this module.

### **2.2.1 Module Description**

The Authentication Module serves as a crucial link between users and their designated roles, fostering tailored interactions and permissions within the system. All users, including students, administrators, and master administrators, have the capability to manage activities, view registrations, access rewards, inspect feedback, manage profiles, and download resumes. Students, in addition to these functionalities, possess the ability to register for activities, edit their resumes, create profiles, provide feedback, and add activities. Administrators hold the authority to authorize activities and create profiles, while master administrators possess advanced capabilities, including creating feedback, bestowing rewards, and managing registrations. This dynamic relationship between users and their associated roles ensures that each user category experiences a customized and comprehensive set of functionalities, aligning with their specific roles and responsibilities within the system.

### **2.2.2 Transaction Requirement: Data Entry**

1. Enter the User's Password.
2. Enter the User's Email.
3. Enter the User's Name.
4. Enter the User's Role.
5. Enter the User's Registration Information.

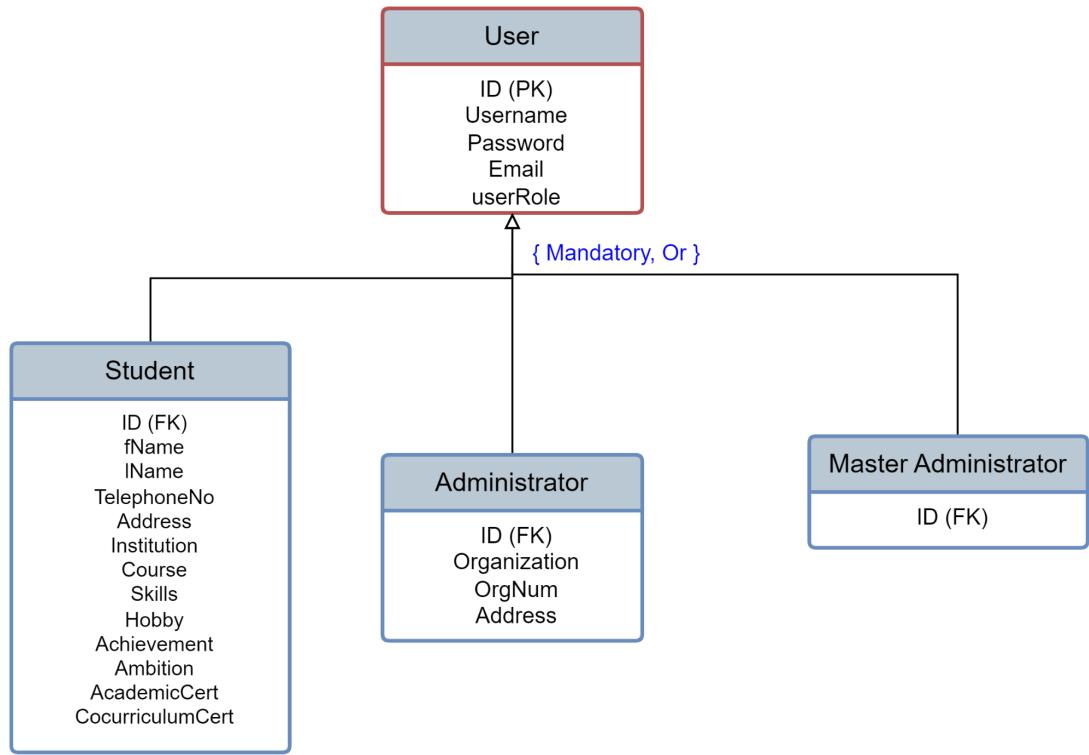
### **2.2.3 Transaction Requirement: Data Update/Deletion**

1. Update/Delete the User's Password.
2. Update/Delete the User's Email.
3. Update/Delete the User's Name.
4. Update/Delete the User's Role.
5. Update/Delete the User's Registration Information.

### **2.2.4 Transaction Requirement: Data Queries**

1. List the Users with a specific role.
2. List the User IDs, Usernames, or Emails for authentication purposes.

## 2.2.5 Local Conceptual Data Model



## **2.3 Module 2 : Profile**

KOH SU XUAN is the person in charge of documenting this module.

### **2.3.1 Module Description**

This module is one of the most important modules in the StuPort system. It allows users including Students, Administrators and Master Administrators to seamlessly create, view, edit and delete profiles. When the Student and the Administrator newly sign up and first login into the system, they will be directed to create a profile which aims to input their personal details. The two types of users are then able to view their own profile and edit their own profile information. They also have access to view other students' profiles by a search feature to help to find specific student profiles efficiently. When they have decided to quit the system, they have the option to delete their own profile in which after the delete confirmation, their profiles and related data in the system will be permanently removed. Master Administrator not only can view the user profiles by using the search feature but is also able to edit and delete the user profile by accessing the database of the system. This module ensures a smooth experience for managing user profiles and user control.

### **2.3.2 Transaction Requirement: Data Entry**

1. Enter the Student's or Admin's personal details.
2. Enter the Student's options to display profile information.

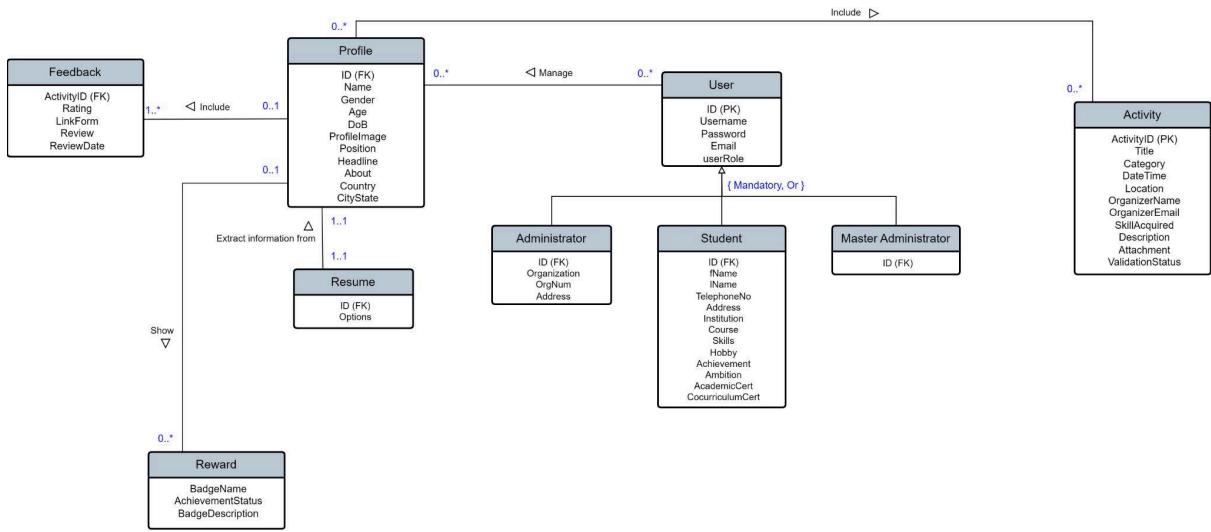
### **2.3.3 Transaction Requirement: Data Update/Deletion**

1. Update/Delete the Student's or Admin's personal details.
2. Update/Delete the Student's options to display profile information.
3. Update/Delete the Student's or Admin's profile.

### **2.3.4 Transaction Requirement: Data Queries**

1. List the Student's or Admin's personal details.
2. List the searching result that most matched with the keyword.
3. List the Student's profile information.

### 2.3.5 Local Conceptual Data Model



## **2.4 Module 3 : Dashboard**

KOH LI HUI is the person in charge of documenting this module.

### **2.4.1 Module Description**

This module involves all users of the system. The user as parent has their own dashboard and they will view the dashboard after they log in the system. The dashboard interface viewed depends on the identity, whether they are Master Admin, Admin or Student. The whole student information database, admin information database and system database including activities statistics data, feedback and registration data will be displayed on the Master Admin dashboard. In addition to that, Master Admin is the one who has full authority to handle ‘StuPort’ and has full access to every database related to the system. In the default case, activities statistical data including registration and feedback data will be displayed on the admin dashboard. Student's own profile and reward data like badges will be displayed on the student dashboard. The dashboard will also display some basic features such as searching, notifications, settings and others, all of these can be viewed by the user.

### **2.4.2 Transaction Requirements: Data Entry**

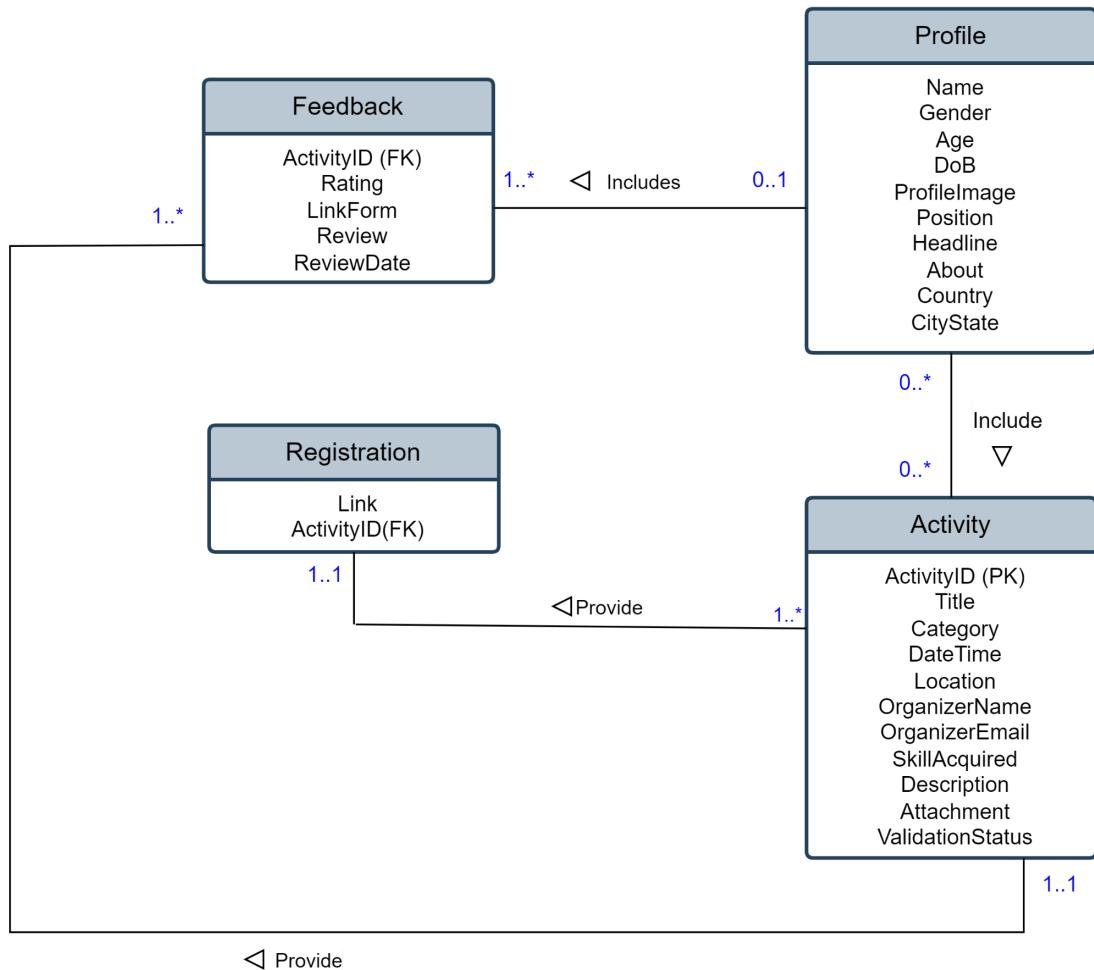
### **2.4.3 Transaction Requirements: Data Update/Deletion**

### **2.4.4 Transaction Requirements: Data Queries**

1. List the total number of registered students and admins.
2. List the student's own profile information along with the rewards and activities attended.
3. List the activities published in the system.
4. List the overall registration details received from the students.
5. List the overall feedback details received from the students.

## 2.4.5 Local Conceptual Data Model

Below are the four entities involved in the dashboard module.



## **2.5 Module 4 : Activity**

LEE YIK HONG is the person in charge of documenting this module.

### **2.5.1 Module Description**

The Activity Module serves as a comprehensive platform within the system, facilitating diverse functionalities and establishing key relationships between entities. All user entities, including students, administrators, and master administrators, possess the capability to manage activities. Students, in addition to managing activities, can add personal activities, providing details such as event title, organizers, date, duration, location, mode, event description, skills obtained, and lessons learned. Administrators, on the other hand, have the authority to authorize activities added by students.

The entity relationships within the Activity Module include the Profile entity, which incorporates activity information, and the Activity entity, which is closely associated with the provision of feedback. Additionally, the module allows administrators to publish events and edit details of Youth Ventures activities. Students can initiate the process of adding personal activities, while administrators can validate student-added activities. These relationships collectively contribute to a dynamic and interactive system where users can seamlessly manage and interact with various activities, fostering engagement and collaboration within the Youth Ventures platform.

### **2.5.2 Transaction Requirement: Data Entry**

1. Enter the activity Date
2. Enter the activity Title
3. Enter the activity Organizers/sponsors
4. Enter the activity Location
5. Enter the registration link or create a registration form within the system
6. Choose the type of session

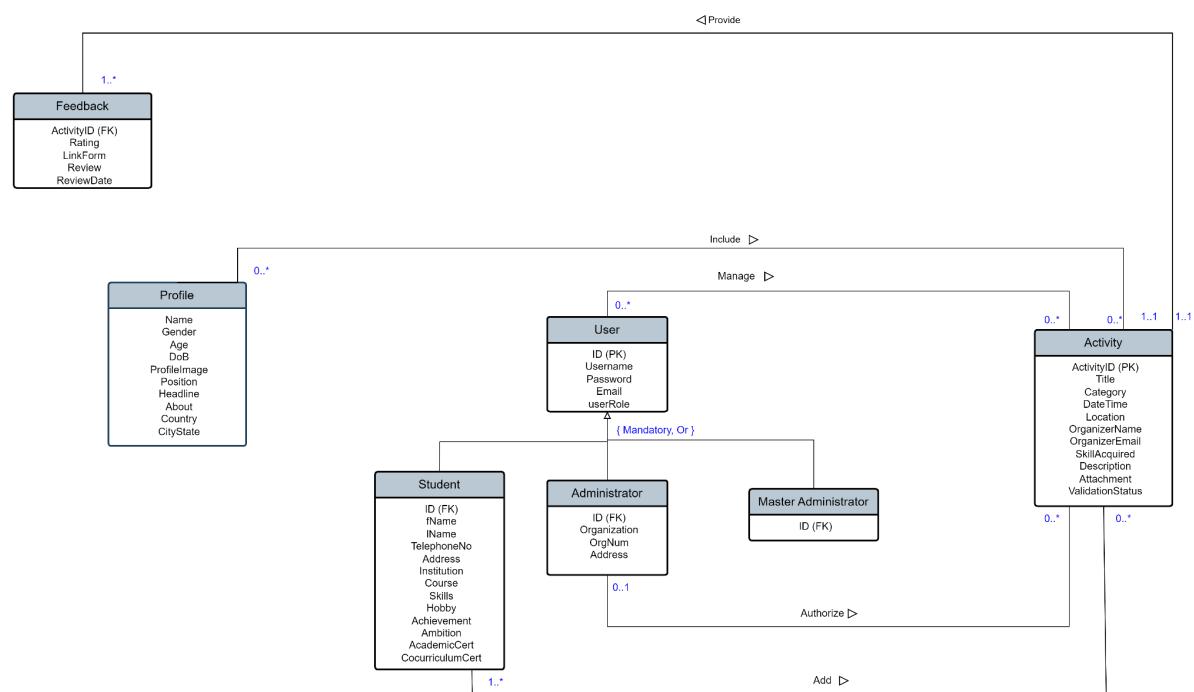
### 2.5.3 Transaction Requirement: Data Update/Deletion

1. Update/Delete the activity Date
2. Update/Delete the activity Title
3. Update/Delete the activity Organizers/sponsors
4. Update/Delete the activity Location
5. Update/Delete the registration link or created registration form within the system
6. Update/Delete the type of session

### 2.5.4 Transaction Requirement: Data Queries

1. List the published activities
2. List the student's personal activities
3. List the validated activities
4. List the details of a specific activity
5. List the search results for activities (Search Activity - Student, Admin)
6. List the activities requiring validation by the admin

### 2.5.5 Local Conceptual Data Model



## **2.6 Module 5 : Registration**

VINESH is the person in charge of documenting this module.

### **2.6.1 Module Description**

The Registration module is a critical component of the 'StuPort' system, facilitating the seamless onboarding of users. Upon initiating the registration process, users provide essential details such as ID, username and email. After basic registration, students are prompted to register activities. Master Admins have comprehensive access to oversee and manage the entire registration process, while students have access to their own registration details.

### **2.6.2 Transaction Requirement: Data Entry**

1. Information registered is directly concatenated to the profile.

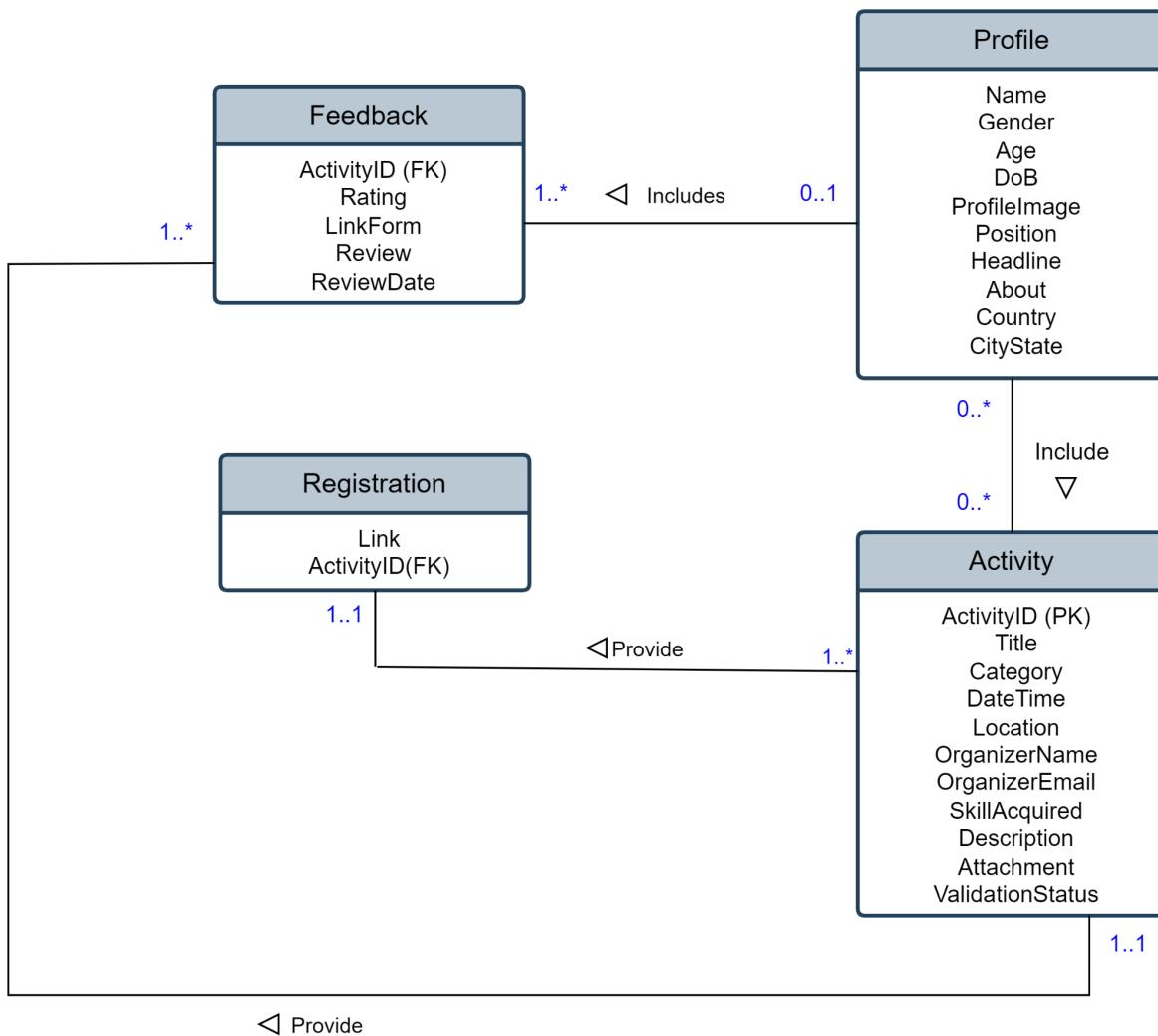
### **2.6.3 Transaction Requirement: Data Update/Deletion**

1. Delete registration.

### **2.6.4 Transaction Requirement: Data Queries**

1. List of registered events.
2. List of events.

## 2.6.5 Local Conceptual Data Model



## **2.7 Module 6 : Feedback**

KOH LI HUI is the person in charge of documenting this module.

