RISE-EDU

Software Design Specification

Phase 2

Revision History

Date	Revision	Description	Author
10/15/2025	1.0	Initial Version	Wail Mohammed
10/15/2025	1.1	Purpose, Scope, Definitions Updated	Wail Mohammed
10/15/2025	1.2	Updated class candidates 01,02,03,04,05	Wail Mohammed
10/17/2025	1.3	Updated class candidates 06,07,08,09,10	Wail, Yesenia, Emmanuel, Shichang
10/23/2025	1.4	Updated Class Diagram and Sequence diagrams	Wail Mohammed
10/25/2025	1.5	Updated all class candidates, added class 11	Wail, Yesenia, Emmanuel
10/26/2025	1.6	Updated the System Architecture	Emmanuel
	1.7		
	1.8		
	1.9		
	1.10		
	1.11		
	1.12		
	1.13		

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1. Purpose

This document outlines the system design for the College Course Enrollment System Project. This expands on the software requirements specifications and outlines the system architecture, components, use case classes designs, communication models and the overall implementation of the system

1.1. Scope

This document will catalog the user, system, and hardware requirements for the CCES (College Course Enrollment) system. It will not, however, document how these requirements will be implemented. It will allow school administrators to create and manage the school's course schedule, while also providing students with tools to enroll, drop, and withdraw from courses. The system will also manage prerequisites for courses and allow users to waitlist if class sizes are full.

1.2. Definitions, Acronyms, Abbreviations

1.2.1 CCES: College Course Enrollment System

1.2.2 Student User: User that will be able to enroll, drop, waitlist and withdraw from classes.

1.2.3 Administrator: School admin user that will be responsible for managing course listings.

1.2.4 TCP/IP: A piece of software suite that will allow communication between client and server.

1.2.5 Client: Users interact with the client entity to be able to send and receive information from the server.

1.2.6 Server: The server is responsible for listening to and interacting with multiple clients at the same time, and managing information being received from the clients.

1.2.7 Add/Drop period is the same as registration period.

1.2.8 Withdrawal period is another period when student will be allowed to withdraw from a course.

1.3. References

Use Case Specification Document

UML Use Case Diagrams Document

Class Diagrams

Sequence Diagrams

1.4. Overview

The CCES (College Course Enrollment System) allows for the creation of college course schedules by administrators and allows students to enroll in these courses. The system will support class sizes, waiting lists, prerequisites, and reports. This system supports a network of universities, students, and Administrators. This is a Java application with a GUI that operates over TCP/IP. This system requires a server application and a client application. There is no web or HTML component.

2. Design Description

2.1. Product Perspective

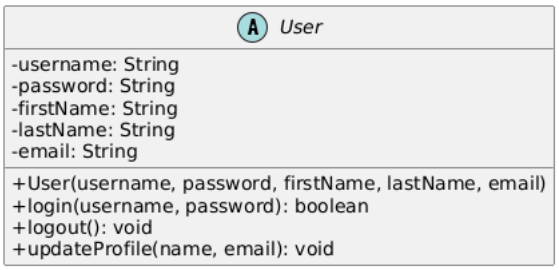
The CCES system is a platform designed for university students and administrators. Administrators can control the number of courses, class size, waiting list size, prerequisites list, and issue reports. Students can enroll in courses, drop courses, and withdraw from courses. The logging module enables administrators to issue reports and for students to display their class schedules.

2.2. System Architecture

2.2.1 The system will be designed to display tabs for options to select “Add”, “Drop”, “Course Schedule”, “Waitlist”, Reports on the log in display.

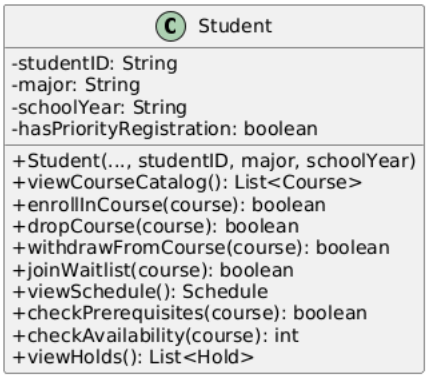
3. Class Design

Class 1: User



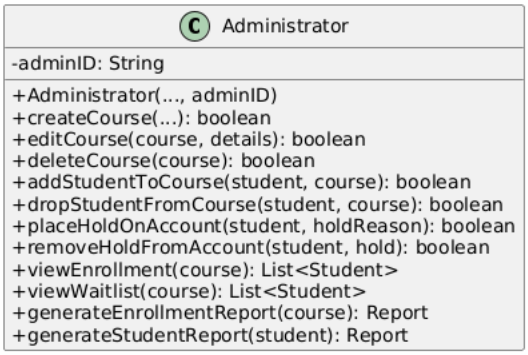
Note: may be updateprofile???

Class 2: Student



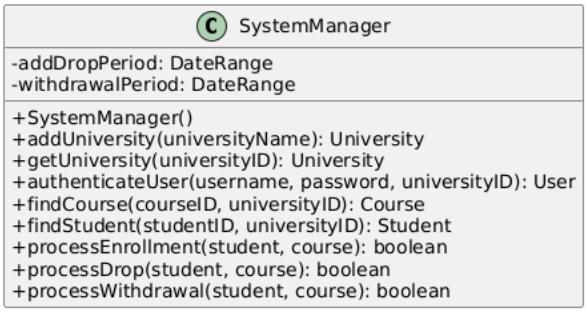
Note: May remove hasPriority registration

Class 3: Administrator



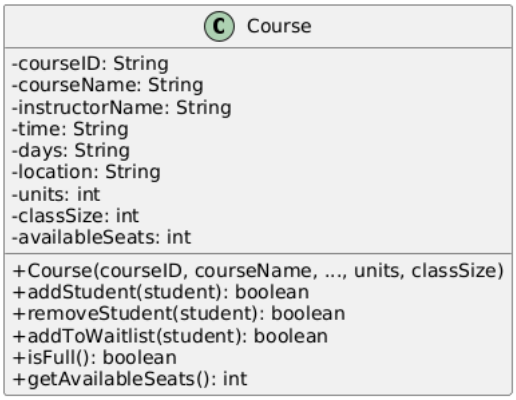
Note: may include username/password/nameand email as attributes.

Class 4: System Manager



Note: please call date attribute as Date type and then look at including university id in the class methods.

