

Part 1: Designing the User Interface:

I. List of User Interfaces of each use case

1. Enroll in Course

- **View Courses Screen**
 - o Course thumbnails (image, title)
- **Course Details Screen**
 - o Course title and description
 - o Prerequisites
 - o Start and end dates
 - o Instructor information
 - o Enroll in course button
- **Prerequisite Validation Screen**
 - o List of missing prerequisites
 - o "View Prerequisites" or "Enroll in Prerequisites" button
- **Enrollment Confirmation Screen**
 - o Course title
 - o Enrollment status (Success/Error)
 - o Access Course Materials button

2. Create Course

- **Course Creation Form**
 - o Course title
 - o Description
 - o Prerequisites
 - o Modules titles
 - Save Draft
 - Publish Course

- **Multimedia Upload Screen**
 - File selection (upload field)
 - File size and type restrictions
 - Upload button
 - Delete uploaded file
- **Course Publishing Confirmation Screen**
 - Success message
 - Published course title

3. Request Technical Support

- **Support Request Form**
 - Email
 - Request type
 - Description
 - Attachments
 - Submit button
- **Support ticket details Screen**
 - Support ticket number
 - Support ticket status

4. View/Search Available Courses

- Search Interface

- Search bar
- Filters (Category, Start Date, Difficulty)
- Search button

-Search Results Screen

- Course thumbnails (image, title, description, start date)
- View Details button

II. First Cut Menu Hierarchy:

Menu	Menu Choice	Intended User(s)
Learning	View/Search Available Courses	Learners
	Enroll in Course	Learners
	Unlock Next Module	Learners
	View Grades	Learners
	Issue Certificate	Learners
Course Management	Create Course	Instructors
	Upload Course Materials	Instructors
	Grade Assignment	Instructors
	Provide Feedback	Instructors
	Generate Progress Report	Instructors
	Notify Learners of Grades	Instructors
Customer Support	Request Technical Support	Learners/Instructors
	View Support Ticket Status	Learners/Instructors
Customer Service	Respond to User Inquiries	Customer Service
	Resolve Technical Issues	Customer Service
Administration	Manage User Accounts	Administrators
	Update Course Catalog	Administrators
Insights & Reports	Review Financial Performance	Executives
	Review System Performance	Executives

III. Storyboards:

1) Enroll in Course Dialogue & Storyboards:

System: What would you like to do?

learner: i would like to enroll in a course

System: Here is the list of available courses

learner: I can see the introduction to data science course. I want to enroll.

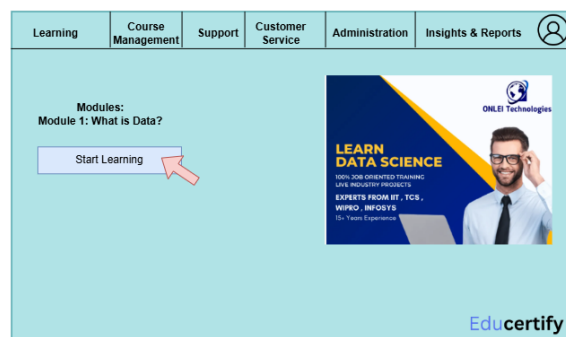
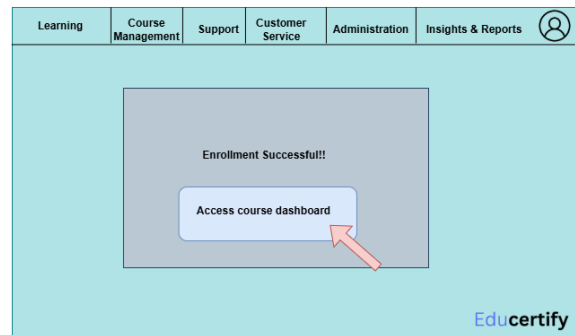
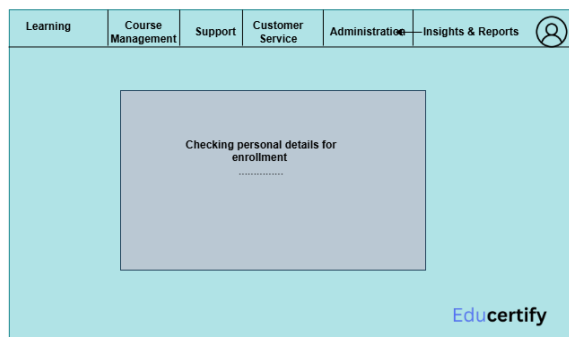
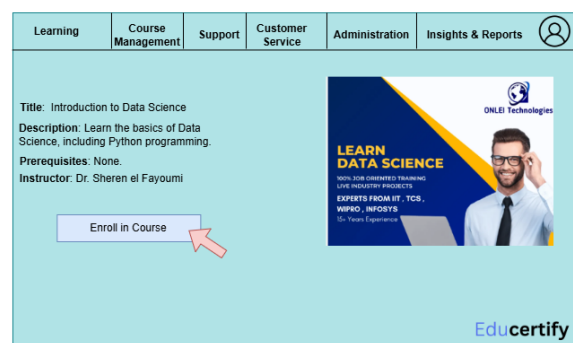
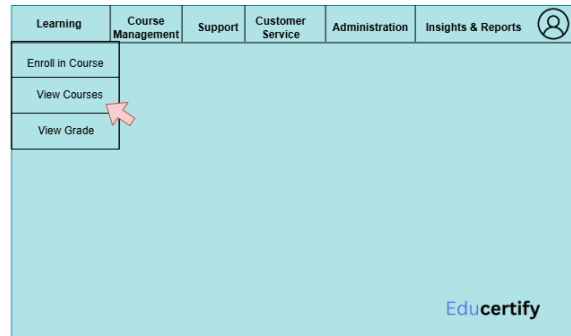
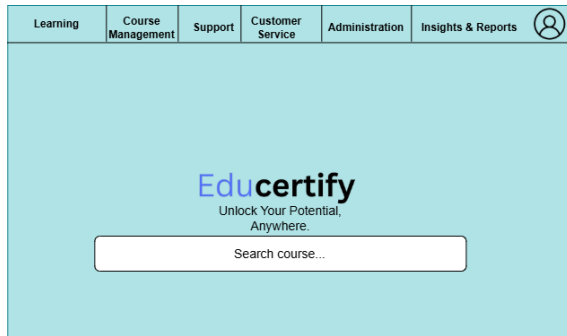
System: Yes, it is an introduction to data science course in which you will learn the basics of data science including python programming. It has no prerequisites. It is taught by Dr. Sheren El Fayoumi. Let me check your personal details to validate your account.

System: your enrollment successful! do you want to see the course dashboard?

Learner: Yes.

System: do you want to start with Module 1: What is Data?

Learner: Yes, start learning!



2) Create Course Dialogue & Storyboards:

System: What would you like to do?

Instructor: I would like to create a course.

System: Fill in the course creation form: title, description, module titles.

Instructor: It is an introduction to data science course and its description is learn the basics of data science including python programming. and the module is what is data.

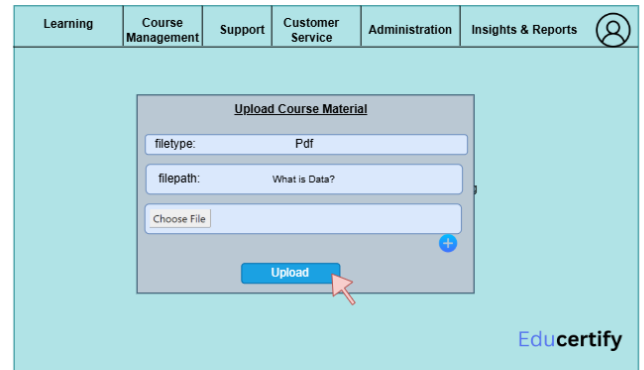
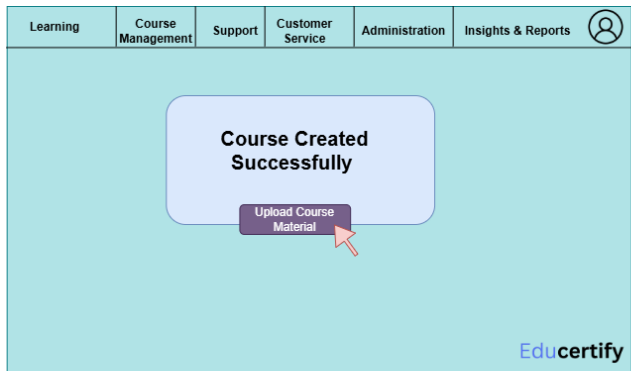
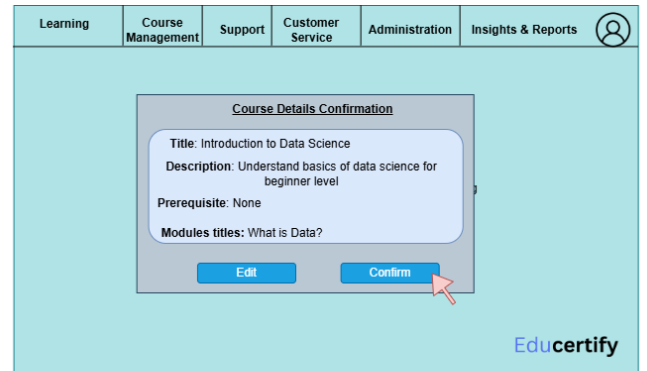
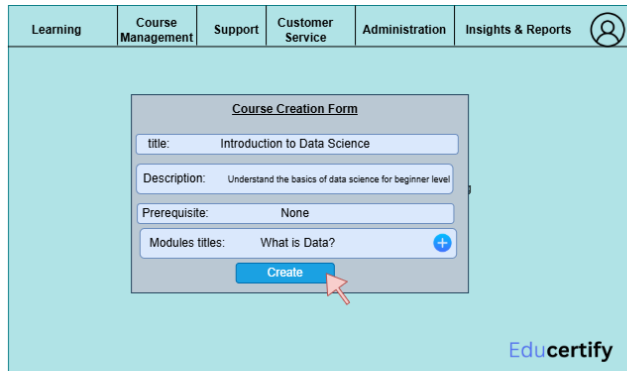
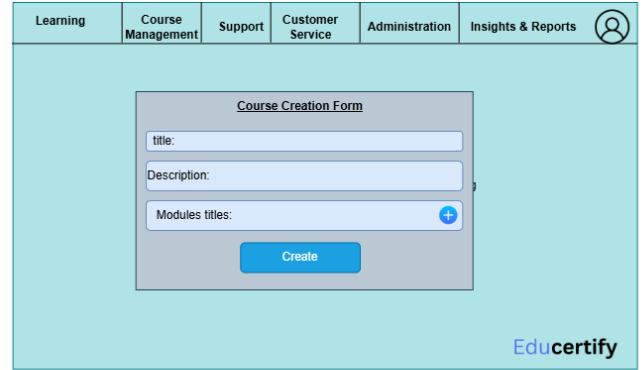
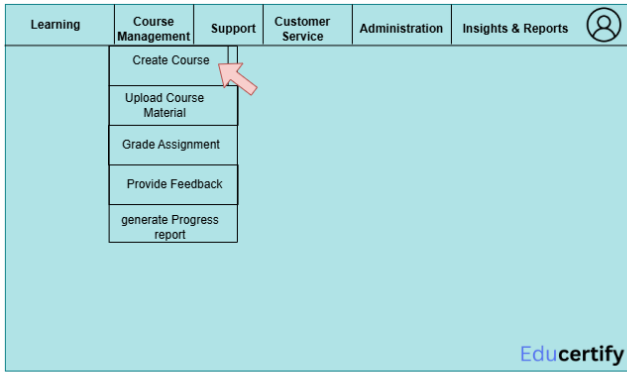
System: here is your course details. do you want to confirm or edit.

Instructor: Confirm

System: Your course is created successfully. Do you want to upload course material.

Instructor: yes.

System: Enter material details.



3) Request Technical Support dialogue and storyboard:

System: What would you like to do?

User: I would like to Request Customer Support ticket.

System: Here is the support ticket. Enter you email, request type, description, and attachments.