### **2.7.1 Module Description**

This module involves all users of the system. For each program or activity, master administrators will create a feedback form for students to fill in their feedback and give their freedom on whether they want to give rating to a certain activity or not after they have attended an activity. After a student gives a feedback, that feedback will automatically display in the activity section on the student's own profile. That means a student's profile will be included with all the feedback given by them. At the same time, users as parents can inspect the feedback details to have an acknowledgement whether anyone gave a comment on a program or activity or not. If admin or master administrators give a review on students' feedback, the students' activities added or registered through the system will be validated consequently. Thus, event organizers as one of the administrators, will understand what are the students' ideas and know what aspects should be improved to make future activities better.

### **2.7.2 Transaction Requirements: Data Entry**

1. Enter the feedback link to be published for the students.
2. Enter the feedback details for an activity.
3. Enter the details of rating on the overall activity experience.
4. Enter the details of the review that want to reply to students.

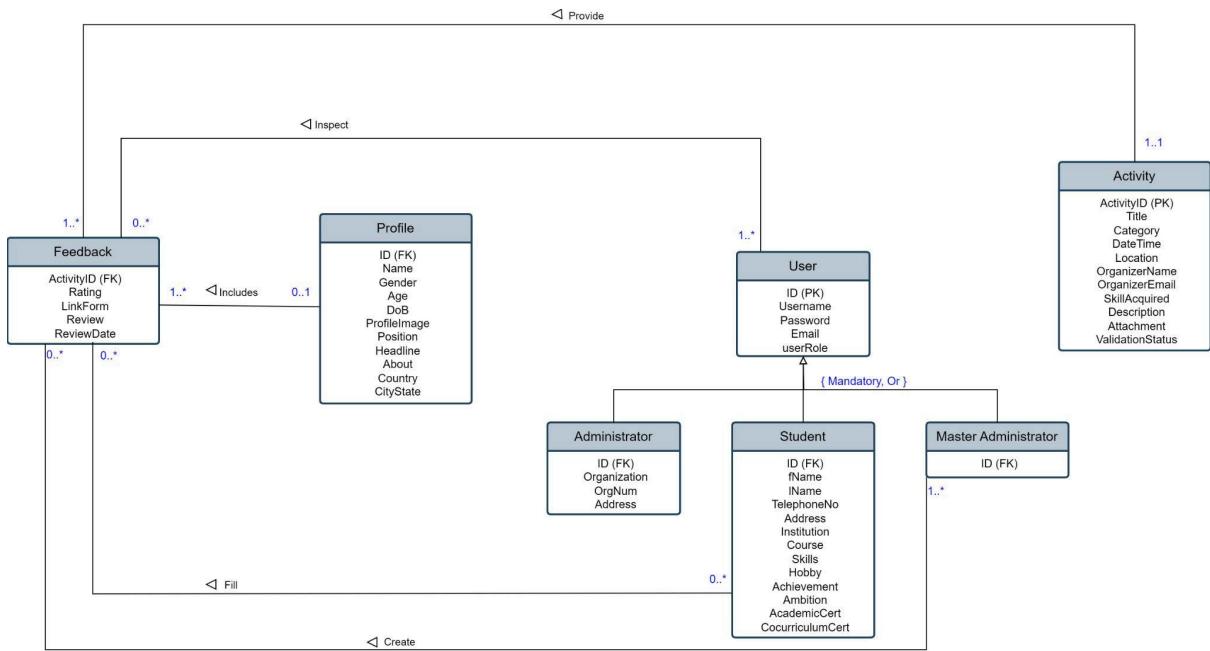
### **2.7.3 Transaction Requirements: Data Update/Deletion**

1. Update/Delete the feedback link.
2. Update/Delete the review information.

### **2.7.4 Transaction Requirements: Data Queries**

1. List of the feedback details filled by the students.
2. List the rating information on a certain activity.
3. List of review information given by the admins or master admins.

## 2.7.5 Local Conceptual Data Model



## 2.8 Module 7 : Reward

VINESH is the person in charge of documenting this module.

### 2.8.1 Module Description

The reward management module is developed to manage the generation, alteration, and retrieval of badges in the Youth Ventures Asia system. It functions as a robust system for overseeing digital badges, granted to students to acknowledge their accomplishments in diverse events. The administrator of Youth Ventures Asia is empowered to generate badges and review the existing ones. Subsequently, these badges are assigned to students based on their specific achievements.

### 2.8.2 Transaction Requirement: Data Entry

1. Enter badge name.
2. Enter badge description.
3. Enter badge value.
4. Upload badge image.

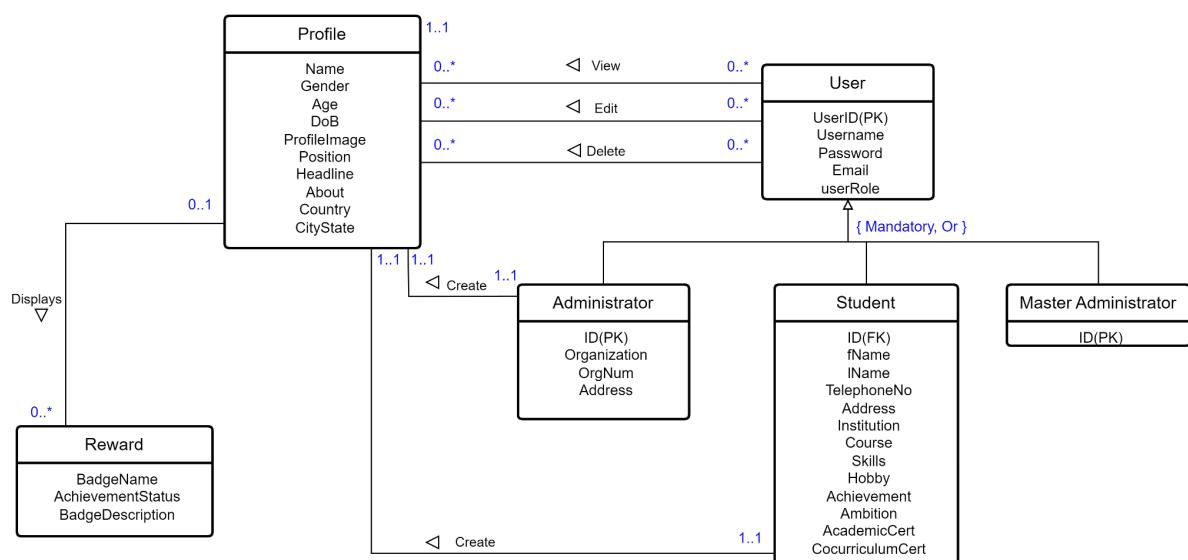
### 2.8.3 Transaction Requirement: Data Update/Deletion

1. Modify badge name.
2. Modify badge description.

### 2.8.4 Transaction Requirement: Data Queries

1. View list of available badges.

### 2.8.5 Local Conceptual Data Model



## **2.9 Module 8 : Resume**

KOH SU XUAN is the person in charge of documenting this module.

### **2.9.1 Module Description**

This module allows the student to edit their resume content display and download the resume with the desired and selected content and master transcript within the system by including use cases such as editing resumes, downloading student resumes and acquiring master transcripts. Students have the full autonomy to select what personal informations and contents to be displayed in their resume and store their selection in the system database as personal preference. All users then have the ability to download the student's resume based on the choice of the student in which students will access via profile or system interface while Admin and Master Admin will access the student's resume by searching the student's name and navigating to their profile to eventually download the student's resume. These same go to the process of downloading master transcripts of the student. This module ensures streamlined personal information and experience management in the form of documentation leading to effective resume handling within the system.

### **2.9.2 Transaction Requirement: Data Entry**

1. Enter the Student's options to display resume content.

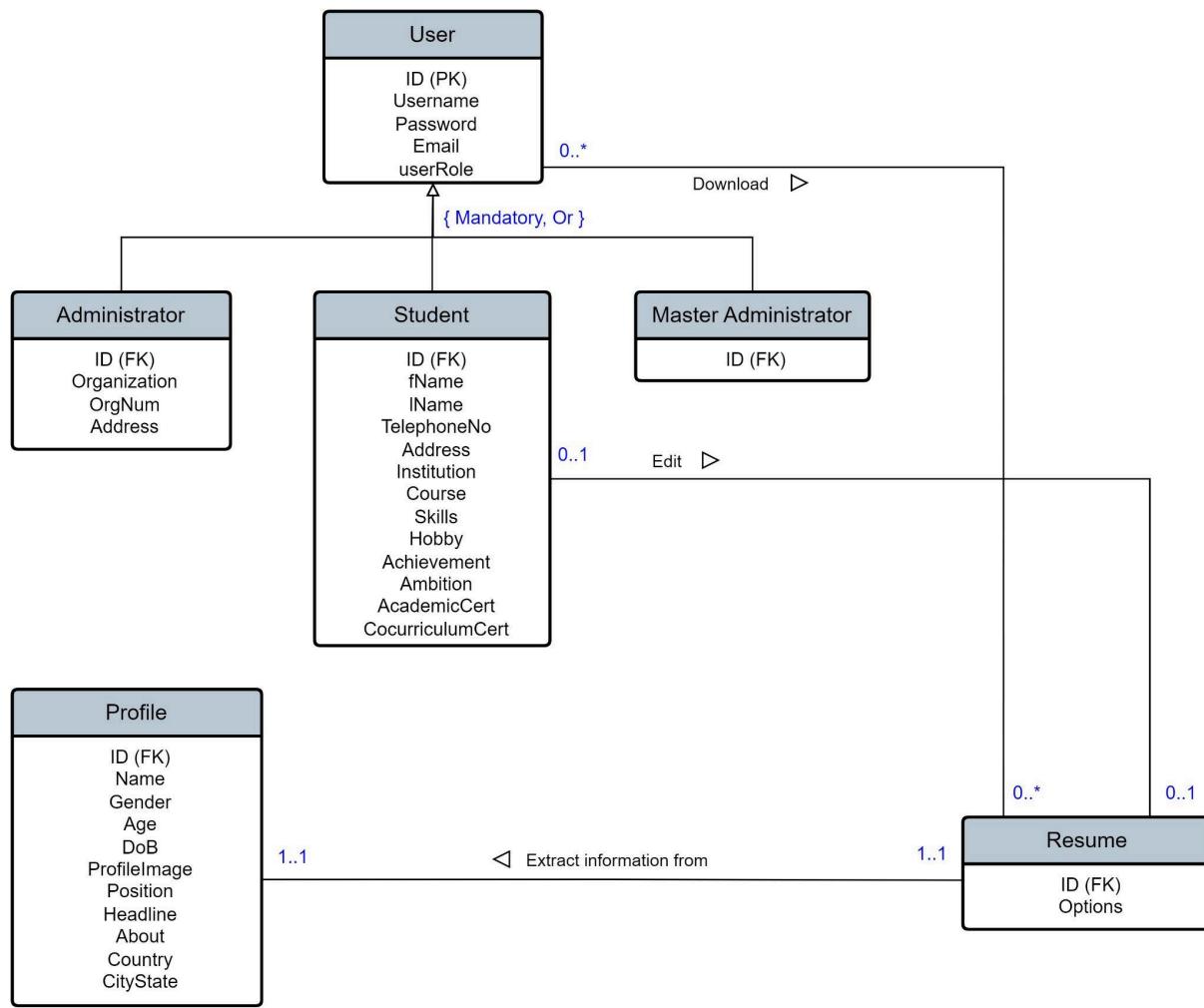
### **2.9.3 Transaction Requirement: Data Update/Deletion**

1. Update/Delete the Student's options to display resume content.

### **2.9.4 Transaction Requirement: Data Queries**

1. List the initial Student's resume content.
2. List the selected Student's resume content.
3. List the searching result that most matched with the keyword.
4. List the Student's master transcript content.

## 2.9.5 Local Conceptual Data Model

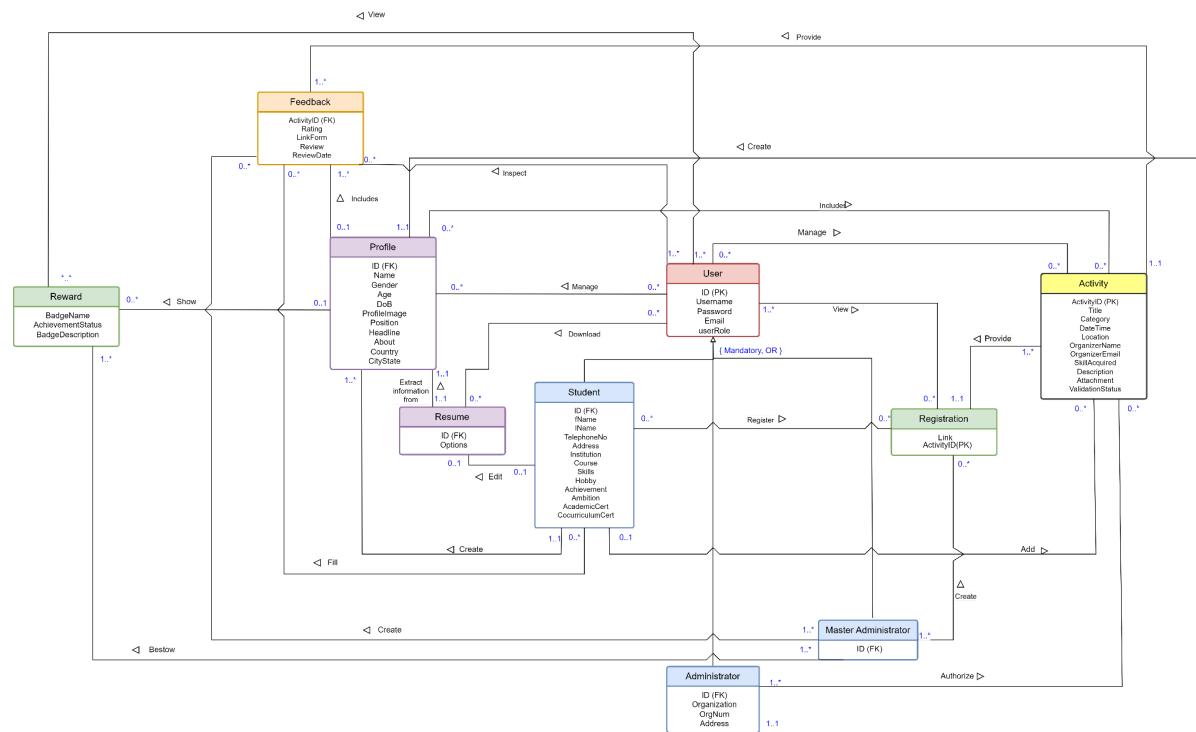


# CHAPTER 3

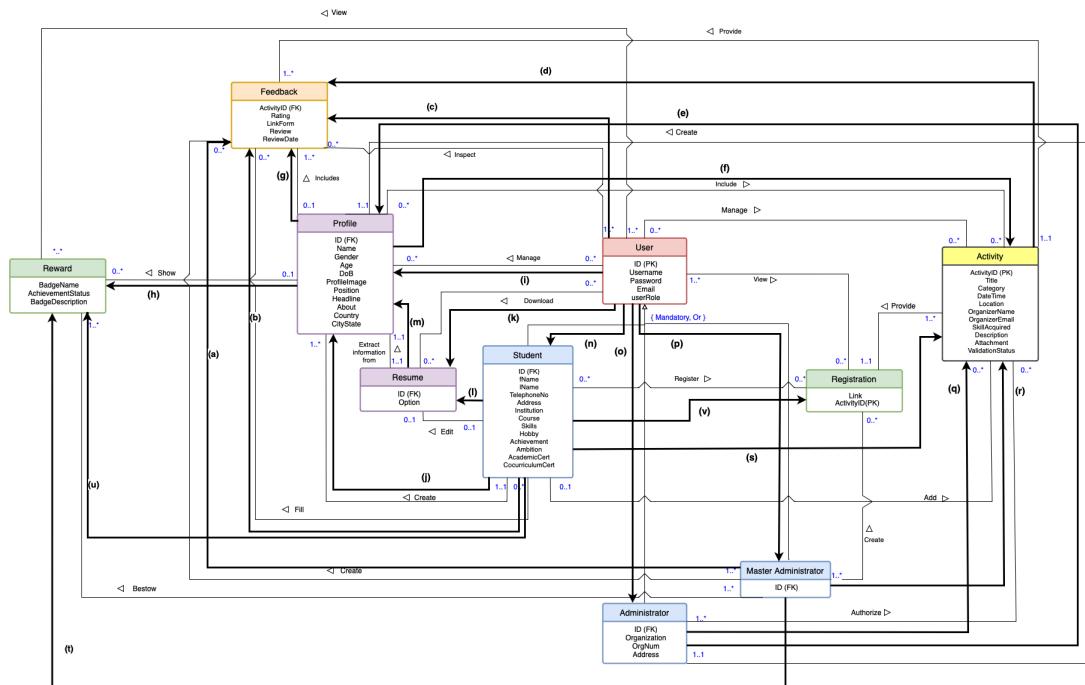
## Global Conceptual Data Model

### 3.1 Global Conceptual Design

Can click [Database-Global ERD.jpg](#) to directly view a more clearer StuPort ERD.



## 3.2 Verified Global Conceptual Design



Can click Database-Verified.jpg to directly view a more clearer StuPort verified ERD.

Symbol	Transaction
a	2.7.2.1, 2.7.3.1
b	2.7.2.2, 2.7.2.3
c	2.7.2.4, 2.7.3.2, 2.7.4.1, 2.7.4.3
d	2.7.4.2
e	2.3.2.1
f	2.3.4.1
g	2.3.4.1
h	2.3.4.1
i	2.3.2.2, 2.3.3.1, 2.3.3.2, 2.3.3.3, 2.3.4.1, 2.3.4.2, 2.3.4.3
j	2.3.2.1
k	2.9.4.1, 2.9.4.2, 2.9.4.3, 2.9.4.4

l	2.9.2.1, 2.9.3.1, 2.9.4.1, 2.9.4.2
m	2.9.4.1, 2.9.4.2, 2.9.4.4
n, o, p	2.2.2.1, 2.2.2.2, 2.2.2.3, 2.2.2.4, 2.2.2.5, 2.2.3.1, 2.2.3.2, 2.2.3.3, 2.2.3.4, 2.2.3.5, 2.2.4.1, 2.2.4.2
q	2.5.2.1, 2.5.2.2, 2.5.2.3, 2.5.2.4, 2.5.2.5, 2.5.2.6, 2.5.3.1, 2.5.3.2, 2.5.3.3, 2.5.3.4, 2.5.3.5, 2.5.3.6, 2.5.4.1, 2.5.4.2, 2.5.4.3, 2.5.4.4, 2.5.4.5, 2.5.4.6
r	2.5.3.1, 2.5.3.2, 2.5.3.3, 2.5.3.4, 2.5.3.5, 2.5.3.6, 2.5.4.1, 2.5.4.2, 2.5.4.3, 2.5.4.4, 2.5.4.6
s	2.5.2.1, 2.5.2.2, 2.5.2.3, 2.5.2.4, 2.5.2.5, 2.5.2.6, 2.5.3.1, 2.5.3.2, 2.5.3.3, 2.5.3.4, 2.5.3.5, 2.5.3.6, 2.5.4.1, 2.5.4.2, 2.5.4.3, 2.5.4.4, 2.5.4.5
t	2.8.2.1, 2.8.2.2, 2.8.2.3 , 2.8.2.4 , 2.8.3.1 , 2.8.3.2
u	2.8.4.1
v	2.6.2.1 , 2.6.3.1 , 2.6.4.1 , 2.6.4.2

### 3.3 Data Dictionary for The Global Conceptual ERD

#### 3.3.1 Identify Entity Types

Entity Name	Description	Aliases	Occurrence
User	General term describing all users joined to StuPort.	User	Each member of User
Student	General term describing all students accounts joined to StuPort.	Student	Each Student is associated with one User, can have an optional Resume, can participate in multiple Activity instances, can register in multiple Registration instances, and is related to the Dashboard (Student).
Administrator	General term describing lecturers, clients, partners accounts joined by StuPort.	Administrator	Each Administrator is member of User, can have managing Activity and Master Activity
Master Administrator	General term describing Youth Venture admins accounts handled with StuPort.	Master Administrator	Each Master Administrator can be a member of user
Profile	General term for describing profile	Profile	Each Profile is associated with one User, can have an optional Resume, can participate in multiple Activity instances, can register in multiple Feedback instances, and is related to the Reward.
Resume	General term for describing the resume of the student from StuPort.	Resume	Each Resume is a member of Profile.
Activity	General term for describing all activities from StuPort.	Activity	Each activity is related to Registration and provide feedback to Feedback
Registration	General term for describing for registration from StuPort.	Registration	Each Registration instance is associated with one or more Student instances and is related to an optional User.