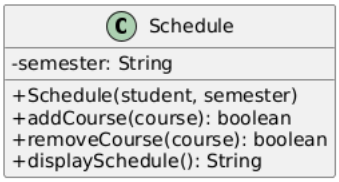
Class 5: Course



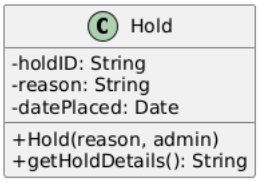
Note:
Also, look at creating courseList (list of courses)
Add CourseList or ListoFCourses or CourseCatalog

Class 6: Schedule (List of courses)

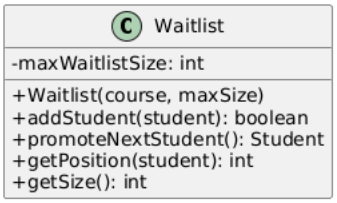
Note: Lets look at this later. (may be fine)



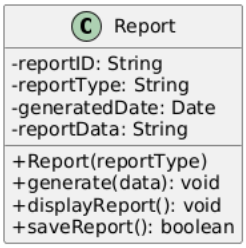
Class 7: Hold


Hold
-holdID: String
-reason: String
-datePlaced: Date
+Hold(reason, admin)
+getHoldDetails(): String

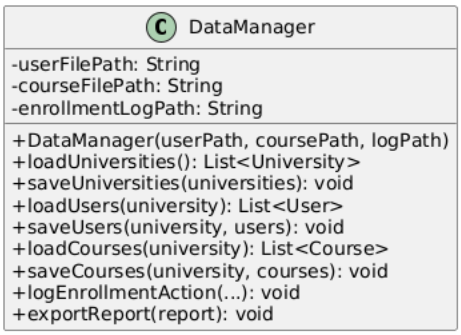
Class 8: Waitlist



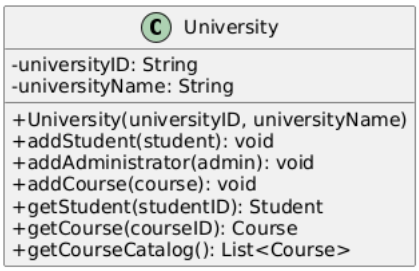
Class 9: Report



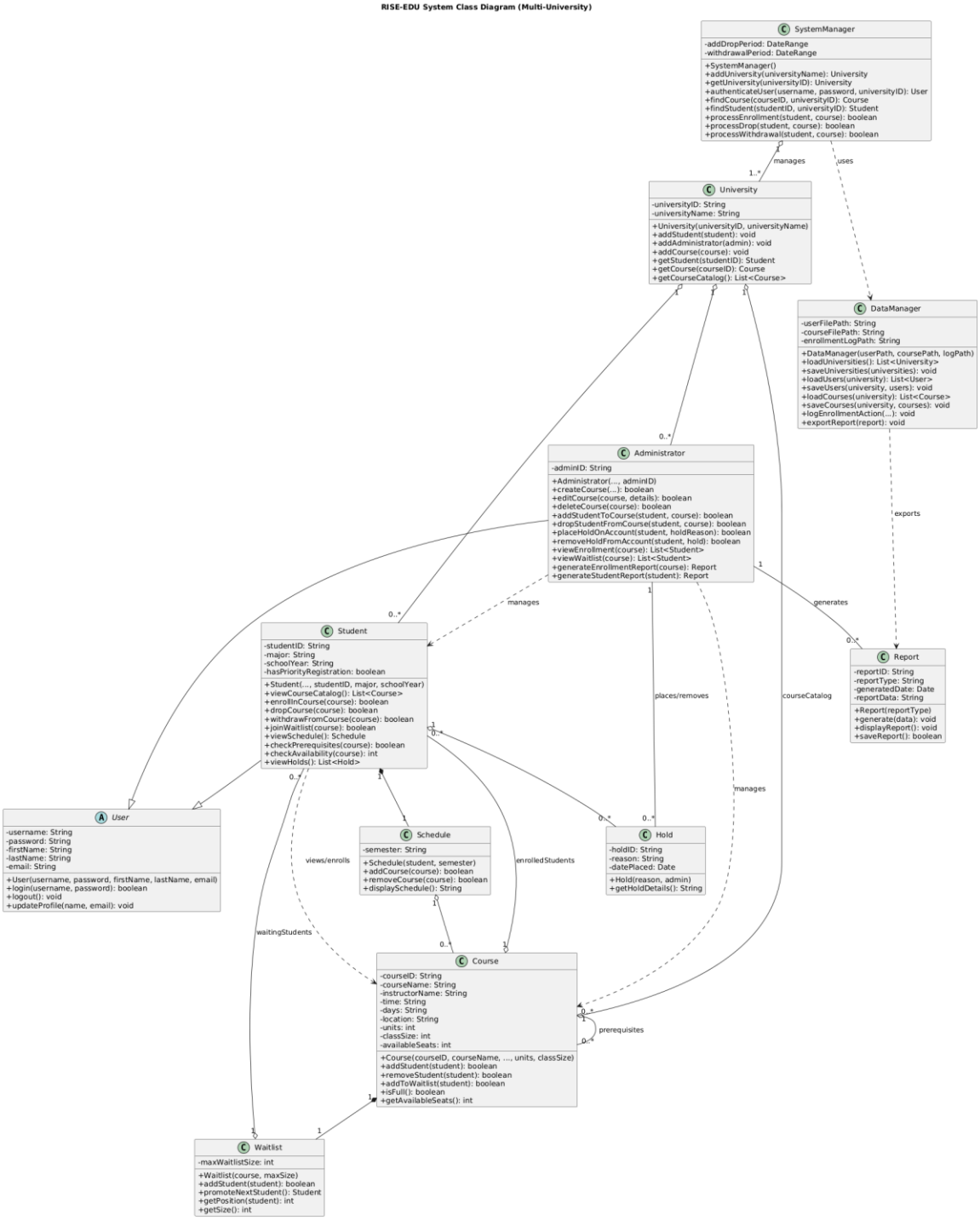
Class 10: Data Manager



Class: 11: University



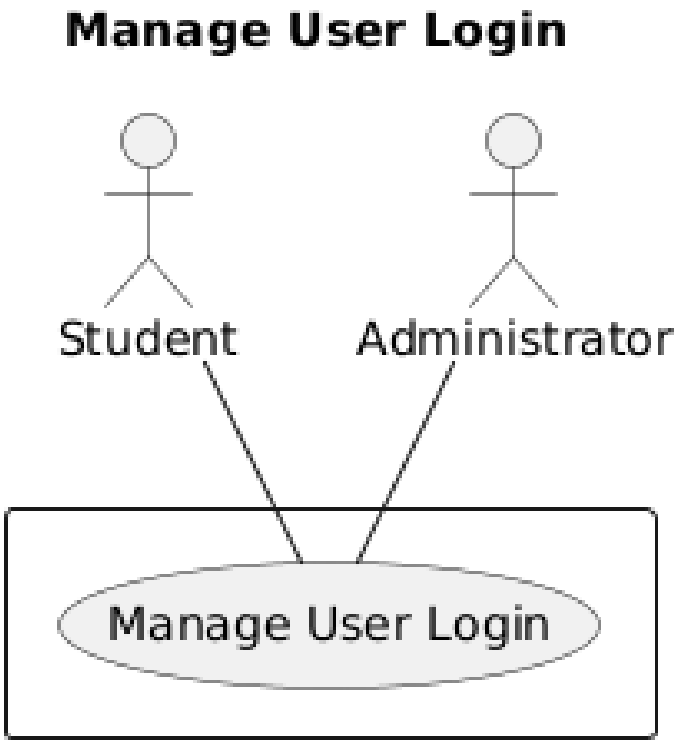
4. Class Diagram



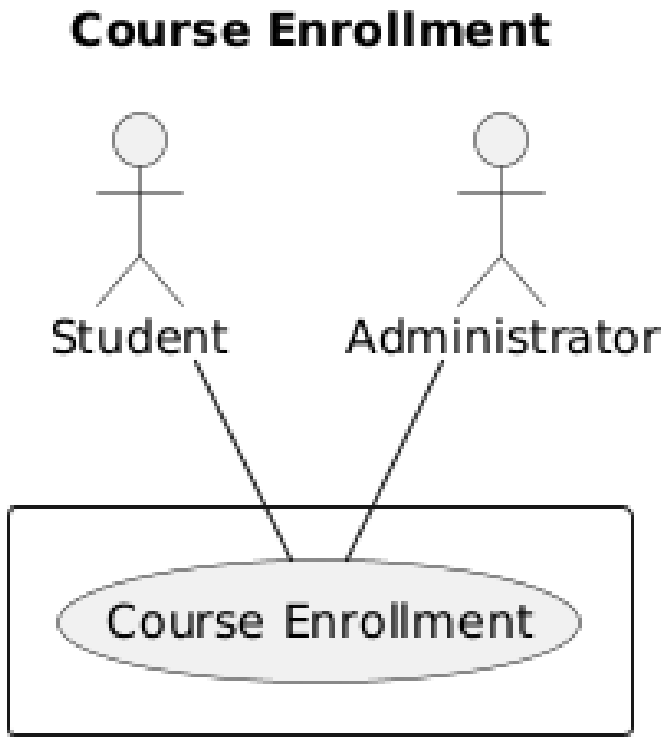
6. Use Cases

6.1 UC01 : Manage User Login

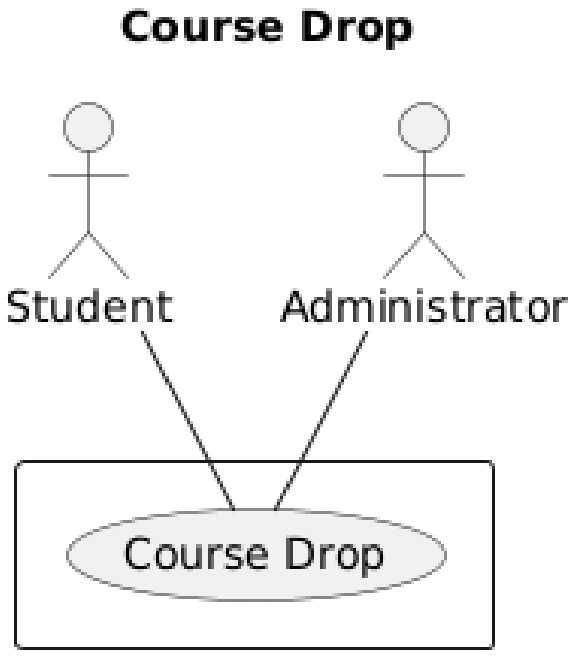
Actor : Student, Admin
Description:



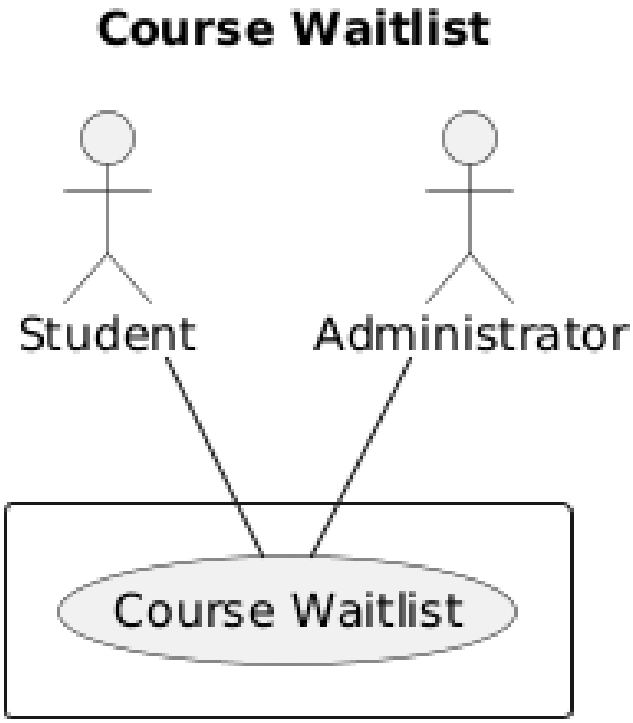
6.2 UC02: Course Enrollment



6.3 UC03: Course Drop

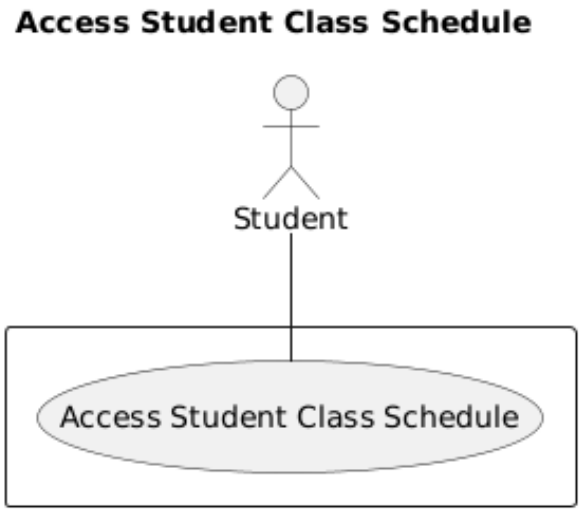


6.4 UC04: Course Waitlist

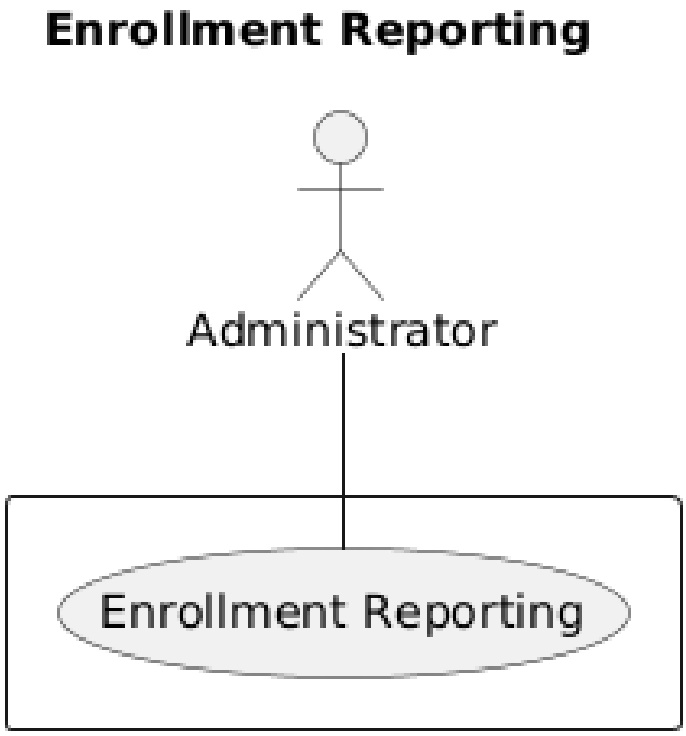


6.5 UC05: Course Prerequisites Check

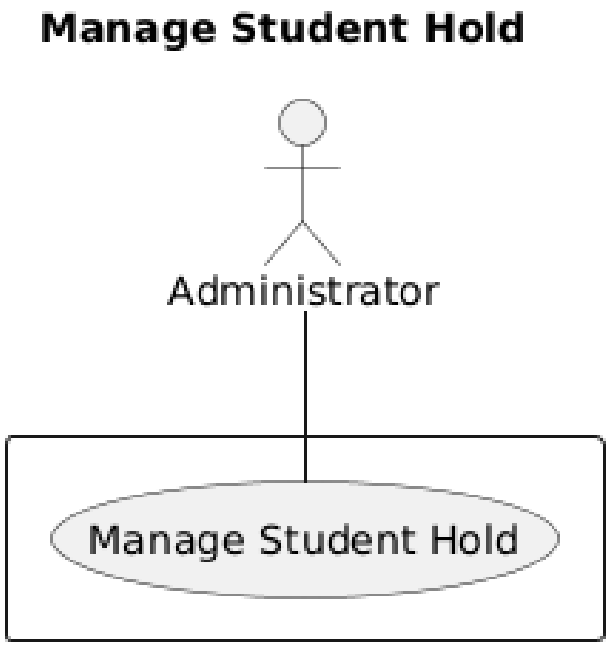
6.6 UC06: Access Schedule



6.7 UC07: Enrollment Reporting

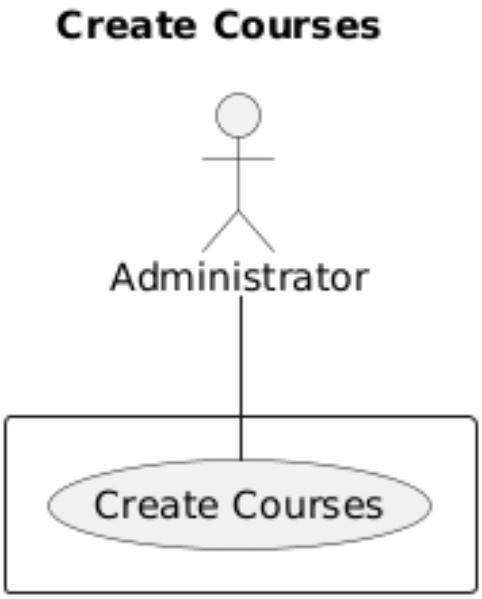


6.8 UC08: Manage Hold

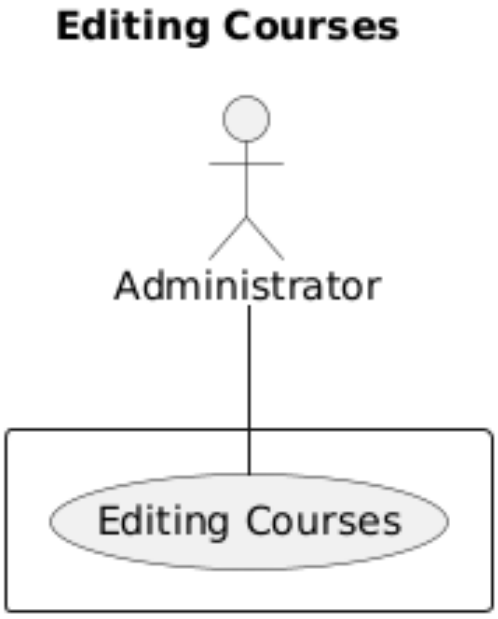


6.9 UC09: Update Changes Report

6.10UC10: Create Courses
Actor :
Description:

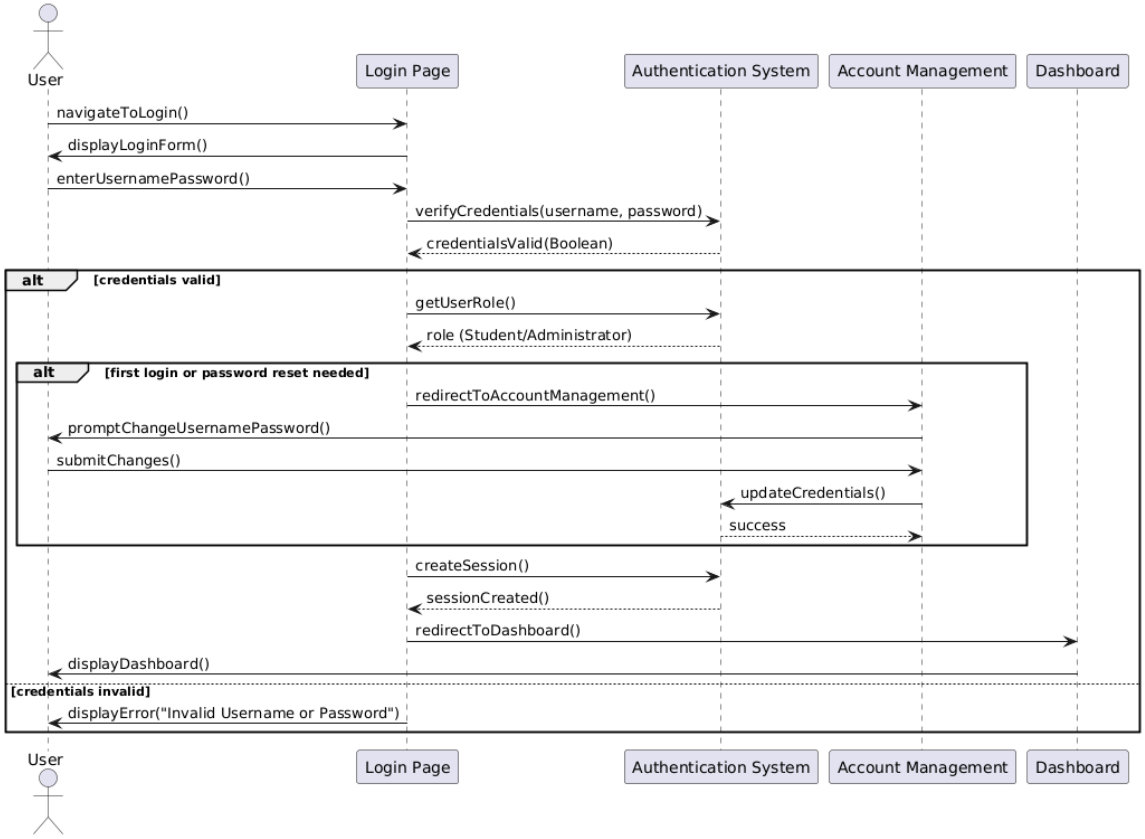


6.11UC11: Edit Courses

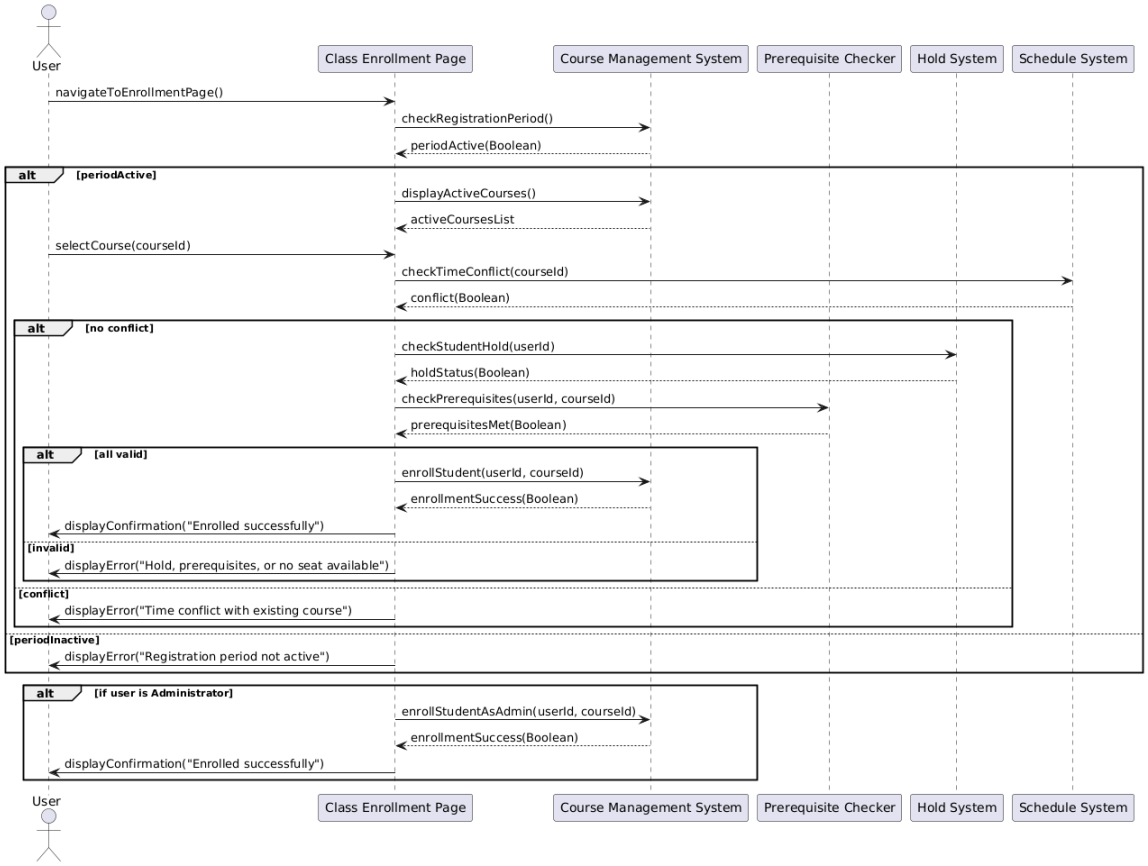


7. Sequence Diagrams

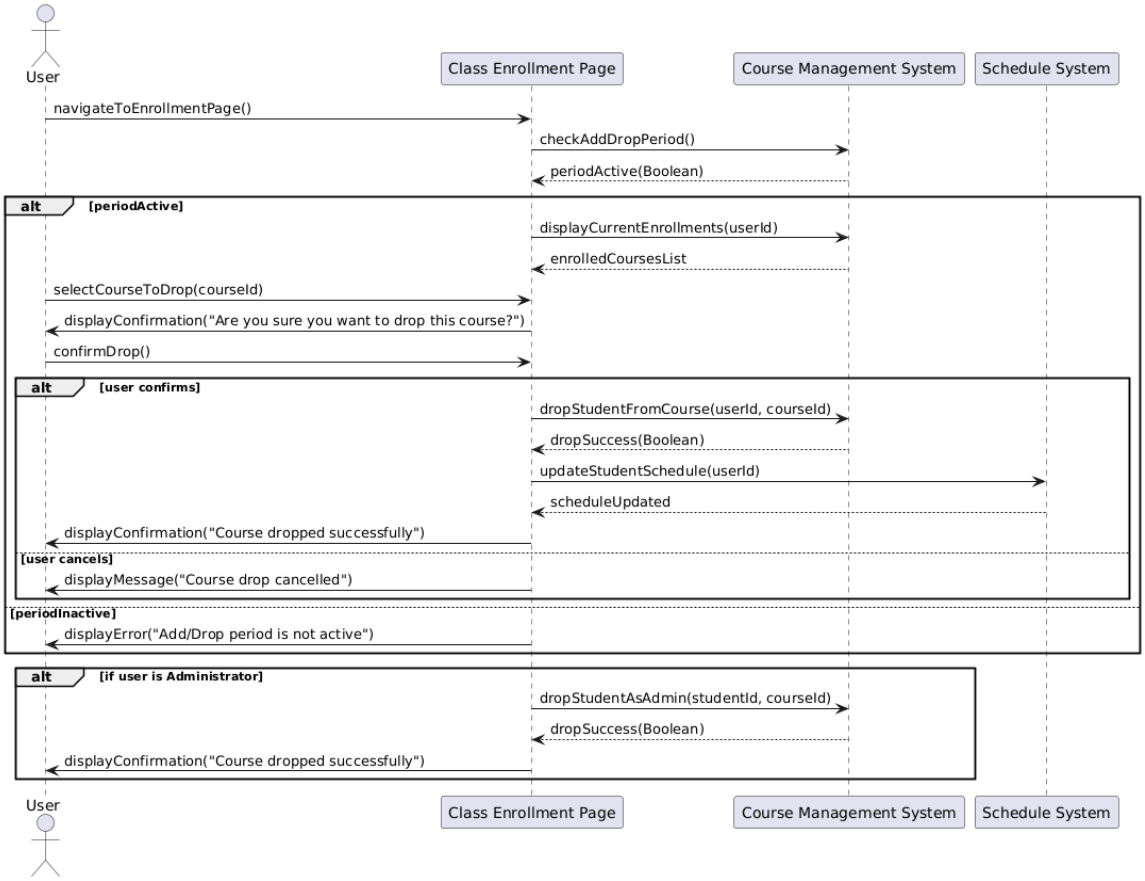
Use Case 1: Manage User Login



