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UNIVERSITI TEKNOLOGI MALAYSIA

School of
Computing

SECJ 2253: Software Modeling and
Requirements Engineering

Software Requirements Specification

< TVPSS Management System >

<Version 2.0>

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Revision Page

a. Overview

The current version of Software Requirements Specification includes introduction, overall description and specific terms. This document will describe the development of the software requirements specification that we have obtained from our system stakeholders, depending on three requirements modeling perspective for our proposed system, including Data, Functional and Behavioral perspectives. Each chapter in the Software Requirements Specification is discussed in detail and follows the principles of Requirements Engineering and Software Modeling.

b. Target Audience

- Students
- School administrators
- TVPSS officers

c. Project Team Members

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d. Version Control History

Version	Primary Author(s)	Description of Version	Date Completed
1.0	LAU YUN XI	1. User Requirements Definition	31/5/2024

		2. Requirements Model Document (Functional, Data, Behavioral Perspectives)	
2.0	1. LAU YUN XI 2. AHMED ZAKI AHMED MOHAMMED AL GABALY	Software Requirements Specification of TVPSS Management System	12/6/2024

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1. Introduction

1.1 Purpose

This SRS describes the proposed requirements for the TPSS Management System. It details what the TVPSS Management System will do and how it will function. The purpose of this SRS is to provide a thorough description of individual requirements and constraints, catering to the needs of stakeholders, including Students, School administrators and TVPSS officers. The document also outlines the software product's functionality to meet stakeholders' needs. While the proposed system aims to be more efficient, its functional requirements will be more complex. In addition, the use cases will be divided into several modules under System Features, each accompanied by a specific diagram. To ensure clarity for the intended users, use case specifications and activity diagrams will be provided.

The intended audience for this SRS includes:

1. **Students:** To understand how the proposed system will support their needs and improve their interactions with the school's administrative processes such as talent acquisition process.
2. **School administrators:** To comprehend the proposed system's capabilities and how it will aid in managing their operation more effectively, such as data input process and interview scheduling process.
3. **TVPSS officers:** To verify the proposed system's suitability for their workflow, review the improvements and suggestions and ensure the system's reporting functions meet the requirements of the relevant departments.

1.2 Scope

The software product is a computerized solution for current operation of TVPSS named TV PSS Management System. In our proposed system, we are creating an efficient web based MIS for TVPSS program. We must improve the existing TVPSS system by removing the shortcomings of the existing system and including new features according to the stakeholders' needs. The TV PSS Management System is focused on being a web-based system since it is more convenient to operate. The software product will be used to collect data about the TVPSS program's status at each school, manage access control for different roles and filter talent recruitment automatically depending on their criteria.

The users need to login to their account using DELIMa account. By using this account, users' role can be identified automatically according to their account such as students, school admin, district-level admin and super admin. Students can only access the viewer role which is to view the website and get any information about TVPSS program only. While for school admin, they can access the data input function for data collecting process. District-level admins can access the information of TVPSS program at their respective district including the schools' program status. While super admin can retrieve all the information about this TVPSS program.

For data input and verification process, it will be automated. After inputting the data for criteria of each school, the system will automatically assign the respective version. This may reduce the potential error and speed up the time for data input. When upper-level admin is going to verify and validate the process it is easier to retrieve the data according to version assign.

The talent acquisition process will be enhanced with features enabling the system to filter candidates based on predefined criteria and keyword talents aligned with the required qualifications and skills for specific roles. This functionality will substantially reduce the manual effort required for screening and shortlisting candidates, facilitating a more targeted selection process. Furthermore, the system will feature automated analytics and reporting capabilities to track and manage candidate applications, schedule interviews, and notify applicants about the status of their applications. These enhancements will ensure that the recruitment process is efficient and effective in identifying qualified candidates for the respective jobs.

For resource allocation and support process, the system will automatically assess each school's need, including equipment, technical support, training essentials, and personnel. Through this assessment, the system will allocate resources and support among schools with consideration to factors like size, number of students, and performance. Throughout the process, the system will constantly monitor and evaluate the utilization of resources and will gather feedback to adjust and improve the allocation plan. The evaluation will be done through collecting data relevant to the established Key Performance Indicators. This way, not only does it become possible to better optimize resource utilization and program effectiveness, but it ensures all schools get the help and support needed to flourish in the TV PSS program.

1.3 Definitions, Acronyms and Abbreviation

Acronyms/Abbreviations	Full-Form	Definitions
SRS	Software Requirements Specification	The document that contains a complete statement about what the software can do
PSS	Pusat Sumber Sekolah	A school resource center, which is typically a facility within a school that provides various educational resources, to support students and teachers in their educational activities.
Stakeolders		People with an involvement in the issues and problems expressed
DELIMa		A unified platform that provides learning management system services and learning resources for educators and students to use for online learning

1.4 References

Sommerville, I. 2016. "Software Engineering", 10th Edition, Pearson.

<https://www.scribbr.com/apa-citation-generator/> Specify complete list of references using a standardized APA reference format.

Kruger, N. (2018). How to Write a Software Requirements Specification (SRS Document). Retrieved from perforce: [How to Write a Software Requirements Specification \(SRSDocument\) | Perforce](#)

Fernando B. (2012). People, Organizational and Technological Dimensions of Software Requirements Specification. Retrieved from Procedia Technology: <https://www.sciencedirect.com/science/article/pii/S2212017312004653>

John. (2011). Use Case Specification Example. All About Requirements. <https://www.allaboutrequirements.com/2011/09/use-case-specification-example.html>

1.5 Overview

The Software Requirements Specification is a document that describes what the system will do and how it will meet the stakeholders' requirements. The introduction provides the objective,

scope, references and an overview of the SRS. The overall description section covers the relevant factors influencing the system and its requirements, including product views and functions, user characteristics, constraints, assumption, dependencies and the division of requirements. The product perspective illustrates how the system fits with other products and operates under various constraints. The product function section describes the system's main features. The specific requirements section details the External Interface Requirements, System Features, Performance Requirements, Design Constraints and Software System Attributes. Each chapter of the SRS is discussed in detail, adhering to the principles of Requirements Engineering and Software Modeling,

2. Overall Description

Figure 2.1 shows the Use Case Diagram (UCD) for TVPSS Management System. There are total of three actors who are students, school administrator and TVPSS officer. A total of 12 use cases are included. Students, school admins and TVPSS Officer can view dashboard of the system in UC001. Students can also submit talent applications to apply as candidates for the TVPSS program. In UC003 school administrators can submit programs' status form through the system. Also, school admins can manage activities on the system by uploading details on activities in the system. After, students submit their talent application form, school admins can view candidates' application form in UC005, manage the talent application form in UC006 and manage interview for selected candidates in UC007. School admins also can submit resource request application in UC008 and give feedback of the system in UC009. While TVPSS officers can view validation reports generated by the system in UC010. TVPSS officers can also manage resource request applications and manage programs' status form submitted by school admins in UC011 and UC012 respectively.

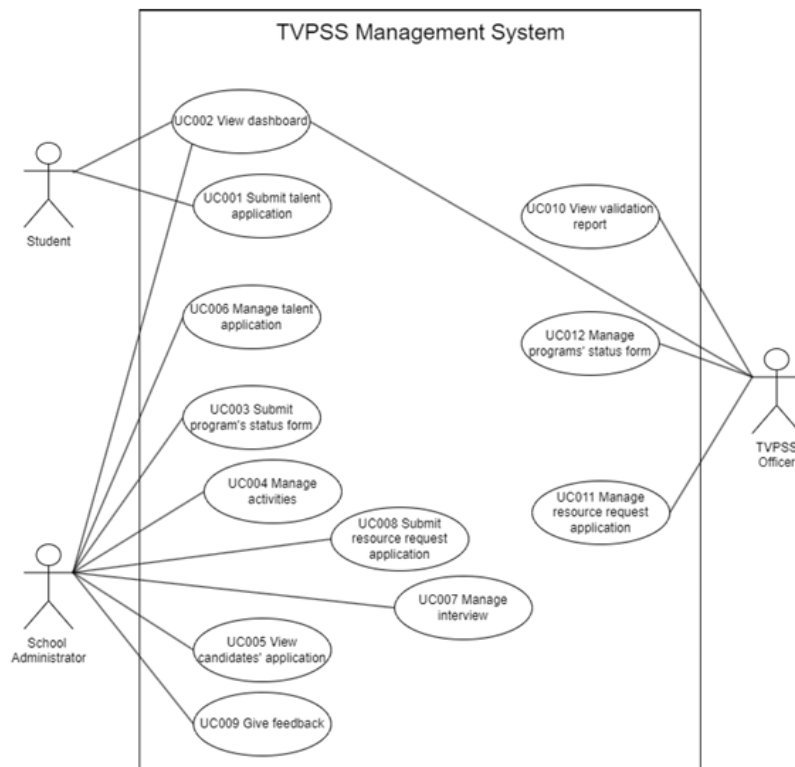


Figure 2.1: Use Case Diagram of <TVPSS Management System >

2.1 Product Perspective

The main system vision for our proposed system is to create an efficient automated web-based TVPSS Management System. According to Figure 2.1, there are 4 sub-goals for this system including secure user authentication, efficient data input and verification system, efficient talent acquisition system and quality resource allocation and support.

For secure user authentication, there are 2 sub-goals to achieve it. First is to implement DELIMa account by using the MOE email for account registration and login to achieve a secure user authentication for accessing TYPSS Management System. This guarantees that users can log in using their email credentials after providing a valid MOE email during the registration process. Furthermore, the system will facilitate 2FA to enhance security. Additionally, to bolster protection against unauthorized access, users will have the option to utilize a recovery email or OTP as a secondary authentication factor when logging in from new devices.

There are 2 sub-goals that need to be met to achieve efficient data collection and verification system. The first one is to develop a user-friendly submission form for users. The design of the submission form should be improved to enhance UX. The submission form needs to be easy to understand and filled in by school administrators. Besides, the system should meet the goal which provides real-time notification for users. The system shall show successfully notification after they filled in all the required data completely and submit it. However, if they left some data incomplete, the system shall display an alert and show a message box about what data is required for failed submissions.

For efficient talent acquisition system, the system shall meet 2 sub-goals which are user-friendly application form and auto filtering functionality for eligible applicants. Developing a user-friendly application form for users with improve UX design will ease students to make their application through the system. Also, their information can be save automatically and reviewed by the admins. Furthermore, by implementing the auto filter functionality applicants with eligible criteria will be filtered out. For successful applicants, they will receive a message generated by the system automatically to be arranged for the interview session. While for failed applicants, they will also receive the failed notification.

To achieve the last sub-goal which is quality resources allocation and support, there are 3 sub-goals to be met. The system needs to establish comprehensive quality assurance 4 guidelines for users, ensuring consistency and reliability. Besides, KPIs should be established

for monitoring the resource utilization and assess program outcomes effectively. These KPIs will provide valuable insights into the effectiveness and efficiency of resource allocation, enabling informed decision-making. Additionally, user feedback mechanisms should be enabled to collect valuable users' input for further improvement and enhance user satisfaction.

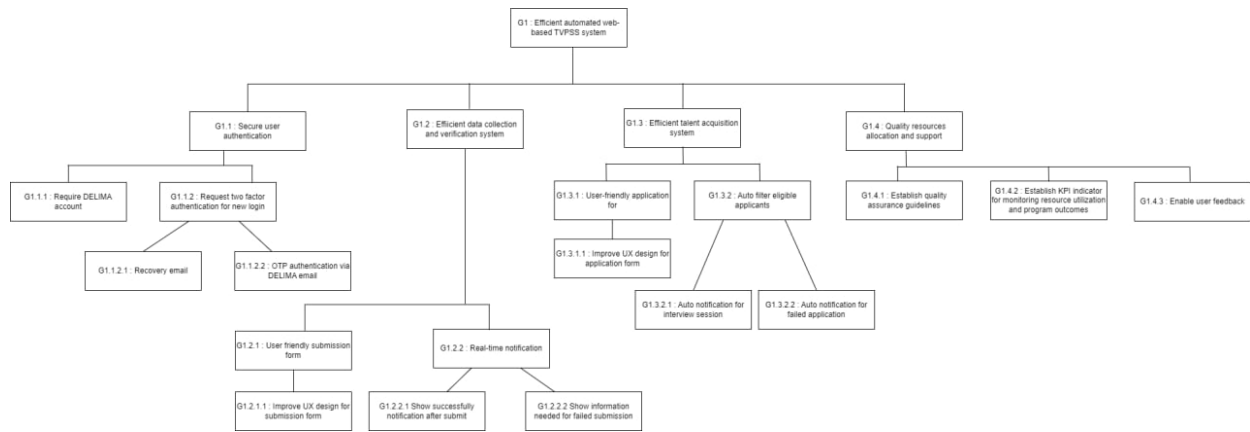


Figure 2.2: Goal Model of TVPSS Management System

2.1.1 System Interfaces

The TVPSS Management System interfaces with various users and external system to fulfill its requirements. The following is the interfaces identified based on the use case diagram:

1. **User Login interface:** Allows users to login using their DELIMA accounts.
2. **Dashboard interface:** Provides a personalized dashboard view according to user roles.
3. **Talent Application interface:** Allows student to submit their applications for the TVPSS program.
4. **Programs' Status Form interface:** Allows school administrators to submit the program status data of their respective school.
5. **Activity Management interface:** Enables school admins to manage the postings and details of activities to be held.
6. **Talent Application Management interface:** Enables school admins to view and manage the submitted talent applications.
7. **Programs' Status Form Management interface:** Allows TVPSS officers to manage the submitted programs' status form.
8. **Feedback interface:** Enables school administrators to give feedback about the system.
9. **Validation Report interface:** Allows TVPSS officer to view validation reports.

2.1.2 User Interfaces

The TVPSS Management System's user interface should be designed to meet the needs of stakeholders including students, school administrators and TVPSS officers. The system will have a user-friendly graphical user interface (GUIs) which we include the use of visual elements like windows, icons, buttons and menus. The system will provide a clear and consistent layout with clear navigation. Each screen will have a header with the system logo and navigation menus specific to the user role. Besides, the page layouts will design to be an intuitive arrangement of elements to facilitate easy navigation and data entry for the users, such as providing a main content area and a footer with contact information. Additionally, users will have access to specific reports and menus based on their roles.