Reward	General term for describing the rewards	Reward	Each Reward is associated with the User through the relationship Has Reward .
Feedback	General term for describing the feedback from StuPort.	Feedback	Each Feedback related to Profile

### 3.3.2 Identify relationship types

<b>Entity name</b>	<b>Multiplicity</b>	<b>Relationship</b>	<b>Entity name</b>	<b>Multiplicity</b>
User	-	Mandatory, Or	Student	-
	-	Mandatory, Or	Administrator	-
	-	Mandatory, Or	Master Administrator	-
	0..*	Manage	Activity	0..*
	1..*	View	Reward	*..*
	1..*	Inspect	Feedback	0..*
	0..*	Manage	Profile	0..*
	0..*	Download	Resume	0..*
	1..*	View	Registration	0..*
Student	0..*	Register	Registration	0..*
	0..1	Add	Activity	0..*
	0..1	Edit	Resume	0..1
	0..*	Fill	Feedback	0..*
	1..1	Create	Profile	1..*
Administrator	1..*	Authorize	Activity	0..*

	1..1	Create	Profile	1..1
Master Administrator	1..*	Create	Registration	0..*
	1..*	Create	Feedback	0..*
	1..*	Bestow	Reward	1..*
Activity	1..1	Provide	Feedback	1..*
	1..*	Provide	Registration	1..1
Resume	1..1	Extract information from	Profile	1..1
Profile	0..*	Includes	Activity	0..*
	0..1	Includes	Feedback	1..*
	0..1	Show	Reward	0..*

### 3.3.3 Identify Attribute and Attribute Domain

Entity Name	Attributes	Description	Data Type & Length	Nulls	Multi-valued
User	<b>ID</b>	Unique identifier of user	Integer	No	No
	<b>Username</b>	Username of user used for login	Varchar(50)	No	No
	<b>Password</b>	Encrypted password of user used for login	Varchar(200)	No	No
	<b>Email</b>	Email of user	Varchar(50)	No	Yes
	<b>userRole</b>	Role of user	Varchar(20)	No	No
Student	<b>ID</b>	Unique identifier of student	Integer	No	No
	<b>Name</b>				
	<b>fName</b>	First name of the student	Varchar(50)	No	No
	<b>lName</b>	Last name of the student	Varchar(50)	No	No
	<b>TelephoneNo</b>	Telephone number of the student	Varchar(50)	No	Yes
	<b>Address</b>	Residential address of the student	Text	No	Yes
	<b>Institution</b>	Institution of the student	Text	No	No
	<b>Course</b>	Course registered by the student	Text	No	Yes
	<b>Skills</b>	Skills of the student	Varchar(200)	Yes	Yes
	<b>Hobby</b>	Hobby of the student	Text	Yes	Yes
	<b>Achievement</b>	Achievement made by the student	Varchar(200)	Yes	Yes
	<b>Ambition</b>	Ambition of the student	Varchar(50)	Yes	Yes
	<b>AcademicCert</b>	Academic certificate of the student	Varchar(200)	Yes	Yes
	<b>CocurriculumCert</b>	Co-curricular certificate of the student	Varchar(200)	Yes	Yes
Administrators	<b>ID</b>	Unique identifier of administrator			
	<b>Organization</b>	Organization of the administrator	Text	No	No

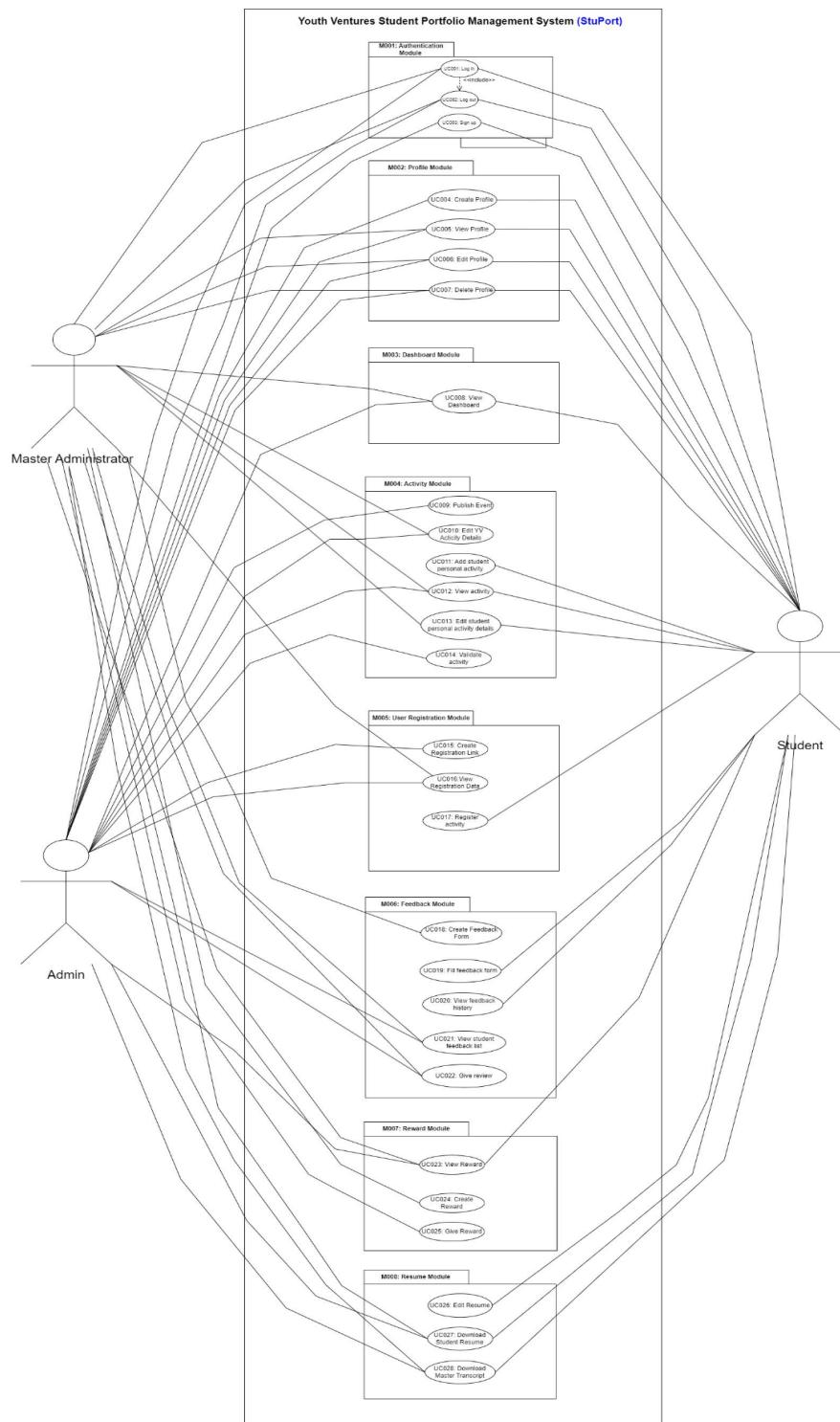
	<b>OrgNum</b>	Contact number of administrator	Varchar(50)	No	Yes
	<b>Address</b>	Address of the administrator	Text	No	Yes
<b>Master Administrators</b>	<b>ID</b>	Unique identifier of master administrator	Integer	No	No
<b>Profile</b>	<b>ID</b>	Profile information corresponds to unique identifier of user	Integer	No	No
	<b>Name</b>	Name of the user shown in profile	Varchar(50)	No	No
	<b>Gender</b>	Gender of the user shown in profile	Varchar(20)	Yes	No
	<b>Age</b>	Age of the user shown in profile	Integer	Yes	No
	<b>DoB</b>	Date of Birth of the user shown in profile	Integer	Yes	No
	<b>ProfileImage</b>	Profile image of the user shown in profile	Varchar(200)	Yes	No
	<b>Position</b>	Position of the user shown in profile	Varchar(50)	No	No
	<b>Headline</b>	Headline of the user shown in profile	Text	Yes	No
	<b>About</b>	About of the user shown in profile	Text	Yes	No
	<b>Country</b>	Country of the user in shown in profile	Varchar(50)	No	No
	<b>CityState</b>	City and state of the user in shown in profile	Varchar(50)	No	No
<b>Resume</b>	<b>ID</b>	Resume contents correspond to unique identifier of user	Integer	No	No
	<b>Options</b>	Options chosen by the students to determine the display of resume contents	Varchar(200)	No	Yes
<b>Activity</b>	<b>ActivityID</b>	Unique serial number for each activity or event	Integer	No	No
	<b>Title</b>	Title of the activity	Varchar(50)	No	No
	<b>Category</b>	Type of the activity	Varchar(50)	No	Yes
	<b>DateTime</b>	Date and Time of the activity	DateTime	No	Yes
	<b>Location</b>	Location of the activity	Text	No	Yes
	<b>OrganizerName</b>	Name of the organizer of the activity	Varchar(50)	No	Yes

	<b>OrganizerEmail</b>	Email of the organizer of the activity	Varchar(50)	No	Yes
	<b>SkillAcquired</b>	Skills gained from the activity by the student	Varchar(50)	No	Yes
	<b>Description</b>	Description of the activity	Varchar(200)	Yes	No
	<b>Attachment</b>	Attachment of the activity	Varchar(200)	Yes	Yes
	<b>ValidationStatus</b>	The validation status for the activity attended by student whether valid or invalid	Boolean	No	Yes
<b>Registration</b>	<b>Link</b>	Registration link uploaded by administrators	Varchar(100)	No	No
	<b>ActivityID</b>	Registration details correspond to unique serial number for each activity or event	Integer	No	No
<b>Reward</b>	<b>BadgeName</b>	Name of the badges that provided in the system	Varchar(50)	No	No
	<b>AchievementStatus</b>	The status of badges whether achieved or not achieved	Boolean	No	Yes
	<b>BadgeDescription</b>	Description of the badges	Text	No	No
<b>Feedback</b>	<b>ActivityID</b>	Feedback details correspond to unique serial number for each activity or event	Integer	No	No
	<b>Rating</b>	Student option of rating on an activity	Varchar(100)	Yes	Yes
	<b>LinkForm</b>	Link of the feedback form given after the activity has been organized	Varchar(100)	No	No
	<b>Review</b>	Review given by Admin or Master Admin	Text	No	Yes
	<b>ReviewDate</b>	Review timestamp displayed automatically after review is given.	DateTime	No	Yes

# CHAPTER 4

## Appendices

### 4.1 Use Case Diagram for The System



## 4.2 Activity Diagrams for Every Use Case Identified

### Module 001: Authentication Module

UC001: Use Case <Log In>

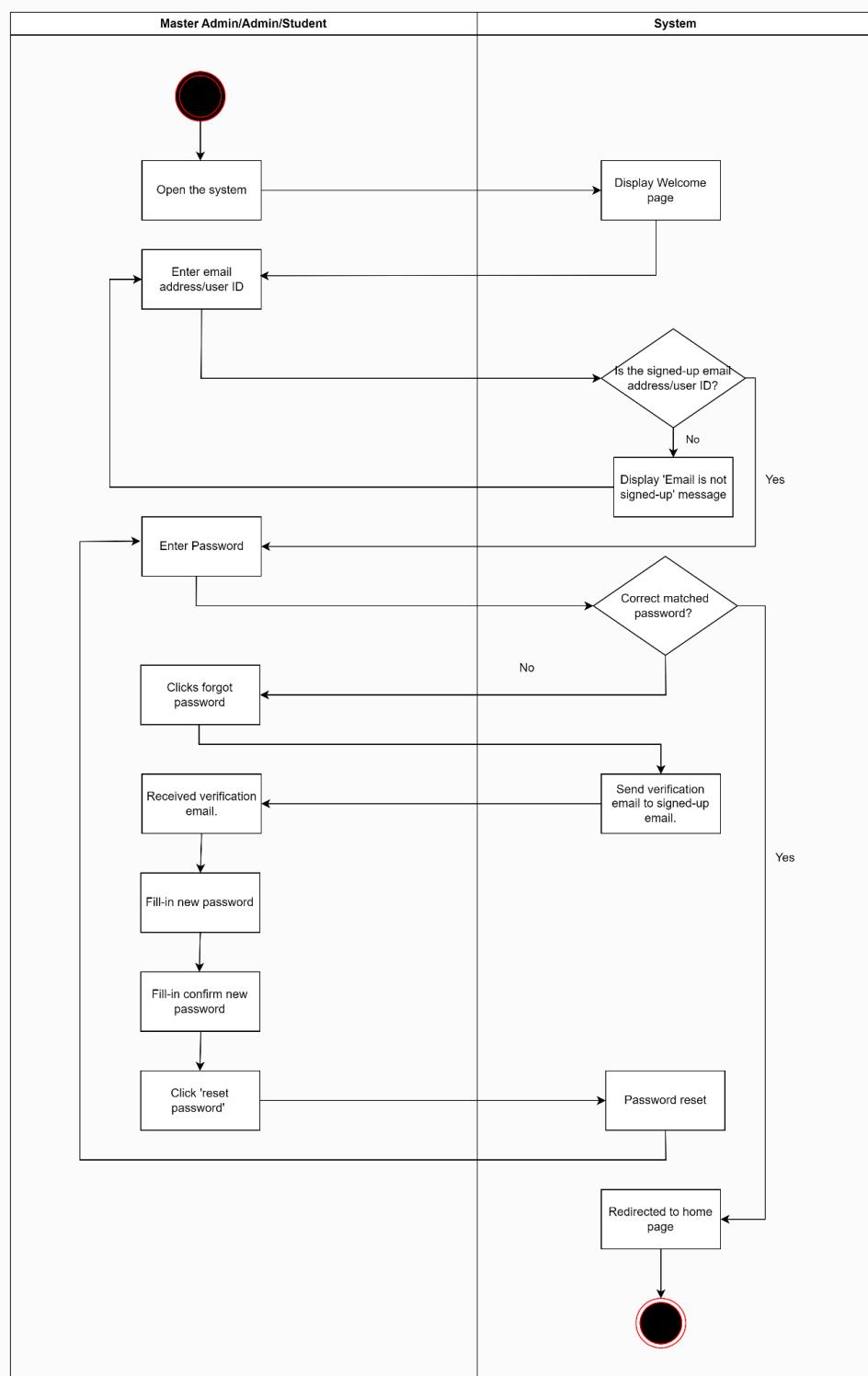


Figure 4.2.1.1 : Activity Diagram of Log In

UC002: Use Case <Log Out>

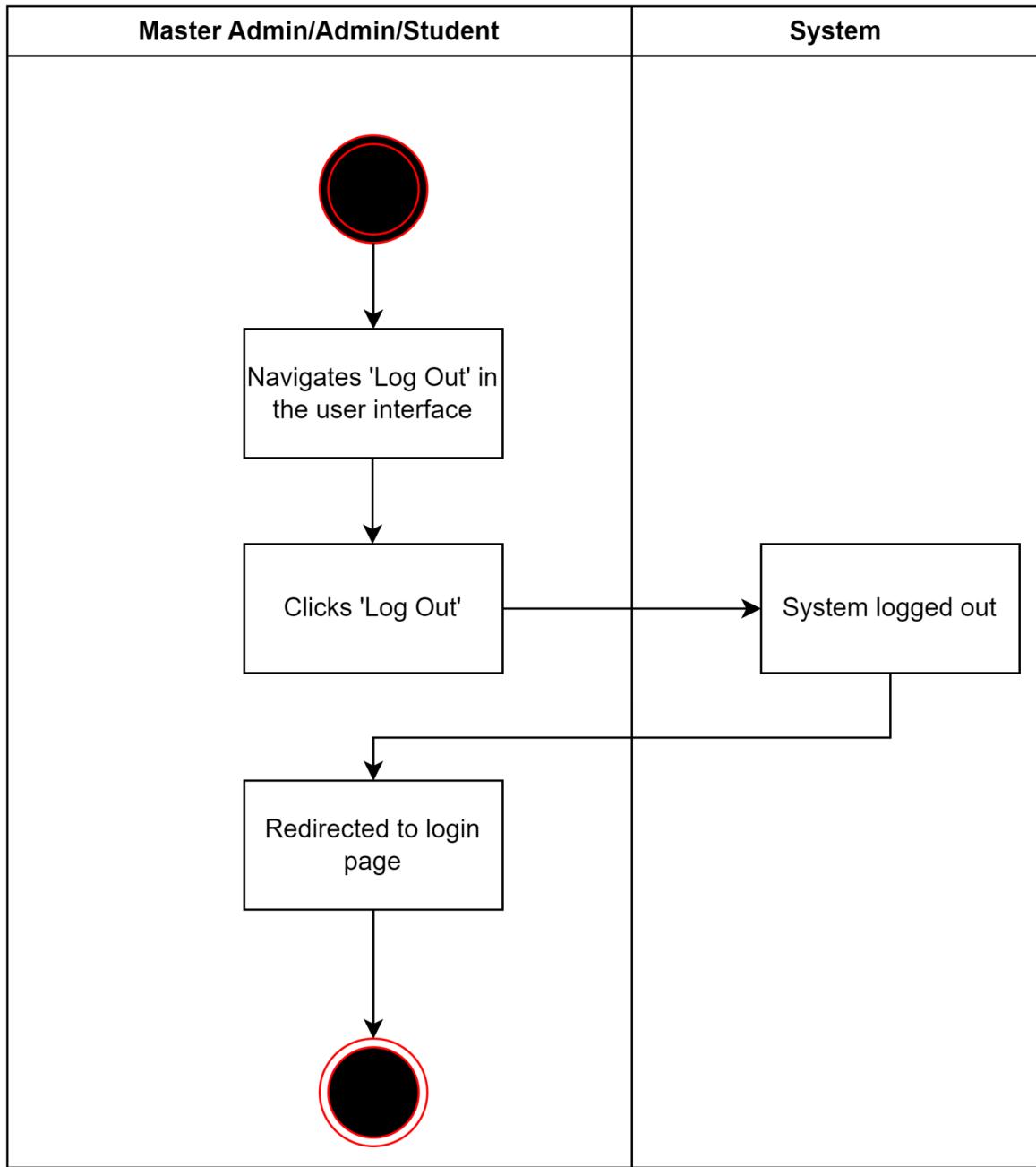
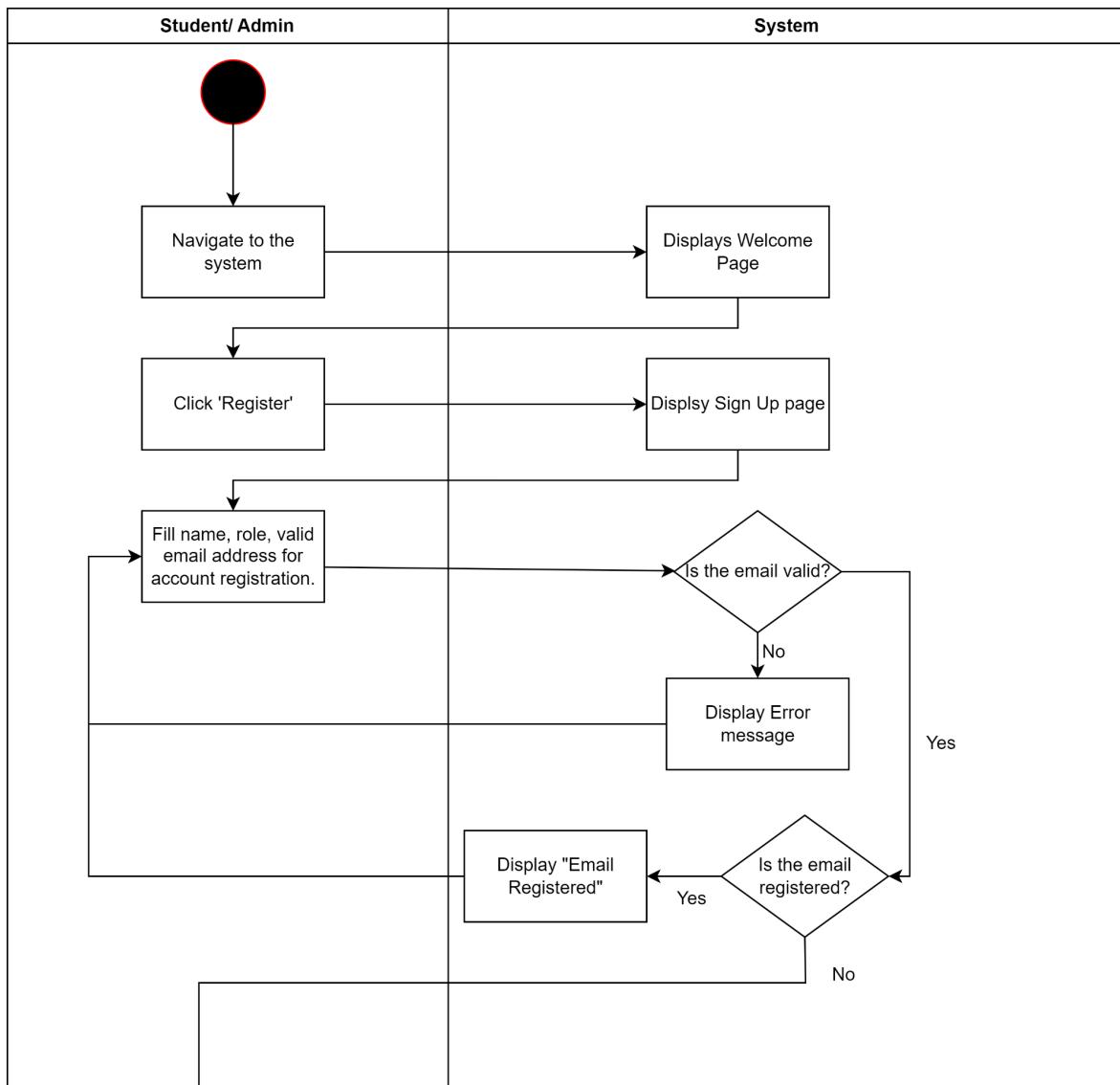
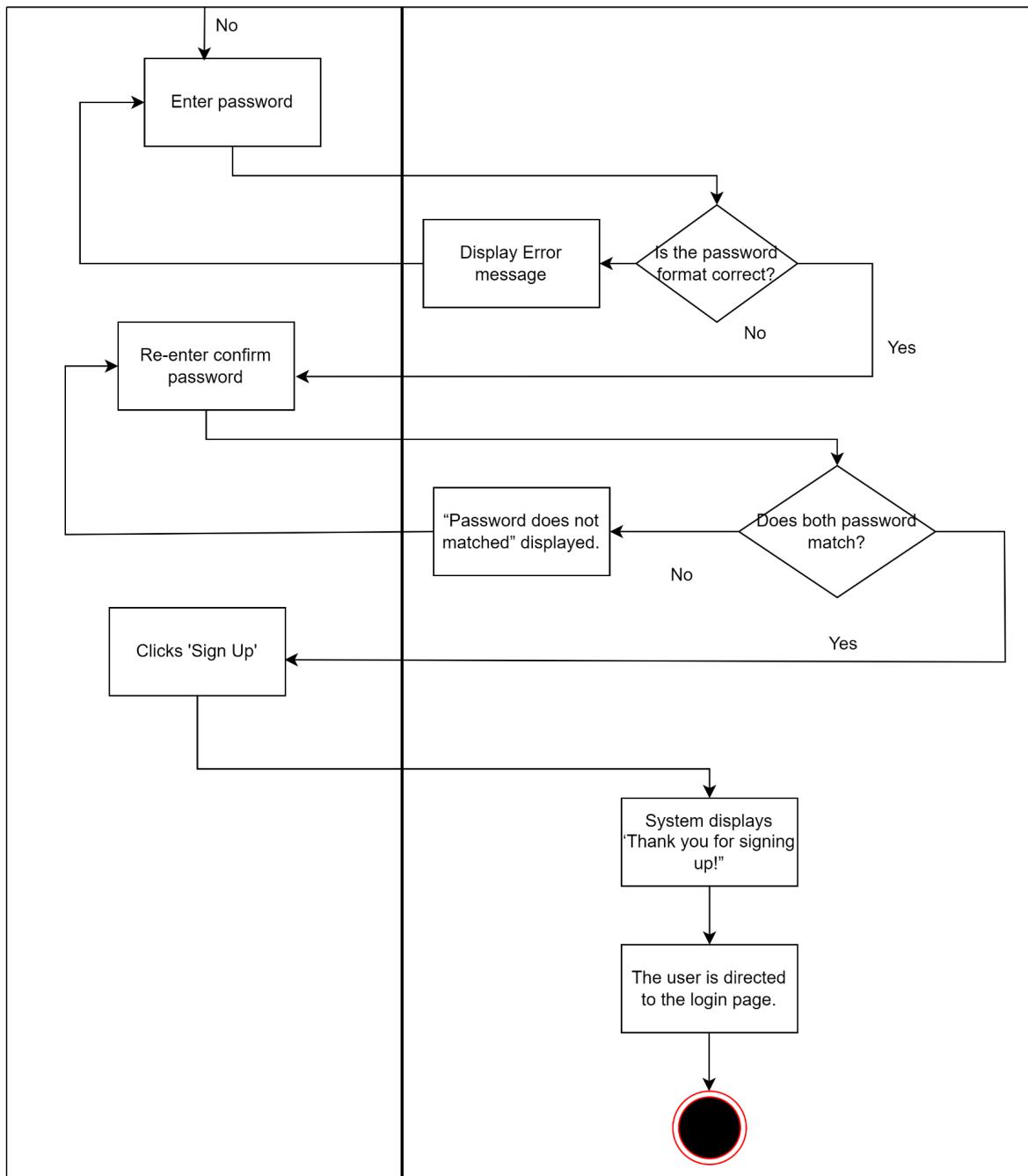