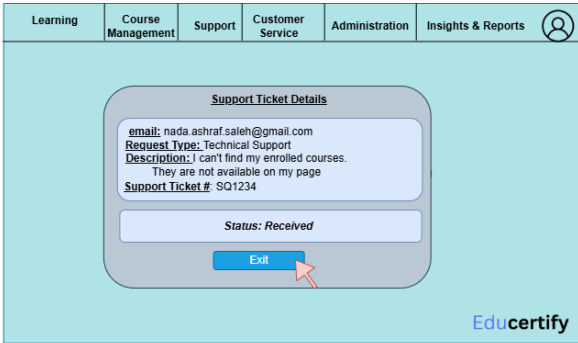
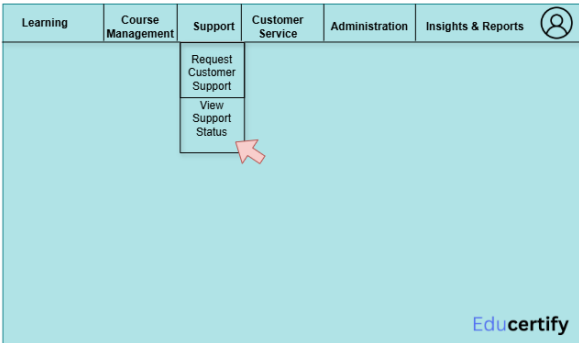
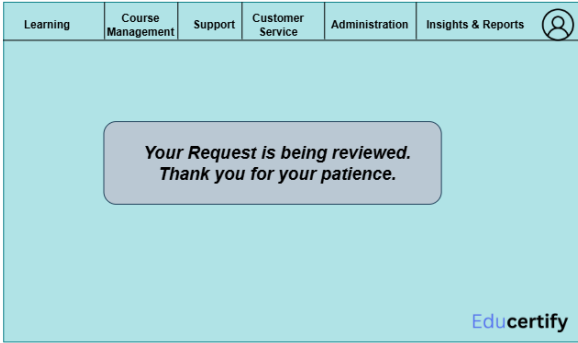
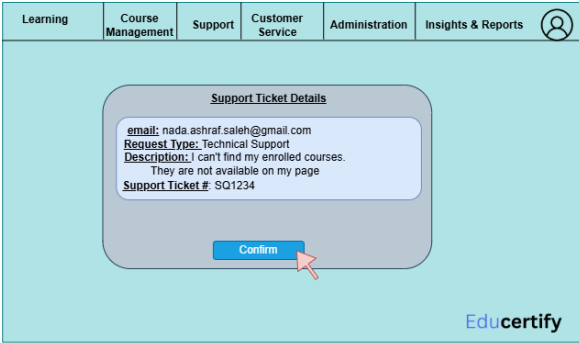
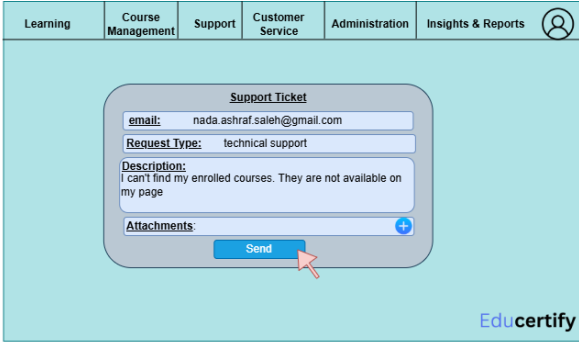
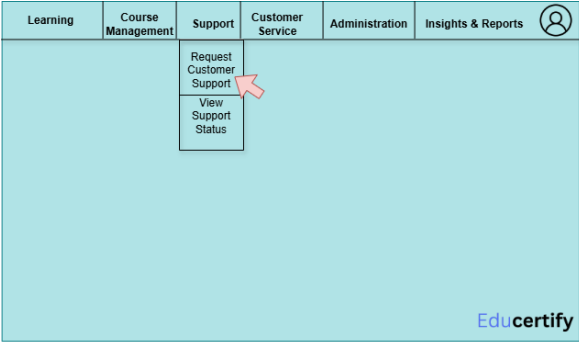
User: My email is nada.ashraf.saleh@gmail.com

It is a technical support. and i can find my enrolled courses. they are not available on my page.

System: Here is your ticket details and ticket number.

User: I want to view the status of the ticket.

System: status is received.



4) View and Search Courses Dialogue and Storyboards:

System: Displays the home page with a search bar prominently in the center.

User: Clicks on the search bar and types "Software Engineer course".

User: The user presses Enter or clicks the search button.

System: Displays a list of courses related to software engineering, along with the number of results found (e.g., "Results found: 1590").

System: Displays course cards with titles, brief descriptions, and a button to apply filters.

User: So many courses. Let me filter them based on my preferences.

User: Clicks the "Filter Search" button to refine results.

System: Displays filter options like Certification, Subscription, Level, and Date.

User: "I only want courses that include certification and are for intermediate or advanced levels. Also, I want courses from 2023 and 2024."

System: The filters are applied, and the number of results reduces significantly (e.g., "Results found: 120").

System: Shows filtered courses with detailed descriptions, such as: "Design Software Courses for Mechanical Engineers" and "Introduction to Software Testing.".

Learning	Course Management	Support	Customer Service	Administration	Insights & Reports	
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Educertify

Unlock Your Potential, Anywhere.

Search for courses or topics...

Software engineer course

Learning	Course Management	Support	Customer Service	Administration	Insights & Reports	
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Search results for software engineer:

Results found: 1590

Search for courses or topics...

Filter search

Software Development

Certified course with.....

Junior Software Development

Learning	Course Management	Support	Customer Service	Administration	Insights & Reports	
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Filter search for software engineer:

Apply Changes
Reset Changes

Certification:

☒ Includes Certification

☐ Does not Include Certification

Date:

☒ 2024

☒ 2023

☒ 2022

☐ 2021

☐ later

Subscription

☒ Free

☐ Paid

Level:

☐ Beginner

☒ Intermediate

☐ Advanced

Learning	Course Management	Support	Customer Service	Administration	Insights & Reports	
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Filtered Search for Software Engineer:

Results found: 120

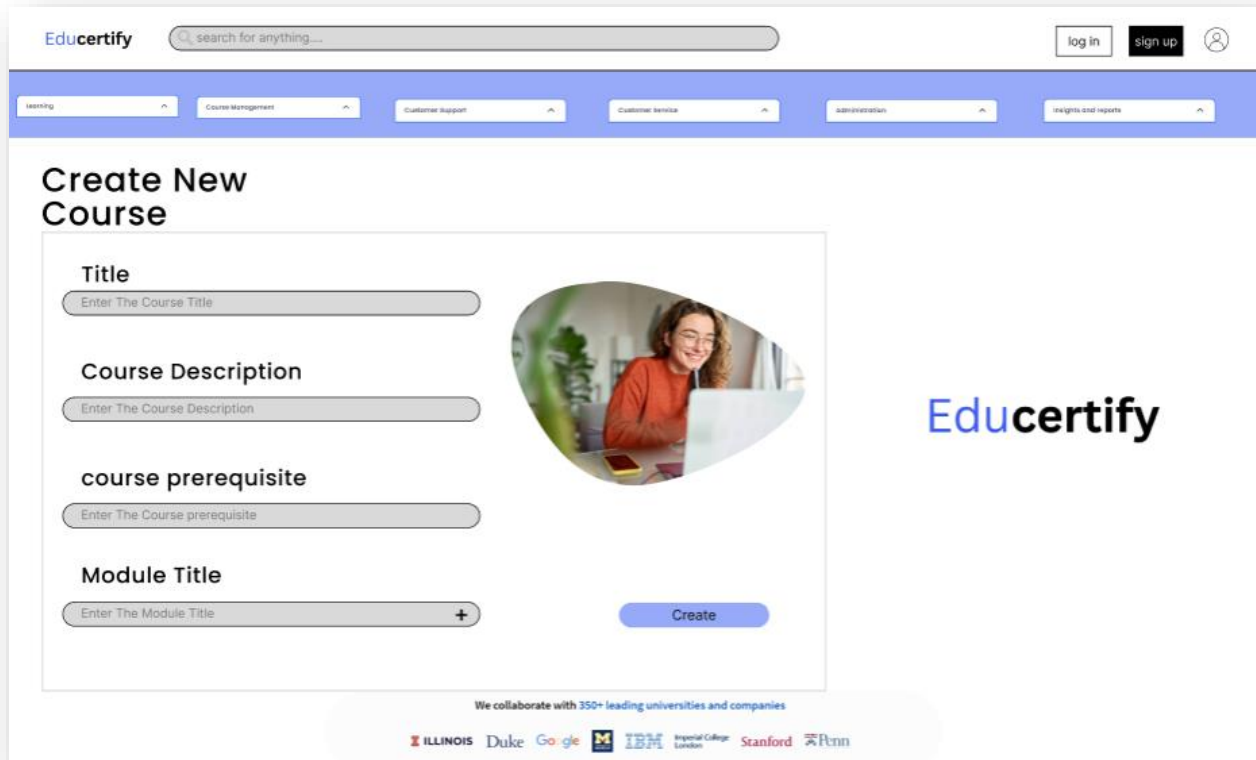
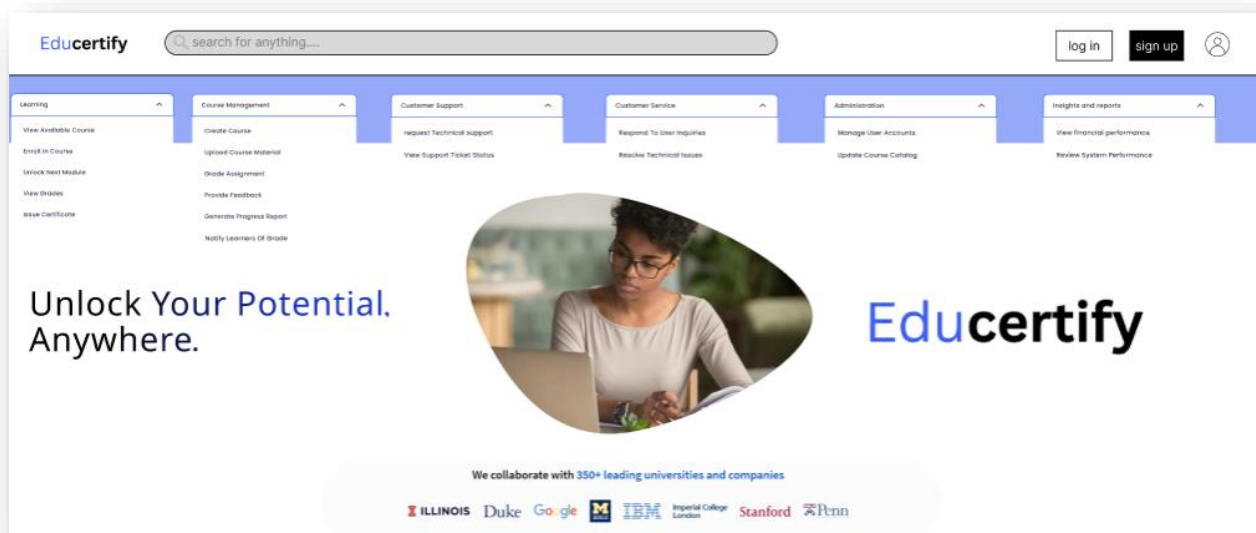
Design Software course

This paid advanced course was released in 2023 and include certification. The course includes.....