Aspects of optimizing the interface:

DO's

- Provide simple and intuitive navigation to enable users to complete tasks with minimal training.
- Offer clear and concise error messages with options for short or detailed explanations to guide users in resolving their issues.
- Use consistent color schemes and fonts to ensure readability for all users.
- Ensures the forms are auto-saved periodically to prevent data loss.

DON'Ts

- Avoid using technical terms which are unfamiliar to the users.
- Avoid cluttered interfaces that overwhelm the users.
- Avoid using flashy animations or pop-ups that can distract users from their tasks

2.1.3 Hardware Interfaces

TVPSS Management System is compatible with laptops and desktop computers that have Wi-Fi and network connectivity. The system will support standard instruction sets for web browsers. The system will also request for photo or file access for data entry process.

2.1.4 Software Interfaces

The system will use Database Management System and centralized TVPSS program data to organize and store the data of the user personal information, talent application, programs' status form, feedback, activities and validation reports.

2.1.5 Communication Interfaces

The TVPSS Management System will communicate with other systems via an internet network, a database server and web browsers of all types.

2.1.6 Memory

The TVPSS Management System is a data-centric system that required data storage. For primary memory, the system should support a minimum of 4GB RAM for user machines. While for secondary memory, a minimum of 10GB of available disk space is required for user machines. The server should have scalable storage to handle large amounts of data.

2.1.7 Operations

The system is used by three users who are students, school administrators and TVPSS officers. Users will perform actions such as submitting the forms, viewing dashboards and managing applications during the interactive sessions. Therefore, the system shall be able to have data processing functions to process the data collected and store in the centralized database. The system shall allow users to manage the data based on the user roles. Besides, the system shall be able to perform backup and recovery operations. Daily backup of the database, with weekly full backups stored off site. Recovery operations will follow standard disaster recovery protocols to ensure minimal data loss.

2.1.8 Site Adaptation Requirements

Initial setup will include importing existing data on the user DELIMa account. The user roles are automatically assigned based on the imported DELIMa account data. User must be categorized into roles such as students, school administrators and TVPSS Officer according to their DELIMa account details. To achieve better performance, a fast and stable connection is required since the system is designed to be compatible with any portable devices with Wi-Fi and network connectivity. Additionally, the system should complies with local security regulations and data protection laws.

2.2 Product Functions

Based on the Use Case Diagram (UCD) for TVPSS Management System in Figure 2.1, there are total of three actors who are students, school administrator and TVPSS officer. A total of 12 use cases are included. Students, school admins and TVPSS Officer can view dashboard of the system in UC001. Students can also submit talent applications to apply as candidates for the TVPSS program. In UC003 school administrators can submit programs' status form through the system. Also, school admins can manage activities on the system by uploading details on activities in the system. After, students submit their talent application form, school admins can view candidates' application form in UC005, manage the talent application form in UC006 and manage interview for selected candidates in UC007. School admins also can submit resource request application in UC008 and give feedback of the system in UC009. While TVPSS officers can view validation reports generated by the system in UC010. TVPSS officers can also manage resource request applications and manage programs' status form submitted by school admins in UC011 and UC012 respectively.

2.3 User Characteristics

The intended audience for this SRS includes:

1. Students

- Educational level: Secondary school students
- Experience: Basic computer and internet usage skills
- Technical expertise: Familiar with using be applications for educational purpose

2. School Administrators

- Educational level: Bachelor's or higher education
- Experience: Experienced in school administration and data management
- Technical expertise: Proficient in using administrative software and web-based management systems

3. TVPSS Officers

- Educational level: Bachelor's or higher education
- Experience: Experienced in program management and evaluation

- Technical expertise: Advanced proficiency in using management information systems

2.4 Constraints

- a. The system is only available in Malaysia.
- b. Only Malay and English language will be used in the system.
- c. The login information shall be verified within five seconds.
- d. The system must integrate with the DELIMa platform for user authentication and data import processes. This integration is crucial for ensuring seamless access and data consistency.
- e. The user interface shall not take more than 10 seconds to load.
- f. The maximum downtime for the system should be within 15 minutes.
- g. The system must support parallel operations, allowing multiple users (students, administrators, TVPSS officers) to access and use the system simultaneously without performance degradation.
- h. Only TVPSS officers can access the validation report.
- i. All TVPSS program data shall be encrypted before stored in the centralized database to keep the data confidential.
- j. The system must comply with all relevant Malaysian educational regulations and data privacy laws to ensure legal operation within the educational sector.
- k. All user data must be handled in compliance with Malaysian data protection regulations such as the Personal Data Protection Act (PDPA).
- l. The system must be compatible with various portable devices and support Wi-Fi and network connectivity.

2.5 Assumption and Dependencies

1. DELIMa platform availability

The DELIMa platform will continue to be available and functional throughout the lifespan of the TVPSS Management System. If not, the authentication and data import processes may need to be redesigned.

2. Internet connectivity

Users will have access to fast and stable internet connection. If users experience poor internet connectivity, the performance and responsiveness of the web-based system may be affected.

3. User device compatibility

User will access the system using compatible devices that support modern web browsers. If not, additional development may be required to ensure broader compatibility.

4. Ongoing maintenance and updates

Regular maintenance and updates are needed to keep the system secure and up to date with technological advancements. If fail to maintain and update the system could lead to security vulnerabilities and decreased performance.

2.6 Apportioning of Requirements

- **Mobile Application Support:** Development of a mobile application will provide a better accessibility for the users. While the initial version will be web-based, a mobile application will enhance user experience and accessibility, allowing users to interact with the system on-the-go.
- **AI-based chatbot assistance:** Integration of AI to help users with common queries and support tasks. The AI-based chatbot will reduce the human workload and provide immediate assistance to users. However, its development and integration may be postponed focusing on core functionalities in the initial release.

3. Specific Requirements

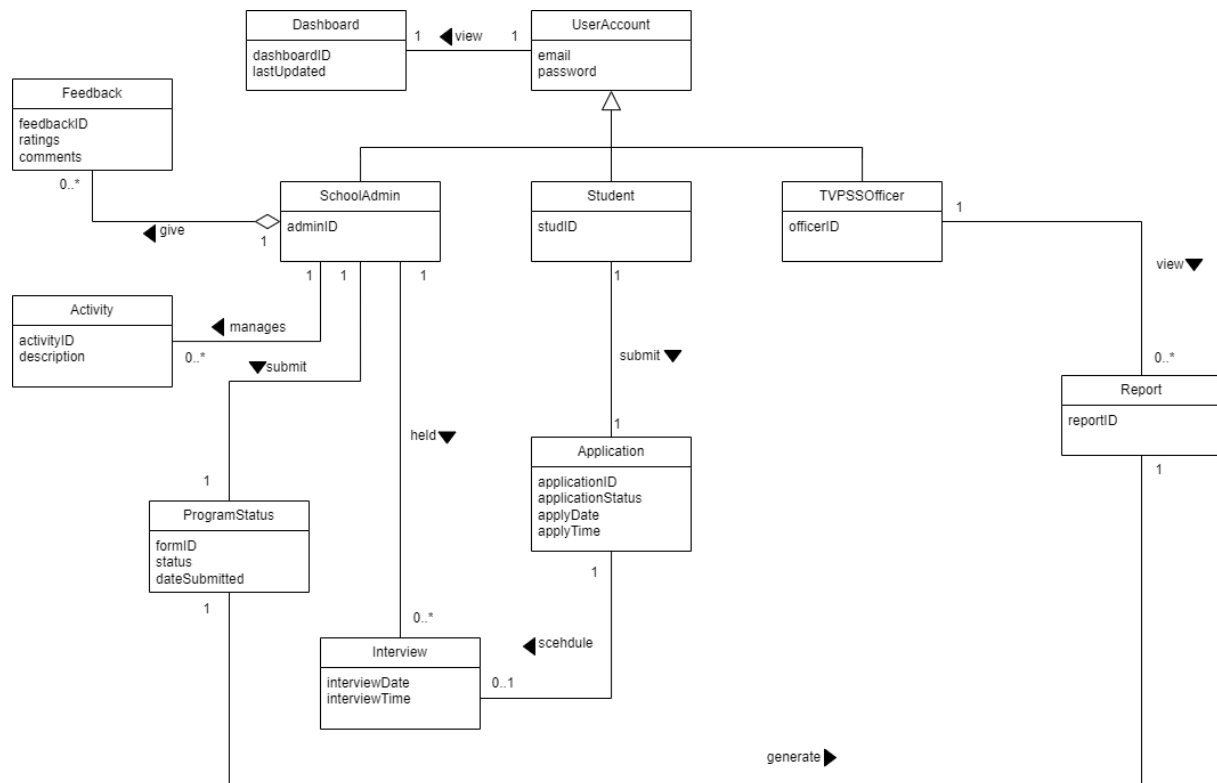


Figure 3.1: DM001 - Domain Model of < TVPSS Management System >

Based on Figure 3.1, the domain class diagram for TVPSS Management System contains 11 classes which are UserAccount, Dashboard, SchoolAdmin, Feedback, Activity, ProgramStatus, Interview, Application, Student, TVPSSOfficer and Report. Generalization takes place where the SchoolAdmin, Student, and TVPSSOfficer are subclasses and UserAccount is superclass because all three of the subclasses contain a user account. After owning an account, Student can submit their talent application and stored in the class Application. These applications are then filtered by the system, schedule for interview session and the Interview class is created to hold the information of scheduled interview for respective candidates. The SchoolAdmin class has a relationship with several other classes. It can manage activities which then stores in the Activity class, give Feedback, which then stores in the Feedback class. The Feedback class has aggregation relationship with SchoolAdmin class because if Feedback class does not exist, SchoolAdmin class still available. The ProgramStatus class keeps track of the status of the submitted forms. The TVPSSOfficer class is responsible for viewing reports and the reports is stored in Report class. The Dashboard class is linked to the UserAccount class, representing that each user has a personalized dashboard.

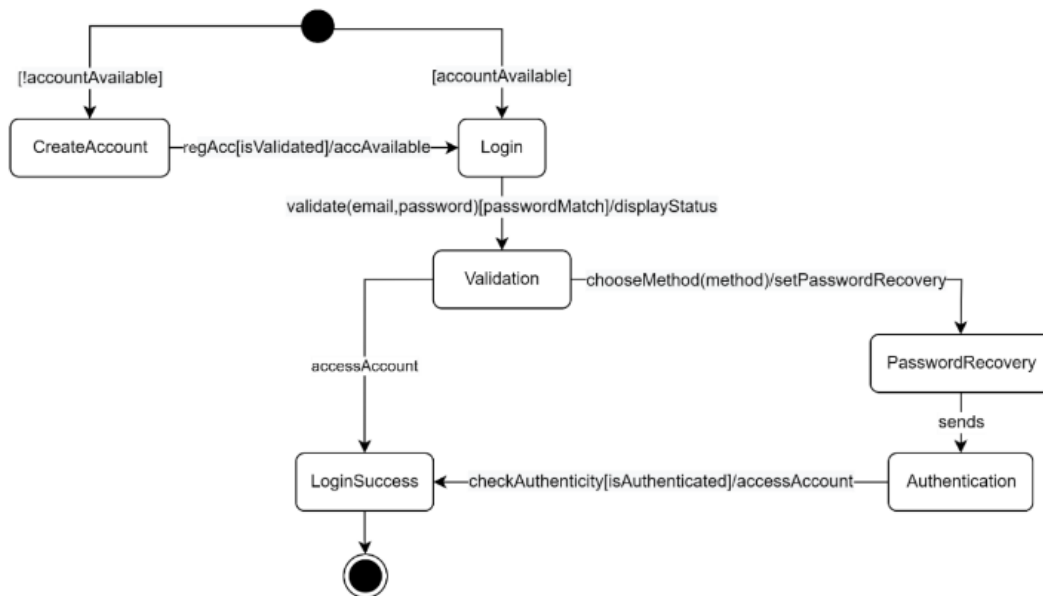


Figure 3.2: STD001 - State Transition Diagram of UserAccount Class

Figure 3.2 illustrates the state transition diagram for UserAccount class. The state transition diagram starts with checking whether the user owns an DELIMA account. To enter the login state, the users must have an account. Conversely, to proceed to create an account state is when the user does not have an account. After the user registered for an account, it will transition from the create account state to the login state. Then, if the entered email address and password match with the registered password, it will enter the validation state and display the login status. Once the password matches, the user will be able to access the account and the status will change to login successfully.

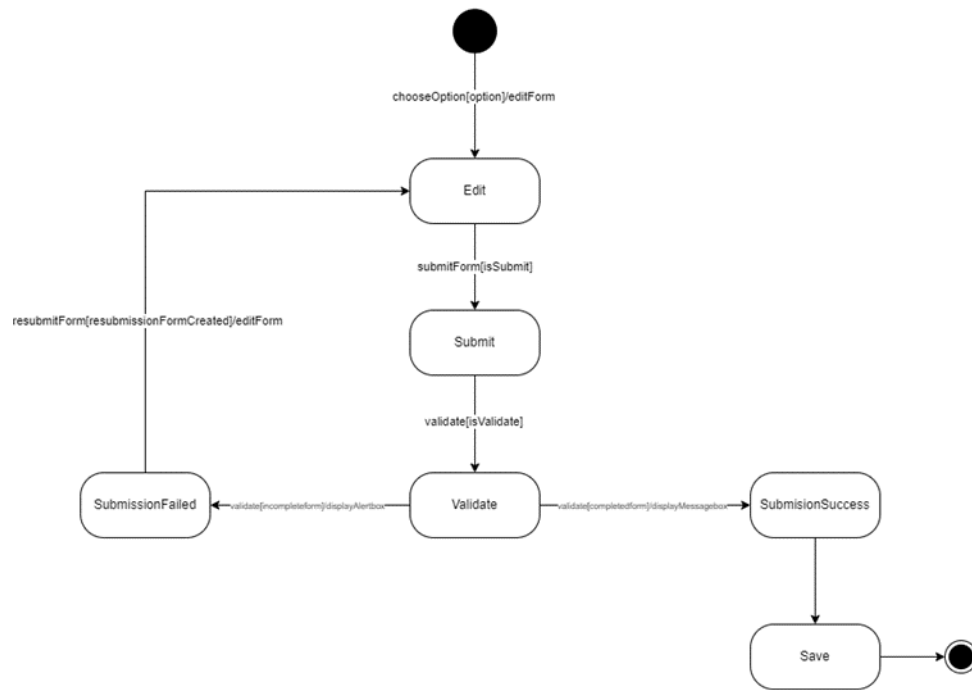


Figure 3.3: STD002 - State Transition Diagram of ProgramStatus Class

Figure 3.3 illustrates the state transition diagram for ProgramStatus class. The state transition diagram starts with user choosing the option to edit their programs' status form. Once edited or input their required information, they can submit their form for validation. Ther system will validate whether the form is completed or incomplete according to the guidelines. If there is an incomplete form, the state will transition to SubmissionFailed and an alert box is displayed. Users need to do the resubmission by editing the form again. While if the form is completed, the state will transition to SubmissionSuccess and the data is saved into the database.