Figure 4.2.1.2 : Activity Diagram of Log Out

### UC003: Use Case <Sign Up>





*Figure 4.2.1.3 : Activity Diagram of Sign Up*

## **Module 002: Profile Module**

UC004: Use Case <Create Profile>

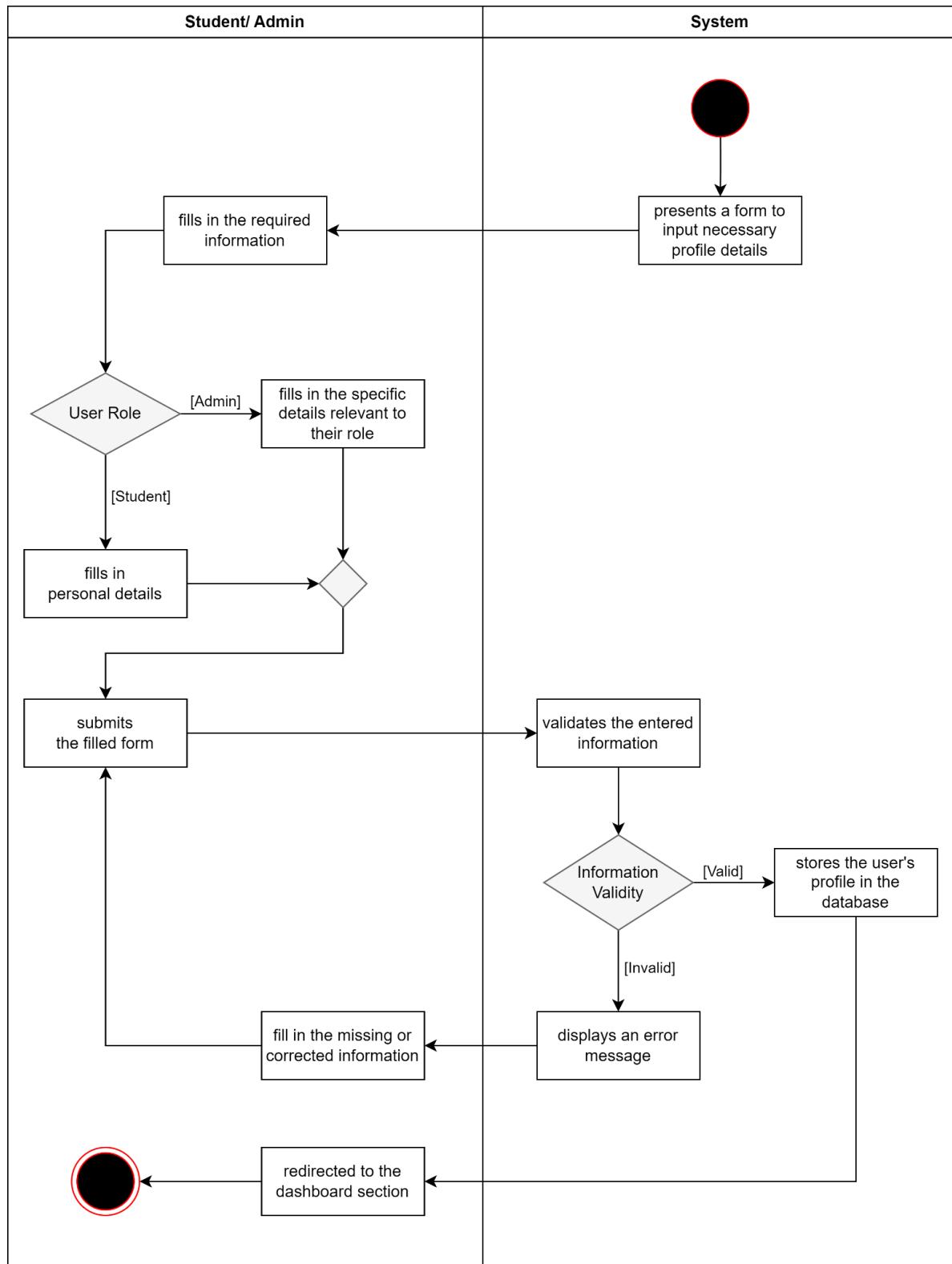


Figure 4.2.2.1 : Activity Diagram of Create Profile

### UC005: Use Case <View Profile>

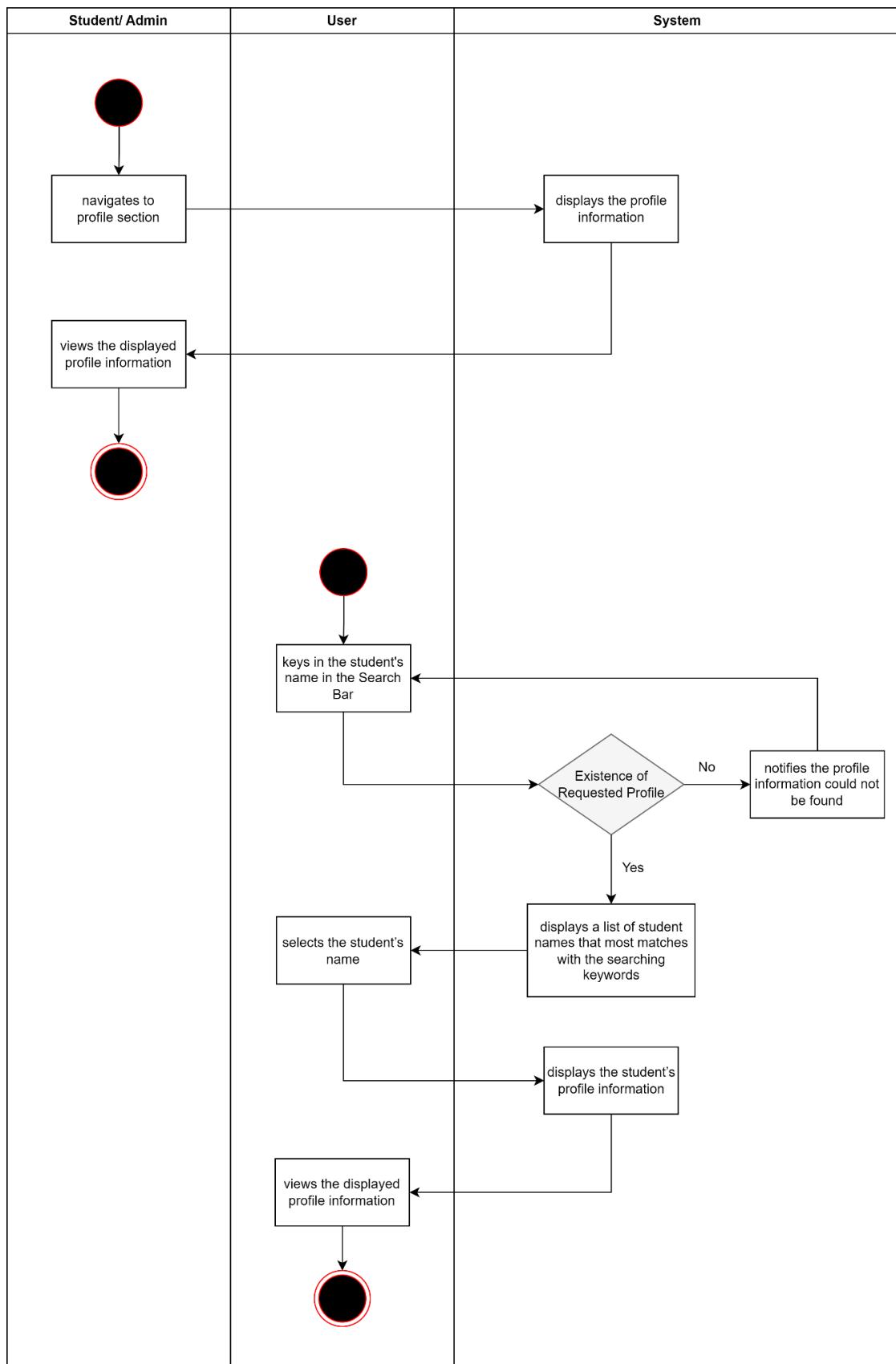
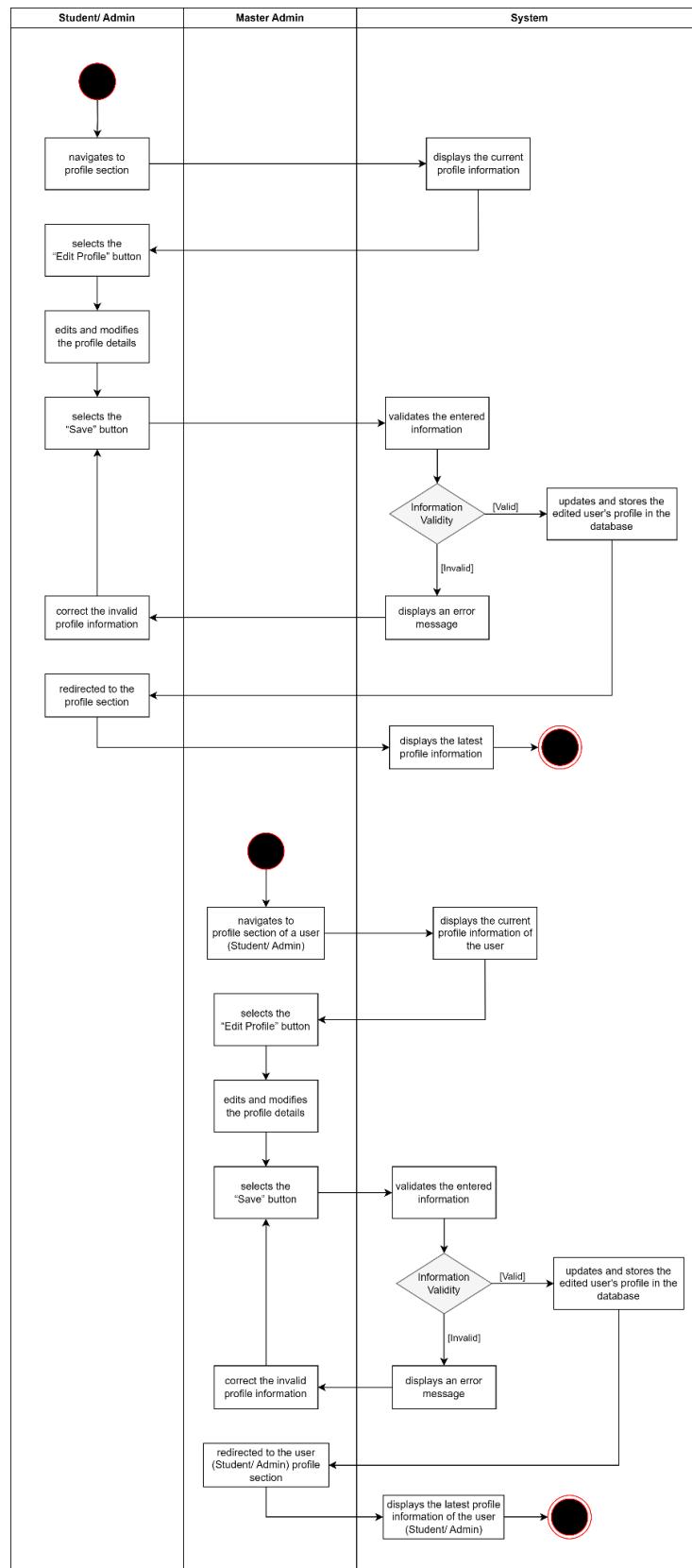


Figure 4.2.2.2 : Activity Diagram of View Profile

## UC006: Use Case <Edit Profile>



*Figure 4.2.2.3 : Activity Diagram of Edit Profile*

## UC007: Use Case <Delete Profile>

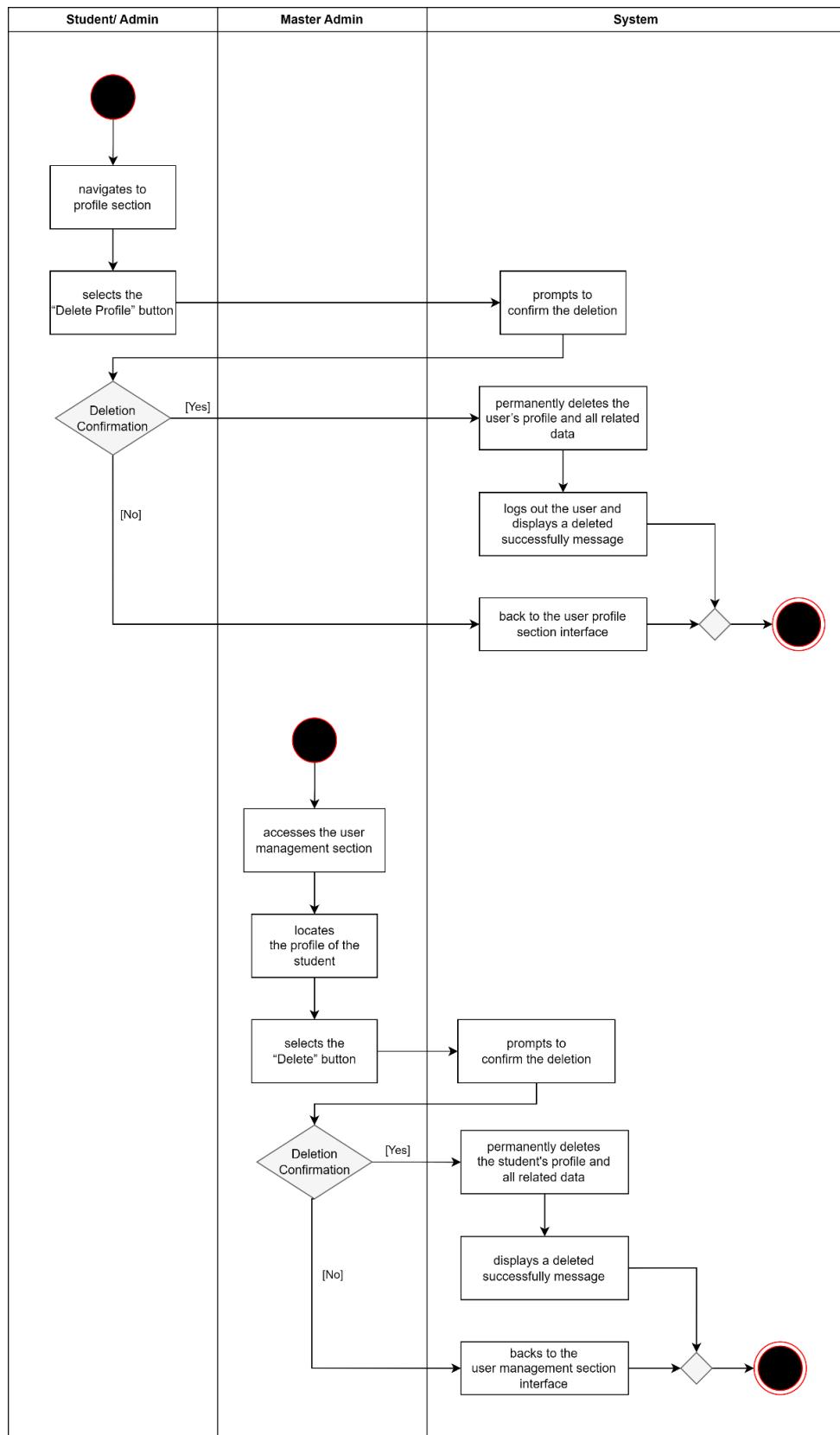
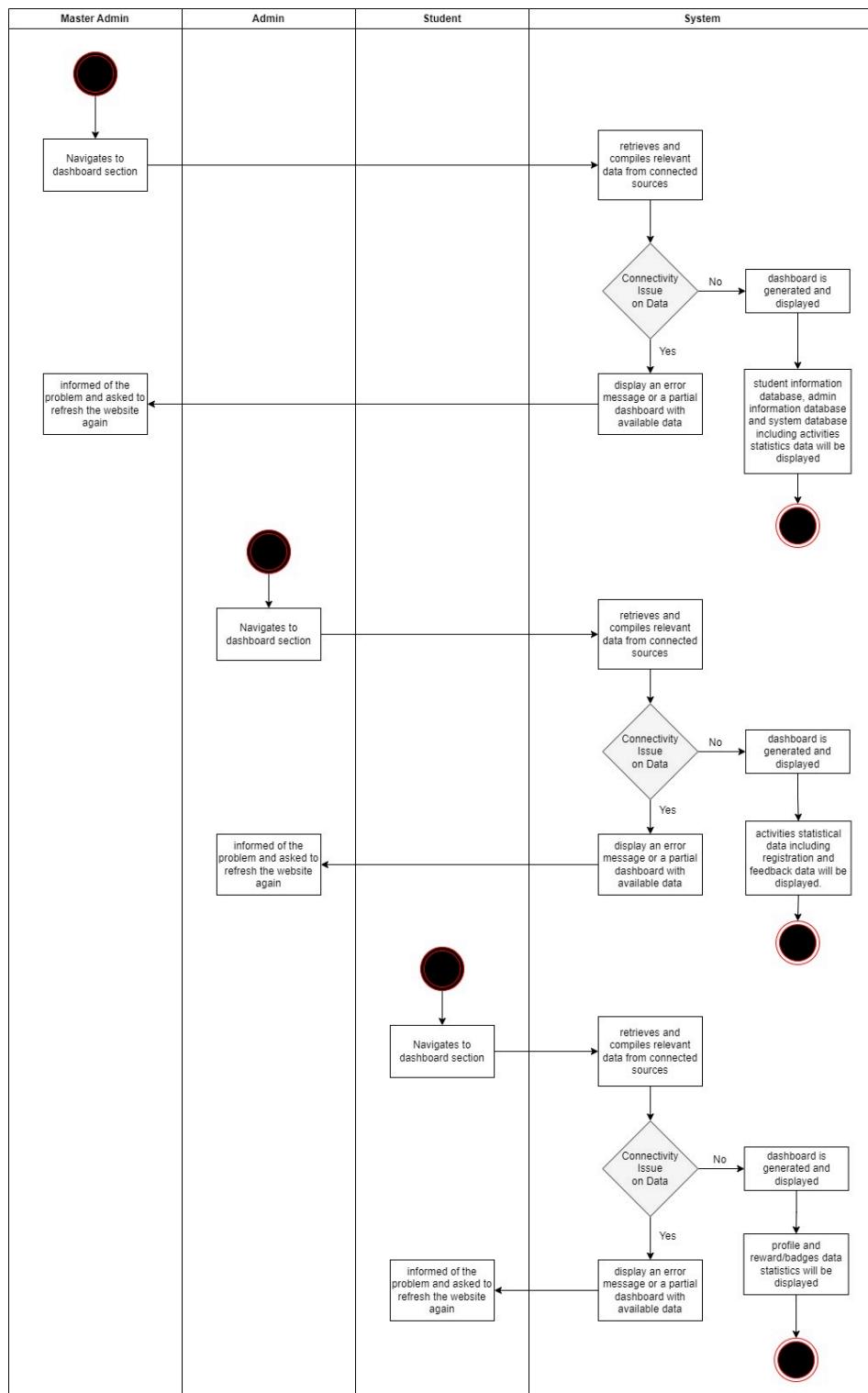