Introduction to software testing

This paid advanced course was

III. User Interfaces:





Upload Course Materials

File Type

File Path

Relevant Module

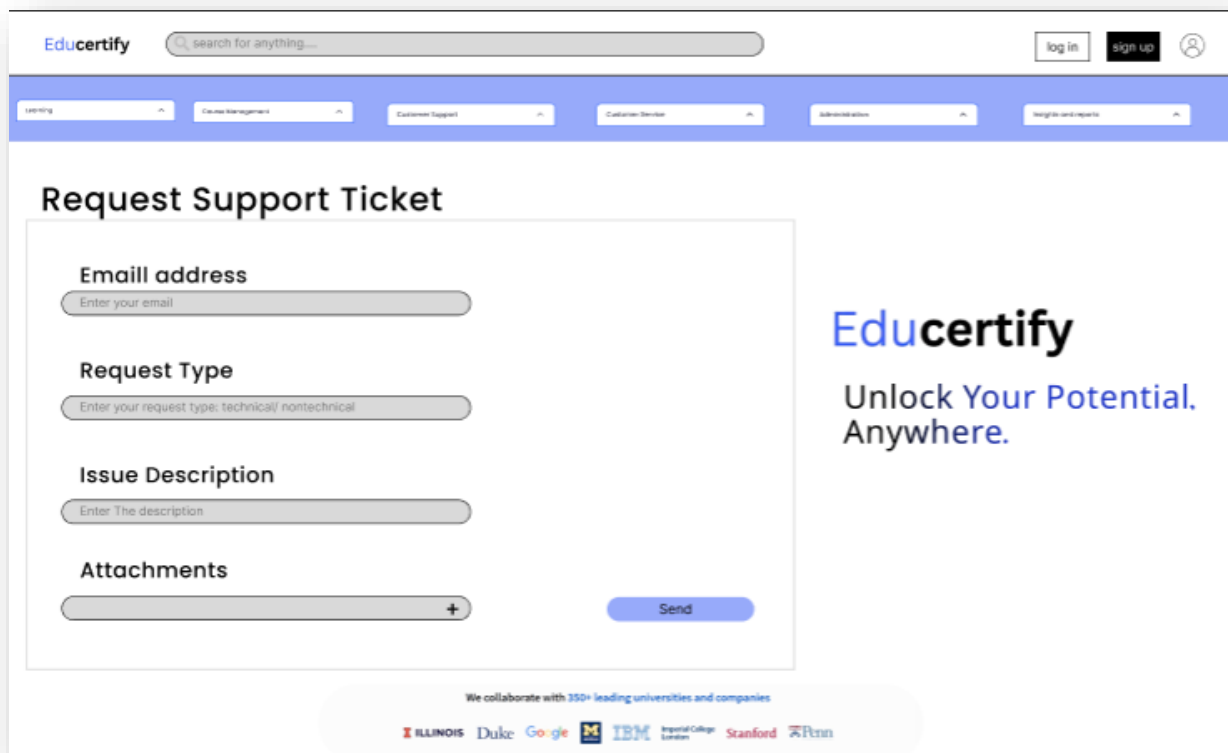
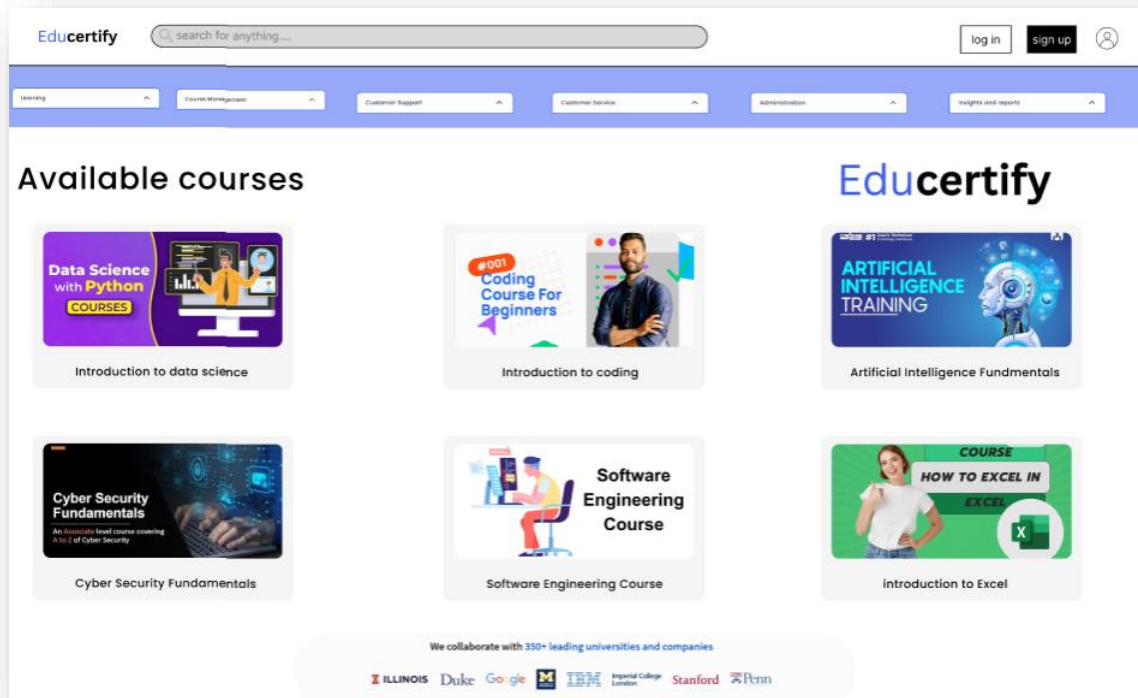
Upload



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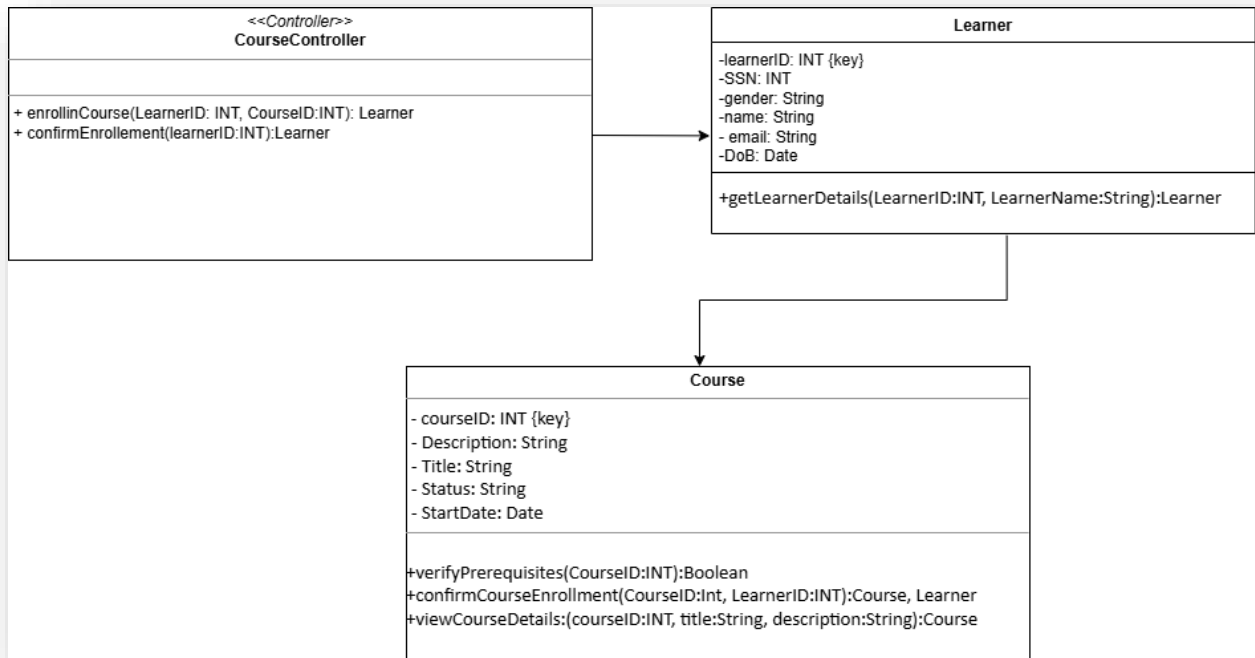




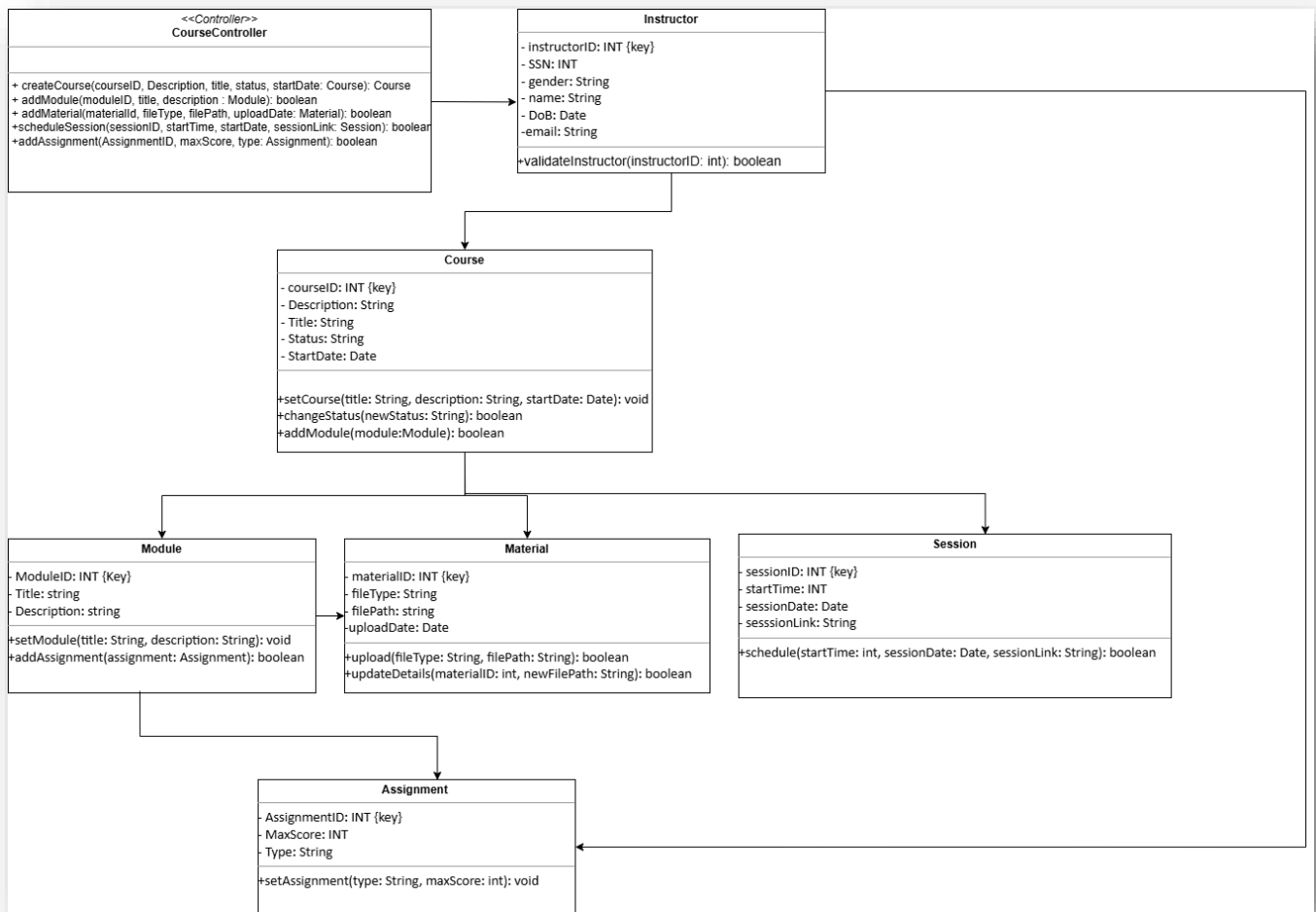
Part 2: Designing the software classes and methods:

I. First Cut Class Design Diagram:

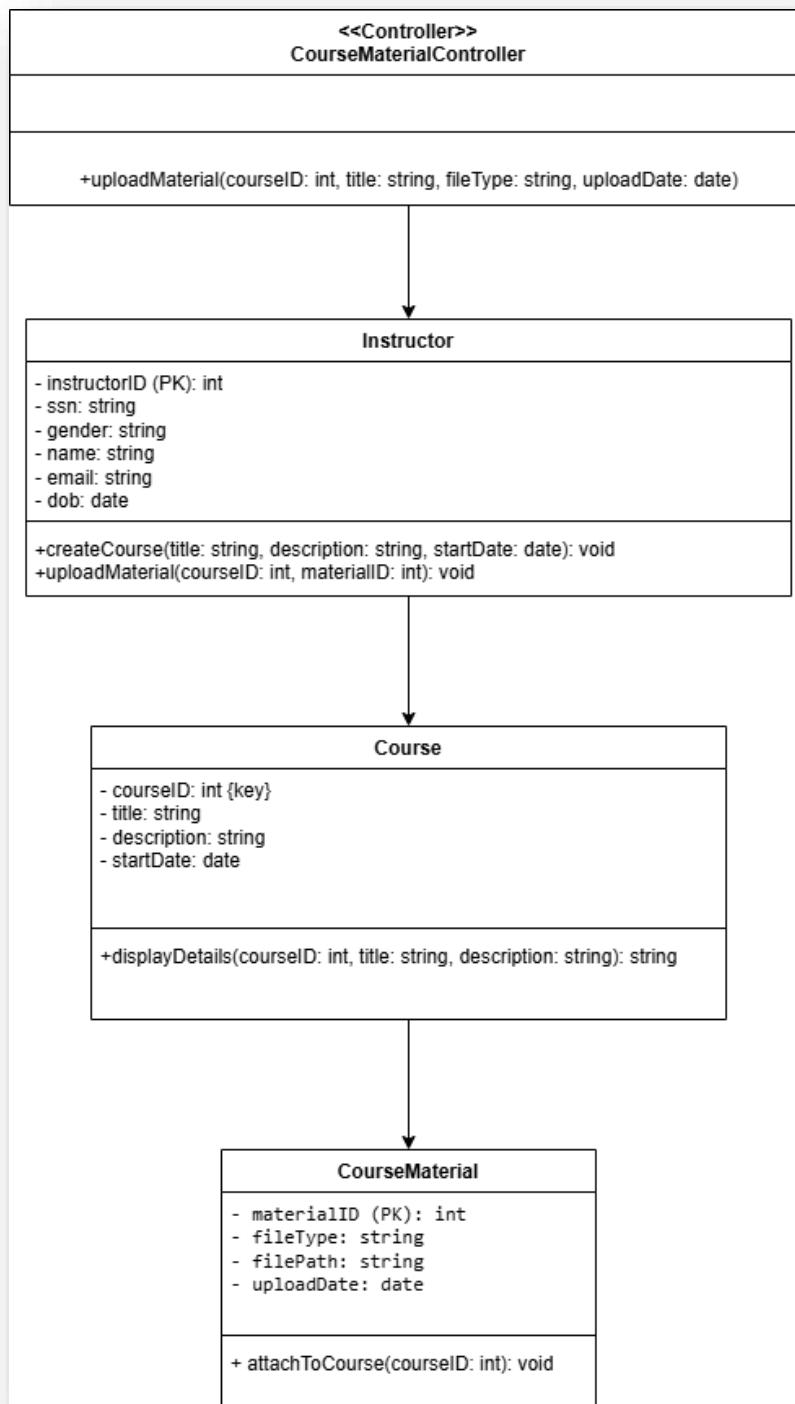
1. Enroll in Course



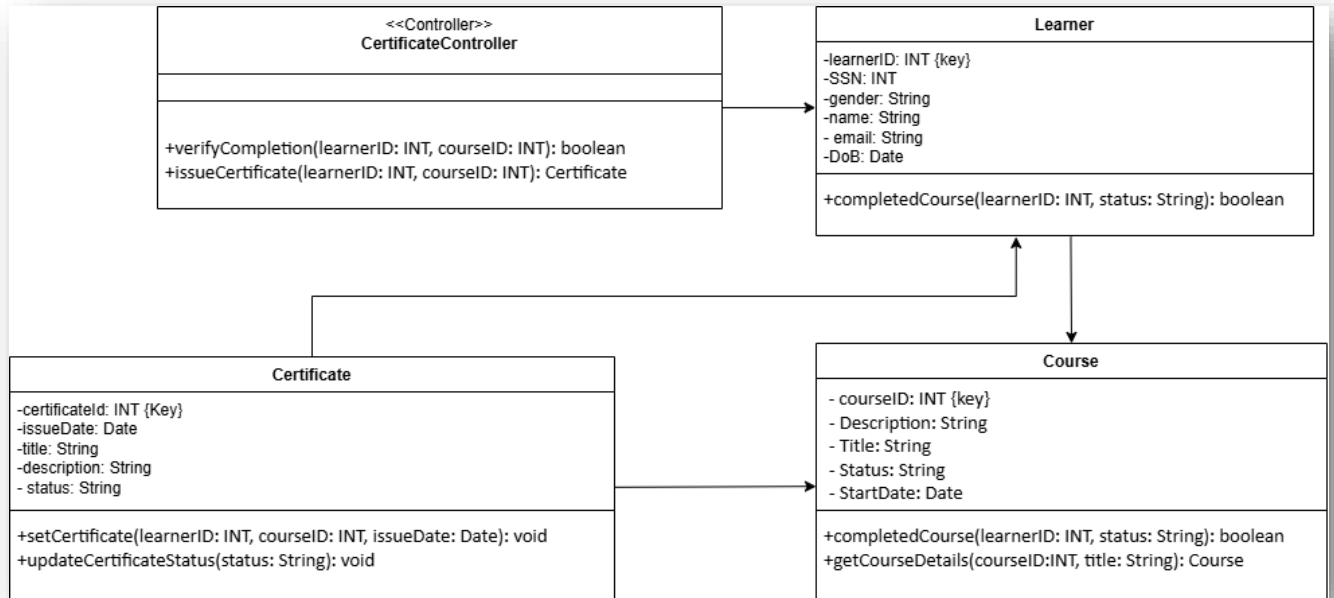
2.Create Course



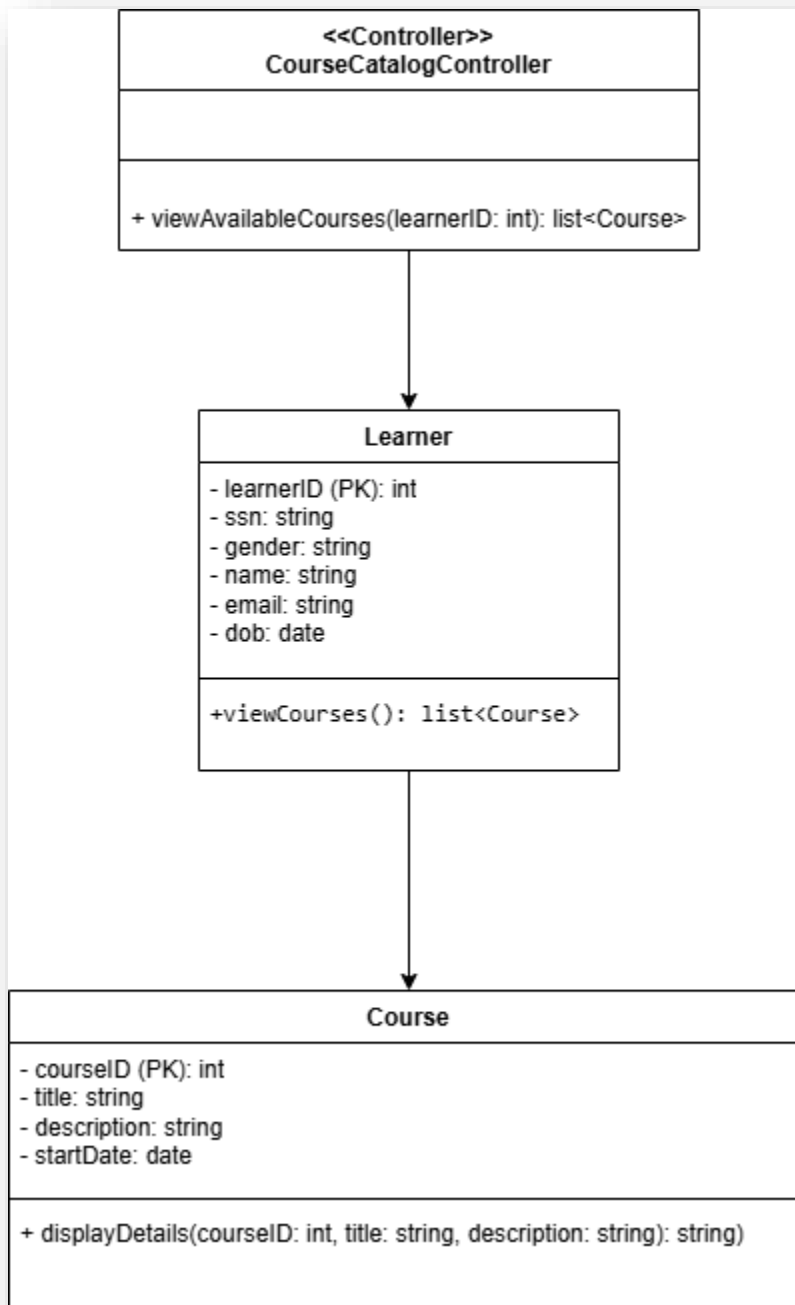
3.Upload Course Materials



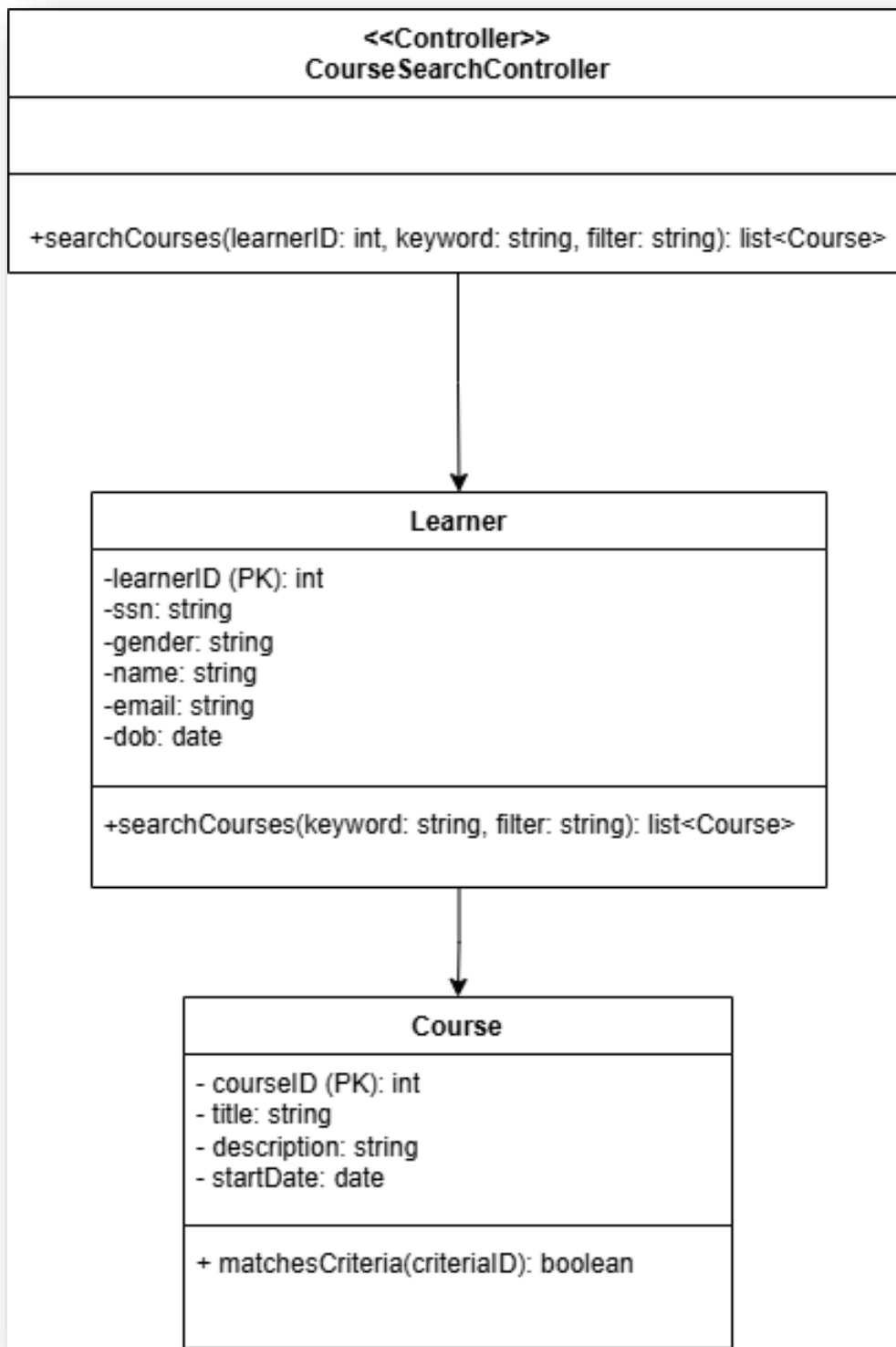
4.Issue Certificate



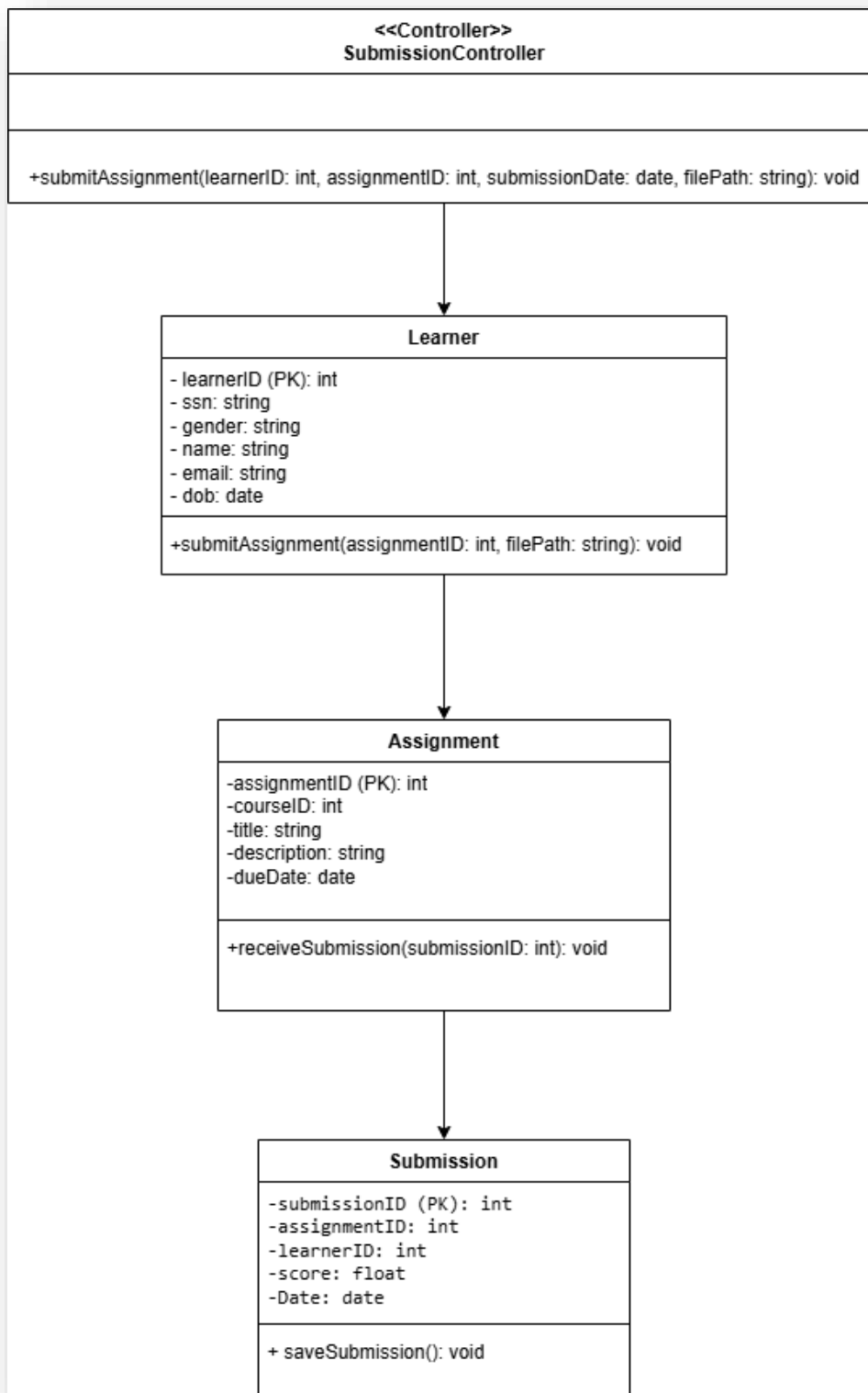
5.View Available Courses



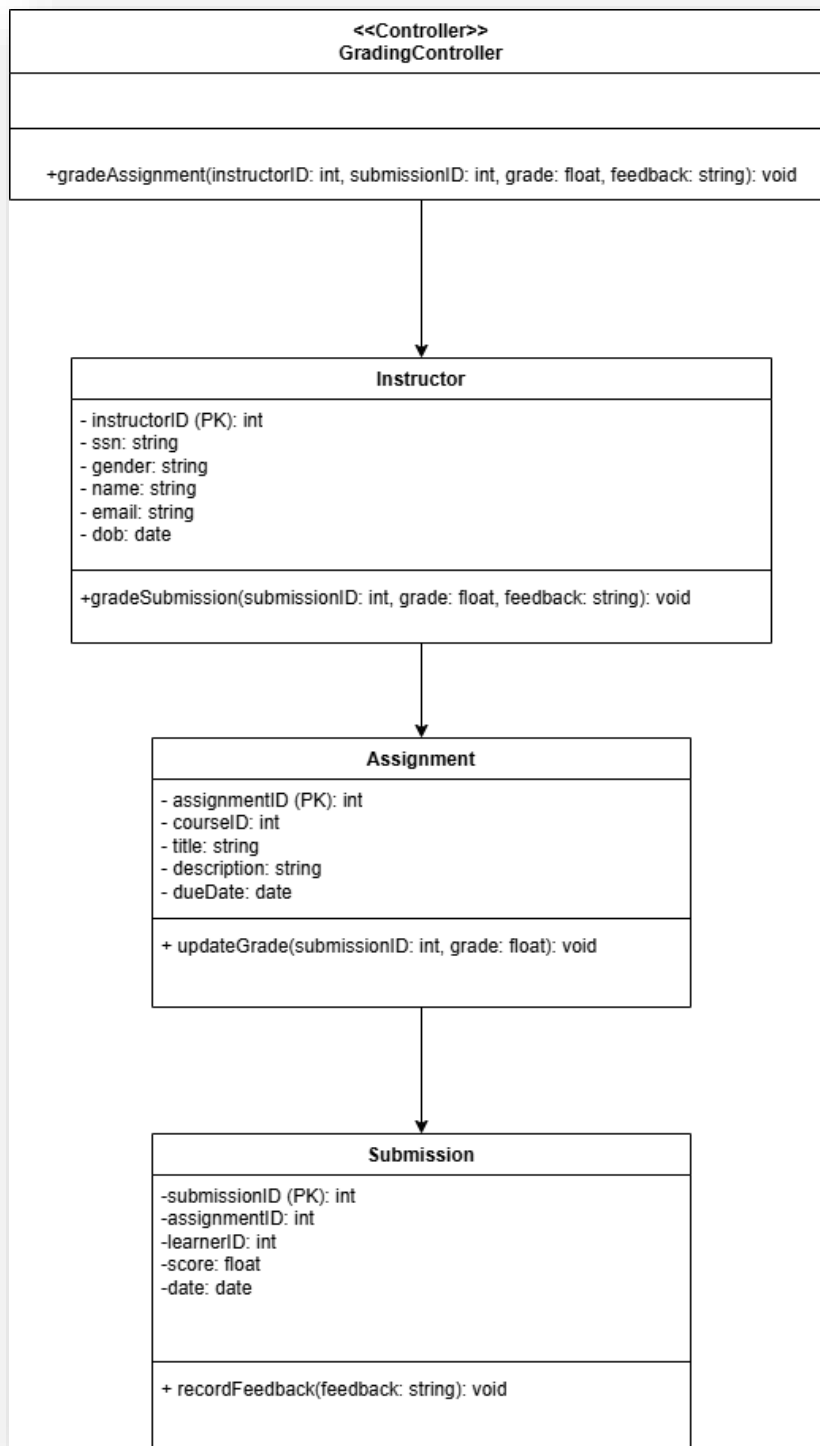
6.Search Courses



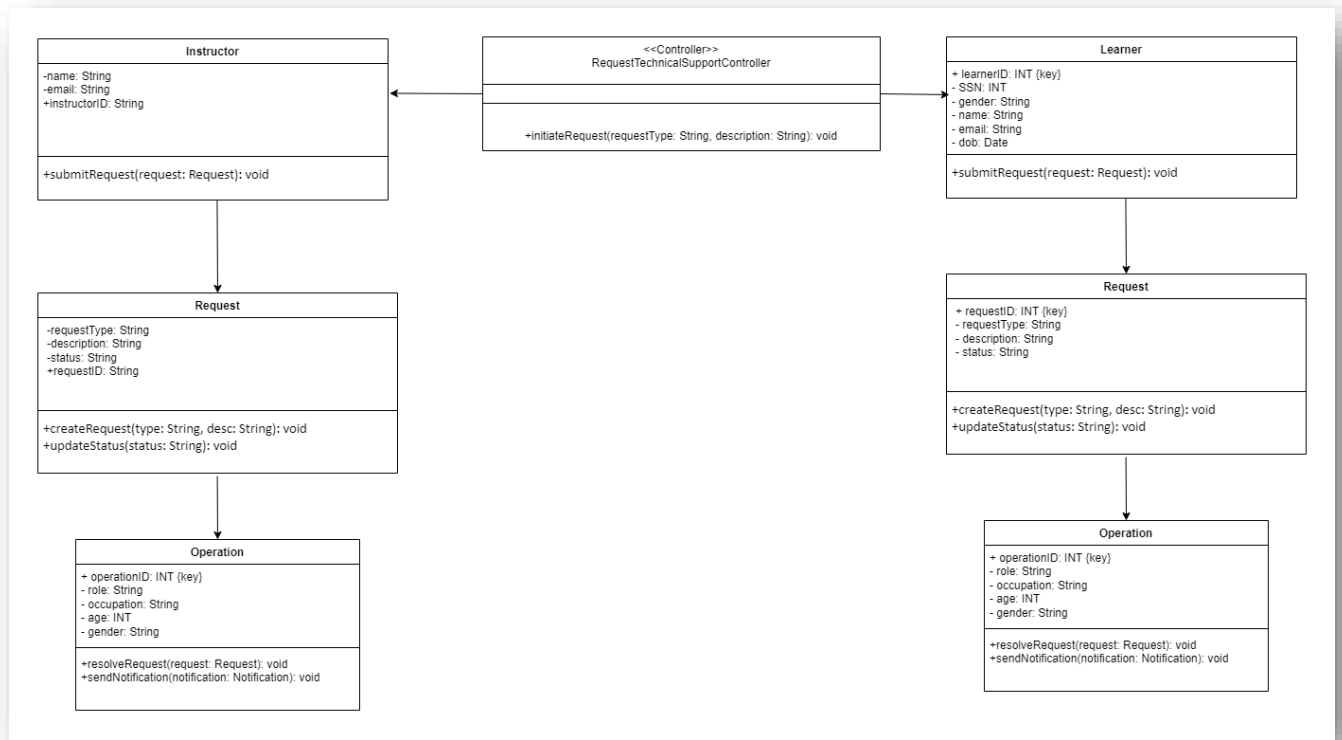
7. Submit Assessment



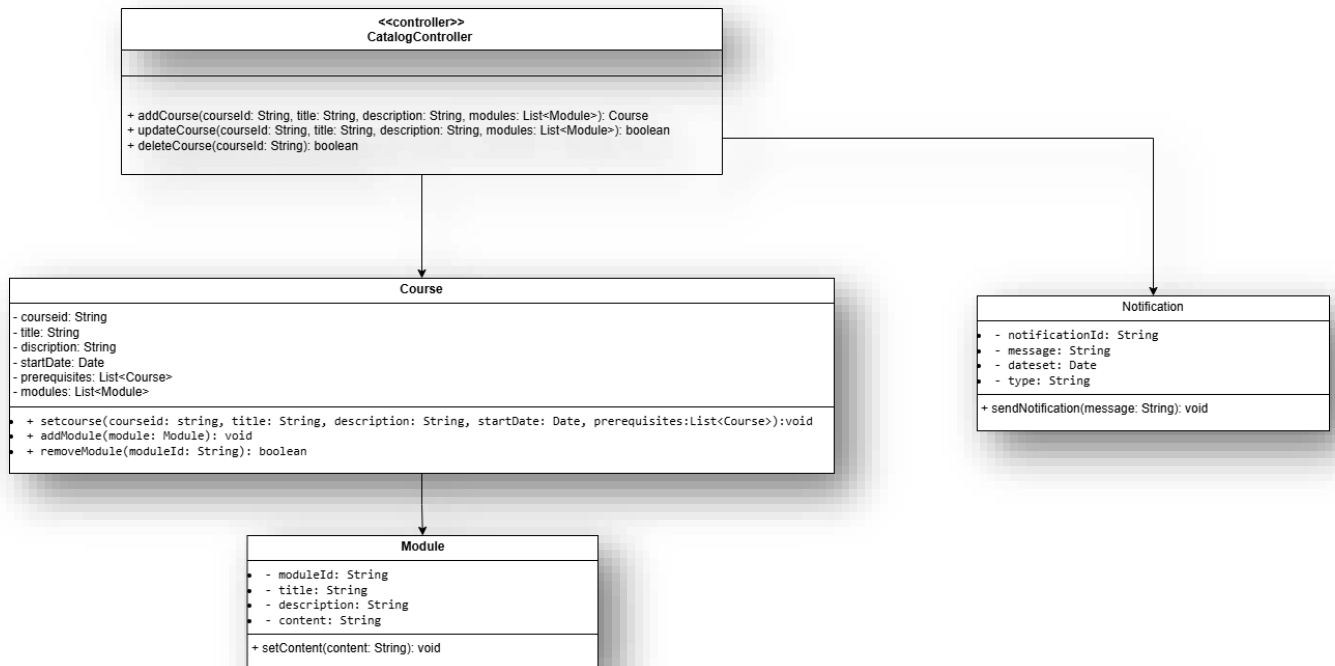
8. Grade Assignment



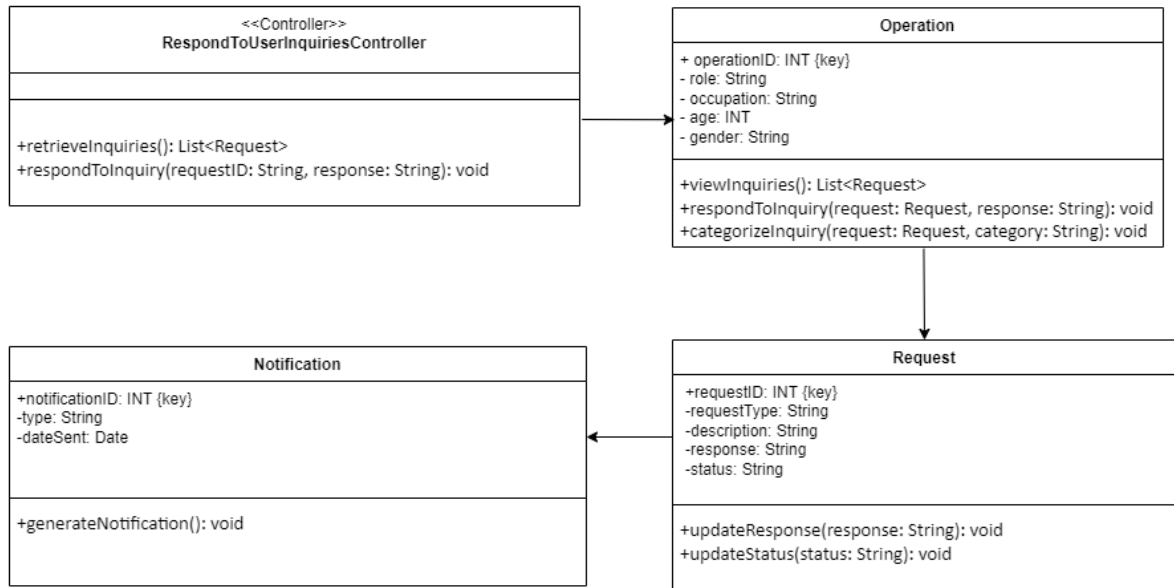
9. Request Technical Support



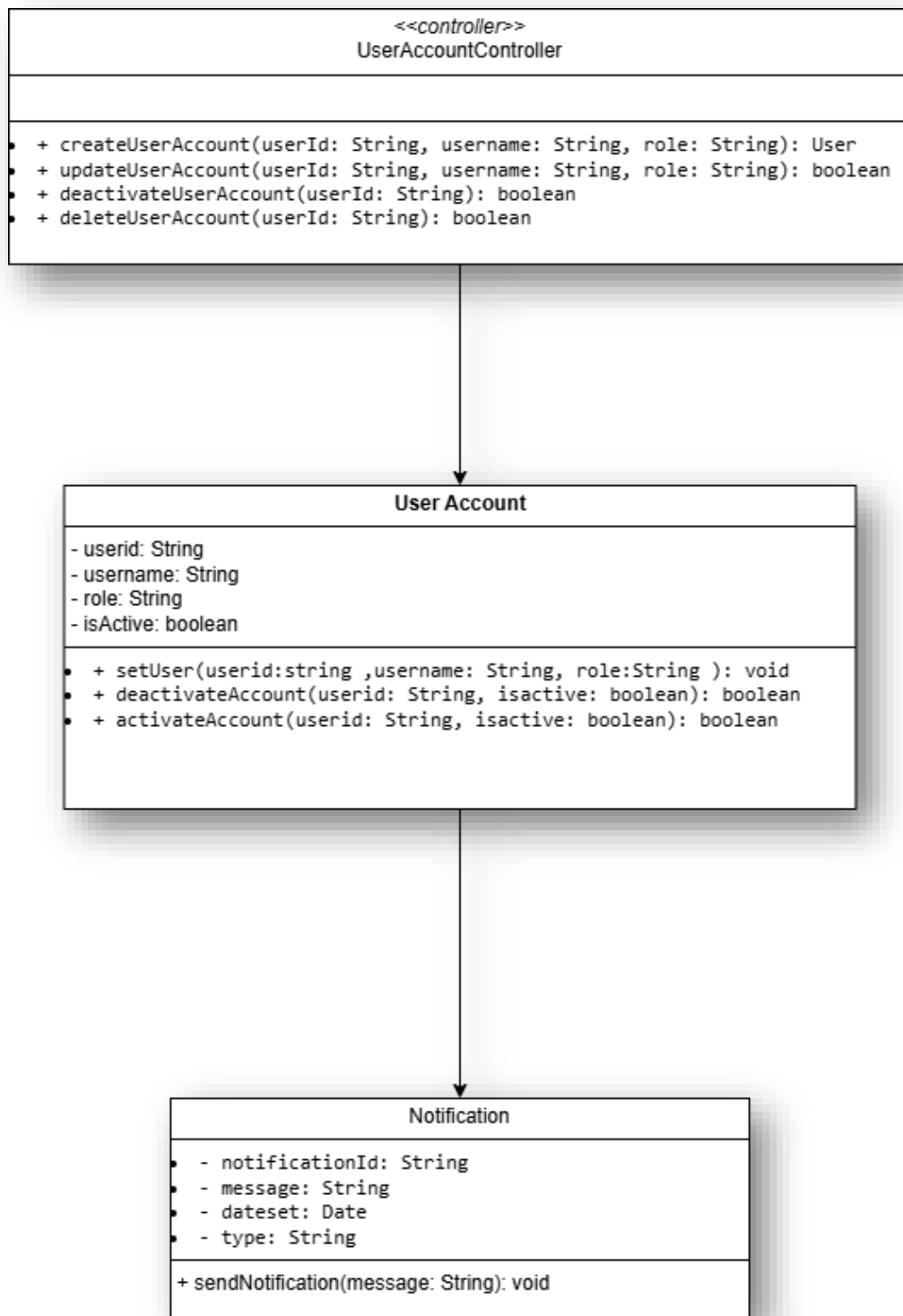
10. Update Course Catalog



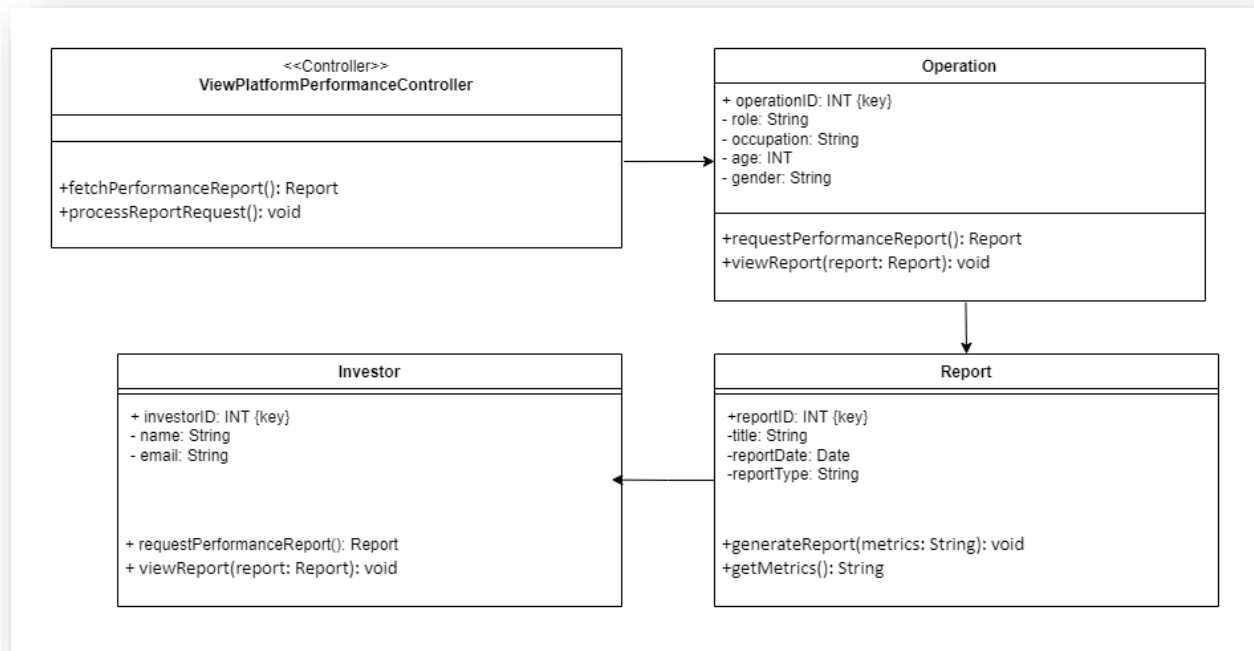
11. Respond to User Inquiries



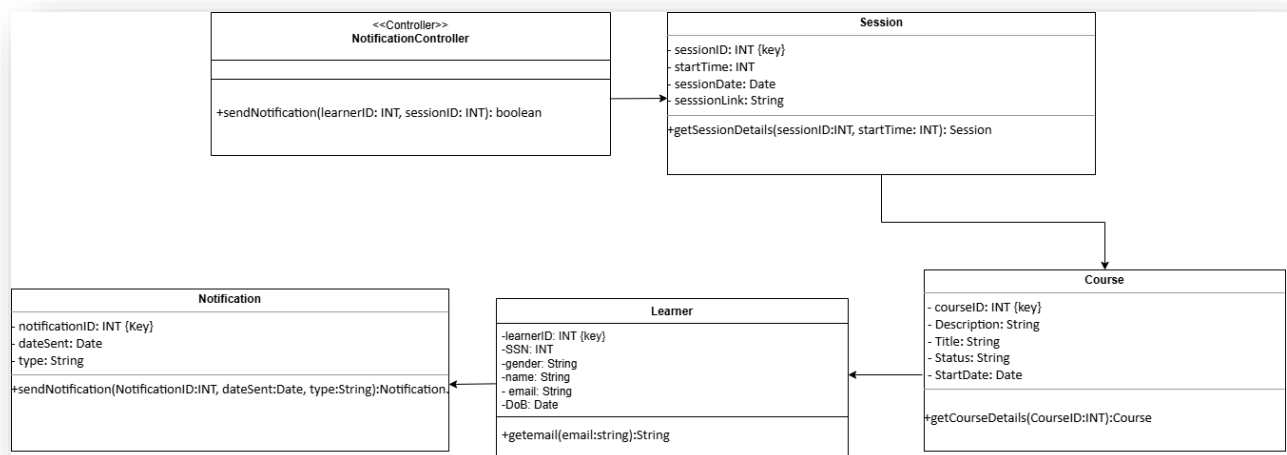
12. Manage User Accounts



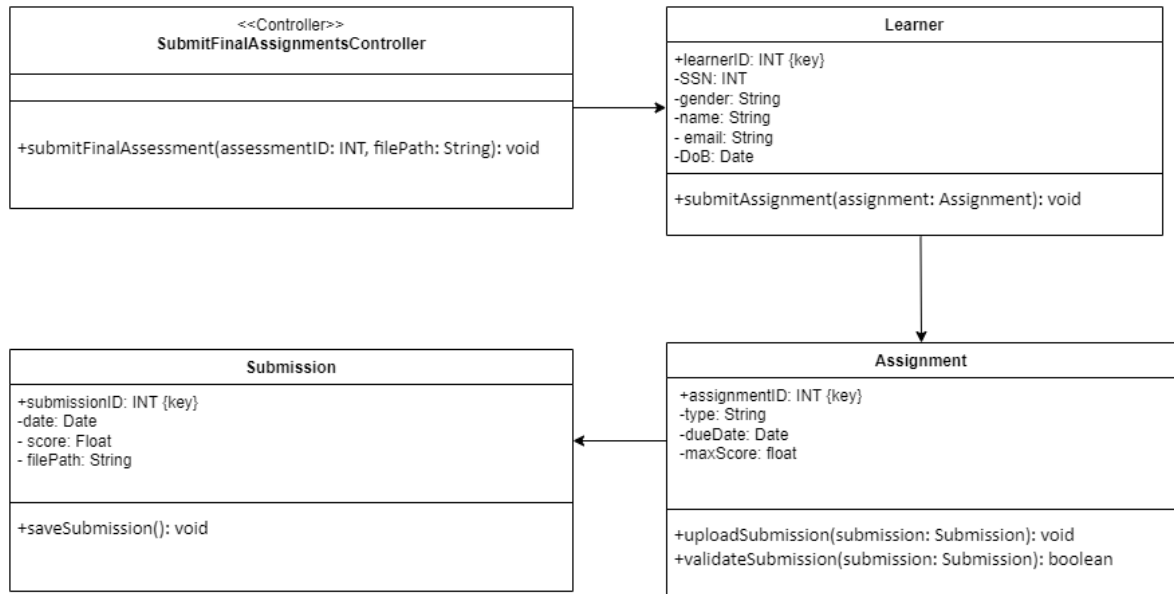
13.View Platform Performance



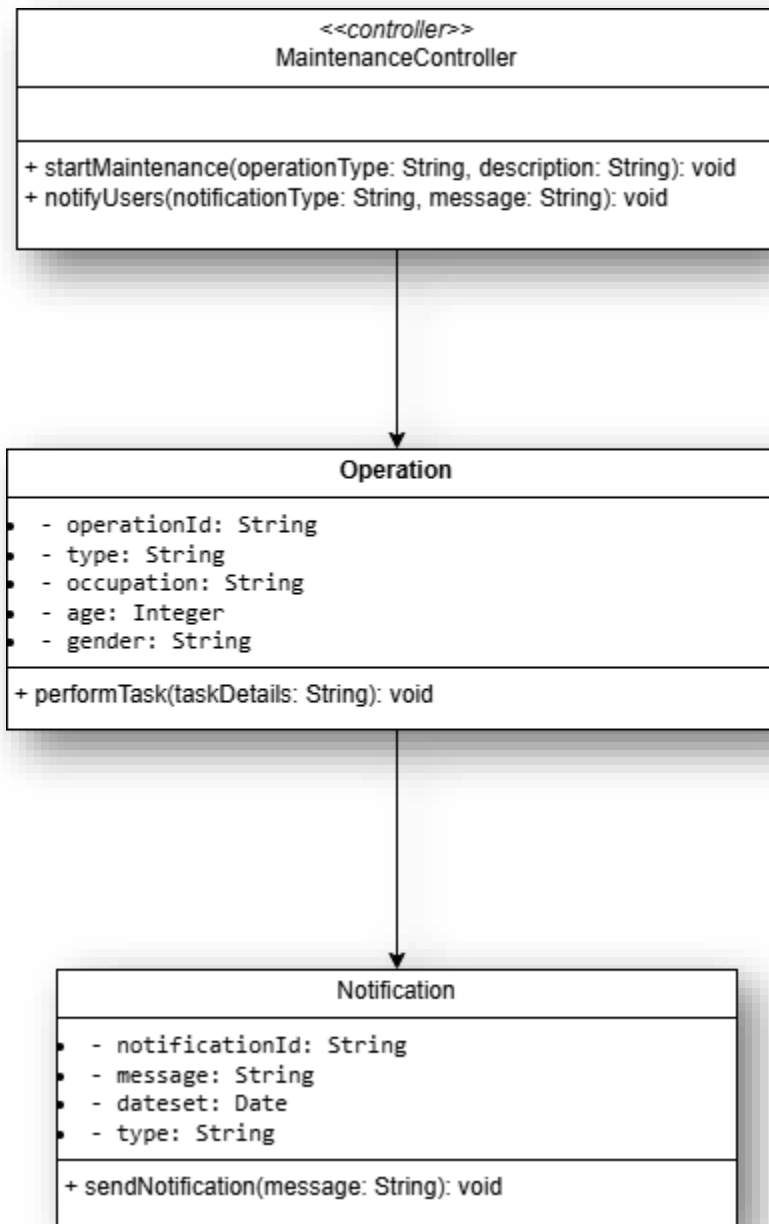
14.Notify Learners of Scheduled Session



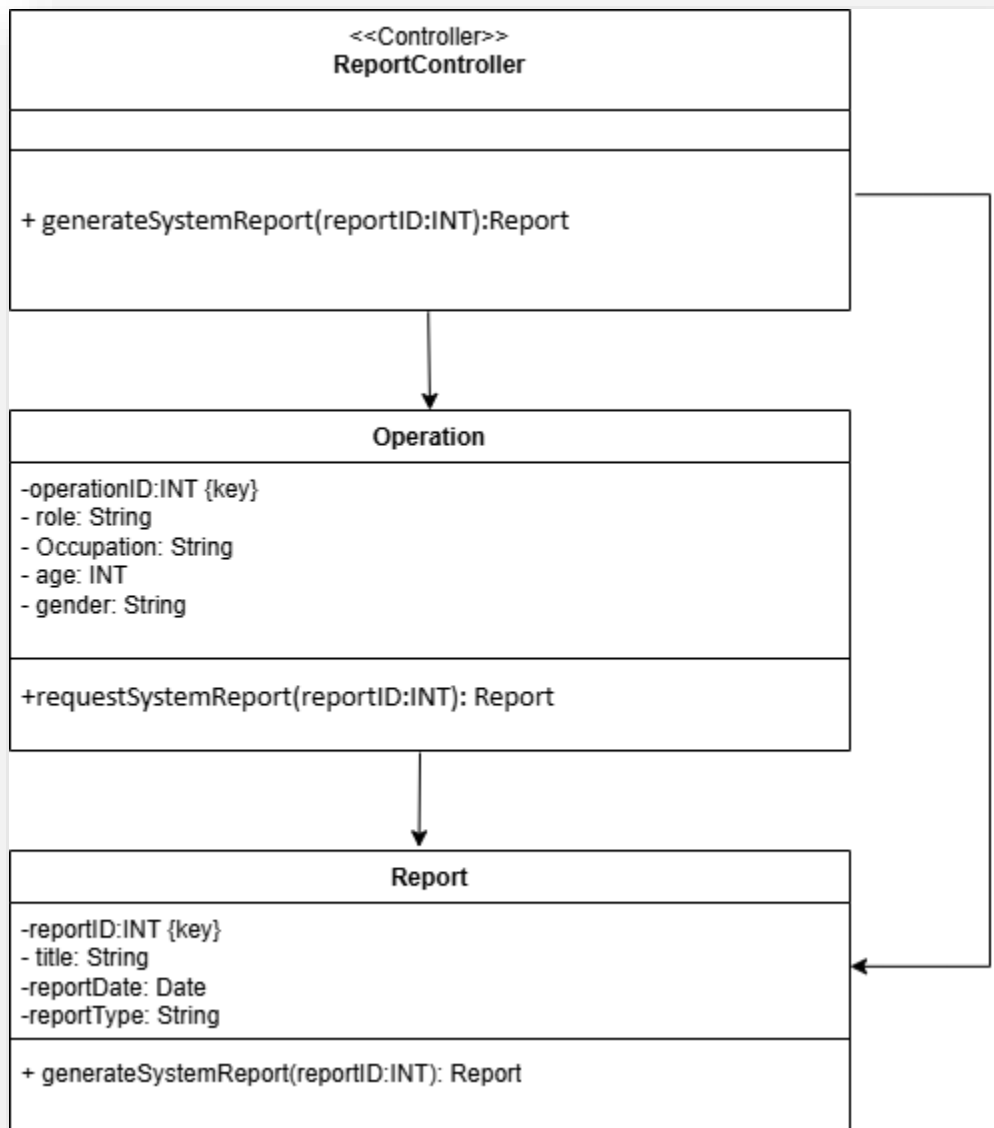
15.Submit Final Assessments