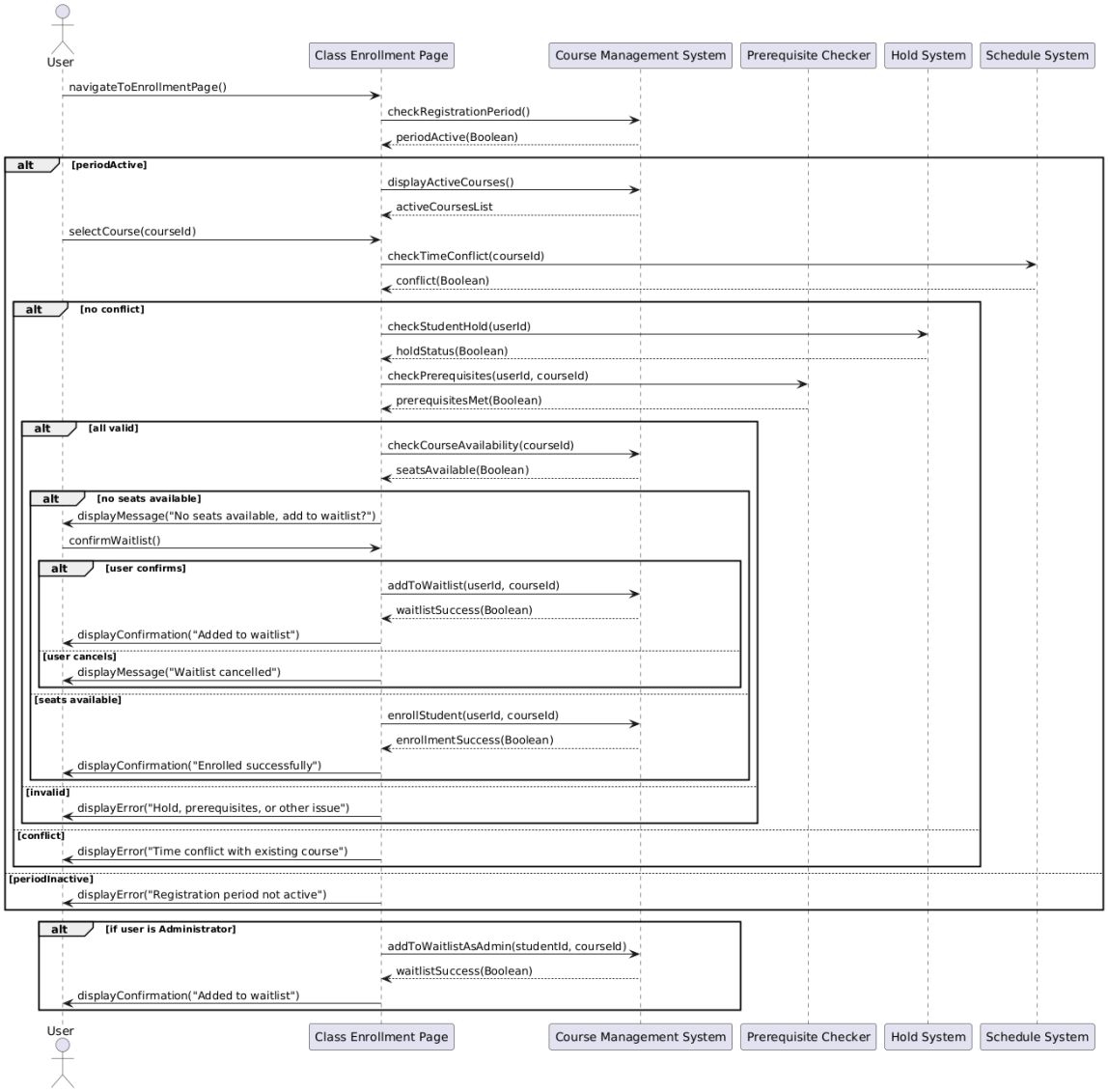
Use Case 2: Course Enrollment



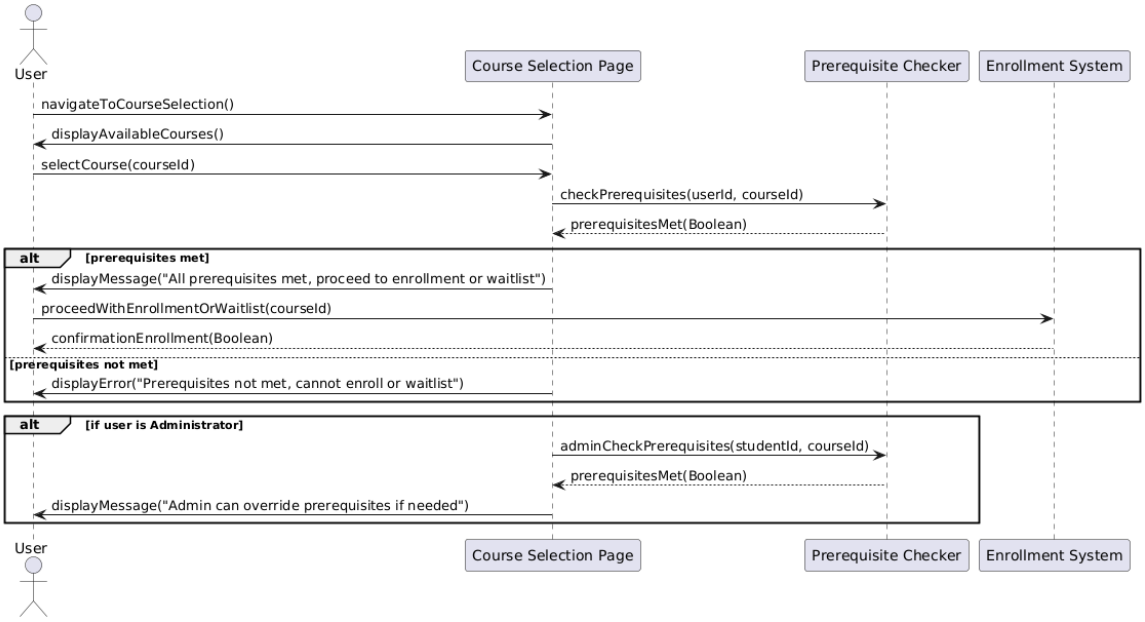
Use Case 3: Course Drop



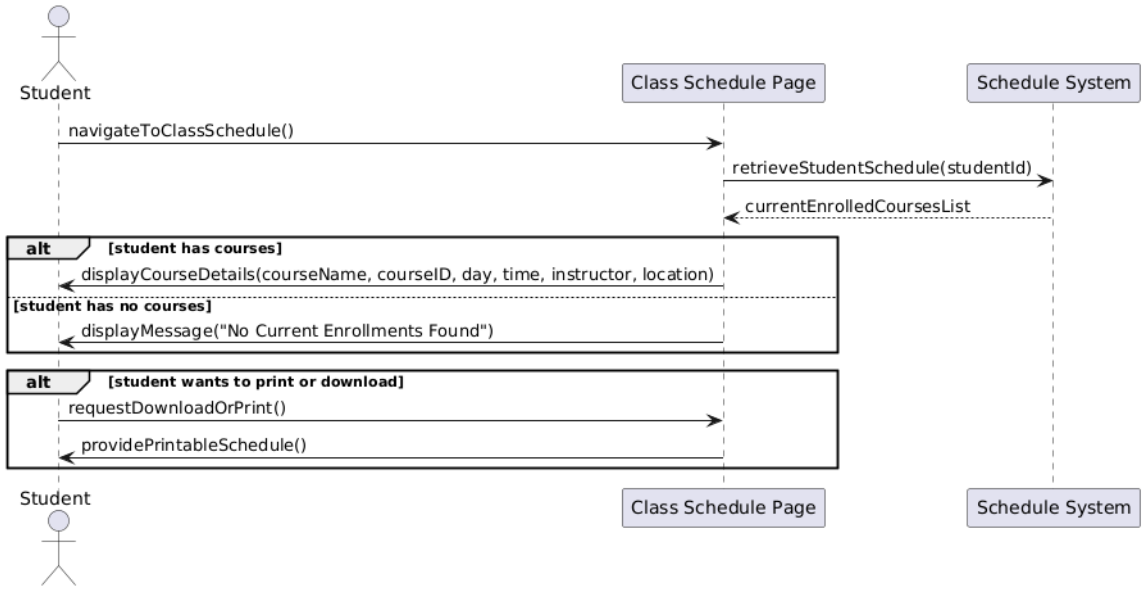