Figure 4.2.2.4 : Activity Diagram of Delete Profile

## **Module 003: Dashboard Module**

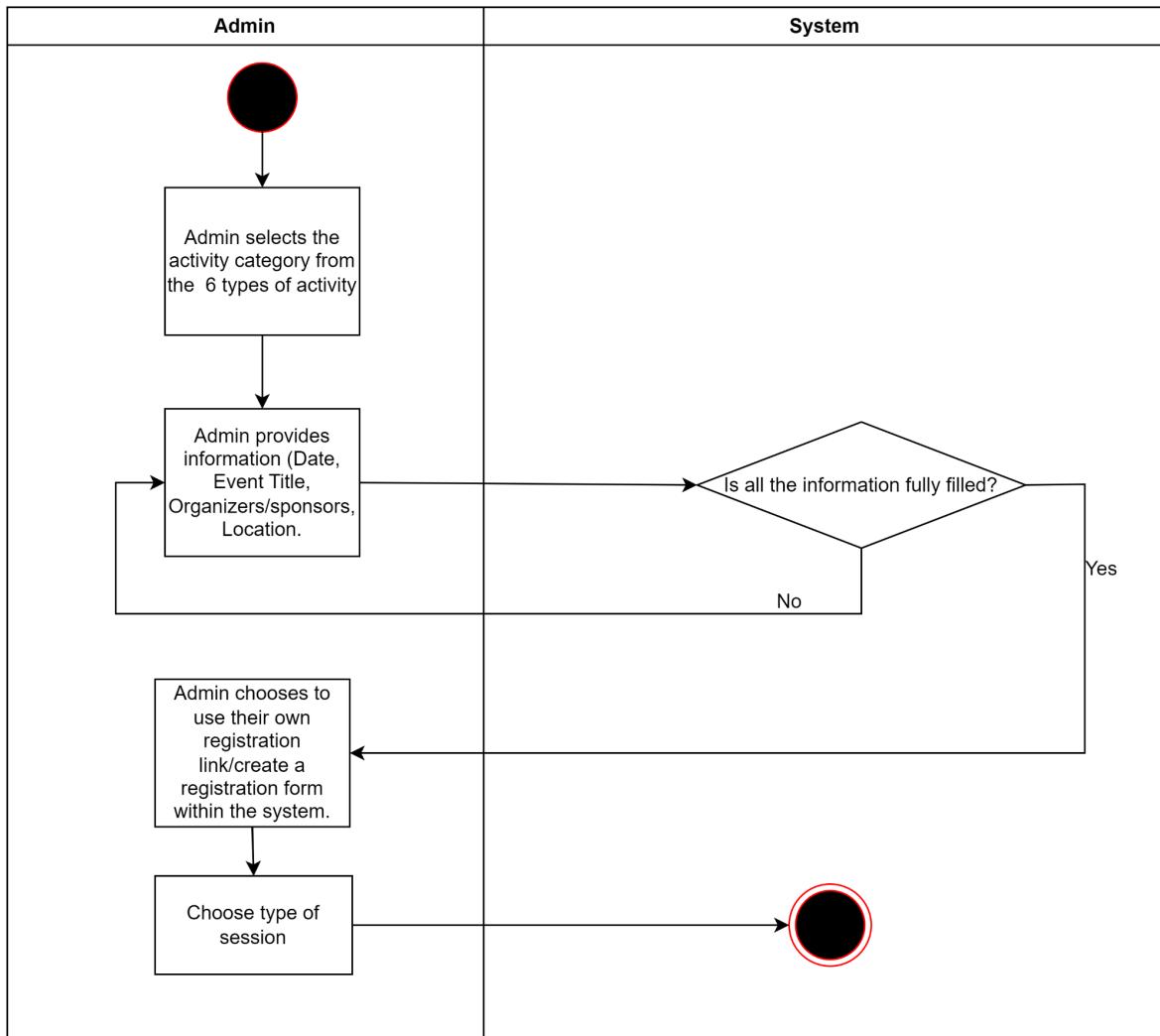
UC008: Use Case <View Dashboard>



*Figure 4.2.3.1 : Activity Diagram of View Dashboard*

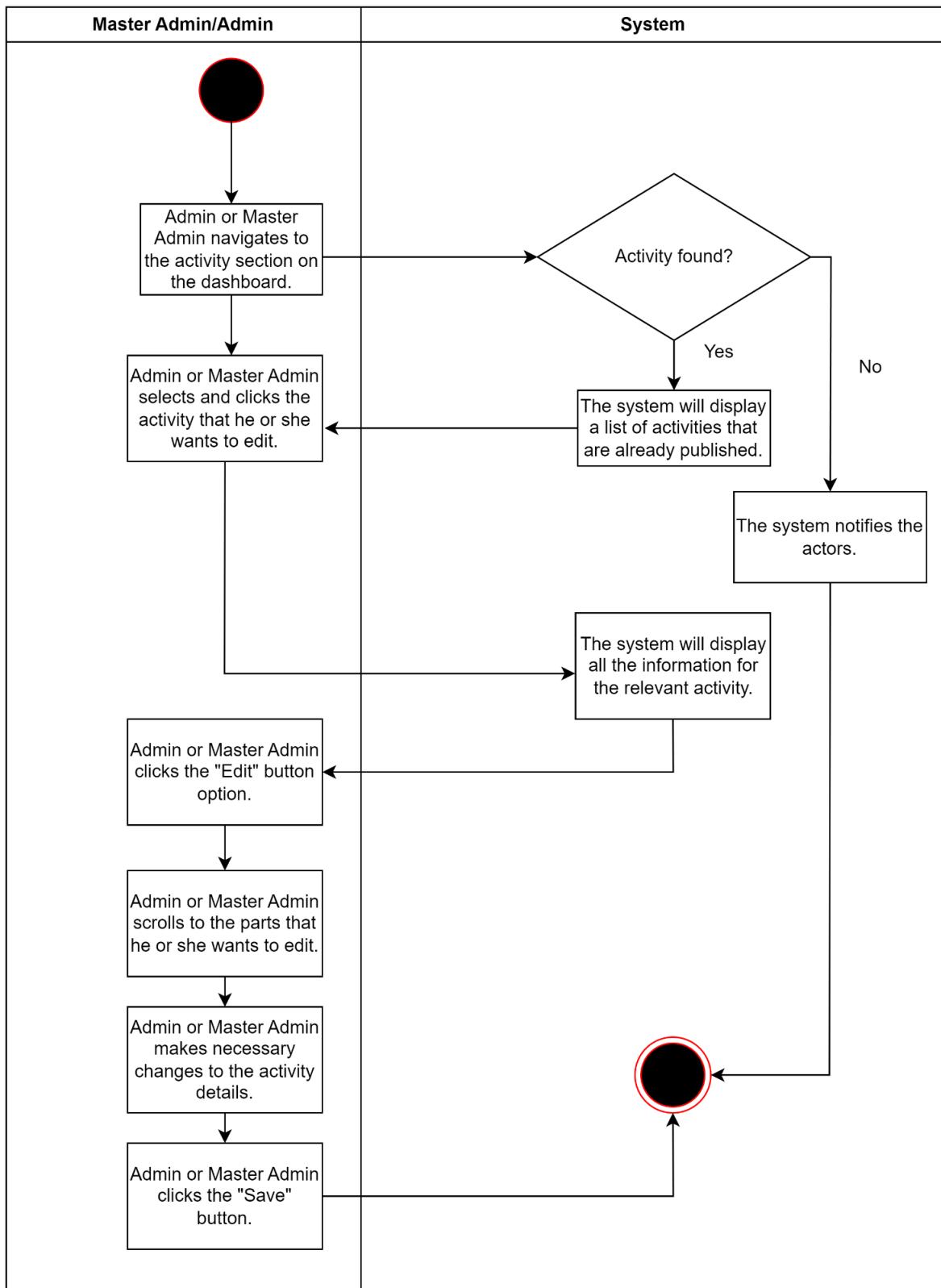
## **Module 004: Activity Module**

UC009: Use Case <Publish Event>



*Figure 4.2.4.1 : Activity Diagram of Publish Event*

UC010: Use Case <Edit YV Activity Details>



*Figure 4.2.4.2 : Activity Diagram of Edit YV Activity Details*

## UC011: Use Case <Add Student Personal Activity>

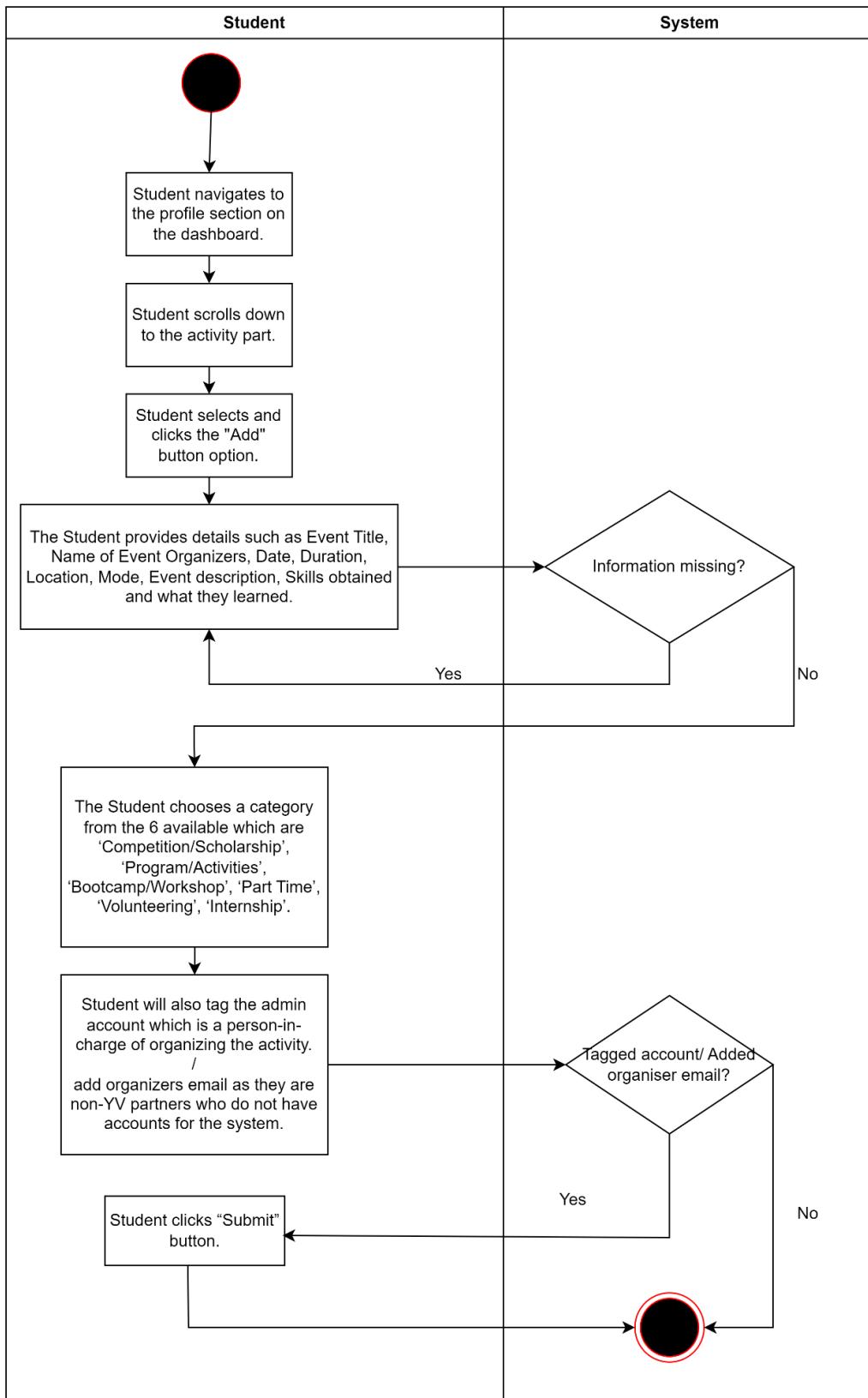


Figure 4.2.4.3 : Activity Diagram of Add Student Personal Activity

## UC012: Use Case <View Activity>

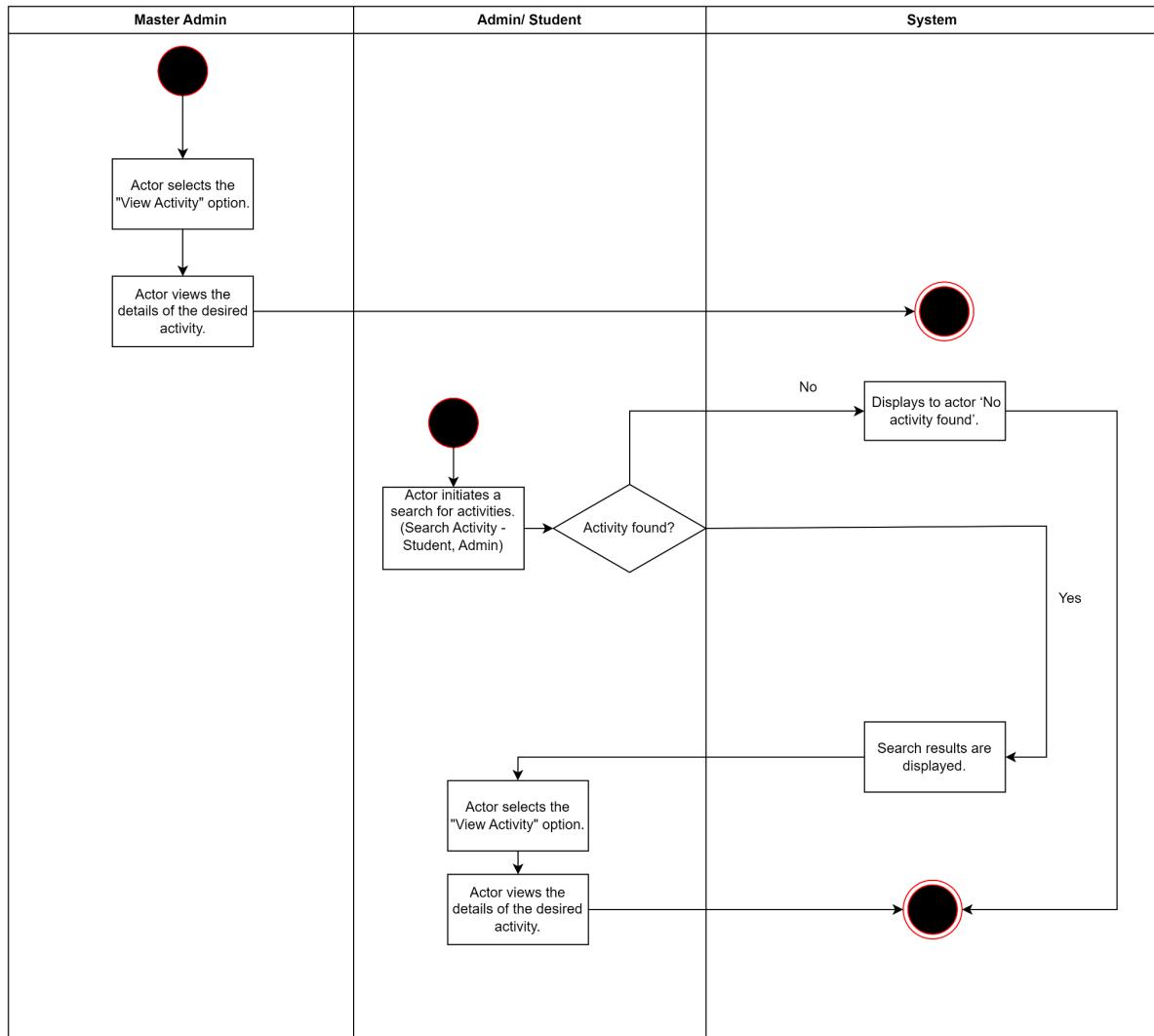
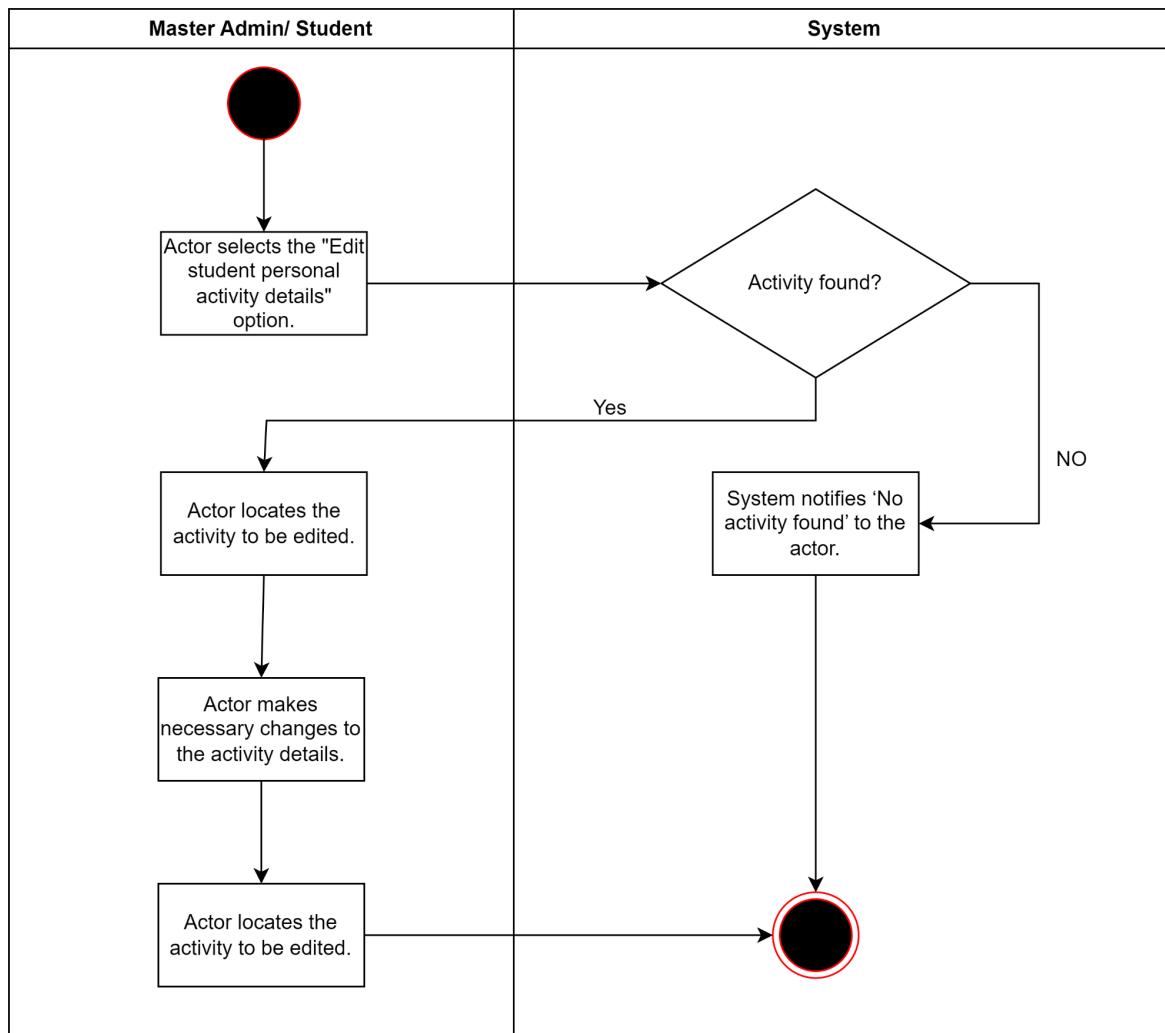