3.1 External Interface Requirements

3.1.1 User Interfaces

Students, school administrators, and TVPSS officers will be able to easily use the TVPSS Management System's graphical user interface (GUI). Simple and intuitive features will be provided by the system:

- **Login and Homepage:** Current and upcoming events will be displayed on the homepage. There will be a prominent login button. DELIMA accounts are required to access further functionality.
- **Menus based on role:**
 - Students: Talent applications can be submitted by students, dashboards can be viewed, and personal information can be updated.
 - School Administrators: Can manage accounts, submit program status forms, manage activities, view and manage talent applications, and give feedback.
 - TVPSS Officers: Can manage program status forms, view validation reports, and handle resource requests.
- Every screen will have:
 - Top bar featuring the system's icon and personalized menus based on your user type.
 - Easy-to-use layout with elements arranged for smooth navigation and data input.
 - Automatic form saving to keep your information safe.
 - Consistent use of colors and fonts throughout the system for optimal readability.

- Clear and helpful error messages, with both brief summaries and detailed explanations available.

3.1.2 Hardware Interfaces

A laptop or desktop computer with Wi-Fi or network connectivity can access TVPSS Management System. For data entry processes, the system will support standard instruction sets for web browsers and will request permission for photo or file access. The following are key characteristics of hardware interfaces:

- Works on most devices with any regular internet browser.
- Needs permission to access your photos and files to upload documents.
- Connects with the internet using your regular network or Wi-Fi, no extra equipment needed.

3.1.3 Software Interfaces

To manage and store data efficiently, several software products will be integrated with the system. this will include:

- **Database Management System [DBMS]:**
Organizes and stores various user data, including personal information, talent applications, program status forms, feedback, activity logs, and validation reports.
- **Centralized TVPSS Program Data-wise:**
Ensures all program data related to TVPSS is stored and retrieved consistently across all system modules. This promotes data accuracy and simplifies information access.
- **DELIMA Integration (for the platform):**
Handles user login and data import processes seamlessly. This integration allows for smooth user access and maintains data consistency between the TVPSS system and the DELIMA platform.

3.1.4 Communication Interfaces

The TVPSS Management System will communicate with other systems via the internet, using a database server and web browsers. This will include:

- **Internet Network Protocols:**

These are the established rules that govern how data travels between devices (clients) and the central server.

- **Database Server:**

This acts as the brain behind the system, storing, retrieving, and managing all the data used by TVPSS, like user information, program applications, and reports.

- **Web Browsers:**

By being compatible with most modern web browsers, the system allows users to access it easily from any device with an internet connection.

3.2 System Features

3.2.1 Module Programs' Status Data Entry

Programs' status data entry module is a subsystem where the school administrator can submit the form of their school's program status and the TVPSS officer can manage the submitted form. This module aims to provide a platform for programs' status form submission and management. The functional requirements are UC003: Submit programs' status form and UC007: Manage programs' status form.

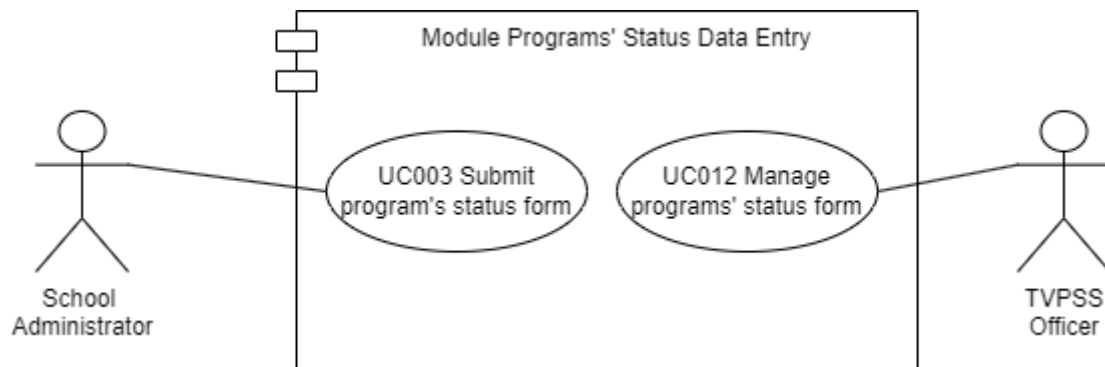


Figure 3.2.1: Module Programs' Status Data Entry

3.2.1.1

Table 3.2.1.1: Use Case Specification for UC003 Submit programs' status form

History Log:	1.0 Create initial use case 1.1 Fixed pre-conditions 1.2 Fixed normal flow 2.0 Added related requirements		
Version	2.0		
Use Case ID	UC003		
Use Case Name	Submit programs' status form		
Created By	Lau Yun Xi	Last Updated By	Lau Yun Xi
Date Created	7 June 2024	Last Revision Date	12 June 2024
Description	This use case describes the process of school admins submits the status form for TVPSS program in their school. This includes entering required information, validating the inputs and confirming submission.		
Actor(s)	Primary actor : School administrators Secondary actor : External database		
Pre-condition(s)	<ul style="list-style-type: none"> The school administrators must be logged into the system by using their DELIMA account. Necessary permission should be granted to the school admins to submit programs' status forms. 		
Normal Flow(s)- NF	<ol style="list-style-type: none"> The school admin selects the "Submit programs' status form" options from the dashboard. The system displays the status form submission interface. The school admin enters the required information into the programs' status form. The system validates the entered data. The system saves the status form data to the database. The system displays a confirmation message to the school admin. 		
Alternative Flow(s) - AF	<ul style="list-style-type: none"> AF1: Cancel operation <ol style="list-style-type: none"> The school admin decides to cancel the operation. 		

	<ol style="list-style-type: none"> The school admin selects the “Cancel” button. The system clears the form and returns to the dashboard. 		
Exception Flow(s) - EF	<ul style="list-style-type: none"> System failure to update database <ol style="list-style-type: none"> The system fails to connect to database. The system displays an error message indicating the issue. The school admin is advised to try the operation later. 		
Post-condition(s)	<ul style="list-style-type: none"> The programs’ status form data is stored in the database. The school admin receives confirmation of the successful submission. The system dashboard displays updated message. 		
Related Requirement	ID	Requirement	Priority
	FR UC003-01	The system must allow school administrators to log in using their DELIMa account.	BASIC
	FR UC003-02	The system must display the status form submission interface when the school admin selects the “Submit programs’ status form” option.	BASIC
	FR UC003-03	The system must validate the data entered in the status form to ensure all required fields are filled and the data is in the correct format.	BASIC
	FR UC003-04	The system must save the status form data to the database upon successful validation.	BASIC
	FR UC003-05	The system must display a confirmation message to the school admin after the status form is successfully submitted.	PERFORMANCE
	FR UC003-06	The system must display an error message if it fails to connect to	BASIC

		the database during the status form submission.	
	QR UC003-01	The system must have a maximum downtime of fifteen minutes.	PERFORMANCE
	QR UC003-02	The system must ensure that all TVPSS program data is encrypted before being stored in the centralized database.	BASIC

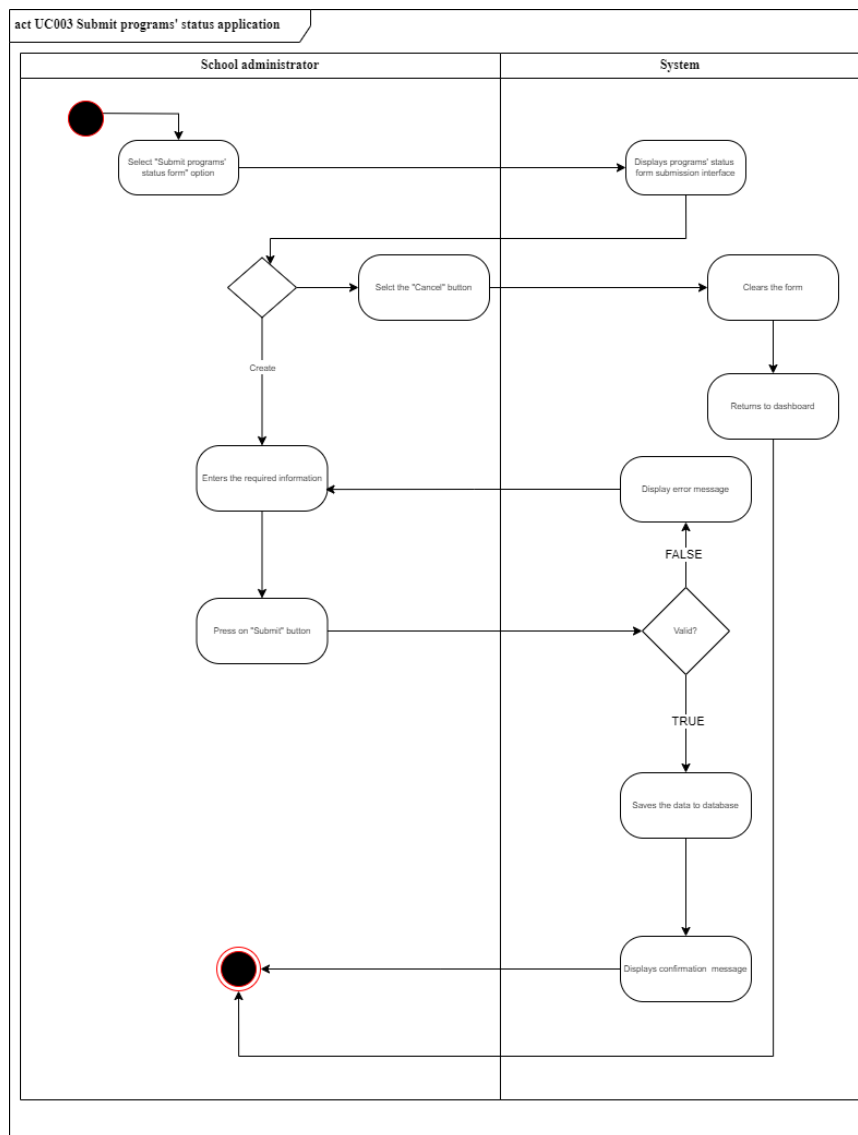


Figure 3.2.1.1: Activity Diagram of UC003 Submit programs' status form

3.2.1.2 UC012 Manage programs' status form

Table 3.2.1.2: Use Case Specification for UC012 Manage programs' status form

History Log:	1.0 Create initial use case 1.1 Fixed pre-conditions 1.2 Fixed normal flow 2.0 Added related requirements		
Version	2.0		
Use Case ID	UC012		
Use Case Name	Manage programs' status form		
Created By	Lau Yun Xi	Last Updated By	Lau Yun Xi
Date Created	7 June 2024	Last Revision Date	12 June 2024
Description	This use case describes the process of TVPSS officer manage the status forms submitted by school admin within the system. This includes creating, updating, viewing, and deleting programs' status form.		
Actor(s)	Primary actor : TVPSS Officer Secondary actor : School administrator		
Pre-condition(s)	<ul style="list-style-type: none"> • The TVPSS officer must be logged into the system by using their DELIMA account. • Necessary permission should be granted to the TVPSS officer to manage program status forms. 		
Normal Flow(s)- NF	<ol style="list-style-type: none"> 1. The TVPSS officer selects the "Manage programs' status form" option from the dashboard. 2. The system displays the programs' status form management interface. 3. The TVPSS officer chooses to create a new programs' status form. 4. The TVPSS officer enters the required information for the new programs' status form. 5. The TVPSS officer submits the new programs' status form. 6. The system validates the entered data. 		

