



FACULTY OF COMPUTER SCIENCES AND IT
Software Engineering Program

Software Analysis and Design



DOS-MS (Dean of Students Management System)
System Requirements Specification

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1 Executive Summary

1.1 Project Overview

The Dean of Students Management System (DOS-MS) is a comprehensive digital platform designed to revolutionize student administration in higher education. By automating key student lifecycle processes—from high school transition, registration, and academic tracking to scholarship allocation and career counseling—DOS-MS ensures operational excellence, enhanced user experience, and data-driven decision-making.

This intelligent system empowers institutions by offering centralized management of student affairs, including real-time reporting, role-based access, academic and extracurricular monitoring, secure communication, and financial transactions. DOS-MS not only modernizes administration but also prioritizes transparency, security, and student-centric services.

1.2 Purpose of the Project

The project aims to address inefficiencies in manual student management by providing an all-in-one platform that:

- Facilitates seamless student onboarding and academic journey management.
- Automates routine processes like course registration, report generation, and document handling.
- Enhances student support services through integrated features such as feedback collection, scholarship tracking, counseling sessions, and payment gateways.
- Provides secure, compliant, and auditable administrative functions for institutional leadership.

1.3 Scope of this Specification

This specification document serves as a strategic blueprint for the **Dean of Students Management System (DOS-MS)**—a next-generation platform designed to modernize student affairs management across higher education institutions. It outlines the core architecture, key functionalities, and performance standards that govern the development and deployment of DOS-MS.

The document provides a detailed account of both functional and non-functional requirements, ensuring that all stakeholders—from developers and system administrators to academic staff and institutional leaders—have a unified vision and understanding of the system's purpose and capabilities.

The scope encompasses the following critical areas:

a. User Roles and Permissions

Defines granular access control for all user types, including students, academic advisors, administrative personnel, deans, and system administrators. Each role is associated with specific functions and system privileges to ensure secure and efficient task execution.

b. Student Onboarding and Registration

Details the automation of the student registration process, including the conversion of student IDs into matriculation numbers, integration with academic records, and validation of eligibility criteria.

c. Academic and Extracurricular Tracking

Outlines mechanisms for monitoring student performance, course enrollment, extracurricular participation, and scholarship qualifications—ensuring a holistic view of each student's academic journey.

d. Scholarship and Document Management

Describes processes for assigning, updating, and managing scholarships, alongside the secure storage and retrieval of sensitive documents such as certificates, regulations, and performance reports.

e. Real-Time Reporting and Notifications

Specifies the system's ability to generate dynamic reports and notify stakeholders of important events—such as academic milestones, missed obligations, or scholarship updates—through automated alerts and dashboards.

f. Security and Compliance

Defines the encryption standards, data privacy policies, and authentication mechanisms in place to protect student information and ensure institutional compliance with national and international regulations (e.g., GDPR).

g. System Integration

Identifies required integrations with external platforms such as financial systems, learning management systems (LMS), career services, and government education portals.

h. Performance, Testing, and Reliability

Establishes benchmarks for system uptime, load handling during peak periods (e.g., course registration), and quality assurance practices to validate all modules under realistic scenarios.

i. Training and User Documentation

Describes the resources and support materials available for users, including training sessions, user guides, and administrator manuals to ensure smooth onboarding and long-term usability.

This specification functions not only as a development guide but also as a governance document that supports strategic planning, technical execution, and long-term scalability of DOS-MS—positioning the system as a cornerstone in the digital transformation of student administration.

2 Service Description

2.1 Service Context

DOS-MS is deployed in the context of a modern university setting where digital transformation is critical for operational efficiency and student satisfaction. It supports a wide array of services, including:

- Student registration and transition from high school.
- Course registration and academic schedule tracking.
- Scholarship allocation and eligibility checking.

- Feedback collection and performance tracking.
- Financial transactions and invoice management.
- Document access, appointment booking, and career services.
- Administrative functions including compliance, data backup, and role-based access control.

The system is designed to serve both administrative and academic stakeholders, functioning as a central nervous system for student management.

2.2 User Characteristics

The system accommodates diverse user roles:

- **Students** (e.g., John): Access personal academic dashboards, register for courses, track progress, make payments, and book appointments.
- **Administrators**: Oversee registration, scholarships, feedback, compliance, and reporting.
- **Academic Advisors / Deans**: View academic progress, manage appointments, provide guidance, and allocate resources.
- **IT Staff**: Manage system configurations, security, data integrity, and backups.

All users are expected to have basic digital proficiency. Custom user interfaces and guided processes ensure ease of access across roles.

2.3 Assumptions

The successful deployment and operation of the Dean of Students Management System (DOS-MS) rely on several foundational assumptions. It is expected that institutions will facilitate integration with existing legacy systems, particularly those managing student records and payment gateways. End users—including students, administrative staff, and faculty—are assumed to have consistent access to reliable internet connections and valid system credentials provided through secure channels.

Moreover, it is presumed that the host university will have established and enforced policies related to data privacy and system access control, creating a secure operational environment. During system rollout and deployment phases, stakeholders will receive adequate training to ensure they are equipped to use DOS-MS effectively and in alignment with institutional procedures.

2.4 Constraints

Despite its flexible architecture, the DOS-MS project is subject to a number of constraints that may influence both design and implementation. Certain institutional policies may restrict the full implementation of specific features without tailored customizations, potentially impacting uniform system behavior across different campuses or departments.

The system's reliance on real-time data and communication means that internet disruptions could temporarily affect functionality such as instant notifications or live data syncing.

Compliance with regional data protection regulations—such as the General Data Protection Regulation (GDPR)—is mandatory and may limit the availability or scope of features that involve personal or sensitive data. Additionally, if the system is deployed across multilingual regions or international institutions, it must support comprehensive language localization to accommodate diverse user groups.

2.5 *Dependencies*

The DOS-MS ecosystem is dependent on various internal and external services that enable its full functionality. Seamless integration with student information systems, payment gateways, and cloud-based storage platforms is essential for data consistency and operational efficiency.

Secure user authentication and password recovery processes hinge on institutional or third-party identity management services. Core academic data—such as GPA, performance indicators, and scholarship eligibility rules—must be sourced reliably from institutional databases to support key decision-making modules. Finally, the system may rely on external services for auxiliary functionalities, including data backup, analytical reporting, and advanced security features such as multi-factor authentication, where applicable.

3 Requirements

3.1 *Functional requirements*

Req#	Requirements	Description	Comments	Rate	SME Reviewed\Approved
FR_01	Student Enrollment Management	Automates student enrollment by converting student IDs into matriculation numbers.	Eliminates manual data entry, reducing errors.	High	K.Mihali A.Haleda E.Shehu
FR_02	Scholarship Allocation	Manages and automates scholarship allocation based on predefined criteria.	Ensures fairness and transparency.	High	K.Mihali A.Haleda E.Shehu
FR_03	Real-time Report Generation	Generates student-related reports automatically in real time.	Reduces manual workload and enhances accuracy.	High	K.Mihali A.Haleda E.Shehu
FR_04	Student Data Security	Implements high-level security for student records.	Protects sensitive student information.	High	K.Mihali A.Haleda E.Shehu
FR_05	Attendance Tracking	Tracks and monitors student attendance digitally.	Replaces traditional attendance methods.	High	K.Mihali A.Haleda E.Shehu

FR_06	Fee Payment Processing	Manages student fee payments and financial records.	Ensures accurate and transparent transactions.	High	K.Mihali A.Haldeda E.Shehu
FR_07	Extracurricular Activity Management	Records and manages student participation in extracurricular activities.	Supports holistic student development.	Medium	K.Mihali A.Haldeda E.Shehu
FR_08	Student Profile Management	Maintains and updates student personal and academic details.	Ensures data consistency and accessibility.	High	K.Mihali A.Haldeda E.Shehu
FR_09	Course Registration	Enables students to register for courses online.	Simplifies the course selection process.	High	K.Mihali A.Haldeda E.Shehu
FR_10	Student Communication System	Sends notifications regarding academic and administrative updates.	Enhances communication between students and staff.	Medium	K.Mihali A.Haldeda E.Shehu
FR_11	Complaint and Request Management	Allows students to submit complaints and requests digitally.	Streamlines issue resolution.	Medium	K.Mihali A.Haldeda E.Shehu
FR_12	Document Generation	Automatically generates student-related documents (transcripts, certificates, etc.).	Reduces manual paperwork.	High	K.Mihali A.Haldeda E.Shehu
FR_13	Mobile Accessibility	Provides a mobile-friendly interface for students and staff.	Improves accessibility and usability.	Medium	K.Mihali A.Haldeda E.Shehu
FR_14	Workflow Automation	Automates administrative tasks such as approvals and notifications.	Enhances operational efficiency.	Medium	K.Mihali A.Haldeda E.Shehu

3.2 Functional requirement for the Dean of Students Management System (DOS-MS) including the relevant Albanian legislation

FR_01 - Student Enrollment Management (Student Admission Processing)

- Legal Basis:** Law No. 9741, dated 21.05.2007, "On Higher Education in the Republic of Albania"
- Justification:** This law mandates that universities implement transparent and standardized admission procedures. Automating student enrollment ensures compliance by providing a fair and efficient admission process, reducing administrative errors, and maintaining accurate records.

FR_02 - Scholarship Allocation (Financial Aid Management)

- **Legal Basis:** *Law No. 9741, dated 21.05.2007, "On Higher Education in the Republic of Albania"*
- **Justification:** The law requires that scholarships and financial aid be awarded based on predefined criteria to ensure fairness. An automated system facilitates objective and transparent allocation, minimizing bias and errors, and maintaining clear records for auditing purposes.

FR_03 - Real-time Report Generation (Automated Reporting System)

- **Legal Basis:** *Law No. 9741, dated 21.05.2007, "On Higher Education in the Republic of Albania"*
- **Justification:** Universities are obligated to submit periodic reports to educational authorities. An automated reporting system ensures timely, accurate, and efficient compliance with these requirements, reducing manual workload and errors.

FR_04 - Student Data Security (Data Protection and Privacy Compliance)

- **Legal Basis:** *Law No. 124/2024, "On the Protection of Personal Data"*, aligned with the General Data Protection Regulation (GDPR)
- **Justification:** This law mandates strict guidelines for handling personal data. Implementing robust security measures, such as encryption and access controls, ensures the protection of student information, compliance with legal obligations, and mitigation of risks related to data breaches.

FR_05 - Attendance Tracking (Digital Attendance Management)

- **Legal Basis:** *Law No. 9741, dated 21.05.2007, "On Higher Education in the Republic of Albania"*
- **Justification:** The law requires monitoring of student attendance as part of academic performance evaluation. A digital attendance system provides accurate records, ensures compliance with attendance policies, and supports academic assessments.

FR_06 - Fee Payment Processing (Student Financial Management)

- **Legal Basis:** *Law No. 55/2020, "On Payment Services"*
- **Justification:** This law regulates electronic payment services in Albania. Automating fee payments ensures secure, transparent, and legally compliant financial transactions, reducing risks of mismanagement and fraud, and providing clear audit trails.

FR_07 - Extracurricular Activity Management (Student Engagement Tracking)

- **Legal Basis:** *National Youth Strategy 2022–2029*
- **Justification:** The strategy emphasizes the importance of extracurricular activities for youth development. An automated system to manage these activities ensures proper documentation, supports student engagement, and aligns with national educational objectives.

FR_08 - Student Profile Management (Student Records Administration)

- **Legal Basis:** *Law No. 9741, dated 21.05.2007, "On Higher Education in the Republic of Albania"*
- **Justification:** The law mandates accurate and up-to-date student records. A centralized digital profile system ensures compliance by securely storing and updating student information, facilitating efficient academic tracking and administrative processes.

FR_09 - Course Registration (Online Course Enrollment System)

- **Legal Basis:** *Law No. 9918/2008, "On Electronic Communications in the Republic of Albania"*
- **Justification:** This law promotes the use of electronic systems for public services. An online course registration system enhances efficiency, reduces scheduling conflicts, and aligns with legal frameworks supporting digital solutions in education.

FR_10 - Student Communication System (Academic Notification System)

- **Legal Basis:** *Law No. 9918/2008, "On Electronic Communications in the Republic of Albania"*
- **Justification:** The law recognizes electronic messaging as an official means of communication. Implementing a structured notification system ensures timely and effective communication between students and faculty, enhancing administrative efficiency and compliance.

FR_11 - Complaint and Request Management (Student Grievance Redressal System)

- **Legal Basis:** *Law No. 9741, dated 21.05.2007, "On Higher Education in the Republic of Albania"*
- **Justification:** The law requires institutions to establish mechanisms for handling student complaints. A digital grievance redressal system ensures fair, transparent, and efficient resolution of issues, maintaining records for accountability and compliance.

FR_12 - Document Generation (Automated Academic Document Processing)

- **Legal Basis:** *Law No. 9741, dated 21.05.2007, "On Higher Education in the Republic of Albania"*
- **Justification:** The law mandates the issuance of standardized academic documents. Automated document generation ensures accuracy, consistency, and compliance with national and international standards, facilitating credential recognition.

3.3 Non-Functional Requirements

Non-functional requirements specify criteria that determine the overall operation of the DOS-MS rather than individual behaviors. These include security, performance, availability, and compliance requirements. Unlike functional requirements, non-functional requirements are mandatory for ensuring a robust and usable system. Compliance with these requirements is typically evaluated with a simple "yes" or "no" response.

3.3.1 Product Requirements

3.3.1.1 Security Requirements

- **Encryption of sensitive student and faculty data at rest and in transit.**
 - **Legal Basis:** Law No. 124/2024, "On the Protection of Personal Data"
 - **Justification:** This law mandates the protection of personal data, aligning with GDPR standards. Encrypting data ensures that sensitive information remains confidential and protected from unauthorized access, thereby complying with legal obligations.
- **Implementation of multi-factor authentication (MFA) for all administrative users.**
 - **Legal Basis:** Law No. 25/2024, "On Cybersecurity"
 - **Justification:** The cybersecurity law emphasizes the need for robust authentication mechanisms to prevent unauthorized system access. Implementing MFA enhances security by requiring multiple verification methods, thereby reducing the risk of breaches.
- **Role-based access control (RBAC) to restrict unauthorized access to confidential records.**
 - **Legal Basis:** Law No. 124/2024, "On the Protection of Personal Data"
 - **Justification:** Implementing RBAC ensures that only authorized personnel have access to specific data, minimizing the risk of data breaches and ensuring compliance with data protection regulations.
- **Periodic penetration testing and security audits.**
 - **Legal Basis:** Law No. 25/2024, "On Cybersecurity"
 - **Justification:** Regular security assessments help identify and mitigate vulnerabilities, ensuring the system's resilience against cyber threats and compliance with legal requirements for maintaining robust cybersecurity measures.
- **Secure backup mechanisms to prevent data loss in case of cyberattacks.**
 - **Legal Basis:** Law No. 25/2024, "On Cybersecurity"
 - **Justification:** Implementing secure backup solutions ensures data integrity and availability, allowing for quick recovery in the event of cyber incidents, thus aligning with legal mandates for data protection.
- **Compliance with GDPR and local data protection laws.**
 - **Legal Basis:** Law No. 124/2024, "On the Protection of Personal Data"
 - **Justification:** Adhering to GDPR and local data protection laws ensures that personal data is processed lawfully, transparently, and securely, safeguarding individuals' rights and maintaining institutional integrity.

3.3.1.2 Performance Requirements

- **The system should have a response time of less than 3 seconds for common operations.**
 - **Legal Basis:** Law No. 9918/2008, "On Electronic Communications in the Republic of Albania"
 - **Justification:** Ensuring prompt system responses enhances user experience and aligns with the law's objective to promote efficient electronic communications.
- **High availability (at least 99.9% uptime) during academic periods.**

- **Legal Basis:** Law No. 9918/2008, "On Electronic Communications in the Republic of Albania"
- **Justification:** Maintaining high system availability ensures continuous access to educational resources, supporting the law's goal of fostering reliable electronic communication services.
- **Support for concurrent logins of at least 10,000 users without performance degradation.**
 - **Legal Basis:** Law No. 9918/2008, "On Electronic Communications in the Republic of Albania"
 - **Justification:** Accommodating a large number of simultaneous users ensures scalability and aligns with legal principles promoting the development of robust electronic communication networks.

3.3.1.3 Reliability Requirements

- **Automated backups to ensure minimal data loss in case of failures.**
 - **Legal Basis:** Law No. 25/2024, "On Cybersecurity"
 - **Justification:** Regular automated backups safeguard data integrity and ensure quick recovery from system failures, adhering to legal requirements for data protection.
- **Redundancy and failover mechanisms for database availability.**
 - **Legal Basis:** Law No. 25/2024, "On Cybersecurity"
 - **Justification:** Implementing redundancy and failover strategies ensures continuous database access, minimizing downtime and aligning with legal mandates for maintaining system reliability.
- **A disaster recovery plan with a maximum downtime of 15 minutes in case of failure.**
 - **Legal Basis:** Law No. 25/2024, "On Cybersecurity"
 - **Justification:** A comprehensive disaster recovery plan ensures rapid restoration of services, minimizing operational disruption and complying with legal standards for cybersecurity resilience.

3.3.2 Organizational Requirements

a. Training and Documentation:

- Comprehensive manuals and documentation for students, faculty, and administrators.
- Training programs for university staff on system utilization.
- User-friendly helpdesk and support system integrated within DOS-MS.

b. Change Management:

- Procedures for system updates, patches, and modifications.
- Version control and rollback plans for failed updates.

3.3.2.1 Environmental Requirements

a. Technologies that will be used:

- Java-based backend.
- JavaScript, HTML/CSS for front-end components.
- Spring Framework for backend management.

- PostgreSQL or MySQL for database management.

b. Infrastructure and Hardware:

- Minimum and recommended server and client hardware specifications.
- Compatibility with existing IT infrastructure.
- Environmental control for server rooms (temperature, humidity, power backup, etc.).

c. Software Dependencies:

- List of required software, including OS, database, middleware.
- Compatibility with third-party tools like learning management systems (LMS).

d. Network Requirements:

- Network bandwidth requirements for optimal system performance.
- Firewall and intrusion detection systems for security.
- Secure API communication with external services.

e. Data Storage and Management:

- Storage capacity requirements based on expected student records.
- Data backup strategies and retention policies.
- Compliance with academic regulations for student record-keeping.

f. Environmental Security:

- Physical security measures for university data centers.
- Monitoring and logging mechanisms to detect unauthorized access.

g. Integration with External Systems:

- Integration with third-party financial management tools for fee processing.
- Compatibility with university ERP systems.
- Secure data exchange protocols for student record validation.

h. Scalability Testing Environment:

- A dedicated testing environment to simulate system scalability scenarios.
- Performance benchmarks and stress testing procedures.

i. Regulatory Compliance Monitoring:

- Compliance with university accreditation standards.
- Regular audits to ensure adherence to legal and institutional policies.

j. Usability Testing Environment:

- Conducting UI/UX testing for accessibility improvements.
- Involvement of students and faculty in usability tests.

k. Training Facilities:

- Dedicated training centers with necessary IT infrastructure.
- Online training modules and self-service documentation.

3.3.3 External Requirements

a. Integration:

- Seamless integration with third-party payment gateways.
- Compatibility with external academic databases for student verification.
- API-based integration for external institutions or partner universities.

b. Regulatory Compliance:

- Compliance with national and international academic policies.
- Adherence to data protection laws like GDPR for student data management.
- Compliance with educational accreditation bodies' regulations.

3.3.3.1 Ethical Requirements

a. Fair Student Management Practices

- Transparent evaluation and grading system.
- Prevention of bias in scholarship allocation.

b. Responsible Use of Student Data

- Ethical handling of student information.
- Explicit consent required before sharing student data with external entities.

3.3.3.2 Legislative Requirements

a. Data Protection and Privacy:

- Compliance with local and international data privacy regulations.
- Secure storage and processing of student records.

b. University Governance Policies

- Compliance with university academic policies regarding student records, grading, and financial transactions.

c. Financial Regulations:

- Compliance with educational funding policies for scholarship distribution.
- Integration with financial institutions for payment transactions.

3.4 Domain requirements for the Dean of Students Management System (DOS-MS) including the relevant Albanian legislation

a. Academic Record Management

- **Secure and structured storage of student grades and attendance records.**
 - **Legal Basis:** Law No. 80/2015, "On Higher Education and Scientific Research in Higher Education Institutions in the Republic of Albania"

- **Justification:** This law mandates that higher education institutions maintain accurate and secure records of student performance. Implementing structured storage ensures data integrity and compliance with national educational standards.
- **Audit logs for all record modifications.**
 - **Legal Basis:** *Law No. 80/2015*
 - **Justification:** Maintaining detailed audit logs aligns with requirements for transparency and accountability in academic record-keeping, facilitating compliance with institutional policies and legal obligations.

b. **Scholarship and Financial Aid Processing**

- **Automated eligibility checks for scholarships.**
 - **Legal Basis:** *Law No. 80/2015*
 - **Justification:** Automating eligibility assessments ensures fair and efficient allocation of financial aid, adhering to legal standards for equitable treatment of students.
- **Compliance with institutional financial aid policies.**
 - **Legal Basis:** *Law No. 80/2015*
 - **Justification:** Ensuring that financial aid processing aligns with institutional policies guarantees adherence to national regulations governing higher education funding.

c. **Student Transition Management**

- **Automatic transition of students from high school applicants to fully enrolled university students.**
 - **Legal Basis:** *Law No. 80/2015*
 - **Justification:** Facilitating seamless transitions supports the law's objective of promoting accessible and continuous education pathways.

d. **Security and Data Protection**

- **Implementation of encryption for sensitive student information.**
 - **Legal Basis:** *Law No. 124/2024, "On Personal Data Protection"*
 - **Justification:** Encrypting sensitive data ensures confidentiality and compliance with data protection laws, safeguarding student privacy.
- **Role-based access control for university personnel.**
 - **Legal Basis:** *Law No. 124/2024*
 - **Justification:** Implementing access controls ensures that only authorized personnel can access specific data, minimizing the risk of unauthorized disclosures.

e. **Scalability and Performance**

- **The ability to handle a growing number of student records.**
 - **Justification:** Designing the system for scalability ensures it can accommodate increasing data volumes without performance degradation, supporting institutional growth.

f. **Workflow and Process Automation**

- **Automation of administrative tasks, including course registration and reporting.**
 - **Justification:** Automating routine tasks enhances operational efficiency, reduces errors, and allows staff to focus on more strategic activities.

g. **Audit and Reporting Capabilities**

- **Detailed reporting for compliance audits and administrative reviews.**
 - **Legal Basis:** *Law No. 80/2015*
 - **Justification:** Comprehensive reporting functionalities facilitate compliance with legal and regulatory requirements, supporting transparency and accountability.

h. **Student Experience and Accessibility**

- **User-friendly interfaces for web and mobile platforms.**
 - **Justification:** Intuitive design enhances user satisfaction and engagement, encouraging effective use of the system.
- **Accessibility support for students with disabilities.**
 - **Legal Basis:** *Law No. 93/2014, "On the Inclusion and Accessibility of Persons with Disabilities"*
 - **Justification:** Ensuring accessibility aligns with legal mandates to provide equal educational opportunities for all students, regardless of disabilities.

4 Software Design

4.1 User stories

	Student	Advisor	Dean of Students	System Admin			
对学生注册与过渡	<p>As a new student, I want to register in the university system so I can begin my studies.</p> <p>I want to receive confirmation after successful registration.</p>	<p>I want to submit my personal and academic background easily.</p> <p>As an advisor, I want to verify course selection and academic background.</p> <p>I want to be notified when students complete their registration.</p>	<p>I want to access students' registration history.</p>	<p>As the Dean of Students, I want to monitor overall registration rates and identify students who fail to register on time.</p> <p>I want to flag students who may need additional transition support.</p>	<p>I want to ensure new students have access to orientation materials.</p> <p>I want to coordinate with student services for proper onboarding.</p>	<p>As a system administrator, I want to configure registration timelines and form requirements.</p>	<p>I want to ensure data validation to prevent incomplete entries.</p>
课程管理	<p>As a student, I want to view, add, or drop courses within the allowed period.</p>	<p>I want to see prerequisites and availability before enrolling.</p>	<p>As an advisor, I want to approve course loads and flag potential academic risks.</p>	<p>I want to suggest elective courses based on student progress.</p>	<p>As the Dean of Students, I want to receive alerts if students are underloading or overloading.</p>	<p>I want visibility into course access issues (e.g., full classes, scheduling conflicts).</p> <p>I want to work with advisors to ensure students stay on track toward graduation.</p>	<p>As a system administrator, I want to synchronize course schedules with classrooms and instructors.</p> <p>I want to detect system conflicts or duplicate enrollments.</p>
学术追踪	<p>As a student, I want to track my grades, GPA, and credit accumulation.</p>	<p>I want to be alerted if I'm at risk of academic probation.</p>	<p>As an advisor, I want to view full academic histories and intervene when students underperform.</p>	<p>I want tools to filter students by GPA, major, or academic status.</p>	<p>As the Dean of Students, I want to identify trends in student academic performance.</p>	<p>I want to monitor academic probation and intervene with support services.</p>	<p>As a system administrator, I want to ensure real-time synchronization of academic records.</p> <p>I want to provide dashboards for different users based on their access rights.</p>
数据安全	<p>As a student, I want to know my personal and academic data is secure.</p>	<p>I want to control who can access my personal information.</p>	<p>As an advisor, I want role-based access to student data relevant to my caseload.</p>		<p>As the Dean of Students, I want to secure access to student behavioral and conduct records.</p>	<p>I want to ensure FERPA/GPRA compliance when accessing student data.</p>	<p>As a system administrator, I want to implement encryption, audit logs, and role-based access control.</p> <p>I want to detect and respond to unauthorized access attempts.</p>
报告生成	<p>As a student, I want to generate my academic transcript and GPA report.</p>	<p>I want to access attendance records and financial aid status.</p>	<p>As an advisor, I want to generate performance summaries and academic risk alerts.</p>	<p>As the Dean of Students, I want to generate reports on:</p> <ul style="list-style-type: none"> Student retention and dropout rates Participation in student services Academic warnings and interventions 	<p>I want to use data to support policy decisions and student well-being initiatives.</p>	<p>As a system administrator, I want to schedule automated report exports.</p>	<p>I want to ensure report data is always up to date and error-free.</p>

4.2 User Scenarios

Scenario 1: Student Registration and Transition from High School

Scenario: John, a new student, wants to register at the university after completing high school.

Main Sequence:

1. John accesses the student registration portal through the university's DOS-MS platform.
2. John logs into the system using the credentials provided after admission.
3. John completes the online registration form, entering personal and academic details.

4. The system validates the entered information for completeness and correctness.
5. John uploads necessary documents such as high school certificates and identification.
6. The system generates a unique student ID (matriculation number).
7. The data is securely stored in the university's database.
8. If any required field is left blank, the system prompts John to fill it.
9. John successfully submits the registration.
10. The system confirms the submission, and John receives a confirmation message.

Alternative Sequence:

- If any field is left blank, the system prompts John to complete it.
- If document upload fails, the system allows re-upload or provides alternate options.

Special Requirements:

- Secure storage and encryption of student data.
- Automatic student ID generation and data validation.

Post-condition: John's registration is complete, and his data is securely stored.

Scenario 2: Student Login to DOS-MS

Scenario: John needs to access his academic dashboard on the university system.

Main Sequence:

1. John accesses the DOS-MS login portal.
2. John enters his matriculation number and password.
3. The system authenticates John's credentials.
4. If correct, access is granted to his personal dashboard.
5. The system logs the login session.

Alternative Sequence:

- If the login fails, the system provides a "Forgot Password" option.
- If suspicious login is detected, the system prompts for multi-factor authentication.

Special Requirements:

- Secure authentication and session tracking.

Post-condition: John is successfully logged in to the system.

Scenario 3: Course Registration

Scenario: John wants to register for his semester courses through the platform.

Main Sequence:

1. John logs into the DOS-MS system.
2. The system displays available courses for his department and level.
3. John selects his preferred courses.
4. The system checks for prerequisites and timetable conflicts.
5. If valid, John confirms registration.
6. The system updates his course list and schedule.

Alternative Sequence:

- If a course has a conflict, the system notifies John and suggests alternatives.
- If course limits are exceeded, the system blocks registration.

Special Requirements:

- Real-time validation and prerequisite enforcement.

Post-condition: John's course registration is completed and stored.

Scenario 4: View Course Schedule

Scenario: John wants to check his class timetable for the semester.

Main Sequence:

1. John logs into his dashboard on DOS-MS.
2. He navigates to the "My Schedule" section.
3. The system displays a calendar view of his registered courses.
4. Course times, locations, and instructors are shown.

Alternative Sequence:

- If a course is rescheduled, the system updates the calendar in real time.

Special Requirements:

- Dynamic scheduling interface with real-time updates.

Post-condition: John can view and manage his course schedule.

Scenario 5: Scholarship Allocation by Admin

Scenario: The Dean allocates scholarships to eligible students.

Main Sequence:

1. The Dean logs into the administrative section of DOS-MS.
2. The system lists eligible students based on performance criteria.
3. The Dean reviews and confirms scholarship allocations.

4. The system updates records and sends notifications to recipients.

Alternative Sequence:

- If eligibility criteria change, the system recalculates student eligibility.
- The Dean can manually adjust allocations.

Special Requirements:

- Secure and auditable allocation process.

Post-condition: Scholarships are assigned and students are informed.

Scenario 6: View Scholarship Eligibility

Scenario: John wants to know if he qualifies for any scholarships.

Main Sequence:

1. John logs into his profile on DOS-MS.
2. He navigates to the “Scholarship Eligibility” section.
3. The system compares his academic records with eligibility criteria.
4. Results are displayed, showing eligible programs.

Alternative Sequence:

- If GPA is pending, eligibility is deferred until final results.

Special Requirements:

- Transparent eligibility criteria and privacy safeguards.

Post-condition: John knows his scholarship eligibility status.

Scenario 7: Academic Progress Tracking

Scenario: John wants to track his academic performance over time.

Main Sequence:

1. John logs into his dashboard.
2. He opens the “Academic Progress” section.
3. The system displays GPA, credit hours, and course history.
4. If underperformance is detected, the system flags academic probation.

Alternative Sequence:

- Academic advisor can leave personalized feedback.

Special Requirements:

- Visual indicators for GPA trends.

Post-condition: John can monitor and plan academic progress.

Scenario 8: Extracurricular Activity Logging

Scenario: John logs his extracurricular achievements for record.

Main Sequence:

1. John accesses the “Activities” section on DOS-MS.
2. He submits details of events and achievements.
3. The system categorizes entries by type.
4. Admin reviews and approves or rejects submissions.

Alternative Sequence:

- If data is incomplete, system prompts for revision.

Special Requirements:

- Approval workflow for activity validation.

Post-condition: Verified activities are added to John’s record.

Scenario 9: Admin Verification of Activities

Scenario: An administrator reviews student activity submissions.

Main Sequence:

1. Admin logs into the admin panel.
2. Pending activity entries are listed.
3. Admin reviews, approves, or rejects each submission.
4. Feedback is sent to students.

Alternative Sequence:

- If unclear, admin can request additional details.

Special Requirements:

- Clear audit trail of activity approvals.

Post-condition: Activity data is verified and recorded.

Scenario 10: Generate Real-Time Reports

Scenario: The Dean wants real-time academic or operational reports.

Main Sequence:

1. The Dean accesses the “Reports” module.
2. Filters and report types are selected.
3. The system generates charts, tables, or summaries.
4. Reports can be exported or shared.

Alternative Sequence:

- If data is missing, the system notifies the admin.

Special Requirements:

- Real-time data retrieval and formatting tools.

Post-condition: The Dean receives actionable, up-to-date insights.

Scenario 11: Student Access to Academic Transcript

Scenario: John wants to download his academic transcript.

Main Sequence:

1. John logs into DOS-MS.
2. He navigates to “Academic Transcript.”
3. The system generates a current transcript.
4. John downloads or prints the PDF.

Alternative Sequence:

- If grades are incomplete, system marks transcript as provisional.

Special Requirements:

- Official seal and signature embedded in PDF.

Post-condition: John receives an authenticated transcript.

Scenario 12: System Backup and Data Integrity

Scenario: System admin ensures secure backup of user data.

Main Sequence:

1. Admin configures backup schedules in the system.
2. The system creates encrypted backups daily.
3. Backups are stored on secure, redundant servers.
4. Regular data integrity checks are performed.

Alternative Sequence:

- If backup fails, alerts are generated for manual intervention.

Special Requirements:

- ISO-compliant security and recovery processes.

Post-condition: System data is securely backed up and restorable.

Scenario 13: Secure Role-Based Access Control

Scenario: The system restricts access based on user roles.

Main Sequence:

1. Admin defines roles (e.g., student, advisor, admin).
2. Each role is assigned access permissions.
3. The system enforces permissions during each session.
4. Unauthorized access attempts are logged.

Alternative Sequence:

- If elevated access is needed, request goes through admin approval.

Special Requirements:

- Role-based security protocols.

Post-condition: Sensitive data is protected and accessed appropriately.

Scenario 14: Password Recovery for Students

Scenario: John forgets his password and needs to reset it.

Main Sequence:

1. John clicks “Forgot Password” on the login page.
2. The system asks for email or security question.
3. A reset link is sent to John’s email.
4. John sets a new password.
5. The system confirms the reset.

Alternative Sequence:

- If the reset link expires, John must request a new one.

Special Requirements:

- Secure password recovery flow.

Post-condition: John regains secure access to the system.

Scenario 15: Automated Compliance Monitoring

Scenario: The system ensures compliance with institutional and legal policies.

Main Sequence:

1. The system runs regular audits of operations and data access.
2. Compliance violations are flagged automatically.
3. Alerts are sent to compliance officers.
4. Reports are generated and stored securely.

Alternative Sequence:

- If policies are updated, the system adjusts compliance checks.

Special Requirements:

- Integration with regulatory guidelines and auditing tools.

Post-condition: The system remains compliant and audit-ready.

Scenario 16: Viewing University Regulations

Scenario: John wants to access and read the university's official rules and regulations through the DOS-MS platform.

Main Sequence:

1. John logs into the DOS-MS system using his student credentials.
2. John navigates to the "Regulations" or "Documents" section on the dashboard.
3. The system displays a categorized list of official documents, including academic policies, conduct rules, examination guidelines, and fee structures.
4. John selects the document he wants to read.
5. The system opens a PDF or web view of the selected regulation.
6. John reads or downloads the document for future reference.

Alternative Sequence:

- If a document is restricted, the system notifies John of the required access level or role.
- If a document has been updated, the system highlights the changes or displays the latest version.

Special Requirements:

- Secure and centralized storage of official documents.
- Version control and update notifications.

Post-condition: John accesses the university regulations and can view or download them as needed.

Scenario 17: Submit Student Feedback

Scenario: John wants to provide feedback on the quality of teaching.

Main Sequence:

1. John logs into his account on DOS-MS.
2. He selects "Student Feedback" from the menu.
3. The system displays a form to rate instructors and courses.
4. John completes the ratings and optional comments.
5. He clicks "Submit."
6. The system stores the feedback anonymously and sends it to the administration.

Alternative Sequence:

- If the feedback form is closed for the semester, the system shows a notification.

Special Requirements:

- Anonymity and protection of personal data.

Post-condition: John's feedback is stored for institutional analysis.

Scenario 18: Online Tuition Payment

Scenario: John wants to pay his tuition fee via DOS-MS.

Main Sequence:

1. John logs into his profile.
2. He selects the "Payments" section.
3. The system displays outstanding financial obligations and accepted payment methods.

4. John selects the payment method (credit card, PayPal, etc.) and confirms the payment.
5. The payment is processed, and an invoice is automatically generated.
6. John receives the payment confirmation and a copy of the invoice.

Alternative Sequence:

- If the transaction fails, the system offers options to retry or change the payment method.

Special Requirements:

- Integration with the banking system and security protocols.

Post-condition: John's payment is completed and recorded.

Scenario 19: Appointment Booking with Dean or Advisor

Scenario: John wants to book an appointment with the Dean or an academic advisor.

Main Sequence:

1. John goes to the "Appointments" section in DOS-MS.
2. He selects the type of appointment and person (Dean, Advisor, etc.).
3. The system shows available time slots.
4. John selects a time and confirms the booking.
5. A confirmation email/message is sent to John and the staff.

Alternative Sequence:

- If no time slots are available, the system suggests alternative periods.

Special Requirements:

- Dynamic calendar and automated notifications.

Post-condition: The appointment is booked and added to the calendars of both parties.

Scenario 20: Career Counseling Session

Scenario: John seeks career counseling to explore career options and get guidance for his future path after graduation.

Main Sequence:

1. John logs into the DOS-MS platform.
2. He navigates to the "Career Counseling" section.

3. The system presents available career counseling services and available dates for appointments.
4. John selects an available slot for his counseling session.
5. The system confirms the session booking and sends a reminder to John.
6. On the scheduled date, John attends the career counseling session, either virtually or in-person.
7. During the session, the counselor provides career advice based on John's academic performance, skills, and interests.
8. After the session, John receives follow-up materials, including resources for internships, job opportunities, and relevant career fairs.
9. John can schedule follow-up sessions if necessary.

Alternative Sequence:

- If John cannot attend the booked session, he can reschedule it through the platform.
- If no counselors are available during preferred times, the system will suggest alternative counselors or dates.

Special Requirements:

- Integration with available career resources (internships, job postings).
- Secure storage of John's counseling session notes and follow-up materials.

Post-condition: John receives career guidance and resources to assist with his future career planning.

4.3 Stakeholders Identification Table

4.3.1 Operational Stakeholders

Stakeholder	Role/Responsibility	Importance	Influence	Interests/Positive Impacts	Concerns
University Administration	Oversees policy compliance, decision-making, and system implementation.	High	High	Better governance, data-driven decisions, and efficiency.	System reliability, cost, and integration challenges.
Dean of Students Office	Supervises Admissions Office, Career Office, and Student Clubs.	High	High	Centralized oversight, improved student services.	Coordination challenges, system adaptability.
Admissions Office	Manages student applications, enrollment, and eligibility verification.	High	High	Streamlined admissions process, reduced paperwork.	Accuracy of student records, system integration.

Dean of Students Management System

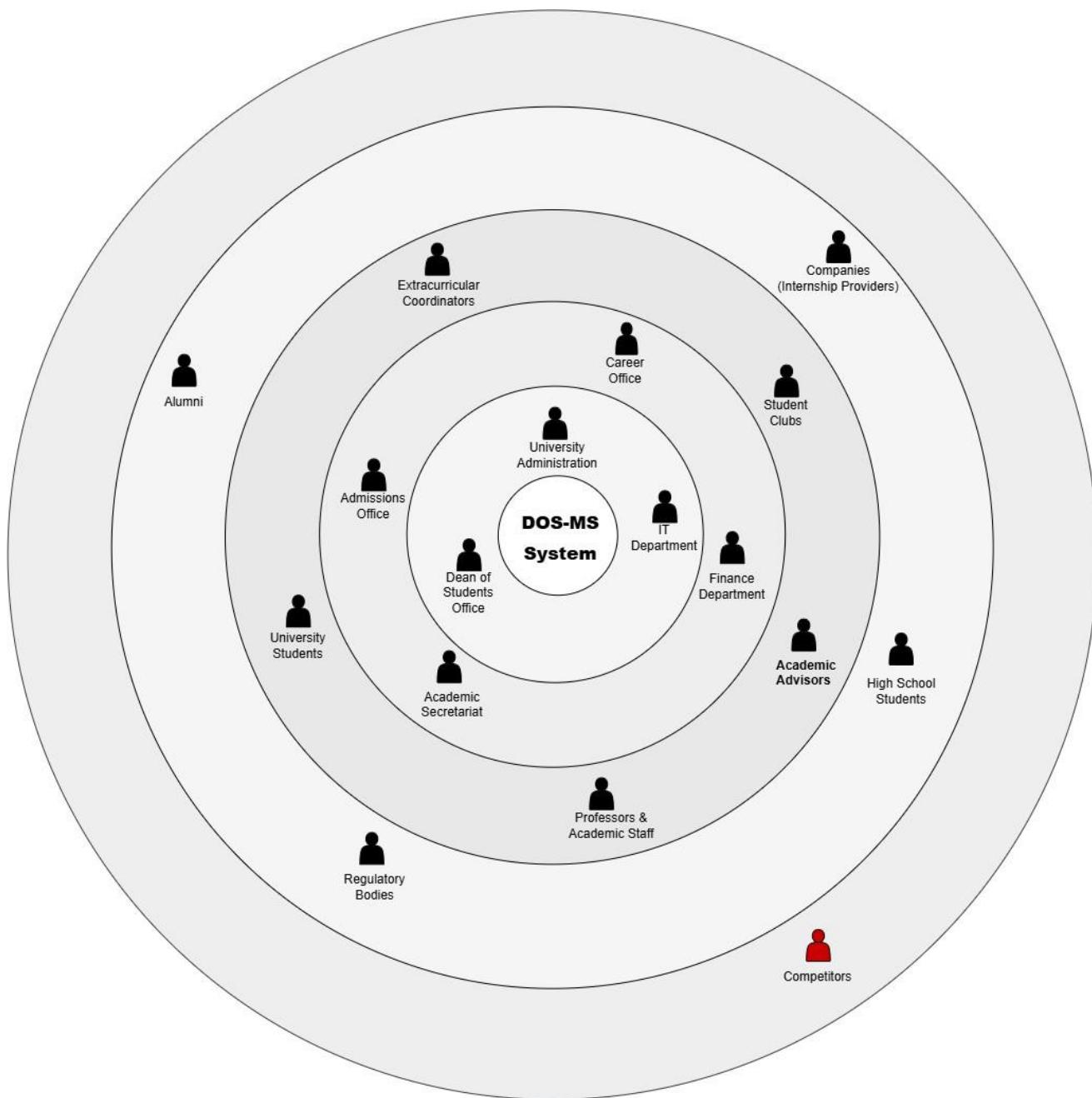
Career Office	Assists students with internships, job placements, and career counseling.	High	High	Better employment outcomes, stronger employer partnerships.	Job market demands, internship tracking accuracy.
University Students	Use DOS-MS for ID conversion, reports, and student records.	High	Medium	Faster administrative processes, transparency, easy access to records.	Data privacy, ease of navigation.
Student Clubs	Organize student activities, guided by a President & Vice President (students).	Medium	Medium	Improved student engagement, leadership development.	Participation tracking, resource allocation.
IT Department	Maintains, secures, and updates the system.	High	High	Better security, efficiency, and maintenance.	Cybersecurity risks, potential downtime.
Professors & Academic Staff	Monitor student progress, recommend scholarships, and oversee academic compliance.	Medium	Medium	Automated reports, reduced paperwork.	Report accuracy, user-friendliness.
Academic Advisors	Guide students on course selection, academic progress, and career paths.	Medium	Medium	Better student support, personalized academic planning.	Availability of advisors, system usability for guidance tracking.
Extracurricular Coordinators	Track and validate student participation in activities.	Medium	Medium	Efficient tracking, eligibility for benefits.	Accuracy of tracking, report validation.
Finance Department	Manages financial transactions, student fees, scholarships, and budgeting.	High	High	Accurate financial records, automated payment processing.	Data security, financial errors, system compatibility.
Academic Secretariat	Handles student records, academic schedules,	High	High	Improved record management, automated enrollment processes.	System complexity, data accuracy, training for staff.

	enrollment, and exam coordination.				
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4.3.2 External Stakeholders

Stakeholder	Role/Responsibility	Importance	Influence	Interests/Positive Impacts	Concerns
Regulatory Bodies	Ensure compliance with academic policies and data protection laws.	Low	Low	Compliance, oversight.	Data security breaches, legal non-compliance.
High School Students	Transitioning from school to university, eligibility verification.	Medium	Medium	Simplified enrollment, smooth transition.	Eligibility issues, documentation delays.
Companies (Internship Providers)	Offer internships and employment opportunities for students.	High	Medium	Skilled workforce recruitment, collaboration with universities.	Student preparedness, administrative processes.
Alumni	Provide mentorship, networking, and funding opportunities.	Medium	Medium	Strengthening alumni network, giving back to the university.	Limited engagement, lack of tracking mechanisms.

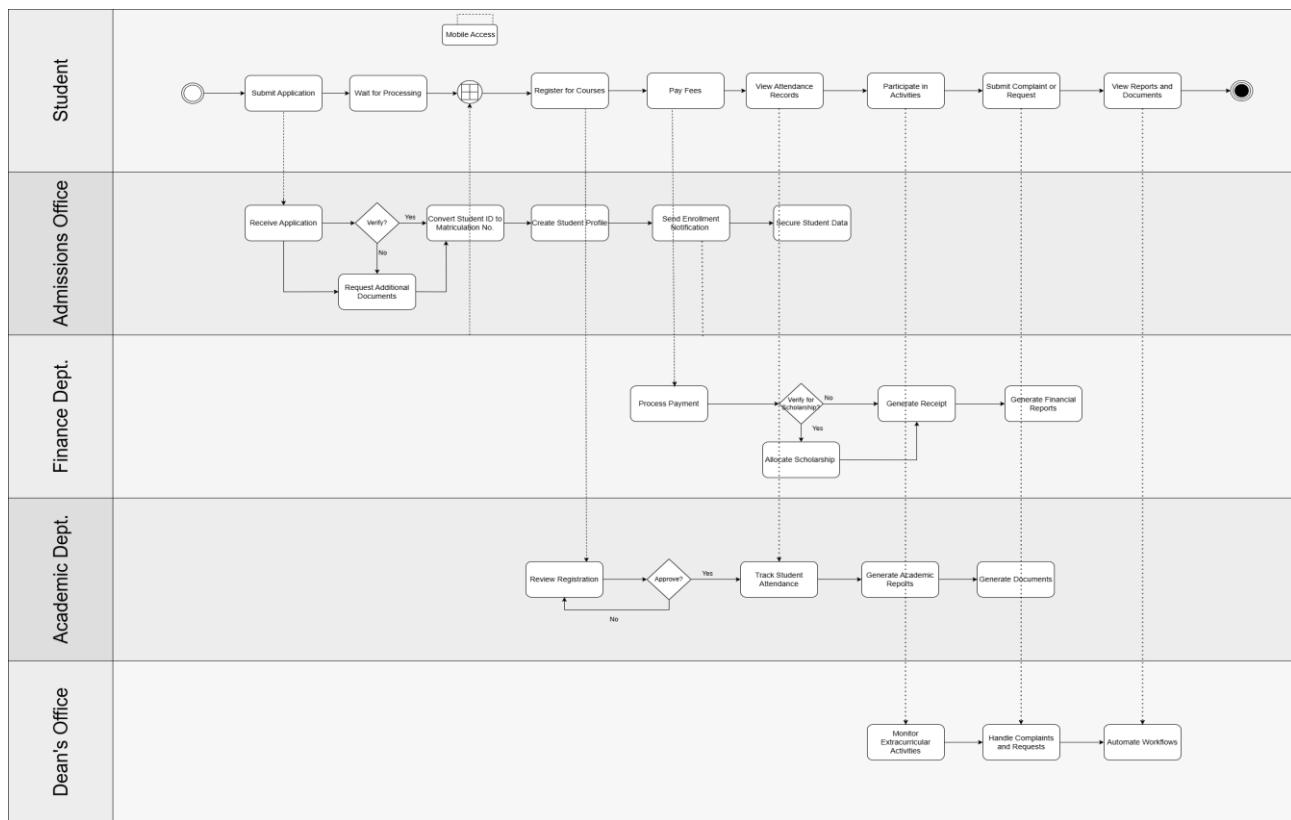
4.4 Onion Diagram



4.4.1 Onion Diagram Layers

- a. Core (Innermost Layer) - DOS-MS System**
 - This is the central system that all stakeholders interact with.
- b. First Layer - Primary Operational Stakeholders (Direct Control & Maintenance)**
 - **University Administration** (Oversees policy compliance and system implementation)
 - **Dean of Students Office** (Supervises Admissions, Career Office, and Student Clubs)
 - **IT Department** (Maintains, secures, and updates the system)
- c. Second Layer - Key Functional Stakeholders (Frequent Users)**
 - **Admissions Office** (Manages student applications and enrollment)
 - **Career Office** (Handles internships, job placements)
 - **Finance Department** (Manages financial transactions and scholarships)
 - **Academic Secretariat** (Handles student records, enrollment, and scheduling)
- d. Third Layer - Active Users & Service Beneficiaries**
 - **University Students** (Use the system for ID conversion, reports, and student records)
 - **Professors & Academic Staff** (Monitor student progress and oversee compliance)
 - **Academic Advisors** (Guide students on course selection and progress)
 - **Extracurricular Coordinators** (Track and validate student participation)
 - **Student Clubs (President & Vice President)** (Organize student activities)
- e. Fourth Layer - External Stakeholders (Indirect Influence & Benefits)**
 - **Regulatory Bodies** (Ensure compliance with academic policies)
 - **High School Students** (Transitioning from school to university)
 - **Companies (Internship Providers)** (Offer internships and employment opportunities)
 - **Alumni** (Provide mentorship, networking, and funding support)
- f. Fifth Layer – Competitors**

4.5 Business Process Model and Notation (BPMN)



4.6 Use Cases

Use case name:	UC1.1 Access Registration Portal	
Scenario:	Student starts registration process	
Triggering event:	Student clicks on the registration link	
Brief description:	Student accesses the online portal to begin registration	
Actors:	John (Student)	
Related use cases:	UC1.2 Login to System	
Stakeholders:	Student, System Administrator	
Preconditions:	Student has access to a device with internet	
Postconditions:	Registration portal is displayed	
Flow of activities:	Actor	System
	1. Open portal link	1.1. Display portal homepage

Exception conditions:	Internet failure, system down
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Figure 1: UC1.1 Access Registration Portal

Use Case Name	UC1.2 Login to System	
Scenario	Student logs in before accessing registration	
Triggering Event	Student opens portal and attempts login	
Brief Description	Student enters credentials to access the registration system	
Actors	John (Student)	
Related Use Cases	UC2.x: Login System Use Cases	
Stakeholders	Student, System	
Preconditions	Student must have valid credentials	
Postconditions	System grants access to the registration portal	
Flow of Activities System: Authenticate user	Actor	Flow of Activities
	1. Enter username & password	System: Authenticate user
Exception Conditions	Invalid login, account locked	

Figure 2: UC1.2 Login to System

Use Case Name	UC1.3 Complete Registration Form	
Scenario	Student fills out the required information	
Triggering Event	Student accesses the registration form	
Brief Description	Student completes personal, academic, and contact details	
Actors	John (Student)	
Related Use Cases	UC1.5 Submit Registration	
Stakeholders	Student, System	
Preconditions	Logged into the portal	

Postconditions	Form is ready for submission	
Flow of Activities System: Validate field inputs	Actor: 1. Fill in fields	Flow of Activities System: Validate field inputs
Exception Conditions	Required field missing, invalid data format	

Figure 3: UC1.3 Complete Registration Form

Use Case Name	UC1.4 Upload Documents	
Scenario	Student provides required documents	
Triggering Event	Student finishes filling the form	
Brief Description	Student uploads ID, academic records, and other documents	
Actors	John (Student), System	
Related Use Cases	UC1.5 Submit Registration	
Stakeholders	Student, Registrar Office	
Preconditions	Registration form is completed	
Postconditions	Documents uploaded successfully	
Flow of Activities System: Save files	Actor: 1. Select & upload documents	Flow of Activities System: Save files
Exception Conditions	File too large, unsupported format	

Figure 4: UC1.4 Upload Documents

Use Case Name	UC1.5 Submit Registration
Scenario	Student finalizes registration
Triggering Event	All form fields and uploads are completed
Brief Description	Student submits the registration application

Actors	John (Student), System	
Related Use Cases	UC1.6 Receive Confirmation, UC1.7 Validate Data	
Stakeholders	Student, Registrar Office	
Preconditions	Form and documents are complete	
Postconditions	Submission stored in the database	
Flow of Activities System: Store and process data	Actor: 1. Click submit	Flow of Activities System: Store and process data
Exception Conditions	Network failure, server error	

Figure 5: UC1.5 Submit Registration

Use Case Name	UC1.6 Receive Confirmation	
Scenario	Student receives confirmation after submitting registration	
Triggering Event	System validates submitted registration data	
Brief Description	The system notifies the student of successful registration	
Actors	John (Student), System	
Related Use Cases	UC1.5 Submit Registration, UC1.7 Validate Data	
Stakeholders	Student, Registrar	
Preconditions	Data has been submitted and validated	
Postconditions	Student receives a confirmation message	
Flow of Activities System: Sends confirmation notification	Actor: 1. Waits for feedback	Flow of Activities System: Sends confirmation notification
Exception Conditions	Server or notification failure	

Figure 6: UC1.6 Receive Confirmation

Use Case Name	UC1.7 Validate Data	
Scenario	System checks correctness of the submitted student data	
Triggering Event	Student submits the registration form and documents	
Brief Description	Validates fields like name, ID, and required documents	
Actors	System	
Related Use Cases	UC1.4 Upload Documents, UC1.6 Receive Confirmation	
Stakeholders	Student, University Admin	
Preconditions	Documents and form have been submitted	
Postconditions	System either validates data or notifies errors	
Flow of Activities System: Validates form fields, document types, completeness	Actor: 1. -	Flow of Activities System: Validates form fields, document types, completeness
Exception Conditions	Invalid input, missing documents	

Figure 7: UC1.7 Validate Data

Use Case Name	UC1.8 Generate Student ID	
Scenario	System generates a unique ID for the student	
Triggering Event	Successful registration confirmation	
Brief Description	Each registered student is assigned a new student ID	
Actors	System	
Related Use Cases	UC1.6, UC1.7	
Stakeholders	Student, Admin	
Preconditions	Registration is confirmed and data is validated	
Postconditions	Unique student ID is created and stored	
Flow of Activities System: Generates unique ID, updates student profile	Actor: 1. -	Flow of Activities System: Generates unique ID, updates student profile

Exception Conditions	ID generation or database error
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Figure 8: UC1.8 Generate Student ID

Use Case Name	UC2.1 Enter Username	
Scenario	User types their username into the login form	
Triggering Event	Login page is loaded	
Brief Description	First step of authentication	
Actors	John (Student)	
Related Use Cases	UC2.2 Enter Password, UC3.1 Login to System	
Stakeholders	Student	
Preconditions	Login page is accessible	
Postconditions	Username captured by the system	
Flow of Activities System: Stores and awaits password input	Actor: 1. Types in username	Flow of Activities System: Stores and awaits password input
Exception Conditions	Field left blank	

Figure 9: UC2.1 Enter Username

Use Case Name	UC2.2 Enter Password	
Scenario	User provides the password	
Triggering Event	Username field is completed	
Brief Description	Completes login credentials	
Actors	John (Student)	
Related Use Cases	UC2.3 Authenticate	
Stakeholders	Student	
Preconditions	Username entered	
Postconditions	Password stored and ready for validation	

Flow of Activities System: Captures password	Actor:	Flow of Activities
	1. Types password	System: Captures password
Exception Conditions	Password field empty	

Figure 10: UC2.2 Enter Password

Use Case Name	UC2.3 Authenticate	
Scenario	System checks username and password	
Triggering Event	Login form submitted	
Brief Description	Validates user credentials	
Actors	System	
Related Use Cases	UC2.4 Access Denied, UC2.5 Access Granted	
Stakeholders	Student, Admin	
Preconditions	Both username and password provided	
Postconditions	Decision made to allow or deny access	
Flow of Activities System: Validates credentials	Actor:	Flow of Activities
	1. Clicks "Login"	System: Validates credentials
Exception Conditions	Wrong credentials	

Figure 11: UC2.3 Authenticate

Use Case Name	UC2.4 Access Denied	
Scenario	Login fails due to wrong credentials	
Triggering Event	Authentication fails	
Brief Description	Displays error message	
Actors	System	
Related Use Cases	UC2.1, UC2.2, UC2.3	

Stakeholders	Student	
Preconditions	Authentication failed	
Postconditions	Login remains blocked	
Flow of Activities System: Displays login error, waits for new input	Actors: 1. -	Flow of Activities System: Displays login error, waits for new input
Exception Conditions	Multiple failed attempts may lock account	

Figure 12: UC2.4 Access Denied

Use Case Name	UC2.5 Access Granted	
Scenario	Login succeeds	
Triggering Event	Authentication successful	
Brief Description	User is directed to the dashboard	
Actors	System, John (Student)	
Related Use Cases	UC3.1	
Stakeholders	Student	
Preconditions	Credentials valid	
Postconditions	User redirected to home screen	
Flow of Activities System : Confirms login	Actors: 1. Accesses dashboard	Flow of Activities System : Confirms login
Exception Conditions	Session timeout	

Figure 13: UC2.5 Access Granted

Use Case Name	UC2.6 Logout	
Scenario	Student logs out of the system	
Triggering Event	User clicks on "Logout" button	

Brief Description	Ends active session	
Actors	John (Student)	
Related Use Cases	UC2.7 Session Timeout	
Stakeholders	Student	
Preconditions	User is logged in	
Postconditions	Session ends	
Flow of Activities System: Clears session and redirects to login	Actor: 1. Clicks logout	Flow of Activities System: Clears session and redirects to login
Exception Conditions	Logout button not working	

Figure 14: UC2.6 Logout

Use Case Name	UC2.7 Session Timeout	
Scenario	User session expires due to inactivity	
Triggering Event	Inactivity timer reached	
Brief Description	Auto logout after timeout	
Actors	System	
Related Use Cases	UC2.6 Logout	
Stakeholders	Student	
Preconditions	User logged in	
Postconditions	Session ended, login required again	
Flow of Activities System: Monitors activity, ends session if idle too long	Actors: 1. -	Flow of Activities System: Monitors activity, ends session if idle too long
Exception Conditions	Session ended during form filling	

Figure 15: UC2.7 Session Timeout

Use Case Name	UC3.1 Login to System	
Scenario	Student logs into the course registration system	
Triggering Event	Student opens the course registration module	
Brief Description	Authenticates student before allowing course access	
Actors	John (Student), System	
Related Use Cases	UC2.1–UC2.7	
Stakeholders	Student	
Preconditions	Student has an active account and valid credentials	
Postconditions	Student is authenticated and redirected to dashboard	
Flow of Activities System: Validates and grants access	Actor: 1. Opens login portal, enters credentials	Flow of Activities System: Validates and grants access
Exception Conditions	Incorrect login details, server error	

Figure 16: UC3.1 Login to System

Use Case Name	UC3.2 View Available Courses	
Scenario	Student wants to see all available courses	
Triggering Event	Student clicks on “Available Courses”	
Brief Description	Displays list of courses for registration	
Actors	John (Student), System	
Related Use Cases	UC3.3, UC3.4	
Stakeholders	Student	
Preconditions	Student is logged in	
Postconditions	Course list is displayed	
Flow of Activities System: Fetches and displays course list	Actor: 1. Requests available courses	Flow of Activities System: Fetches and displays course list

Exception Conditions	No courses found, database error
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Figure 17: UC3.2 View Available Courses

Use Case Name	UC3.3 Select Courses	
Scenario	Student selects desired courses	
Triggering Event	Student views available course list	
Brief Description	Adds selected courses to the registration cart	
Actors	John (Student), System	
Related Use Cases	UC3.2, UC3.4, UC3.5	
Stakeholders	Student	
Preconditions	Course list is displayed	
Postconditions	Courses are selected and saved temporarily	
Flow of Activities System: Saves selected courses to session	Actor: 1. Selects courses and clicks “Add”	Flow of Activities System: Saves selected courses to session
Exception Conditions	Courses full, time conflicts, prerequisites missing	

Figure 18: UC3.3 Select Courses

Use Case Name	UC3.4 Validate Prerequisites & Conflicts	
Scenario	System checks eligibility and conflicts	
Triggering Event	Courses are selected	
Brief Description	Validates schedule, course limits, and prerequisites	
Actors	System, Department Admin	
Related Use Cases	UC3.3, UC3.5, UC3.7	
Stakeholders	Student, Admin	
Preconditions	Course selections made	

Postconditions	Courses are either validated or rejected	
Flow of Activities System: Checks prerequisites, conflicts	System: Checks prerequisites, conflicts	Flow of Activities
	1. Confirms overrides if needed	System: Checks prerequisites, conflicts
Exception Conditions	Prerequisite errors, overlapping schedules, max credit limit exceeded	

Figure 19: UC3.4 Validate Prerequisites & Conflicts

Use Case Name	UC3.5 Confirm Registration	
Scenario	Student submits selected courses for confirmation	
Triggering Event	Course validation successful	
Brief Description	Finalizes student's course registration	
Actors	John (Student), System	
Related Use Cases	UC3.3, UC3.4	
Stakeholders	Student	
Preconditions	Courses validated	
Postconditions	Registration is stored in the database	
Flow of Activities System: Saves registration details to database	Actor:	Flow of Activities
	1. Clicks "Confirm"	System: Saves registration details to database
Exception Conditions	System error, registration conflict update during submission	

Figure 20: UC3.5 Confirm Registration

Use Case Name	UC3.6 Update Course List & Schedule	
Scenario	System updates the student's course schedule	
Triggering Event	Successful registration confirmation	
Brief Description	Reflects registered courses in the student's timetable	

Actors	System	
Related Use Cases	UC3.5, UC3.7	
Stakeholders	Student, Admin	
Preconditions	Courses confirmed	
Postconditions	Student schedule updated	
Flow of Activities System: Adds course sessions to schedule and updates internal records	Actors: 1. -	Flow of Activities System: Adds course sessions to schedule and updates internal records
Exception Conditions	Database update failure, sync issues	

Figure 21: UC3.6 Update Course List & Schedule

Use Case Name	UC3.7 Notify Conflicts or Limits	
Scenario	Student encounters issues during registration	
Triggering Event	Conflicts or exceeded limits detected	
Brief Description	Displays appropriate warnings to the student	
Actors	System, John (Student)	
Related Use Cases	UC3.4, UC3.3, UC3.5	
Stakeholders	Student, Admin	
Preconditions	Courses selected	
Postconditions	Student notified of errors or conflicts	
Flow of Activities System: Detects conflict	Actor: 1. Reads message and modifies selection	Flow of Activities System: Detects conflict
Exception Conditions	Notification not delivered, user ignores warning	

Figure 22: UC3.7 Notify Conflicts or Limits

Use Case Name	UC4.1 Add New Student	
Scenario	Admin adds a new student to the system	
Triggering Event	Admin clicks "Add Student" button	
Brief Description	Displays a form for entering student information and saves it to the database	
Actors	Admin, System	
Related Use Cases	UC4.2, UC4.3	
Stakeholders	Administration, Students	
Preconditions	Admin is authenticated	
Postconditions	Student is successfully added and visible in the student list	
Flow of Activities System: Validates and saves student	Actor: 1. Opens form, fills details, submits	Flow of Activities System: Validates and saves student
Exception Conditions	Duplicate entry, invalid data, system error	

Figure 23: UC4.1 Add New Student

Use Case Name	UC4.2 Update Student Record	
Scenario	Admin updates existing student details	
Triggering Event	Admin selects a student and clicks "Edit"	
Brief Description	A form pre-filled with student data appears, which is updated and saved	
Actors	Admin, System	
Related Use Cases	UC4.1, UC4.3	
Stakeholders	Administration, Students	
Preconditions	Student record exists; Admin is authenticated	
Postconditions	Updated student data is saved	
Flow of Activities System: Saves updated data	Actor: 1. Selects student, edits form, submits	Flow of Activities System: Saves updated data

Exception Conditions	Validation error, record lock, database failure
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Figure 23: UC4.2 Update Student Record

Use Case Name	UC4.3 Delete Student	
Scenario	Admin deletes a student from the system	
Triggering Event	Admin selects a student and clicks "Delete"	
Brief Description	System confirms and removes student from database	
Actors	Admin, System	
Related Use Cases	UC4.1, UC4.2	
Stakeholders	Administration, Students	
Preconditions	Student exists and admin is authorized	
Postconditions	Student is permanently removed	
Flow of Activities System: Deletes student from DB	Actor: 1. Selects student, confirms delete	Flow of Activities System: Deletes student from DB
Exception Conditions	Record not found, DB error, unauthorized access	

Figure 24: UC4.3 Delete Student

Use Case Name	UC4.4 Search Student	
Scenario	Admin searches for a student using keywords	
Triggering Event	Admin enters search terms and clicks "Search"	
Brief Description	System returns matched student records from database	
Actors	Admin, System	
Related Use Cases	UC4.1–UC4.3	
Stakeholders	Administration	
Preconditions	Student data exists in the system	

Postconditions	Matched student records are displayed	
Flow of Activities System: Searches DB and displays results	Actor: 1. Enters keywords	Flow of Activities System: Searches DB and displays results
Exception Conditions	No results found, invalid input, DB timeout	

Figure 25: UC4.4 Search Student

Use Case Name	UC4.5 View All Students	
Scenario	Admin views the full list of registered students	
Triggering Event	Admin navigates to student list page	
Brief Description	System retrieves and displays all student records	
Actors	Admin, System	
Related Use Cases	UC4.1–UC4.4	
Stakeholders	Administration	
Preconditions	Admin has access and student data exists	
Postconditions	Student list is visible on screen	
Flow of Activities System: Fetches and displays all records	Actor: 1. Opens list view	Flow of Activities System: Fetches and displays all records
Exception Conditions	No data found, DB error	

Figure 25: UC4.5 View All Students

Use Case Name	UC5.1 Login to Admin Panel	
Scenario	Dean accesses the administrative dashboard.	
Triggering Event	Dean initiates login to manage student records.	
Brief Description	The Dean logs in to manage schedules, scholarships, and student data.	