Figure 4.2.4.4 : Activity Diagram of View Activity

UC013: Use Case <Edit Student Personal Activity Details>



*Figure 4.2.4.5 : Activity Diagram of Edit Student Personal Activity Details*

UC014: Use Case <Validate Student Personal Activity>

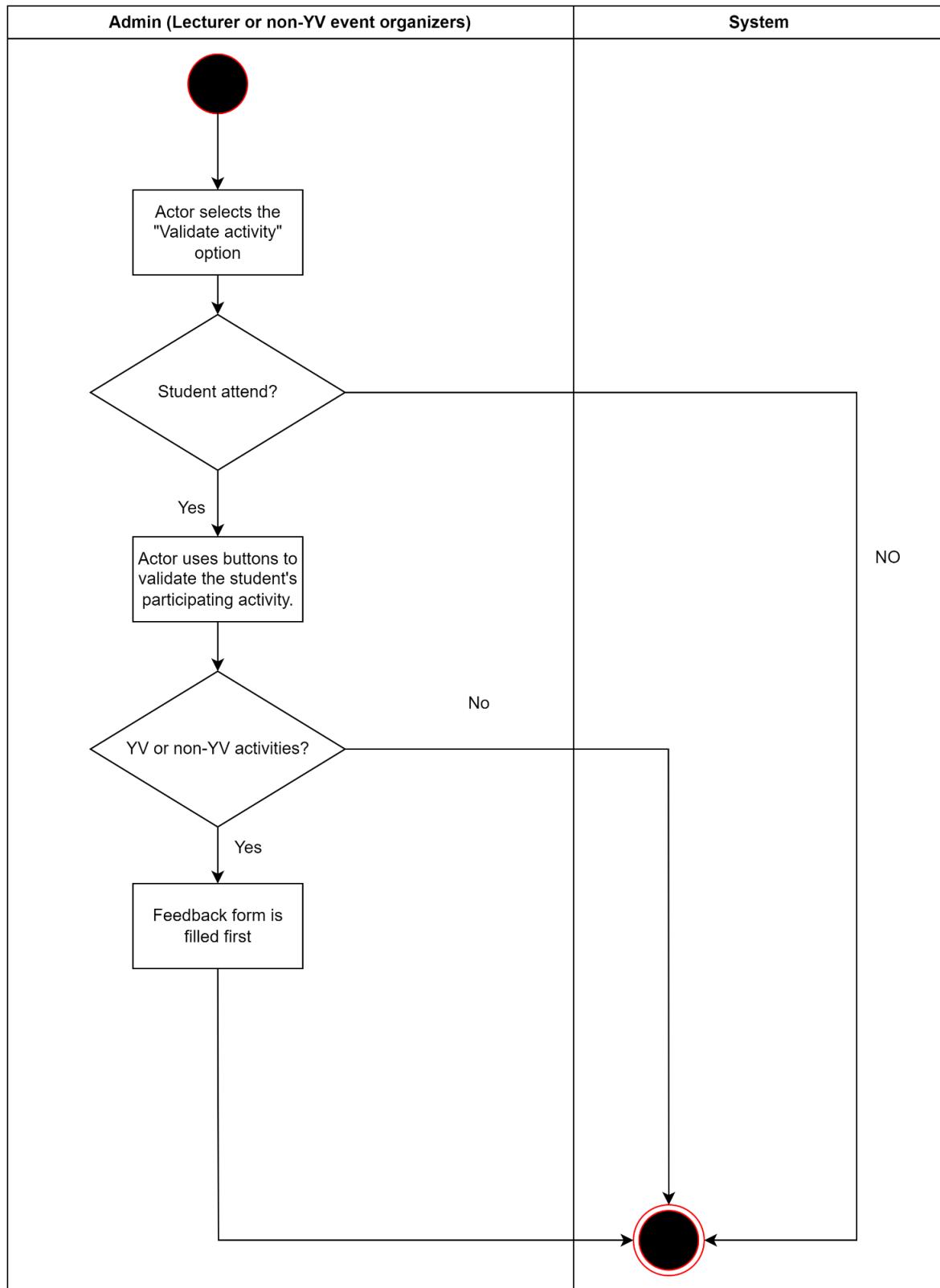
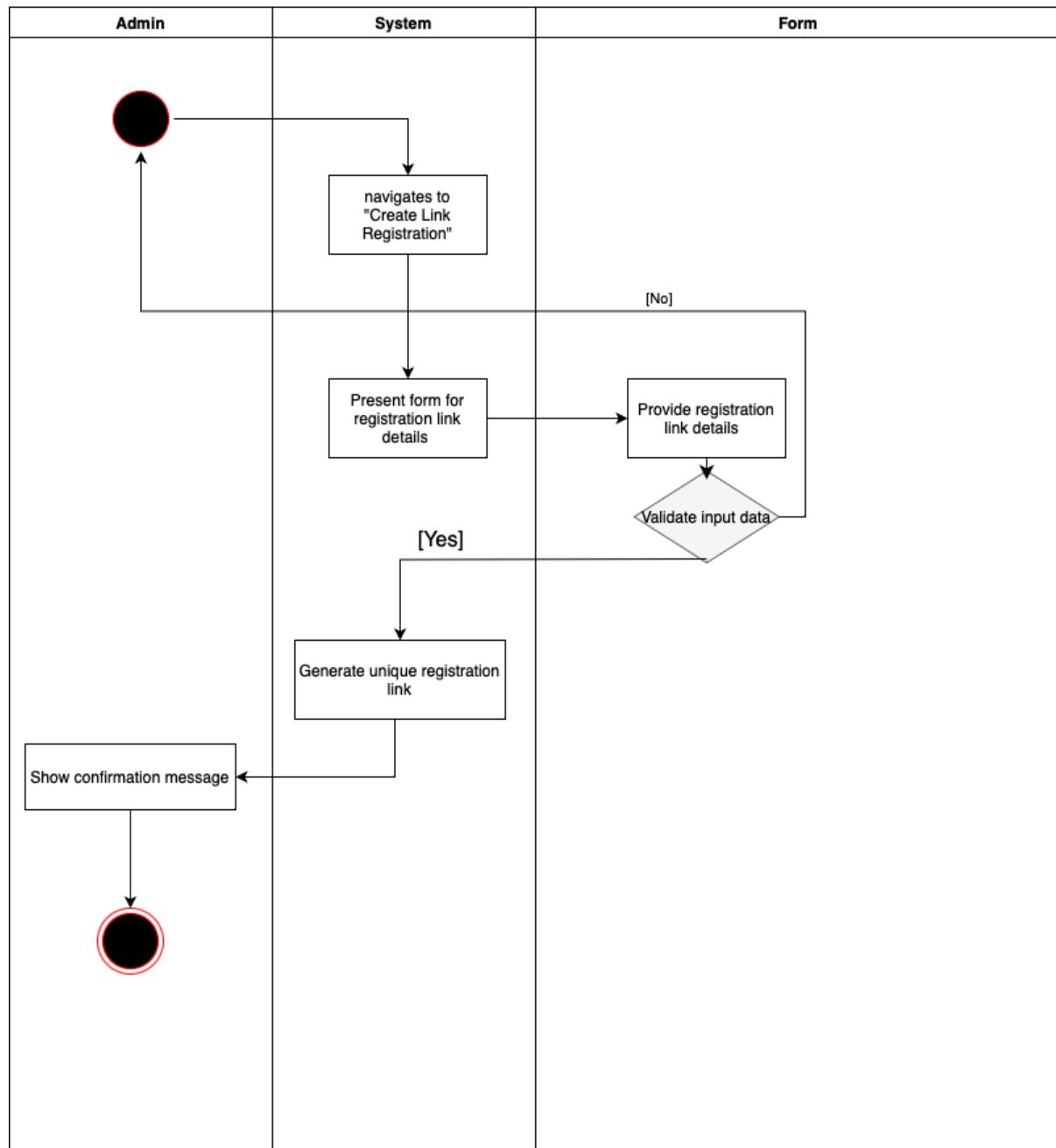


Figure 4.2.4.6 : Activity Diagram of Validate Student Personal Activity

## **Module 005: Registration Module**

UC015: Use Case <Create Registration Link>



*Figure 4.2.5.1 : Activity Diagram of Create Registration Link*

UC016: Use Case <View Registration Data>

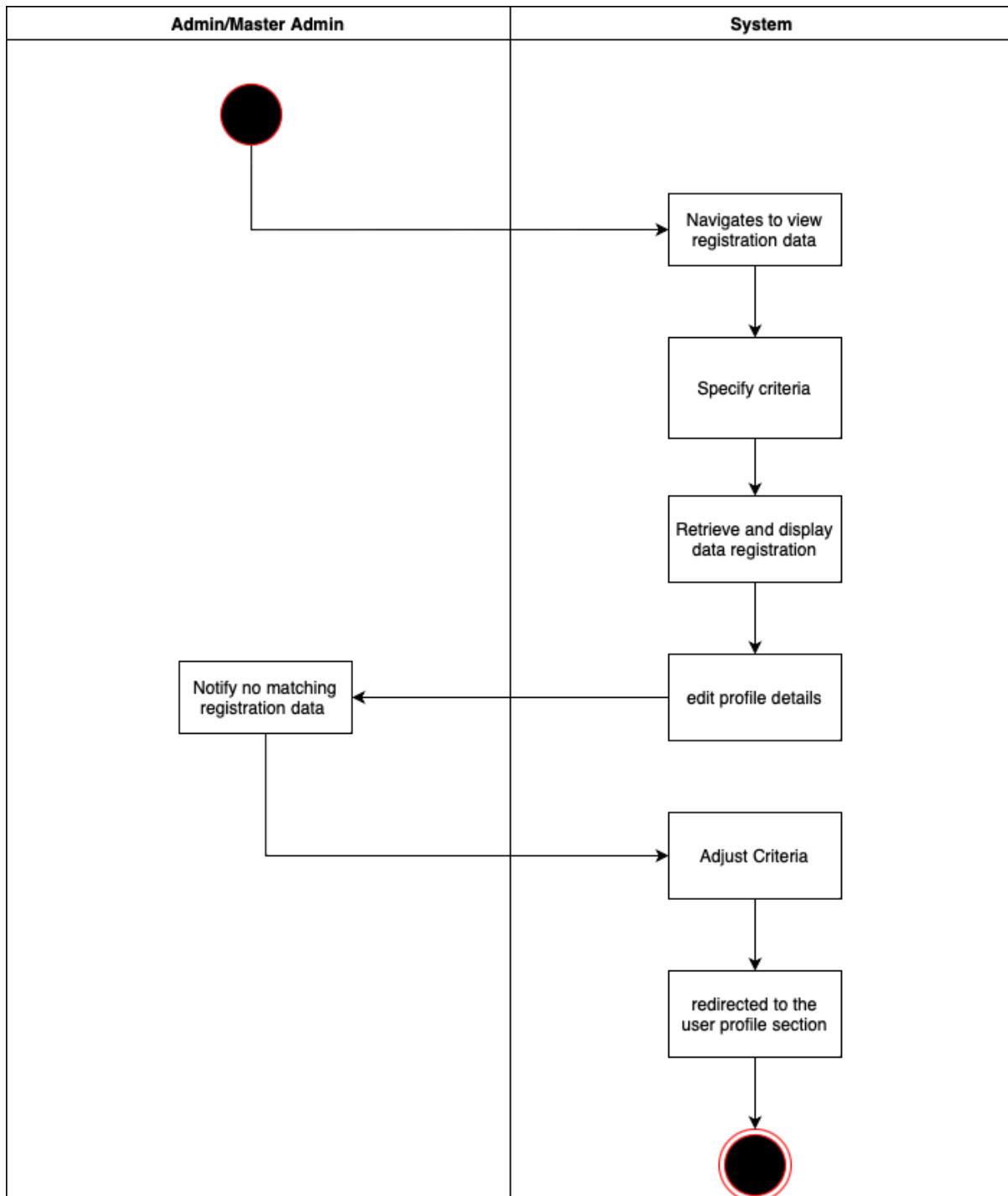
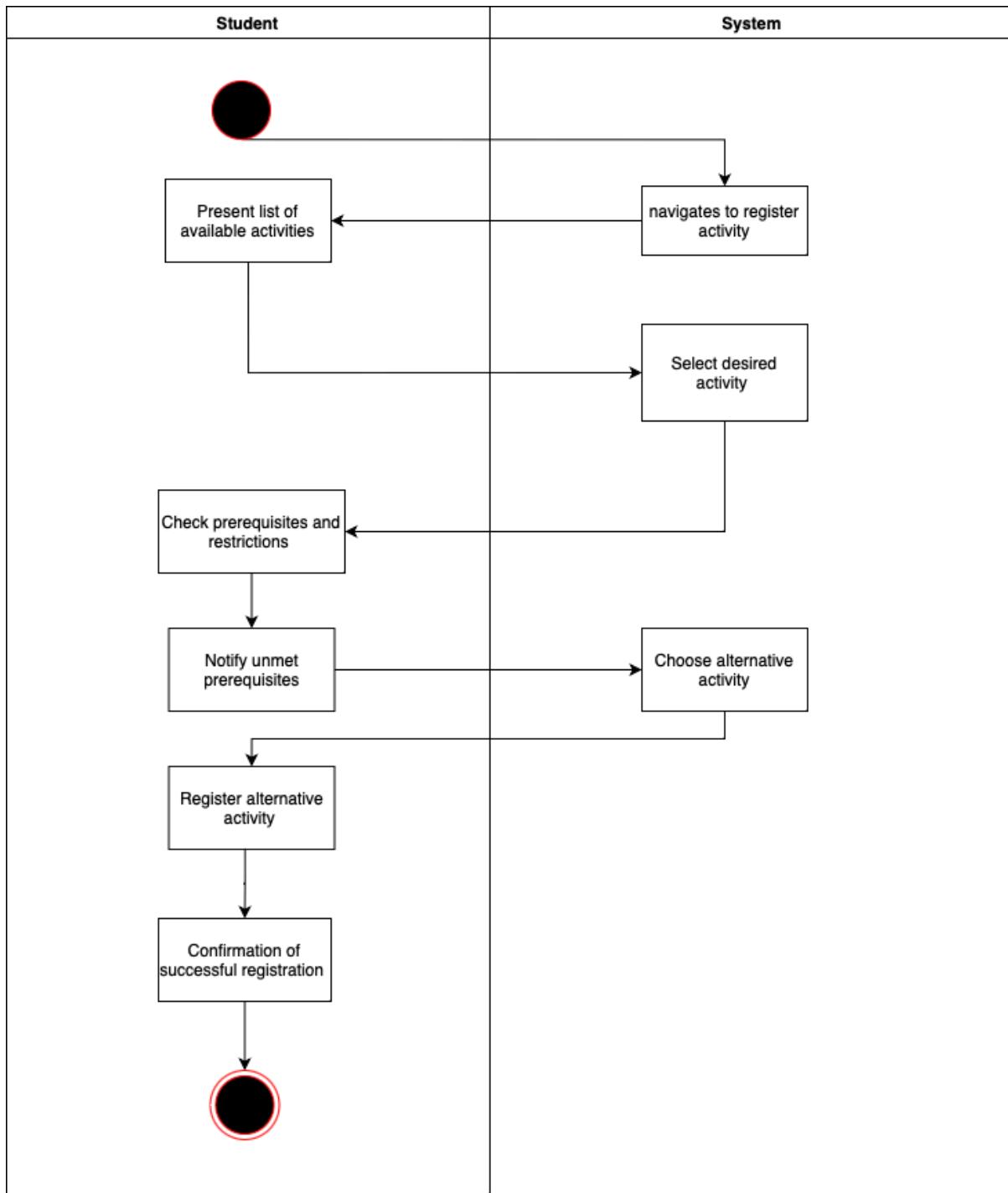