	<ol style="list-style-type: none"> The system saves the new programs' status form data to the database. The system displays a confirmation message to the TVPSS officer. 		
Alternative Flow(s) - AF	<ul style="list-style-type: none"> AF1: Update programs' status form <ol style="list-style-type: none"> The TVPSS officer selects an existing programs' status form to update. The TVPSS officer modifies the required information. The TVPSS officer submits the updated programs' status form. The system validates the modified data. The system updates the programs' status form data in the database. The system displays a confirmation message to the TVPSS officer. AF2: Delete programs' status form <ol style="list-style-type: none"> The TVPSS officer selects an existing programs' status form to delete. The system prompts the TVPSS officer to confirm the deletion of programs' status form. The TVPSS officer confirms the deletion. The system deletes the programs' status form data from the database. The system displays a confirmation message to the TVPSS officer. AF3: Cancel operation <ol style="list-style-type: none"> The TVPSS officer decides to cancel the operation. The TVPSS officer selects the "Cancel" button. The system clears the form and returns to the dashboard. 		
Exception Flow(s) - EF	<ul style="list-style-type: none"> System failure to update database <ol style="list-style-type: none"> The system fails to connect to database. The system displays an error message indicating the issue. The TVPSS officer is advised to try the operation later. 		
Post-condition(s)	<ul style="list-style-type: none"> The programs' status form data is stored in the database. The TVPSS officer receives confirmation of the successful submission. The system dashboard displays updated message. 		
	ID	Requirement	Priority

Related Requirement	FR UC012-01	The system must allow TVPSS officers to log in using their DELIMa account.	BASIC
	FR UC012-02	The system must allow TVPSS officers to update existing programs' status forms.	BASIC
	FR UC012-03	The system must validate the modified data when an updated programs' status form is submitted.	BASIC
	FR UC012-04	The system must update the programs' status form data in the database upon successful validation.	BASIC
	FR UC012-05	The system must display a confirmation message upon successful update of a programs' status form.	PERFORMANCE
	FR UC012-06	The system must allow TVPSS officers to delete existing programs' status forms.	BASIC
	FR UC012-07	The system must prompt TVPSS officers to confirm the deletion of a programs' status form.	BASIC
	FR UC012-08	The system must display a confirmation message upon successful deletion of a programs' status form.	PERFORMANCE
	QR UC012-01	The system must have a maximum downtime of fifteen minutes.	PERFORMANCE
	QR UC012-02	The user interface for managing programs' status forms must not	PERFORMANCE

		take more than ten seconds to load.	
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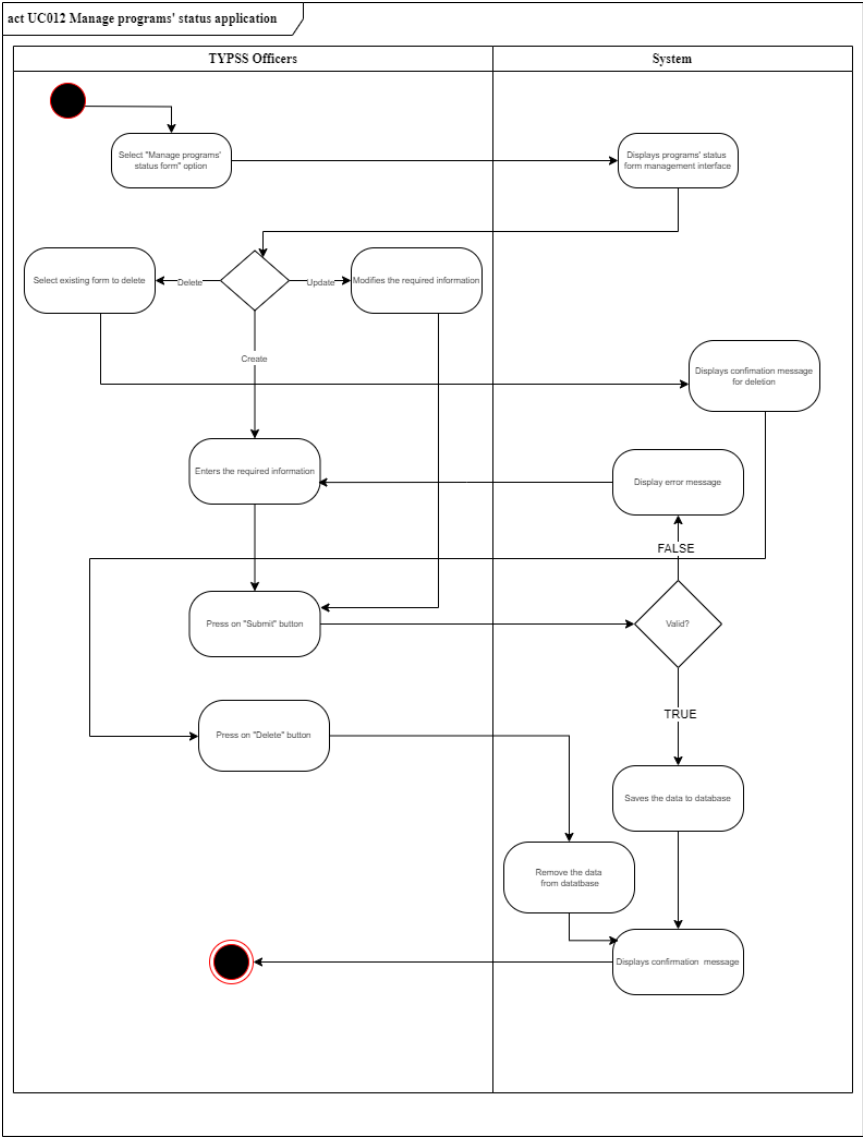


Figure 3.2.1.2: Activity Diagram of UC012 Manage programs' status form

3.2.2 Module Talent Acquisition

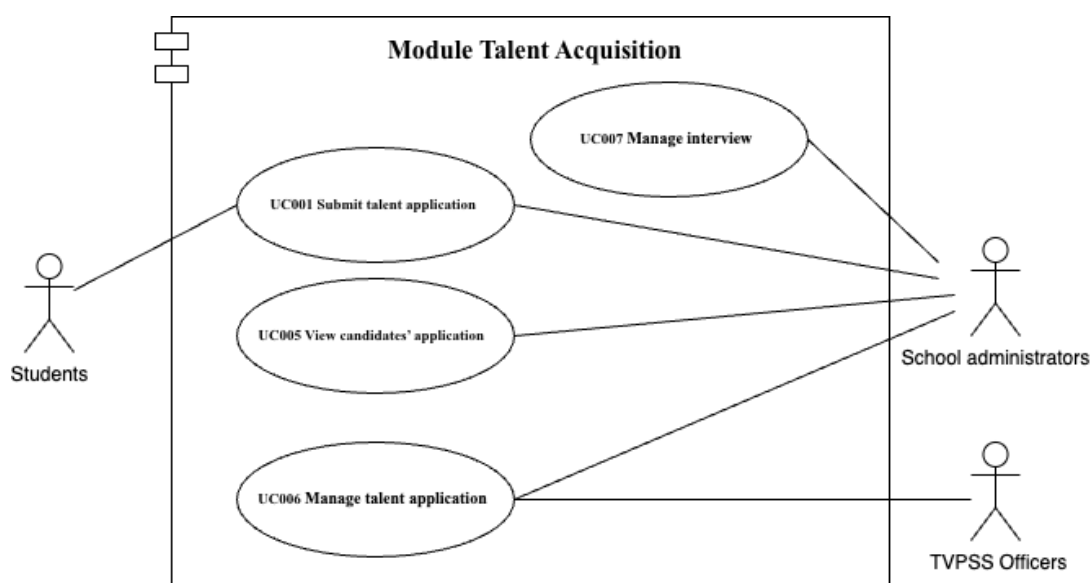


Figure 3.2.2: Module Talent Acquisition

According to Figure 3.2.2, the talent acquisition module manages application submissions to final interview management, featuring automated candidate filtering, real-time status updates, and notifications to ensure an efficient and transparent hiring process. The functional requirements are UC001: Submit talent application, UC005: View candidates' application, UC006: Manage talent application, UC007: Manage interview.

3.2.2.1 UC001 Submit talent application

History Log:	1.0 Create initial use case 1.1 Fixed pre-conditions 1.2 Fixed normal flow 2.0 Added related requirements		
Version	2.0		
Use Case ID	UC001		
Use Case Name	Submit talent application		
Created By	Jolyn	Last Updated By	Jolyn
Date Created	8 June 2024	Last Revision Date	12 June 2024

Description	This use case describes the process for students to submit their applications for talent recruitment through the TV PSS Management System. The system will filter candidates based on predefined criteria and keyword talents aligned with the required qualifications and skills for specific roles.
Actor(s)	Primary actor: Students Secondary actor: School administrators
Pre-condition(s)	<ul style="list-style-type: none"> • The student must have a registered and valid DELIMA account. • The student must meet the minimum qualifications and skills as specified in the job posting.
Normal Flow(s)- NF	<ol style="list-style-type: none"> 1. The student enters their username and password to login their DELIMA account. 2. The student selects the "Talent Application" option from the main menu. 3. The student navigates to the talent application section. 4. The student completes the talent application form, providing all required information, including personal details, qualifications, skills, and experience. 5. The student submits the application by clicking the "Submit" button. 6. If the application form is complete: <ol style="list-style-type: none"> 6.1 The system displays a "Submission successful" message. 6.2 The system validates and securely stores the candidate's information. 6.3 The system notifies the school administrator of the new application and automatically filters the application based on predefined criteria and keywords. 7. Else <ol style="list-style-type: none"> 7.1 Exception flow 3 is executed 8. The school administrator reviews the filtered application. 9. The system updates the application status and sends a confirmation notification to the student.
Alternative Flow(s) - AF	AF1: Incomplete Application

	<ol style="list-style-type: none"> 1. The student submits an incomplete application form. 2. The system displays an error message indicating the missing fields and prompts the student to complete all required sections. 		
Exception Flow(s) - EF	EF1: Network error <ol style="list-style-type: none"> 1. The system encounters a network error during the submission process. 2. The system displays an error message informing the student of the network issue and prompts them to resubmit the application once the connection is stable. 		
Post-condition(s)	<ul style="list-style-type: none"> • The student's application is submitted and stored in the system. • The system displays updated application status. • The student receives a confirmation notification about their application status. 		
Related Requirement	ID	Requirement	Priority
	FR UC001-01	The system shall allow candidates to enter details into the talent application form.	BASIC
	FR UC001-02	The system shall display the "Talent Application" option in the main menu.	BASIC
	FR UC001-03	The system shall display a "Submission successful" message if they successful submitted	BASIC
	FR UC001-04	The system shall send a confirmation notification to the student about the status of their application.	BASIC
	QR UC001-01	The system shall filter applications within 5 seconds of submission.	PERFORMANCE
	QR UC001-02	The system shall ensure the secure storage of application data in compliance.	BASIC

	CR UC001-01	The system shall only accept applications that meet the requirement specified in the job posting.	BASIC
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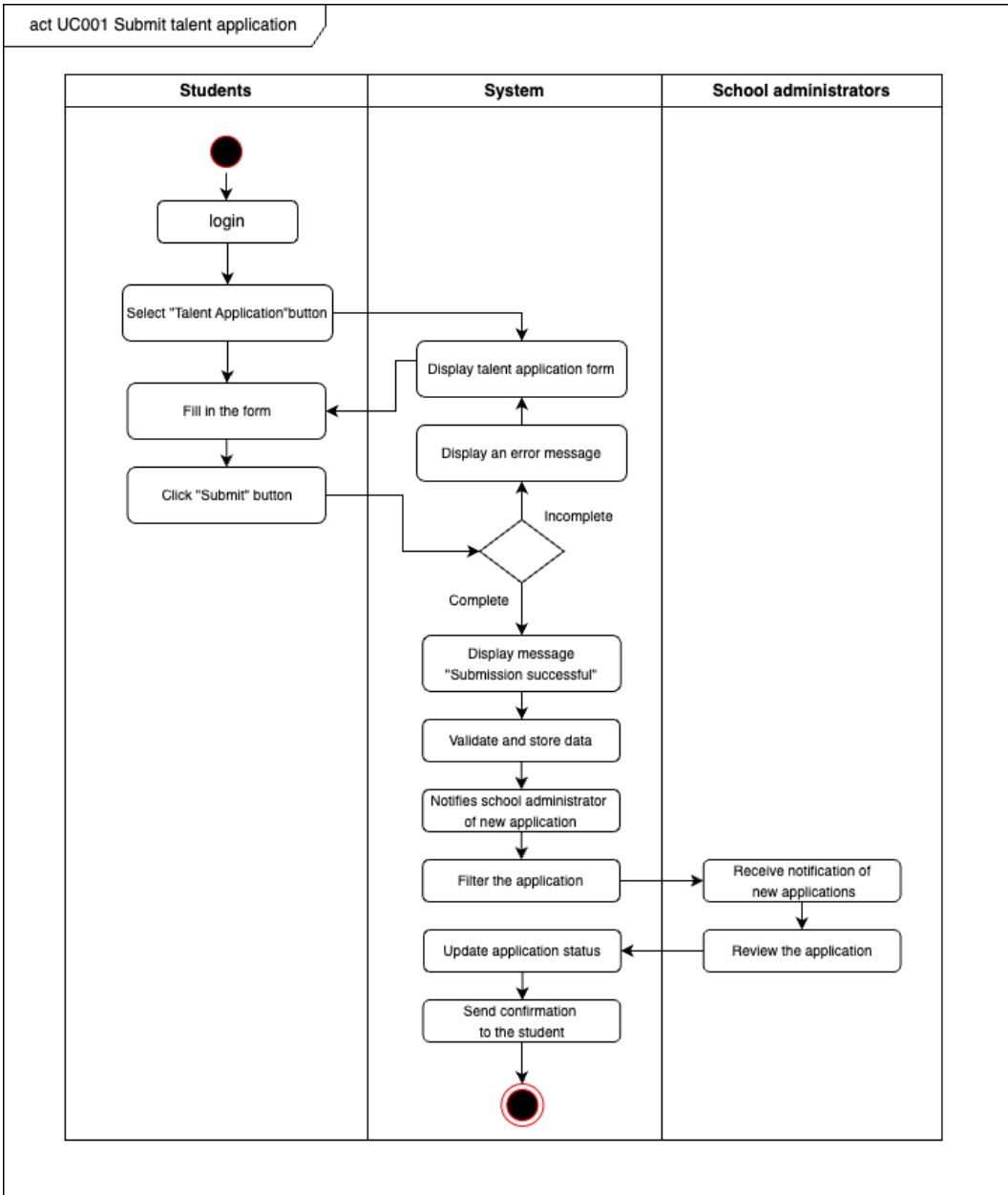


Figure 3.2.2.1: Activity Diagram for UC001 Submit talent application

3.2.2.2 UC005 View candidates' application

History Log:	1.0 Create initial use case 1.1 Fixed pre-conditions 1.2 Fixed normal flow 1.3 Added alternative and exception flows 2.0 Added related requirements		
Version	2.0		
Use Case ID	UC005		
Use Case Name	View candidates' application		
Created By	Jolyn	Last Updated By	Jolyn
Date Created	8 June 2024	Last Revision Date	12 June 2024
Description	This use case describes the process for school administrators to view candidates' applications through the TV PSS Management System. The system provides a detailed view of each candidate's application, including personal details, qualifications, skills, and experience.		
Actor(s)	Primary actor: School administrators		
Pre-condition(s)	<ul style="list-style-type: none"> • The school administrator must have a registered and valid DELIMA account. • The school administrator must be logged into their DELIMA account. 		
Normal Flow(s)- NF	<ol style="list-style-type: none"> 1. The school administrator enters their username and password to log in to their DELIMA account. 2. The school administrator selects the "View Candidates' Applications" option from the main menu. 3. The system retrieves a list of candidates' applications. 4. The school administrator selects a specific candidate's application from the list. 5. The system displays the detailed application information for the selected candidate. 6. The school administrator reviews the detailed application information. 		