Actors	Dean, System	
Related Use Cases	UC5.2 View Eligible Students, UC5.6 Manual Adjustment	
Stakeholders	University Administration, Faculty	
Preconditions	Dean must have admin credentials.	
Postconditions	Dean successfully logged in and directed to the admin dashboard.	
Flow of Activities System verifies credentials.	Actor: enters credentials. 1. Enters credentials. 2. Actor submits login request.	Flow of Activities System verifies credentials.
Exception Conditions	Incorrect credentials , account locked	

Figure 26: UC5.1 Login to Admin Panel

Use Case Name	UC5.2 View Eligible Students	
Scenario	Dean checks the list of eligible students.	
Triggering Event	Dean selects the option to view eligible students.	
Brief Description	System displays a list of students who meet scholarship criteria.	
Actors	Dean, System	
Related Use Cases	UC5.1 Login to Admin Panel, UC5.3 Confirm Scholarship Allocation	
Stakeholders	University Administration, Faculty	
Preconditions	Dean must be logged in.	
Postconditions	List of eligible students is displayed.	
Flow of Activities 2. System retrieves and presents the list.	Actor: 1. View Eligible Students	Flow of Activities 2. System retrieves and presents the list.
Exception Conditions	Data retrieval error, no eligible students found.	

Figure 27: UC5.2 View Eligible Students

Use Case Name	UC5.3 Confirm Scholarship Allocation	
Scenario	Dean confirms scholarship distribution.	
Triggering Event	Dean selects a student to allocate a scholarship.	
Brief Description	System finalizes scholarship distribution to eligible students.	
Actors	Dean, System	
Related Use Cases	UC5.2 View Eligible Students, UC5.4 Update Records & Notify	
Stakeholders	University Administration, Students	
Preconditions	Student must be eligible.	
Postconditions	Scholarship is allocated and student notified.	
Flow of Activities 2. System updates records.	Actors: 1. Confirms allocation	Flow of Activities 2. System updates records.
Exception Conditions	Database error, incorrect allocation	

Figure 28: UC5.3 Confirm Scholarship Allocation

Use Case Name	UC5.4 Update Records & Notify	
Scenario	System updates student records and sends notifications.	
Triggering Event	Scholarship allocation or record update.	
Brief Description	System updates student records and notifies the affected students.	
Actors	System, Dean	
Related Use Cases	UC5.3 Confirm Scholarship Allocation, UC5.5 Recalculate Eligibility	
Stakeholders	University Administration, Students	
Preconditions	Student records must be accessible.	
Postconditions	Records are updated and notifications are sent.	
Flow of Activities 2. System updates records.	Actor 1. Triggers record update.	Flow of Activities 2. System updates records.

Exception Conditions	Network error, failed notifications
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Figure 29: UC5.4 Update Records & Notify

Use Case Name	UC5.5 Recalculate Eligibility	
Scenario	System recalculates student eligibility after record updates.	
Triggering Event	Change in student records.	
Brief Description	System checks if recent changes affect scholarship eligibility.	
Actors	System, Dean	
Related Use Cases	UC5.4 Update Records & Notify, UC5.6 Manual Adjustment	
Stakeholders	University Administration, Students	
Preconditions	Records must be updated.	
Postconditions	Eligibility status recalculated.	
Flow of Activities 2. System recalculates eligibility.	Actor	Flow of Activities
	1. Triggers recalculation	2. System recalculates eligibility.
Exception Conditions	Incomplete data, calculation error.	

Figure 30: UC5.5 Recalculate Eligibility

Use Case Name	UC5.6 Manual Adjustment	
Scenario	Dean makes manual changes to student data.	
Triggering Event	Dean identifies a need for manual correction.	
Brief Description	Dean manually adjusts student records for accuracy.	
Actors	Dean, System	
Related Use Cases	UC5.5 Recalculate Eligibility, UC4.5 Real-Time Schedule Updates	
Stakeholders	University Administration, Students	
Preconditions	Dean must have admin access.	

Postconditions	Student records are manually corrected.	
Flow of Activities 2. System applies changes.	Actor: 1. Initiates manual adjustment	Flow of Activities 2. System applies changes.
Exception Conditions	Unauthorized access, data conflict.	

Figure 31: UC5.6 Manual Adjustment

Use Case Name	UC6.1 Login to Profile	
Scenario	Student accesses their personal profile.	
Triggering Event	Student initiates login.	
Brief Description	John logs in to access personal information, GPA, and eligibility status.	
Actors	John (Student), System	
Related Use Cases	UC6.2 Access Eligibility Section, UC6.5 Defer Eligibility if GPA Pending	
Stakeholders	Students, University Administration	
Preconditions	Student must be registered.	
Postconditions	Student is logged in and directed to the profile page.	
Flow of Activities System verifies credentials.	Actor: 1. Enters credentials.	Flow of Activities System verifies credentials.
Exception Conditions	Incorrect credentials, account locked.	

Figure 32: UC6.1 Login to Profile

Use Case Name	UC6.2 Access Eligibility Section	
Scenario	Student checks their scholarship eligibility status.	
Triggering Event	Student selects 'Eligibility' from the profile menu.	
Brief Description	John accesses the section to view eligibility for scholarships.	

Actors	John (Student), System	
Related Use Cases	UC6.1 Login to Profile, UC6.4 Display Eligible Programs	
Stakeholders	Students, University Administration	
Preconditions	Student must be logged in.	
Postconditions	Eligibility section is displayed.	
Flow of Activities 2. System retrieves and displays eligibility data.	Actor	Flow of Activities
	1. Clicks on 'Eligibility Section'.	2. System retrieves and displays eligibility data.
Exception Conditions	Data retrieval error, unauthorized access.	

Figure 33: UC6.2 Access Eligibility Section

Use Case Name	UC6.3 Compare Records with Criteria	
Scenario	System checks if the student meets eligibility criteria.	
Triggering Event	Student accesses eligibility section.	
Brief Description	System evaluates student records against predefined eligibility criteria.	
Actors	System	
Related Use Cases	UC6.4 Display Eligible Programs, UC6.6 Define/Update Eligibility Criteria	
Stakeholders	Students, University Administration	
Preconditions	Eligibility criteria must be defined.	
Postconditions	Eligibility status is determined.	
Flow of Activities 2. System compares records with criteria.	Actor:	Flow of Activities
	1. -	2. System compares records with criteria.
Exception Conditions	Incomplete records, criteria mismatch.	

Figure 34: UC6.3 Compare Records with Criteria

Use Case Name	UC6.4 Display Eligible Programs	
Scenario	System shows programs the student is eligible for.	
Triggering Event	Eligibility check is completed.	
Brief Description	System presents the list of scholarships the student can apply for.	
Actors	System, John (Student)	
Related Use Cases	UC6.3 Compare Records with Criteria, UC6.5 Defer Eligibility if GPA Pending	
Stakeholders	Students, University Administration	
Preconditions	Eligibility criteria must be defined.	
Postconditions	Eligible programs are displayed.	
Flow of Activities 2. System fetches eligible programs.	Actor	Flow of Activities
	1. -	2. System fetches eligible programs.
Exception Conditions	No eligible programs, data error.	

Figure 35: UC6.4 Display Eligible Programs

Use Case Name	UC6.5 Defer Eligibility if GPA Pending	
Scenario	System defers eligibility check if GPA is pending.	
Triggering Event	Student checks eligibility but GPA is not finalized.	
Brief Description	If a student's GPA is not yet finalized, the system defers the eligibility decision until the GPA is available.	
Actors	System, John (Student)	
Related Use Cases	UC6.3 Compare Records with Criteria, UC6.4 Display Eligible Programs	
Stakeholders	Students, University Administration	
Preconditions	Student's GPA must be pending.	
Postconditions	Eligibility is marked as pending and the student is notified.	
Flow of Activities 2. System detects pending GPA status.	Actor:	Flow of Activities
	1. Attempts to check eligibility.	2. System detects pending GPA status.

Exception Conditions	System error or missing GPA record.
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Figure 36: UC6.5 Defer Eligibility if GPA Pending

Use Case Name	UC6.6 Define/Update Eligibility Criteria	
Scenario	Dean sets or updates scholarship eligibility criteria.	
Triggering Event	Dean logs in to manage scholarship criteria.	
Brief Description	Dean defines or updates the eligibility requirements for scholarships.	
Actors	Dean, System	
Related Use Cases	UC6.3 Compare Records with Criteria, UC6.4 Display Eligible Programs	
Stakeholders	University Administration, Faculty	
Preconditions	Admin access is required.	
Postconditions	Criteria are updated successfully.	
Flow of Activities System validates new criteria.	Actor : 1. Modifies criteria.	Flow of Activities System validates new criteria.
Exception Conditions	Invalid criteria, unauthorized access.	

Figure 37: UC6.6 Define/Update Eligibility Criteria

Use Case Name	UC7.1 Login to Dashboard	
Scenario	Student accesses the main dashboard.	
Triggering Event	Student initiates login.	
Brief Description	John logs in to access academic progress and extracurricular sections.	
Actors	John (Student), System	
Related Use Cases	UC7.2 View Academic Progress, UC8.1 Access Activities Section	
Stakeholders	Students, University Administration	
Preconditions	Student must be registered.	
Postconditions	Student successfully logged in and directed to the dashboard.	

Flow of Activities System verifies credentials.	Actor	Flow of Activities
	1. Enters credentials.	System verifies credentials.
Exception Conditions	Incorrect credentials, account locked.	

Figure 38: UC7.1 Login to Dashboard

Use Case Name	UC7.2 View Academic Progress	
Scenario	Student checks academic records.	
Triggering Event	Student selects 'Academic Progress' from dashboard.	
Brief Description	John views GPA, credits, and academic history.	
Actors	John (Student), System	
Related Use Cases	UC7.1 Login to Dashboard, UC7.3 System Displays GPA, Credits, History	
Stakeholders	Students, University Administration	
Preconditions	Student must be logged in.	
Postconditions	Academic progress is displayed.	
Flow of Activities 2. System retrieves academic records.	Actor:	Flow of Activities
	1. Clicks on 'Academic Progress'.	2. System retrieves academic records.
Exception Conditions	Data unavailable, server error.	

Figure 39: UC7.2 View Academic Progress

Use Case Name	UC7.3 System Displays GPA, Credits, History	
Scenario	System presents detailed academic information.	
Triggering Event	Student requests academic progress.	
Brief Description	System provides a detailed view of the student's academic achievements.	
Actors	System, John (Student)	
Related Use Cases	UC7.2 View Academic Progress, UC7.4 System Flags Probation if Needed	

Stakeholders	Students, University Administration	
Preconditions	Academic data must be available.	
Postconditions	GPA, credits, and history are displayed.	
Flow of Activities 2. System fetches academic data.	Actor : 1. Requests academic details.	Flow of Activities 2. System fetches academic data.
Exception Conditions	Missing data, system error.	

Figure 40: UC7.3 System Displays GPA, Credits, History

Use Case Name	UC7.4 System Flags Probation if Needed	
Scenario	System checks if student is at risk of probation.	
Triggering Event	GPA falls below the minimum requirement.	
Brief Description	System automatically flags students with low GPA for probation.	
Actors	System	
Related Use Cases	UC7.3 System Displays GPA, Credits, History	
Stakeholders	Students, University Administration	
Preconditions	GPA data must be up to date.	
Postconditions	Probation status is updated.	
Flow of Activities 2. System flags probation if needed.	Actor: 1. -	Flow of Activities 2. System flags probation if needed.
Exception Conditions	Data error, incorrect GPA calculation.	

Figure 41: UC7.4 System Flags Probation if Needed

Use Case Name	UC7.5 Advisor Leaves Feedback	
Scenario	Academic advisor provides feedback on student performance.	
Triggering Event	Advisor reviews student progress.	

Brief Description	Advisor leaves personalized feedback for student improvement.	
Actors	Academic Advisor, System	
Related Use Cases	UC7.2 View Academic Progress, UC8.4 Admin Reviews Submissions	
Stakeholders	Students, Faculty	
Preconditions	Advisor must have access to student records	
Postconditions	Feedback is saved and visible to the student.	
Flow of Activities 2. System saves and displays feedback	Actor: 1. -	Flow of Activities 2. System saves and displays feedback.
Exception Conditions	Unauthorized access, submission error	

Figure 42: UC7.5 Advisor Leaves Feedback

Use Case Name	UC8.1 Access Activities Section	
Scenario	Student views available extracurricular activities.	
Triggering Event	Student selects 'Activities' on the dashboard.	
Brief Description	John browses the list of clubs, events, and workshops.	
Actors	John (Student), System	
Related Use Cases	UC7.1 Login to Dashboard, UC8.2 Register for Activities	
Stakeholders	Students, Club Organizers	
Preconditions	Student must be logged in.	
Postconditions	Activities list is displayed.	
Flow of Activities 2. System fetches and displays activities.	1. Actor. 1. Clicks 'Activities'	Flow of Activities 2. System fetches and displays activities.
Exception Conditions	Data load error, unauthorized access.	

Figure 43: UC8.1 Access Activities Section

Use Case Name	UC8.2 Register for Activities	
Scenario	Student signs up for an extracurricular activity.	
Triggering Event	Student selects an activity to join.	
Brief Description	John registers to participate in a club or event.	
Actors	John (Student), System	
Related Use Cases	UC8.1 Access Activities Section, UC8.3 View Registered Activities	
Stakeholders	Students, Club Organizers	
Preconditions	Student must be logged in and activity must have available spots.	
Postconditions	Student is registered for the activity.	
Flow of Activities 2. System registers student.	Actor	Flow of Activities
	1. Selects activity.	2. System registers student.
Exception Conditions	Activity full, registration deadline passed.	

Figure 44: UC8.2 Register for Activities

Use Case Name	UC8.3 View Registered Activities	
Scenario	Student views activities they are registered for.	
Triggering Event	Student requests list of their registered activities.	
Brief Description	John sees a summary of his club memberships and event participations.	
Actors	John (Student), System	
Related Use Cases	UC8.2 Register for Activities	
Stakeholders	Students, Club Organizers	
Preconditions	Student must be logged in.	
Postconditions	Registered activities are displayed.	
Flow of Activities 2. System fetches and displays the list.	Actor	Flow of Activities
	1. Requests registered activities.	2. System fetches and displays the list.

Exception Conditions	Data retrieval error.
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Figure 45: UC8.3 View Registered Activities

Use Case Name	UC8.4 Admin Reviews Submissions	
Scenario	Administrator reviews student submissions for activities.	
Triggering Event	Student submits registration or feedback forms.	
Brief Description	Admin verifies and approves or rejects student submissions.	
Actors	Administrator, System	
Related Use Cases	UC8.2 Register for Activities, UC7.5 Advisor Leaves Feedback	
Stakeholders	University Administration, Students	
Preconditions	Admin must be logged in with proper permissions.	
Postconditions	Submissions are reviewed and statuses updated.	
Flow of Activities System updates submission status.	Actor: 1. -	Flow of Activities System updates submission status.
Exception Conditions	Unauthorized access, system error.	

Figure 46: UC8.4 Admin Reviews Submissions

Use Case Name	UC8.5 Generate Activity Reports	
Scenario	Administrator generates reports on student activities.	
Triggering Event	Admin requests activity participation reports.	
Brief Description	System compiles and generates activity reports for administrative review.	
Actors	Administrator, System	
Related Use Cases	UC8.4 Admin Reviews Submissions	
Stakeholders	University Administration	
Preconditions	Admin must have report generation privileges.	
Postconditions	Activity reports are generated and available.	

Flow of Activities 2. System compiles data.	Actor:	Flow of Activities
	1. -	2. System compiles data.
Exception Conditions	Data error, insufficient permissions.	

Figure 47: UC8.5 Generate Activity Reports

Use Case Name	UC9.1 Admin Logs into Panel	
Scenario	Admin accesses the system's activity verification panel.	
Triggering Event	Admin selects the option to verify activity submissions.	
Brief Description	The system authenticates the admin and grants access to the verification dashboard.	
Actors	Admin, System	
Related Use Cases	UC9.2 List Pending Activity Entries	
Stakeholders	Admins, University Administration	
Preconditions	Admin must have valid login credentials.	
Postconditions	Admin is logged into the system and can view activity entries.	
Flow of Activities 2. System verifies and grants access.	Actor:	Flow of Activities
	1. Admin enters credentials.	2. System verifies and grants access.
Exception Conditions	Invalid credentials, system downtime.	

Figure 48: UC9.1 Admin Logs into Panel

Use Case Name	UC9.2 List Pending Activity Entries	
Scenario	Admin views submissions needing review.	
Triggering Event	Admin logs into the dashboard.	
Brief Description	System lists student activity entries awaiting admin review.	
Actors	Admin, System	
Related Use Cases	UC9.1 Admin Logs into Panel	

Stakeholders	Students, Admin	
Preconditions	Admin is logged in.	
Postconditions	List of pending entries is displayed.	
Flow of Activities System fetches pending entries.	Actor: 1. Admin views the list.	Flow of Activities System fetches pending entries..
Exception Conditions	No pending entries, database error.	

Figure 49: UC9.2 List Pending Activity Entries

Use Case Name	UC9.3 Review and Approve/Reject Submissions	
Scenario	Admin evaluates submitted activities.	
Triggering Event	Admin selects a pending entry.	
Brief Description	Admin reviews activity details and either approves or rejects.	
Actors	Admin, System	
Related Use Cases	UC9.2 List Pending Activity Entries	
Stakeholders	Students, Admin	
Preconditions	Activity submission is listed as pending.	
Postconditions	Activity is marked as approved or rejected.	
Flow of Activities 3. System updates status.	Actor: 1. Admin views submission details.	Flow of Activities 3. System updates status.
Exception Conditions	Conflicting data, system error.	

Figure 50: UC9.3 Review and Approve/Reject Submissions

Use Case Name	UC9.4 Send Feedback to Students	
Scenario	System provides feedback after review.	
Triggering Event	Submission is approved or rejected.	

Brief Description	The system notifies the student of the admin's decision.	
Actors	System, Student	
Related Use Cases	UC9.3 Review and Approve/Reject Submissions	
Stakeholders	Students, Admin	
Preconditions	Submission status is updated.	
Postconditions	Feedback message is sent to student account.	
Flow of Activities 1. System generates feedback.	Actor: 1. -	Flow of Activities 1. System generates feedback.
Exception Conditions	Notification failure, student not reachable.	

Figure 51: UC9.4 Send Feedback to Students

Use Case Name	UC9.5 Request Additional Details if Needed	
Scenario	Admin requires more info before making a decision.	
Triggering Event	Admin views an unclear submission.	
Brief Description	Admin requests more information from the student to complete the review.	
Actors	Admin, Student, System	
Related Use Cases	UC9.3 Review and Approve/Reject Submissions	
Stakeholders	Students, Admin	
Preconditions	Submission must be under review.	
Postconditions	Student is asked to provide additional information.	
Flow of Activities 2. System notifies student.	Actor: 1. Admin selects 'request more info'.	Flow of Activities 2. System notifies student.
Exception Conditions	Request not sent, student unresponsive.	

Figure 52: UC9.5 Request Additional Details if Needed

Use Case Name	UC10.1 Dean Accesses Reports Module	
Scenario	Dean navigates to the reporting tools.	
Triggering Event	Dean logs in and selects the reports option.	
Brief Description	Dean accesses the module to view or generate academic reports.	
Actors	Dean, System	
Related Use Cases	UC10.2, UC10.3	
Stakeholders	Dean, Admin	
Preconditions	Dean must be authenticated.	
Postconditions	Reports module interface is displayed.	
Flow of Activities 2. System loads the interface.	Actor: 1. Dean clicks “Reports Module”.	Flow of Activities 2. System loads the interface.
Exception Conditions	Module fails to load, session timeout.	

Figure 53: UC10.1 Dean Accesses Reports Module

Use Case Name	UC10.2 Dean Selects Filters & Report Types	
Scenario	Dean specifies criteria for the report.	
Triggering Event	Reports module is accessed.	
Brief Description	Dean sets parameters such as date range, course, and report type.	
Actors	Dean, System	
Related Use Cases	UC10.1, UC10.3	
Stakeholders	Dean, University Administration	
Preconditions	Reports module is active.	
Postconditions	Report parameters are recorded.	
Flow of Activities 2. System stores selections.	Actor: 1. Dean selects filters and format.	Flow of Activities 2. System stores selections.

Exception Conditions	Invalid filter, form validation error.
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Figure 54: UC10.2 Dean Selects Filters & Report Types

Use Case Name	UC10.3 System Generates Reports	
Scenario	Report is generated based on selected criteria.	
Triggering Event	Dean submits filter selections.	
Brief Description	The system processes the request and generates the desired report.	
Actors	System	
Related Use Cases	UC10.2, UC10.4	
Stakeholders	Dean, Admin	
Preconditions	Filters are valid and submitted.	
Postconditions	Report is generated and displayed or stored.	
Flow of Activities System queries the database.	Actor: 1. -	Flow of Activities System queries the database.
Exception Conditions	Query failure, large dataset timeout.	

Figure 55: UC10.3 System Generates Reports

Use Case Name	UC10.4 Reports Exported or Shared	
Scenario	Dean exports or emails the report.	
Triggering Event	Report is generated.	
Brief Description	The report is exported as a file or shared via email.	
Actors	Dean, System	
Related Use Cases	UC10.3	
Stakeholders	Dean, IT Support	
Preconditions	A report is successfully generated.	
Postconditions	Report is exported/downloaded/shared.	

Flow of Activities 2. System performs the action.	Actor:	Flow of Activities
	1. Dean selects export/share.	2. System performs the action.
Exception Conditions	Export fails, file corruption.	

Figure 56: UC10.4 Reports Exported or Shared

Use Case Name	UC10.5 System Notifies Admin if Data Missing	
Scenario	System detects missing data during report generation.	
Triggering Event	Report process triggers validation.	
Brief Description	The system sends a notification to admin about incomplete or missing report data.	
Actors	System, IT Support	
Related Use Cases	UC10.3	
Stakeholders	Admin, IT Support	
Preconditions	Data anomaly or absence is detected.	
Postconditions	Notification sent to responsible personnel.	
Flow of Activities System checks data.	Actor:	Flow of Activities
	1.	System checks data.
Exception Conditions	Notification service unavailable.	

Figure 57: UC10.5 System Notifies Admin if Data Missing

Use Case Name	UC11.1 John Logs In	
Scenario	Student accesses academic transcript system.	
Triggering Event	John opens the system login page.	
Brief Description	John enters credentials to access transcript tools.	
Actors	John (Student), System	
Related Use Cases	UC11.2	

Stakeholders	John, University	
Preconditions	John has valid credentials.	
Postconditions	John is redirected to transcript page.	
Flow of Activities 2. System authenticates and grants access.	Actor: 1. John logs in.	Flow of Activities 2. System authenticates and grants access.
Exception Conditions	Wrong credentials, locked account.	

Figure 58: UC11.1 John Logs In

Use Case Name	UC11.2 John Navigates to Academic Transcript	
Scenario	Student accesses transcript section.	
Triggering Event	Login is successful.	
Brief Description	John selects the transcript module from the menu.	
Actors	John, System	
Related Use Cases	UC11.1, UC11.4	
Stakeholders	John	
Preconditions	John is logged in.	
Postconditions	Transcript view is displayed.	
Flow of Activities 2. System loads transcript page.	Actor: 1. John clicks transcript tab.	Flow of Activities 2. System loads transcript page.
Exception Conditions	System delay or crash.	

Figure 59: UC11.2 John Navigates to Academic Transcript

Use Case Name	UC11.3 System Generates Transcript PDF	
Scenario	Transcript data is compiled into a document.	
Triggering Event	John requests download/print.	

Brief Description	System converts transcript data to PDF format.	
Actors	System	
Related Use Cases	UC11.2, UC11.4	
Stakeholders	John	
Preconditions	Transcript data is available.	
Postconditions	PDF is generated and ready.	
Flow of Activities System processes transcript.	Actor: 1. -	Flow of Activities System processes transcript.
Exception Conditions	File format issues, missing data.	

Figure 60: UC11.3 System Generates Transcript PDF

Use Case Name	UC11.4 Filter Report by Date or Category	
Scenario	Admin wants to narrow down report data.	
Triggering Event	Admin selects date range or category filters.	
Brief Description	Admin applies filters (e.g., date range, department, item category) to generate specific reports.	
Actors	Admin, System	
Related Use Cases	UC11.2 Select Report Type, UC11.3 Generate Report	
Stakeholders	Admin, Management	
Preconditions	Admin is on the report generation interface.	
Postconditions	Filtered criteria are applied to the report.	
Flow of Activities System updates preview or selection.	Actor: 1. Admin opens report filters.	Flow of Activities System updates preview or selection.
Exception Conditions	Invalid input or no data found.	

Figure 61: UC11.4 Filter Report by Date or Category

Use Case Name	UC11.5 View Report Preview	
Scenario	Admin wants to view the report before downloading.	
Triggering Event	Admin clicks on "Preview Report".	
Brief Description	The system displays a preview of the report based on selected filters and criteria.	
Actors	Admin, System	
Related Use Cases	UC11.3, UC11.4	
Stakeholders	Admin	
Preconditions	Filters or report type are selected.	
Postconditions	Report preview is shown.	
Flow of Activities System generates on-screen preview.	Actor: 1. Admin sets filters.	Flow of Activities System generates on-screen preview.
Exception Conditions	Preview generation fails due to missing data or system error.	

Figure 62: UC11.5 View Report Preview

Use Case Name	UC11.6 Email Report to Stakeholders	
Scenario	Admin sends generated reports to concerned parties.	
Triggering Event	Admin clicks "Email Report" after generating it.	
Brief Description	System allows the admin to email reports directly to stakeholders (e.g., department heads, supervisors).	
Actors	Admin, System	
Related Use Cases	UC11.3 Generate Report	
Stakeholders	Admin, Stakeholders (e.g., management team)	
Preconditions	Report has been generated successfully.	
Postconditions	Stakeholders receive the report via email.	
Flow of Activities System sends email with report attached.	Actor: 1. Admin clicks "Email".	Flow of Activities System sends email with report attached.

Exception Conditions	Email not sent due to network/server issue or incorrect addresses.
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Figure 63: UC11.6 Email Report to Stakeholders

Use Case Name	UC11.7 Security Officer Verifies Seal & Signature	
Scenario	Security Officer needs to ensure transcript authenticity.	
Triggering Event	A transcript is generated and marked as official.	
Brief Description	The Security Officer verifies the digital seal and signature embedded in the transcript to confirm its authenticity and prevent forgery.	
Actors	Security Officer, System	
Related Use Cases	UC11.6 Registrar Embeds Official Seal & Signature	
Stakeholders	Security Officer, Registrar, Admin	
Preconditions	Transcript has been sealed and signed digitally.	
Postconditions	Verification status is updated (verified or flagged).	
Flow of Activities 2. System displays seal and signature details.	Actor: 1. Security Officer accesses the transcript verification panel.	Flow of Activities System displays seal and signature details.
Exception Conditions	Seal or signature invalid or missing; officer flags the document.	

Figure 64: UC11.7 Security Officer Verifies Seal & Signature

Use Case Name	UC12.1 Student Logs into Activity Portal	
Scenario	Student needs access to submit and view activities.	
Triggering Event	Student opens the activity portal.	
Brief Description	Student logs in to access and manage their activity records.	
Actors	Student, System	
Related Use Cases	UC12.2 Submit Activity Record	
Stakeholders	Students, Admin	
Preconditions	Student has valid login credentials.	
Postconditions	Student is authenticated and accesses portal.	

Flow of Activities 2. System verifies and opens portal.	Actor:.	Flow of Activities
	1. Student enters credentials	2. System verifies and opens portal.
Exception Conditions	Login failure, account locked.	

Figure 65: UC12.1 Student Logs into Activity Portal

Use Case Name	UC12.2 Submit Activity Record	
Scenario	Student uploads or submits their activity details.	
Triggering Event	Student clicks "Add New Activity".	
Brief Description	Student enters activity details and submits them for admin review.	
Actors	Student, System	
Related Use Cases	UC12.3 View Submission Status	
Stakeholders	Students, Admin	
Preconditions	Student must be logged in.	
Postconditions	New activity is submitted and marked pending.	
Flow of Activities System stores and flags entry.	Actor:	Flow of Activities
	1. Student fills form.	System stores and flags entry.
Exception Conditions	Incomplete form, upload failure.	

Figure 65: UC12.1 Student Logs into Activity Portal

Use Case Name	UC12.3 View Submission Status	
Scenario	Student wants to track whether their activity is reviewed.	
Triggering Event	Student logs into the portal and checks status.	
Brief Description	System displays status (pending, approved, rejected) of each submitted activity.	
Actors	Student, System	
Related Use Cases	UC12.2 Submit Activity Record	

Stakeholders	Students, Admin	
Preconditions	Student has previously submitted activity.	
Postconditions	Student views the current status.	
Flow of Activities 2. System shows statuses.	Actor: 1. Student opens submission history.	Flow of Activities 2. System shows statuses.
Exception Conditions	Status not updated, system error.	

Figure 66: UC12.3 View Submission Status

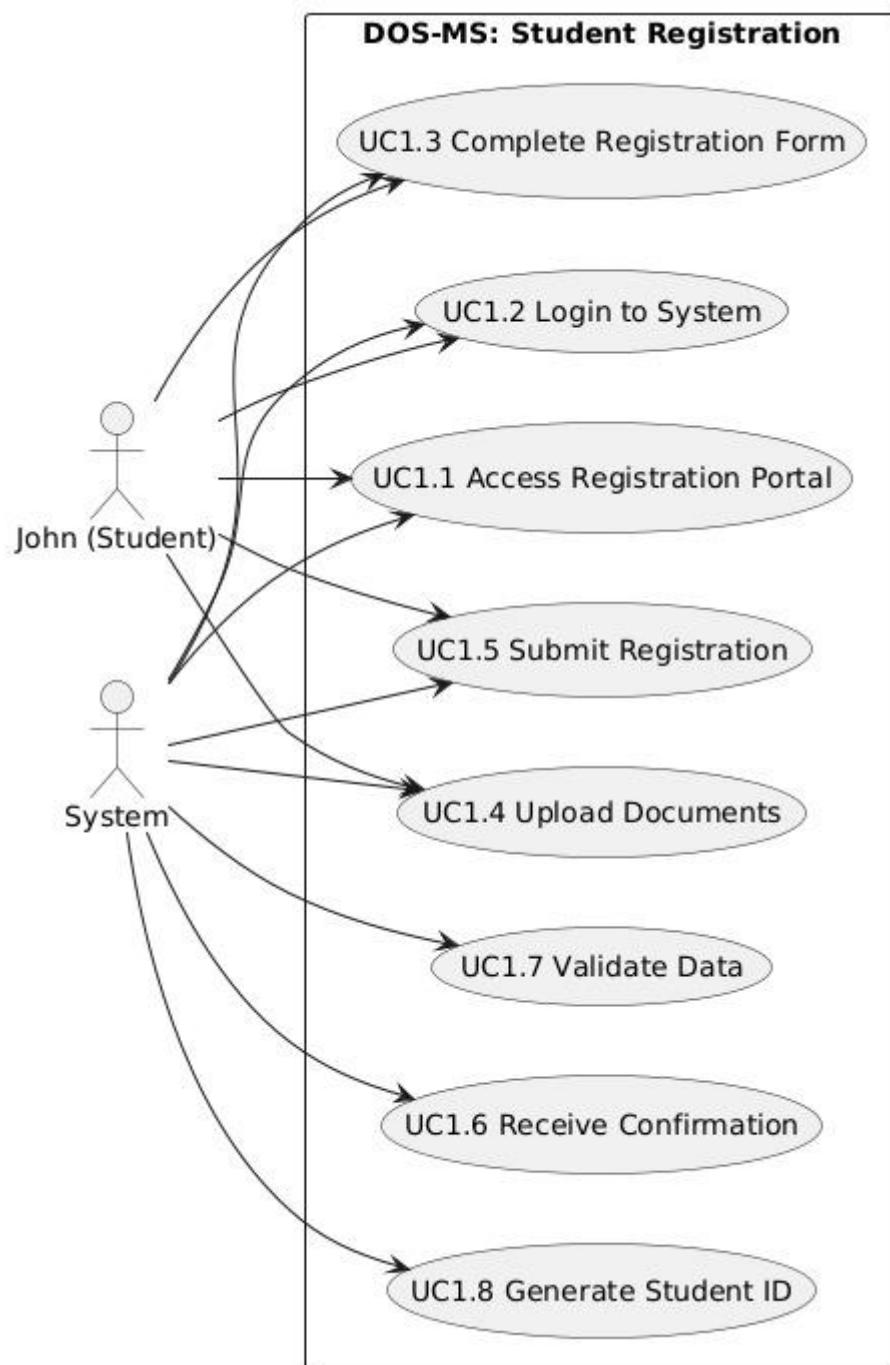
Use Case Name	UC12.4 Edit or Update Submission	
Scenario	Student wants to modify a submission before approval.	
Triggering Event	Student opens an editable submission.	
Brief Description	Student edits the activity record if it hasn't been verified yet.	
Actors	Student, System	
Related Use Cases	UC12.2 Submit Activity Record	
Stakeholders	Students, Admin	
Preconditions	Submission must be in pending or requested update state.	
Postconditions	Submission is updated.	
Flow of Activities System saves changes.	Actor: 1. Student selects record.	Flow of Activities System saves changes.
Exception Conditions	Update not allowed, system error.	

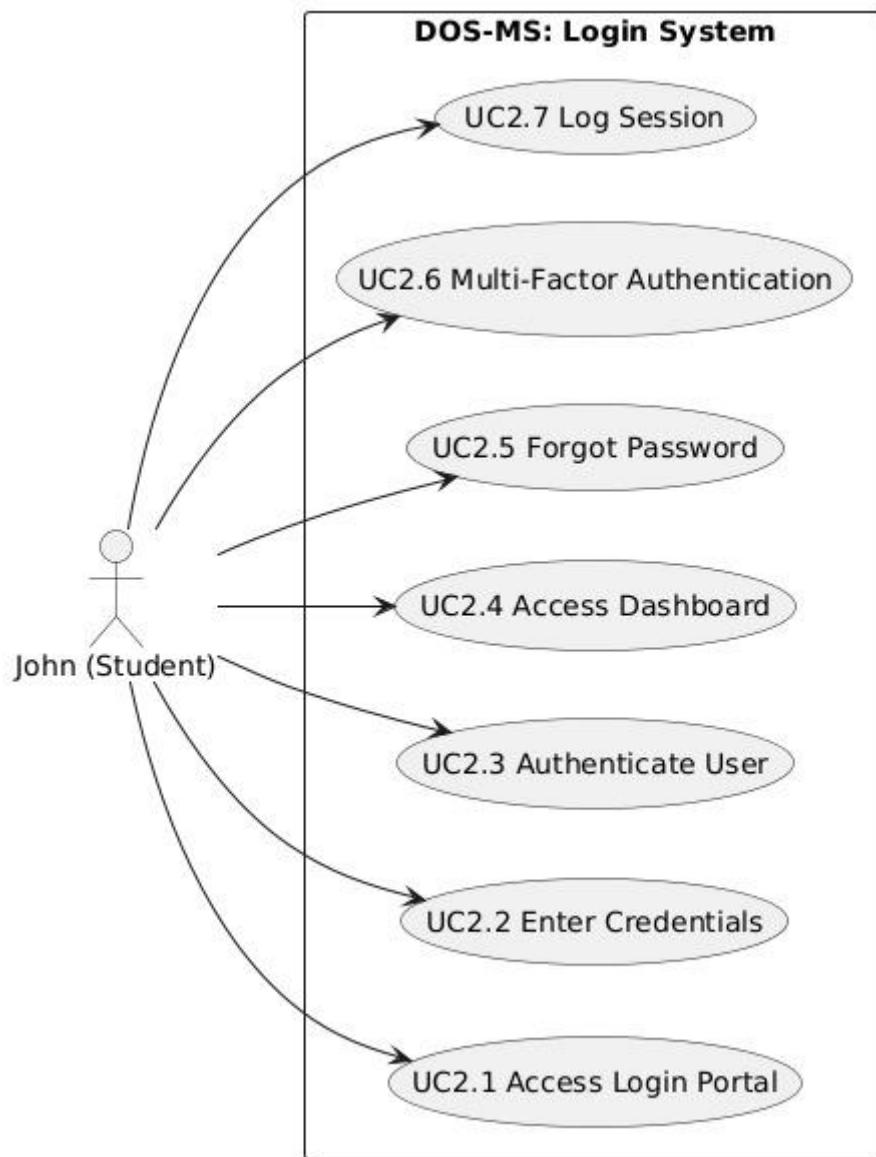
Figure 67: UC12.4 Edit or Update Submission

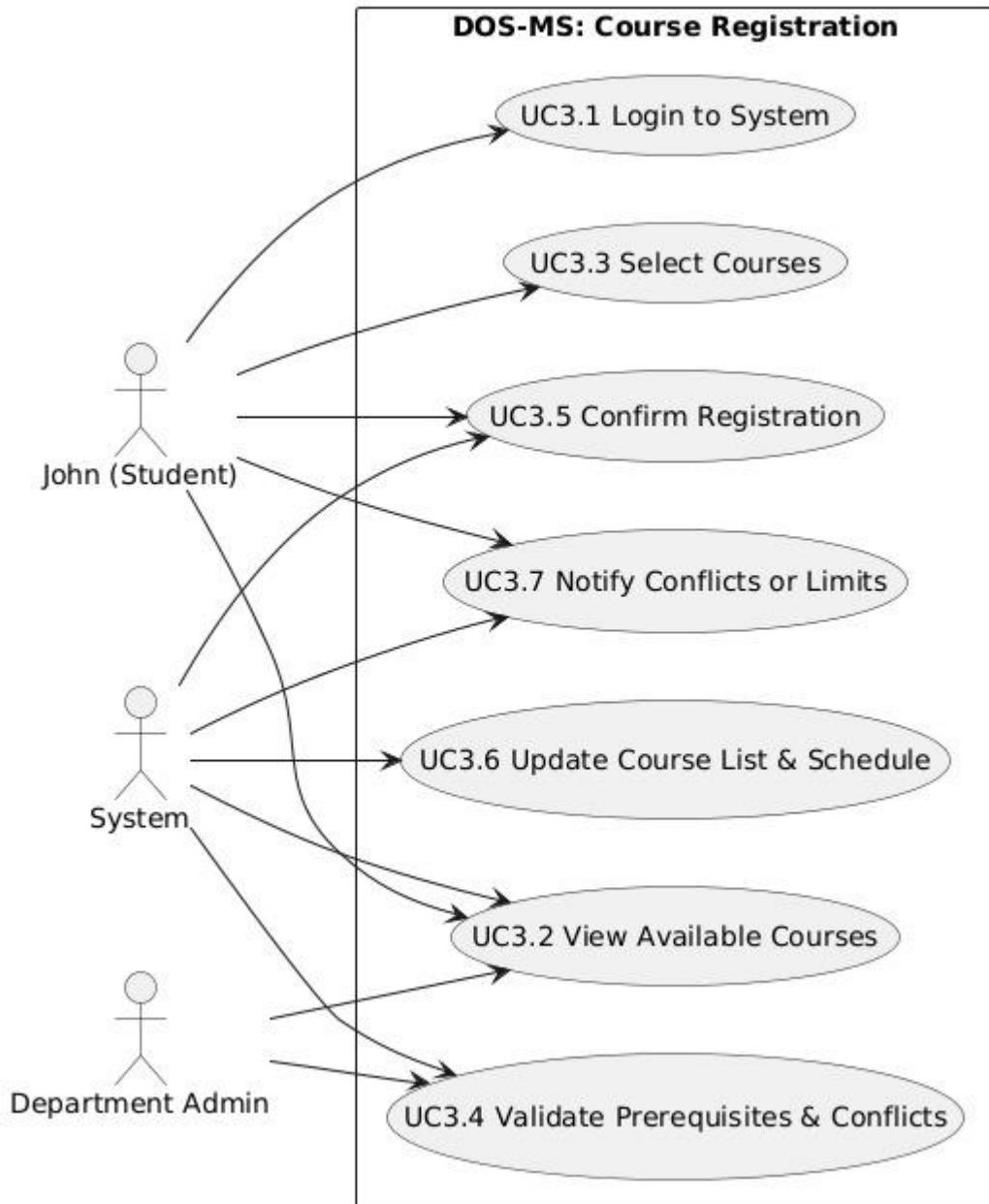
Use Case Name	UC12.5 Receive Feedback or Additional Info Request	
Scenario	Admin has sent feedback or asked for more info.	
Triggering Event	System receives admin response.	
Brief Description	Student receives notification with feedback or information request.	
Actors	Student, System, Admin	
Related Use Cases	UC9.4, UC9.5	
Stakeholders	Students, Admin	
Preconditions	Admin has reviewed a submission.	
Postconditions	Student views and responds to feedback.	
Flow of Activities System notifies student	Actor: 1. Student reads feedback.	Flow of Activities System notifies student.
Exception Conditions	Notification failure.	

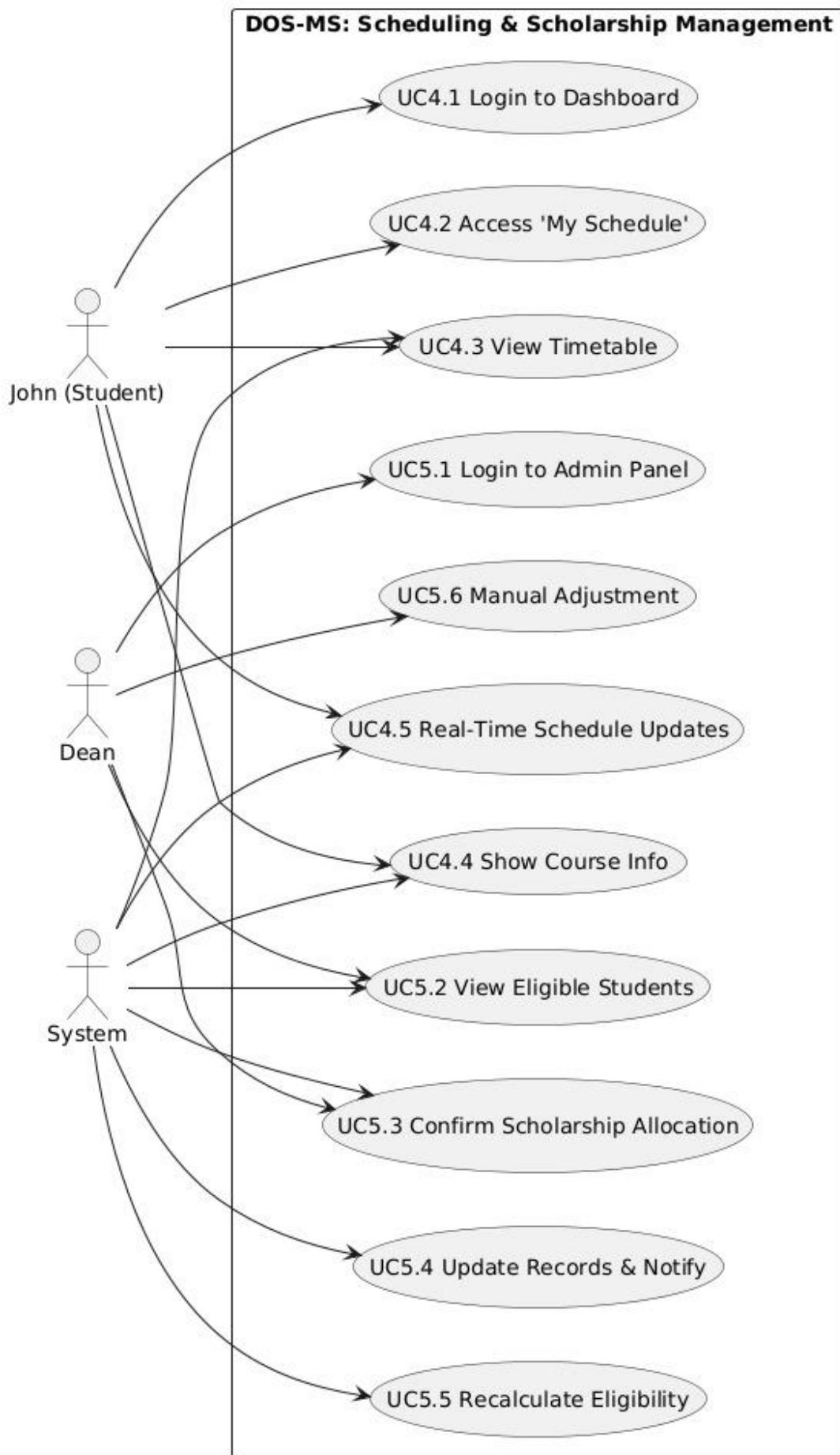
Figure 68: UC12.5 Receive Feedback or Additional Info Request