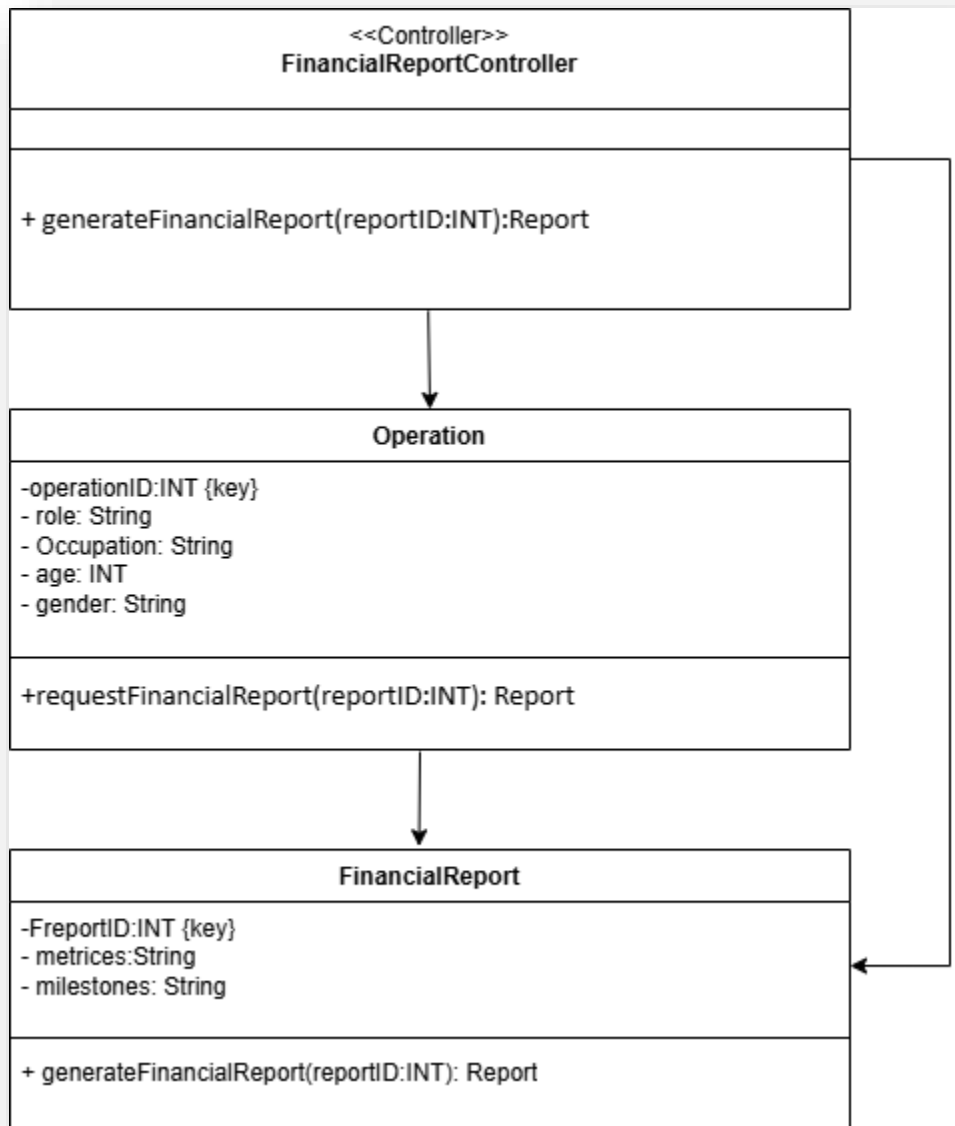
16. Perform System Maintenance



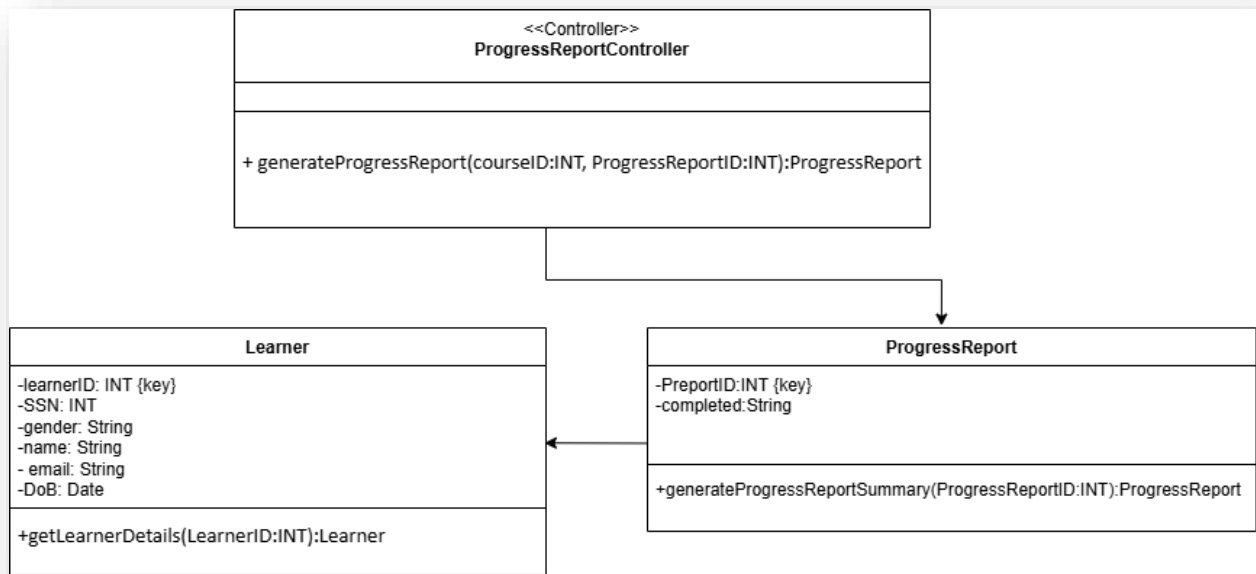
17. Review System Performance



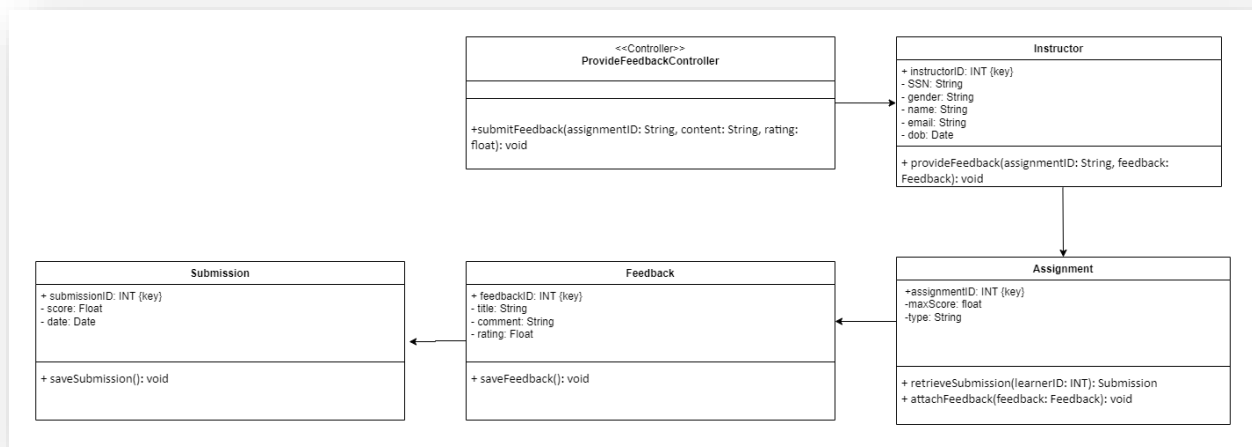
18.Review Financial Performance



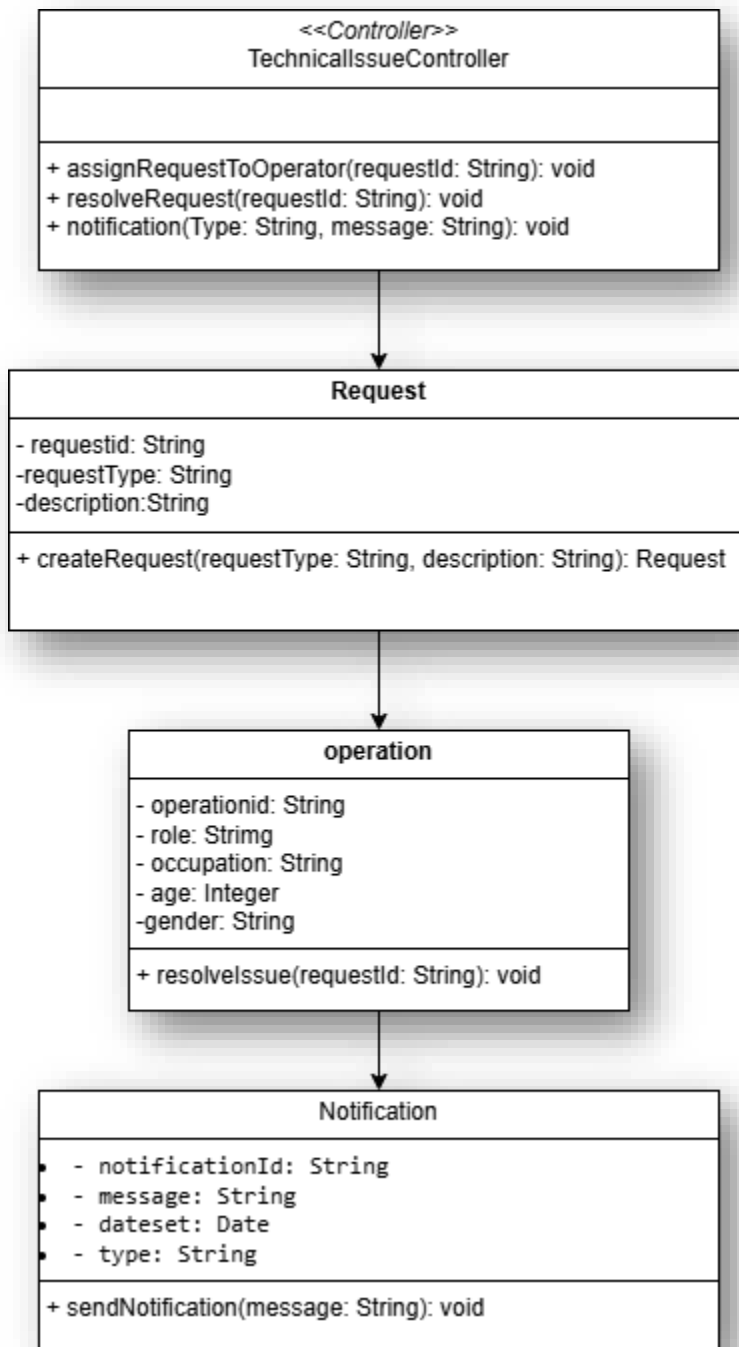
19.Generate Progress Report



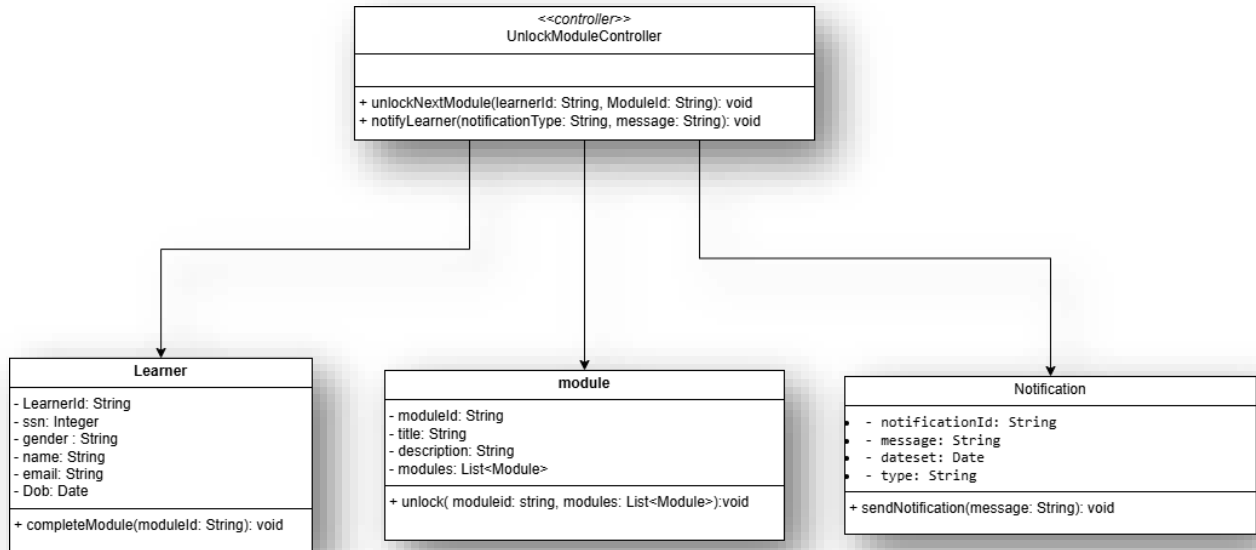
20.Provide Feedback



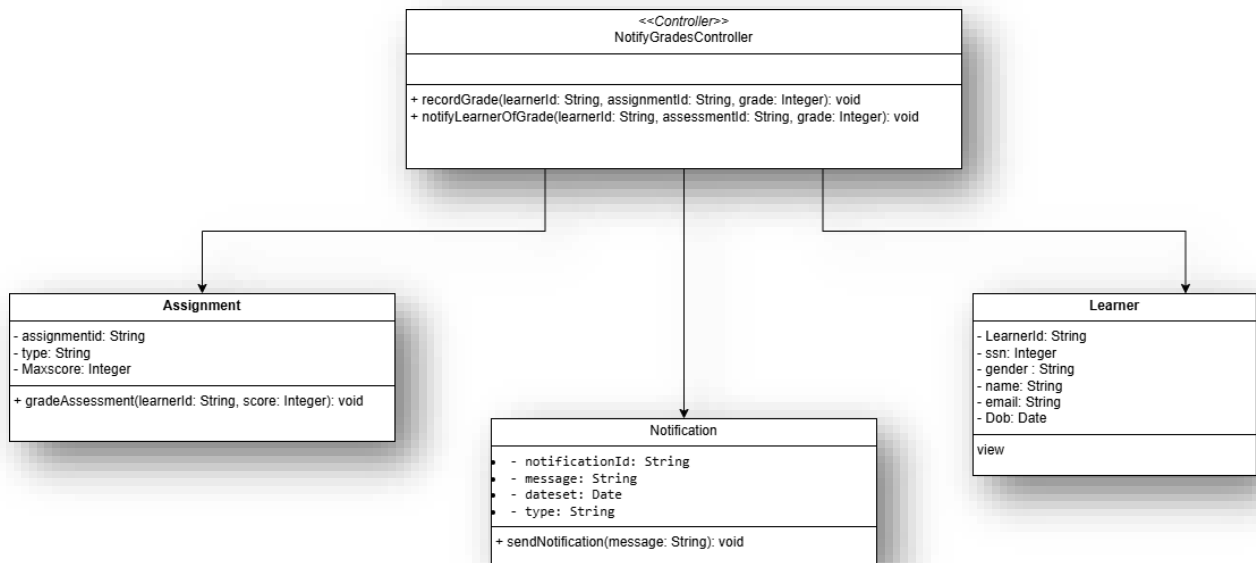
21.Resolve Technical Issues



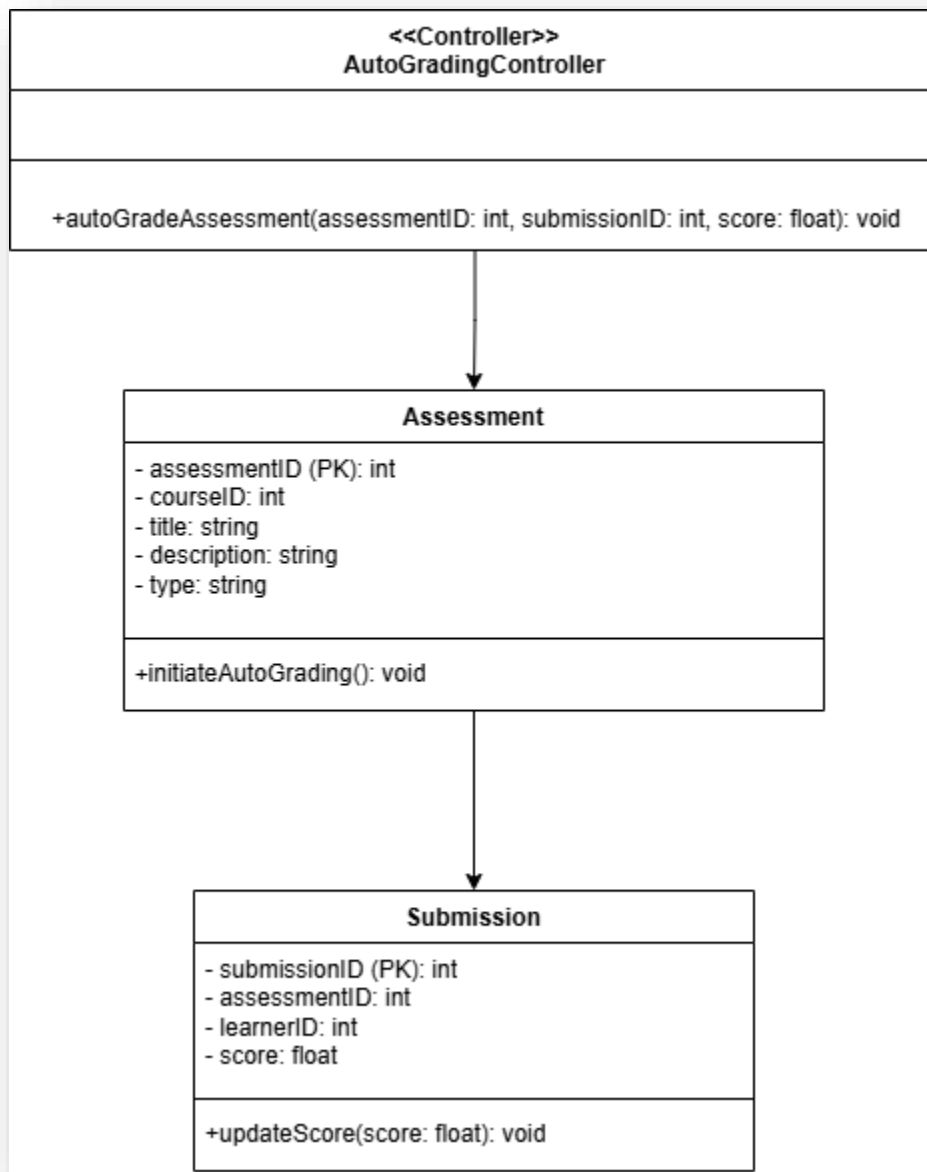
22.Unlock Next Module



23.Notify Learners of Grades



24. Automatically Grade Assessments



II. Divide Use Cases

Simple	Moderate	Complex
Enroll in Course	Create Course	View Platform Performance
Issue Certificate	Upload Course Materials	Perform System Maintenance
Grade Assignment	Request Technical Support	Review System Performance
Search Courses	Manage User Accounts	Review Financial Performance
View Available Courses	Update Course Catalog	Automatically Grade Assignments
Submit Assessment	Generate Progress Report	
Notify Learners of Scheduled Session	Resolve Technical Issues	
Provide Feedback	Unlock Next Module	