Alternative Flow(s) - AF	AF1: No applications available <ol style="list-style-type: none"> 1. The school administrator selects the "View Candidates' Applications" option from the main menu. 2. The system retrieves the data but finds no applications available. 3. The system displays a message indicating that no applications are available for review 		
Exception Flow(s) - EF	EF1: Network error <ol style="list-style-type: none"> 1. The system encounters a network error while retrieving the applications. 2. The system displays an error message informing the school administrator of the network issue and prompts them to retry once the connection is stable. 		
Post-condition(s)	<ul style="list-style-type: none"> • The school administrator views the detailed application information for the selected candidate. • The system logs the school administrator's interaction for auditing purposes. 		
Related Requirement	ID	Requirement	Priority
	FR UC005-01	The system shall display the "View Candidates' Applications" option in the main menu.	BASIC
	FR UC005-02	The system shall retrieve and display a list of candidates' applications.	BASIC
	FR UC005-03	The system shall display detailed application information for a selected candidate.	BASIC
	FR UC005-04	The system shall be able prompt the school administrator to retry once when network error.	PERFORMANCE

	QR UC005-01	The system shall displayed accurate and up-to-date data within 3 seconds.	PERFORMANCE
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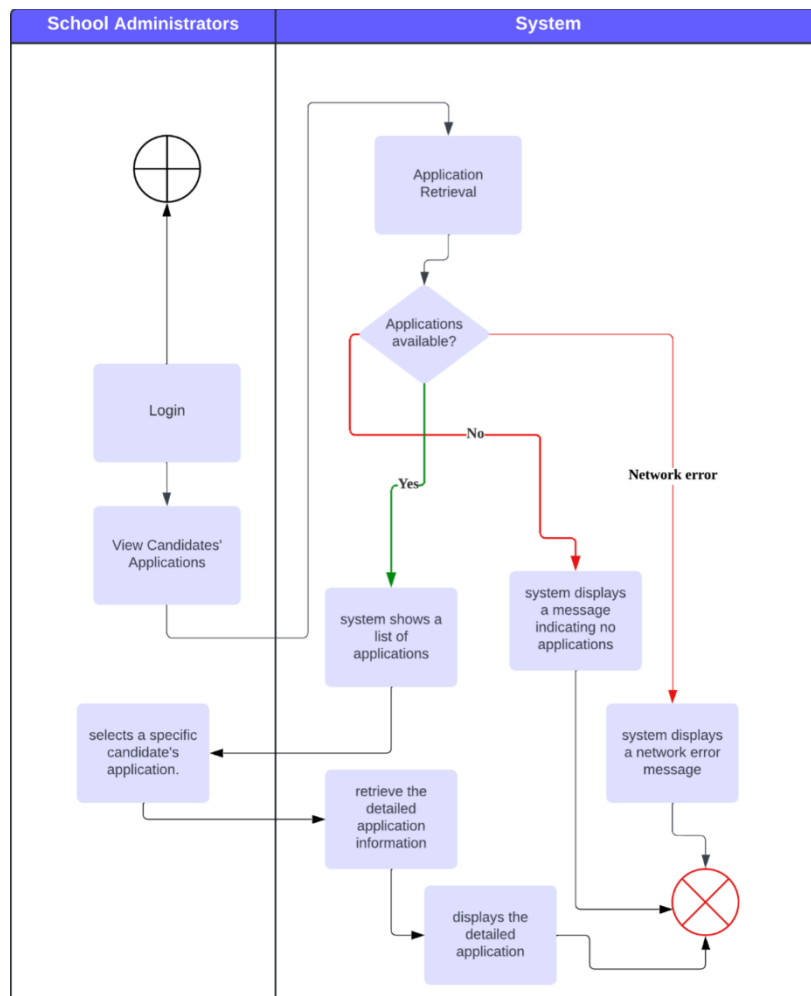


Figure 3.2.2.2.: Activity Diagram for UC005 View candidates' application

3.2.2.3 UC006 Manage talent application

History Log:	1.0 Create initial use case 1.1 Fixed pre-conditions 1.2 Fixed normal flow 2.0 Added related requirements
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Version	2.0		
Use Case ID	UC006		
Use Case Name	Manage talent application		
Created By	Jolyn	Last Updated By	Jolyn
Date Created	8 June 2024	Last Revision Date	12 June 2024
Description	This use case describes how school administrators and TVPSS officers manage talent applications through the TV PSS Management System. School administrators review and evaluate the applications, then forward them to TVPSS officers for further approval or rejection.		
Actor(s)	Primary Actor: School Administrators Secondary Actor: TVPSS Officers.		
Pre-condition(s)	<ul style="list-style-type: none"> • The school administrator and TVPSS officers must be logged into the TV PSS Management System. • UC001 (Submit Talent Application) has been completed. 		
Normal Flow(s)- NF	<ol style="list-style-type: none"> 1. The use case starts when a candidate has submitted their application (UC001). 2. The school administrator login into their account. 3. The school administrator selects "Manage Talent Applications" from the dashboard. 4. The system displays details of all submitted talent applications. 5. The school administrator selects an application to review. 6. The school administrator evaluates and updates the application status to "Under Review" and adds any relevant notes or comments. 7. The TVPSS officer receive notification and logs into the system. 8. The system displays a list of applications marked as "Under Review." 9. The TVPSS officer decides to approve or reject the application by providing appropriate feedback. 10. The system updates the application status to "Approved" or "Rejected" and sends feedback to the candidate 		
Alternative Flow(s) - AF	AF1: Check Availability of Job <ul style="list-style-type: none"> • The school administrator checks the job role status in the system. 		

	<ul style="list-style-type: none"> • The administrator proceeds with the normal flow if the job roles are available • The administrator updates the application status to "On Hold" and notifies the candidate. <p>AF2: Edit application feedback</p> <ul style="list-style-type: none"> • The TVPSS officer decides to edit the feedback. • The officer updates the application feedback. • The system updates the application status. <p>AF3: Delete application feedback</p> <ul style="list-style-type: none"> • The TVPSS officer decides to delete the feedback. • The officer removes the feedback from the system. • The system updates the application status. <p>AF4: Cancel operation</p> <ul style="list-style-type: none"> • The TVPSS officer decides to cancel the operation before making a decision. • The TVPSS officer selects the "Cancel Review" option. • The system remain the application status "Under Review." 		
Exception Flow(s) - EF	<p>EF1: System Failure to Update Database</p> <ul style="list-style-type: none"> • The system fails to update the database. • The system displays an error message to the user. • The user is prompted to retry the operation. <p>EF2: Duplicate Application</p> <ul style="list-style-type: none"> • The school administrator received multiple applications from the same candidates. • The administrator decides whether to merge the applications or retain the original. 		
Post-condition(s)	<ul style="list-style-type: none"> • The talent application is reviewed and updated with the current status in the system. • The system notifies the officers whenever an application is marked as "Under Review." • The candidates receive detailed feedback on their application from the system. 		
Related Requirement	ID	Requirement	Priority
	FR UC006-01	The system shall display the "Manage Talent	BASIC

	Applications" option in the dashboard	
FR UC006-02	The system shall retrieve and display details of all submitted talent applications.	BASIC
FR UC006-03	The system shall notify TVPSS officers of applications marked as "Under Review."	BASIC
FR UC006-04	The system shall allow school administrators to check the job role status.	PERFORMANCE
FR UC006-05	The system shall update the application status to "Approved" or "Rejected" based on the TVPSS officer's decision and send feedback to the candidate.	BASIC
FR UC006-06	The system shall be able to update to "On Hold" status and notify the candidate if job roles are not available.	PERFORMANCE
FR UC006-07	The system shall allow TVPSS officers to edit and update application feedback.	PERFORMANCE
QR UC006-01	The system shall retrieve and display the details of all submitted talent applications within 3 seconds.	PERFORMANCE

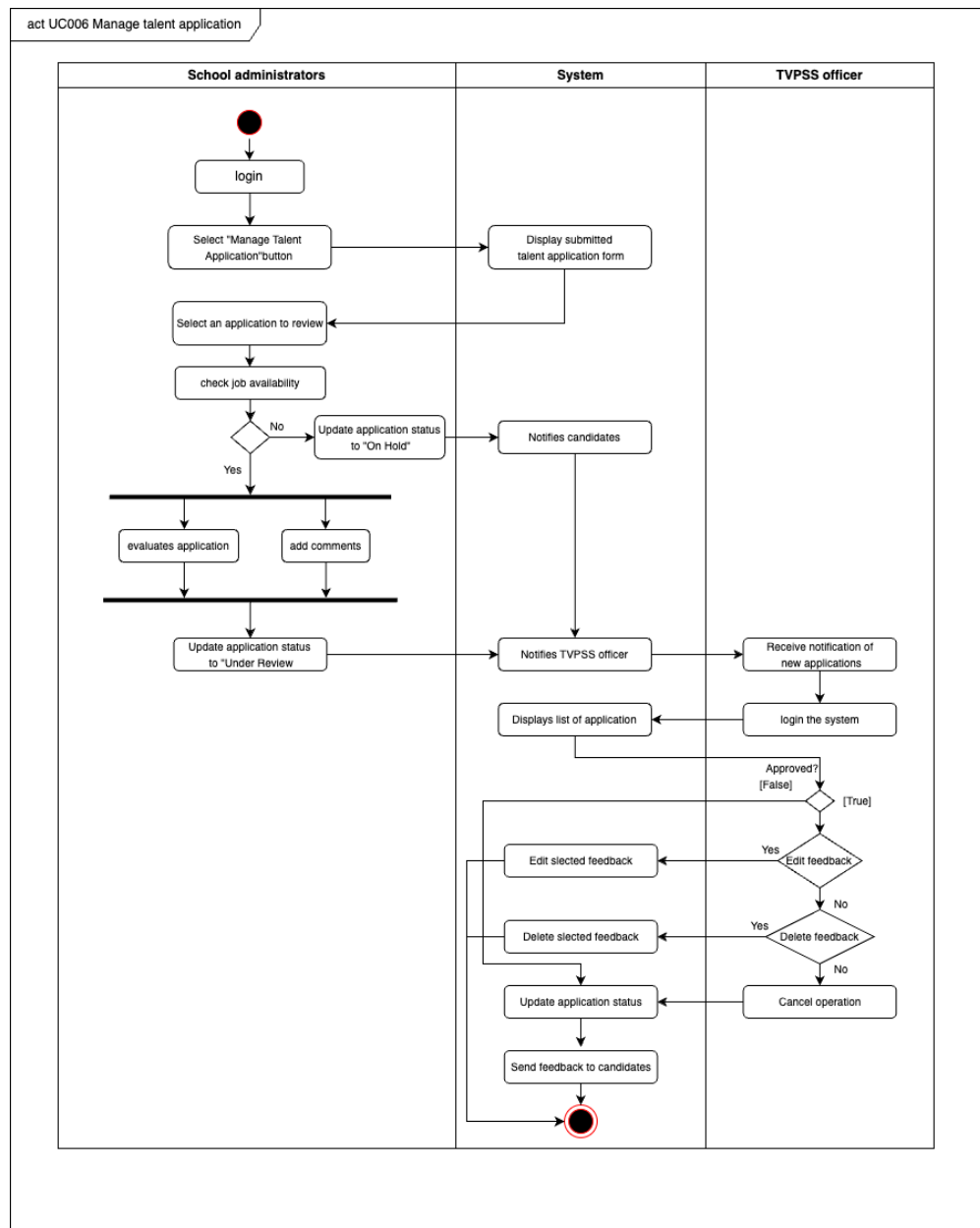


Figure 3.2.2.3 Activity Diagram for UC006 Manage talent application

3.2.2.4 UC007 Manage interview

History Log:	1.0 Create initial use case 1.1 Fixed pre-conditions 1.2 Fixed normal flow 2.0 Added related requirements
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Version	2.0		
Use Case ID	UC007		
Use Case Name	Manage interview		
Created By	Jolyn	Last Updated By	Jolyn
Date Created	8 June 2024	Last Revision Date	12 June 2024
Description	This use case describes the interview process for talent acquisition manage by the school administrators through the TV PSS Management System.The process includes scheduling interviews and conducting interviews for candidates who have submitted their applications. It interacts with an external database to store or retrieve interview-related information.		
Actor(s)	Primary Actor: School Administrators Secondary Actor: External database.		
Pre-condition(s)	<ul style="list-style-type: none"> • The school administrator must be logged into the TV PSS Management System. • The system must have access to the external database for retrieving candidate information. • The talent application has been submitted and reviewed (UC001 and UC006) 		
Normal Flow(s)- NF	<ol style="list-style-type: none"> 1. The school administrator selects "Manage Interviews" from the dashboard. 2. The system retrieves a list of talent applications with the status "Reviewed" from the external database. 3. The school administrator selects an application to schedule an interview by inputs interview details such as date, time, and assigns interviewers. 4. The system sends interview invitation notification emails to the selected candidates. 5. The system stores the interview details in the external database and updates the candidate's status to "Interview Scheduled". 6. The school administrator conducts the interview as per the scheduled time. 		