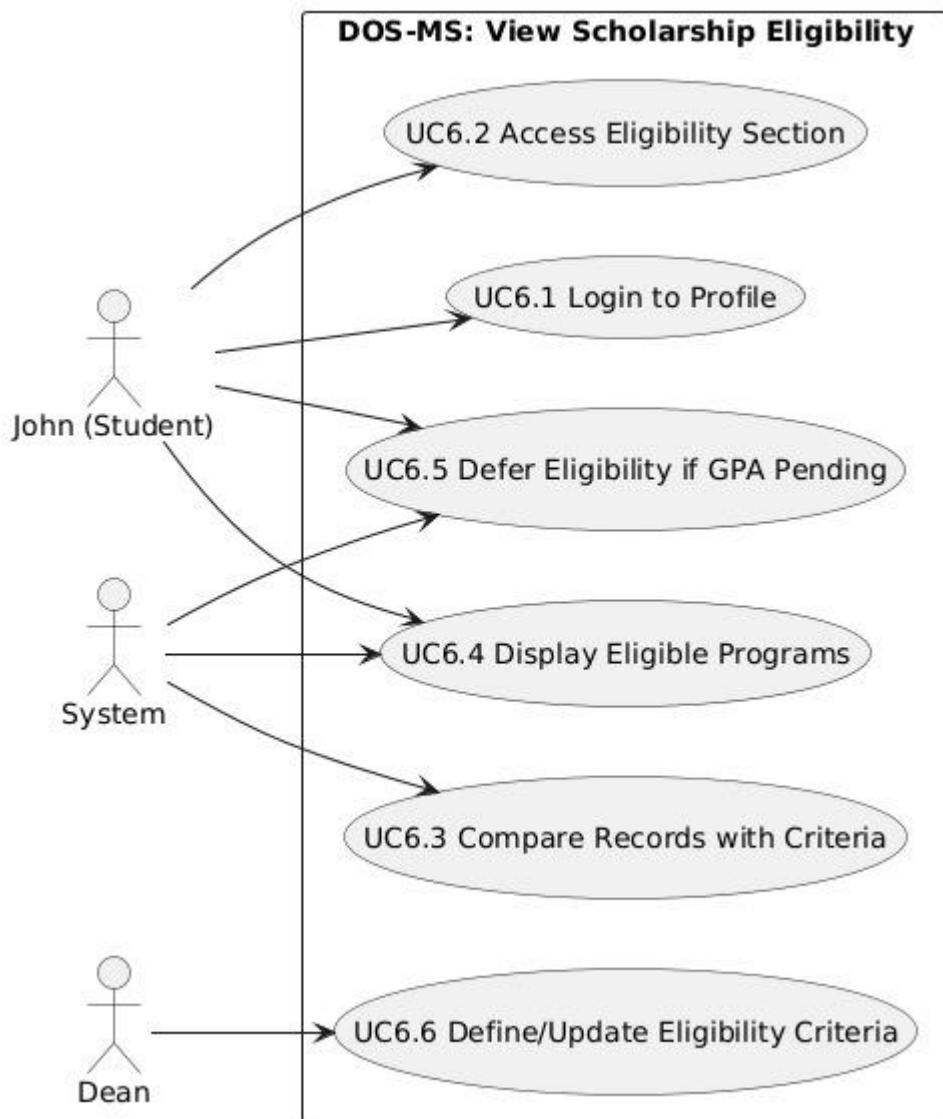
4.7 Use Case Diagram

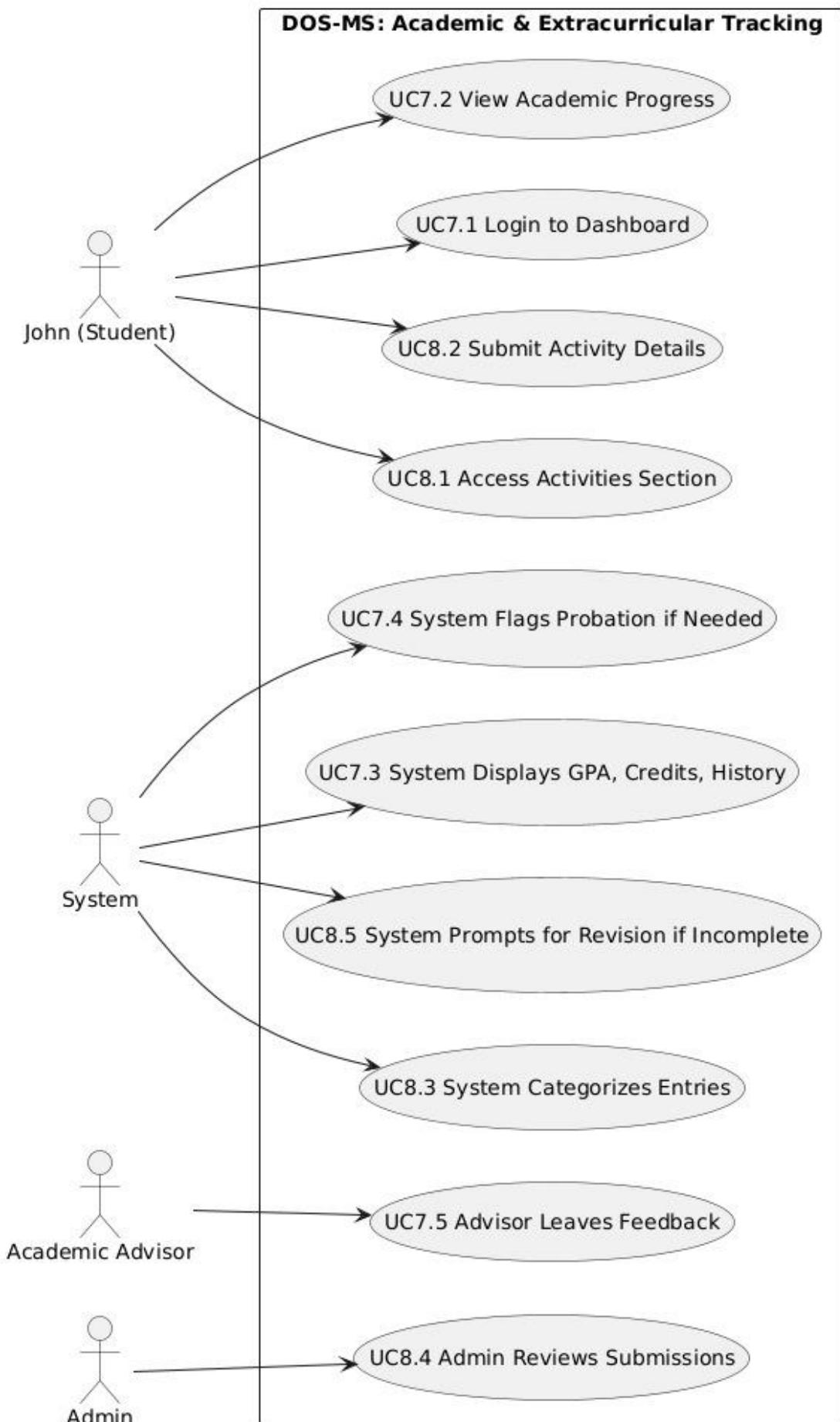


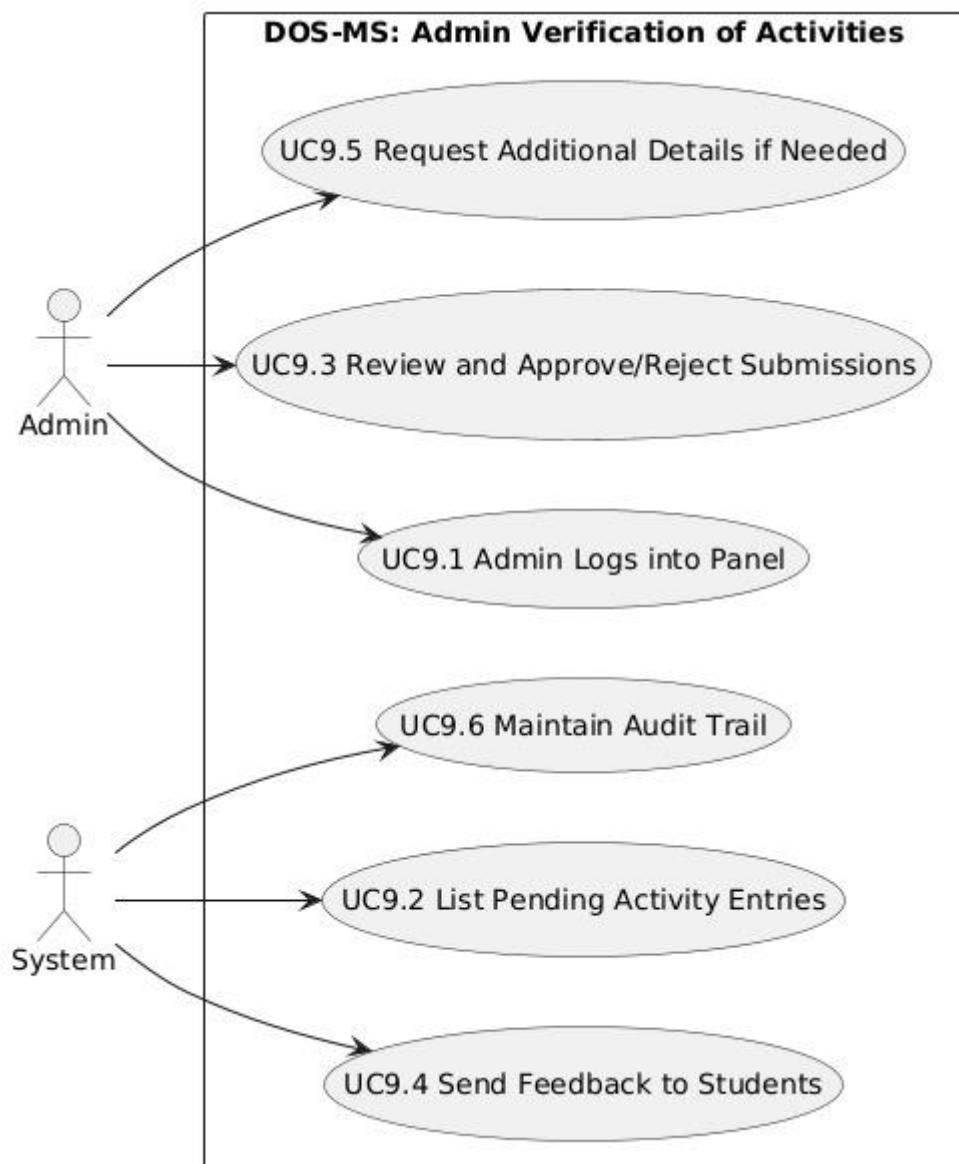




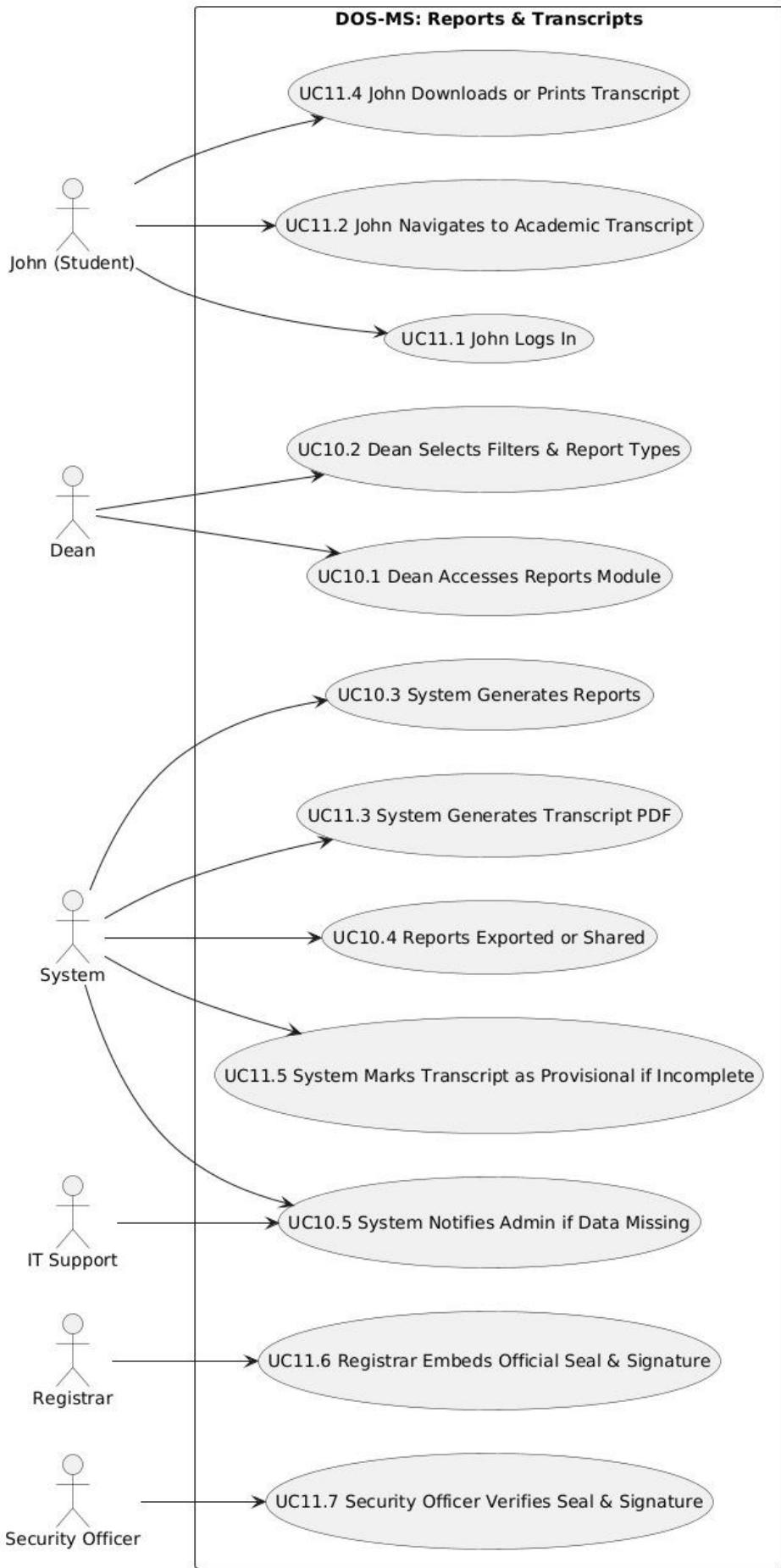


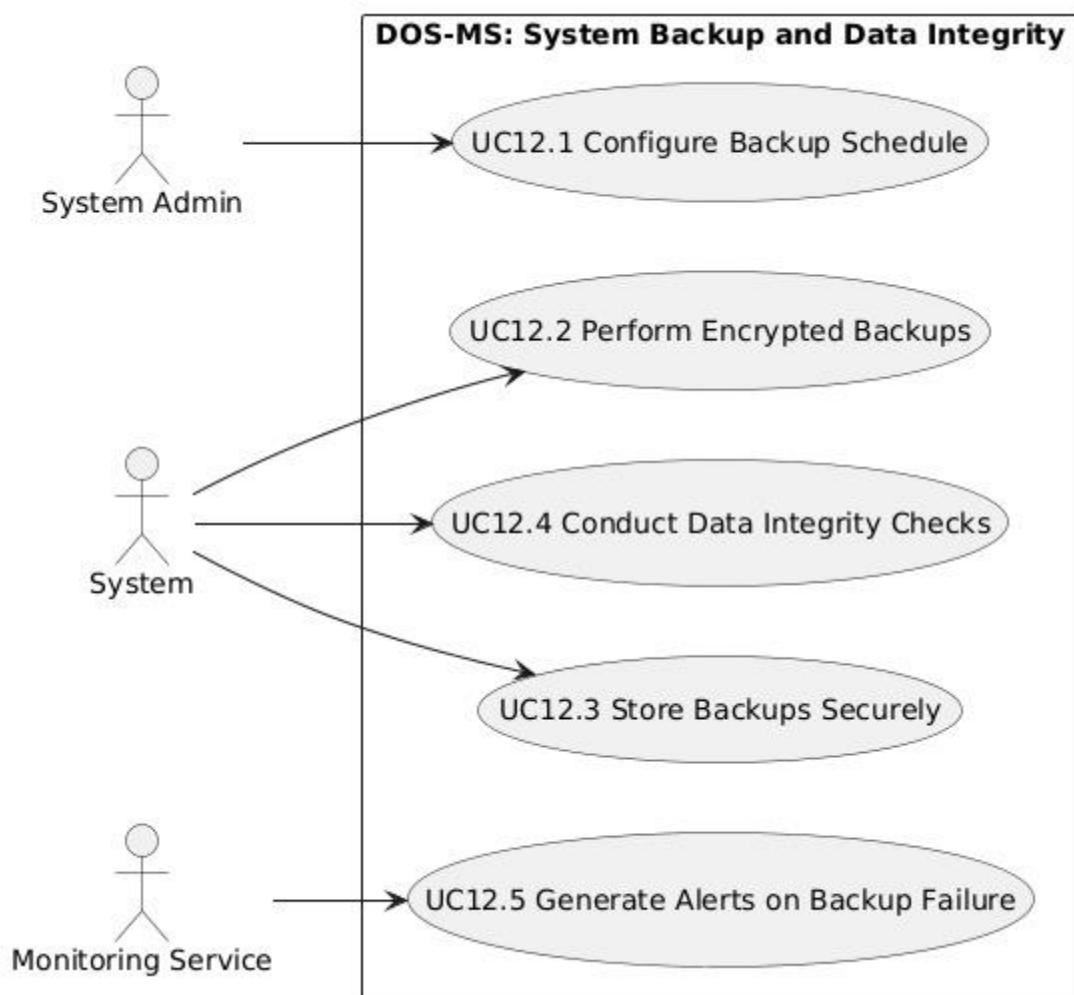


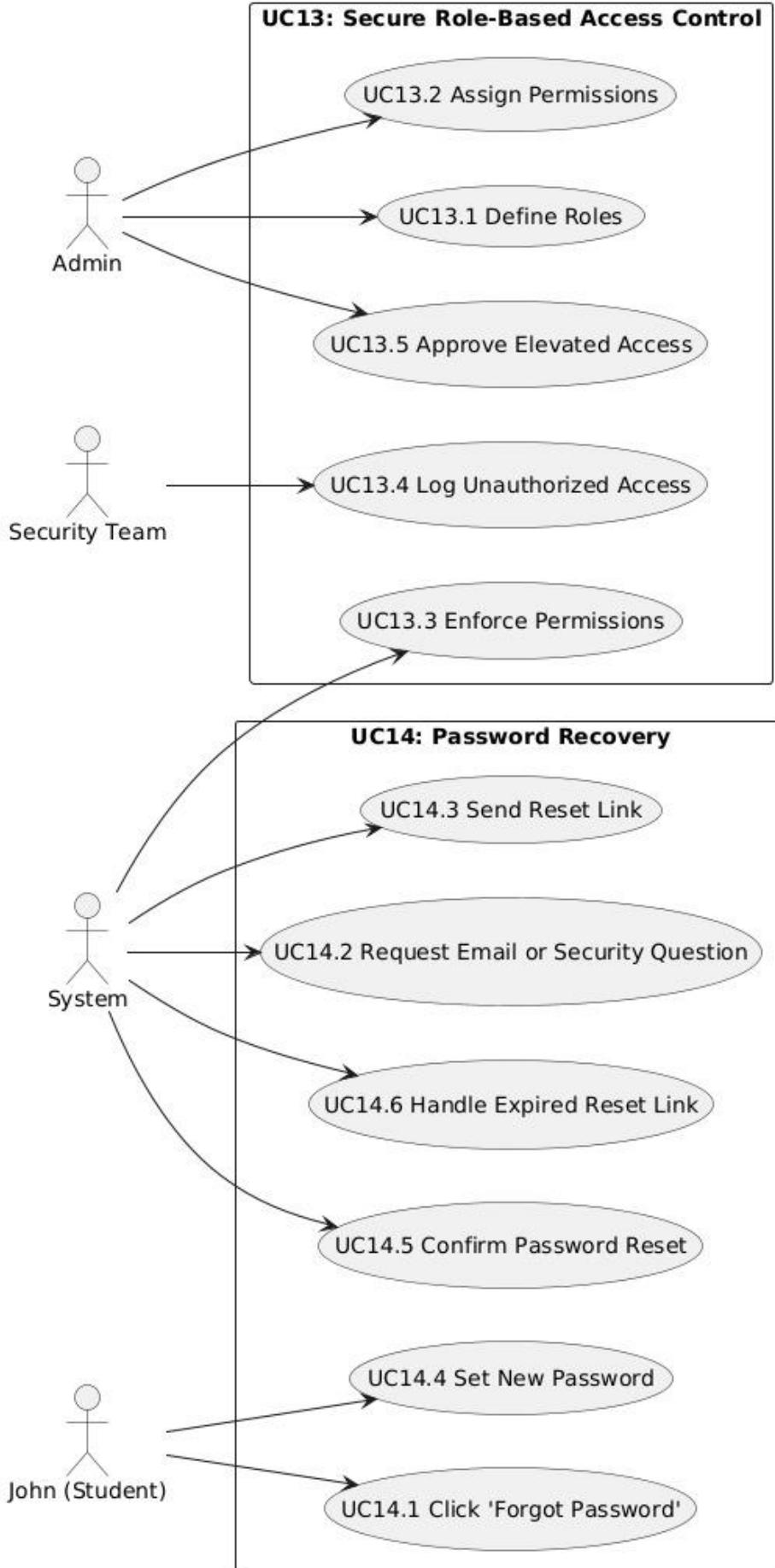


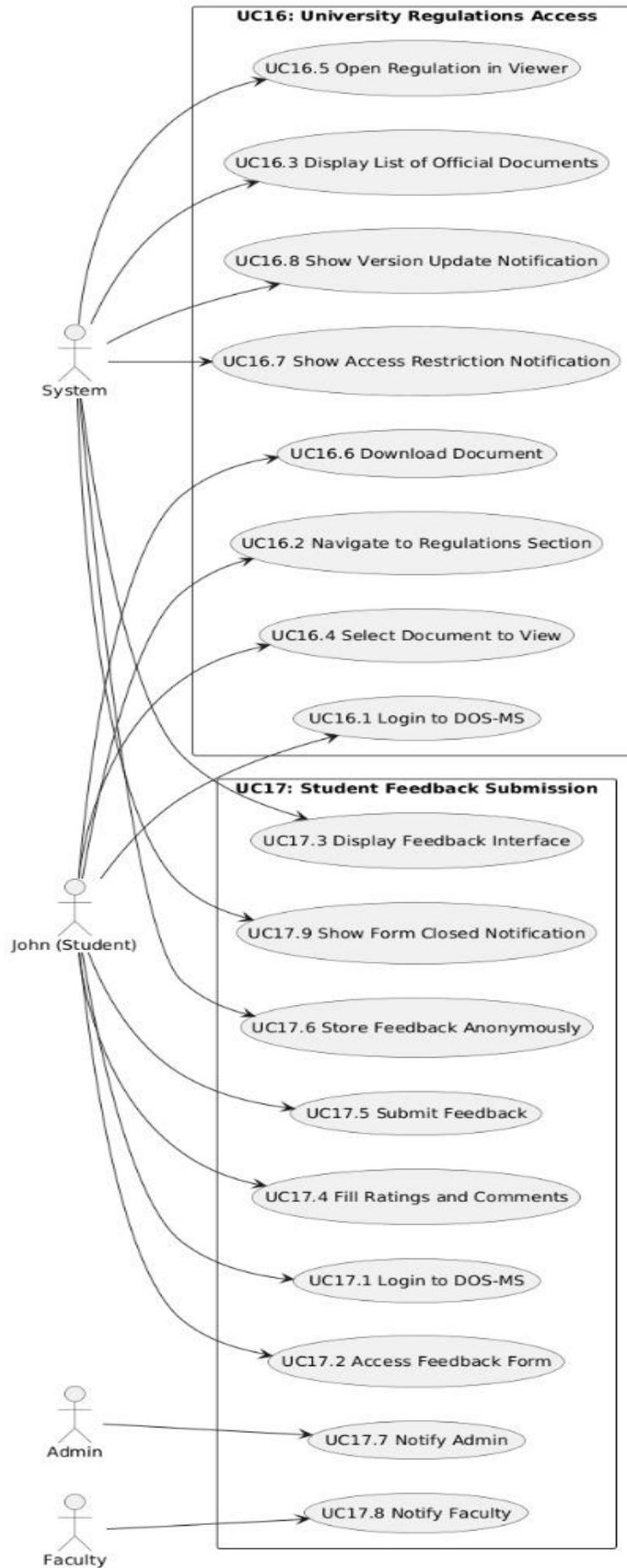


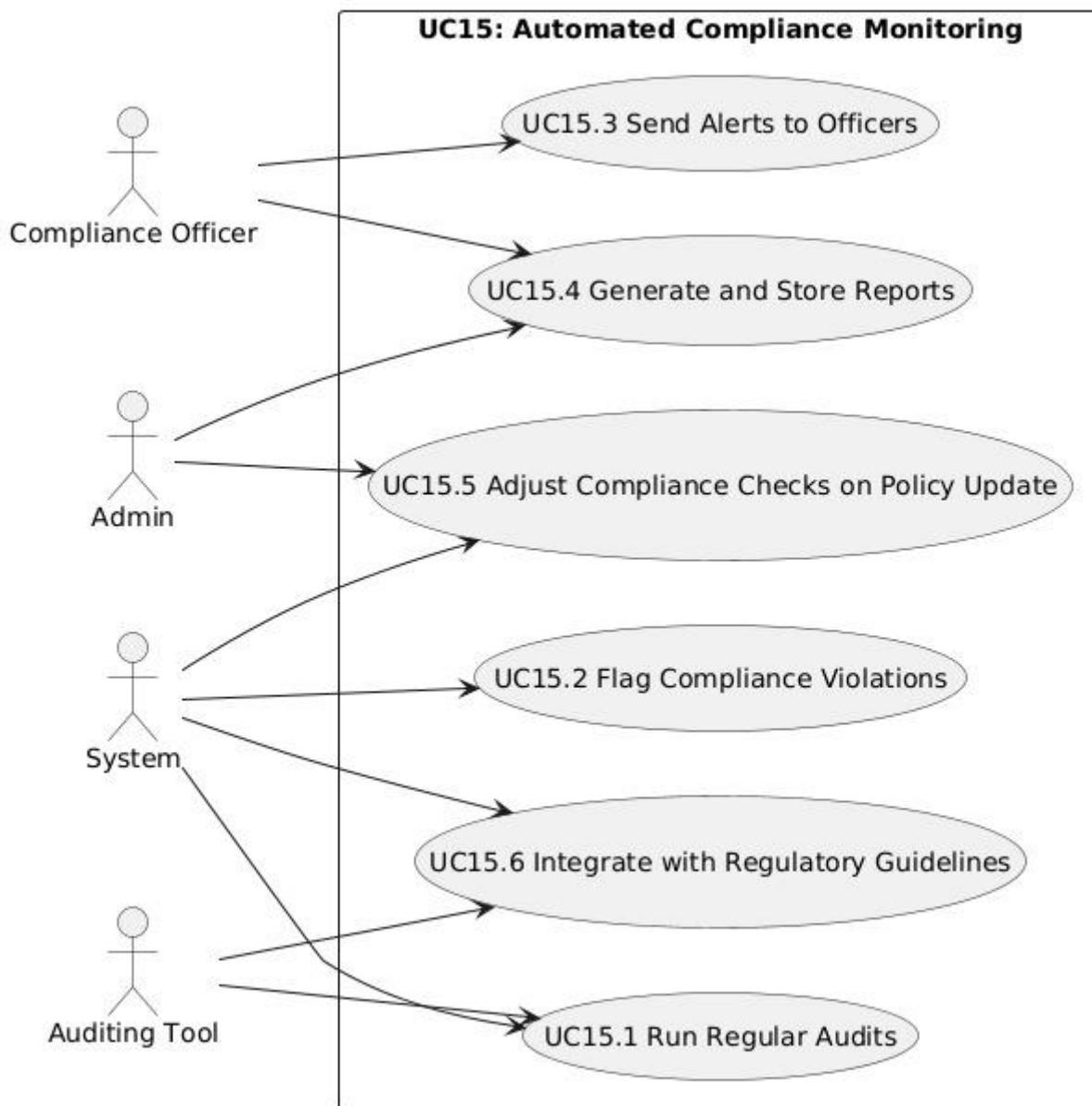
Dean of Students Management System

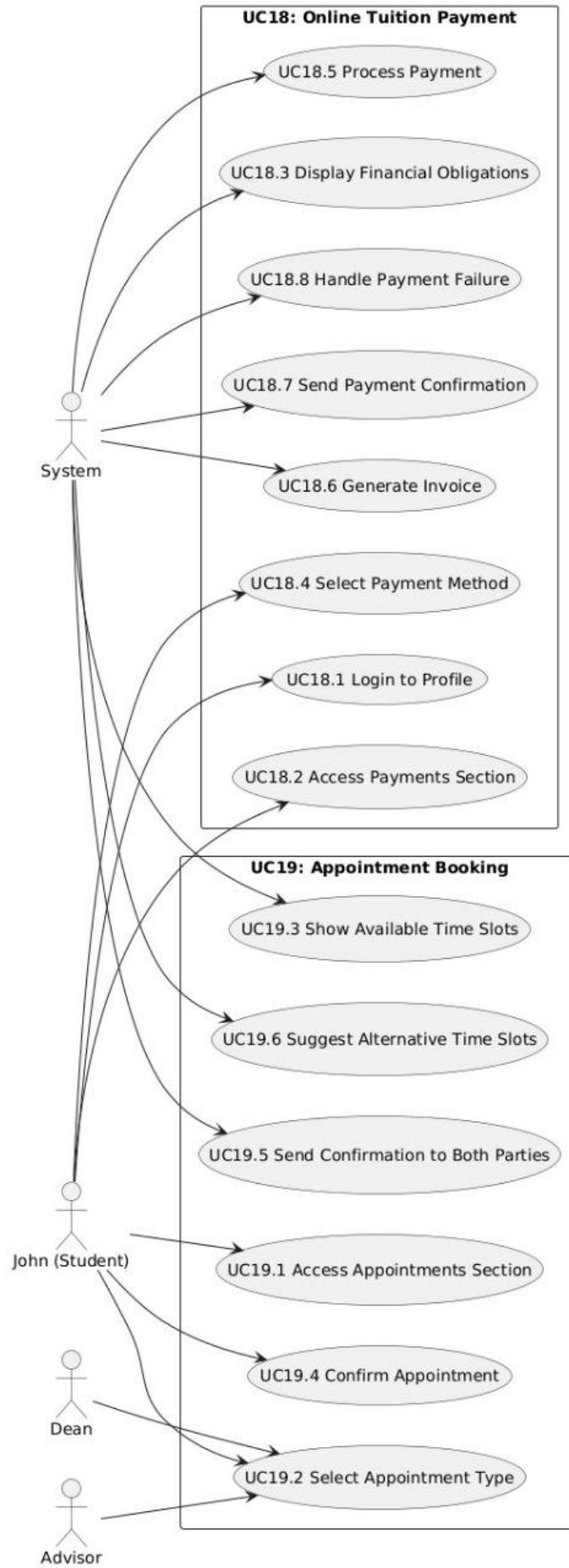




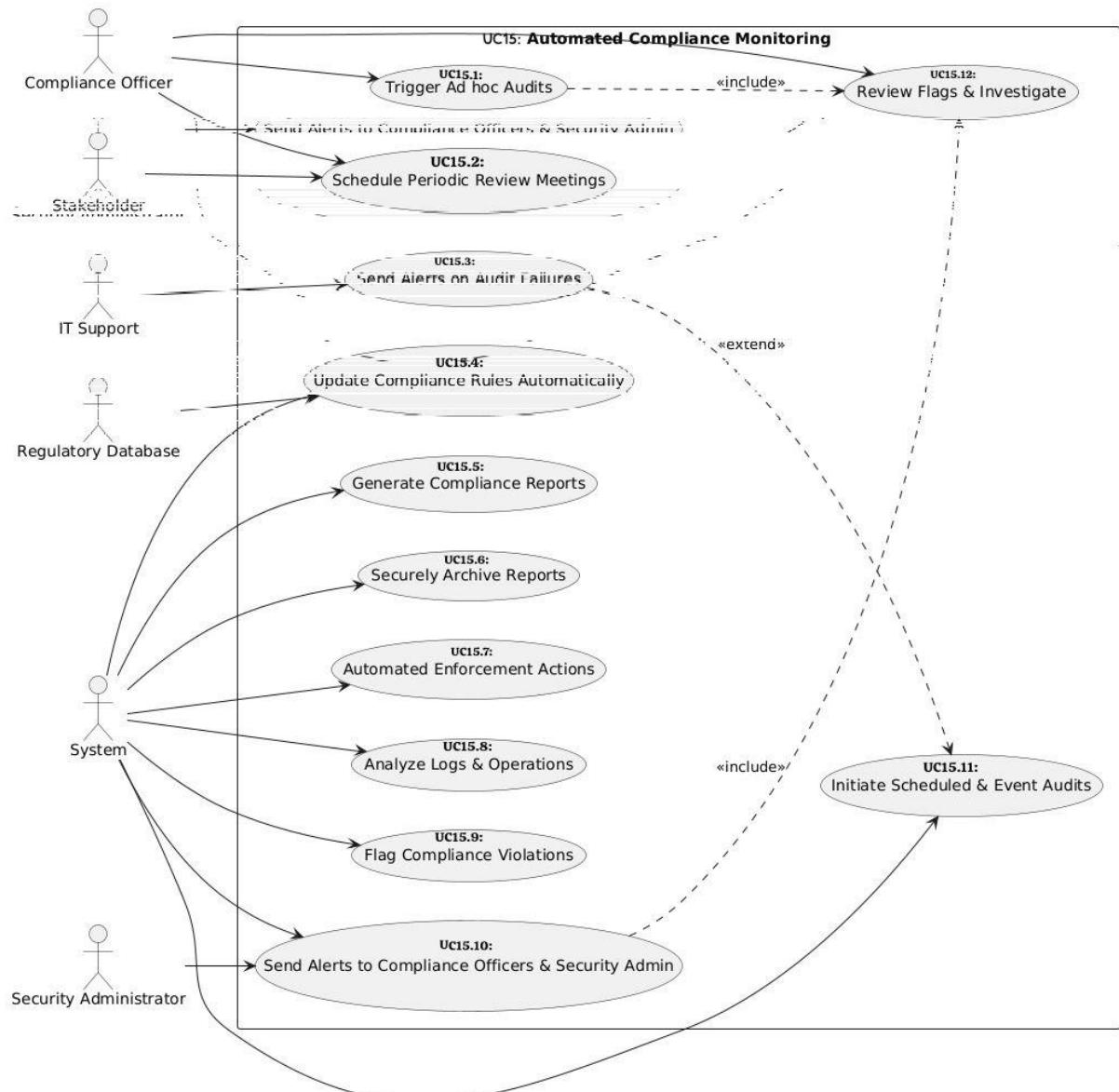


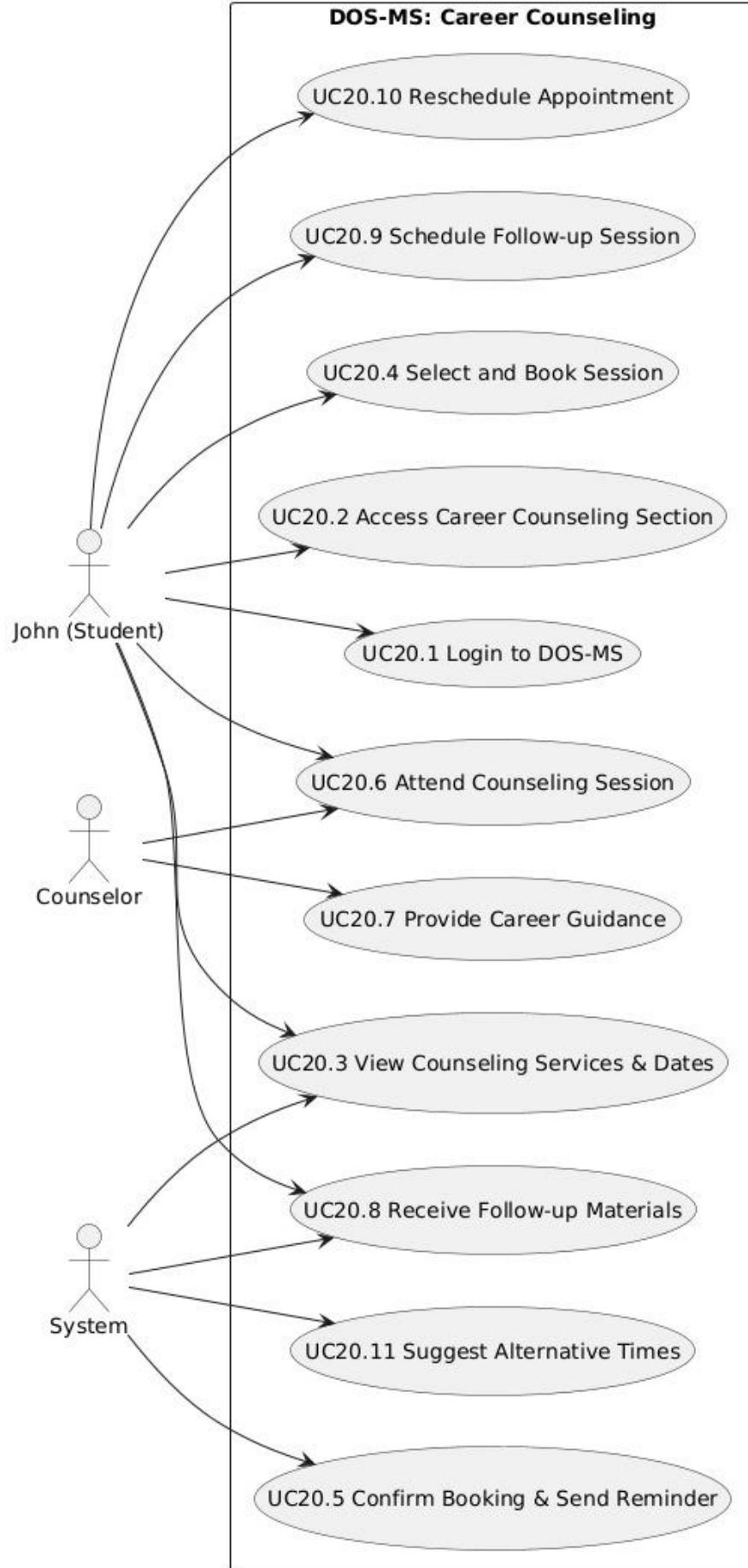


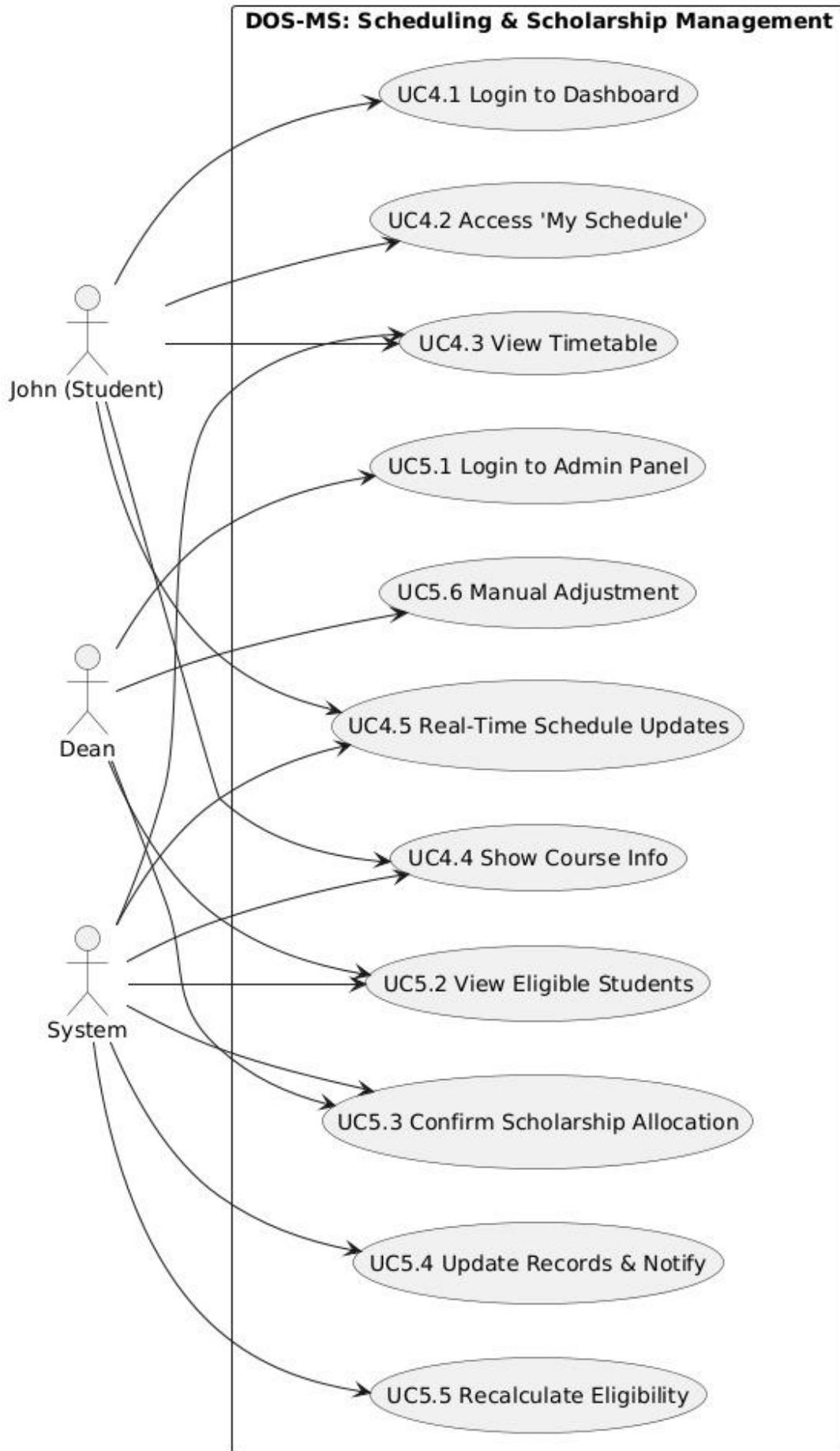




Dean of Students Management System

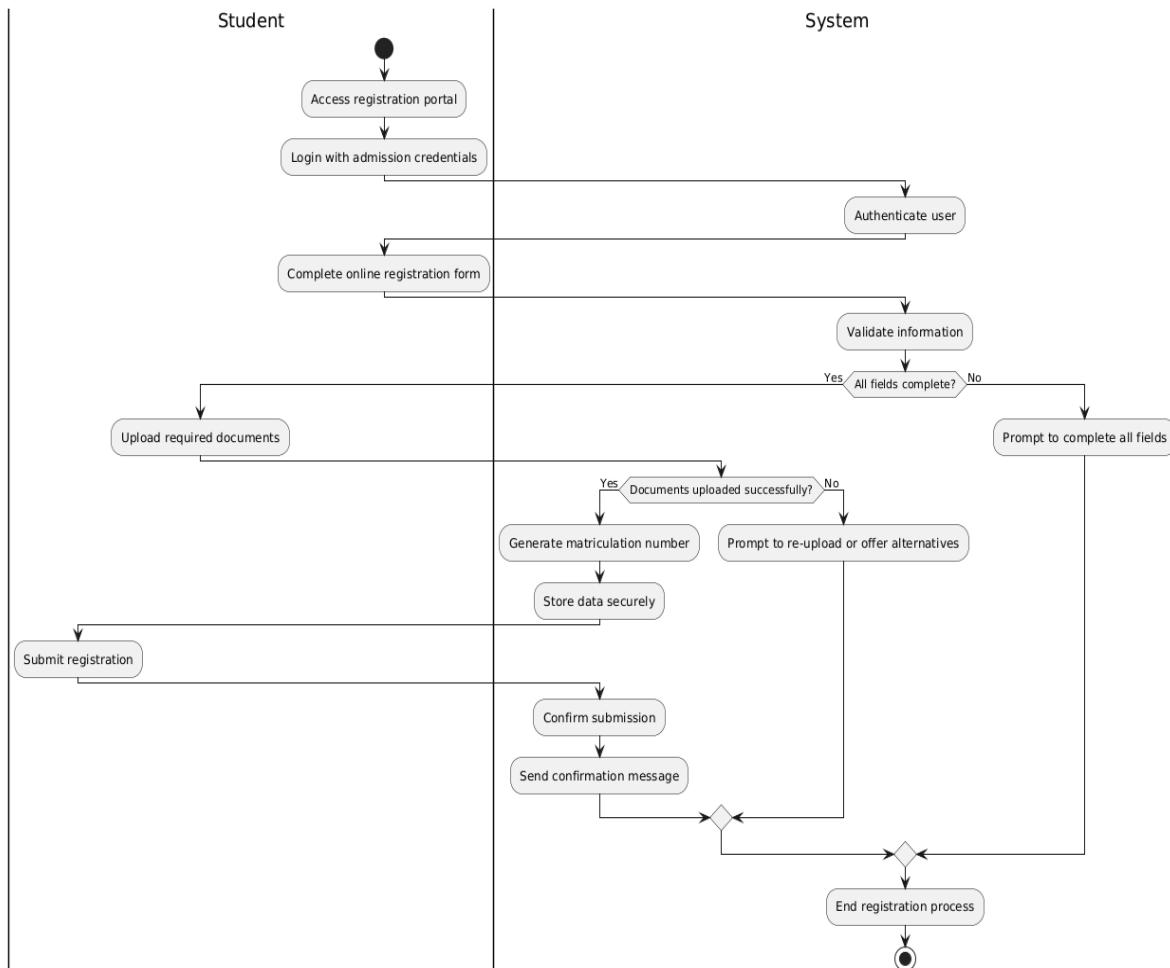




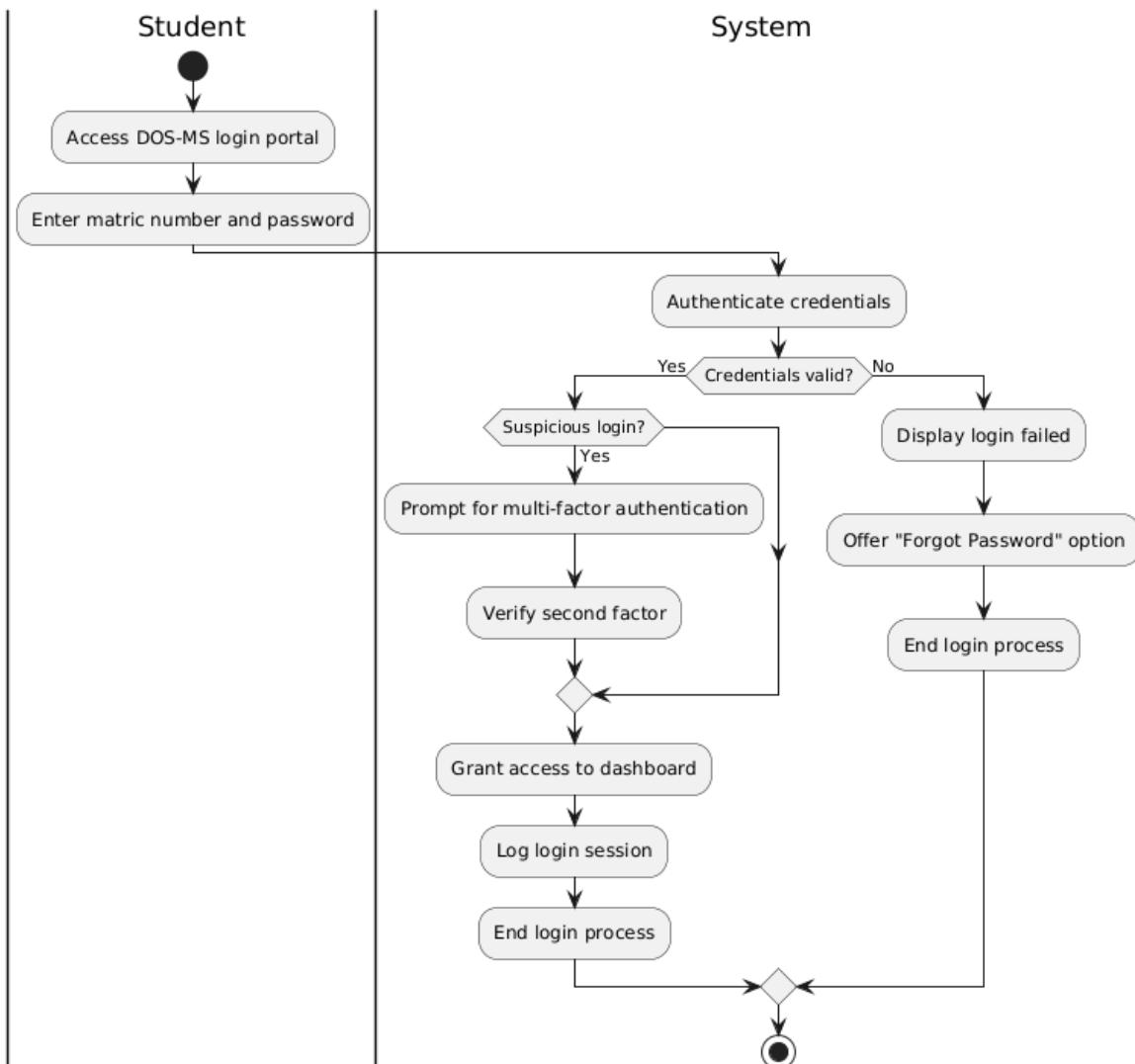


4.8 Activity Diagrams

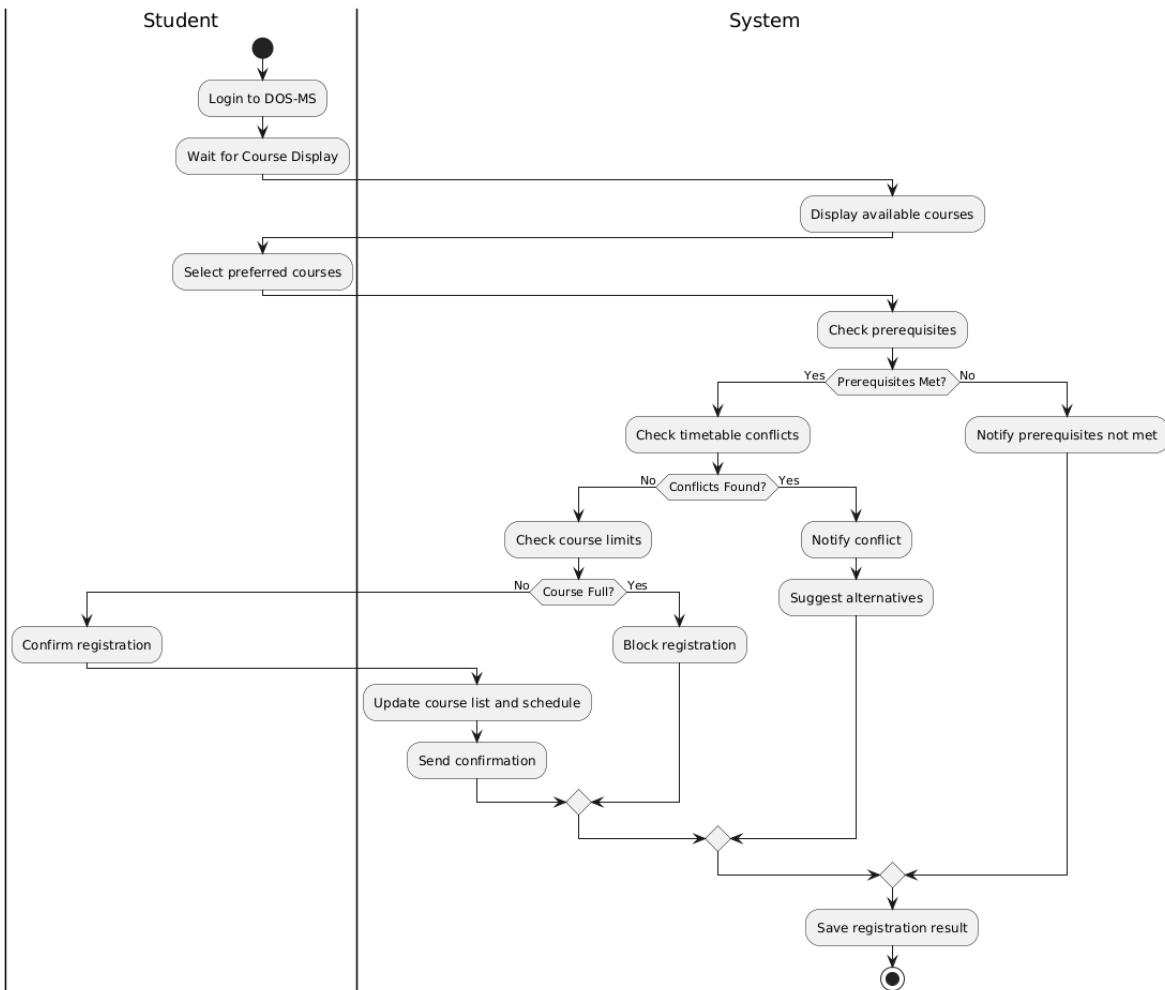
Scenario 1: Student Registration and Transition from High School



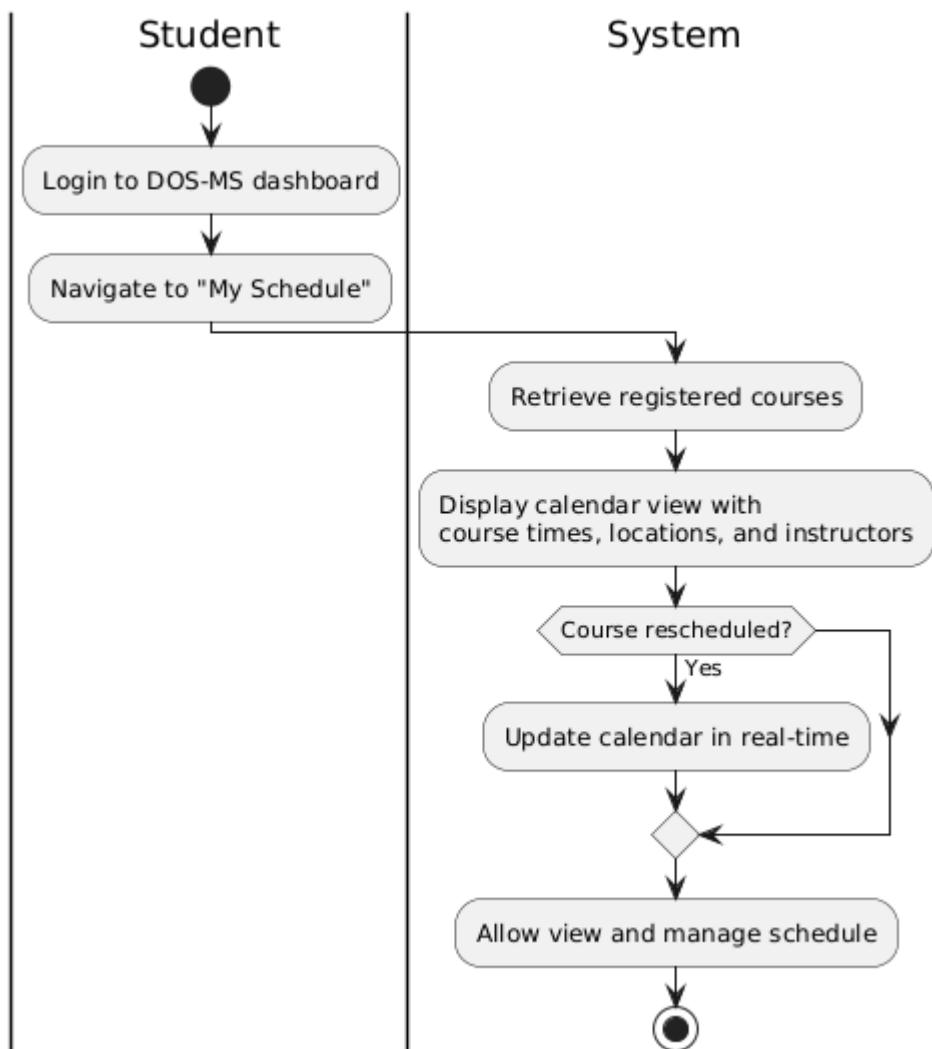
Scenario 2: Student Login to DOS-MS



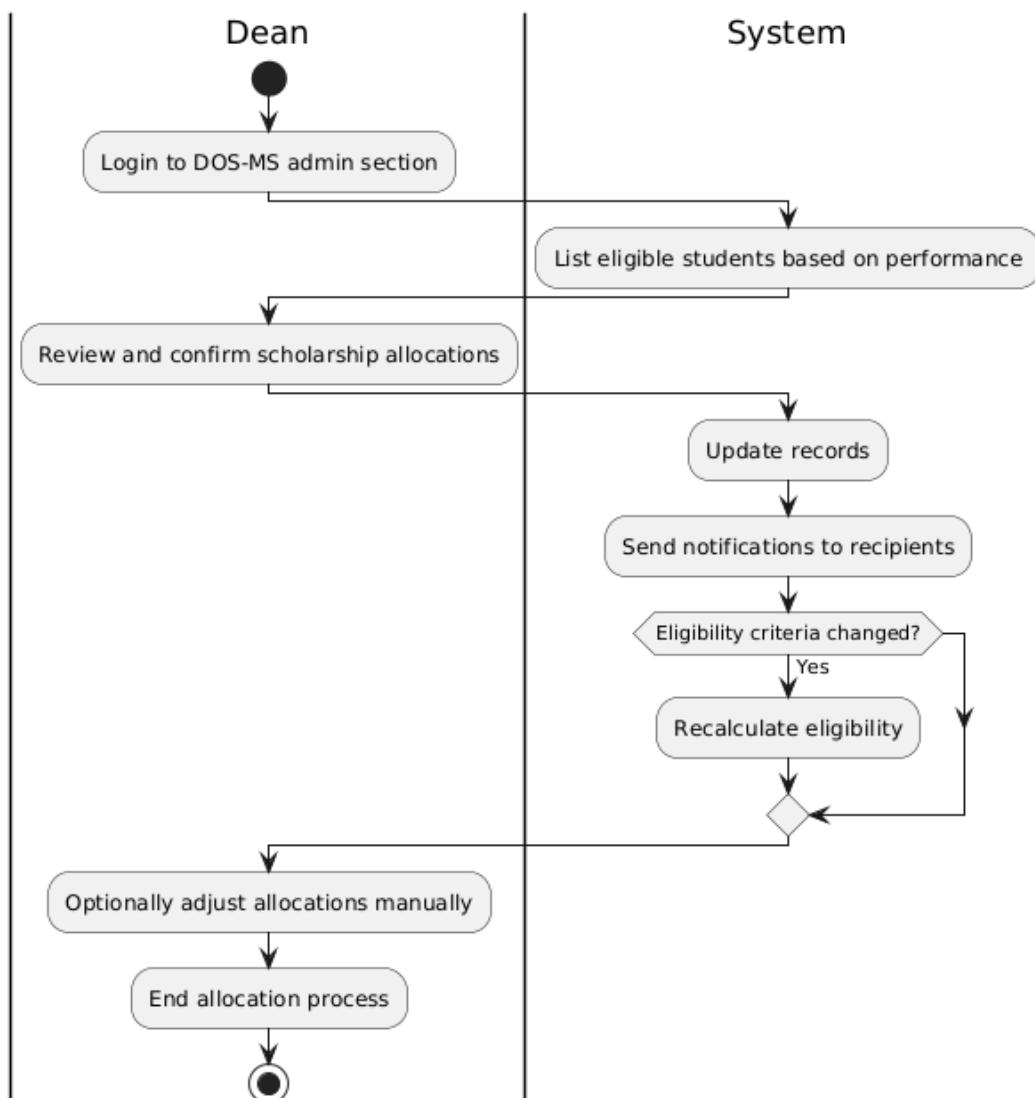
Scenario 3: Course Registration



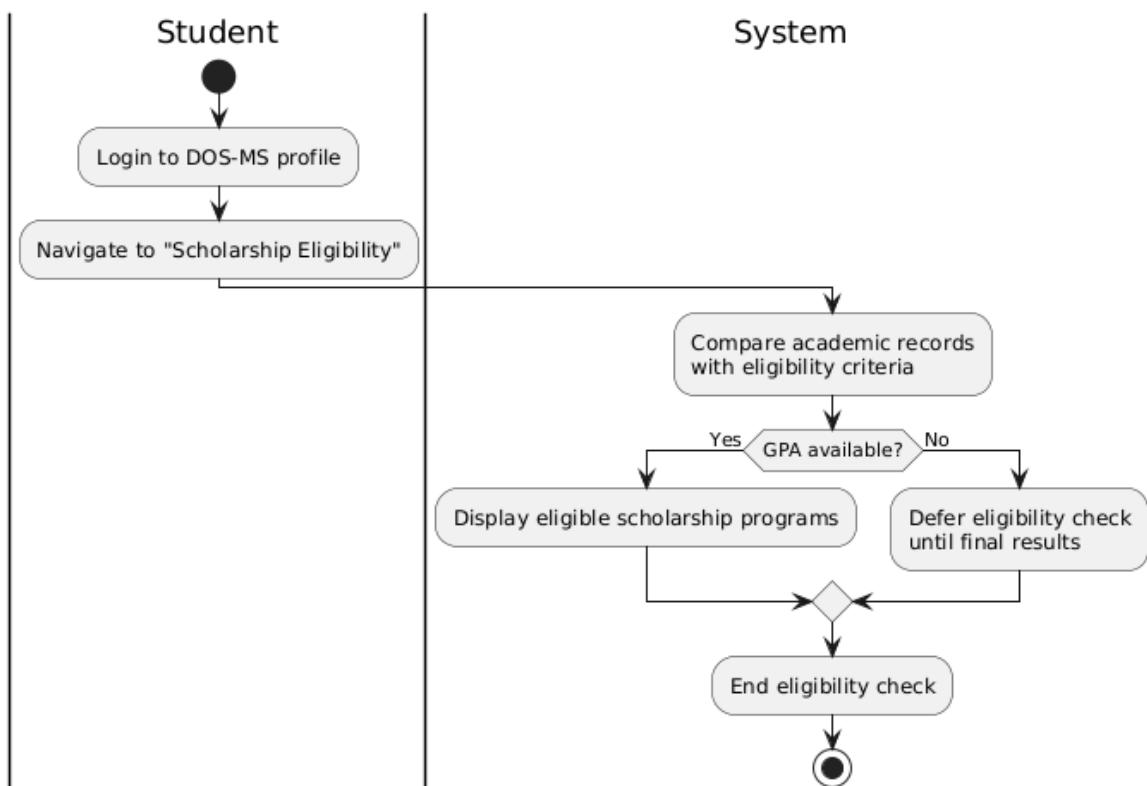
Scenario 4: View Course Schedule



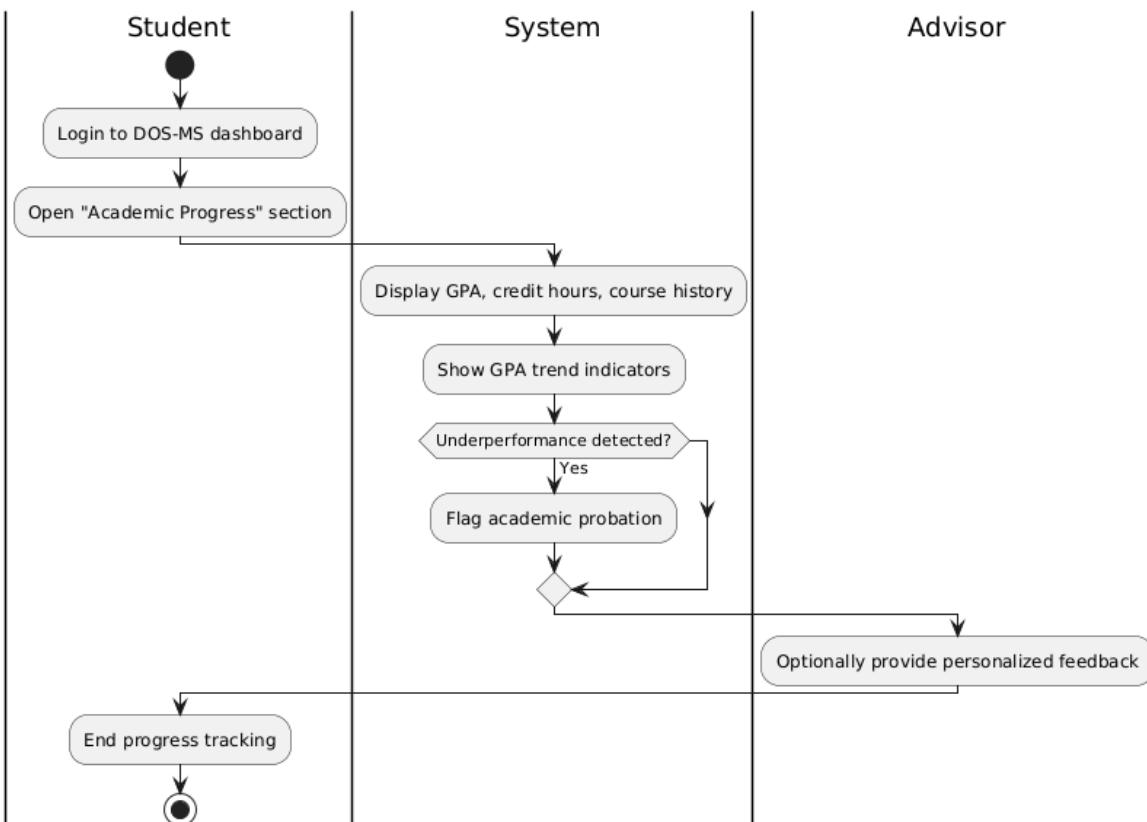
Scenario 5: Scholarship Allocation by Admin



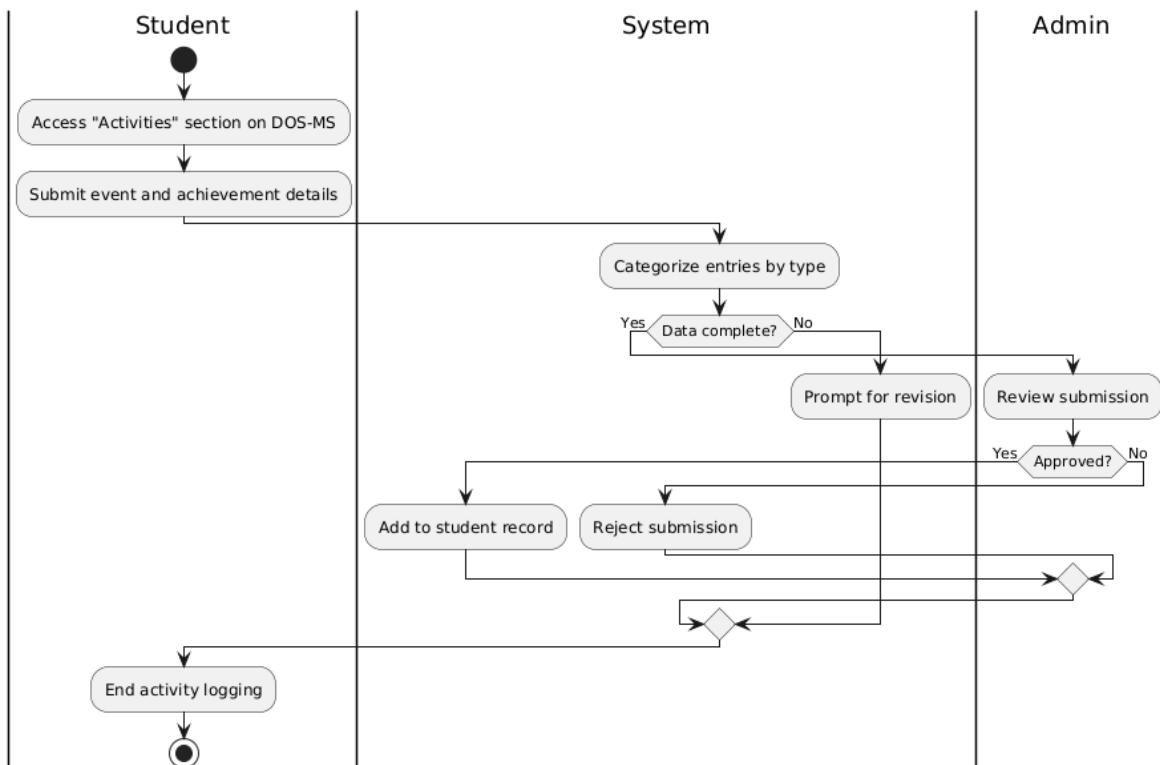
Scenario 6: View Scholarship Eligibility