Use Case 4: Course Waitlist



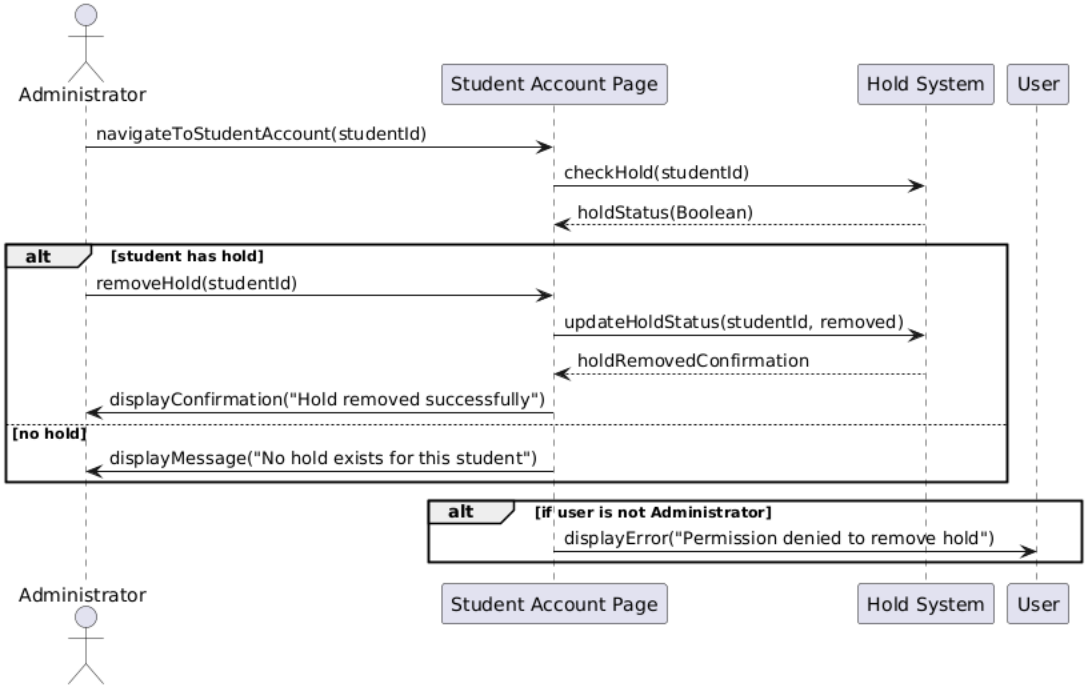
Use Case 5: Course Prerequisites Check



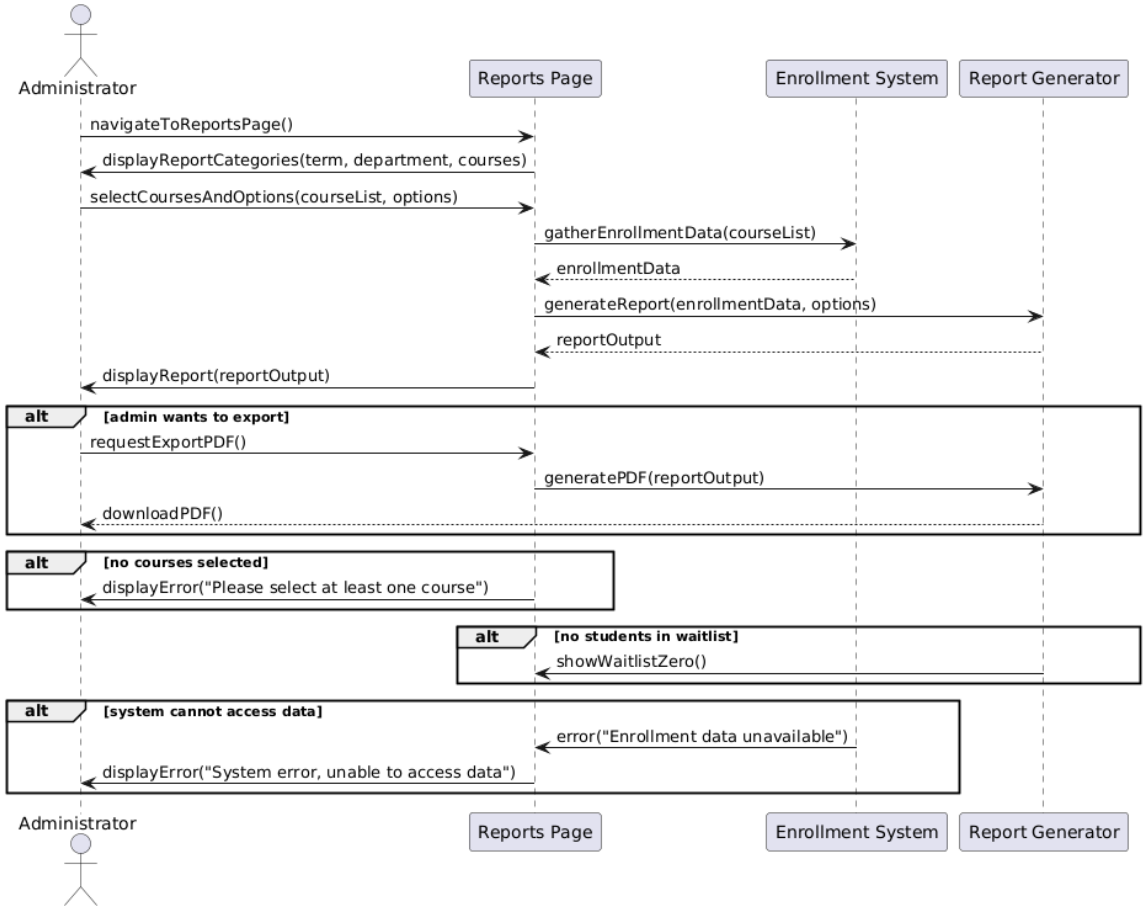
Use Case 6: Access Student Class Schedule