	7. The system updates the application status to "Interview Completed".		
Alternative Flow(s) - AF	AF1: Reschedule Interview <ul style="list-style-type: none"> • The school administrators select reschedule option . • The school administrators selects a new date and time for the interview and confirms the changes. • The system updates the interview details and notifies the candidates about the new schedule. AF2: Cancel Interview <ul style="list-style-type: none"> • The school administrators select cancel option. • The school administrators provides a reason for the cancellation and confirms the changes. • The system updates the interview status to "Canceled" and notifies the candidates about the cancellation. 		
Exception Flow(s) - EF	EF1: System Failure During Interview <ul style="list-style-type: none"> • The system displays an error message to the school administrator. • The school administrator attempts to restart the system and resume the interview process. • The interview is rescheduled or canceled if the problem still exist. EF2: External Database Connection Failure: <ul style="list-style-type: none"> • The system is unable to connect to the external database while retrieving candidate data. • The system displays an error message indicating database connection failure. 		
Post-condition(s)	<ul style="list-style-type: none"> • The interview schedule is successfully created and saved in the system. • The candidates are notified of their interview details. • The application status in the system is updated. • The external database is updated with relevant interview information. 		
	ID	Requirement	Priority

Related Requirement	FR UC007-01	The system shall display the "Manage Interviews" option in the dashboard.	BASIC
	FR UC007-02	The system shall allow school administrators to input interview details such as date, time, and assign interviewers.	BASIC
	FR UC007-03	The system shall send interview invitation notification emails to the selected candidates.	BASIC
	FR UC007-04	The system shall update the application status to "Interview Completed" after the interview is conducted.	BASIC
	FR UC007-05	The system shall notify candidates about the new interview schedule after rescheduling.	PERFORMANCE
	FR UC007-06	The system shall update the interview status to "Canceled" and notify the candidates	PERFORMANCE
	FR UC007-07	The system shall allow the school administrator to restart the system.	PERFORMANCE
	QR UC007-01	The system shall send interview invitation notification emails within 3 minutes.	PERFORMANCE
	CR UC007-01	The system shall maintain a secure connection to the external database for retrieving and storing	BASIC

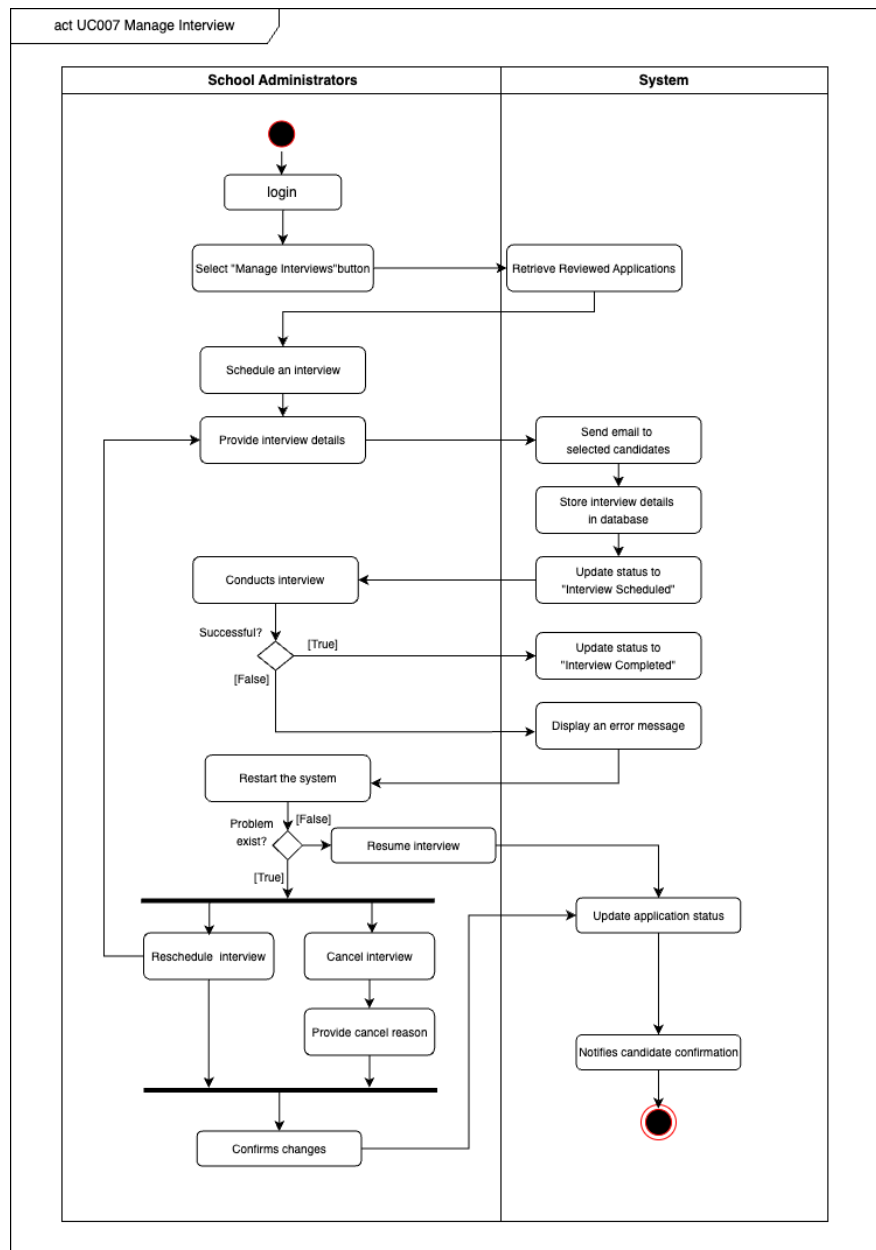


Figure 2.1.7: Activity Diagram for UC007 Manage interview

3.2.3 Module Resource Allocation

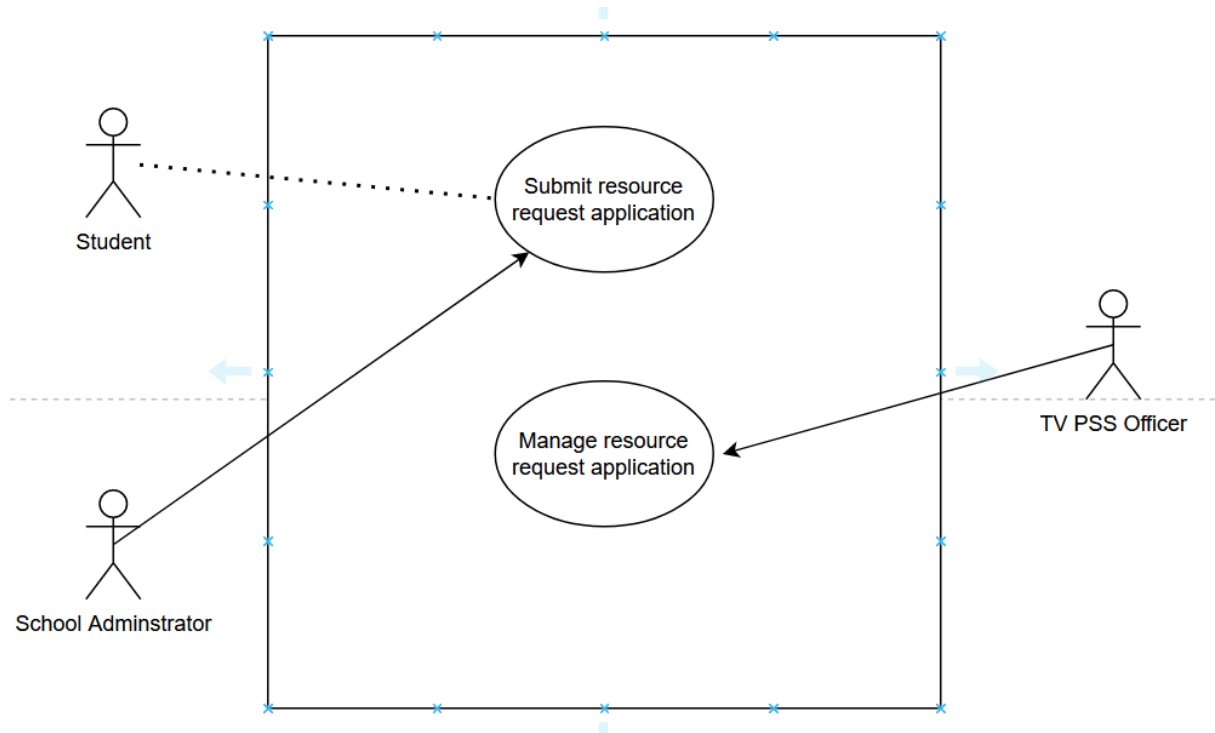


Figure 3.2.3: UCD for Module Resource Allocation

As in *Figure 3.2.3*, the TVPSS Management System's "Resource Allocation" module helps schools efficiently manage resource requests. The UC008 use case allows school administrators to submit detailed request applications, ensuring that their requirements are accurately communicated. Using this use case, the TVPSS program can streamline the process of submitting, validating, and storing requests in order to maximize resource utilization. By reviewing, approving, and rejecting pending resource requests, UC011 ensures that informed decisions are made and resources are allocated on a timely basis. As a result of features such as error handling and notifications, UC011 enhances the efficiency and transparency of resource allocation processes, contributing to the overall success of the TVPSS program.

3.2.3.1 UC008 Submit resource request application

History Log:	1.0 Create initial use case 1.1 Fixed pre-conditions 1.2 Fixed normal flow 2.0 Added related requirements
Version	2.0
Use Case ID	UC008

Use Case Name	Submit resource request application		
Created By	Ahmed	Last Updated By	Ahmed
Date Created	9 June 2024	Last Revision Date	11 June 2024
Description	This use case describes the process for school administrators to submit feedback about the TVPSS Management System. The system will store the feedback for review by the development team.		
Actor(s)	Primary Actor: School Administrator Secondary Actor: Students		
Pre-condition(s)	<ul style="list-style-type: none"> Valid DELIMA account login credentials Permissions to manage resource request applications Stable internet connection 		
Normal Flow(s)- NF	<ol style="list-style-type: none"> The school administrator selects the "Submit Resource Request Application" option from the dashboard. The system displays the resource request application form. The school administrator enters the required information for the resource request, such as the type of resource needed, the quantity required, and the justification for the request. The school administrator submits the resource request application. The system validates the entered data. The system saves the resource request application data to the database. The system displays a confirmation message to the school administrator. 		
Alternative Flow(s) - AF	AF1. Cancel Operation: <ol style="list-style-type: none"> The school administrator decides to cancel the operation. The school administrator selects the "Cancel" button. The system clears the form and returns to the dashboard. AF2. Incomplete Information: <ol style="list-style-type: none"> The school administrator partially completes the form. Upon submission, the system identifies missing fields and displays an error message specifying them. The school administrator can either edit and resubmit (go back to step 3 of Normal Flow) or abandon submission (AF1: Cancel Operation). 		

Exception Flow(s) - EF	EF1: Network Error: <ul style="list-style-type: none"> The system encounters a network issue during data submission. An error message is displayed, advising the user to retry later. EF2: System Overload: <ul style="list-style-type: none"> The system experiences high load and cannot process the request. An error message is displayed, suggesting the user try again at a less busy time. 		
Post-condition(s)	Upon successful submission: <ul style="list-style-type: none"> the resource request data is stored in the system. The school administrator receives confirmation. The system dashboard reflects an updated message. 		
Related Requirement	ID	Requirement	Priority
	CR UC008-02	The system shall grant permissions to school administrators to manage resource request applications upon successful login.	BASIC
	FR UC008-01	The system shall provide school administrators with the ability to save partially completed resource request applications as drafts, allowing them to resume completion at a later time.	DELIGHTER
	FR UC008-02	The system shall display a resource request application form with fields for type of resource needed, quantity required, and justification for the request.	BASIC
	FR UC008-03	The system shall validate the entered data for resource request applications to ensure completeness and accuracy.	BASIC
	FR UC008-04	The system shall save the submitted resource request	BASIC

	application data to the database upon successful validation.	
FR UC008-05	The system shall display a confirmation message to the school administrator upon successful submission of the resource request application.	BASIC
FR UC008-06	The system shall clear the resource request application form and return to the dashboard upon cancellation of the operation by the school administrator.	PERFORMANCE
FR UC008-07	The system shall identify missing fields in the resource request application form and display an error message to the school administrator for incomplete submissions.	BASIC
QR UC008-01	The system shall handle network errors during data submission by displaying an error message and advising the school administrator to retry later.	PERFORMANCE
QR UC008-02	The system shall handle system overload situations during data submission by displaying an error message and suggesting the school administrator try again at a less busy time.	PERFORMANCE

Based on Figure 2.1.8, the School Administrator logs into DELIMA and submits a resource request application once their login has been verified. A form will appear, and then the data

will be validated. An administrator receives a confirmation if all fields are filled in correctly. Errors will be highlighted for correction before saving if there are any.