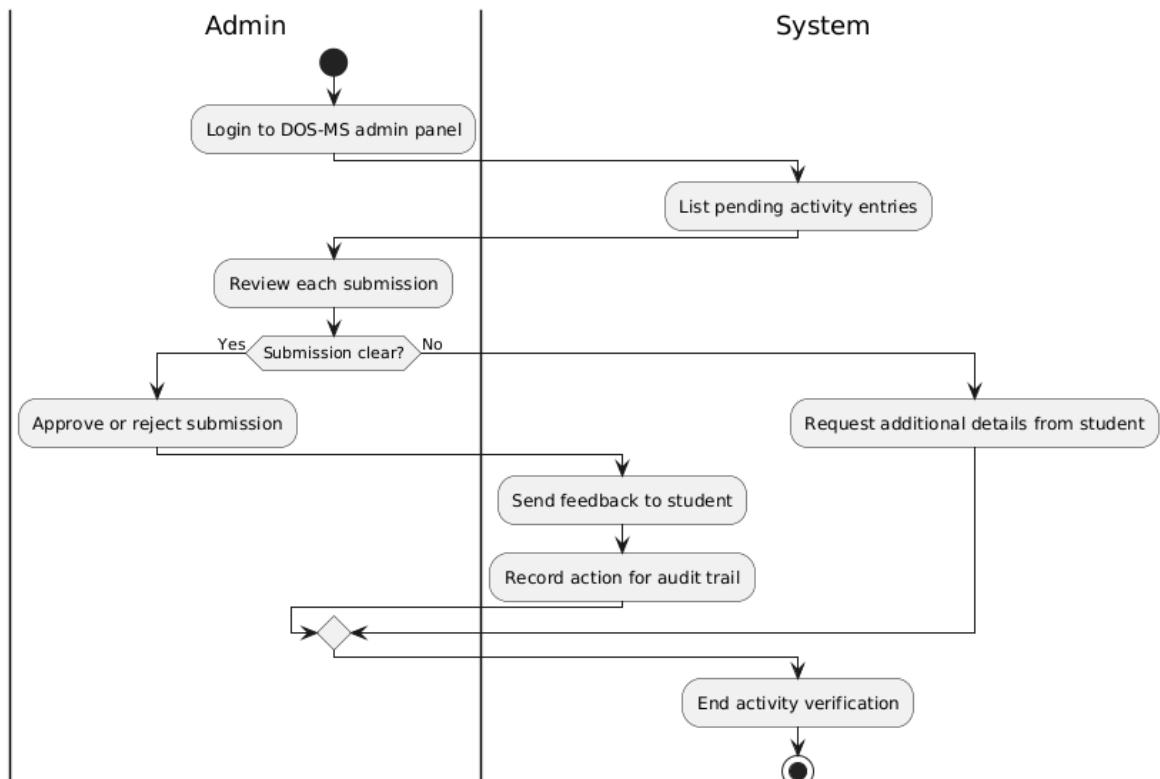
Scenario 7: Academic Progress Tracking



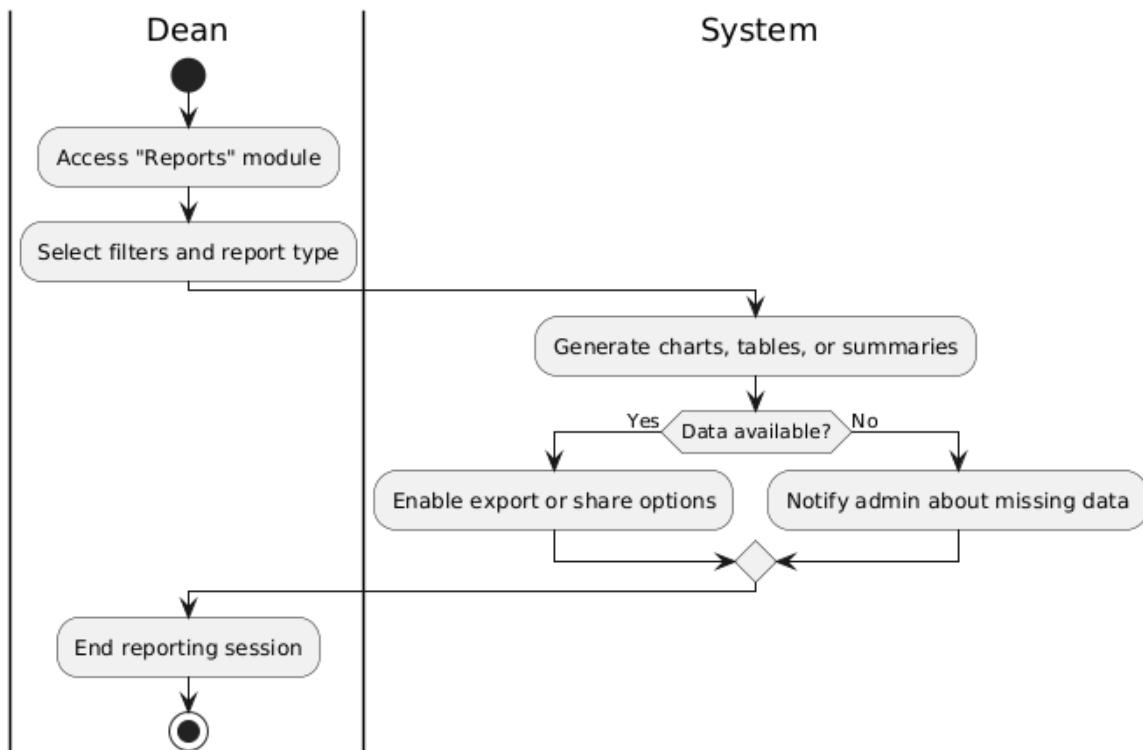
Scenario 8: Extracurricular Activity Login



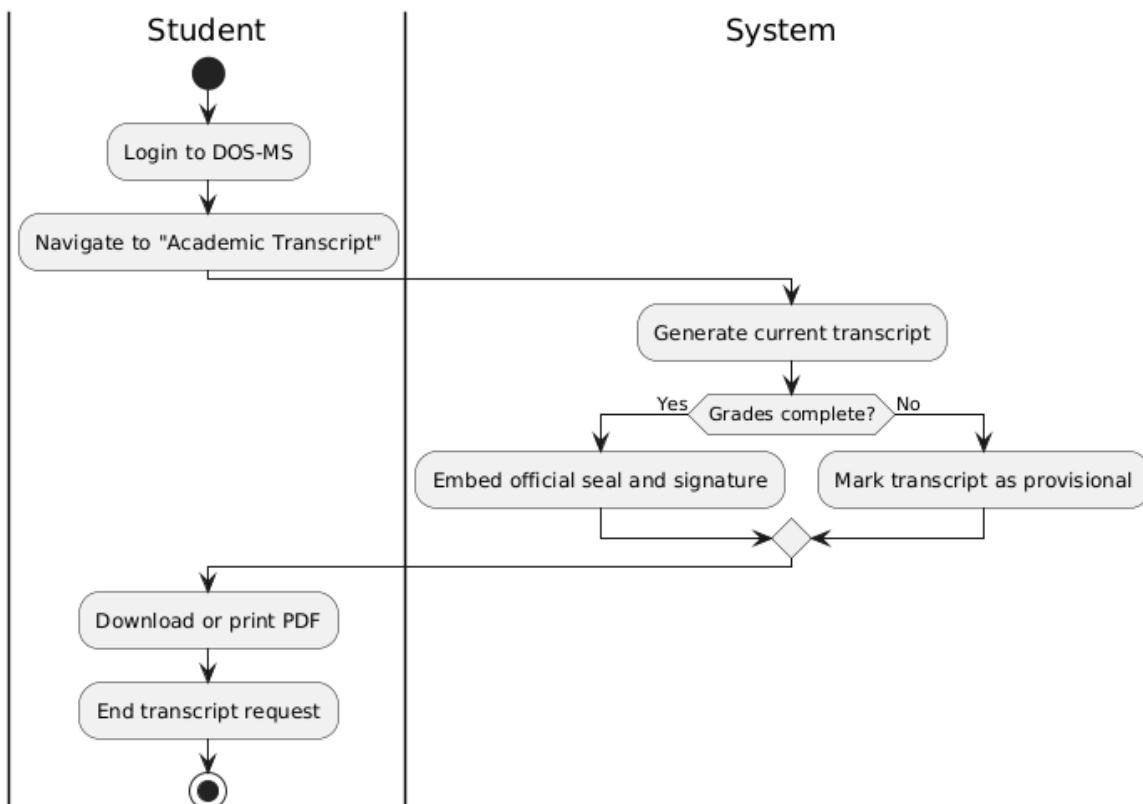
Scenario 9: Admin Verification of Activities



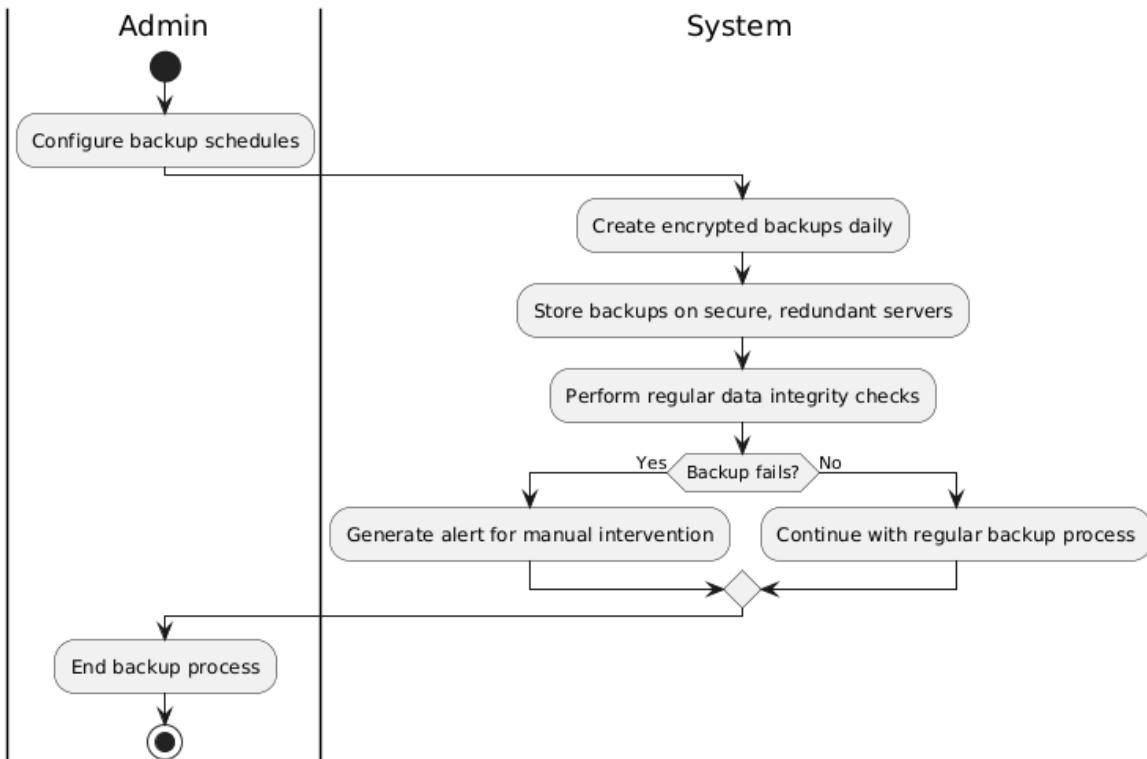
Scenario 10: Generate Real-Time Reports



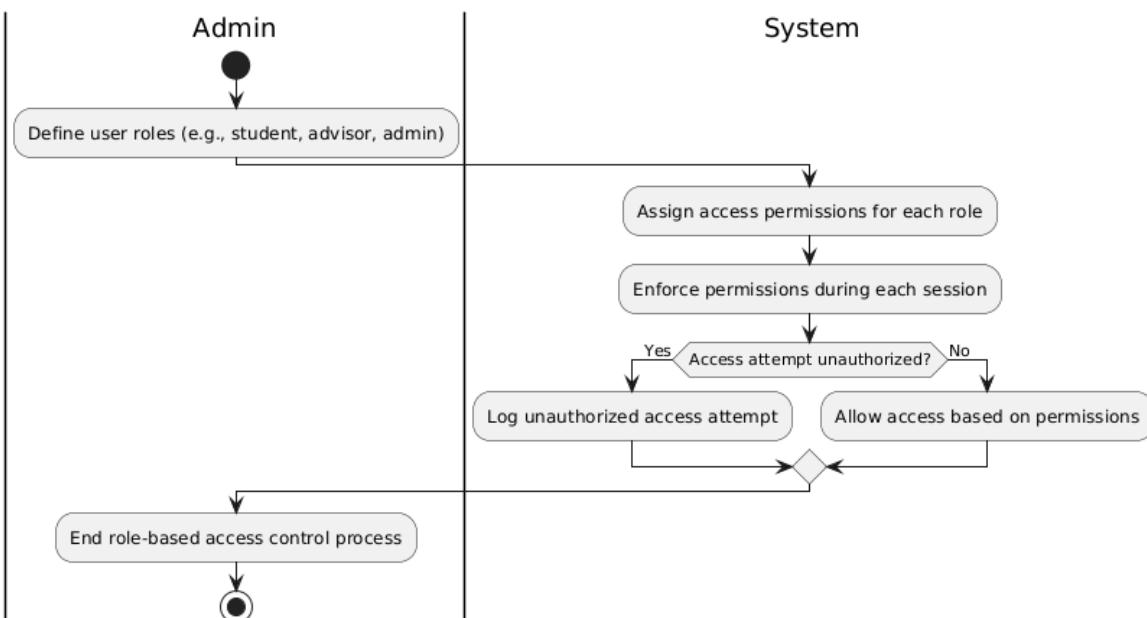
Scenario 11: Student Access to Academic Transcript



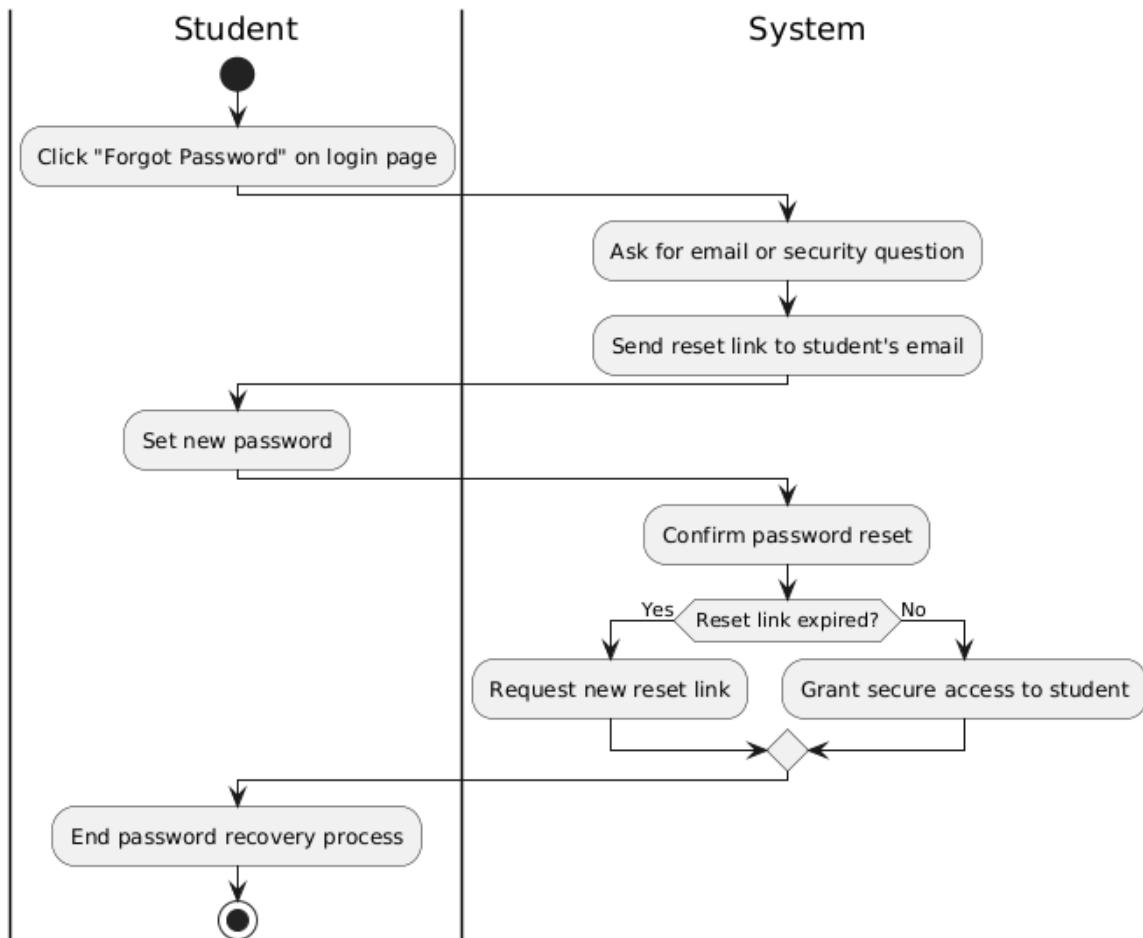
Scenario 12: System Backup and Data Integrity



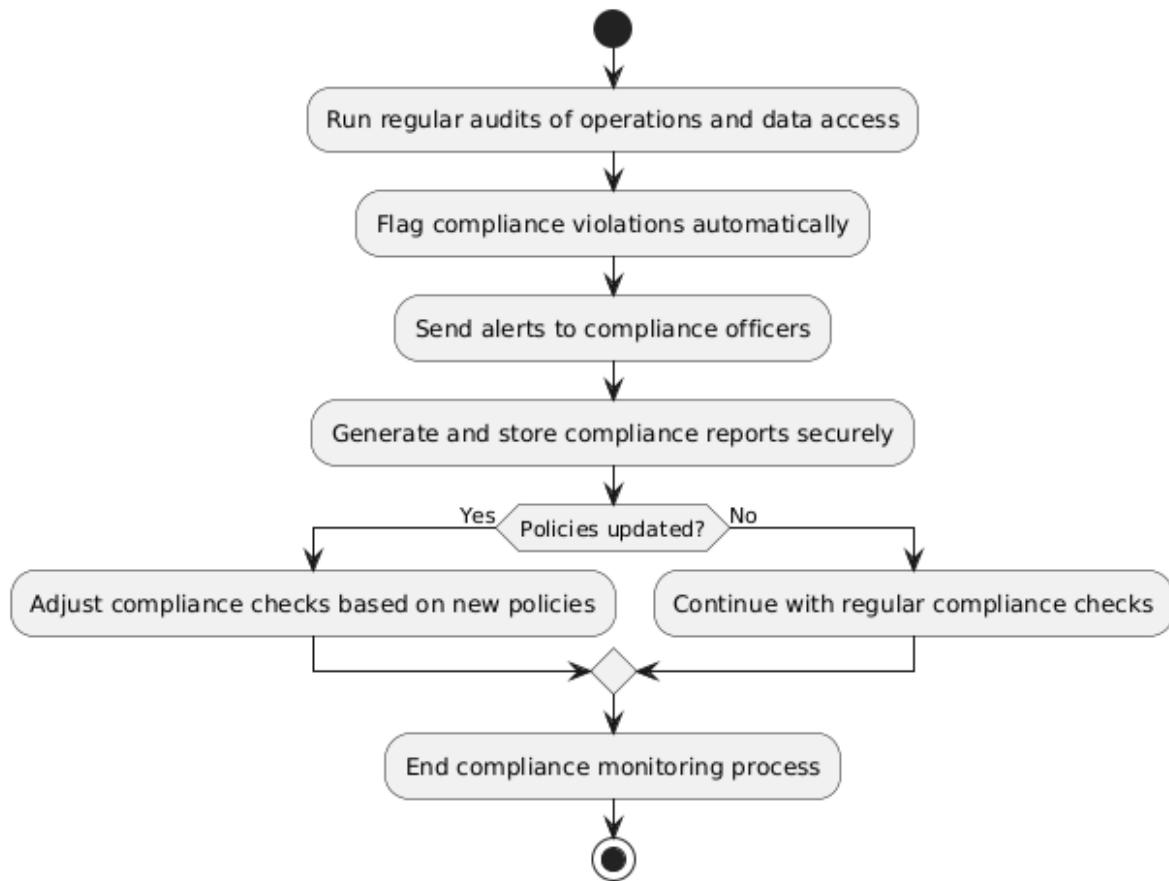
Scenario 13: Secure Role-Based Access Control



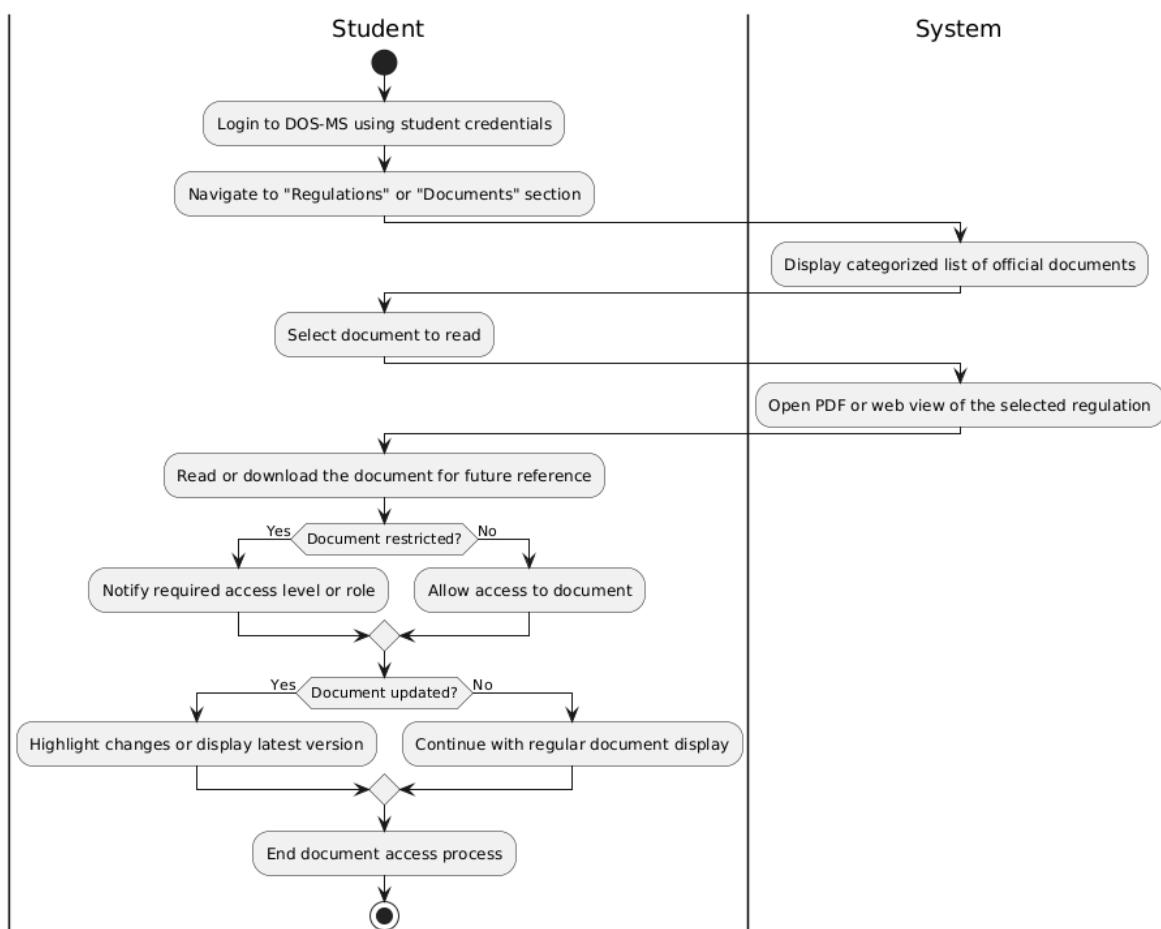
Scenario 14: Password Recovery for Students



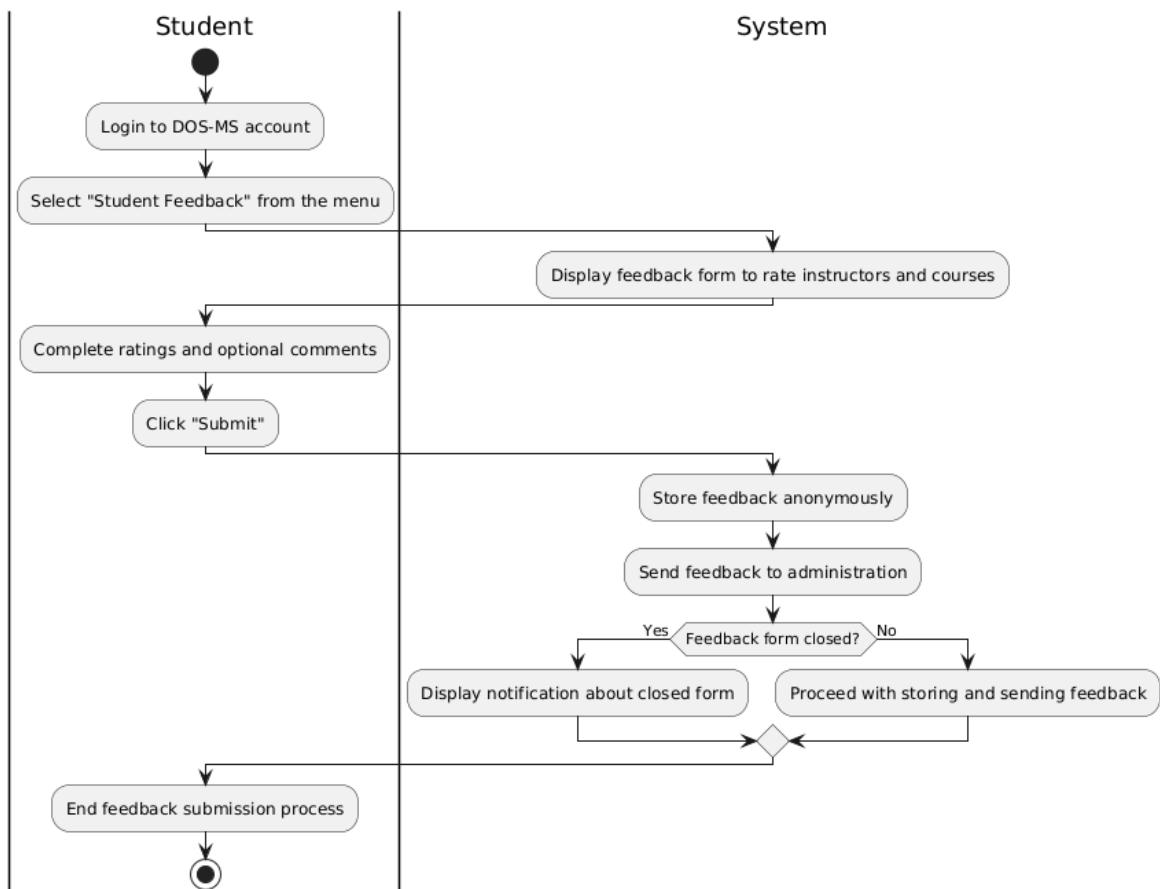
Scenario 15: Automated Compliance Monitoring



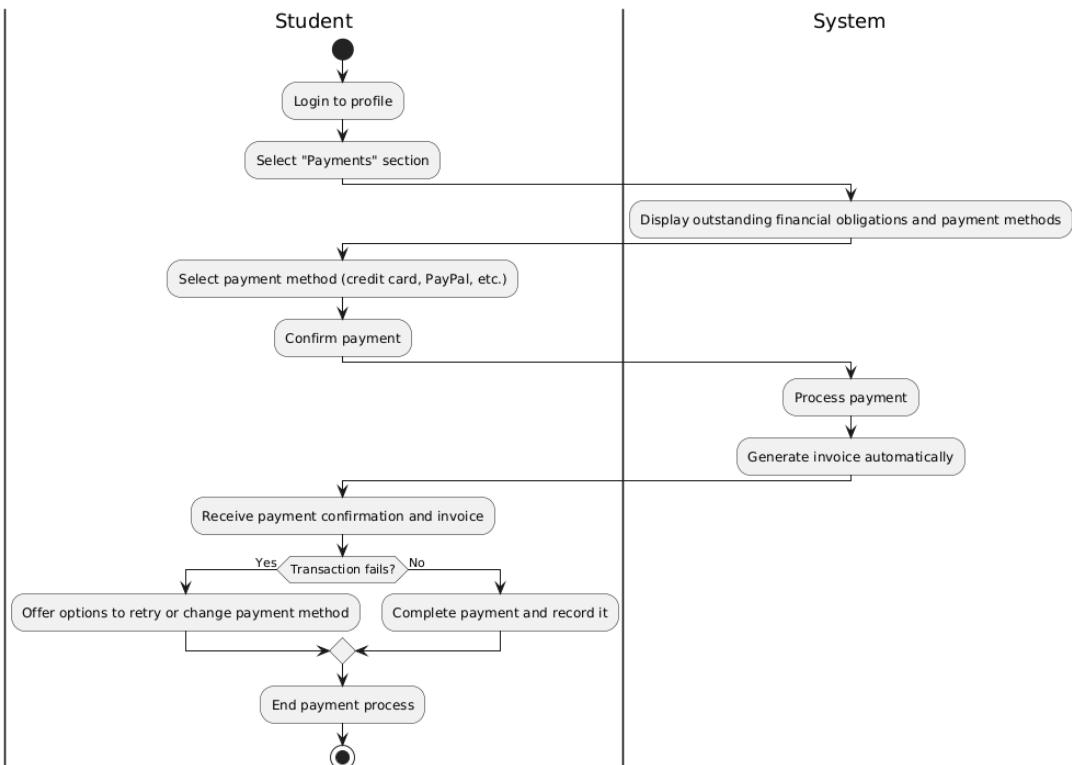
Scenario 16: Viewing University Regulations



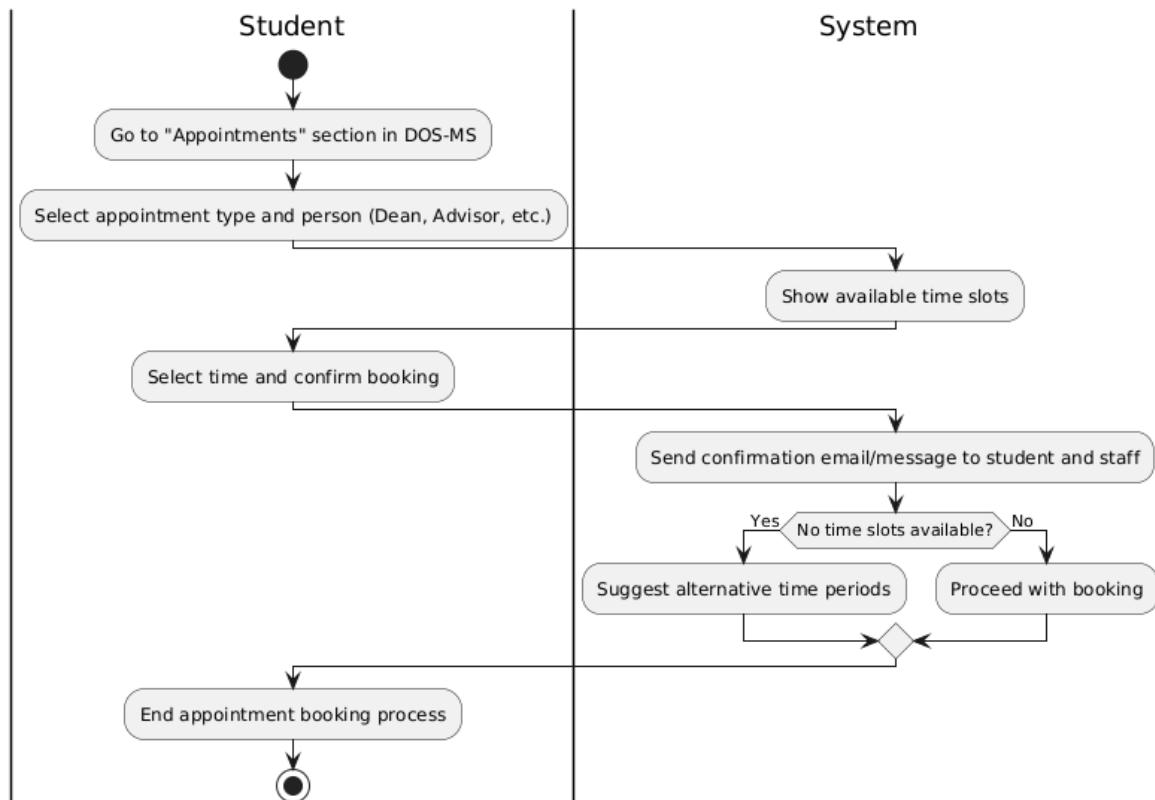
Scenario 17: Submit Student Feedback



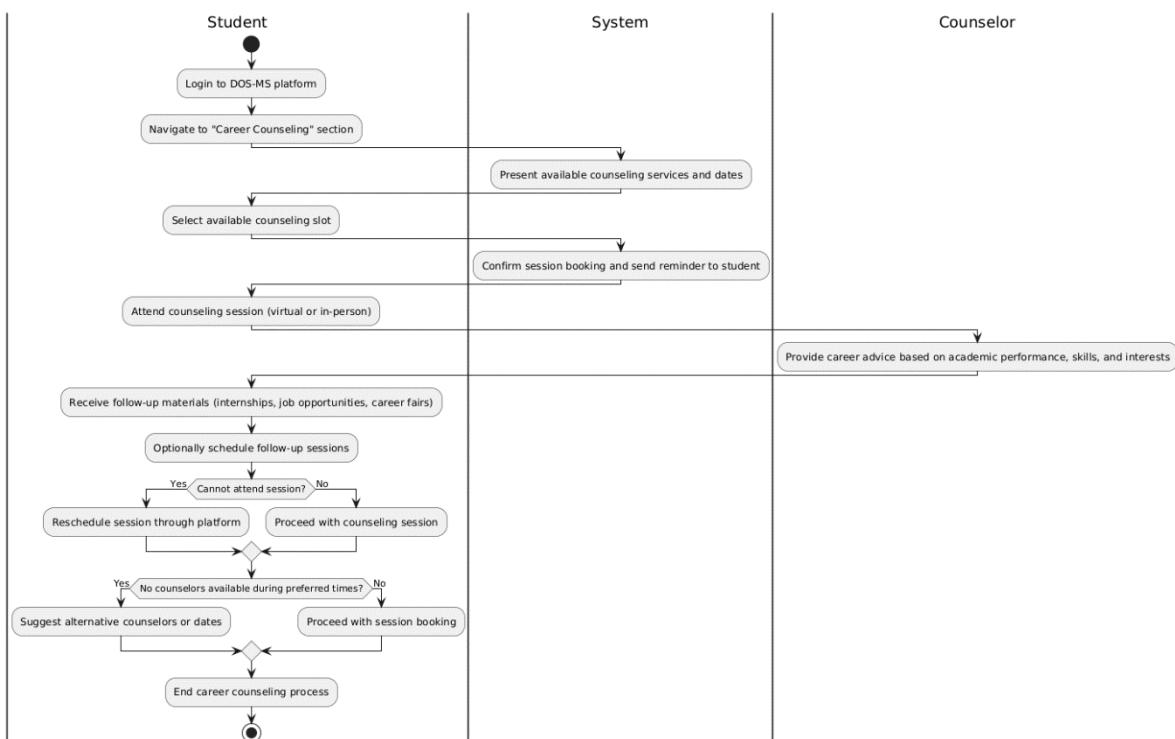
Scenario 18: Online Tuition Payment



Scenario 19: Appointment Booking with Dean or Advisor

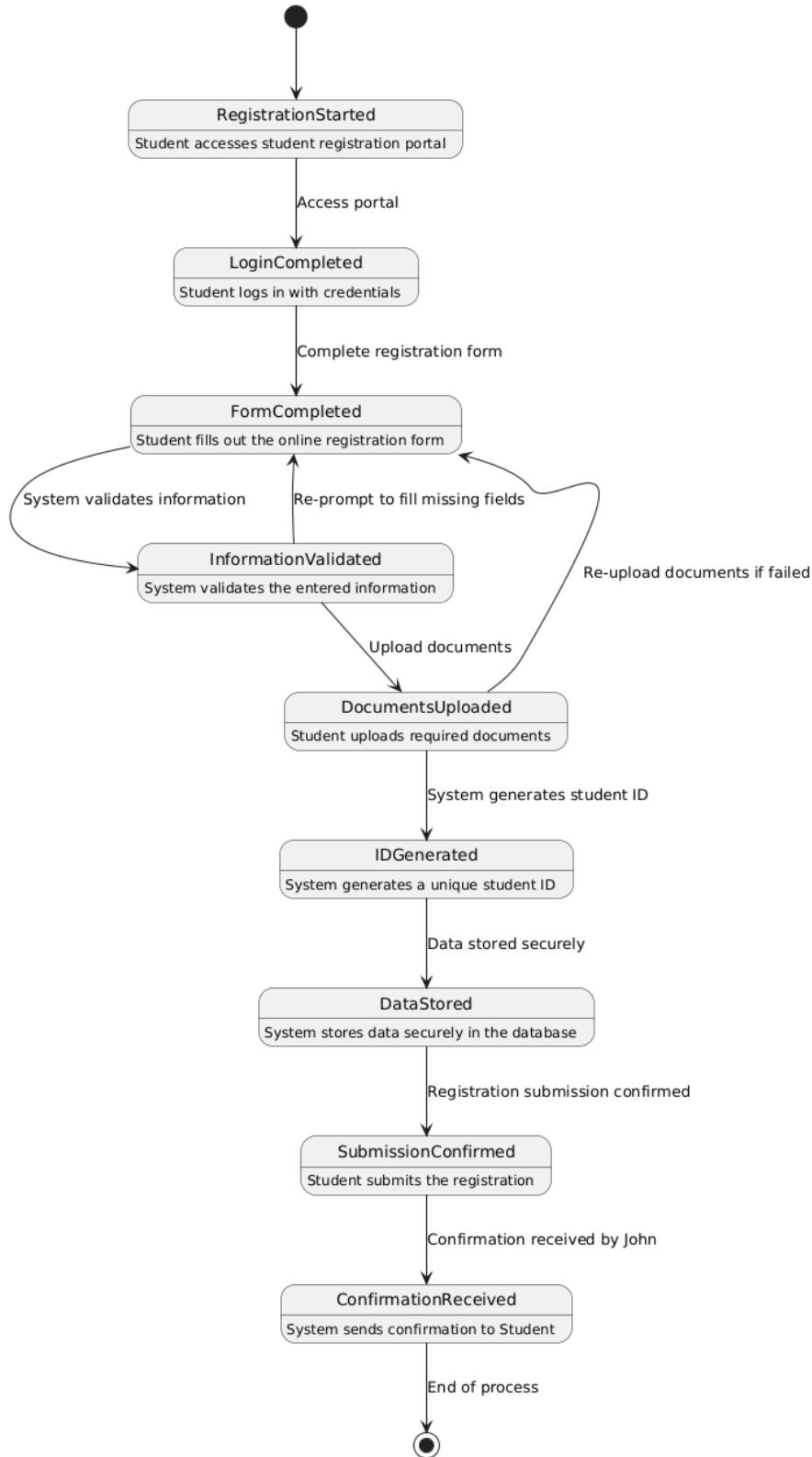


Scenario 20: Career Counseling Session

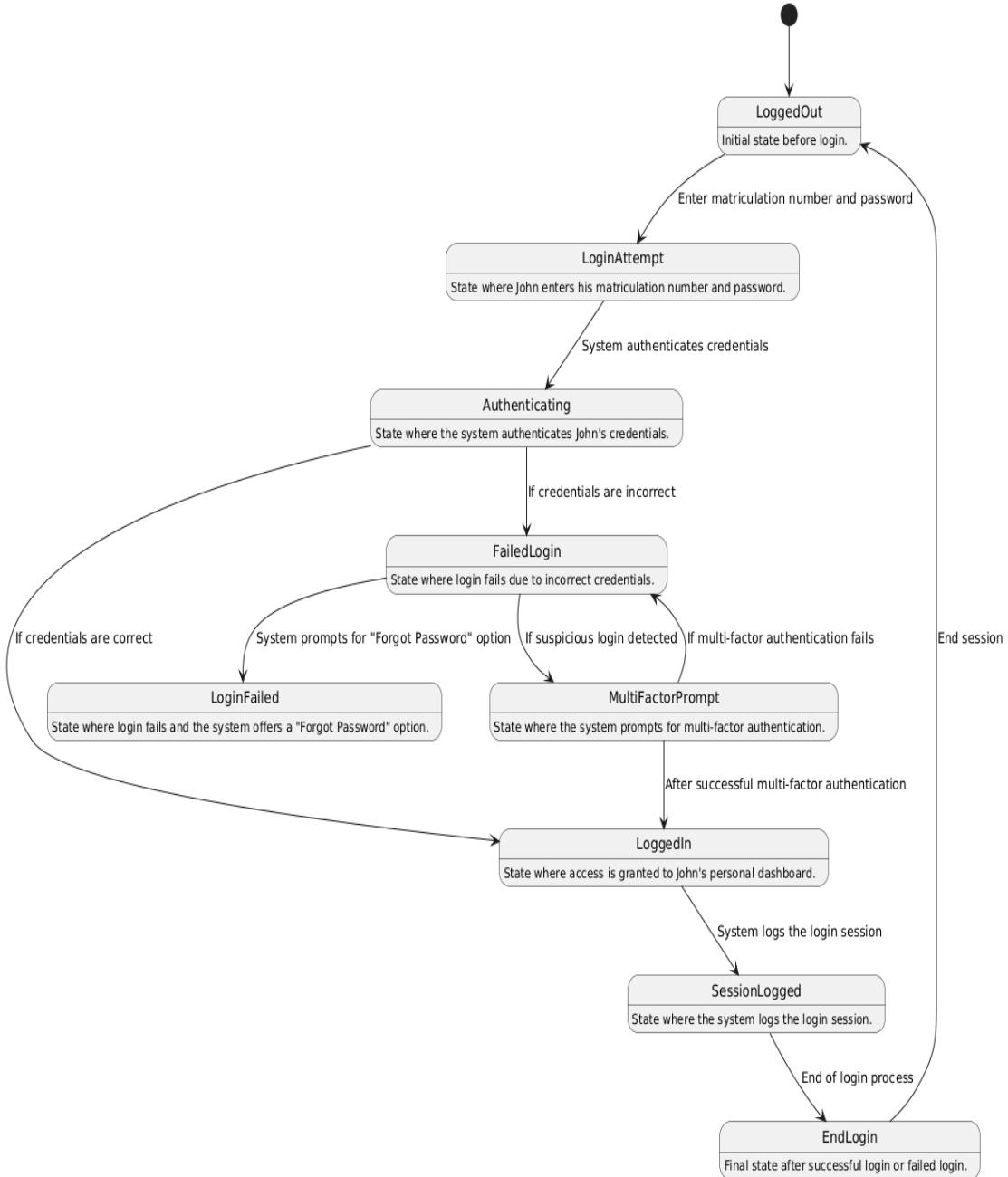


4.9 State Diagrams

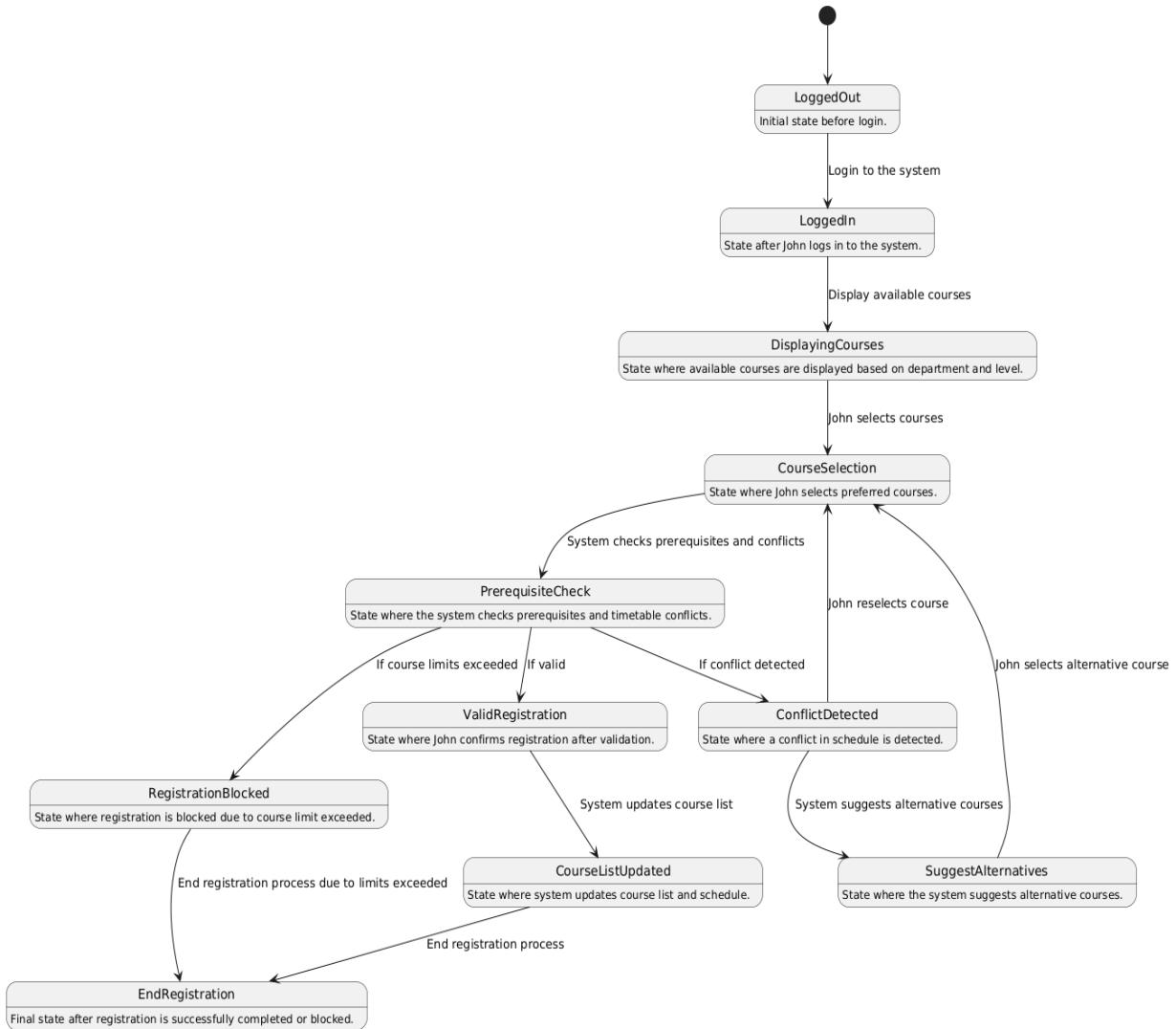
Scenario 1: Student Registration and Transition from High School



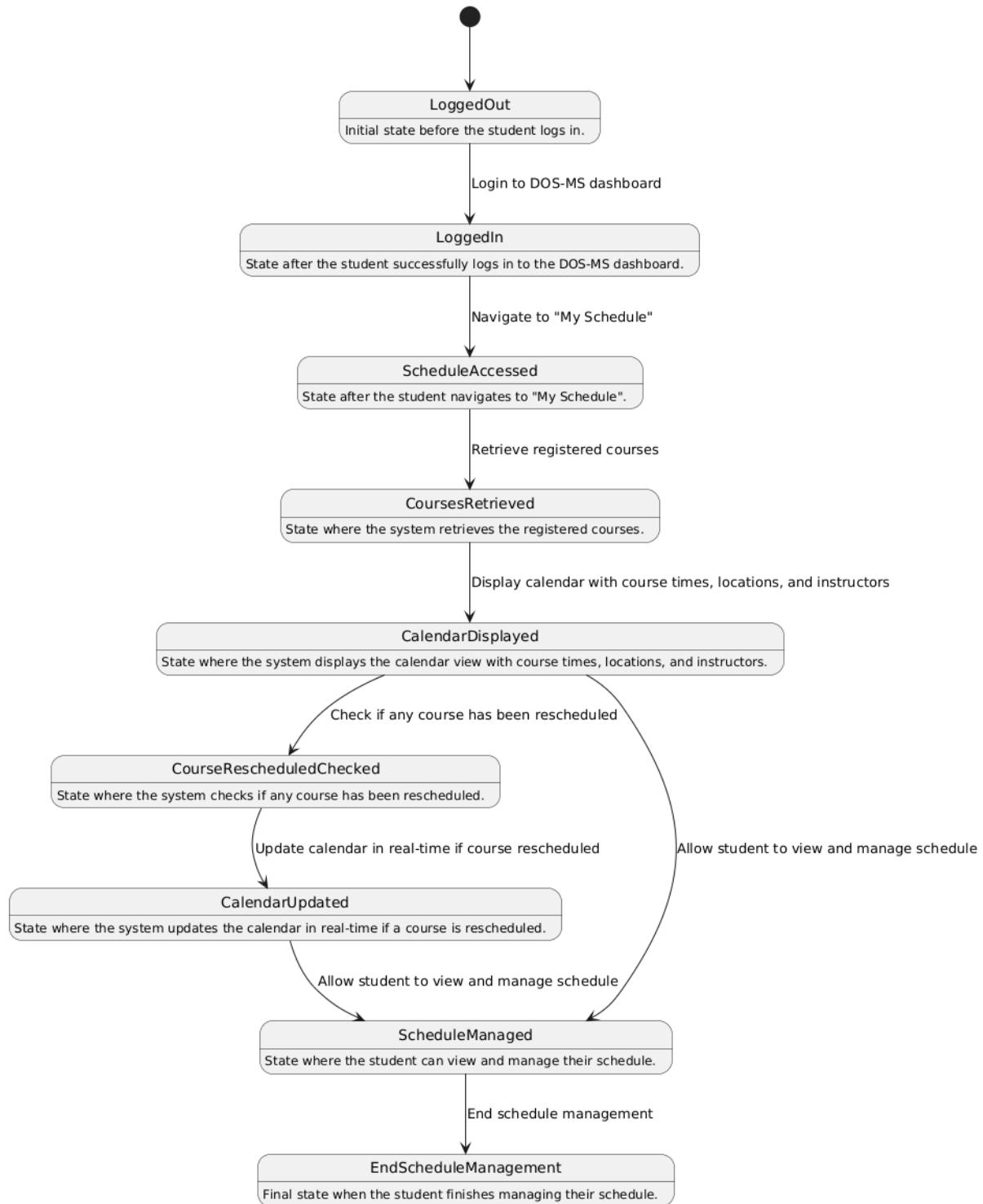
Scenario 2: Student Login to DOS-MS



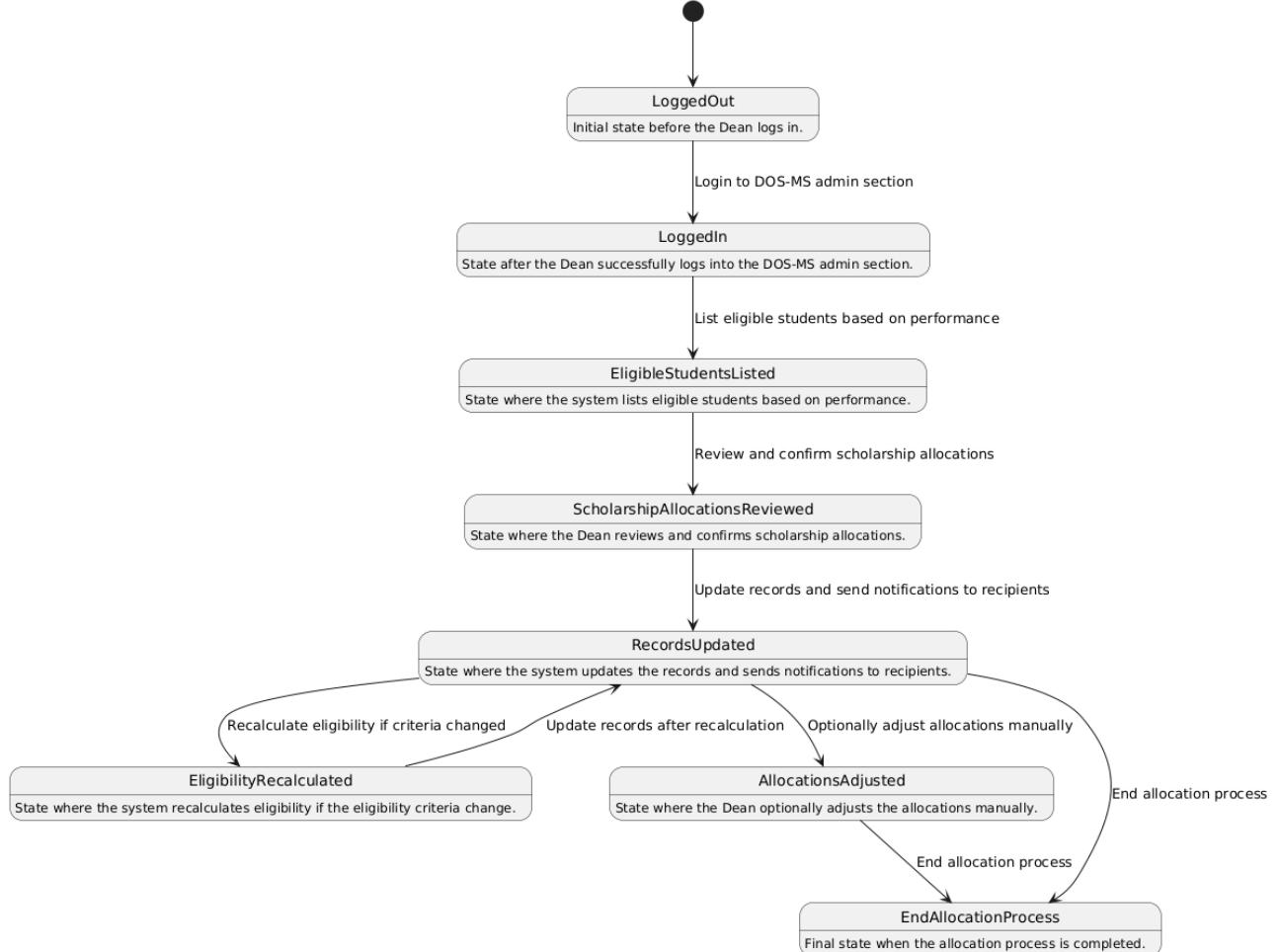
Scenario 3: Course Registration



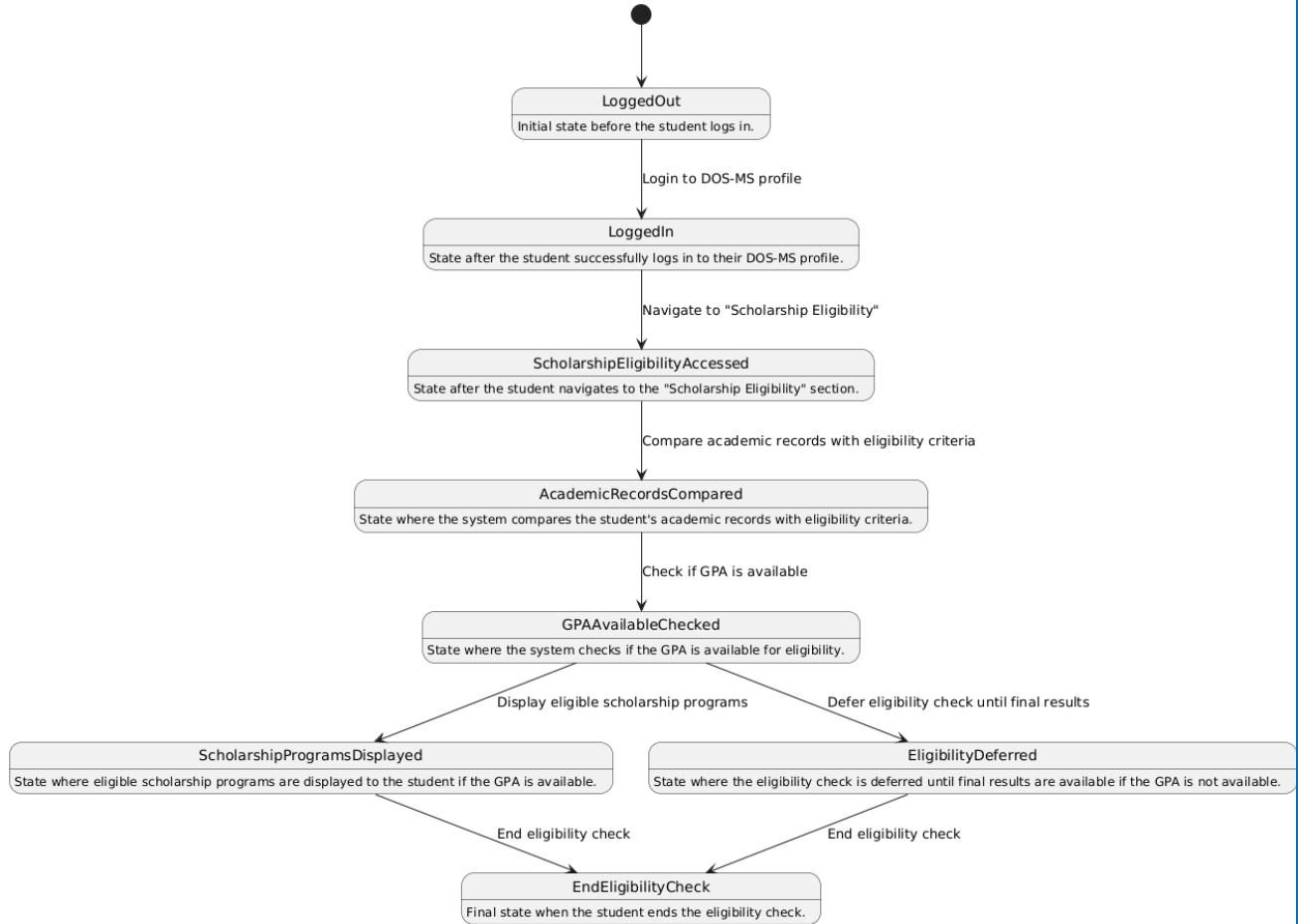
Scenario 4: View Course Schedule



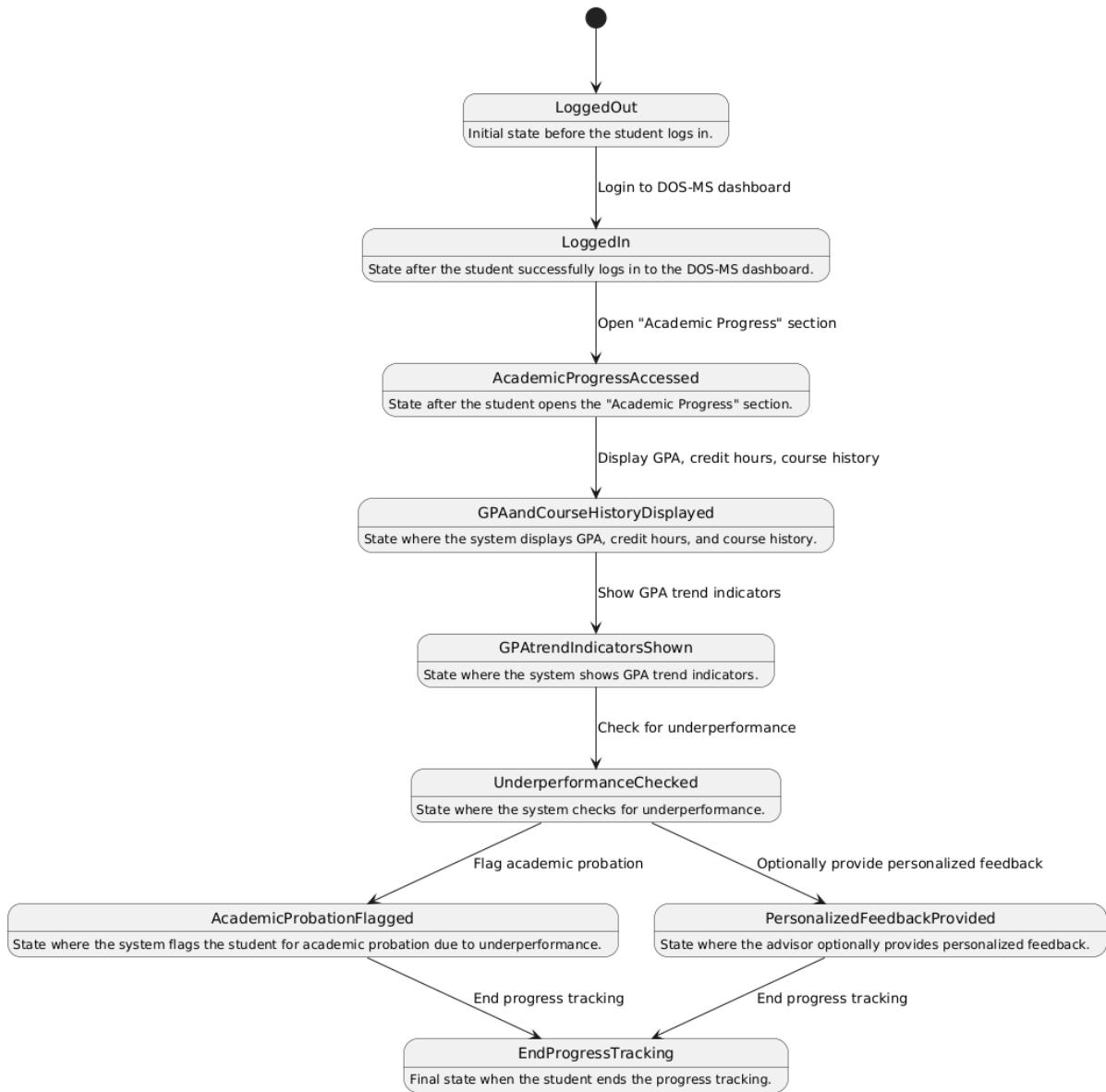
Scenario 5: Scholarship Allocation by Admin