Figure 4.2.5.2 : Activity Diagram of View Registration Data

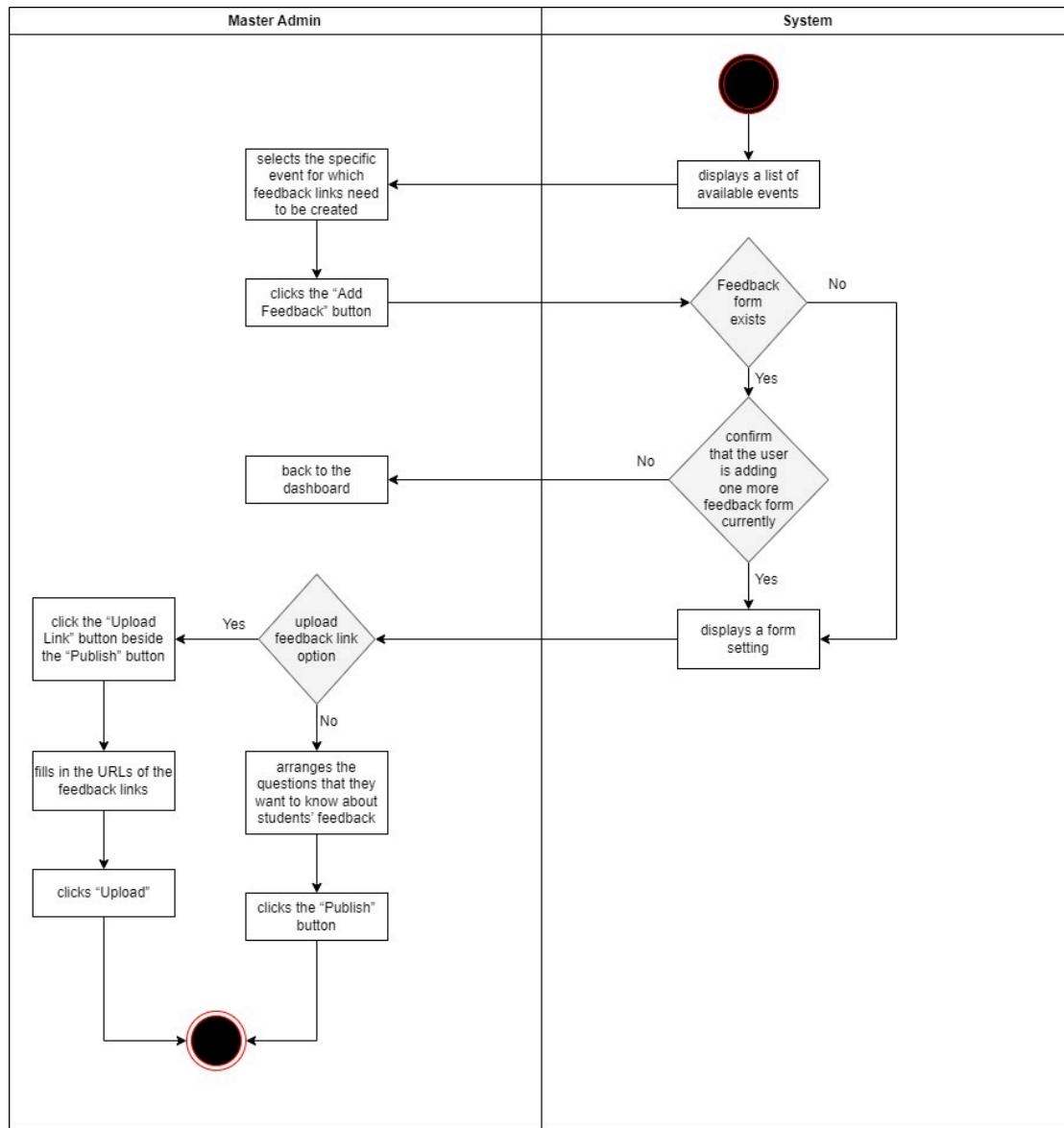
## UC017: Use Case <Register Activity>



*Figure 4.2.5.3 : Activity Diagram of Register Activity*

## **Module 006: Feedback Module**

UC018: Use Case <Create Feedback Form>



*Figure 4.2.6.1: Activity Diagram of Create Feedback Form*

## UC019: Use Case <Fill Feedback Form>

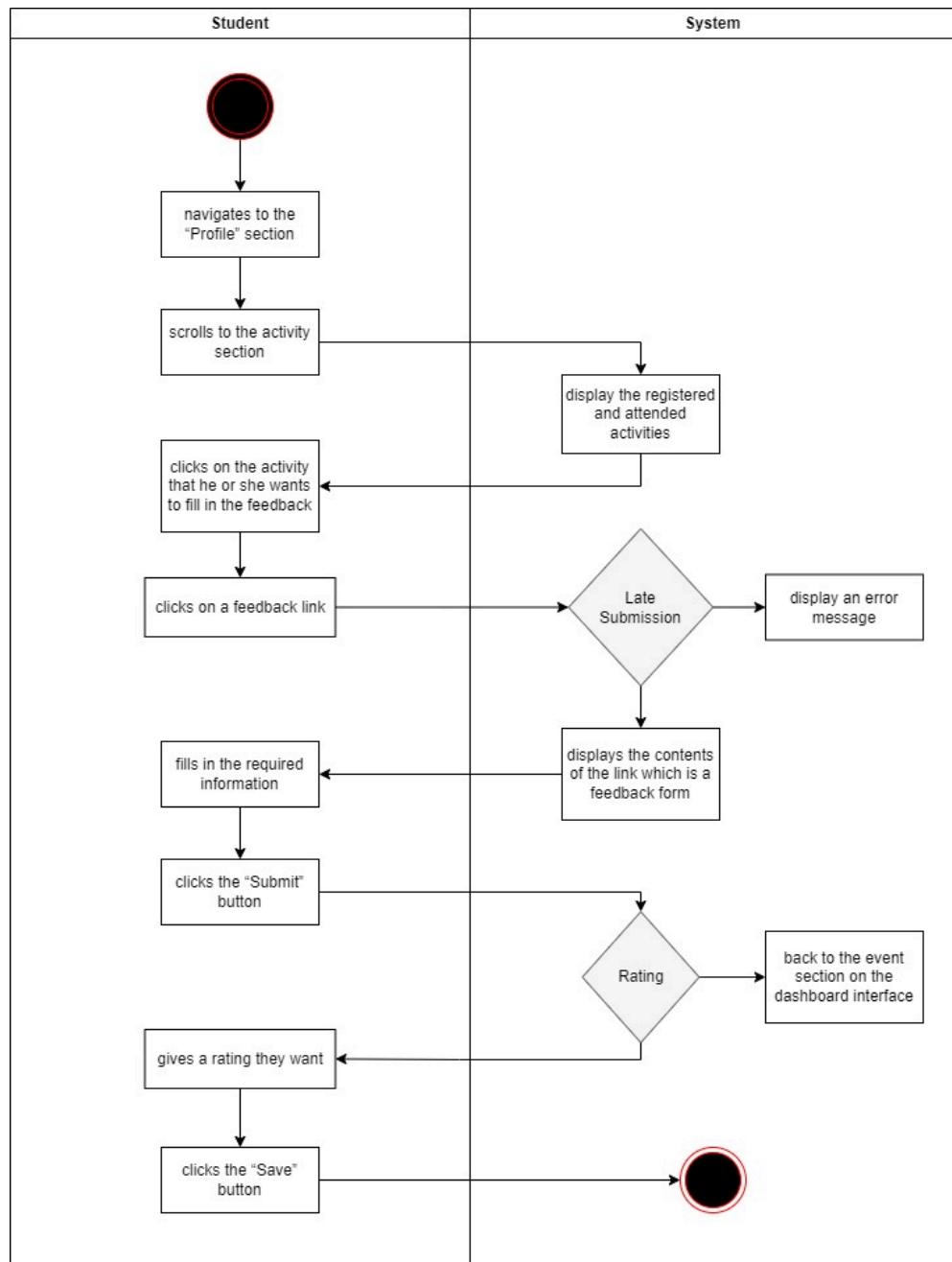
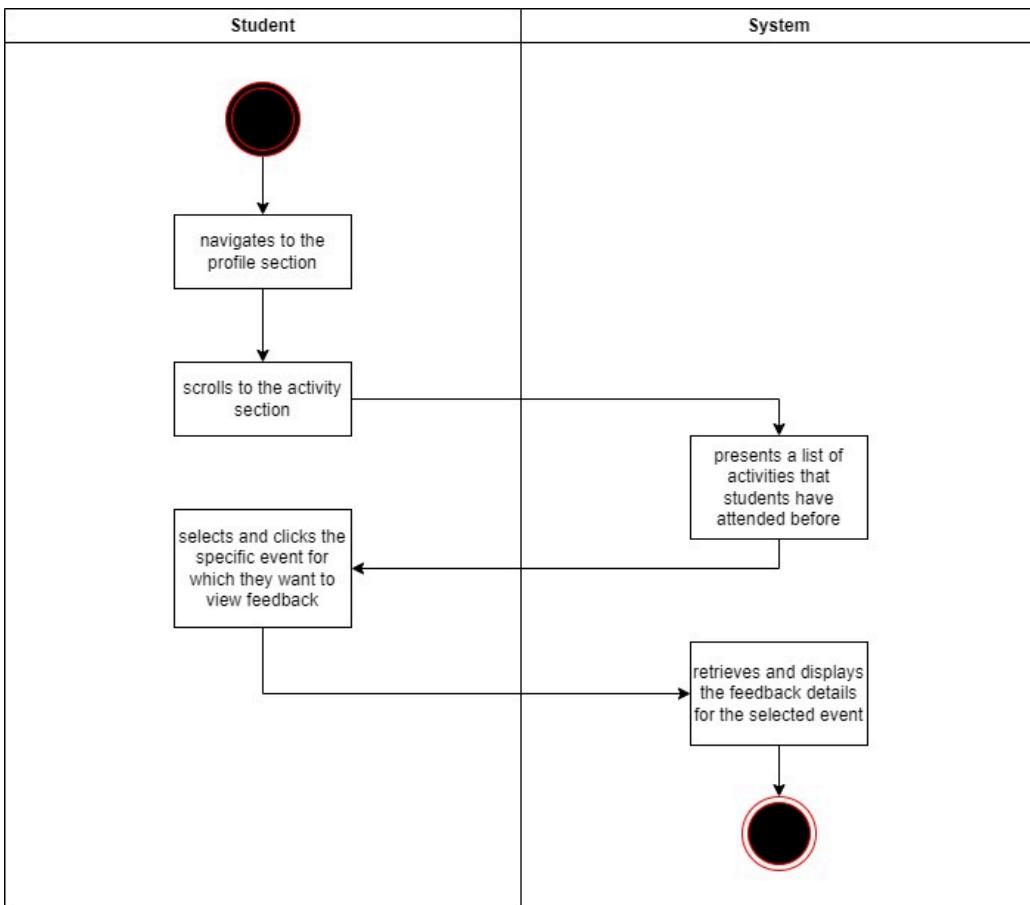


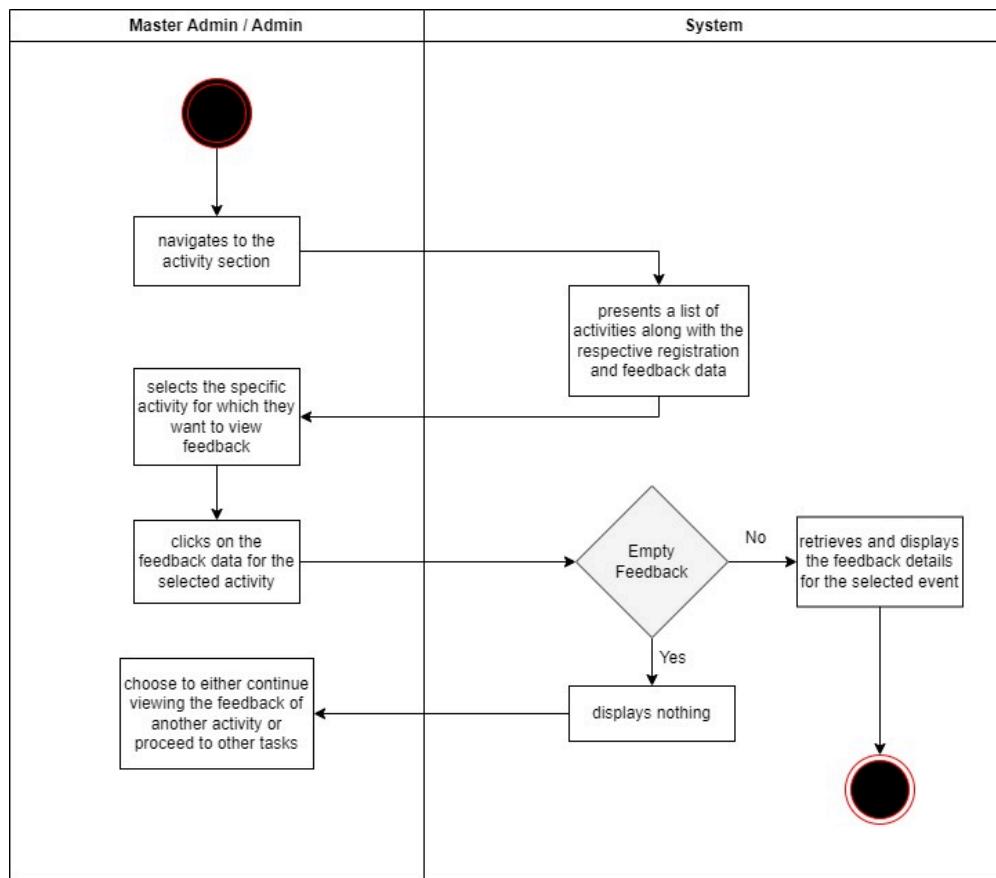
Figure 4.2.6.2: Activity Diagram of Fill Feedback Form