UC008 Activity Diagram

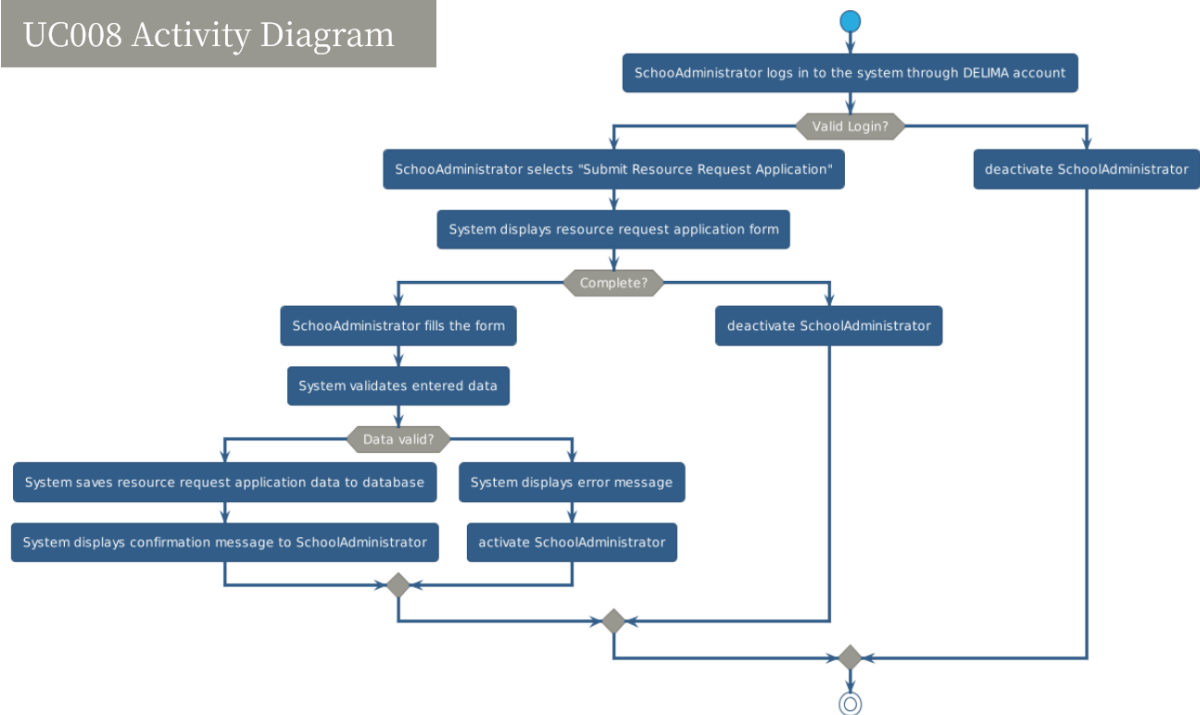


Figure 3.2.3.1: Activity Diagram for UC008 Submit resource request application

3.2.3.2 UC011 Manage resource request application

History Log:	1.0 Create initial use case 1.1 Fixed pre-conditions 1.2 Fixed normal flow 2.0 Added related requirements		
Version	2.0		
Use Case ID	UC011		
Use Case Name	Manage resource request application		
Created By	Ahmed	Last Updated By	Ahmed
Date Created	9 June 2024	Last Revision Date	11 June 2024
Description	This use case describes how a TVPSS officer manages resource request applications submitted by school administrators.		
Actor(s)	Primary Actor: TV PSS Officer Secondary Actor: External Database		
Pre-condition(s)	Valid DELIMA account login credentials Permissions to manage resource request applications Stable internet connection Accessible list of pending resource request applications		
Normal Flow(s)- NF	<ol style="list-style-type: none"> 1. The TVPSS officer selects "Manage Resource Request Application" from the dashboard. 2. The system displays a list of pending resource request applications. 3. The TVPSS officer selects an application, reviews it, and takes necessary actions (approve, reject, request clarification). 4. The system updates the application status and sends notifications (if applicable). 		
Alternative Flow(s) - AF	AF1: Cancel Operation <ol style="list-style-type: none"> 1. The TV PSS Officer decides to cancel the operation. 2. The TV PSS Officer selects the "Cancel" button. 3. The system unloads the list and returns to the dashboard. 		

	AF2: Insufficient Information for Review <ol style="list-style-type: none"> 1. The application lacks crucial details for a decision. 2. The system prompts the TVPSS officer to contact the school administrator for clarification before proceeding. 		
Exception Flow(s) - EF	EF1: Network Error: <ul style="list-style-type: none"> • The system encounters a network issue during data submission. • An error message is displayed, advising the user to retry later. EF2: Database Access Error <ul style="list-style-type: none"> • The system fails to access the database to retrieve or update application information. • An error message is displayed, advising the TVPSS officer to retry later. 		
Post-condition(s)	<ul style="list-style-type: none"> • The TVPSS officer takes an action on the selected application (approve, reject, request clarification). • The system updates the application status. 		
Related Requirement	ID	Requirement	Priority
	CR UC011-01	The system shall prompt confirmation for resource request application deletion before deleting the application.	DELIGHTER
	CR UC011-02	The system shall grant permissions to TVPSS officers to manage resource request applications upon successful login.	BASIC
	FR UC011-01	The system shall display a list of pending resource request applications to TVPSS officers upon selection of the "Manage Resource Request Application" option.	BASIC
	FR UC011-02	The system shall allow TVPSS officers to review pending resource request	BASIC

		applications and take necessary actions (approve, reject, request clarification).	
	FR UC011-03	The system shall update the status of resource request applications and send notifications (if applicable) upon action taken by TVPSS officers.	BASIC
	FR UC011-04	The system shall provide TVPSS officers with a dynamic and interactive visualization tool within the "Manage Resource Request Application" interface, allowing officers to track and analyze resource request trends, usage patterns, and approval timelines in real-time.	DELIGHTER
	QR UC011-01	The system shall load the list of pending resource request applications within 3 seconds of selection by TVPSS officers.	PERFORMANCE
	QR UC011-02	The system shall process and update the status of resource request applications within 5 seconds of action taken by TVPSS officers.	PERFORMANCE
	QR UC011-03	The system shall ensure that error messages are displayed within 1 second of encountering network or database access errors, advising TVPSS officers to retry later.	PERFORMANCE

Based on *Figure 3.2.3.2*, TVPSS Officers log in to the TVPSS Management System using their DELIMA accounts and select "Manage Resource Request Application" from the dashboard in the "Manage Resource Request Application" use case (UC011). Using the system, an officer reviews and approves, rejects, or requests clarification on pending resource request applications. Officers can cancel operations and return to their dashboards if they wish. It prompts the officer to seek clarification from the school administrator if an application lacks sufficient information. Furthermore, the system displays appropriate error messages if it encounters network or database access errors. Finally, upon successful completion, the system updates the application status accordingly, concluding the process.

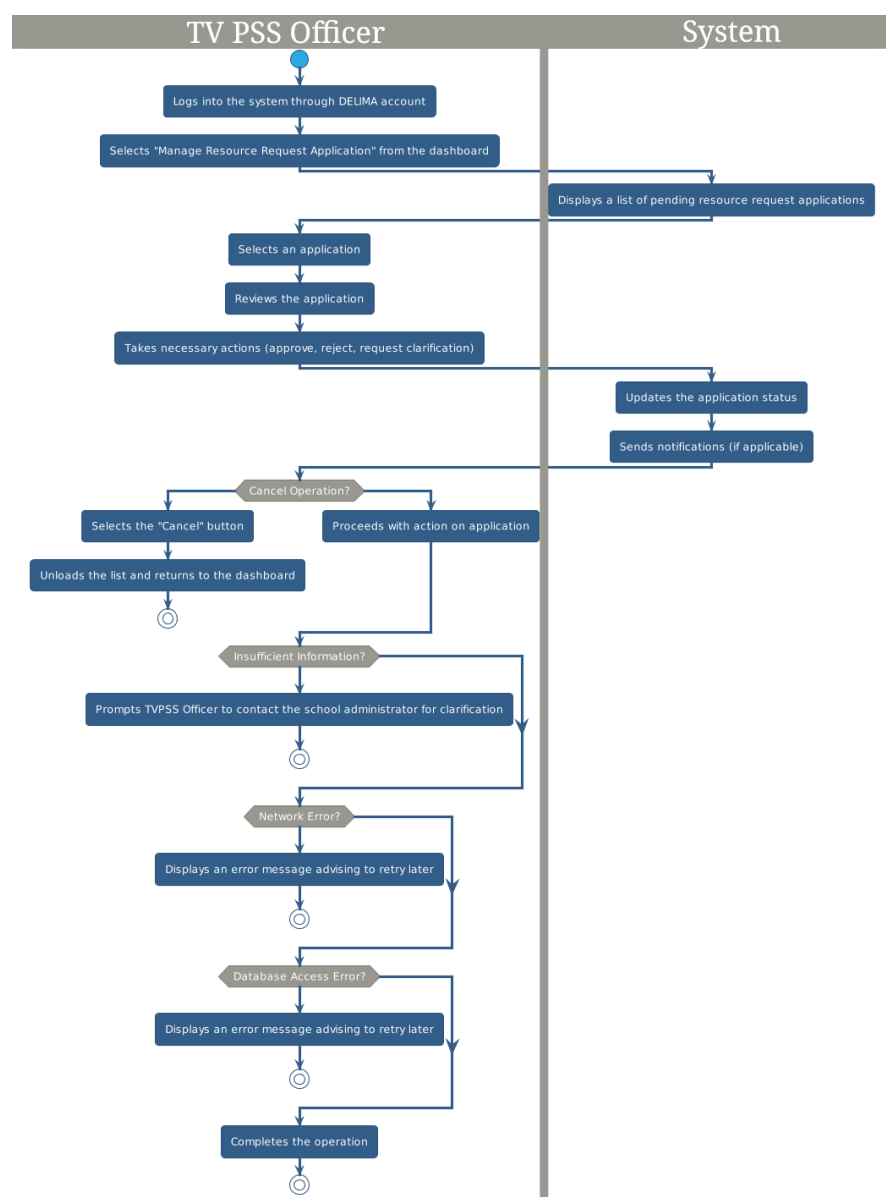


Figure 3.2.3.2: Activity Diagram for UC011 Manage resource request application

3.2.4 Module User Interaction

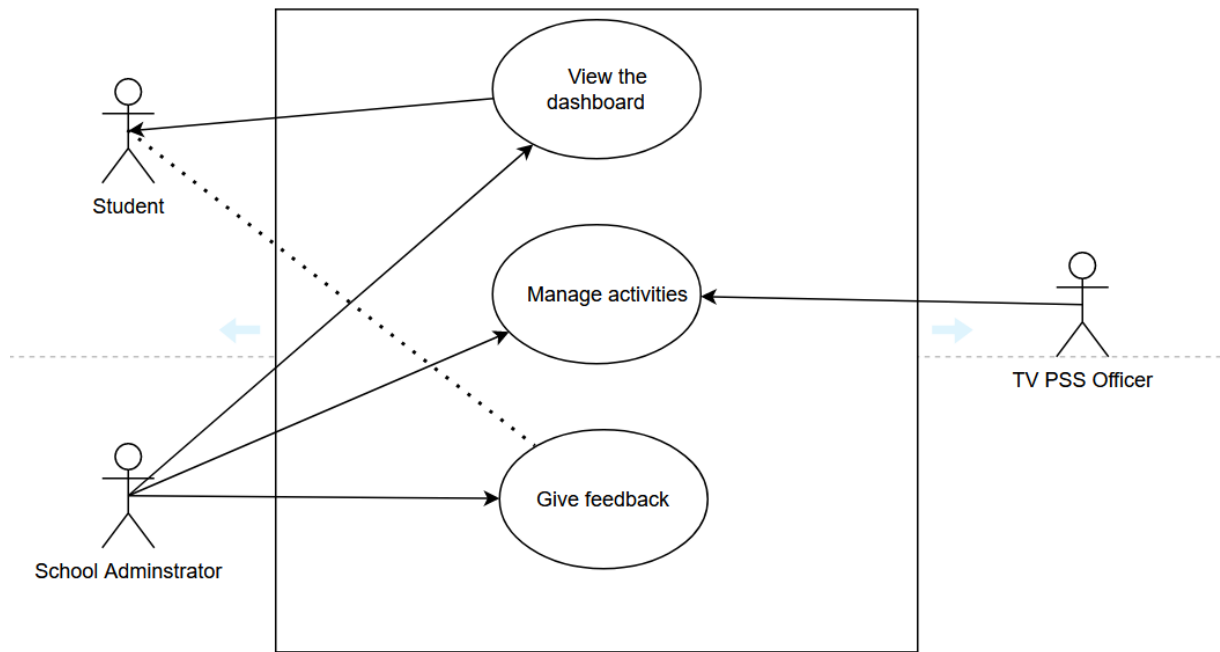


Figure 3.2.4: UCD for Module User Interaction

As in *Figure 3.2.4*, TVPSS Management System enables seamless engagement with three key features through a module called "User Interaction with UC002, UC004, UC009". It offers comprehensive program status updates and activity information to users, including students and school administrators, through UC002 (View Dashboard). Students are guided through the process of submitting talent applications in UC004 (Submit Talent Application). Last but not least, UC009 (Give Feedback) empowers school administrators to provide valuable feedback on the system, fostering continuous improvement and improving the user experience. Through this module, TVPSS facilitates user interaction, promotes transparency, and optimizes the system.

3.2.4.1 UC002 View the dashboard

3.2.4.2 UC004 Manage activities

Table 3.2.1.2: Use Case Specification for UC012 Manage programs' status form

History Log:	1.0 Create initial use case 1.1 Fixed pre-conditions 1.2 Fixed normal flow 2.0 Added related requirements		
Version	2.0		
Use Case ID	UC004		
Use Case Name	Manage activities		
Created By	Lau Yun Xi	Last Updated By	Lau Yun Xi
Date Created	7 June 2024	Last Revision Date	12 June 2024
Description	This use case describes the process of school administrator manage various activities within the system. This includes creating, updating, viewing, and deleting activities.		
Actor(s)	Primary actor : School administrators Secondary actor : External database		
Pre-condition(s)	<ul style="list-style-type: none"> • The school administrators must be logged into the system by using their DELIMA account. • Necessary permission should be granted to the school admins to manage activities. 		
Normal Flow(s)- NF	<ol style="list-style-type: none"> 1. The school admin selects the “Manage activities” option from the dashboard. 2. The system displays the activities management interface. 3. The school admin chooses to create a new activity. 4. The school admin enters the required information for the new activity. 5. The school admin submits the new activity form. 6. The system validates the entered data. 		

	<ol style="list-style-type: none"> 7. The system saves the new activity data to the database. 8. The system uploads the new activity to the dashboard. 9. The system displays a confirmation message to the school admin.
Alternative Flow(s) - AF	<ul style="list-style-type: none"> • AF1: Update activity <ol style="list-style-type: none"> 1. The school admin selects an existing activity to update. 2. The school admin modifies the required information. 3. The school admin submits the updated activity form. 4. The system validates the modified data. 5. The system updates the activity data in the database. 6. The system displays a confirmation message to the school admin. • AF2: Delete activity <ol style="list-style-type: none"> 1. The school admin selects an existing activity to delete. 2. The system prompts the school admin to confirm the deletion of activity. 3. The school admin confirms the deletion. 4. The system deletes the activity data from the database. 5. The system displays a confirmation message to the school admin. • AF3: Cancel operation <ol style="list-style-type: none"> 1. The school admin decides to cancel the operation. 2. The school admin selects the “Cancel” button. 3. The system clears the form and returns to the dashboard.
Exception Flow(s) - EF	<ul style="list-style-type: none"> • System failure to update database <ol style="list-style-type: none"> 1. The system fails to connect to database. 2. The system displays an error message indicating the issue. 3. The school admin is advised to try the operation later.
Post-condition(s)	<ul style="list-style-type: none"> • The activity data is stored in the database. • The school admin receives confirmation of successful activity management actions.