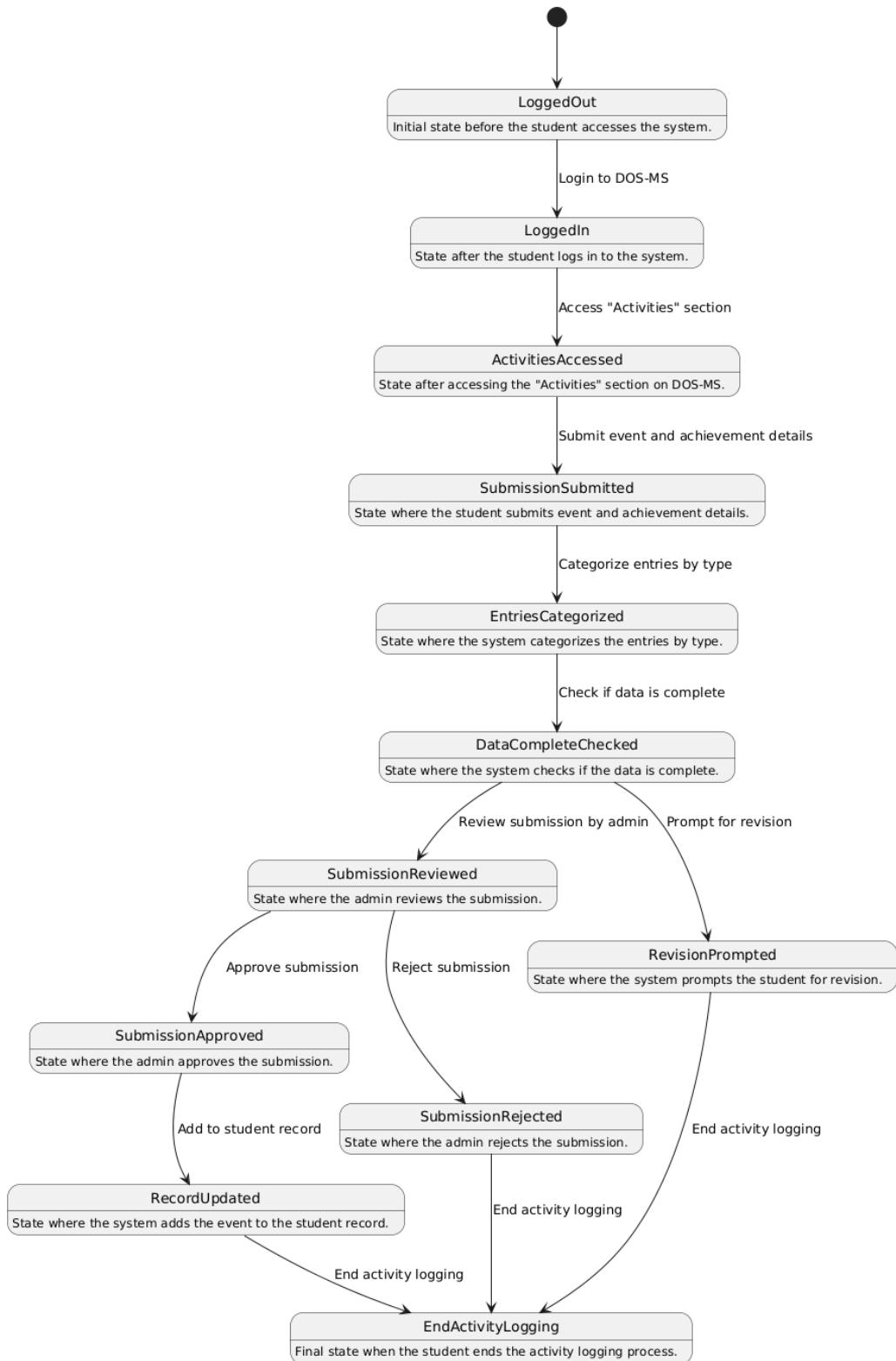
Scenario 6: View Scholarship Eligibility



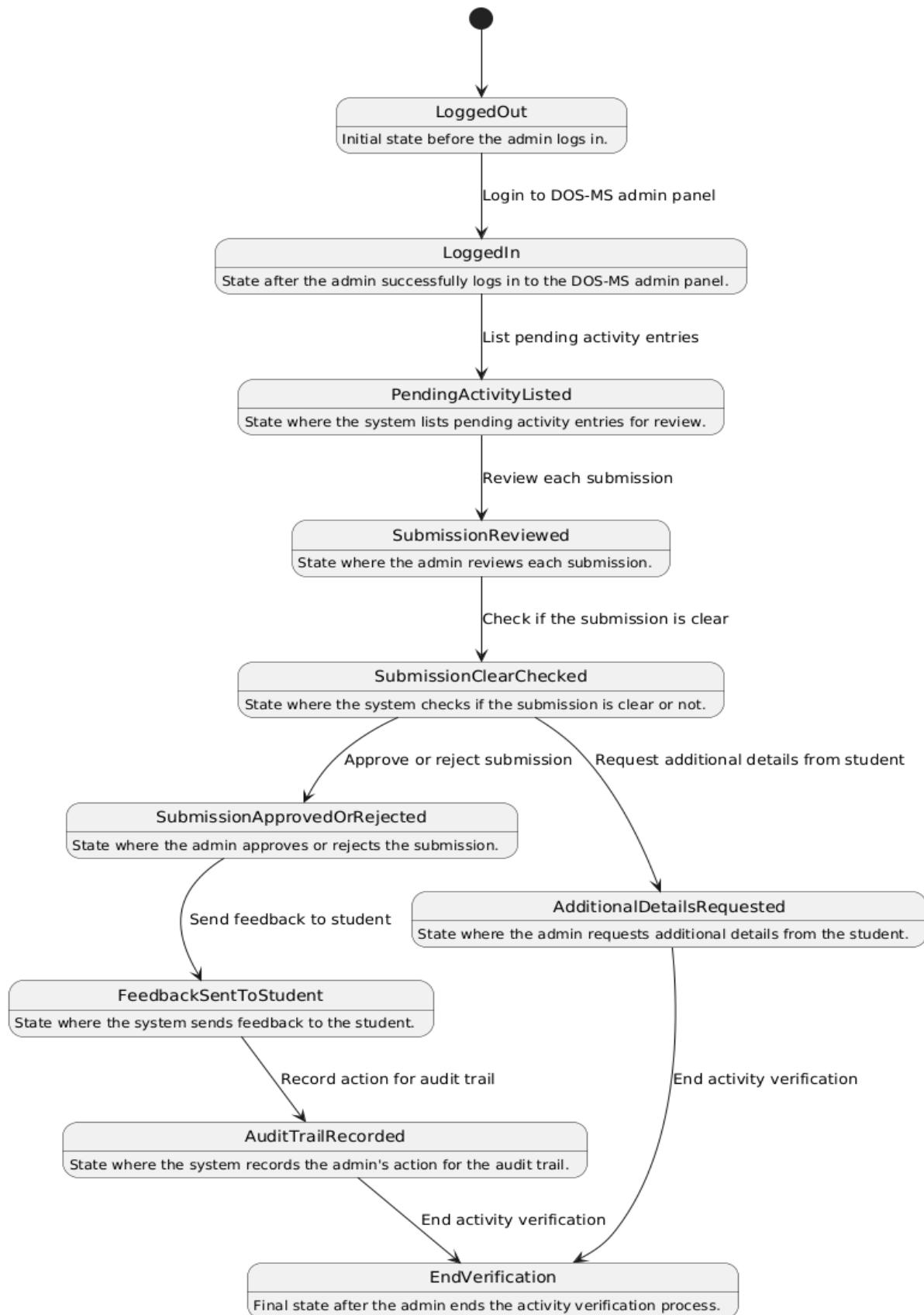
Scenario 7: Academic Progress Tracking



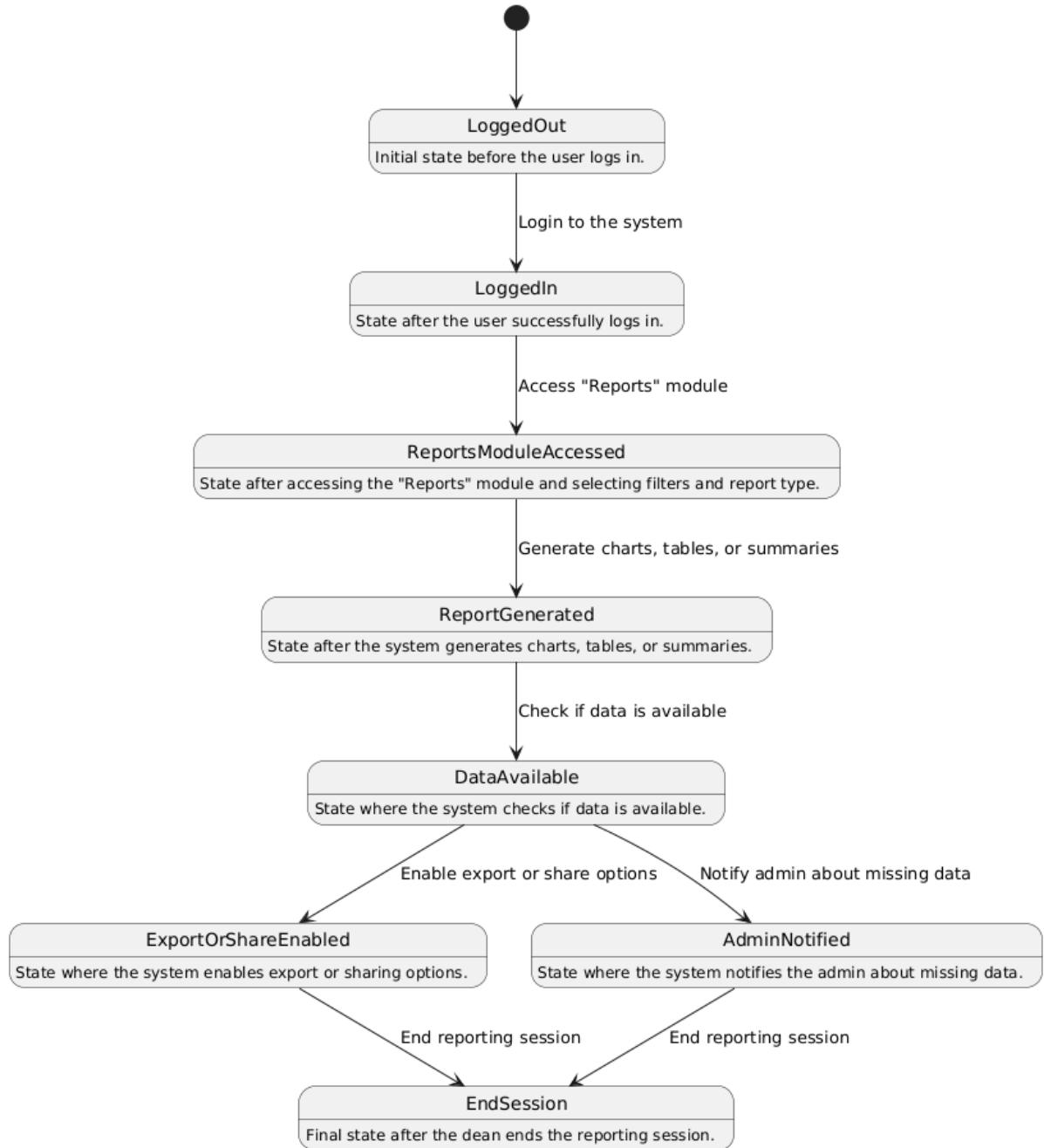
Scenario 8: Extracurricular Activity Logging



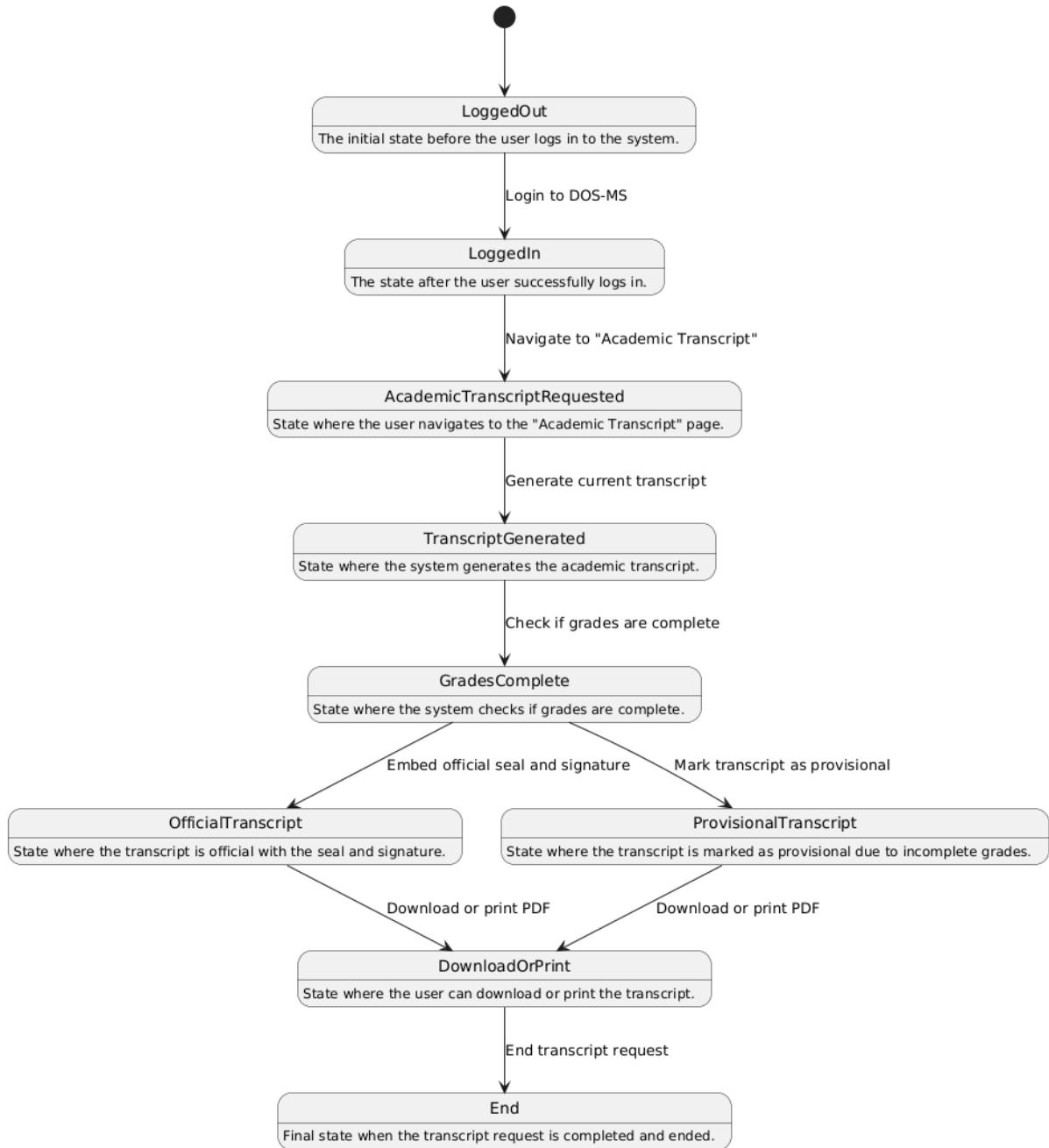
Scenario 9: Admin Verification of Activities



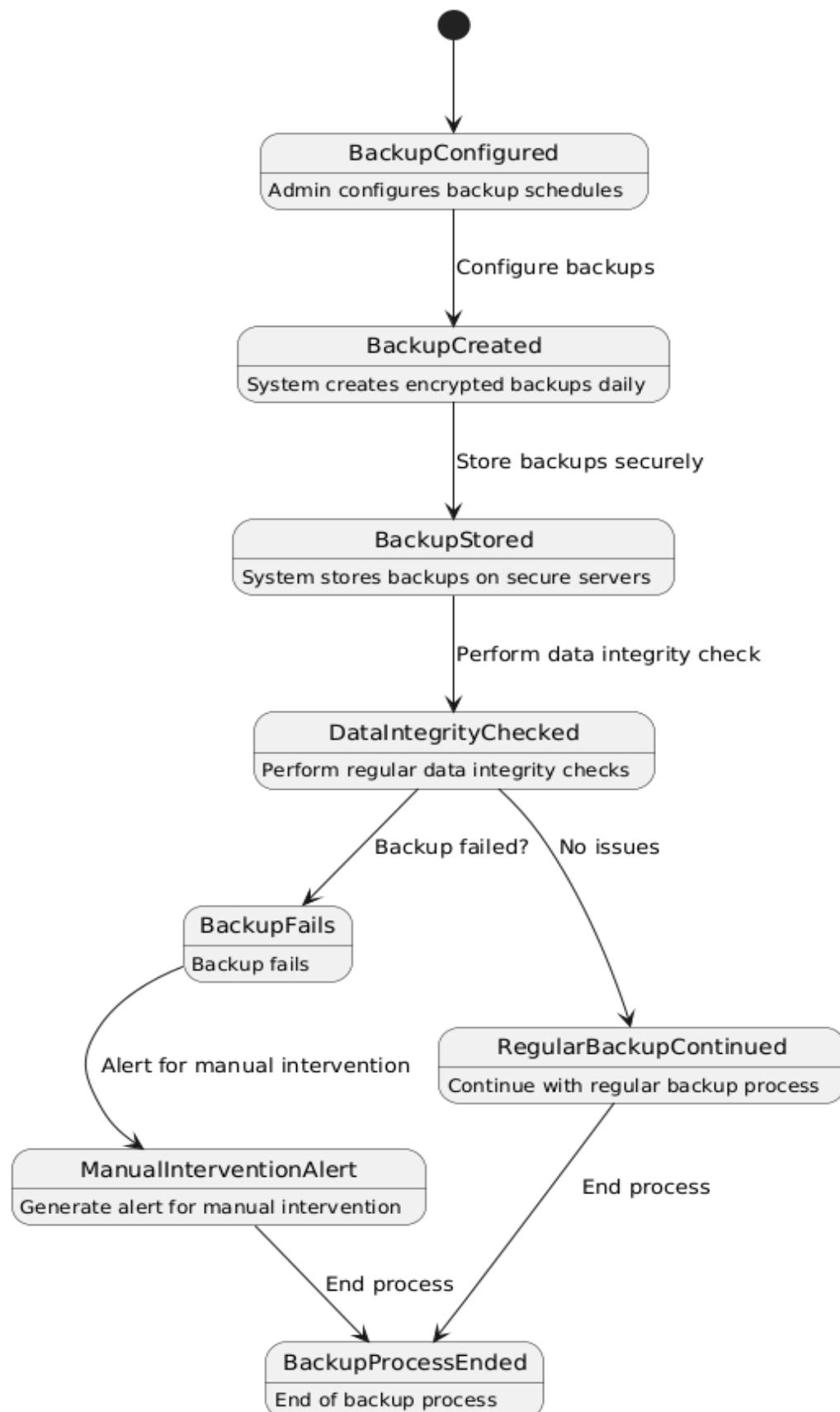
Scenario 10: Generate Real-Time Reports



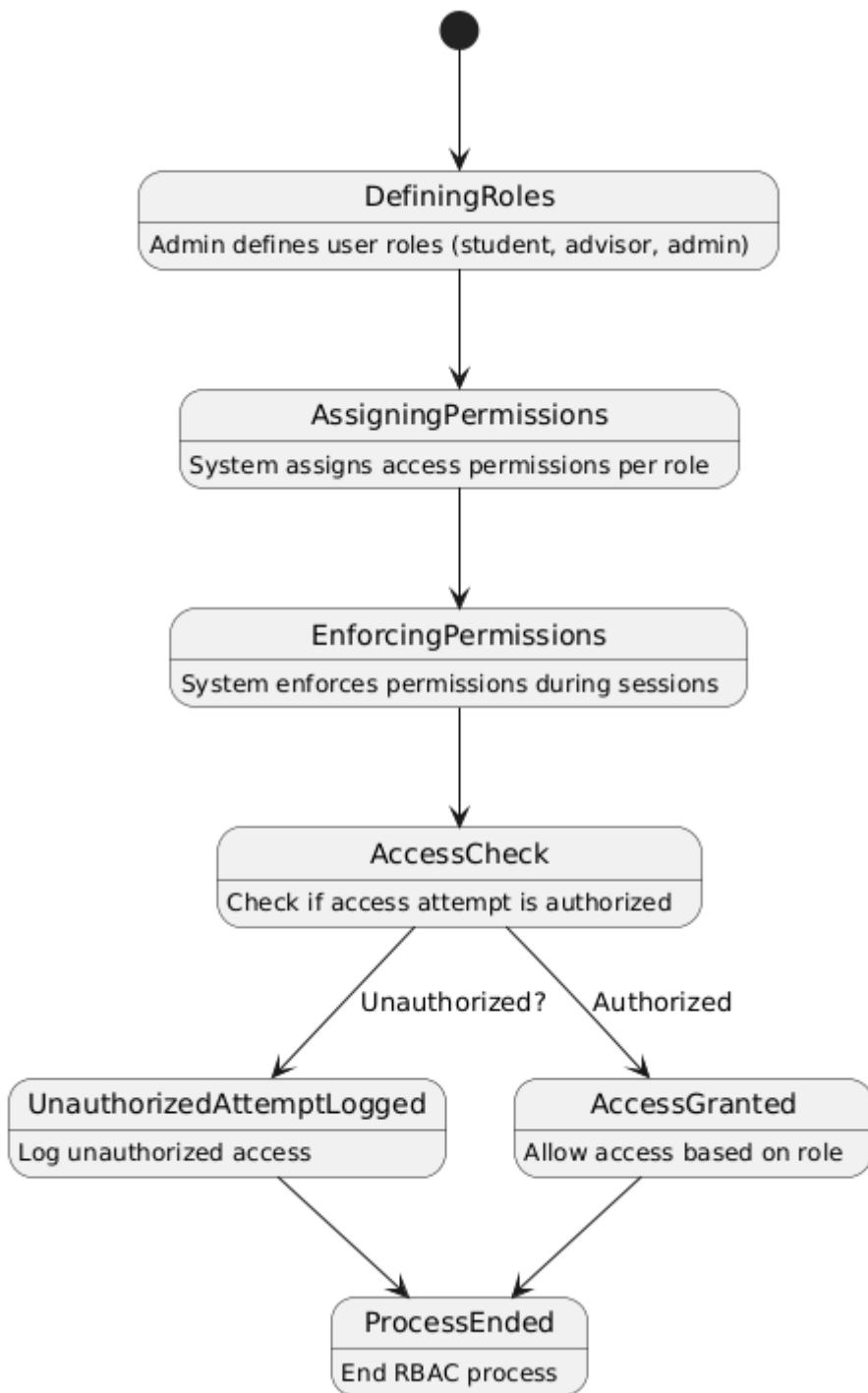
Scenario 11: Student Access to Academic Transcript



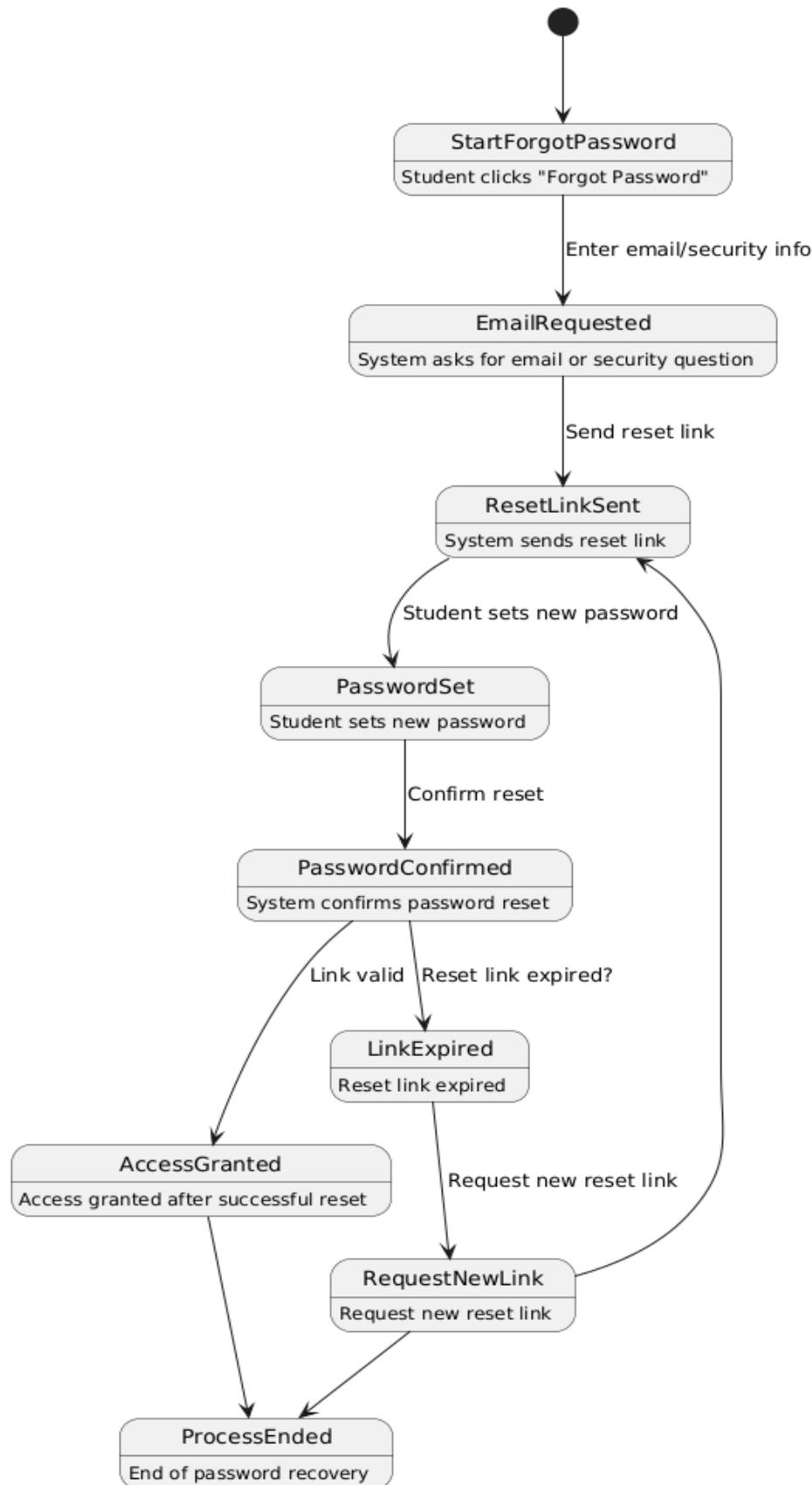
Scenario 12: System Backup and Data Integrity



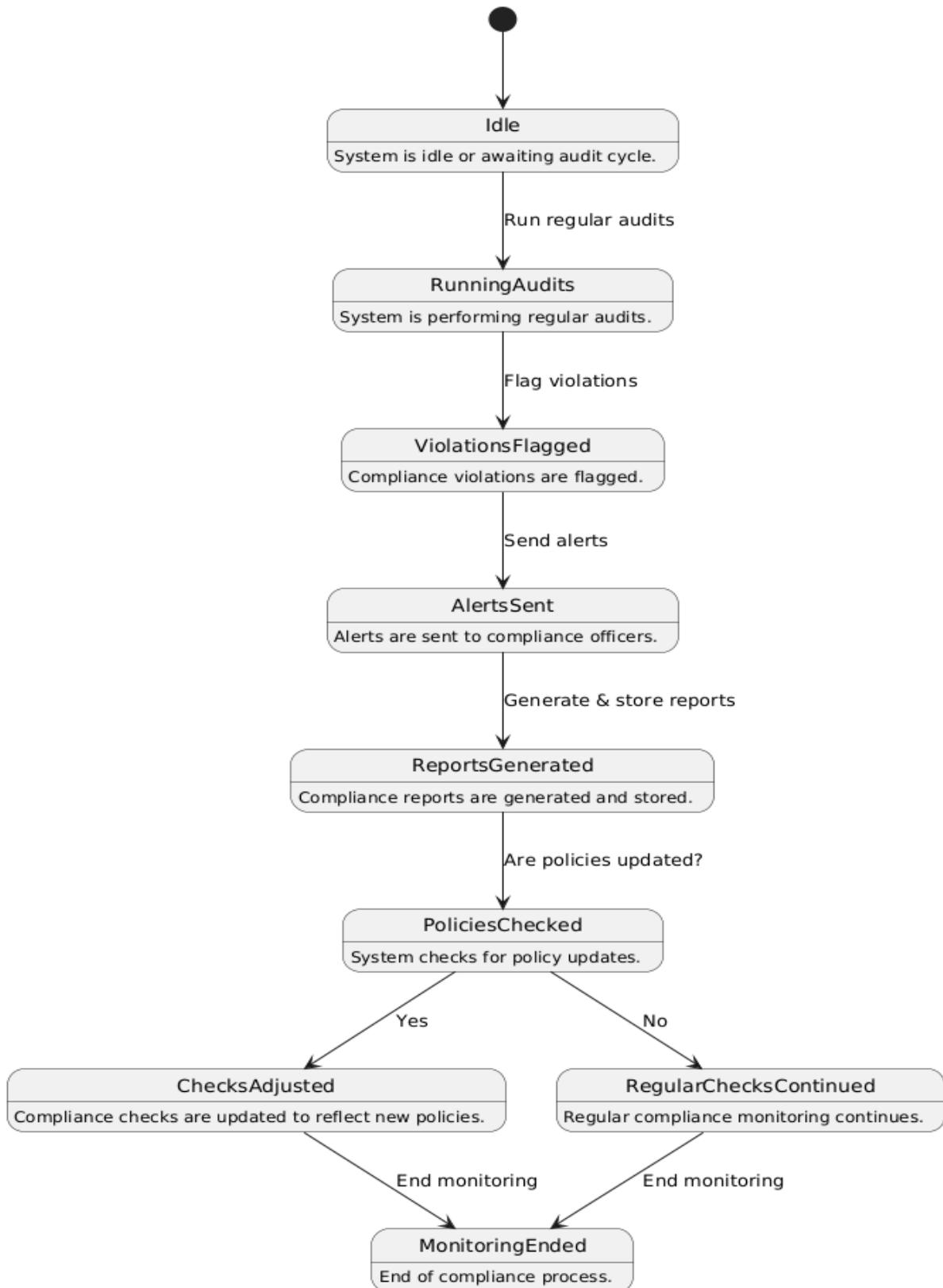
Scenario 13: Secure Role-Based Access Control



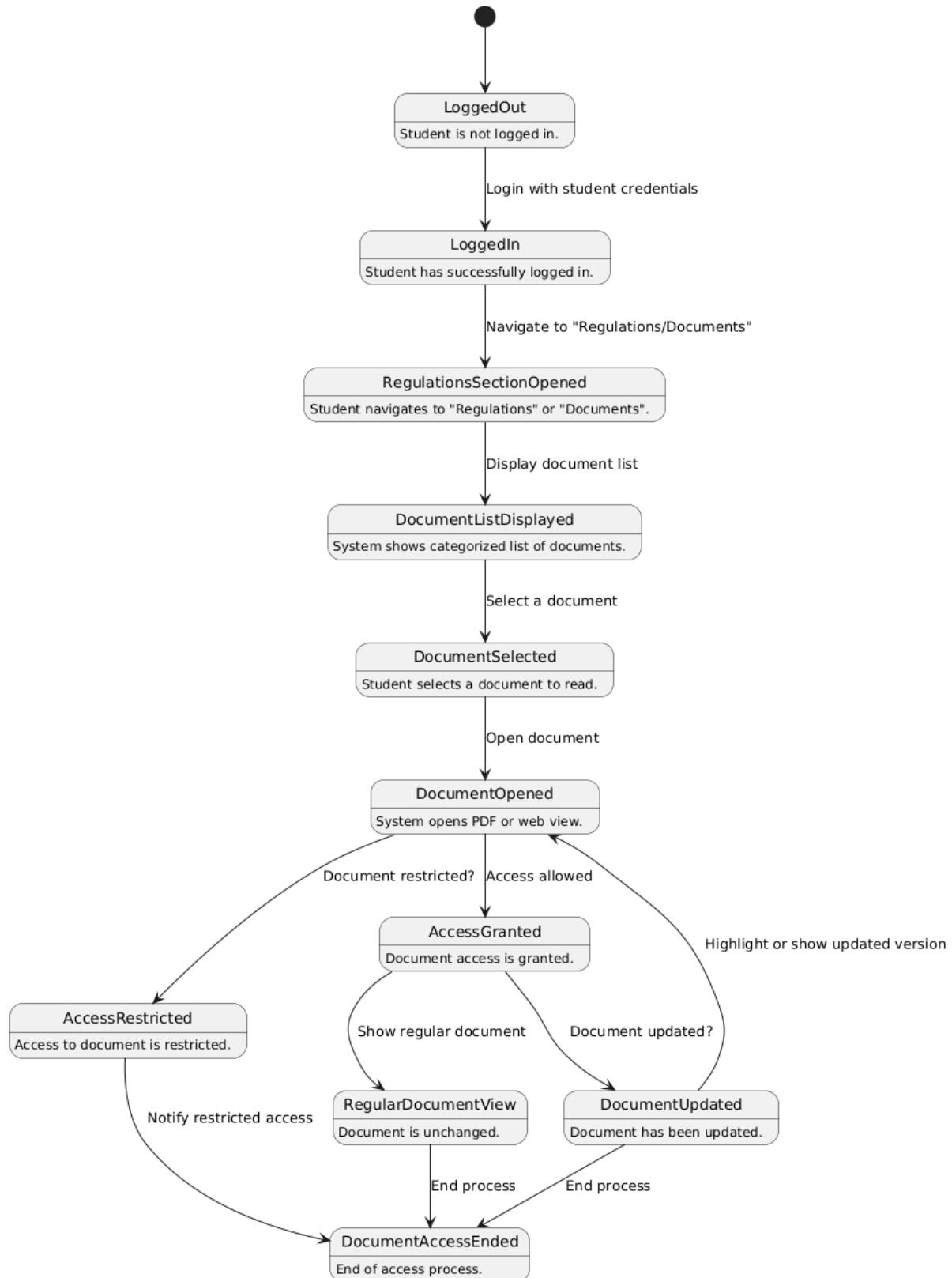
Scenario 14: Password Recovery for Students



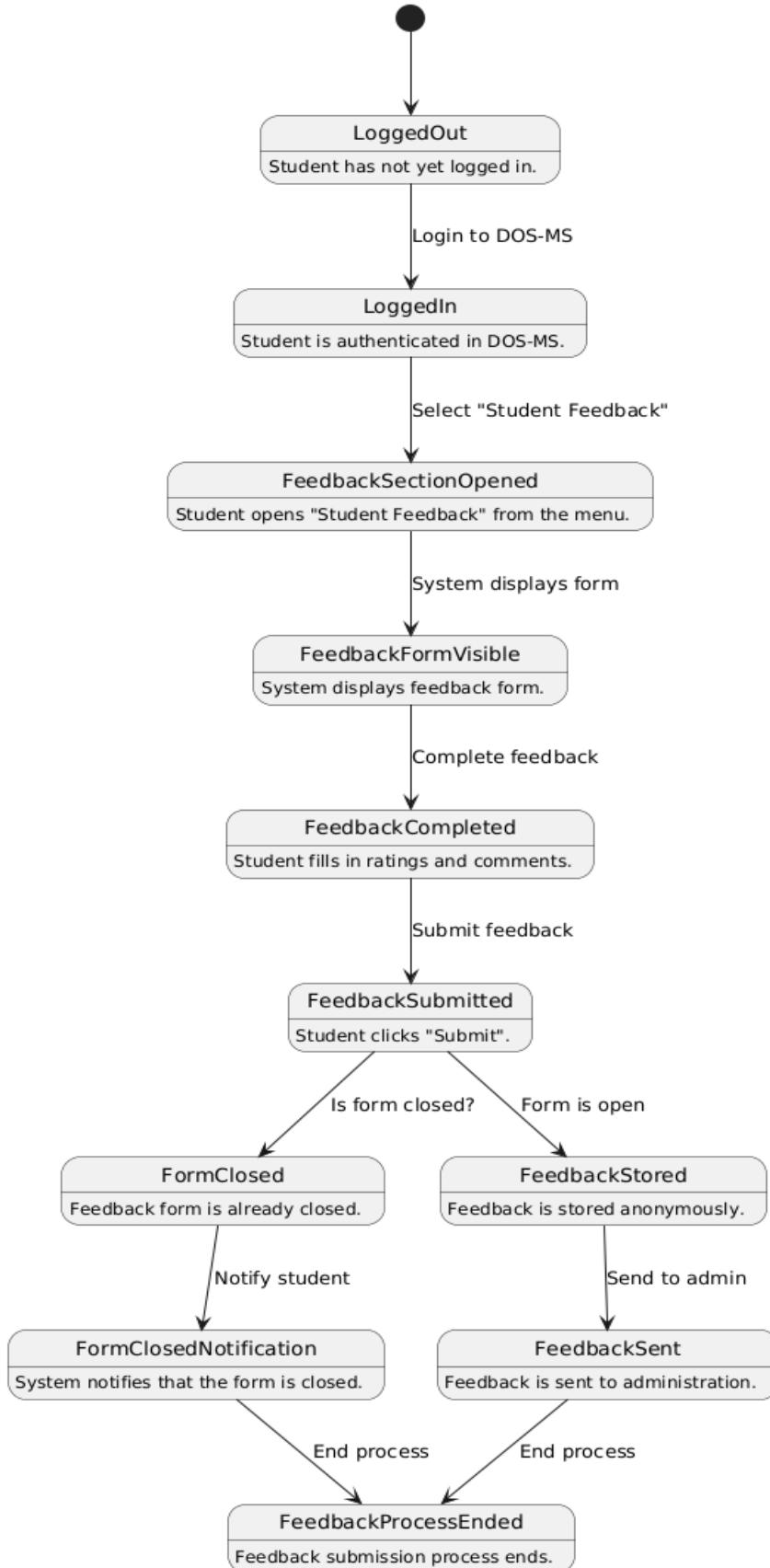
Scenario 15: Automated Compliance Monitoring



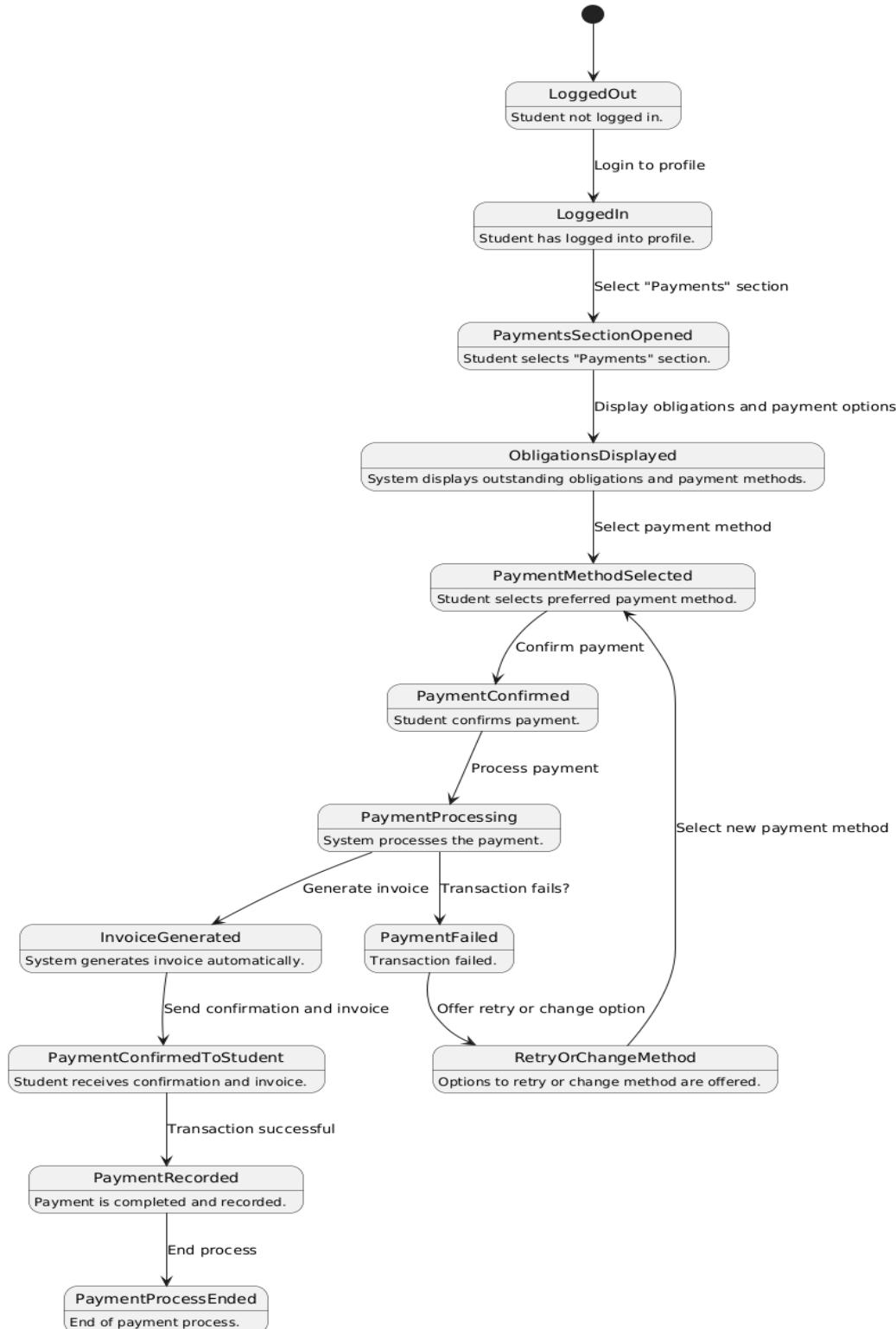
Scenario 16: Viewing University Regulations



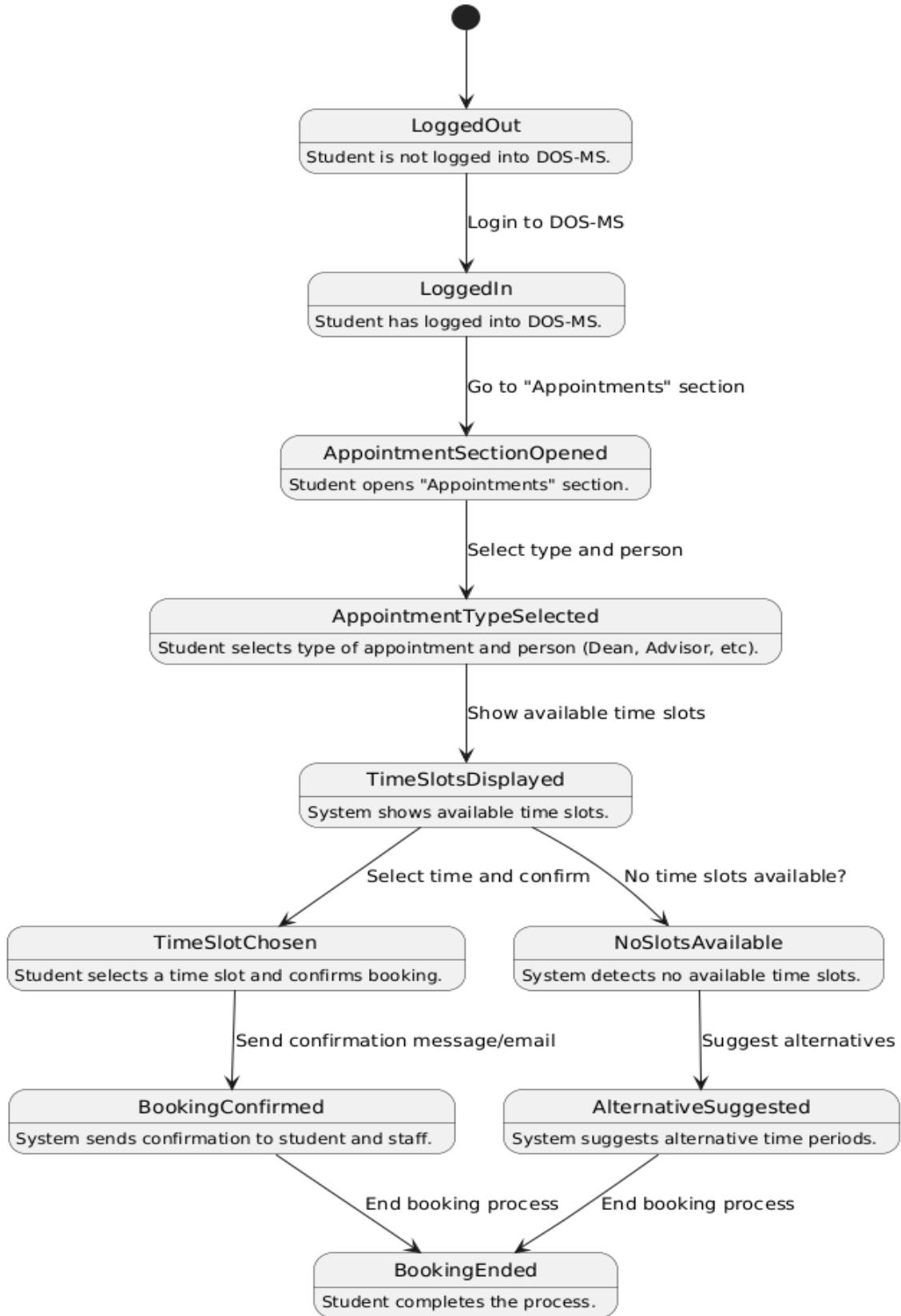
Scenario 17: Submit Student Feedback



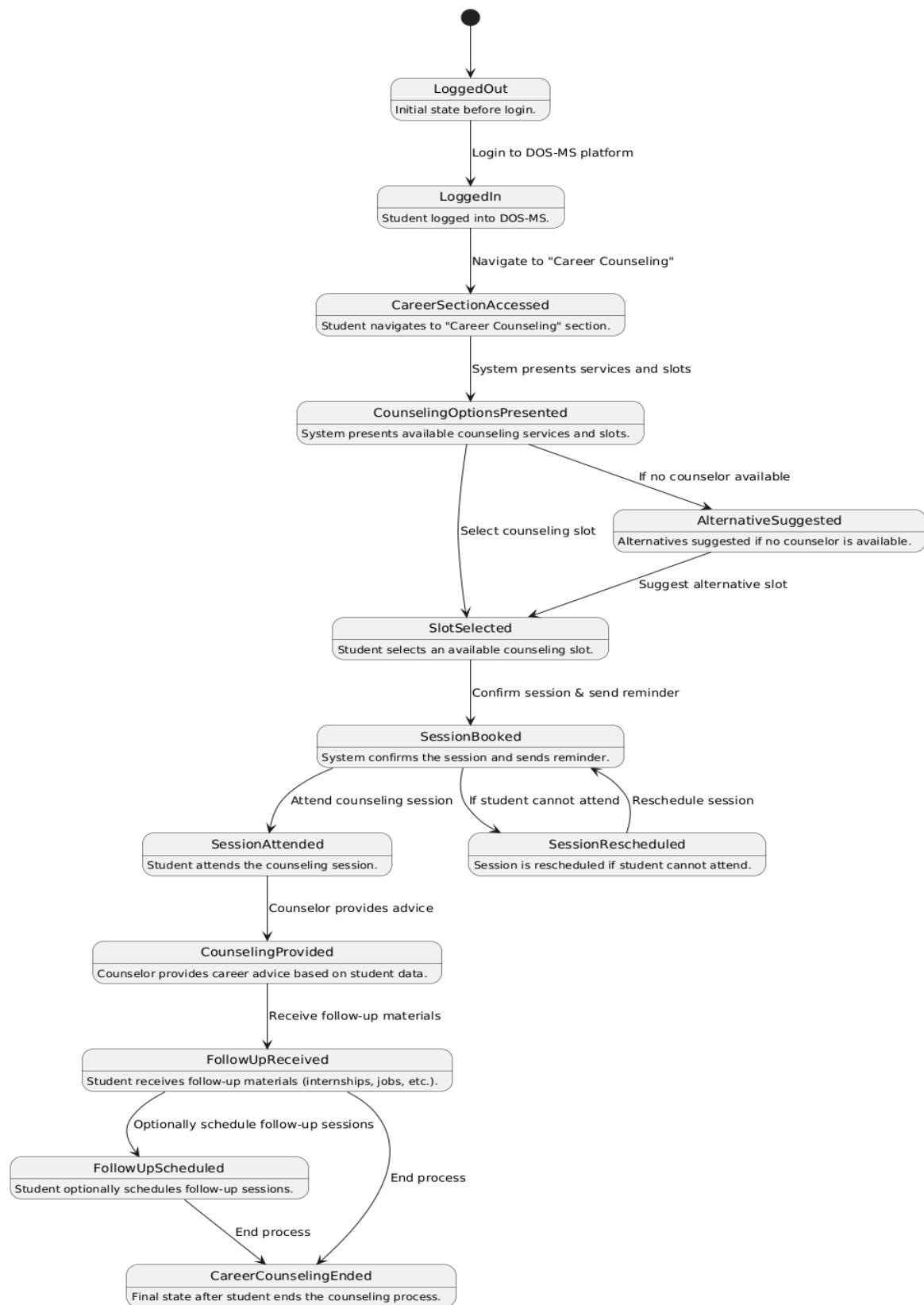
Scenario 18: Online Tuition Payment



Scenario 19: Appointment Booking with Dean or Advisor

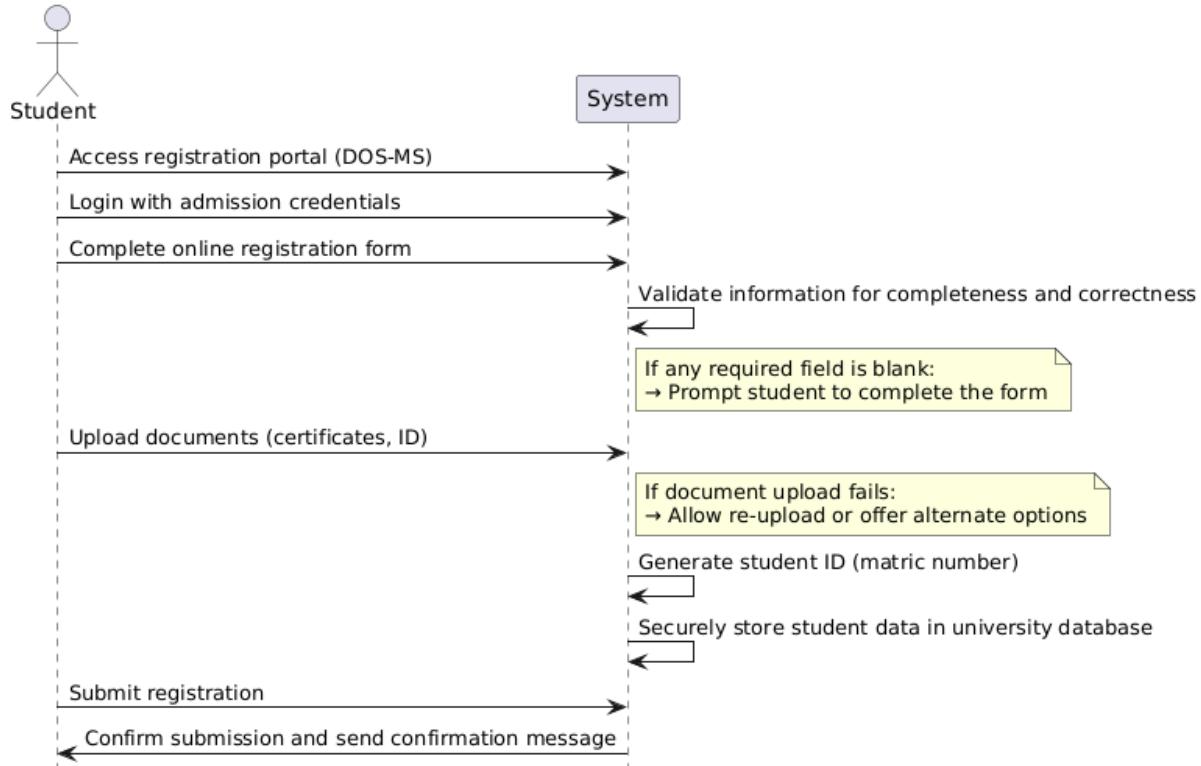


Scenario 20: Career Counseling Session

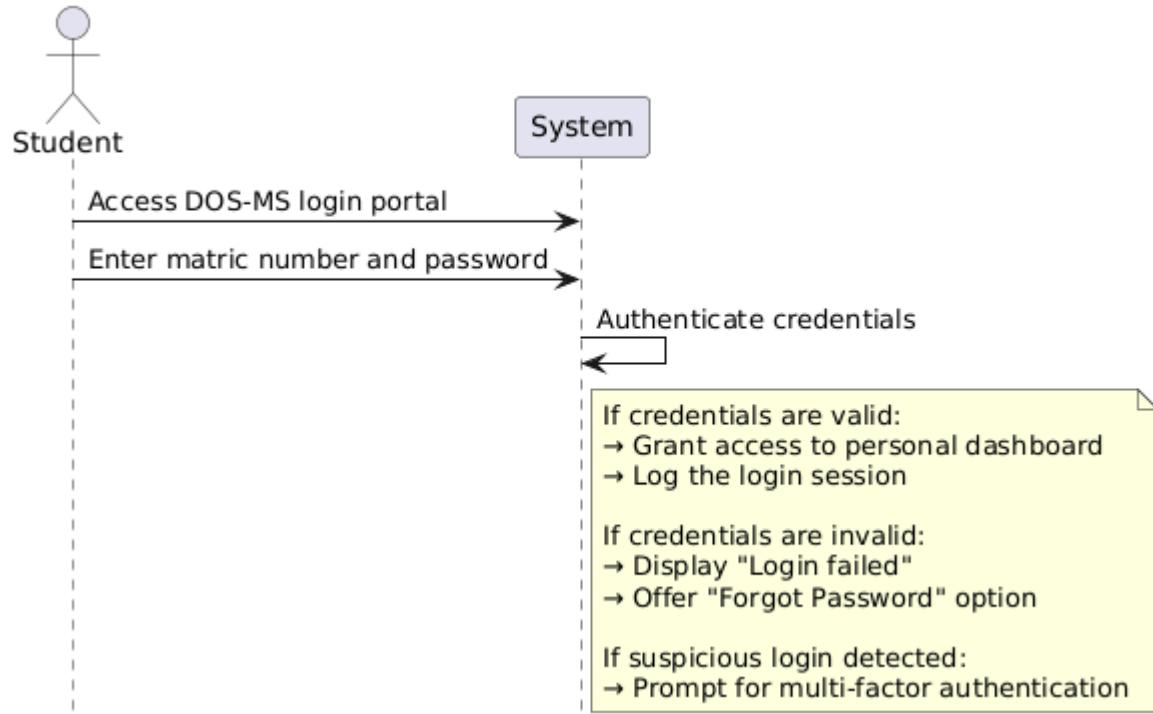


4.10 Sequence Diagram

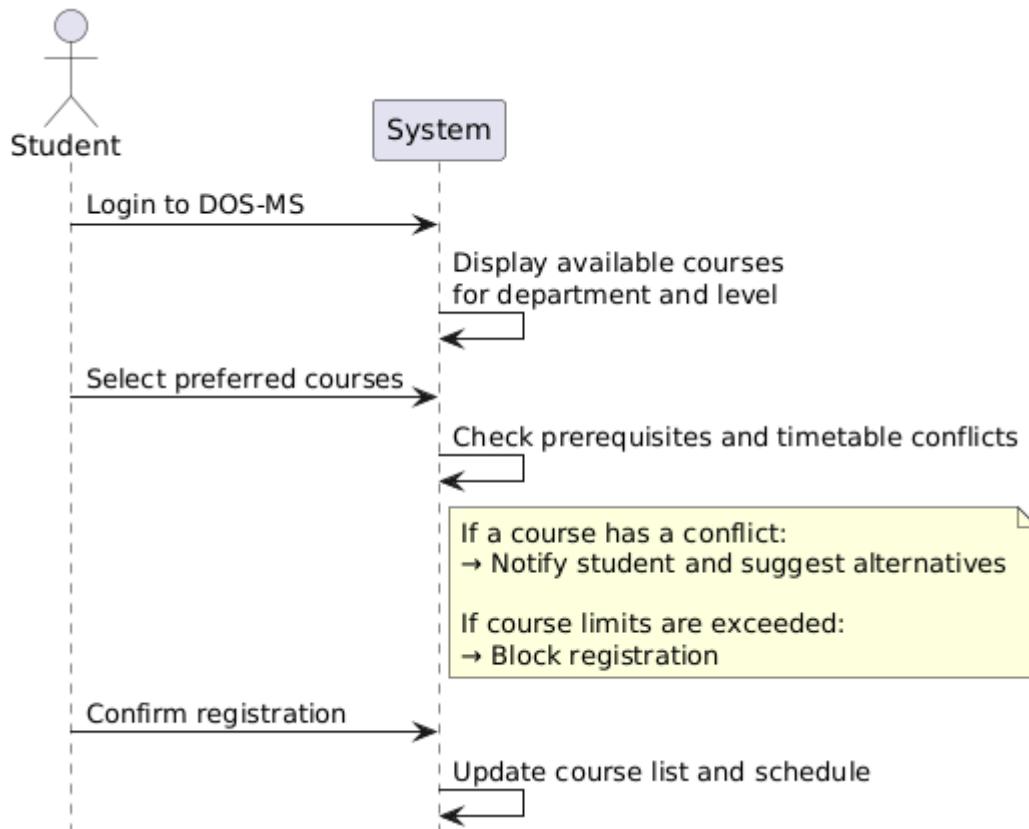
Scenario 1: Student Registration and Transition from High School