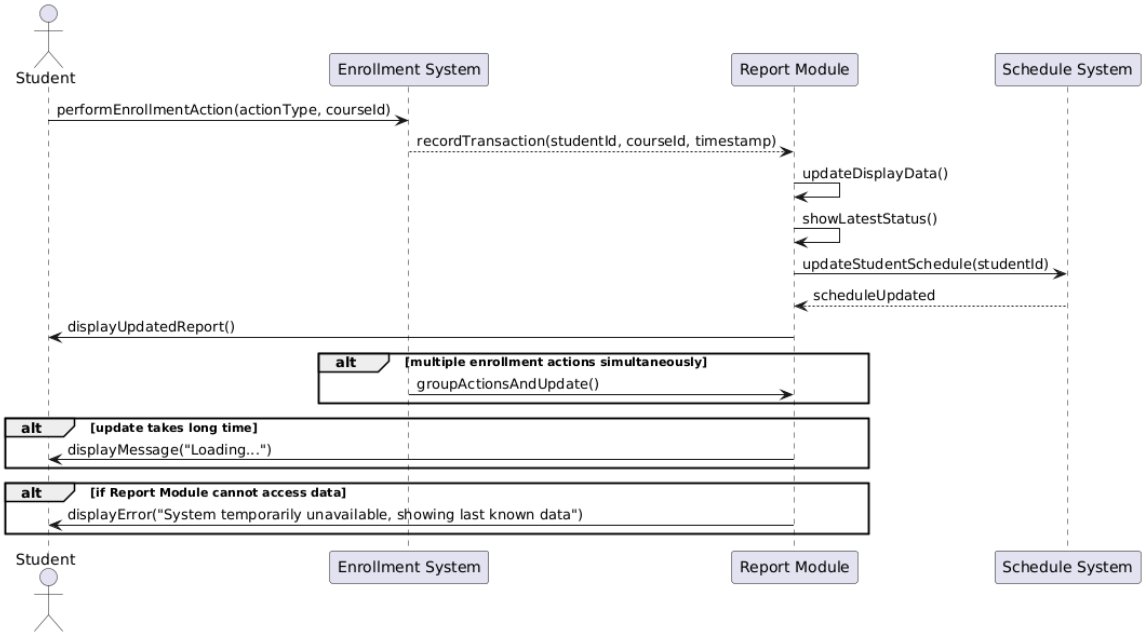
Use Case 7: Manage Student Hold



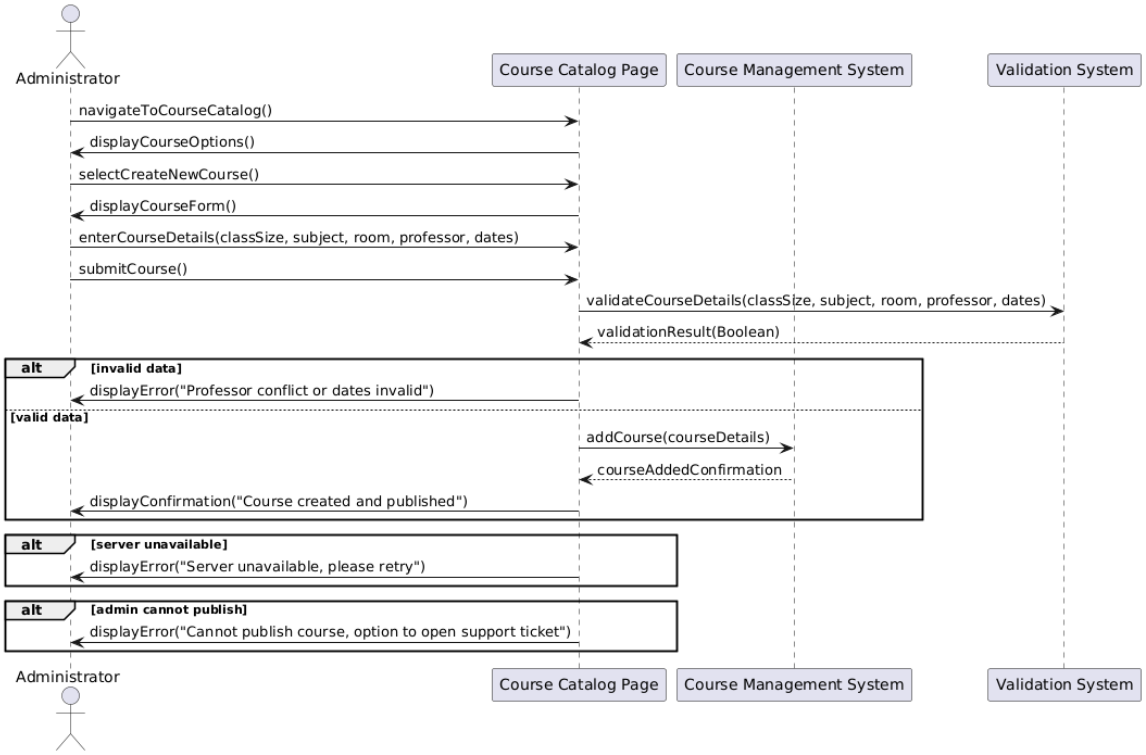
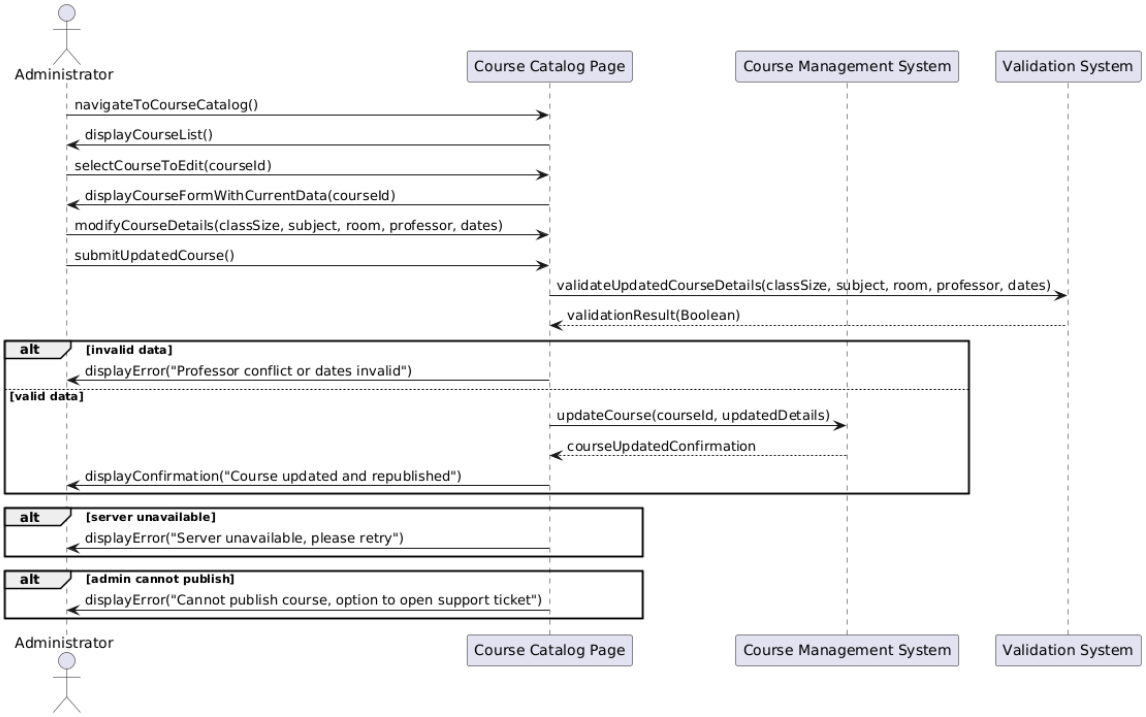
Use Case 8: Enrollment Reporting



Use Case 9: Update Changes Report



Use Case 10: Create courses



Use Case 11: Editing courses