## UC020: Use Case <View Feedback History>



*Figure 4.2.6.3: Activity Diagram of View Feedback History*

### UC021: Use Case <View Student Feedback List>



*Figure 4.2.6.4: Activity Diagram of View Student Feedback List*

## UC022: Use Case <Give Review>

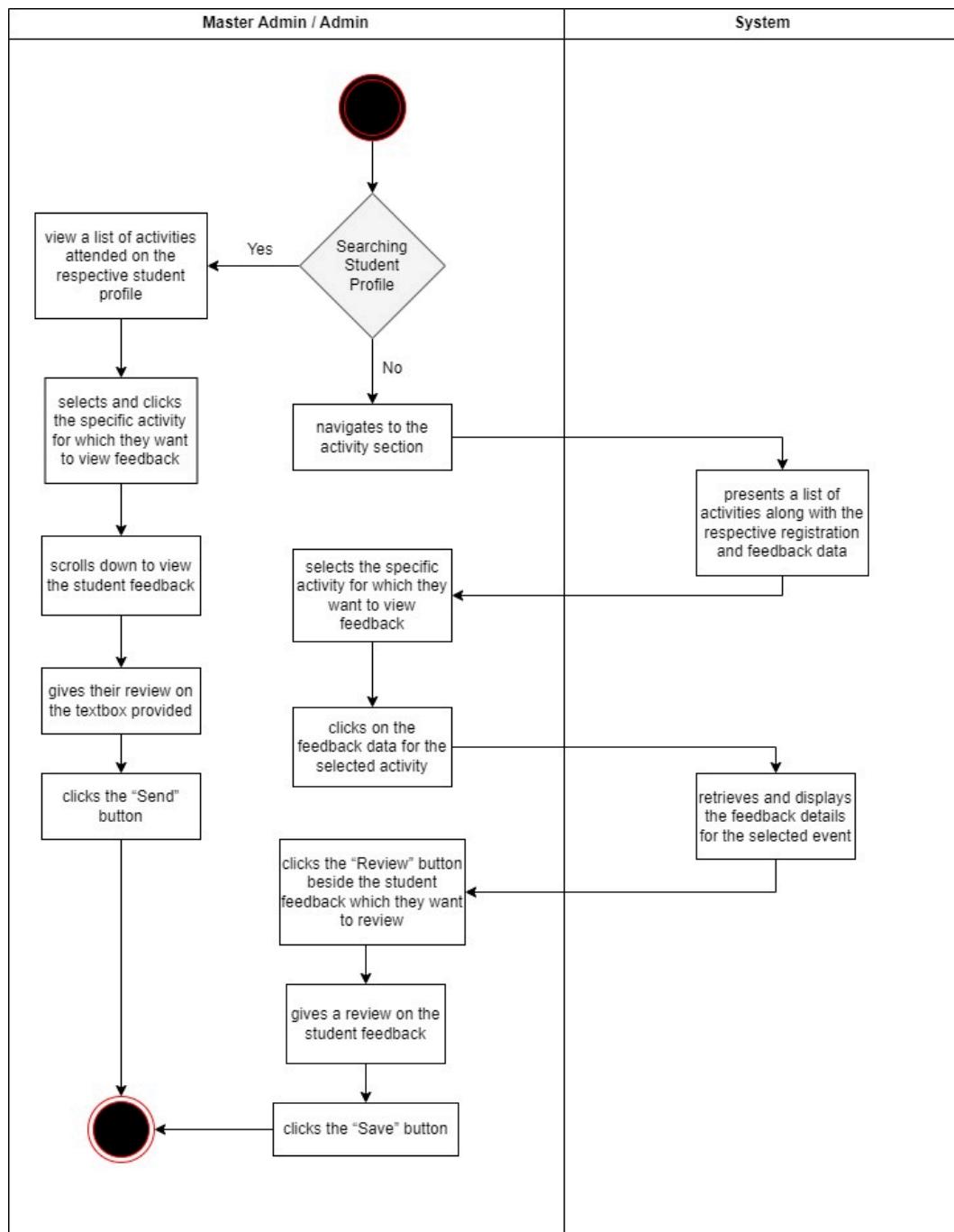


Figure 4.2.6.5: Activity Diagram of Give Review

## **Module 007: Reward Module**

UC023: Use Case <View Reward>

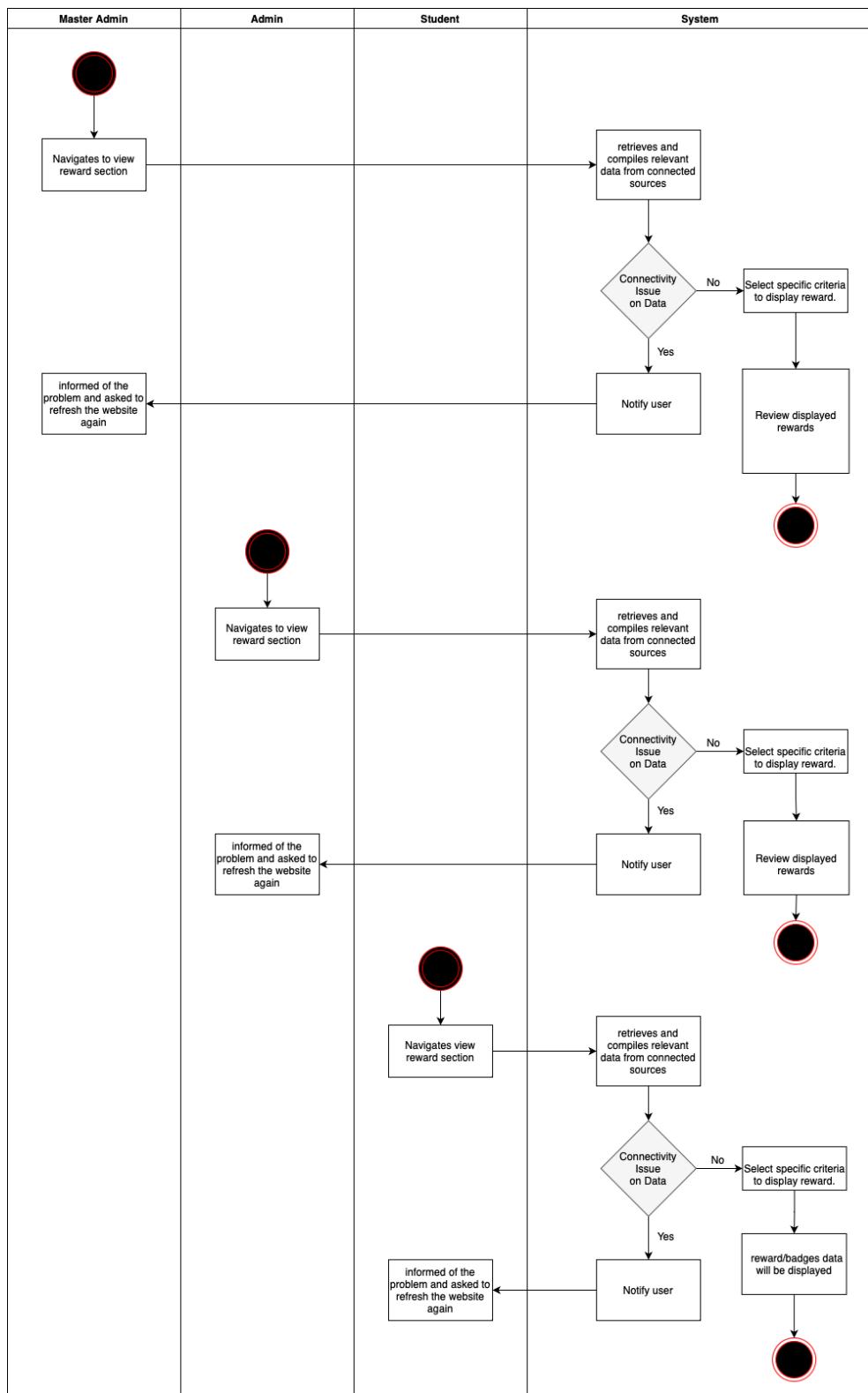


Figure 4.2.7.1: Activity Diagram of View Reward

### UC024: Use Case <Create Reward>

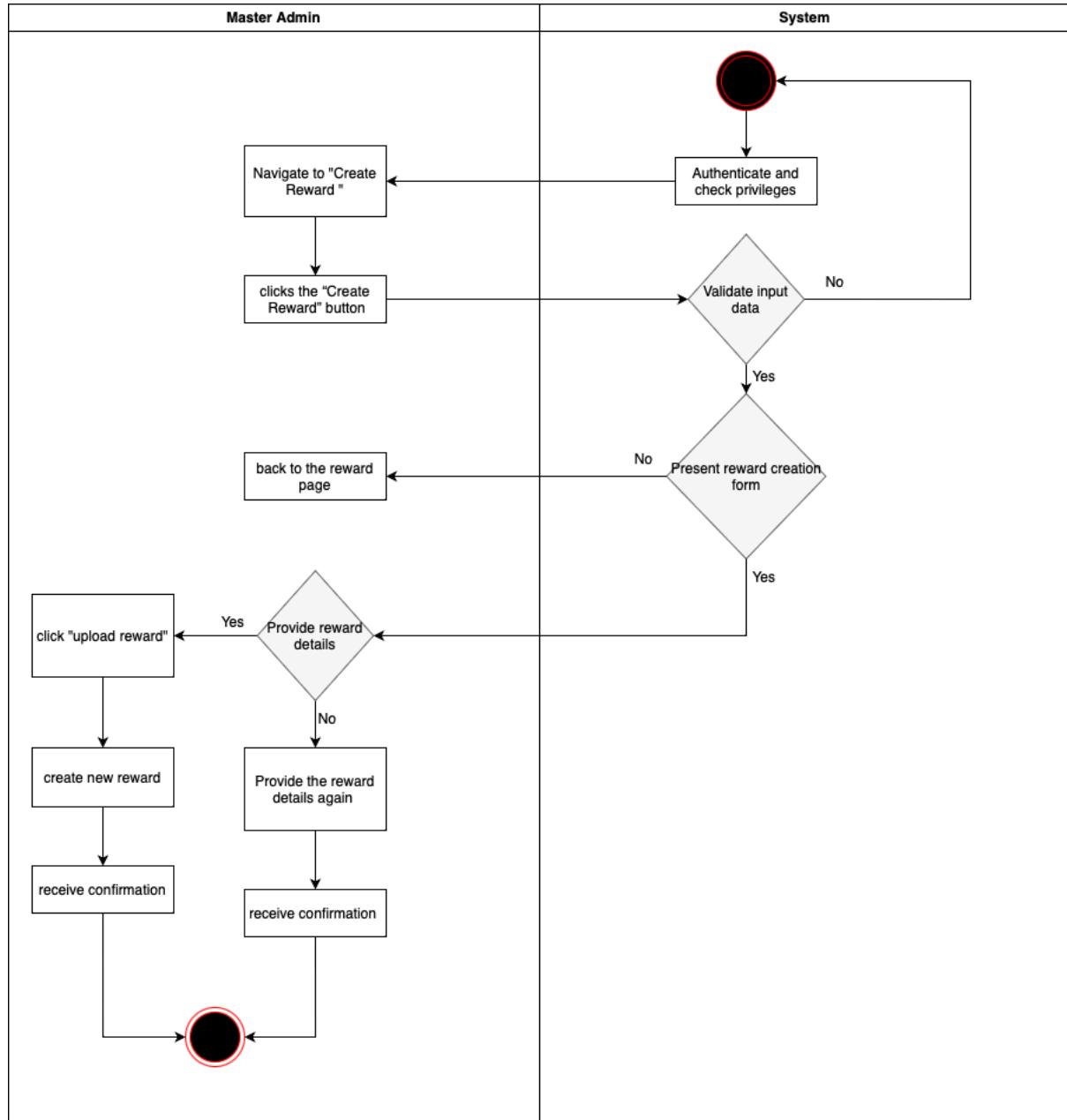


Figure 4.2.7.2: Activity Diagram of Create Reward

UC025: Use Case <Give Reward>

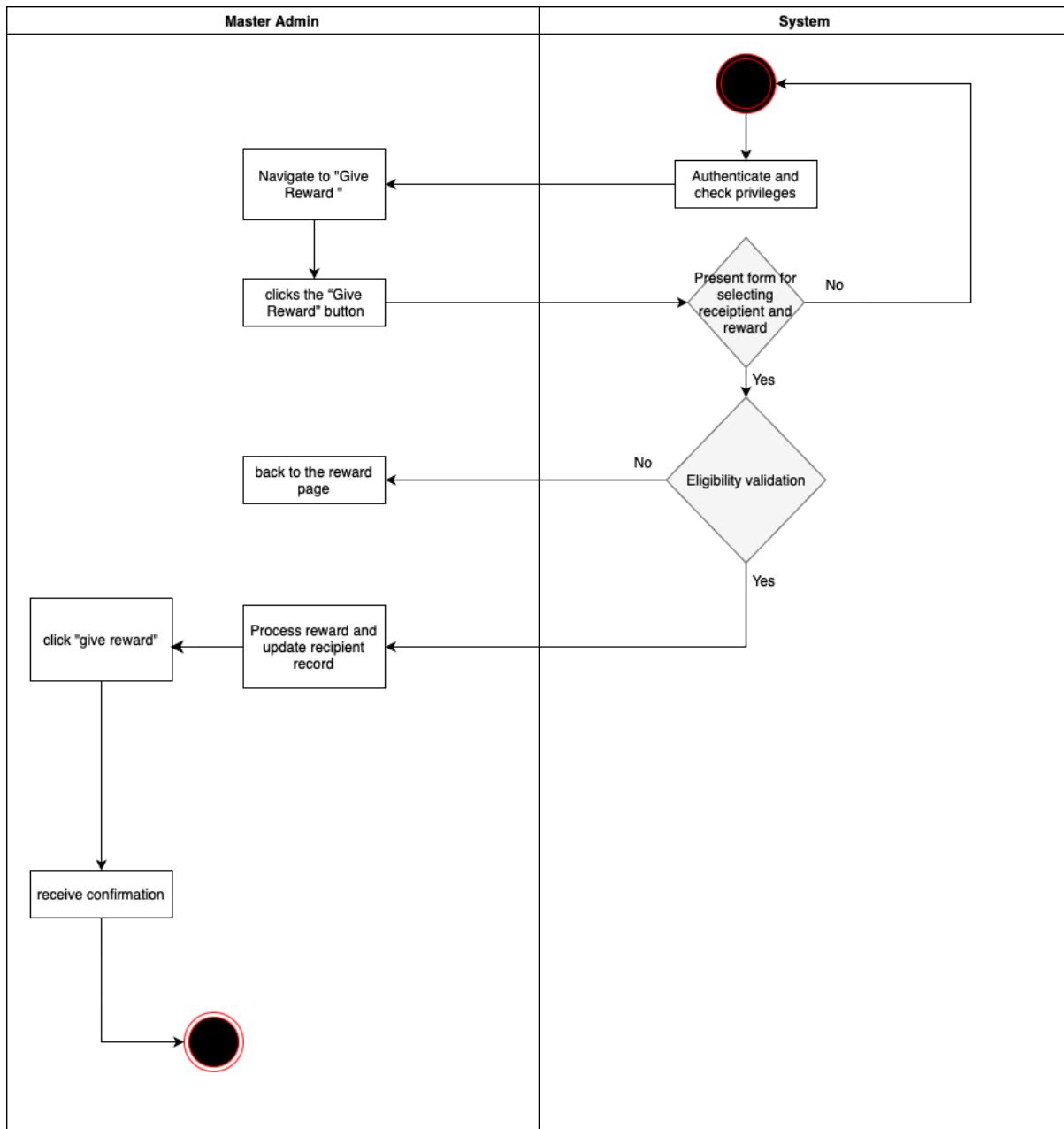
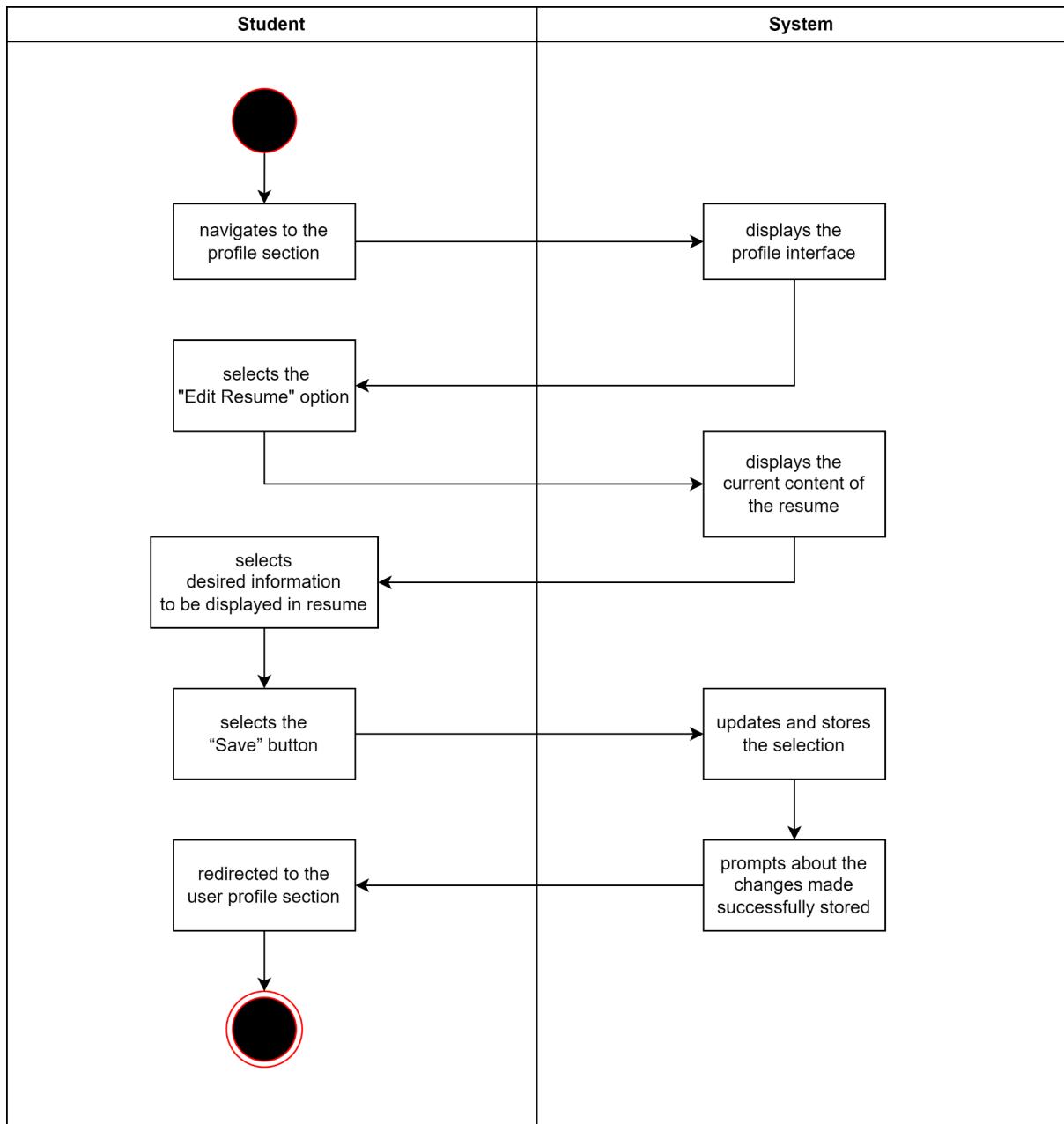


Figure 4.2.7.3: Activity Diagram of Give Reward

## **Module 008: Resume Module**

UC026: Use Case <Edit Resume>



*Figure 4.2.8.1 : Activity Diagram of Edit Resume*

## UC027: Use Case <Download Student Resume>

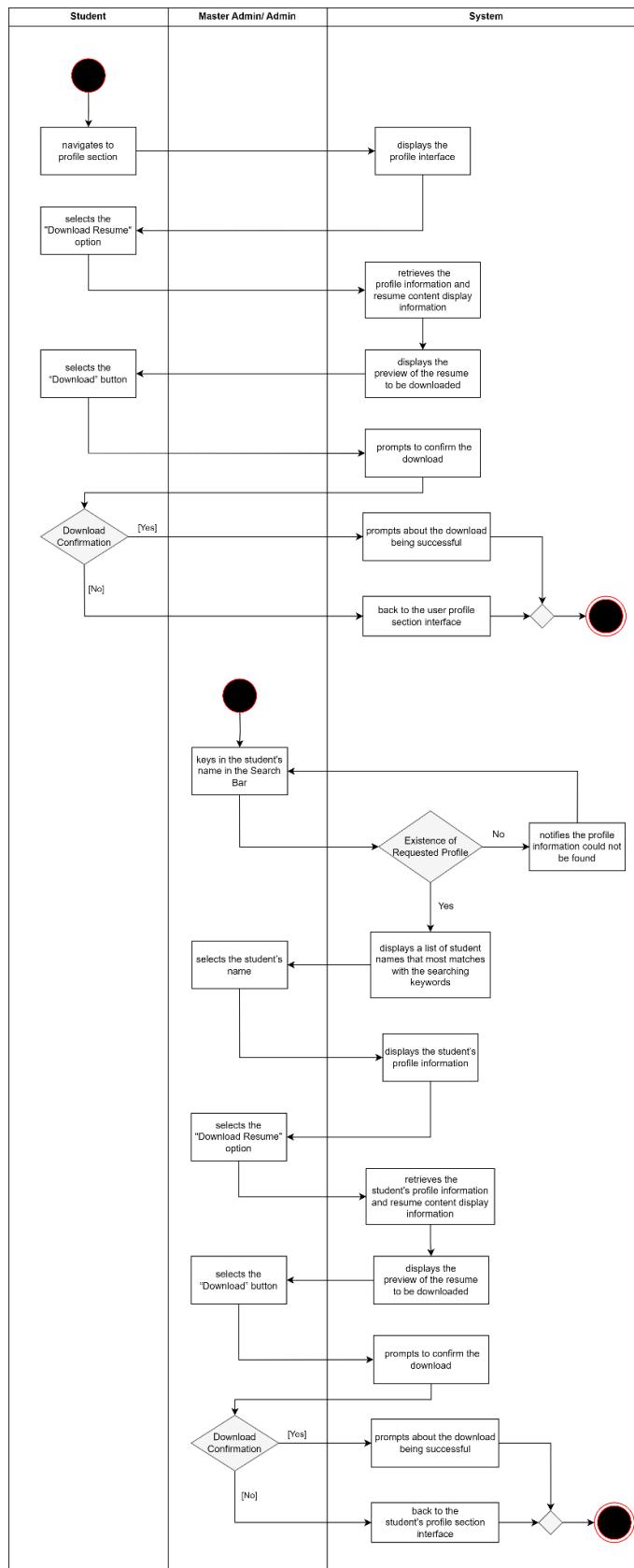
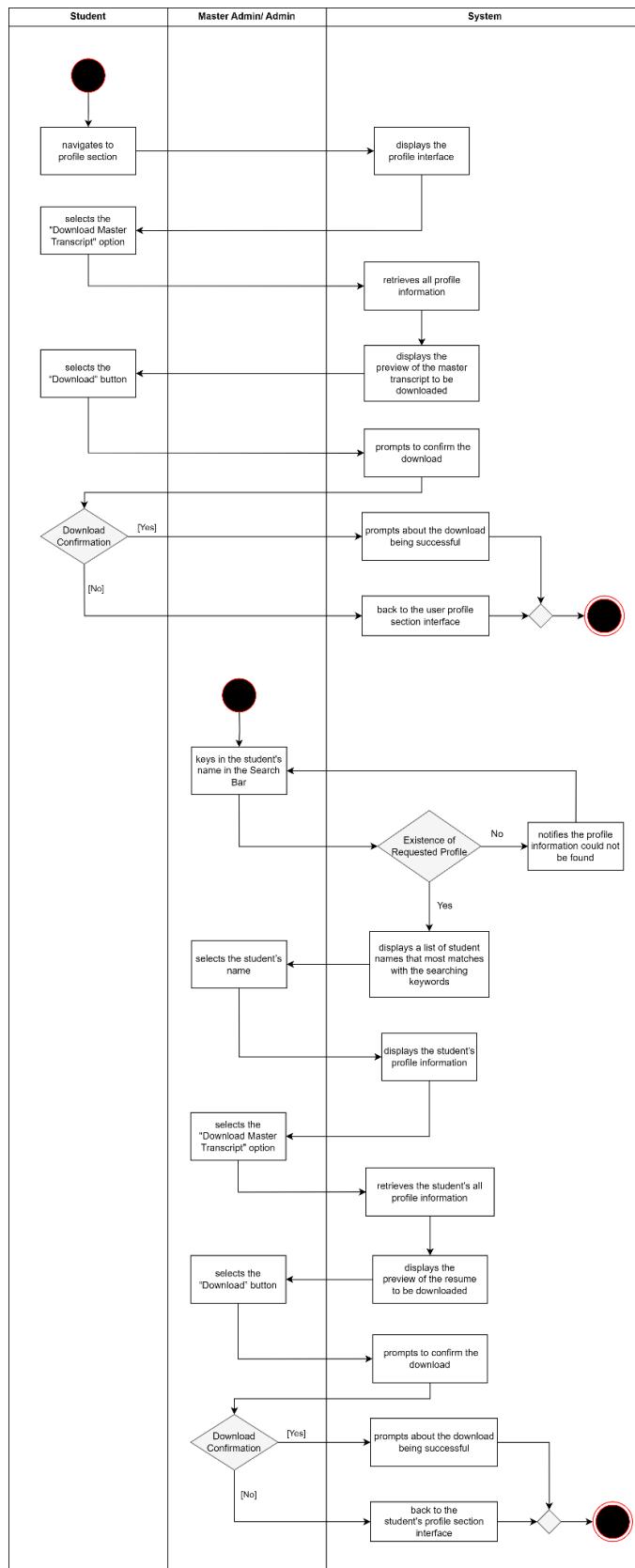


Figure 4.2.8.2 : Activity Diagram of Download Student Resume

## UC028: Use Case <Download Master Transcript>



*Figure 4.2.8.3 : Activity Diagram of Download Master Transcript*

## 4.3 Meeting Log

### Log Book #1



SECP2523 – Database (WBL)

Log Meeting

### MEETING AGENDA

<b>Group Name:</b>	Explorer	<b>Time:</b>	10:00 am - 12:30 pm
<b>Date of Meeting:</b> <b>(DD/MM/YYYY)</b>	28/11/2023	<b>Location:</b>	Physical (MP2, N28a)

#### 1. Meeting Objective

- To identify each entity needed in the database.
- To create a data dictionary.
- To design the conceptual design using draw io.

#### 2. Attendees

Name	Department/Division	E-mail	Phone
KOH LI HUI	School of Computing	kohhui@graduate.utm.my	012-768 2618
KOH SU XUAN	School of Computing	koh.xuan@graduate.utm.my	011-1077 8126
LEE YIK HONG	School of Computing	lee.hong@graduate.utm.my	018-378 8589
VINESH A/L VIJAYAKUMAR	School of Computing	vinesh03@graduate.utm.my	012-346 5289

#### 3. Meeting Agenda

Topic	Person in Charge (PIC)	Action
- Suggest for enhancement	Vinesh A/L Vijayakumar	- Recall back and clarify the project requirements.
- Entity Identification.	Koh Su Xuan	- Brainstorm and identify entities relevant to the database.
- Data Dictionary Creation	Koh Li Hui	- Define attributes for each identified entity. - Clarify data types, constraints, and any specific requirements. - Begin creating a data dictionary collaboratively.
- Conceptual Design using draw.io.	All members	- Begin creating the conceptual design using

		the identified entities and their relationships.
--	--	--

#### 4. Meeting Reflection

After we had a meeting, we successfully identified and documented key entities related to the database. We also have clarified relationships between entities, fostering a shared understanding. The meeting was productive in achieving its objectives of entity identification, and data dictionary creation. With this, we have an idea to develop a conceptual design using draw.io.

Prepared by:



(           Koh Li Hui           )

Approved by:

.....  
(Signature & Stamp)

## Log Book #2



SECP2523 – Database (WBL)

Log Meeting

### MEETING AGENDA

Group Name:	Explorer	Time:	11:00 am - 1:00 pm
Date of Meeting: (DD/MM/YYYY)	3/12/2023	Location:	Online Meeting (Webex)

#### 1. Meeting Objective

- To discuss global ERD..
- To design the verified ERD using draw io.
- To discuss the parts in the phase 2 report.

#### 2. Attendees

Name	Department/Division	E-mail	Phone
KOH LI HUI	School of Computing	kohhui@graduate.utm.my	012-768 2618
KOH SU XUAN	School of Computing	koh.xuan@graduate.utm.my	011-1077 8126
LEE YIK HONG	School of Computing	lee.hong@graduate.utm.my	018-378 8589
VINESH A/L VIJAYAKUMAR	School of Computing	vinesh03@graduate.utm.my	012-346 5289

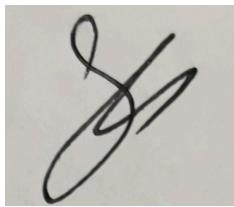
#### 3. Meeting Agenda

Topic	Person in Charge (PIC)	Action
- Suggestion to enhance the descriptions	Vinesh A/L Vijayakumar	- Suggested to add different colors to the entity diagram.
- Discuss system overview	Koh Su Xuan	- Explain each entity and create a local ERD for each entity.
- Clarify the ERD	Koh Li Hui	- Check and update the ERD diagram to ensure no errors.
- Conceptual Design using draw.io.	All members	- Continue editing and updating ERD together using draw io.

#### 4. Meeting Reflection

After we had a meeting, we shared the ideas of changing the ERD diagram. We also update the diagram. After doing that, we design local ERD, and then we design global ERD in draw.io. Finally, we edit and update VERIFIED ERD based on the data transaction we made in phase 2 report. Thus, every group member has their deep understanding about the database phase 2 report.

Prepared by:



( Vinesh A/L Vijayakumar )

Approved by:

(Signature & Stamp)

## References