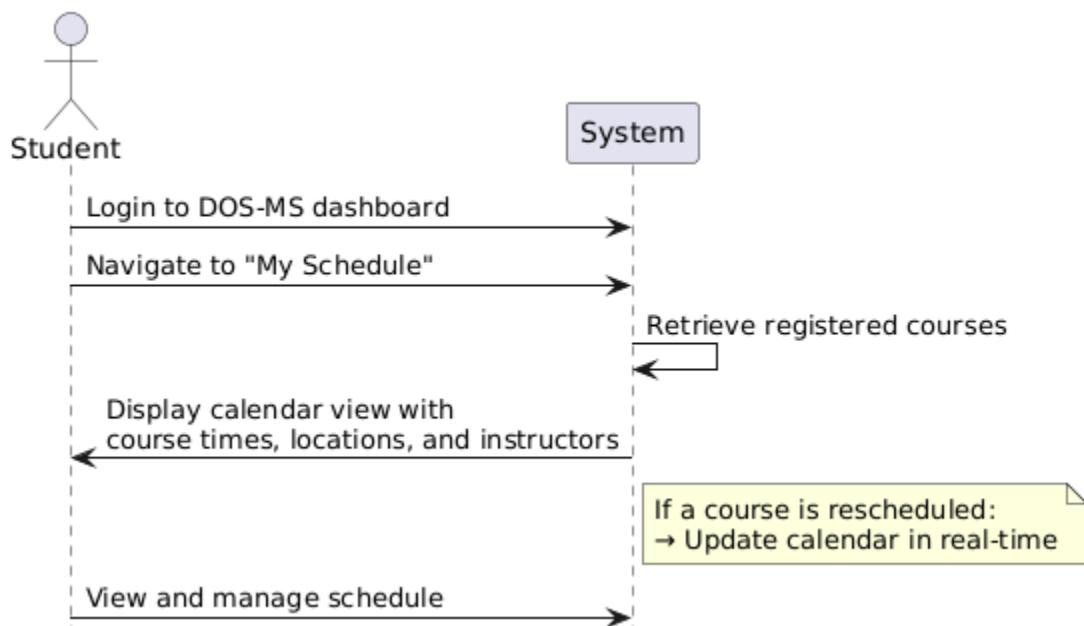
Scenario 2: Student Login to DOS-MS



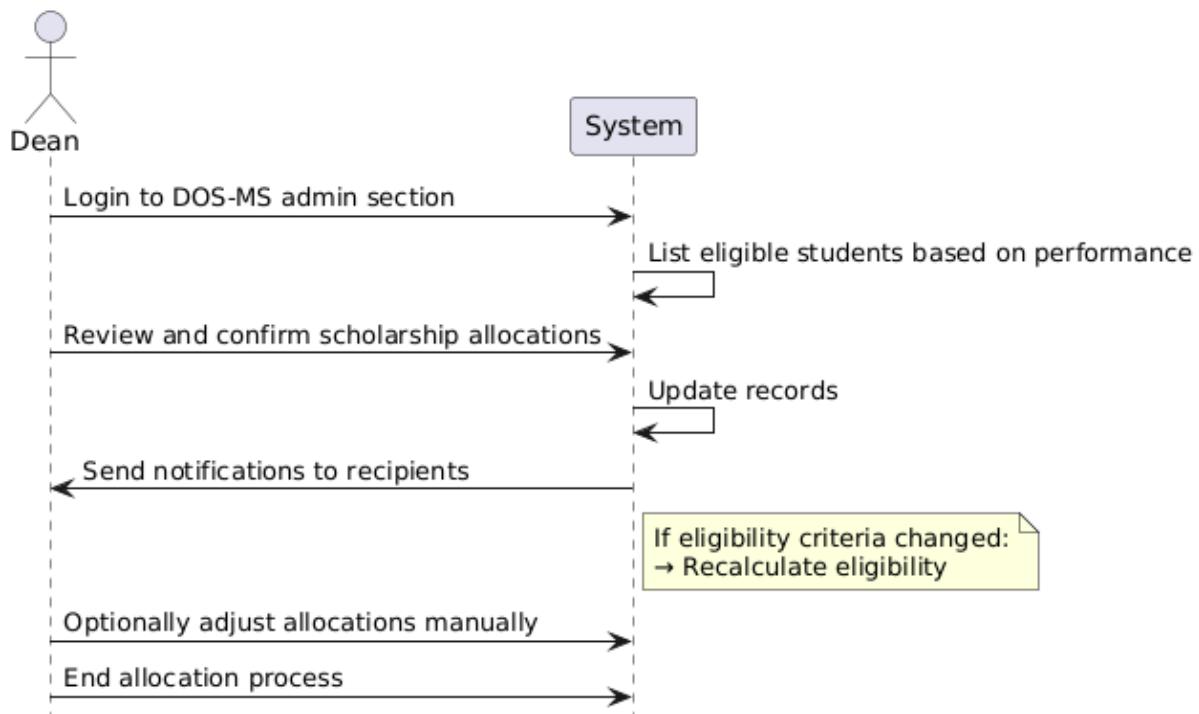
Scenario 3: Course Registration



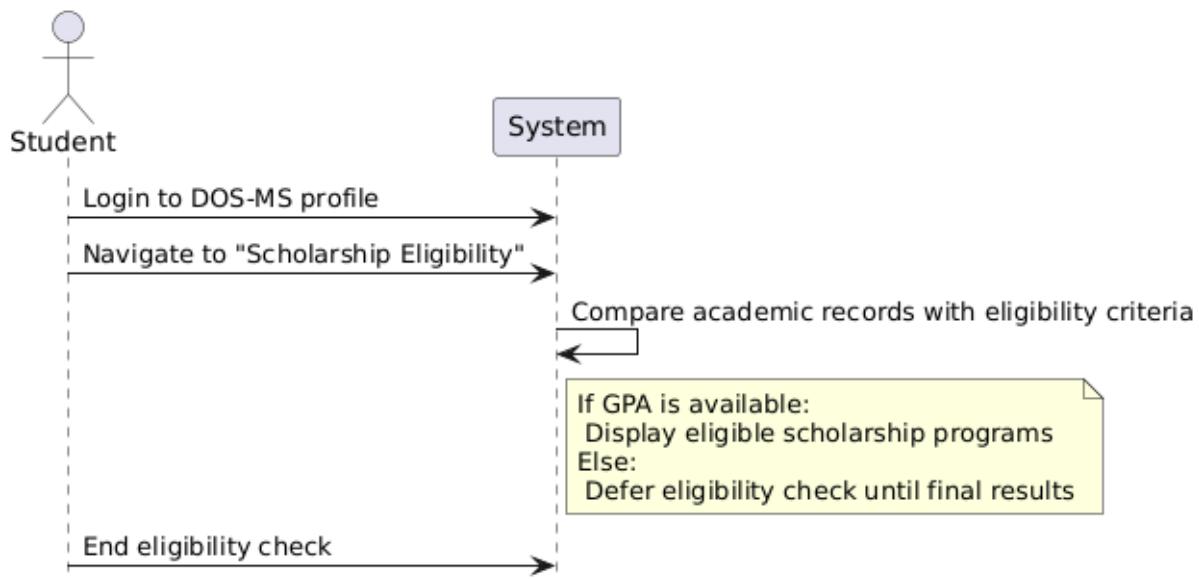
Scenario 4: View Course Schedule



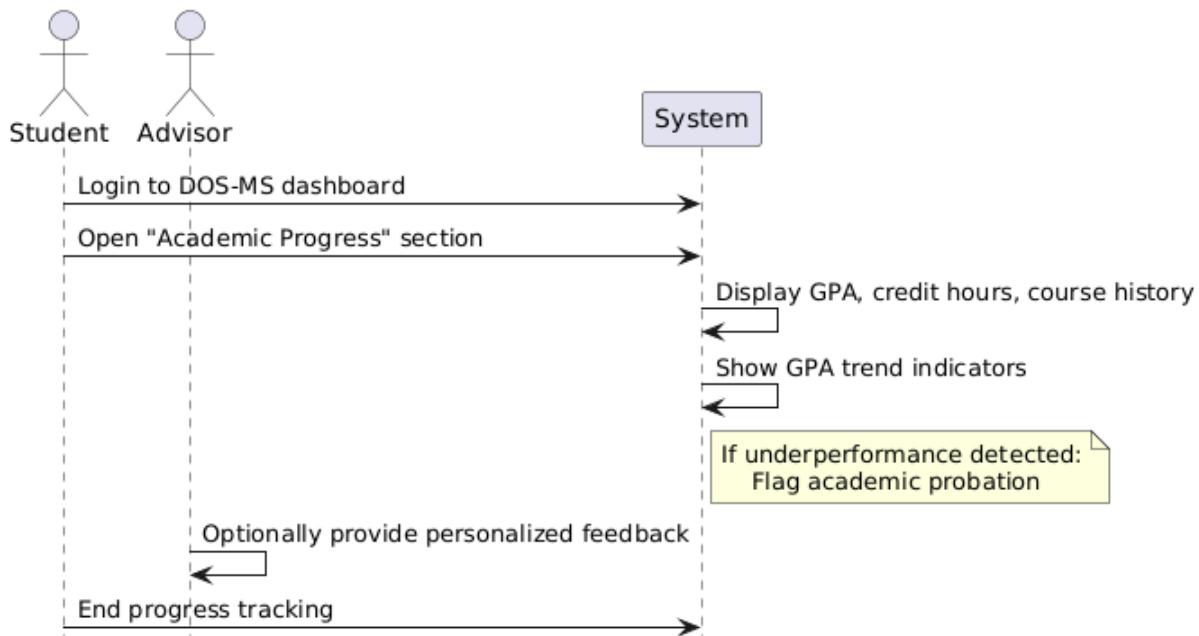
Scenario 5: Scholarship Allocation by Admin



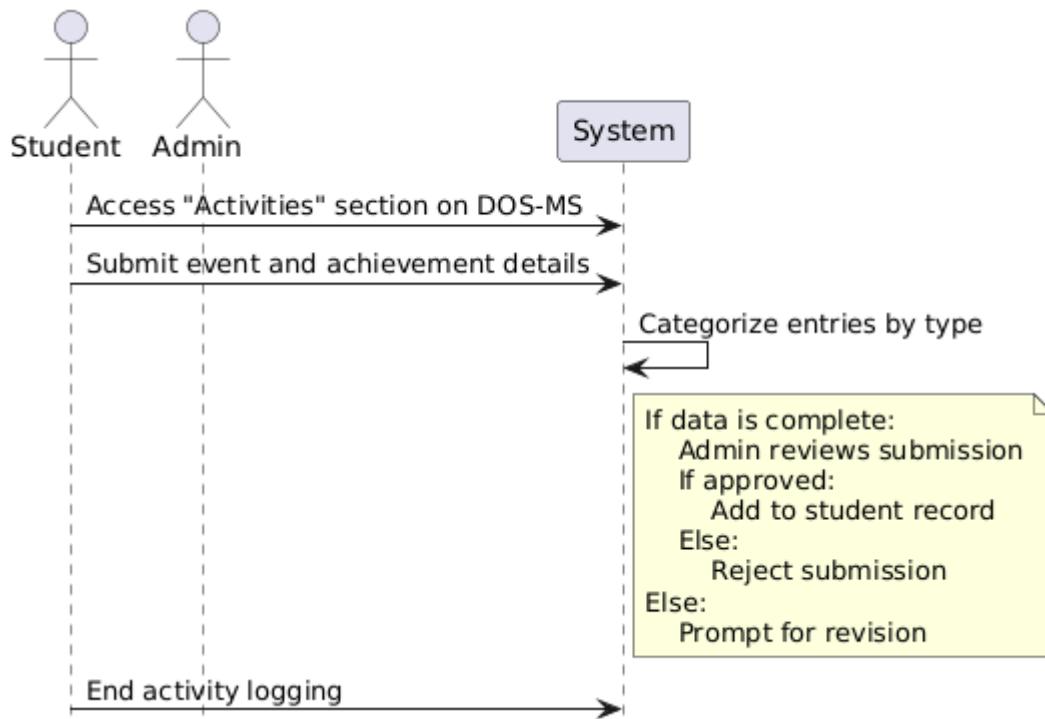
Scenario 6: View Scholarship Eligibility



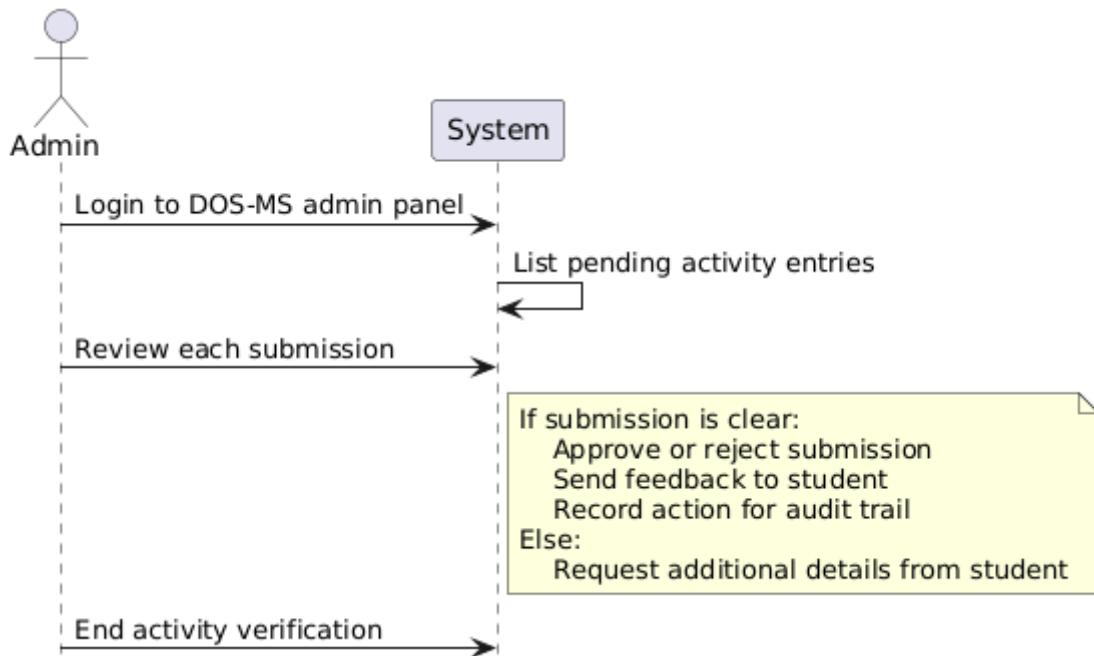
Scenario 7: Academic Progress Tracking



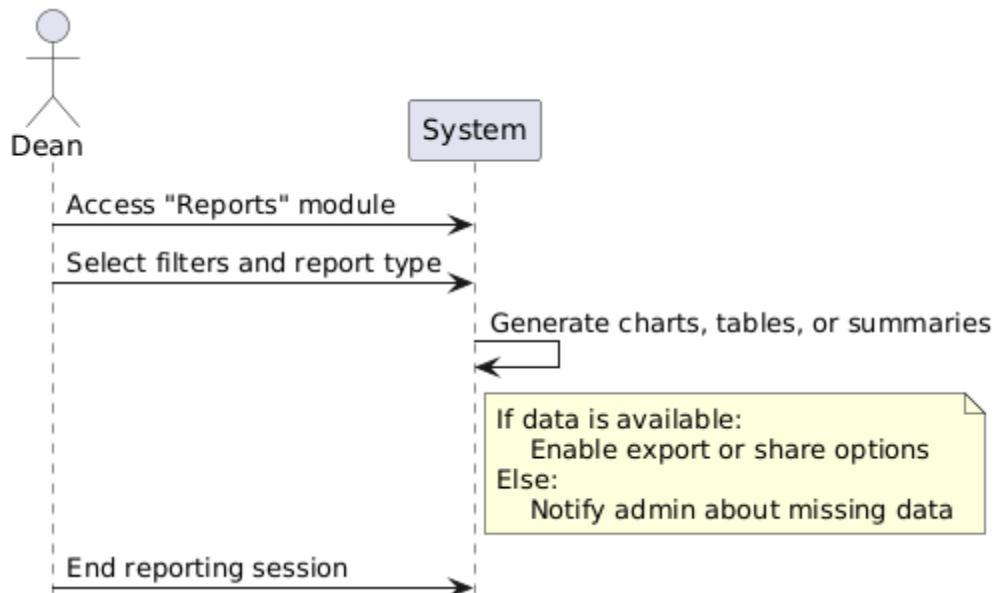
Scenario 8: Extracurricular Activity Logging



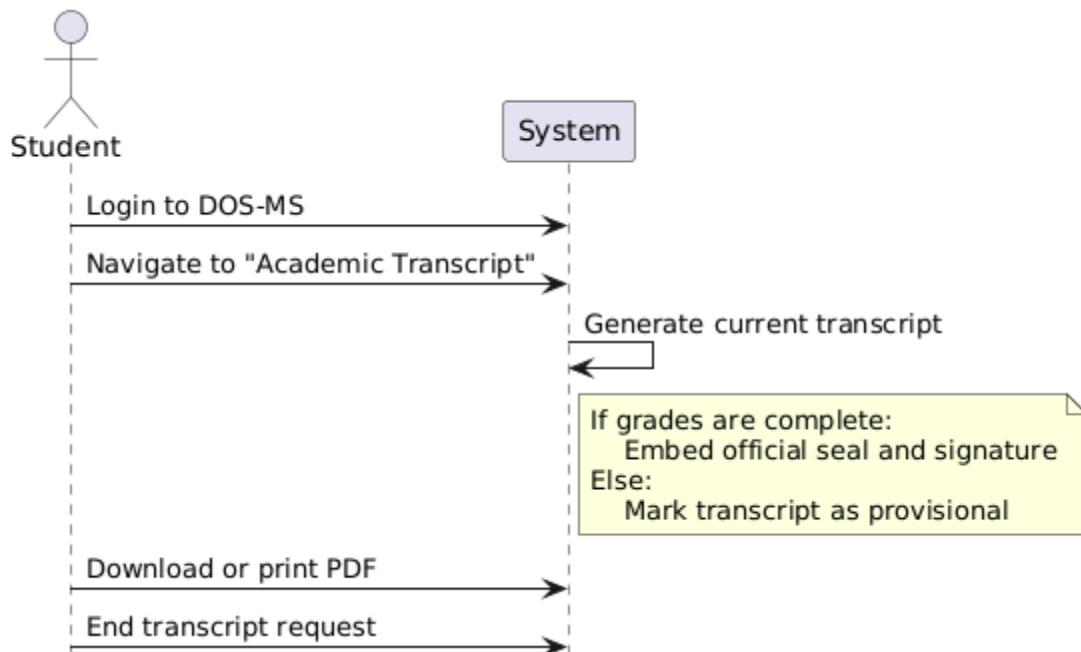
Scenario 9: Admin Verification of Activities



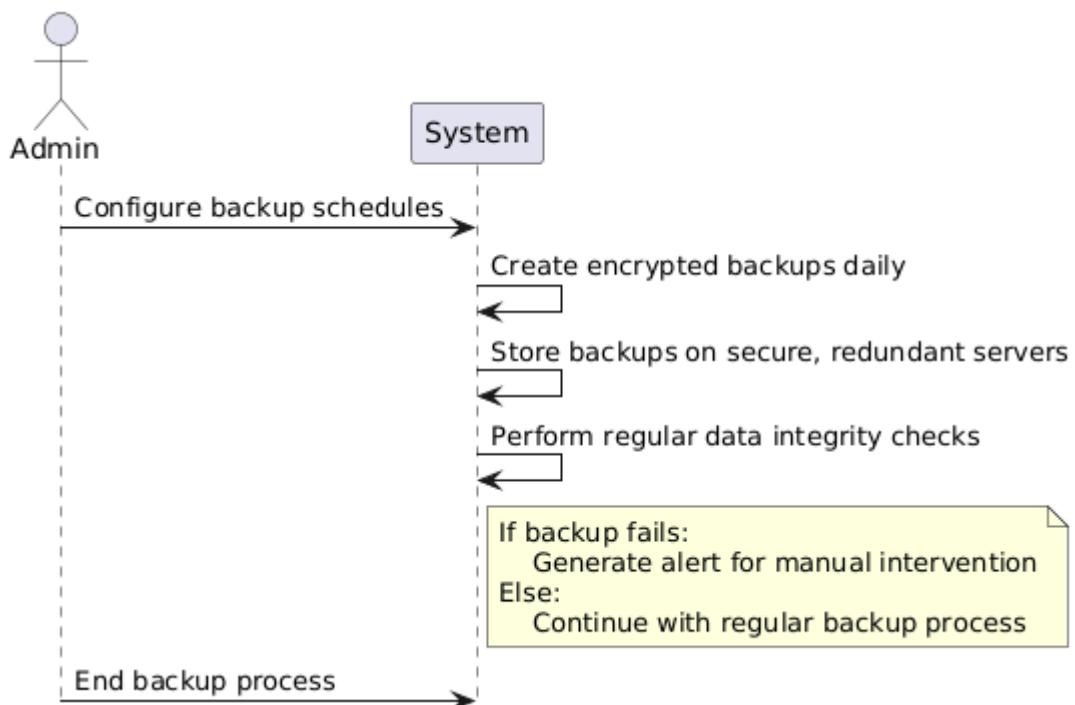
Scenario 10: Generate Real-Time Reports



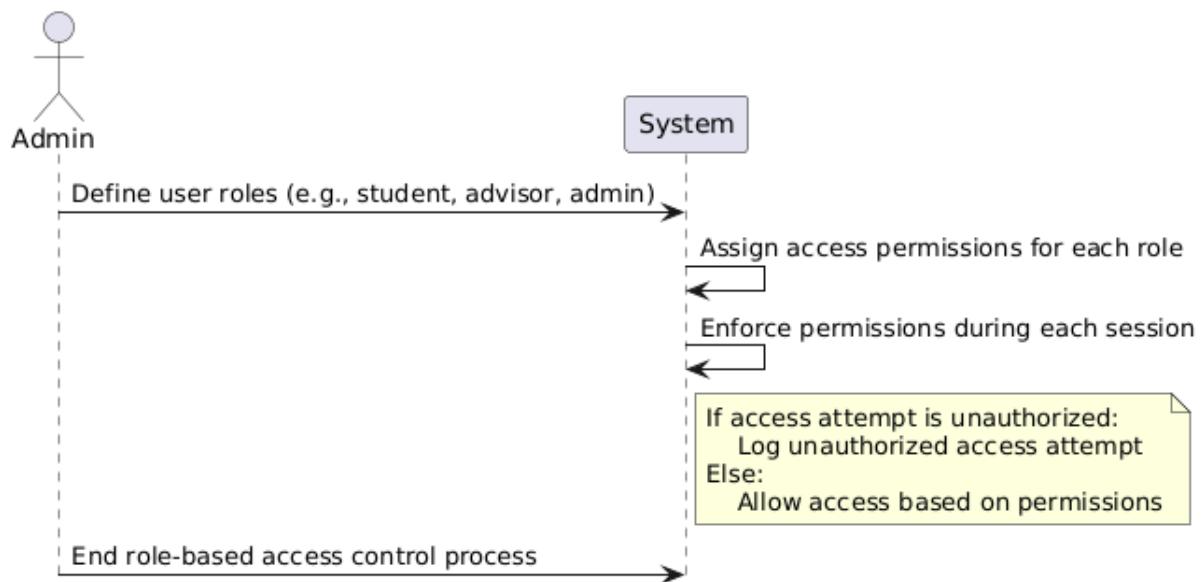
Scenario 11: Student Access to Academic Transcript



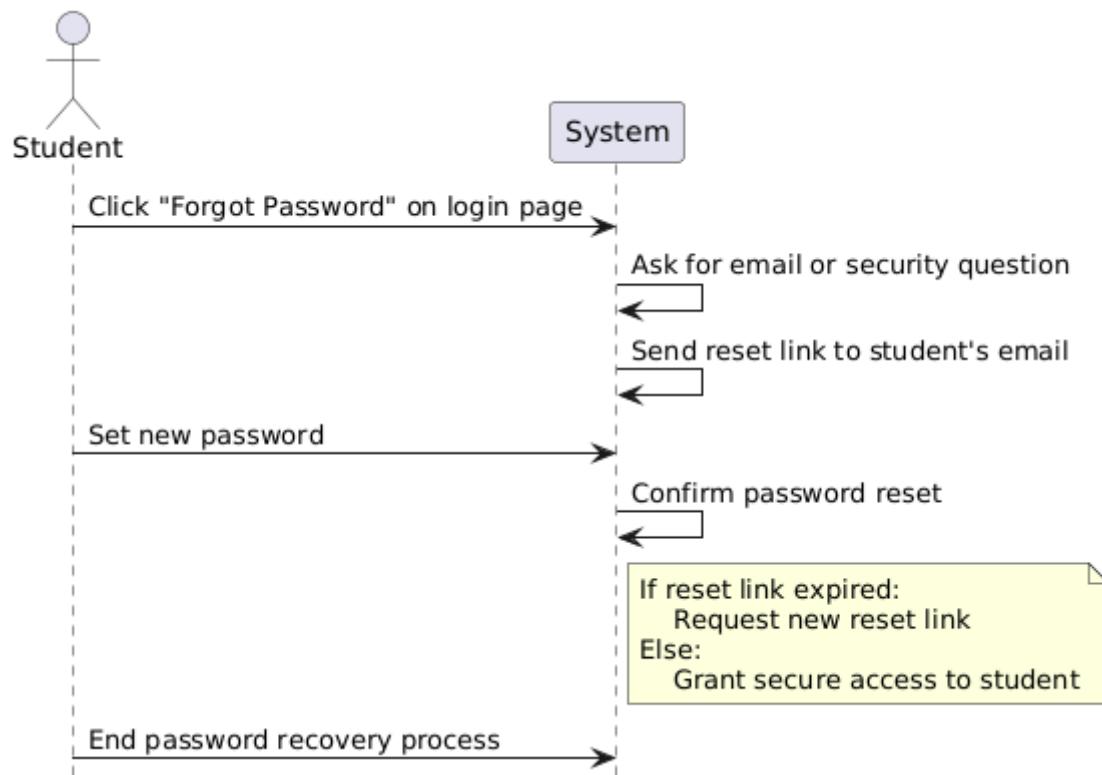
Scenario 12: System Backup and Data Integrity



Scenario 13: Secure Role-Based Access Control



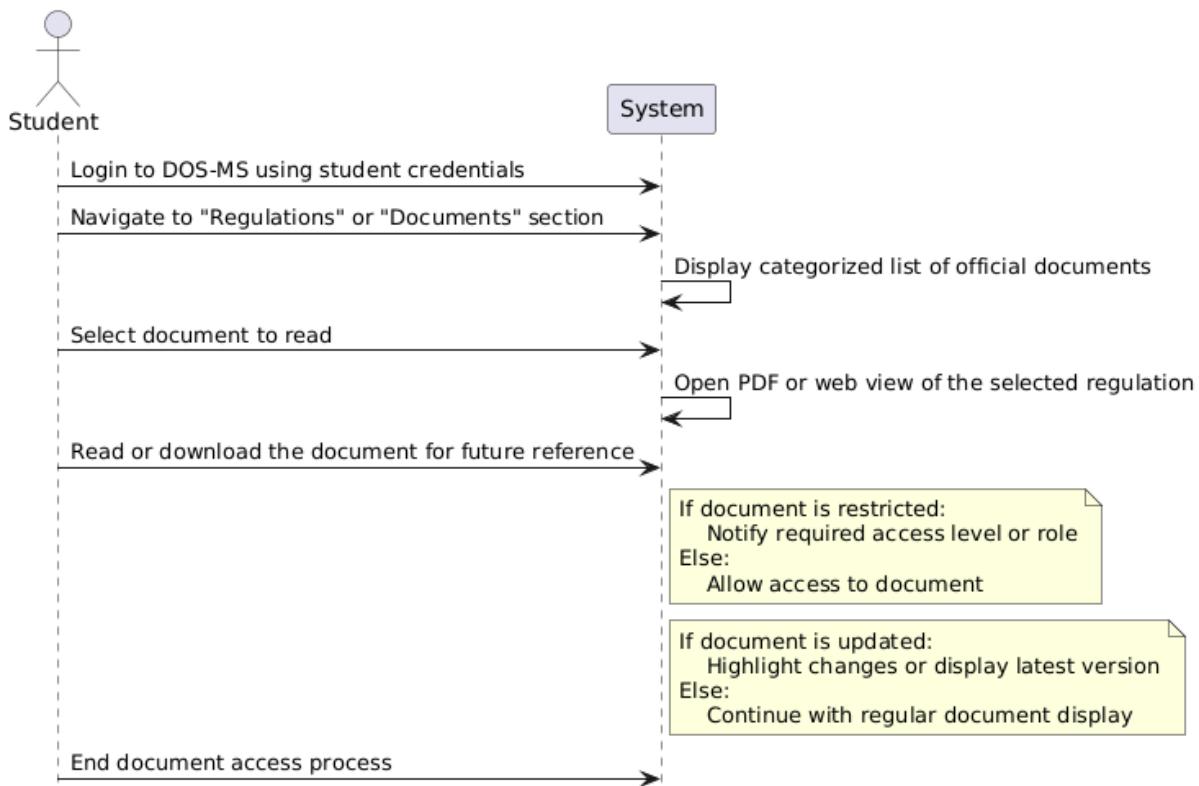
Scenario 14: Password Recovery for Students



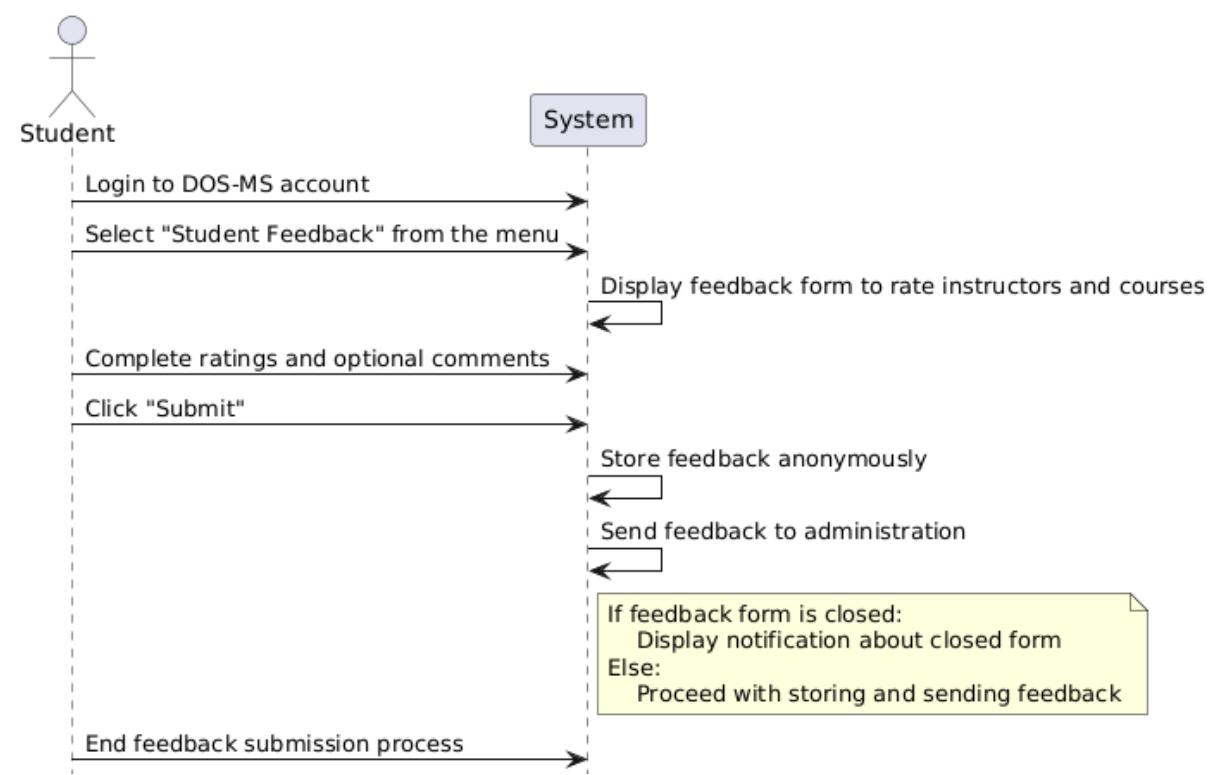
Scenario 15: Automated Compliance Monitoring



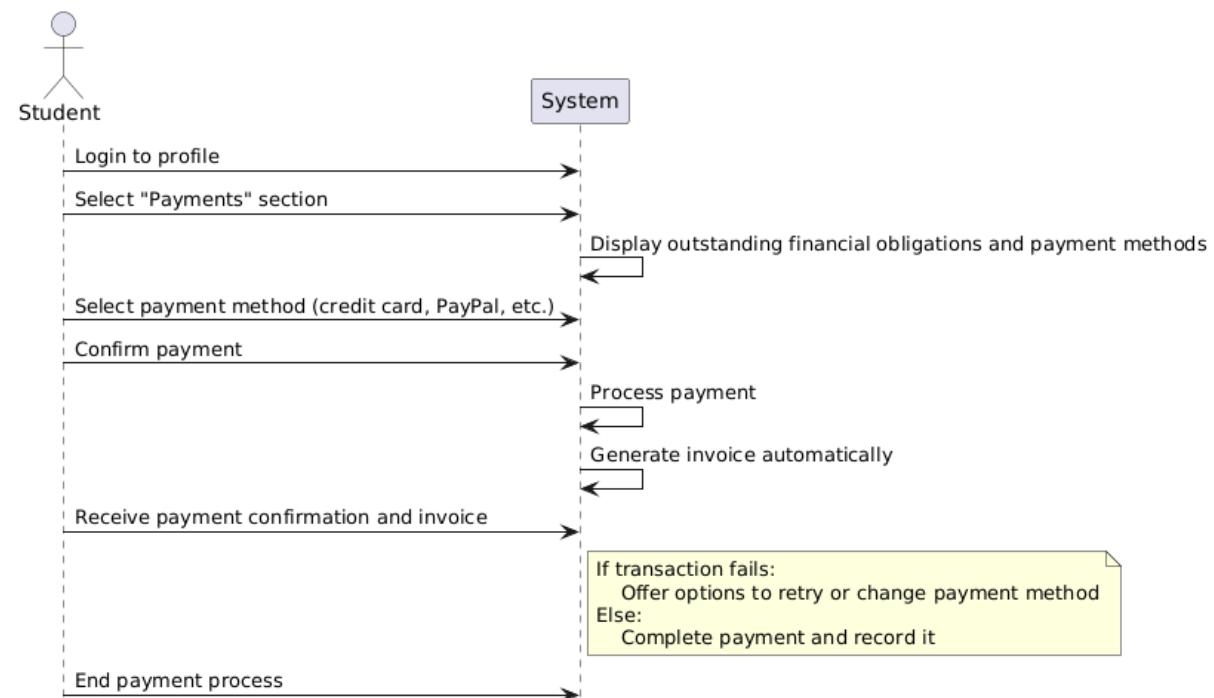
Scenario 16: Viewing University Regulations



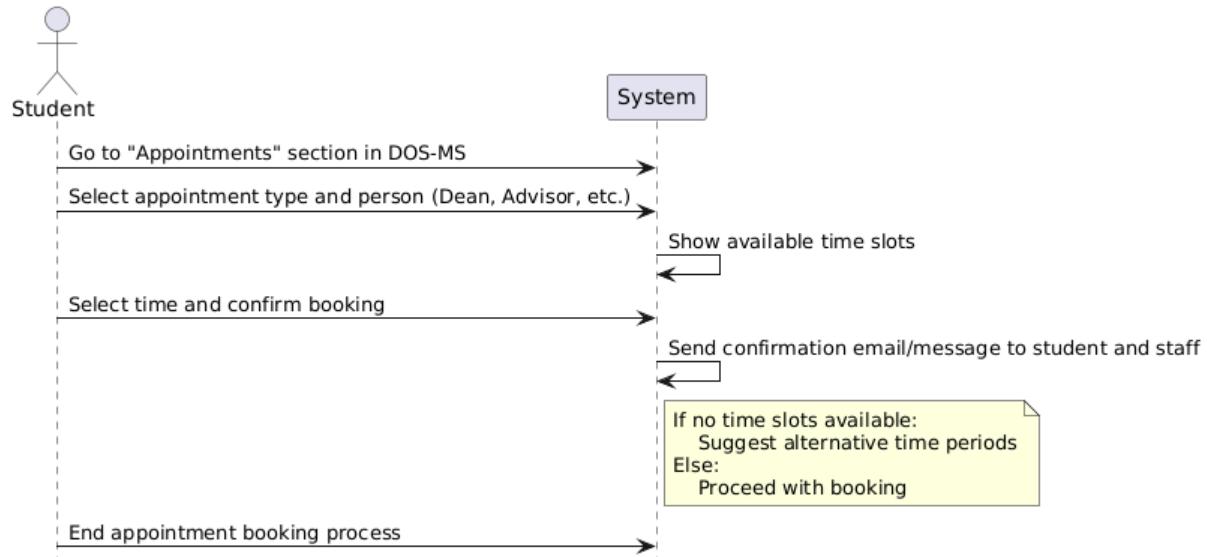
Scenario 17: Submit Student Feedback



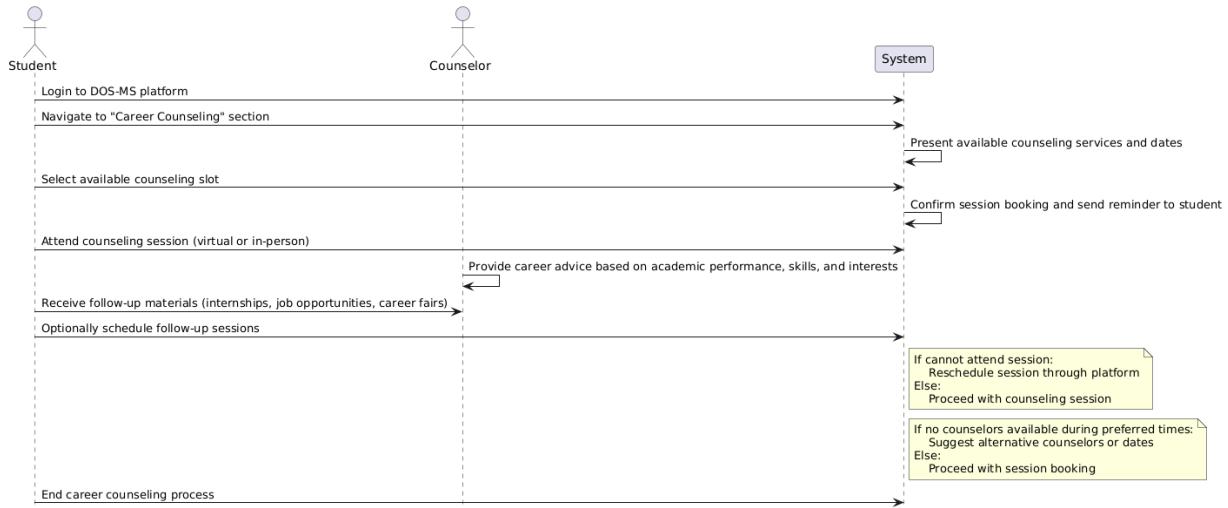
Scenario 18: Online Tuition Payment



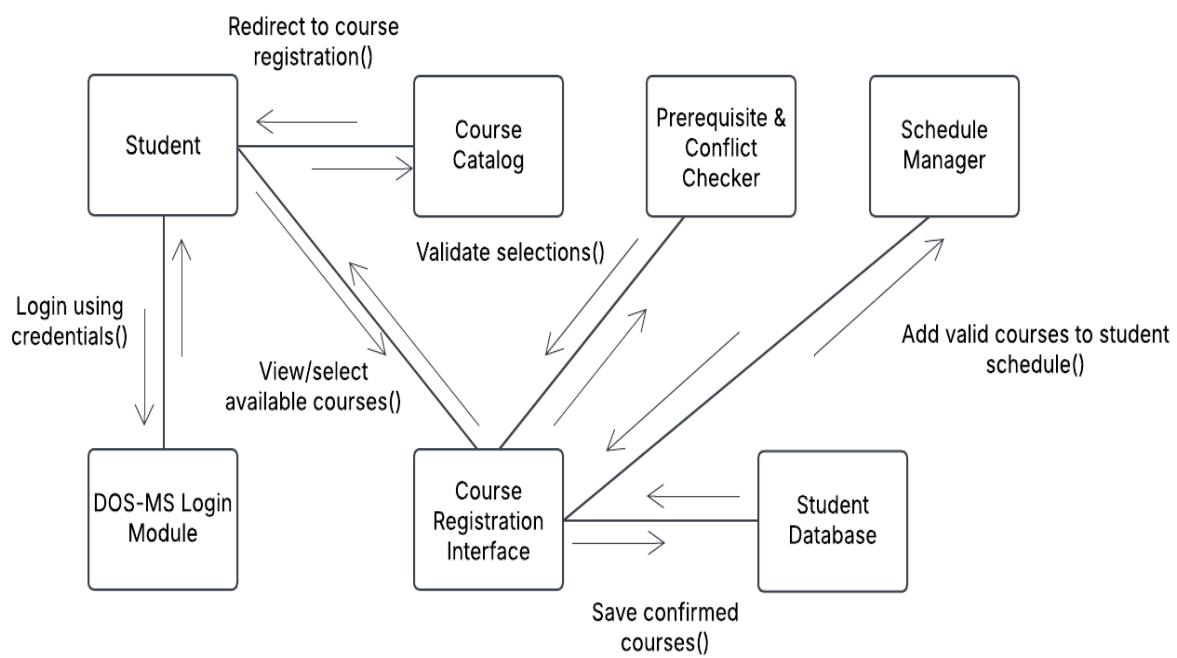
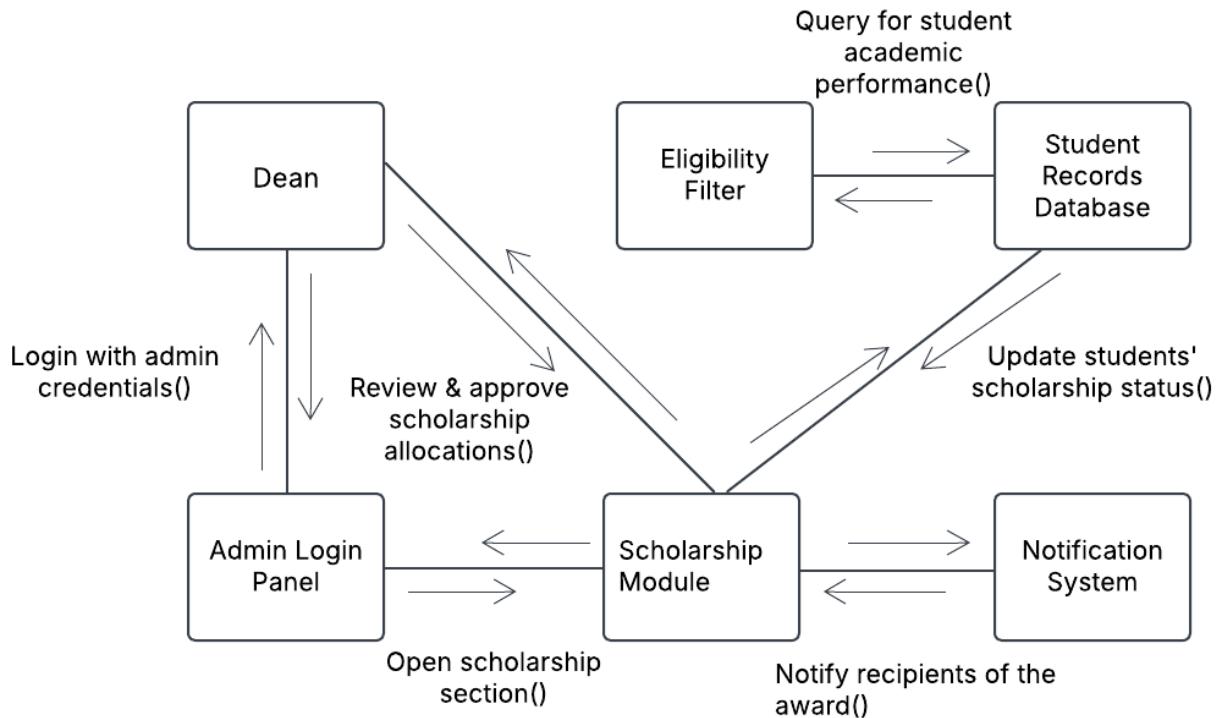
Scenario 19: Appointment Booking with Dean or Advisor



Scenario 20: Career Counseling Session



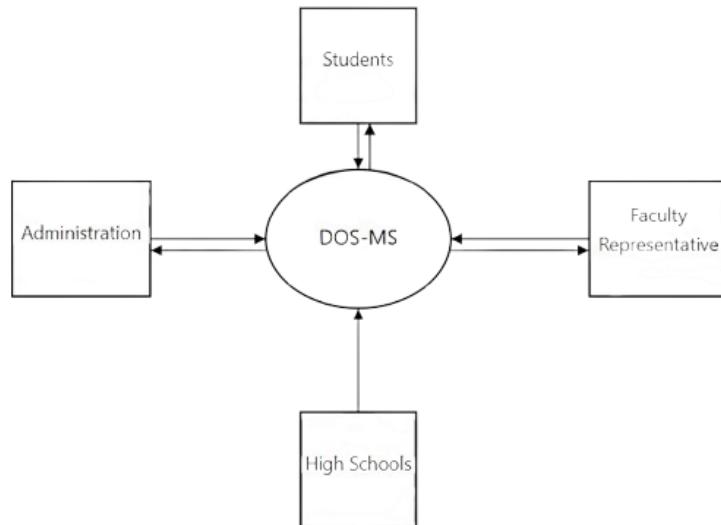
4.11 Collaboration Diagram



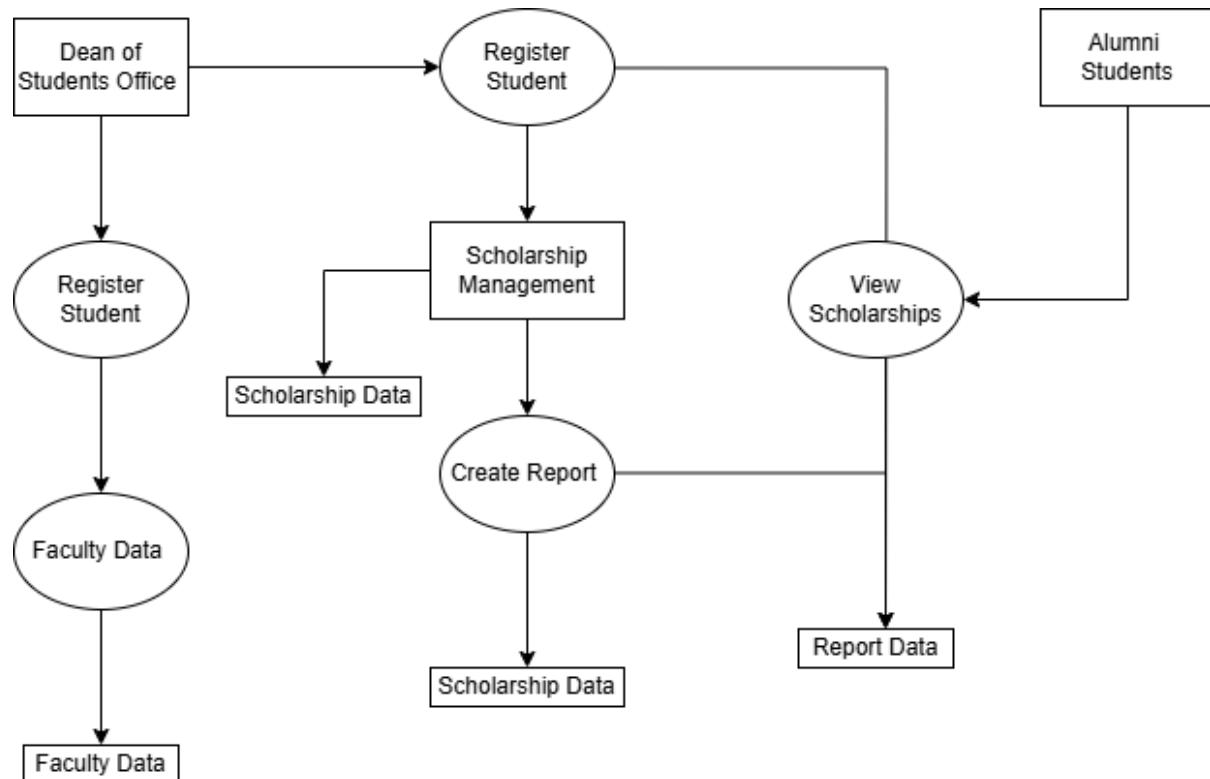
4.12 Data Flow Diagrams(DFD)

DFD LEVEL 0

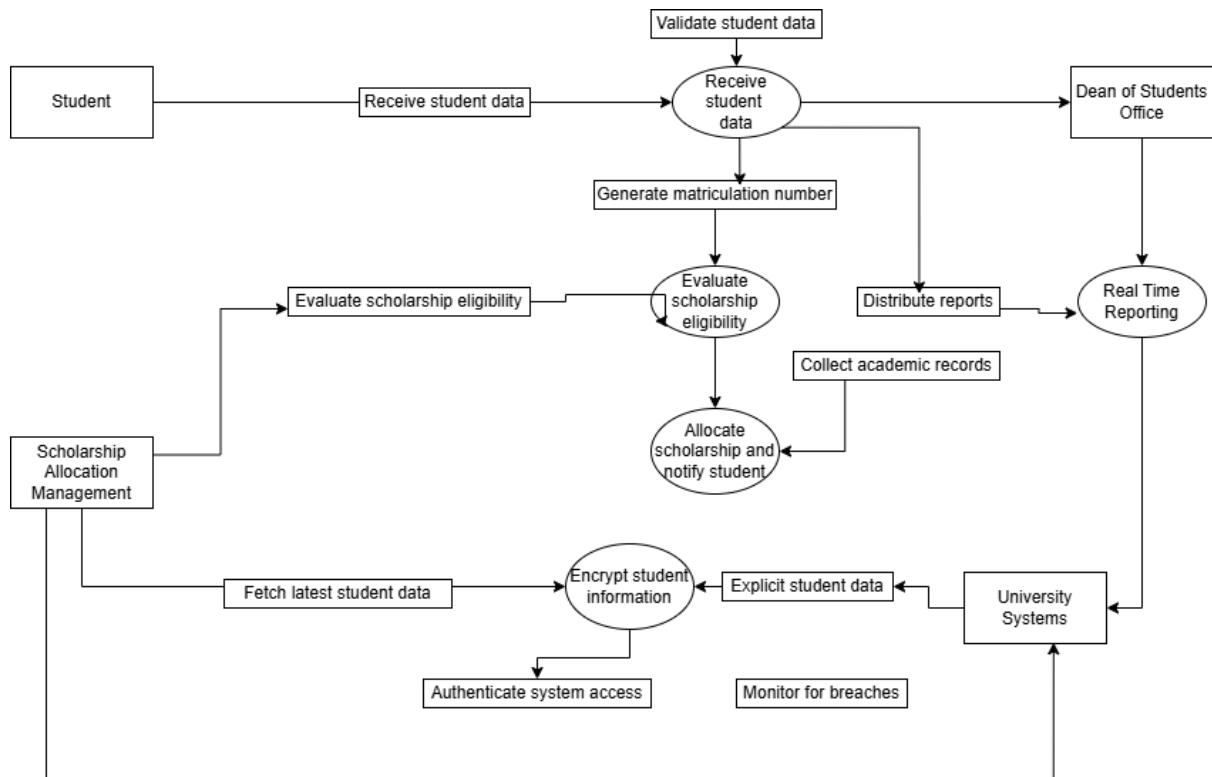
DFD level 0 - DOS-MS



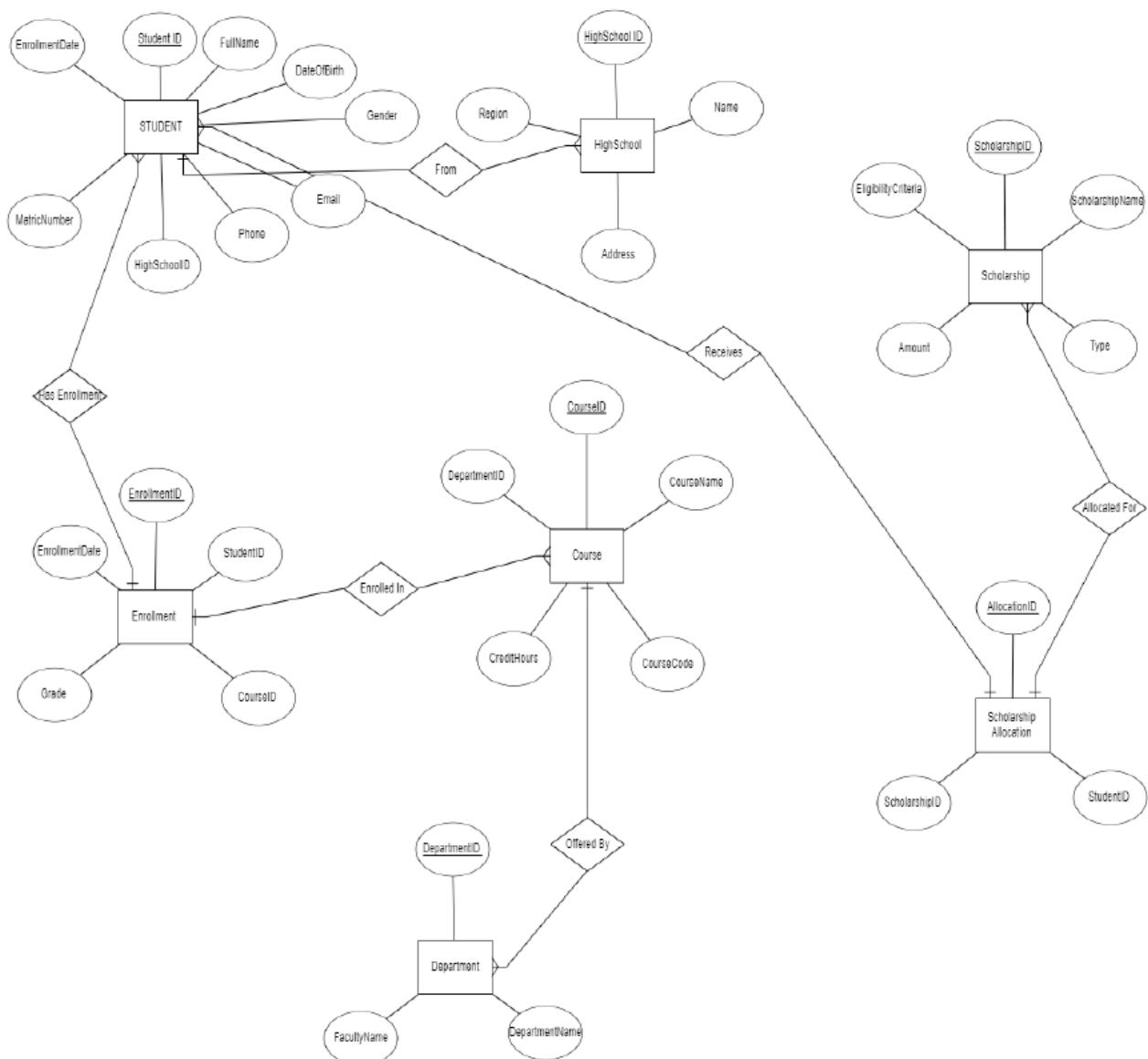
DFD LEVEL 1



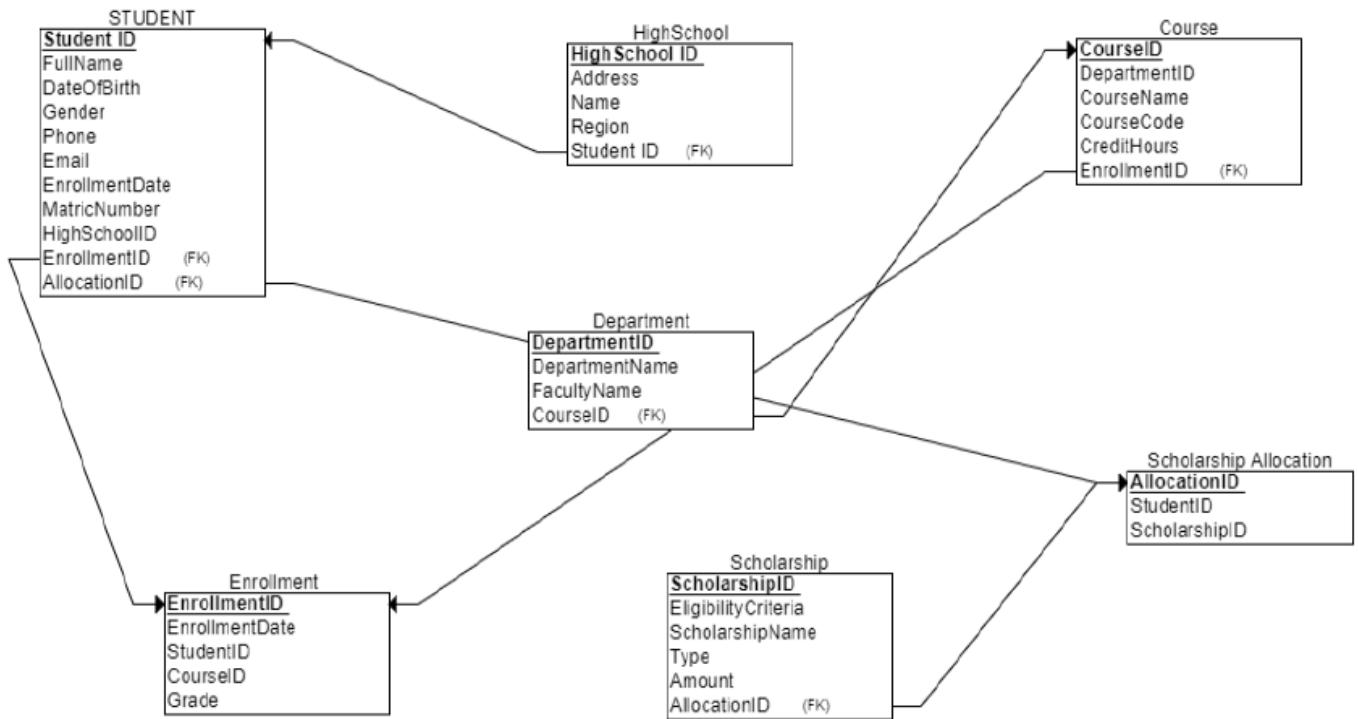
DFD LEVEL 2



4.13 Entity Relationship Diagram

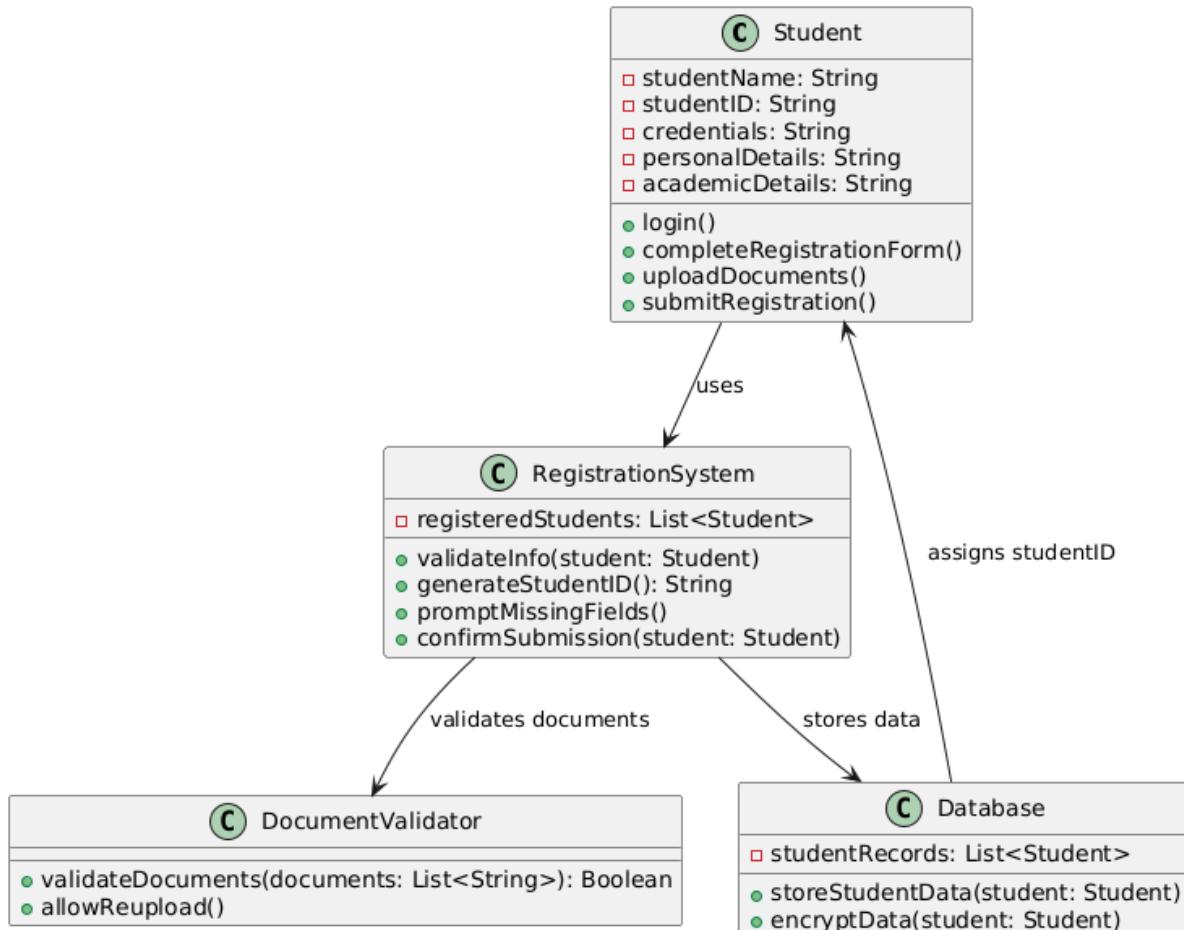


4.14 Relational Schema

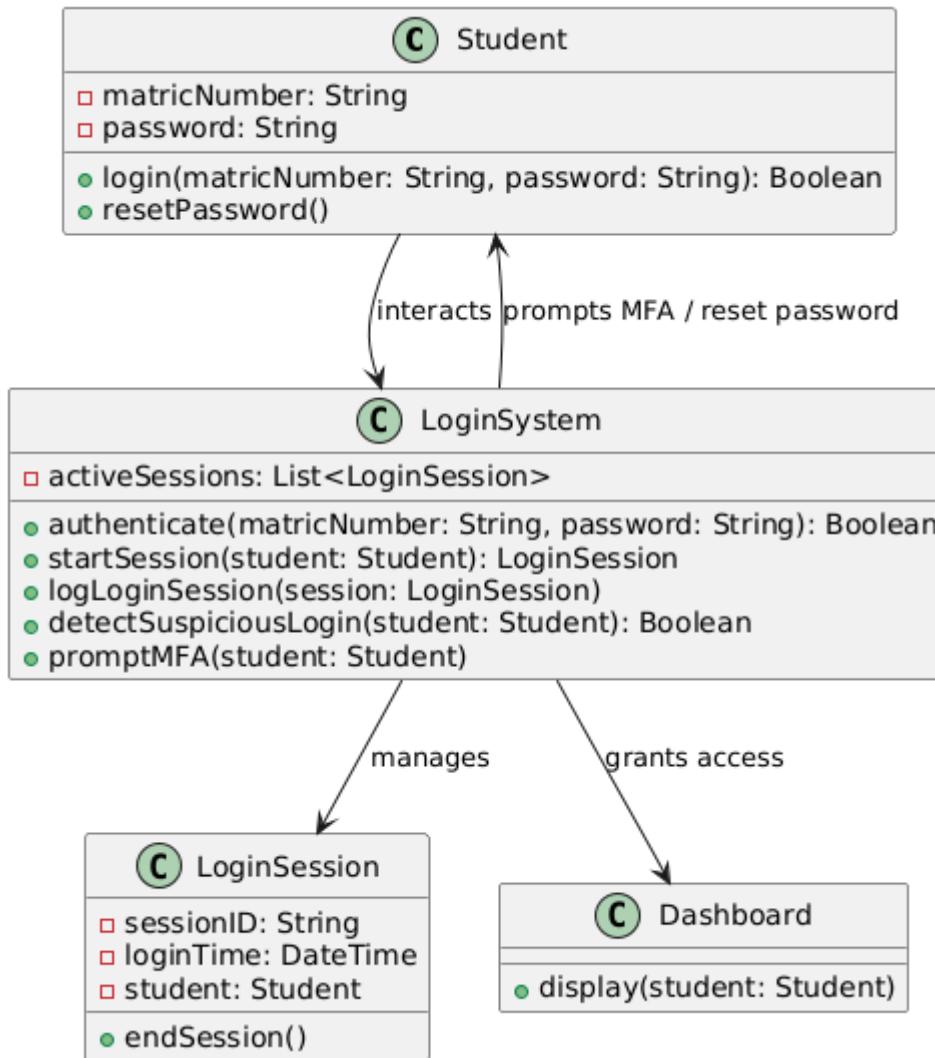


4.15 Class Diagrams

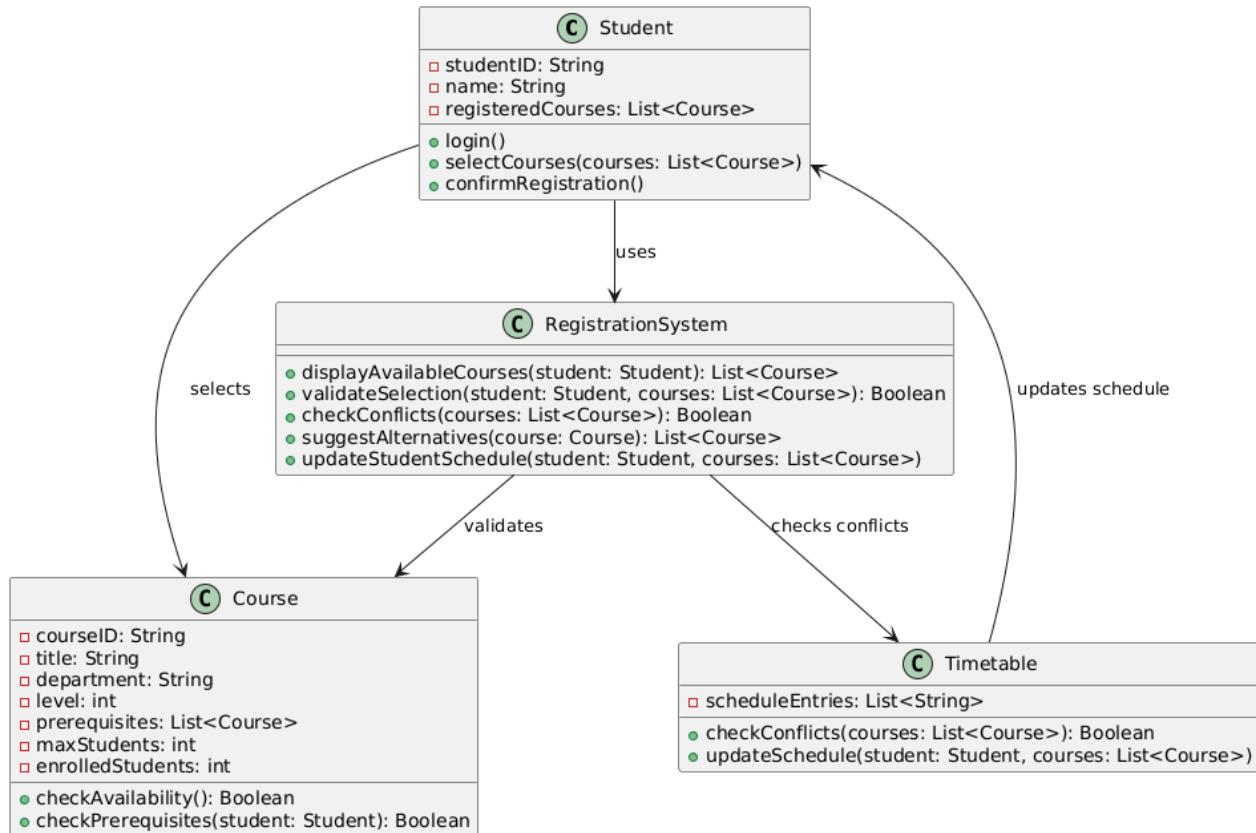
Scenario 1: Student Registration and Transition from High School