Related Requirement	ID	Requirement	Priority
	FR UC012-01	The system must allow School Administrator to log in using their DELIMa account.	BASIC
	FR UC012-02	The system must allow School Administrator to create existing activity.	BASIC
	FR UC012-03	The system must allow School Administrator to update existing activity.	BASIC
	FR UC012-04	The system must validate the data when an updated activity details is submitted.	BASIC
	FR UC012-05	The system must update the programs' status form data in the database upon successful validation.	BASIC
	FR UC012-06	The system must display a confirmation message upon successful update of an activity.	PERFORMANCE
	FR UC012-07	The system must allow School Administrator to delete existing activity.	BASIC
	FR UC012-08	The system must prompt School Administrator to confirm the deletion of an activity.	BASIC
	FR UC012-09	The system must display a confirmation message upon successful deletion of an activity.	PERFORMANCE

	QR UC012-01	The system must have a maximum downtime of fifteen minutes.	PERFORMANCE
	QR UC012-02	The user interface for managing activity must not take more than ten seconds to load.	PERFORMANCE

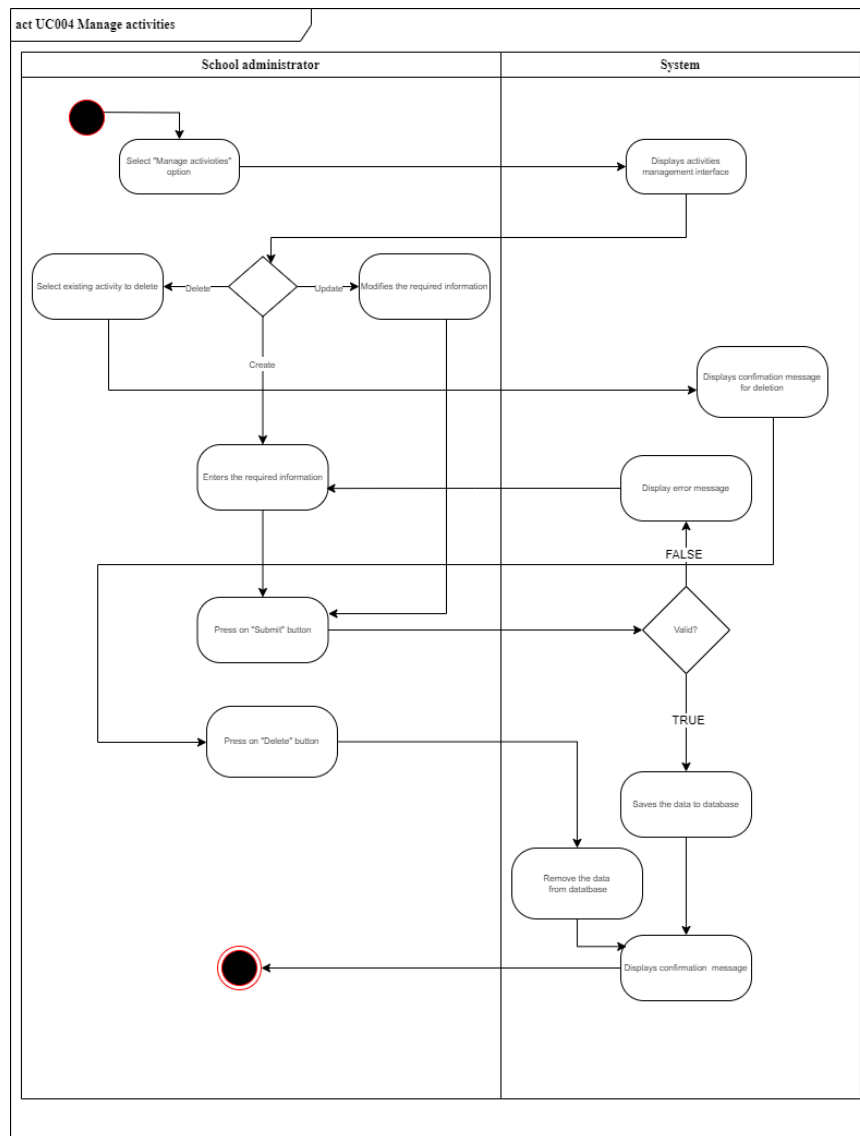


Figure 3.2.4.2: Activity Diagram for UC004 Manage activities

3.2.4.3 UC009 Give feedback

History Log:	1.0 Create initial use case 1.1 Fixed pre-conditions 1.2 Fixed normal flow 2.0 Added related requirements		
Version	2.0		
Use Case ID	UC009		
Use Case Name	Give feedback		
Created By	Ahmed	Last Updated By	Ahmed
Date Created	9 June 2024	Last Revision Date	11 June 2024
Description	This use case describes how a school administrator provides feedback on the TVPSS Management System.		
Actor(s)	Primary Actor: School Administrator Secondary Actor: Students		
Pre-condition(s)	<ul style="list-style-type: none"> Valid DELIMA account login credentials Permissions to manage resource request applications Stable internet connection Accessible feedback form within the system. 		
Normal Flow(s)- NF	<ol style="list-style-type: none"> The school administrator selects "Give Feedback" from the dashboard. The system displays the feedback form. The school administrator enters feedback comments and submits the form. The system saves the feedback data. A confirmation message is displayed. 		
Alternative Flow(s) - AF	AF1: Cancel Operation <ol style="list-style-type: none"> The school administrator decides to cancel the operation. The school administrator selects the "Cancel" button. The system clears the form and returns to the dashboard. AF2: Character Limit Exceeded: <ol style="list-style-type: none"> User enters feedback exceeding the character limit. 		

	2. The system identifies the violation and displays an error message prompting the user to edit and resubmit.		
Exception Flow(s) - EF	EF1: Network Error: <ul style="list-style-type: none"> The system encounters a network issue during data submission. An error message is displayed, advising the user to retry later. EF2: Invalid Input: <ul style="list-style-type: none"> The system detects invalid characters or unexpected data format in the feedback. An error message is displayed, prompting the user to enter valid feedback and resubmit. 		
Post-condition(s)	Upon successful submission: <ul style="list-style-type: none"> The feedback data is stored in the database. The school administrator receives confirmation. The system dashboard reflects an updated message. 		
Related Requirement	ID	Requirement	Priority
	CR UC009-01	The system shall limit the frequency of feedback submissions by a school administrator to one submission per day to prevent spamming or abuse of the feedback system.	BASIC
	CR UC009-02	The system shall ensure that the feedback form is accessible only to school administrators with the appropriate permissions and roles, maintaining data confidentiality and security.	BASIC
	FR UC009-01	The system shall allow the school administrator to enter feedback comments with a maximum character limit of 500 characters.	PERFORMANCE
	FR UC009-02	The system shall save the submitted feedback data to	

	the database upon successful submission.	BASIC
FR UC009-03	The system shall display a confirmation message to the school administrator upon successful submission of the feedback form.	BASIC
FR UC009-04	The system shall detect invalid characters or unexpected data format in the feedback and display an error message prompting the user to enter valid feedback and resubmit.	PERFORMANCE
QR UC009-01	The system shall handle network errors during data submission by displaying an error message and advising the school administrator to retry later.	PERFORMANCE
QR UC01-02	The system shall support feedback submissions from school administrators using common web browsers such as Chrome, Firefox, and Safari.	BASIC
QR UC009-03	The system shall process and save feedback submissions within 3 seconds of submission by the school administrator.	PERFORMANCE

Based on *Figure 3.2.4.3*, School Administrators login to the TVPSS Management System through their DELIMA account and select the "Give Feedback" option from the dashboard. A feedback form is then displayed, which the School Administrator fills out and submits. If the feedback is valid, the system saves it to the database and displays a confirmation message. The system prompts the School Administrator to edit and resubmit feedback if it exceeds character

limits or contains invalid input. Users are advised to retry if there is a network error. The process ensures that feedback is properly captured and acknowledged within the system.

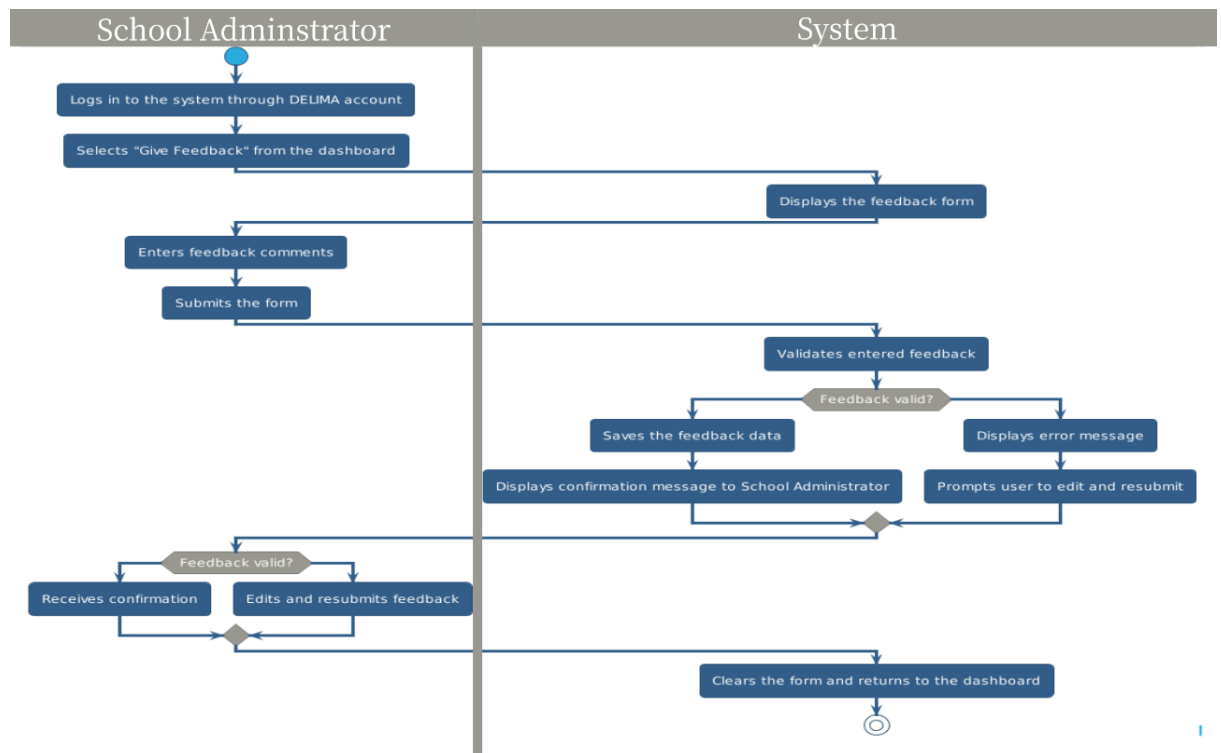


Figure 3.2.4.3: Activity Diagram for UC009 Give feedback

3.2.4.4 UC010 View validation report

3.3 Performance Requirements

Performance requirements outline the limitations and intended performance traits of the software system. These specifications are concerned with how effectively the software manages data, performs its functions, and reacts to user input. These requirements include the following:

- **Response Time:** The system should respond to user input and requests promptly to provide appropriate levels of responsiveness.
- **Throughput:** The system must be able to process a certain amount of data or a predetermined number of transactions in a predetermined time frame.
- **Resource Usage:** The system should make efficient use of system resources to reduce resource consumption and increase performance.
- **Capacity:** The maximum number of users or amount of data that the system can handle.
- **Availability:** The proportion of time the system is functioning and available to users.
- **Load Handling:** The system must be capable of managing projected user workloads without causing system faults or performance deterioration.

3.4 Design Constraints

- **Style Guidelines:**

To ensure a consistent and professional user experience across all platforms and devices, the system's interface will adhere to the organization's established style guidelines, including color schemes, fonts, and layout specifications. This aligns with the TVPSS's identity, incorporating themes, logos, and other visual elements for a cohesive look and feel.

- **Performance Expectations:**

Ideally, the system should support at least 1,000 concurrent users and respond to actions within two seconds. Consequently, users can expect consistent performance, accuracy, and timely execution in all scenarios

- **Programming Languages:**

The system will be developed using the following programming languages:

- **JavaScript:** Adds interactivity and dynamic behavior to web pages. (Might Also use ReactJS)

- **HTML:** Defines the content and structure of the web page.
- **CSS:** Controls the visual appearance of the web page.
- **PHP:** Generates dynamic web page content on the server.
- **MySQL:** Stores and manages data used by web applications.
- **Compatibility:**
 These constraints relate to the compatibility requirements for the system with software and hardware elements. For instance, the system must be compatible with the latest Windows version, which is Windows 11. Likewise, the system should also consider a mobile-friendly approach with the increasing use of mobile devices for browsing these days, hence needing a design compatible with iOS 17 and Android 12.

3.5 Software System Attributes

Software system attributes refer to the fundamental qualities or features of the software system. The following characteristics are the foundation upon which the software is constructed:

- **Reliability:** The system must consistently and correctly carry out the tasks it was designed to do.
- **Security:** Unauthorized access, data breaches, and other security risks should all be prevented by the software. It should put in place the necessary security safeguards, including authentication procedures, access controls, and encryption.
- **Availability:** Users should be able to access and utilize the system whenever they need to, with minimal downtime or interruptions.
- **Maintainability:** The system should be simple to update, maintain, and modify as necessary. It should contain properly modularized code that is well-structured and easy to understand.
- **Usability:** The system must be simple to use and straightforward so that users may complete their duties without difficulty or frustration.

3.6 Other Requirements

Other requirements refer to any non-functional requirements that might be given depending on the unique demands of the software system, in addition to software system qualities and performance requirements. The following are the characteristics included:

- **Legal and Regulatory Compliance:** The system must abide by all laws, rules, and regulations that are relevant to the industry or target domain.
- **Security:** The safeguarding of a system's data against unauthorized access and malicious attacks.
- **Safety:** The system's capacity to function safely without endangering people or the environment.
- **Environmental:** The system's effects on the environment.