Notify Learners of Grades	Submit Final Assignment	
	Provide Feedback on Assessment	

III. CRC Cards for Simple Use Cases:

1)Enroll in Course

CourseEnrollmentScreen	
-Display available courses -Collect learners' selected enrolls	CourseEnrollmentController

CourseEnrollmentController	
Enroll in Course Confirm Enrollment Verify Learner	Learner

Learner	
-learnerDetails -View registration details	Course

learnerID SSN gender name email DoB enrolledCourses: List<Course>

Course	
- Provide course details. -Validate if a learner meets the prerequisites for enrollment. -Update the available seats when a learner enrolls.	

courseID Description Title Status StartDate prerequisites: List<Course>
--

Learner DB	
Write learner readLearnerDetails(learnerId)	

Course DB	
Write Course readCourseDetails(courseId)	

2)Issue Certificate

CertificateScreen	
-Display certificates to download -allows learners to trigger certificate generator for their completed courses	CertificateController

CertificateController	
-Validate if the learner has completed course requirements. -Issue Certification for learner	Learner

Learner	
-learnerDetails -track completed courses	Course LearnerDB

learnerID SSN gender name email DoB
--

Course	
- validate learner completion - provide course details for certificate	CourseDB

courseID Description Title Status StartDate

Cetificate	
-Generate Certificate Details -Update Status	CertificateDB

certificateID IssueDate Title description
--

Learner DB	
-Read learner details -Update learner data	

Course DB	
-Read Course details	

Certificate DB	
-Store Certificate data -Retrieve Certificate -Update Certificate status	

3)Search Courses

SearchCourse Screen	
-Display a search bar and filters. - Allow learners to add keywords and filters. -Display the search results or error messages.	SearchCourseController

SearchCourseController	
-Validate the learner's search request -Show searched courses	Learner

Learner	
-initiate course search	Course LearnerDB

learnerID SSN gender name email DoB enrolledCourses: List<Course>

Course	
-Check if a course matches the search criteria. -Provide courses in search results.	Course DB

courseID Description Title Status StartDate prerequisites: List<Course>
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Learner DB	
-Retrieve data about the learner's completed courses	

Course DB	
-Read courses matching the search engine. -Read course details such as title, description -Filter courses based on the learner's criteria.	

4)Grade Assignment

GradingScreen	
-Display a list of assignments and their submissions. - Allow the instructor to grade submissions.	GradeAssignmentController

GradeAssignmentController	
-Validate the grade and feedback. -Save the grade and feedback for the specific submission.	Instructor

Instructor	
-View and grade submissions for assignments.	Assignment

InstructorID SSN Gender Name Email DoB

Assignment	
-Represent assignment details such as title and due date.	Submission AssignmentDBS

AssignmentID MaxScore Type

Submission	
-Store submission details for a learner.	SubmissionDB

submissionID score date

Assignment DB	
- Retrieve assignment details	

Submission DB	
-Retrieve submission details -Store grades	