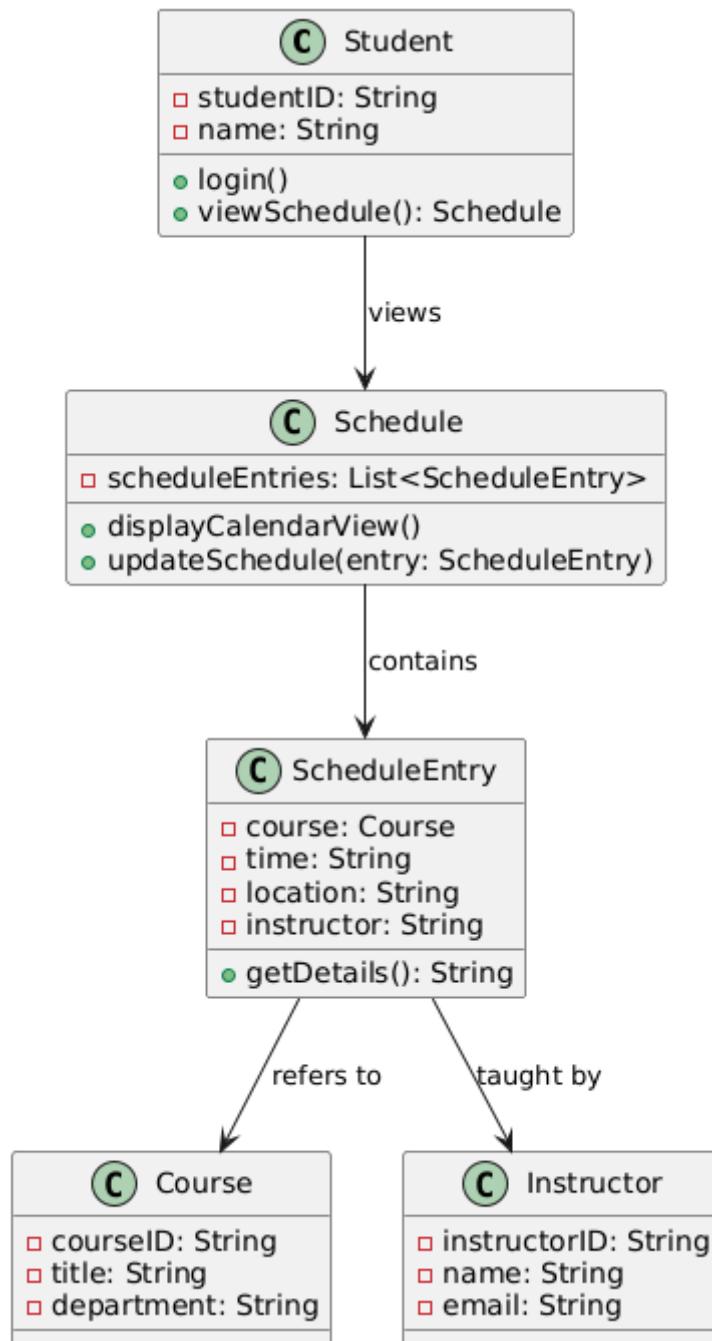
Scenario 2: Student Login to DOS-MS



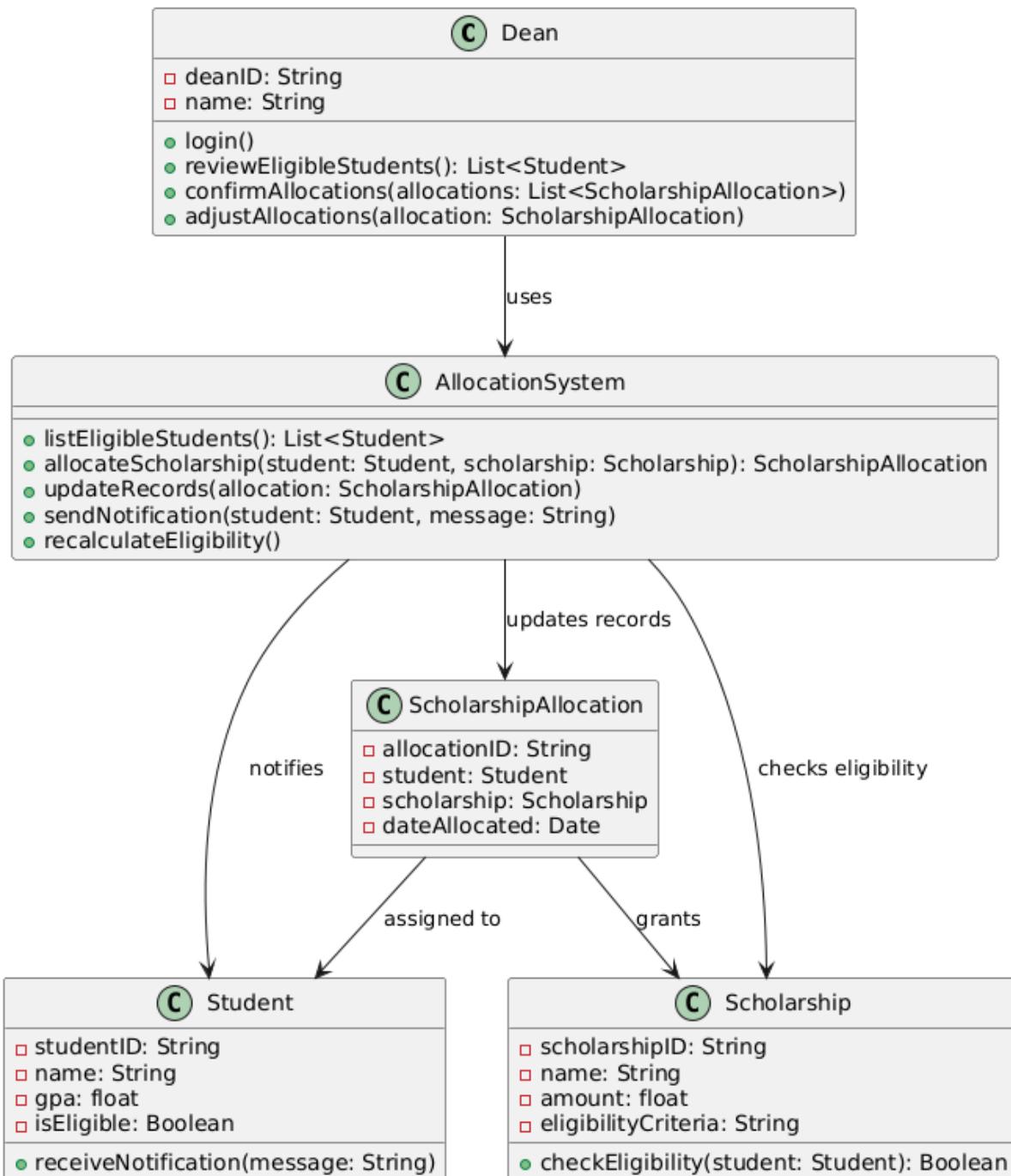
Scenario 3: Course Registration



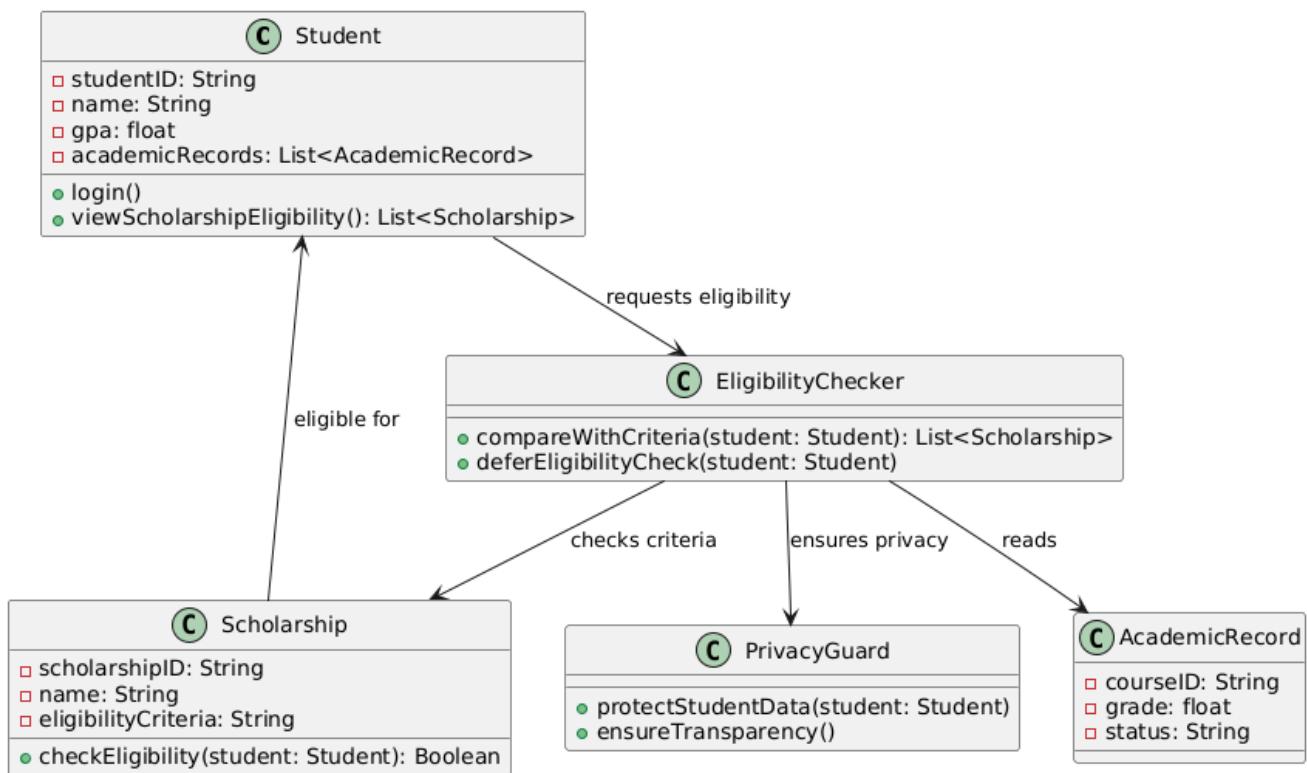
Scenario 4: View Course Schedule



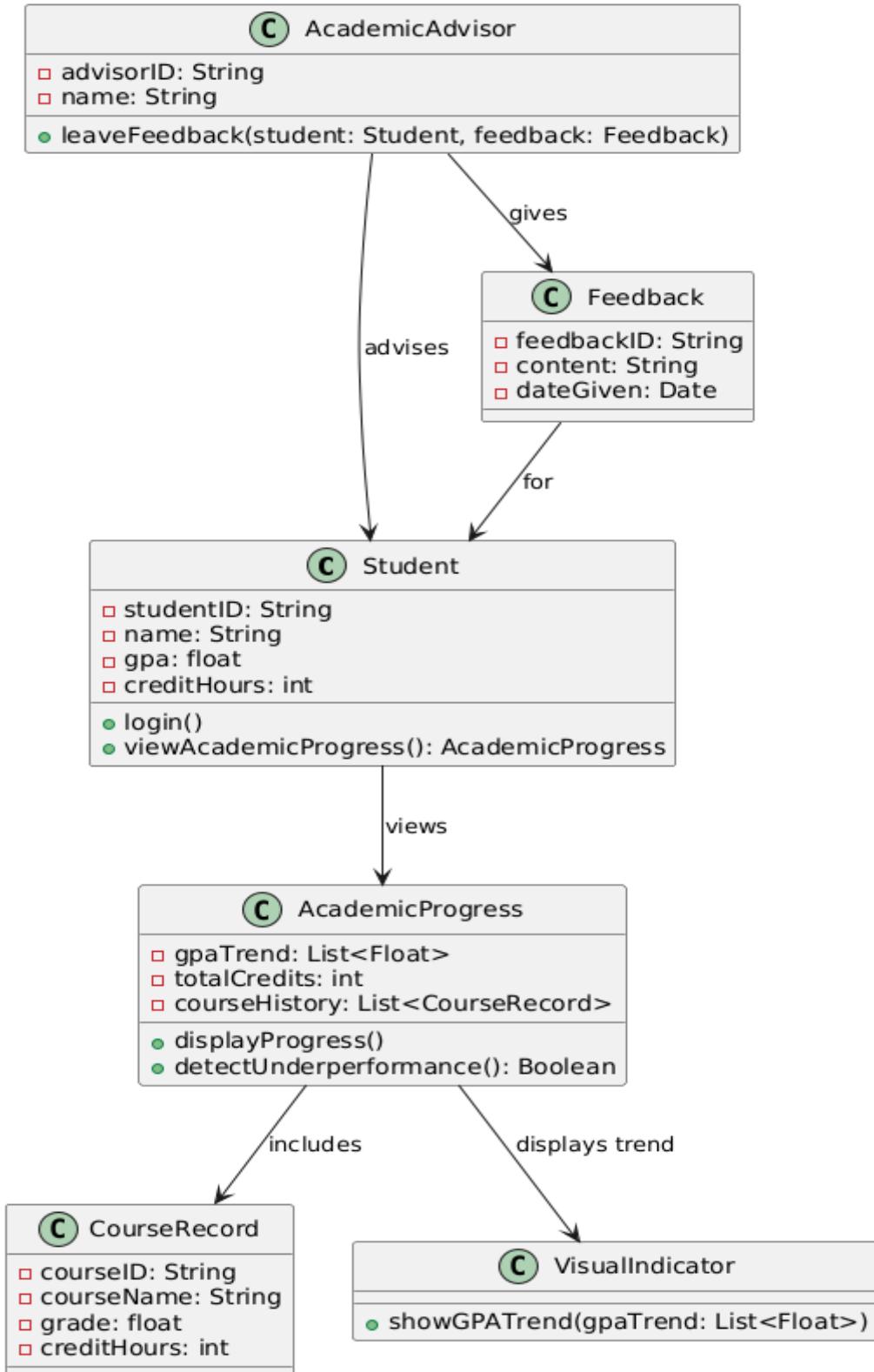
Scenario 5: Scholarship Allocation by Admin



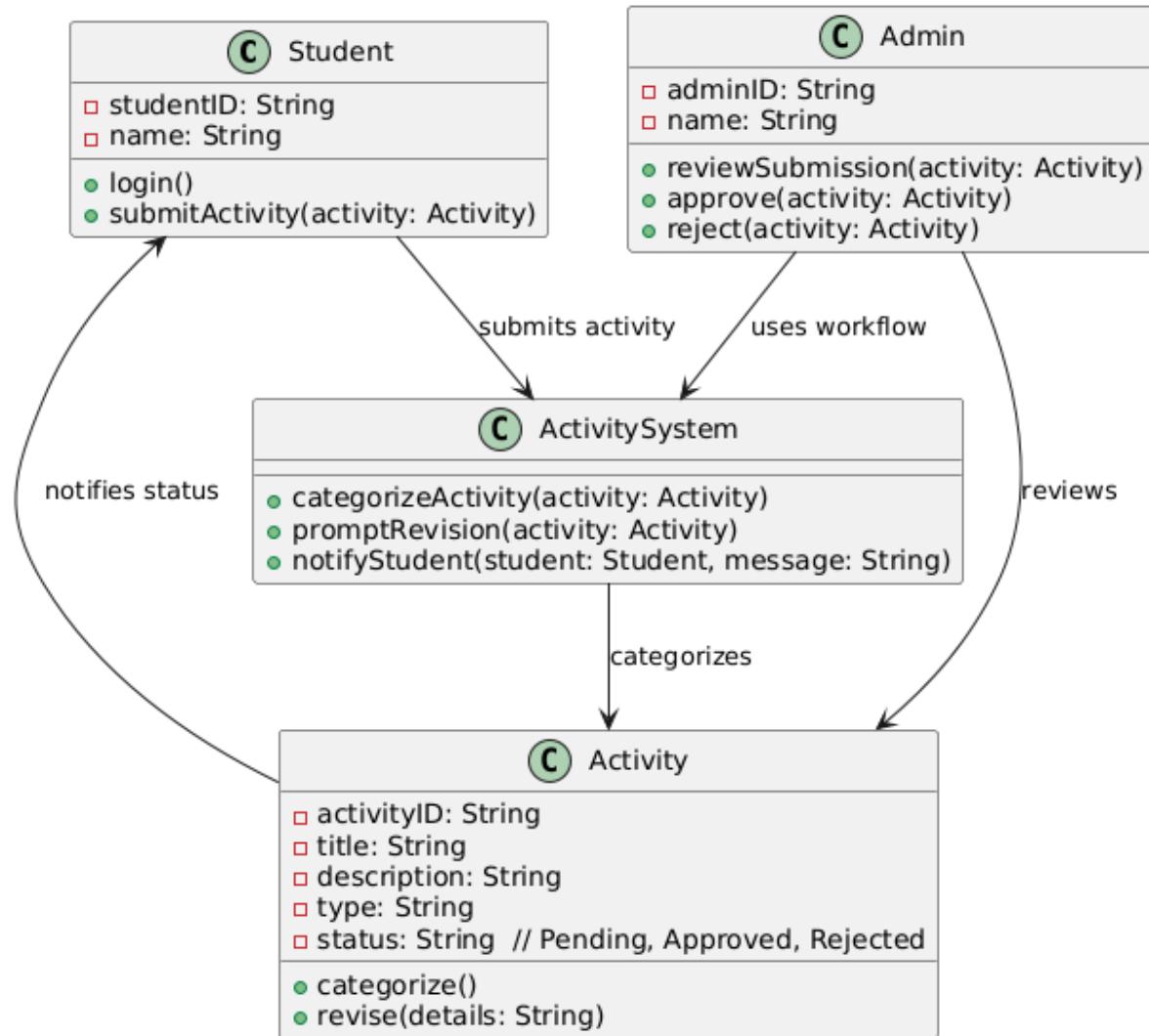
Scenario 6: View Scholarship Eligibility



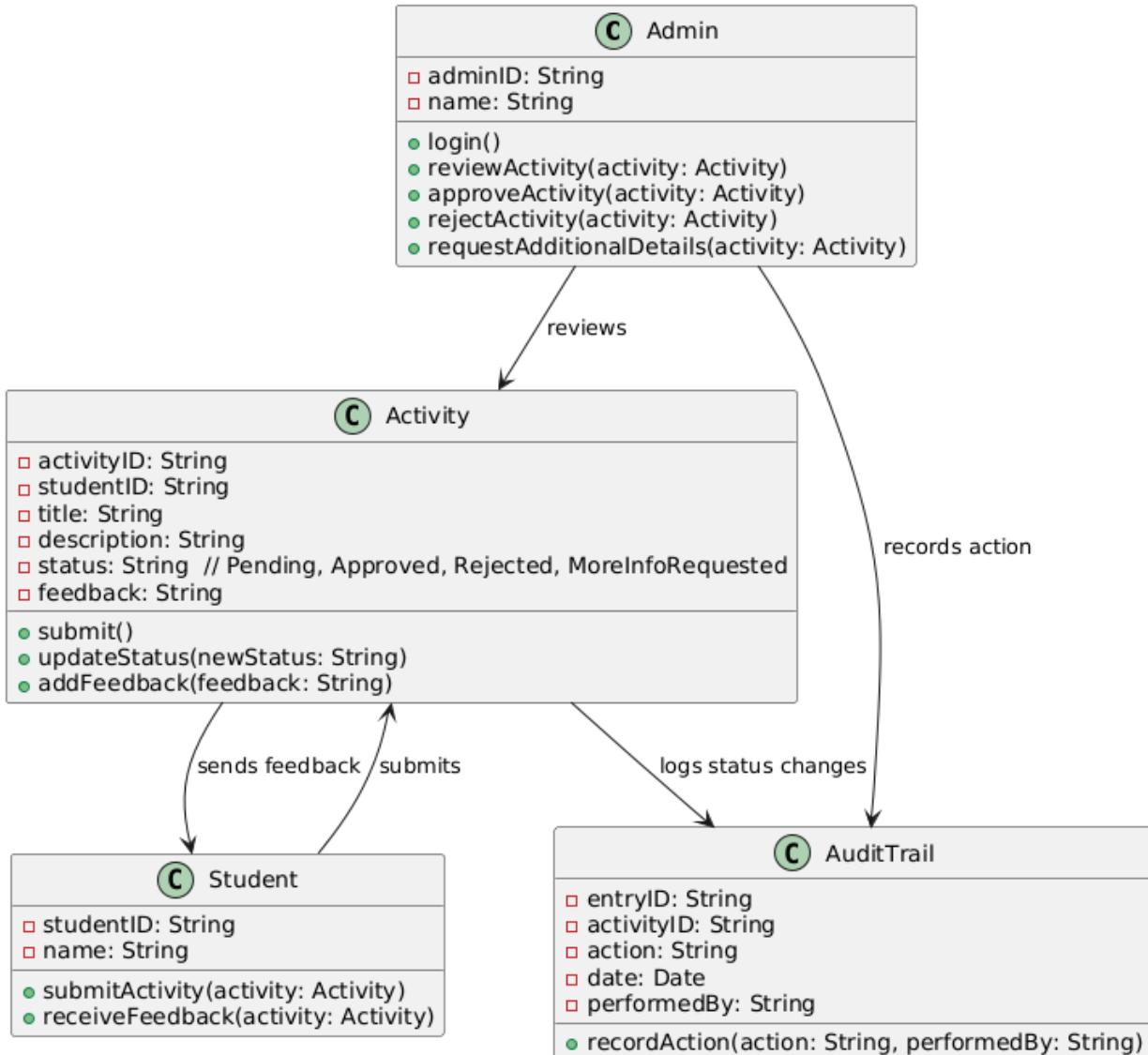
Scenario 7: Academic Progress Tracking



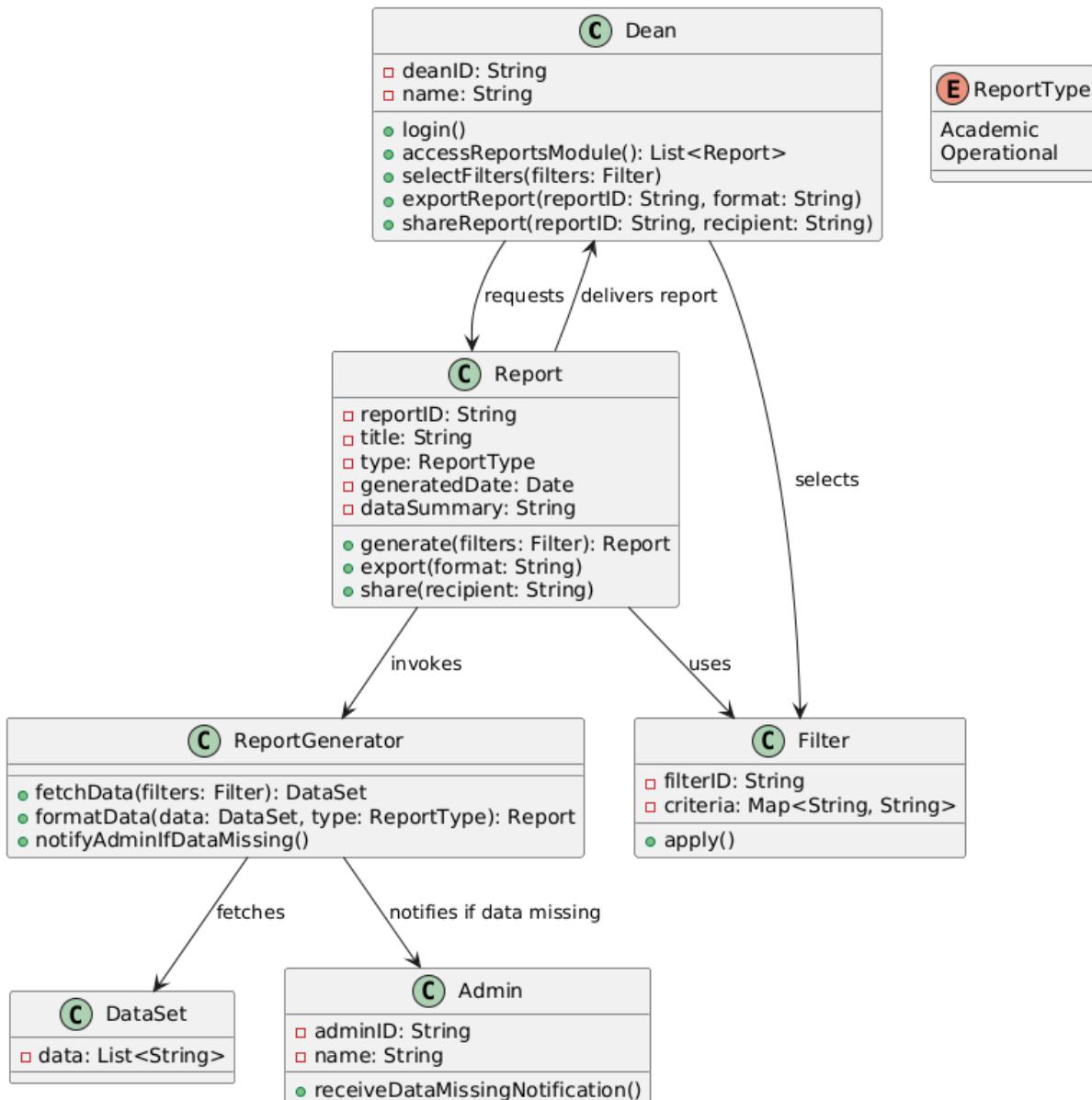
Scenario 8: Extracurricular Activity Logging



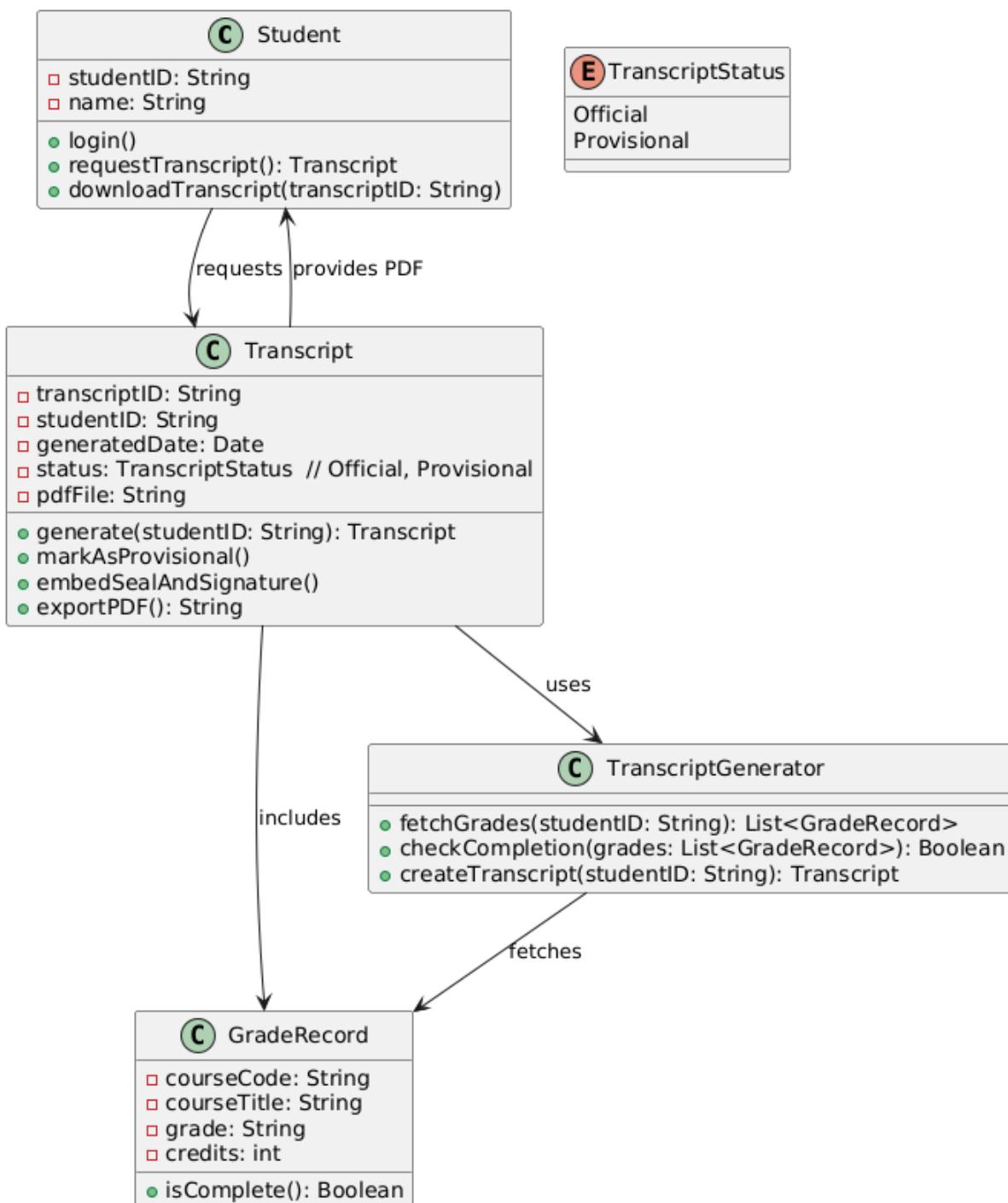
Scenario 9: Admin Verification of Activities



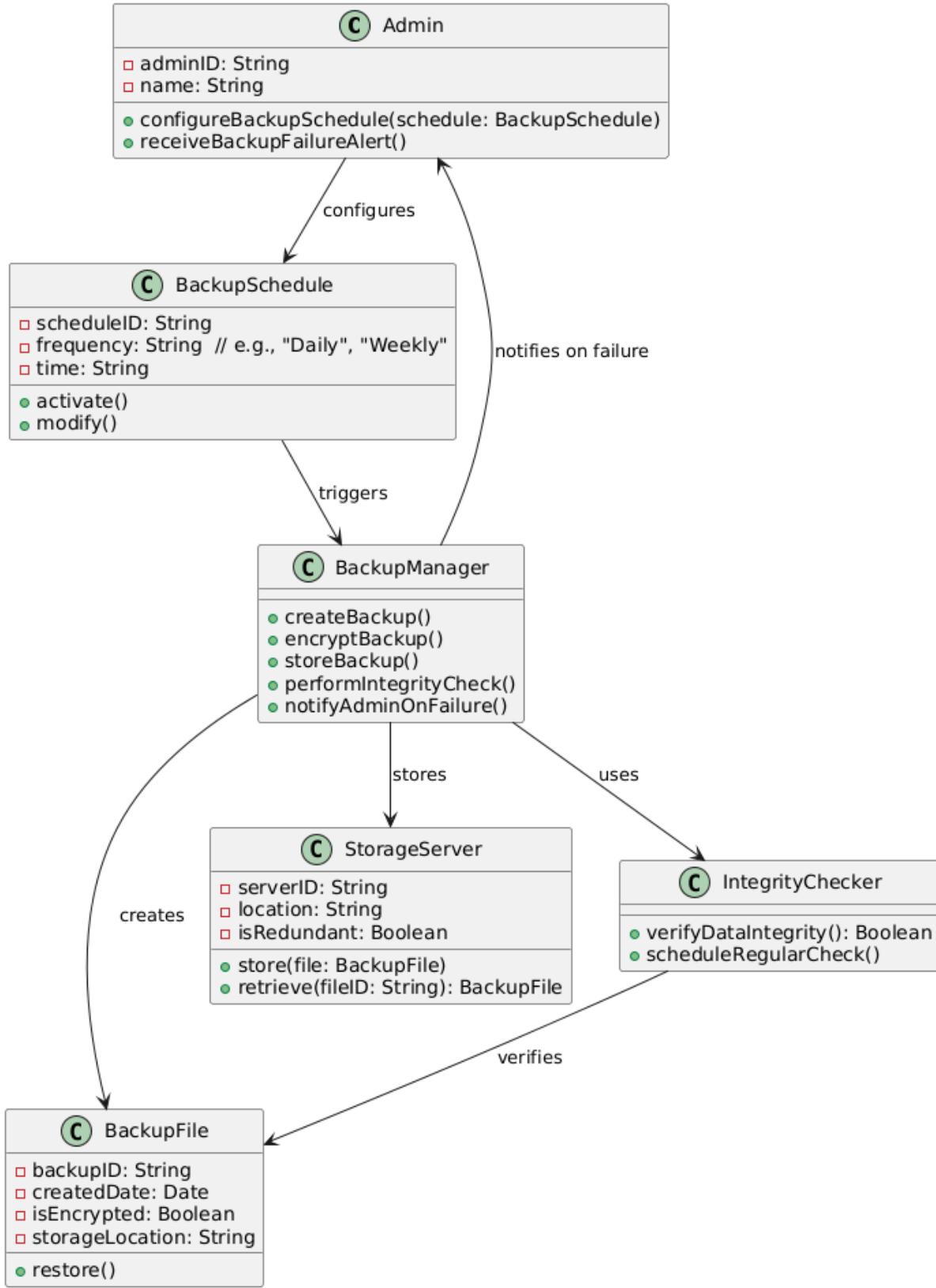
Scenario 10: Generate Real-Time Reports



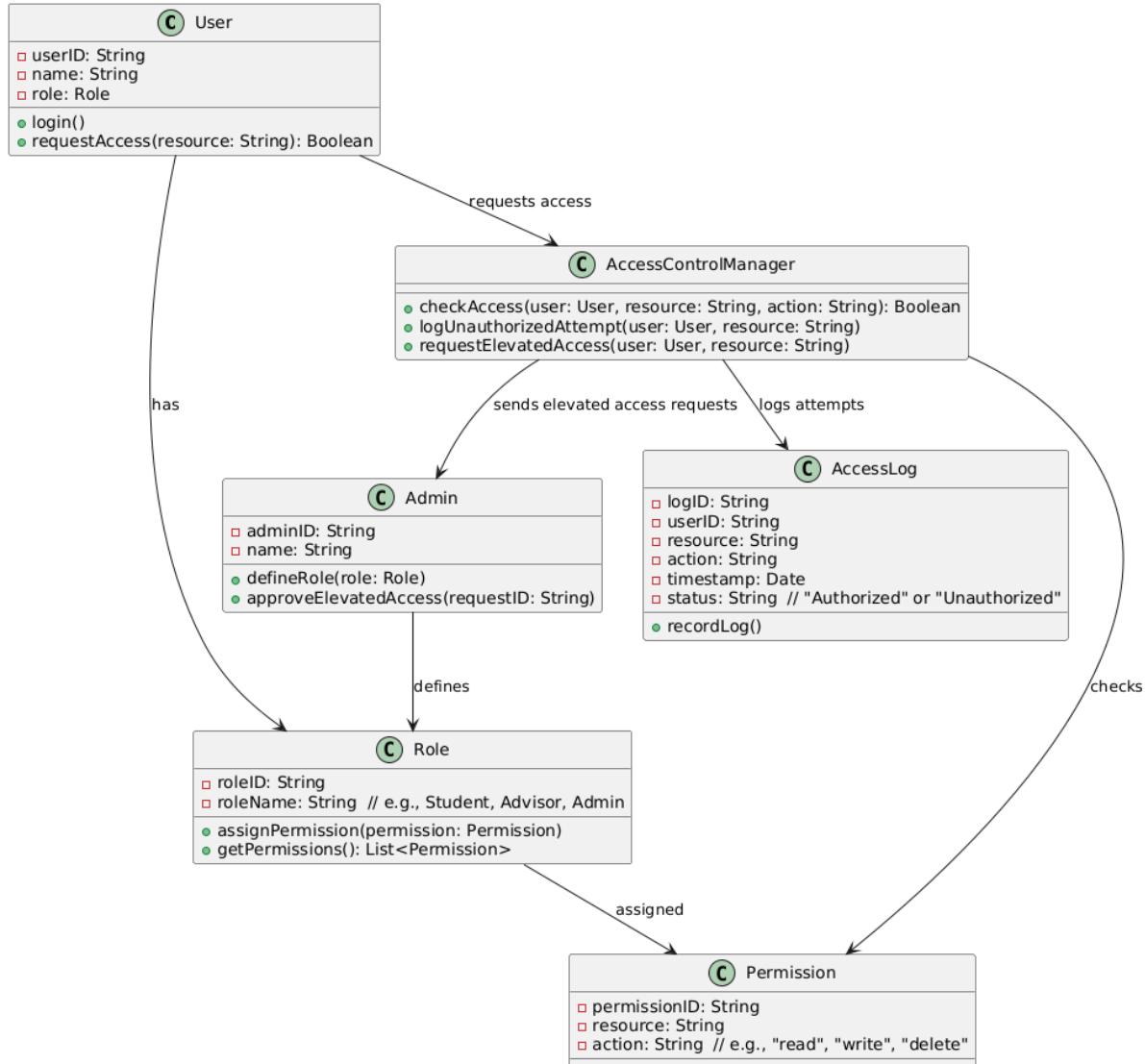
Scenario 11: Student Access to Academic Transcript



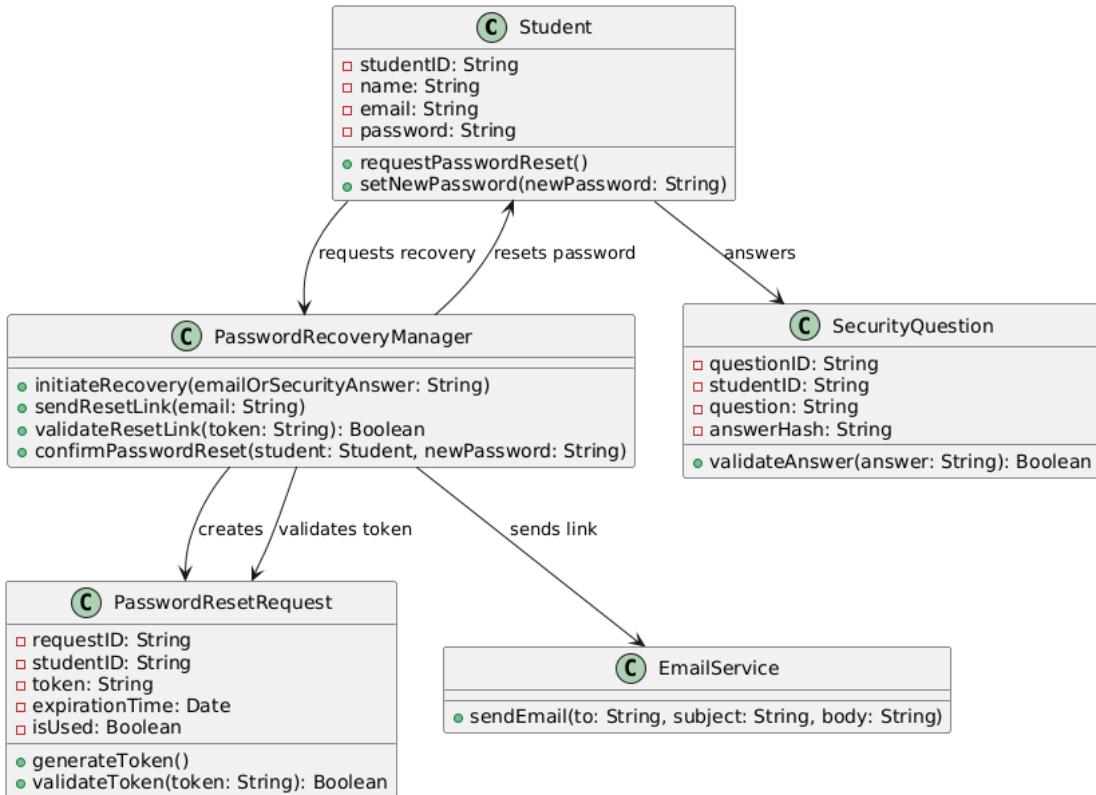
Scenario 12: System Backup and Data Integrity



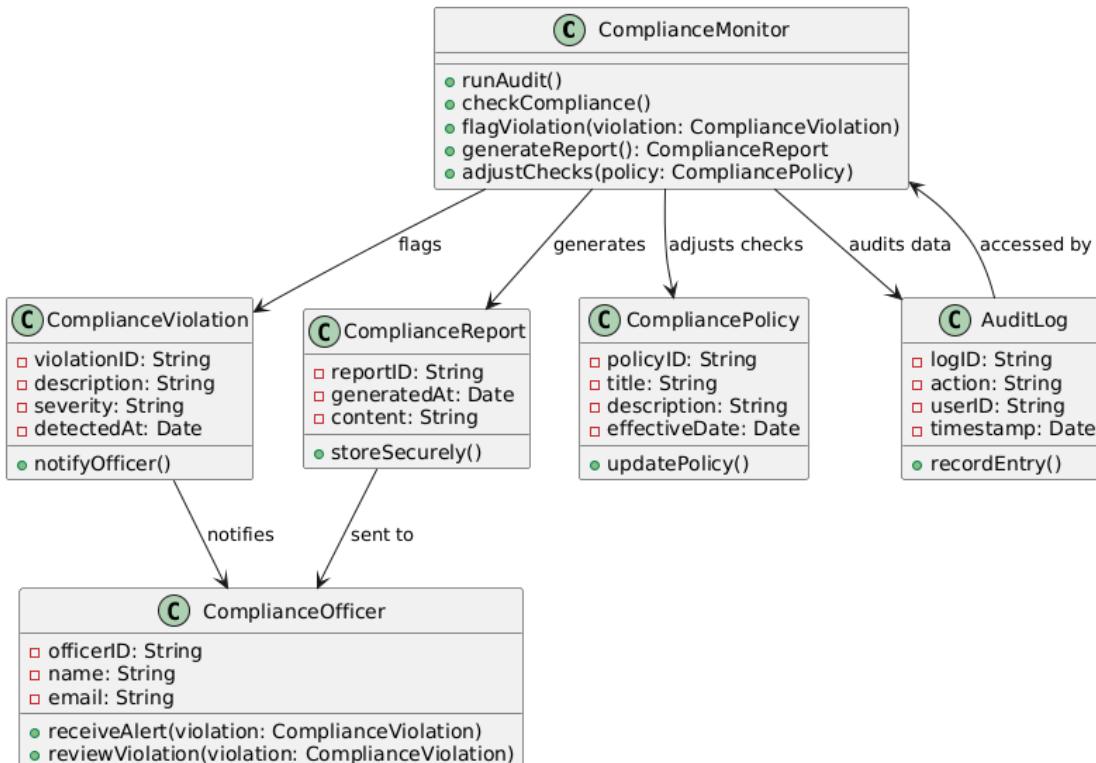
Scenario 13: Secure Role-Based Access Control



Scenario 14: Password Recovery for Students



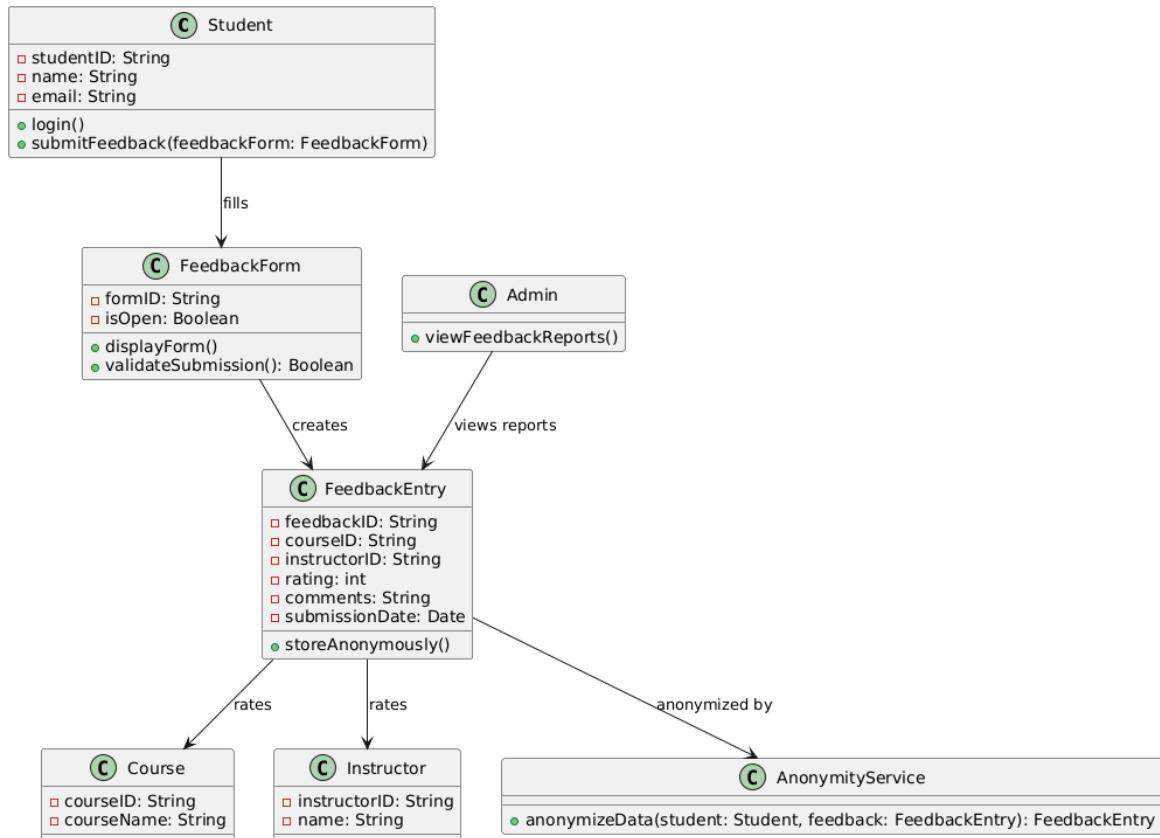
Scenario 15: Automated Compliance Monitoring



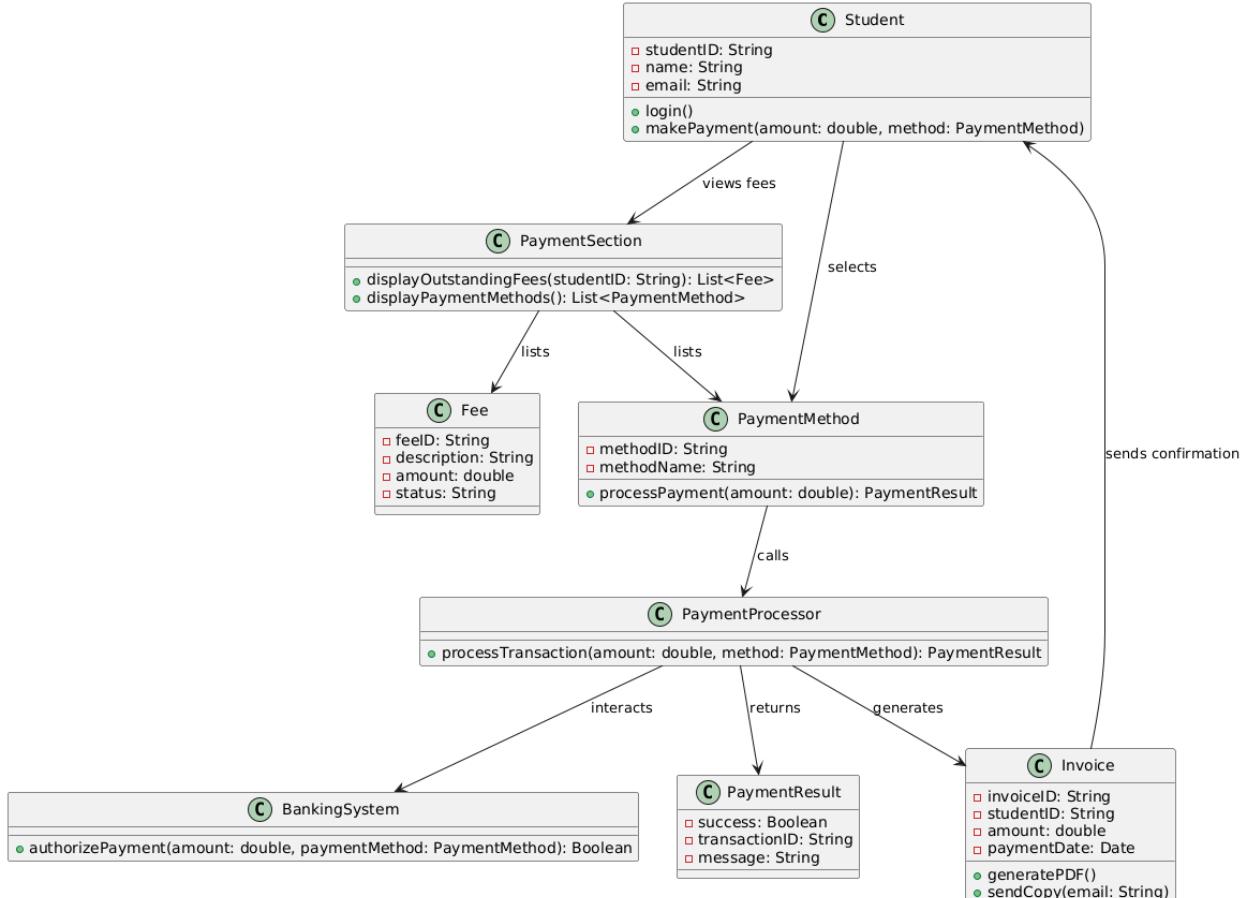
Scenario 16: Viewing University Regulations



Scenario 17: Submit Student Feedback



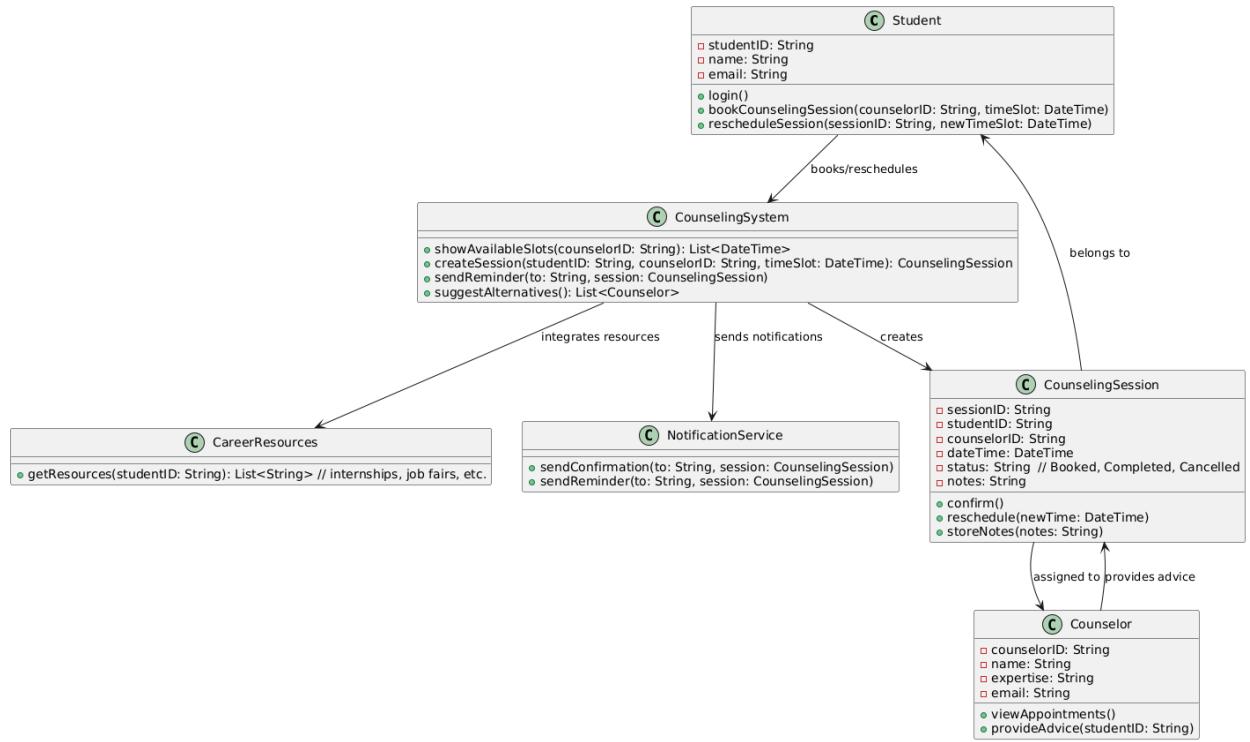
Scenario 18: Online Tuition Payment



Scenario 19: Appointment Booking with Dean or Advisor

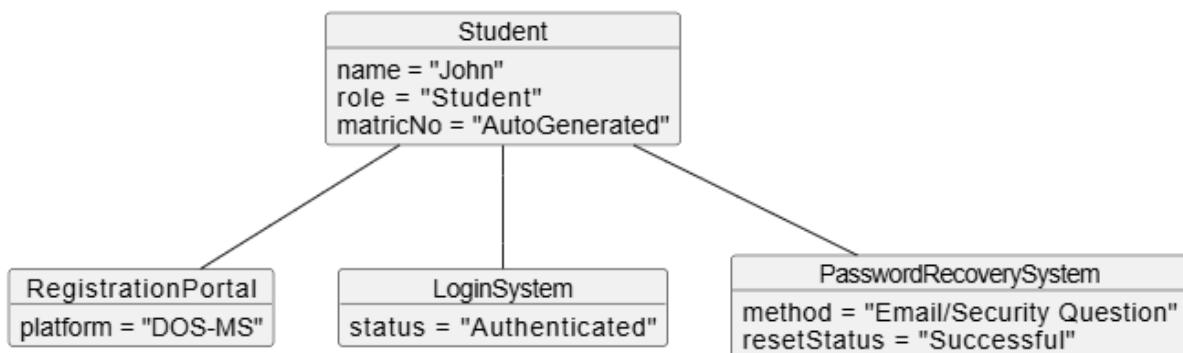


Scenario 20: Career Counseling Session

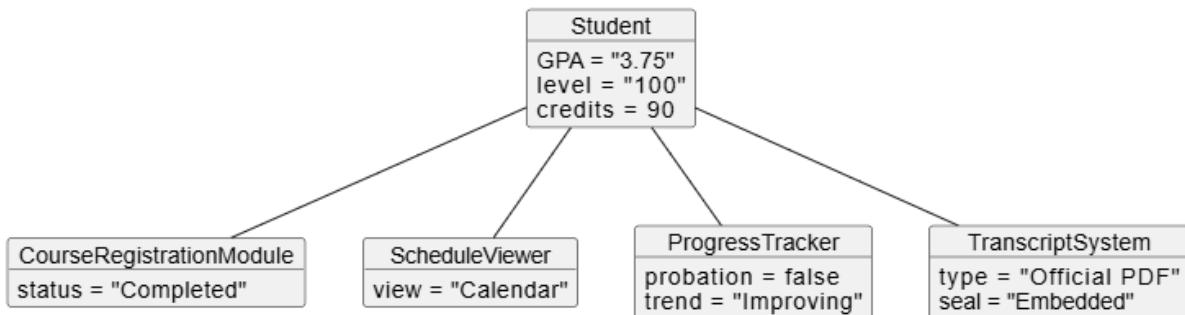


4.16 Object Diagrams

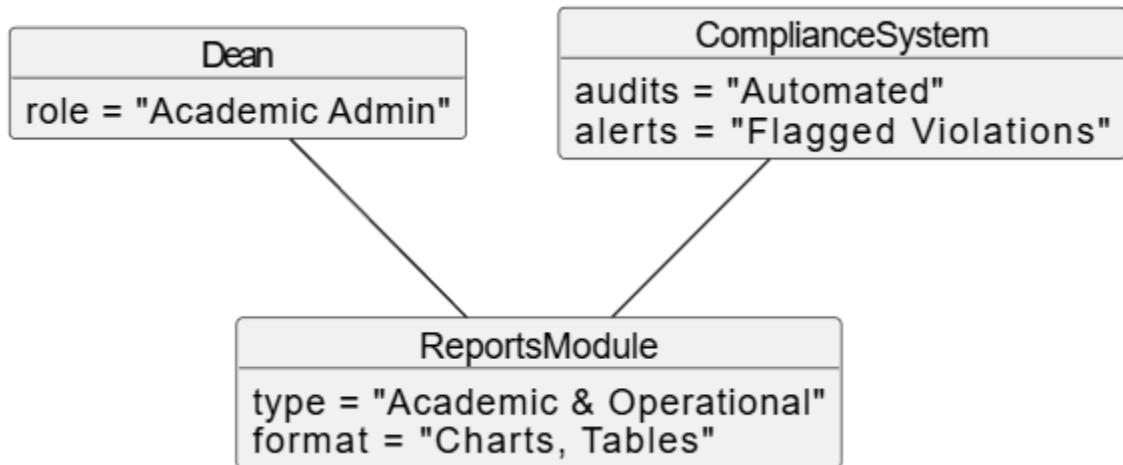
User Access and Authentication (Scenarios 1, 2, 14)



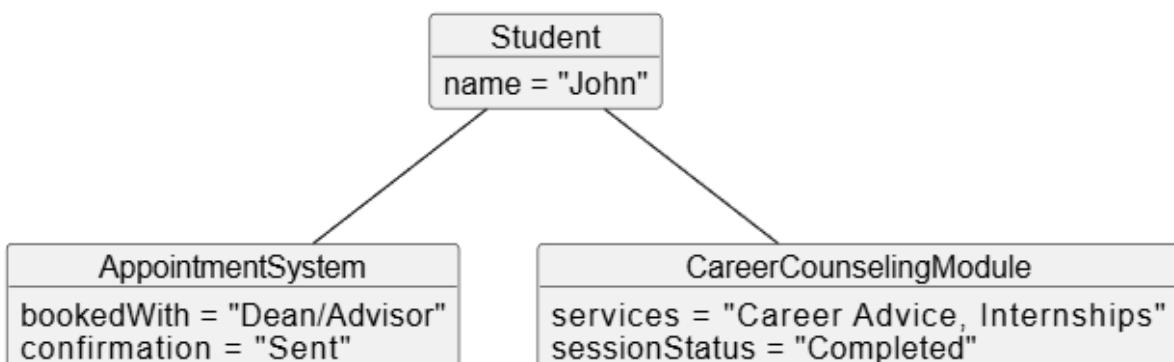
Academic Management (Scenarios 3, 4, 7, 11)



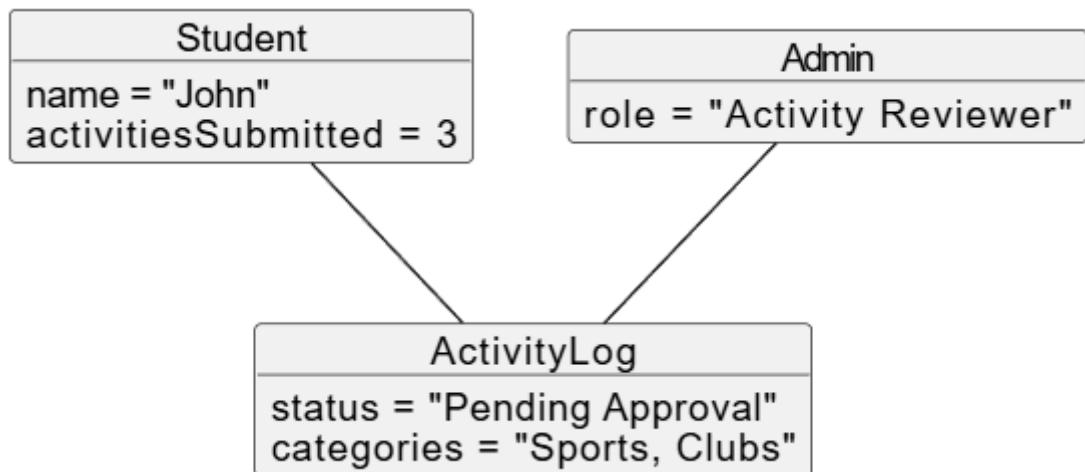
Administrative Oversight and Reporting (Scenarios 10, 15)



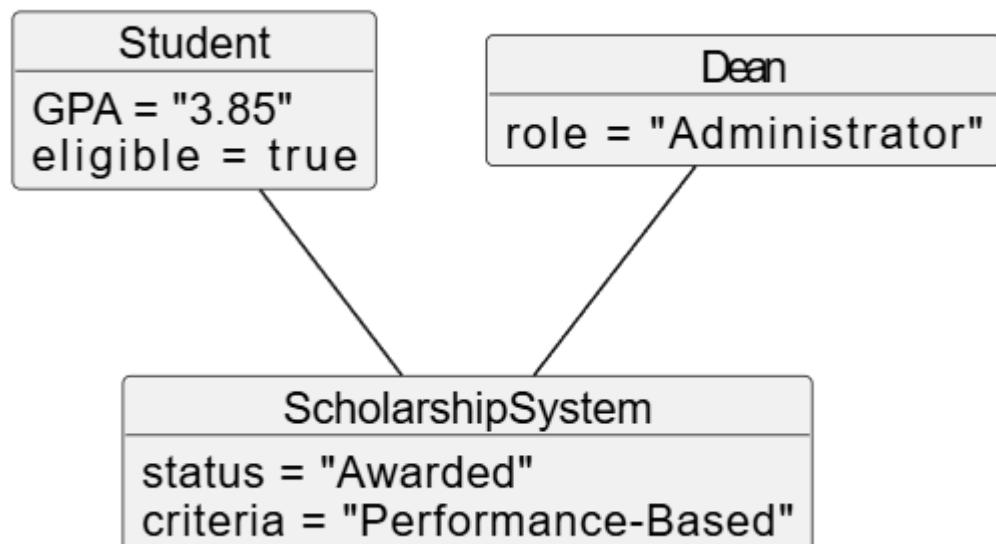
Appointments and Career Services (Scenarios 19, 20)



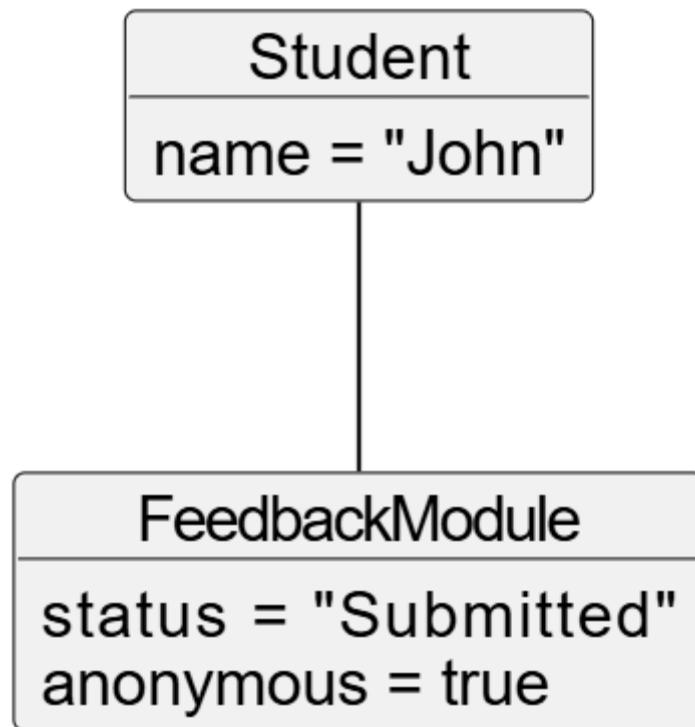
Extracurricular Activities (Scenarios 8, 9)



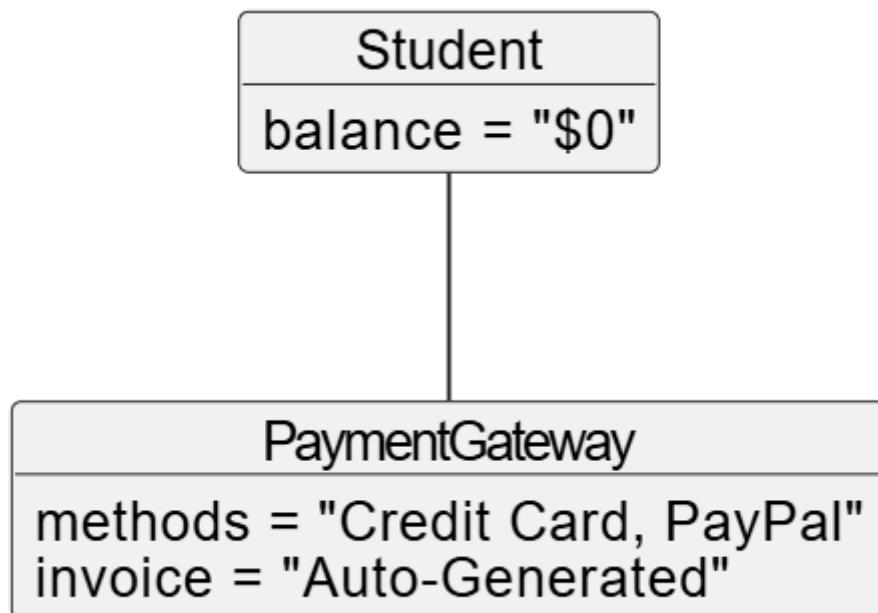
Scholarships and Financial Support (Scenarios 5, 6)



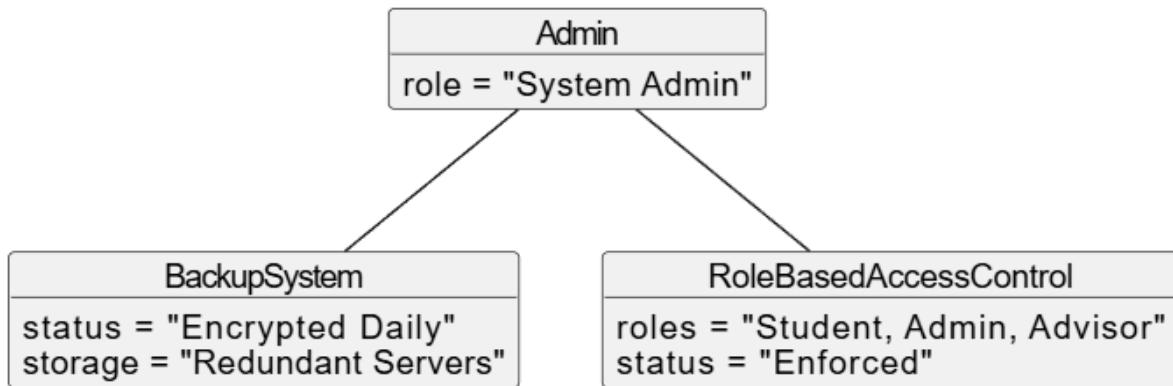
Feedback System (Scenario 17)



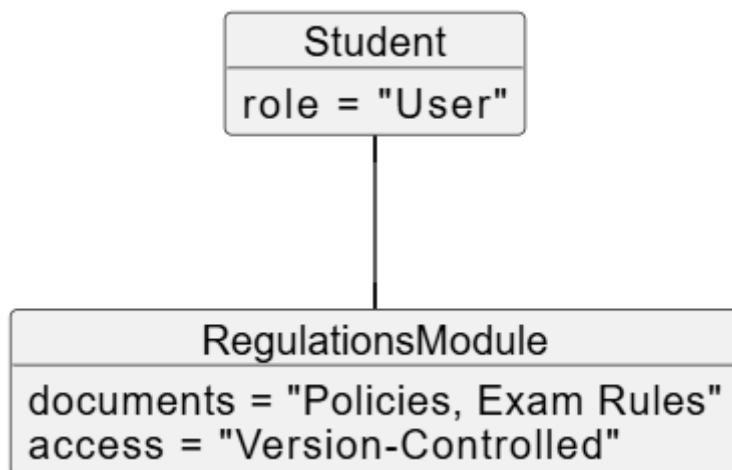
Financial Transactions(Scenario 18)



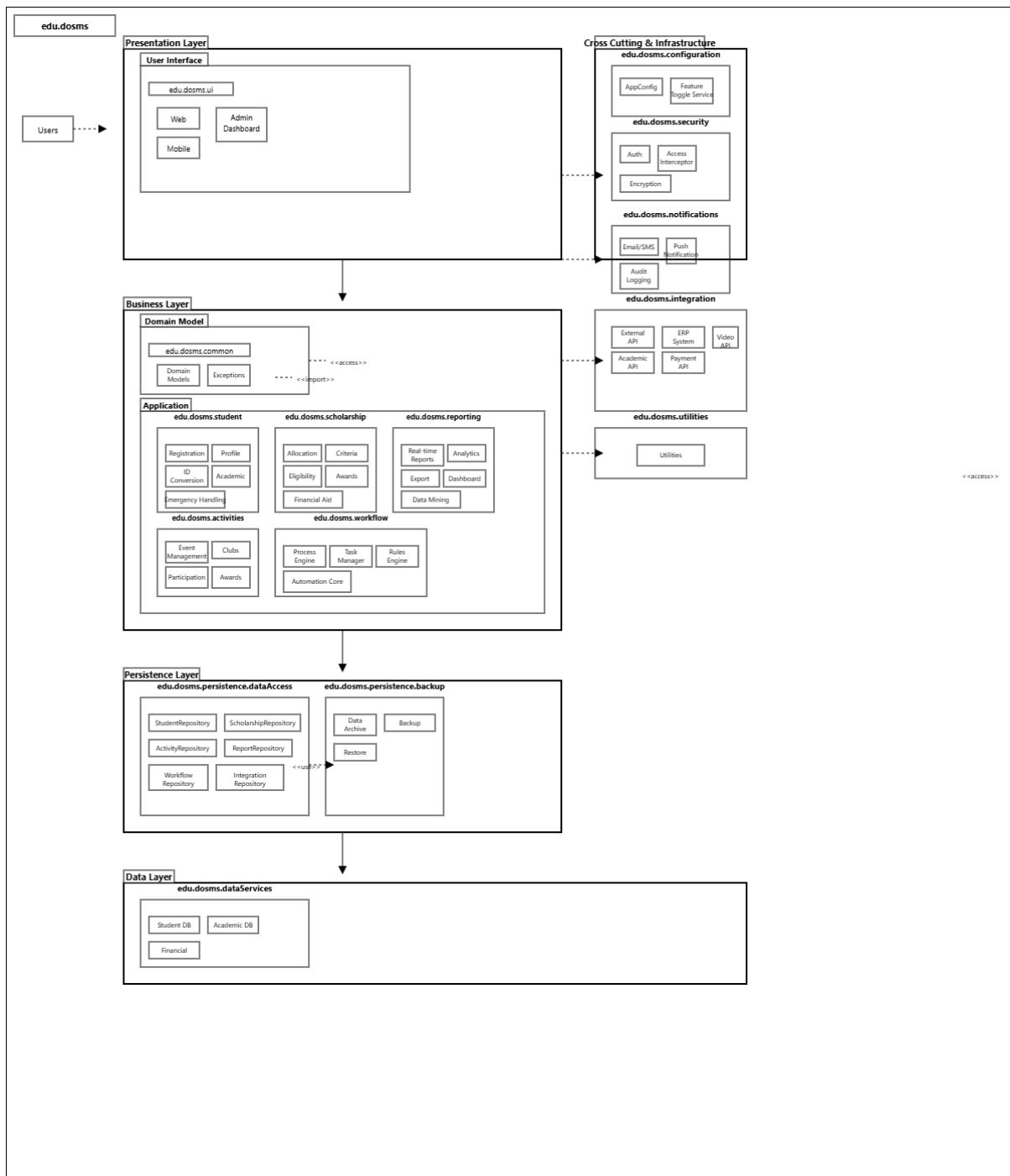
System Management and Security (Scenarios 12, 13)



University Documents and Regulations (Scenario 16)

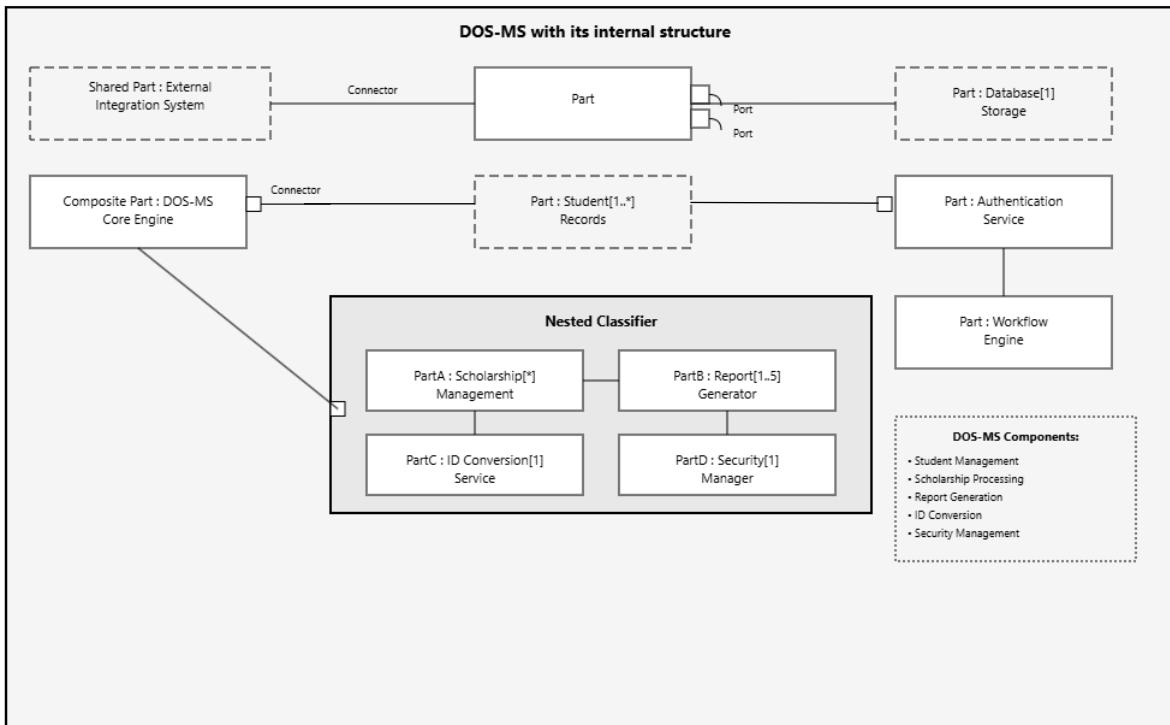


4.17 Package Diagram

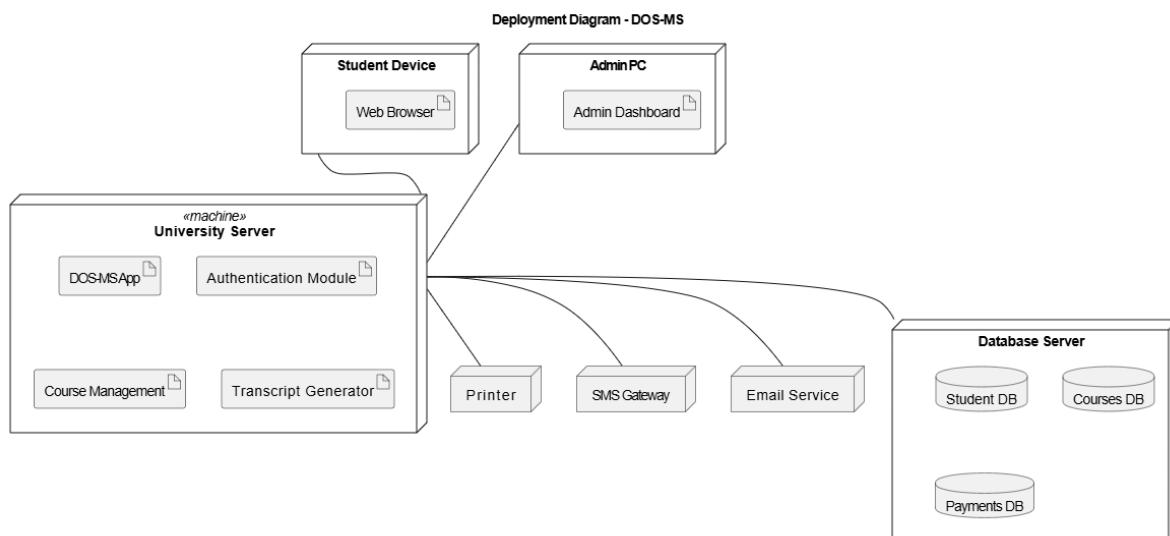


4.18 Composite Structure Diagram

Composite Structure Diagram

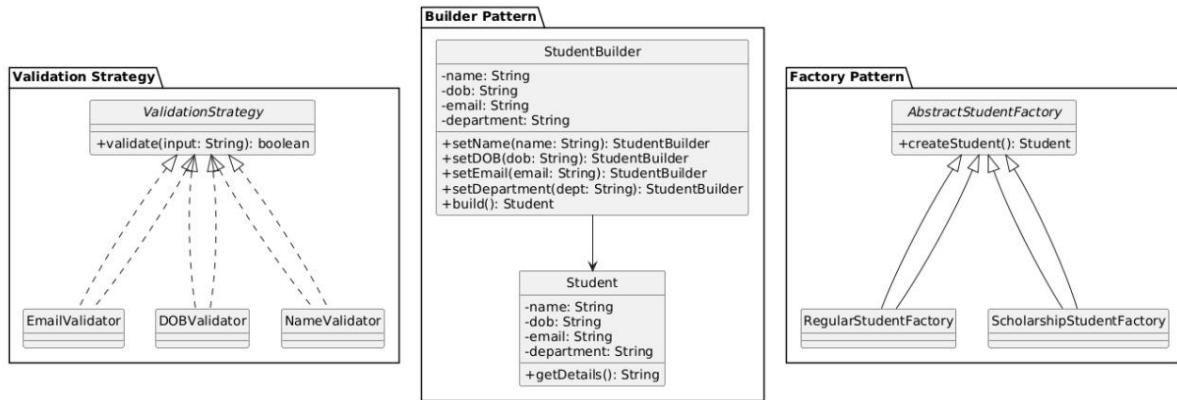


4.19 Deployment Diagram

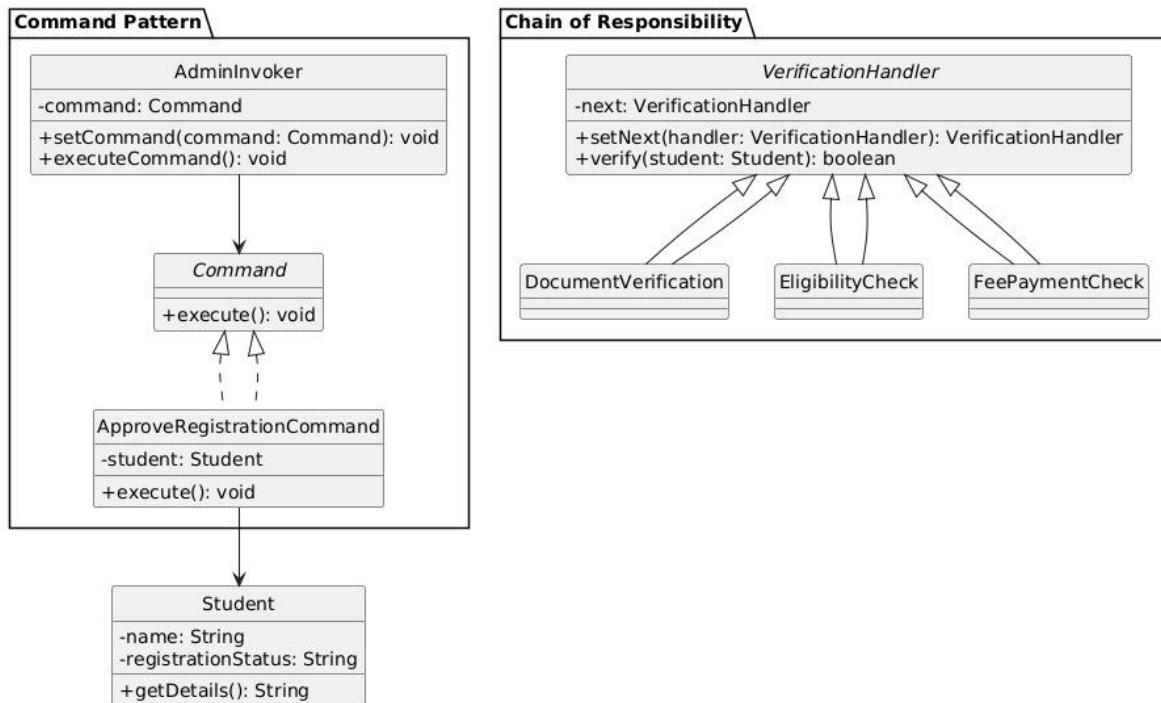


5 Design Patterns

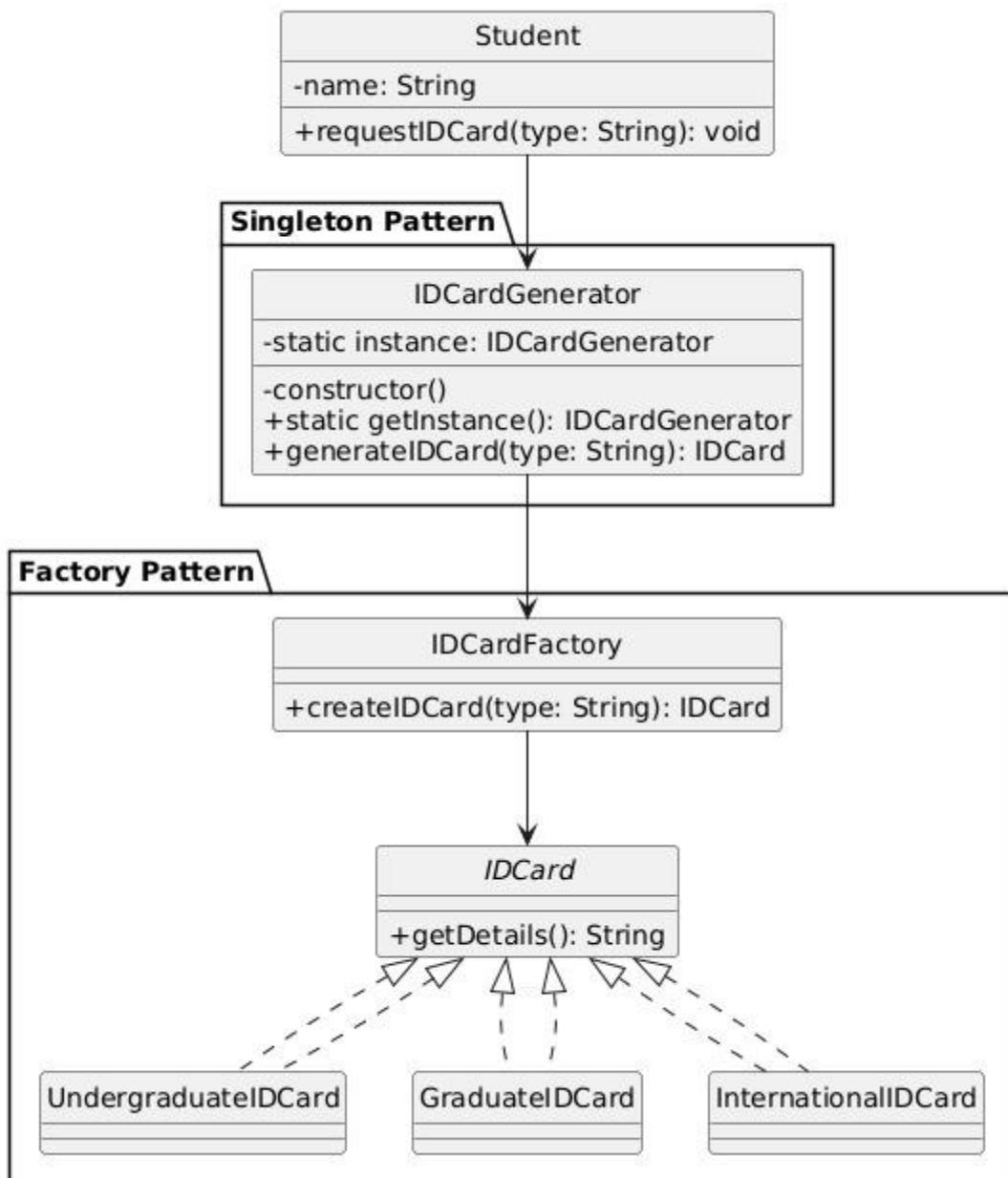
Scenario 1: Student Registration (Builder + Factory + Strategy)



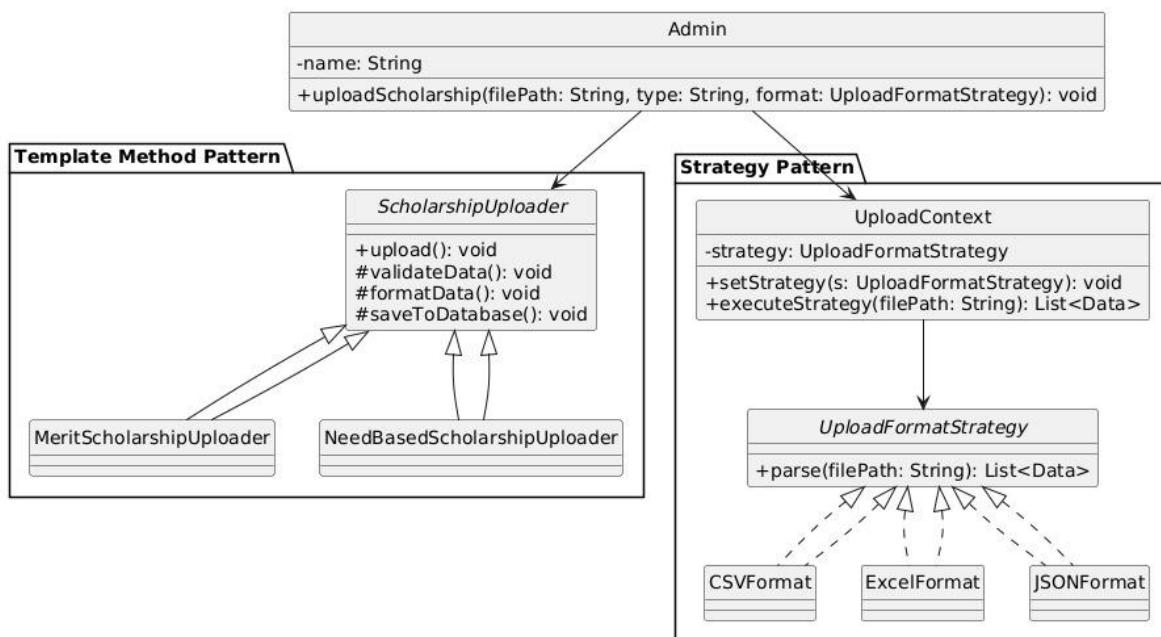
Scenario 2: Admin Verifies and Approves Registration (Chain of Responsibility + Command)



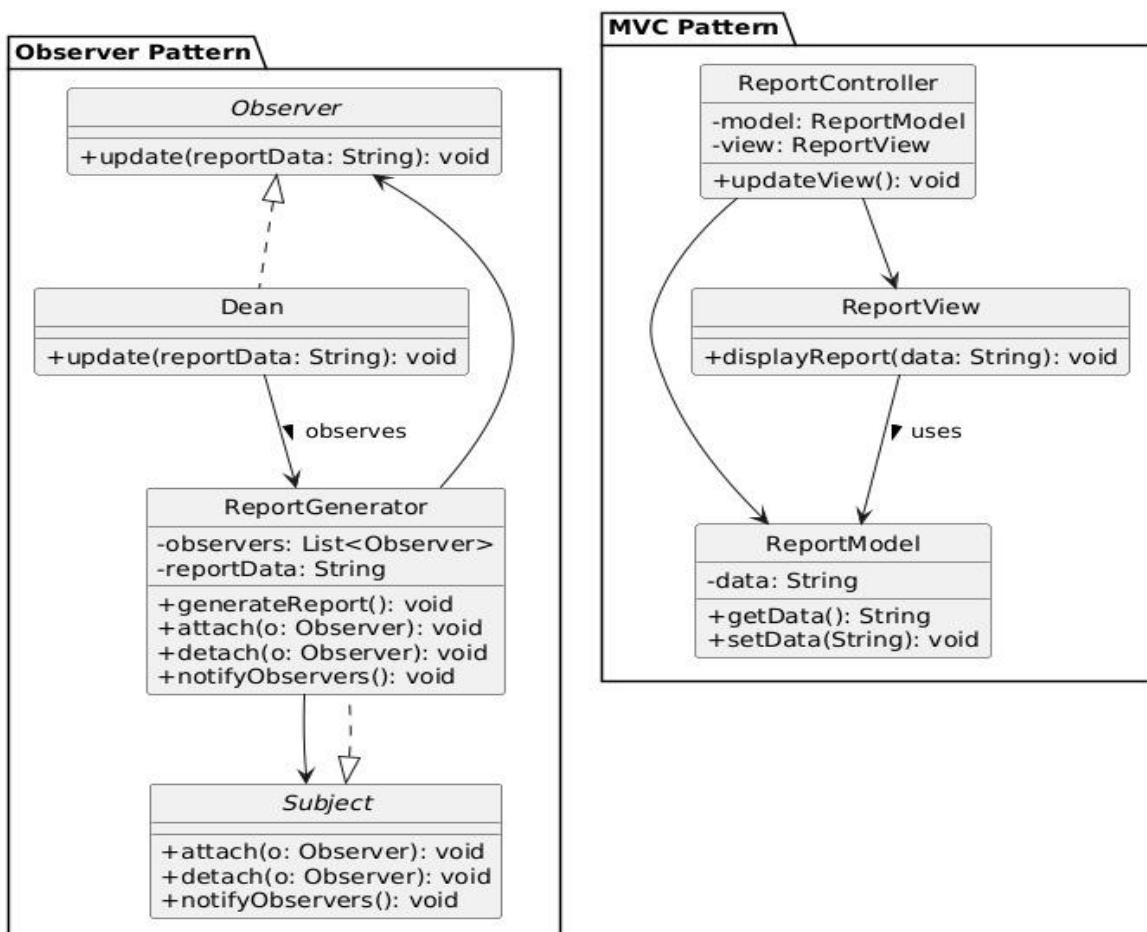
Scenario 3: John Requests a Student ID Card (Factory + Singleton)



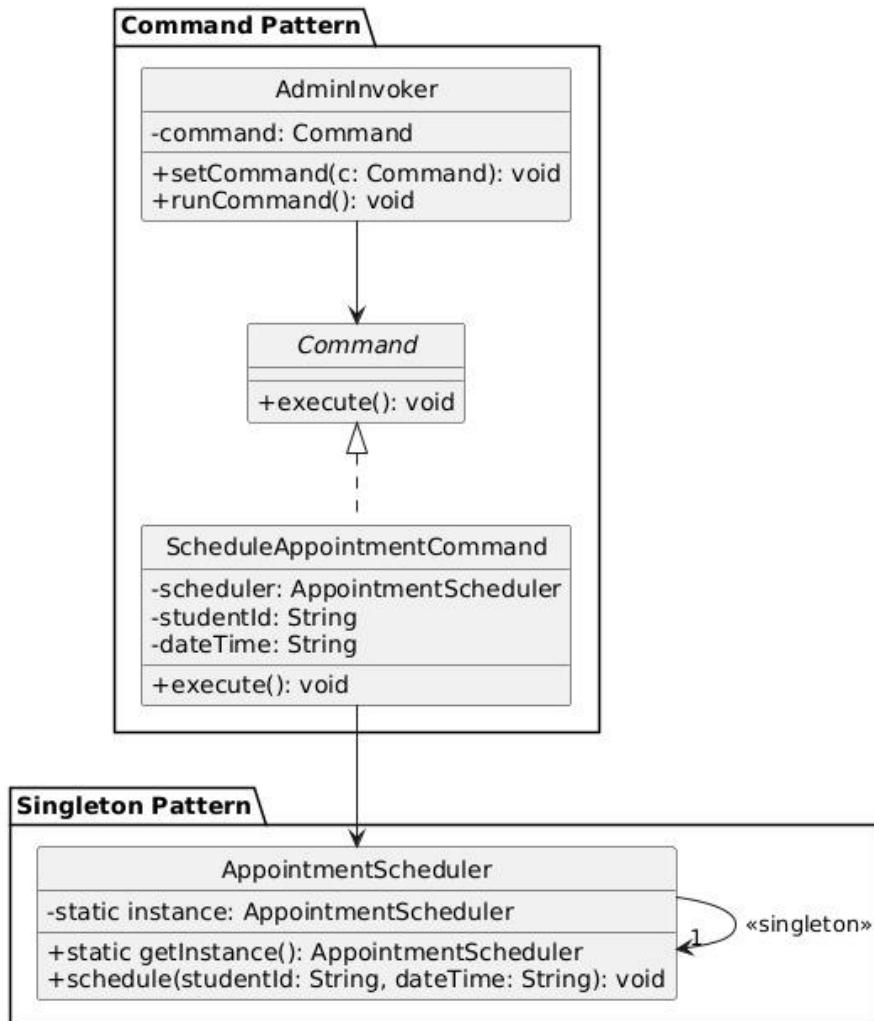
Scenario 4: Admin Uploads Scholarship Info (Template + Strategy)



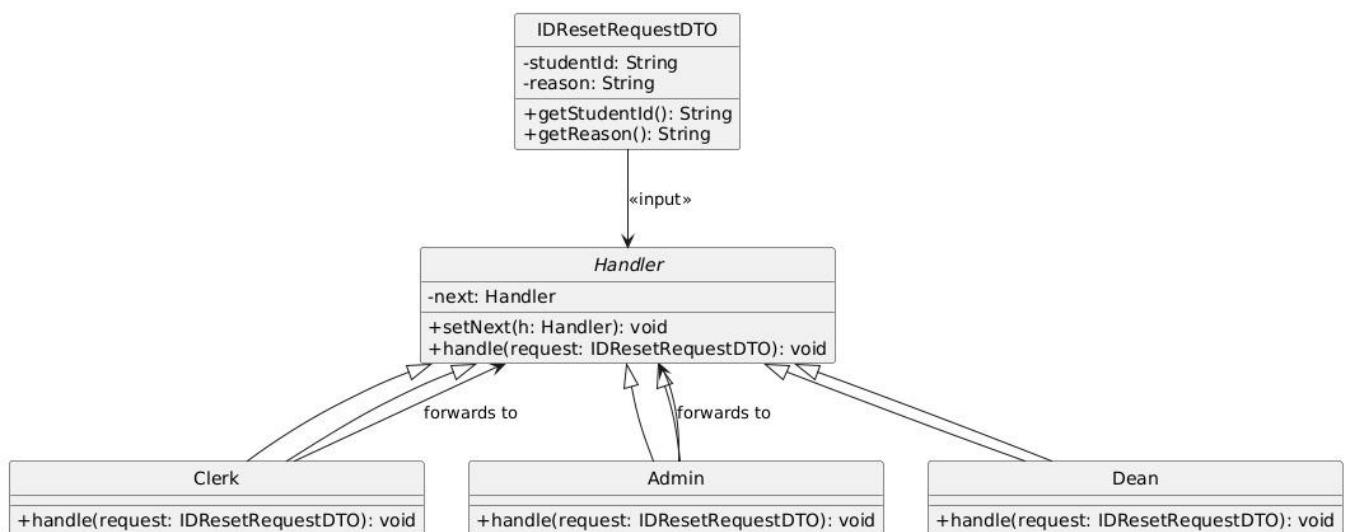
Scenario 5: Dean Checks Real-Time Reports (Observer + MVC)



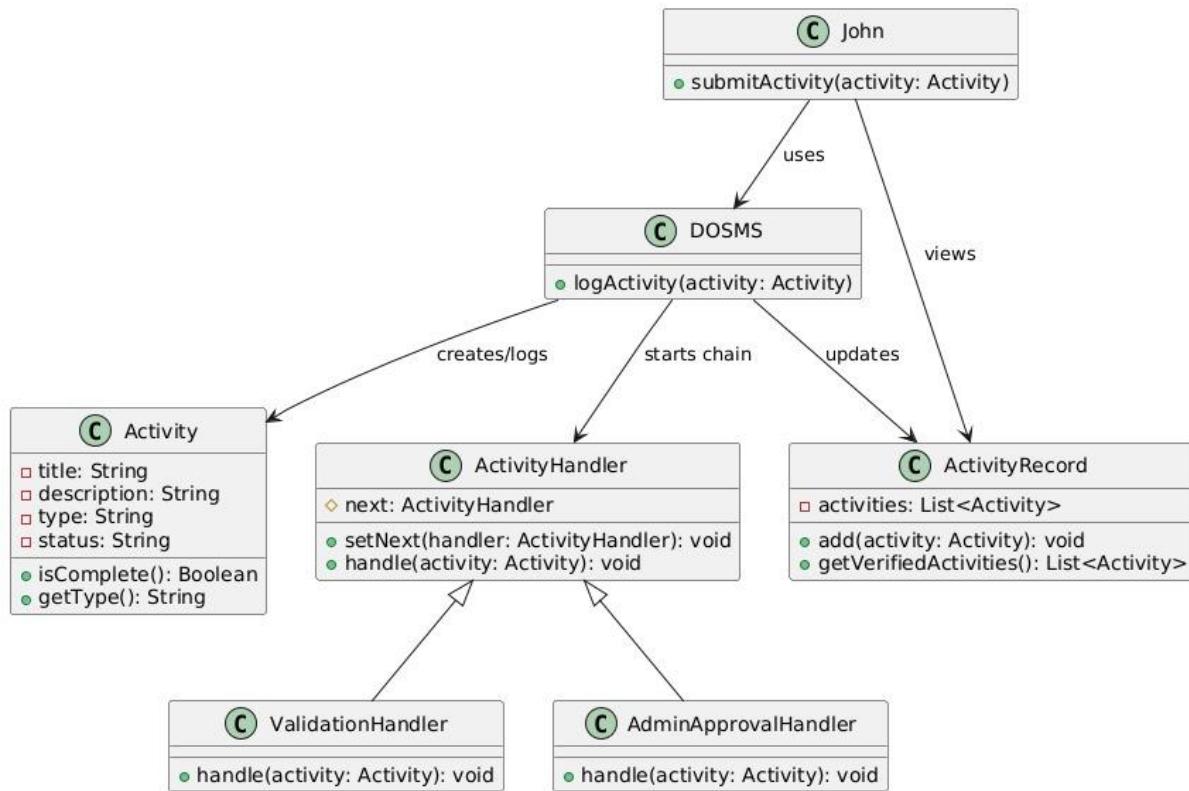
Scenario 6: Admin Schedules Appointments (Command + Singleton)



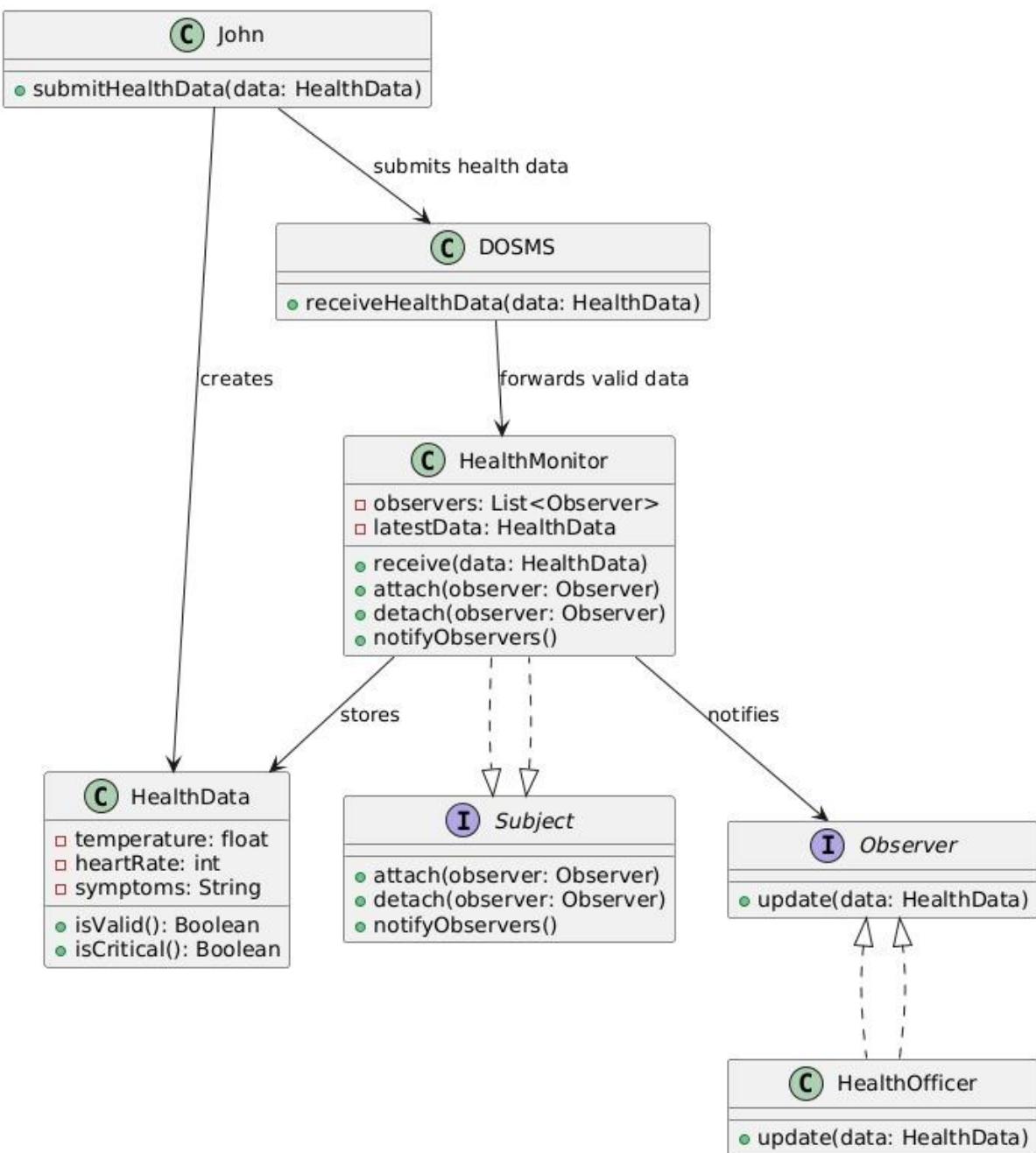
Scenario 7: Request to Reset ID Card (Chain of Responsibility + DTO)



Scenario 8: Extracurricular Activity Logging (Chain of Responsibility Pattern)

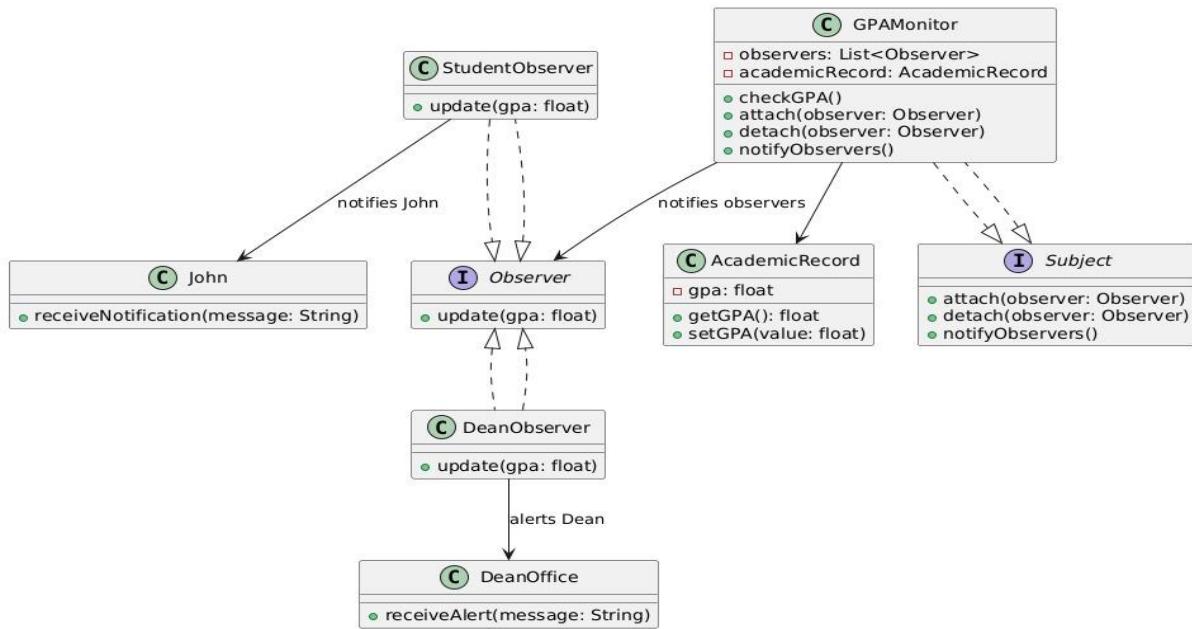


Scenario 9: Health and Wellness Data Submission

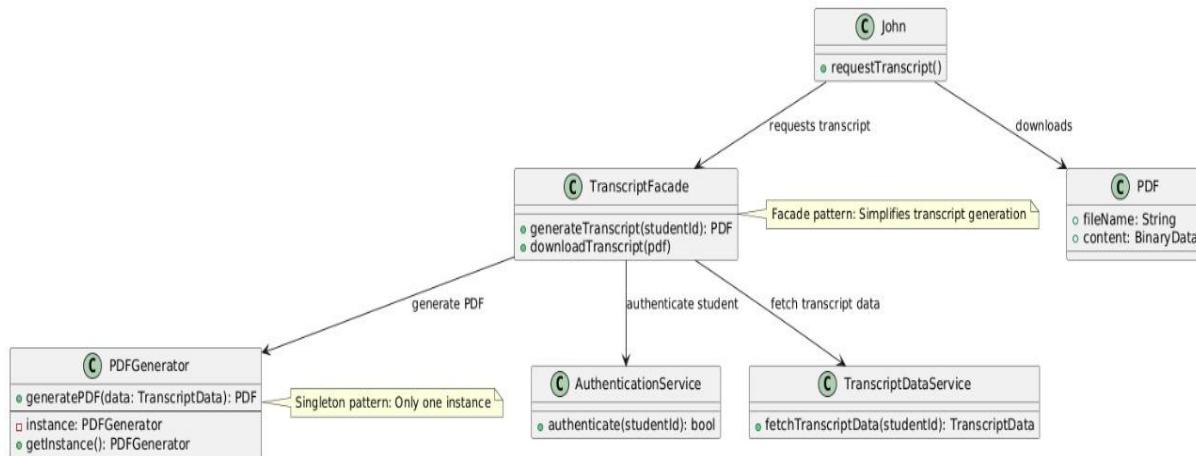


Dean of Students Management System

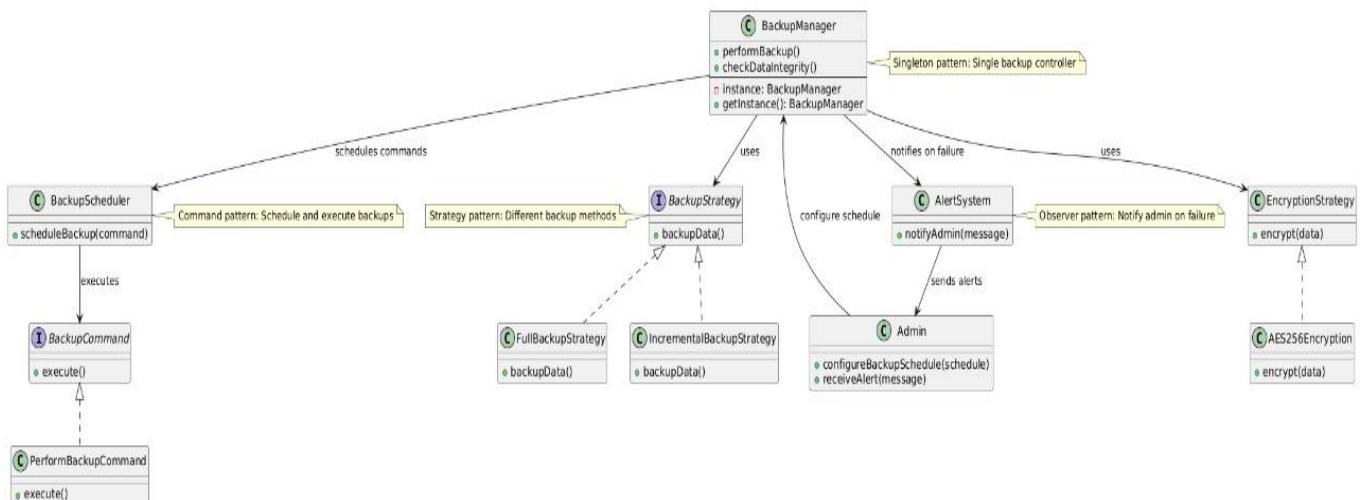
Scenario 10: Academic Probation Notification



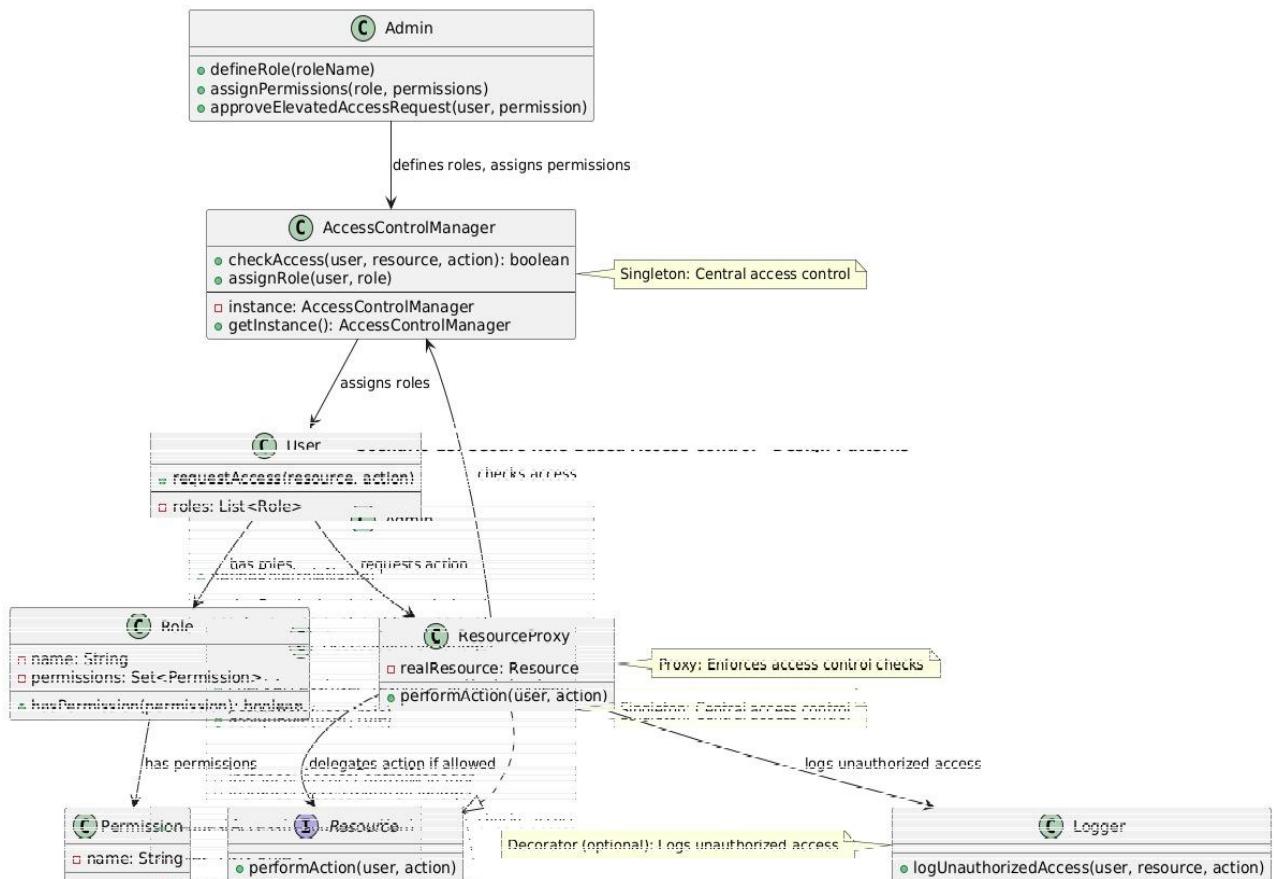
Scenario 11: Student Access to Academic Transcript - Design Patterns



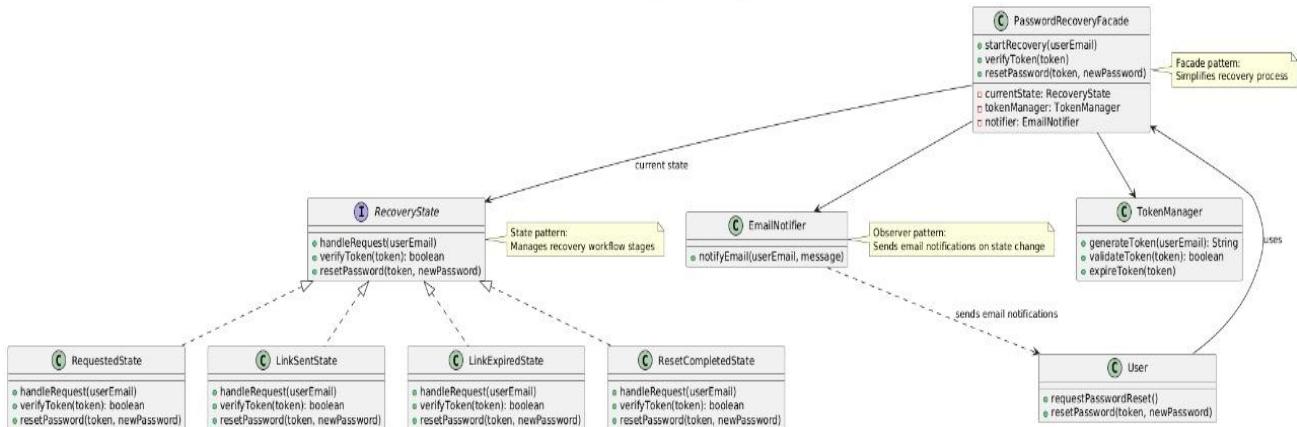
Scenario 12: System Backup and Data Integrity - Design Patterns



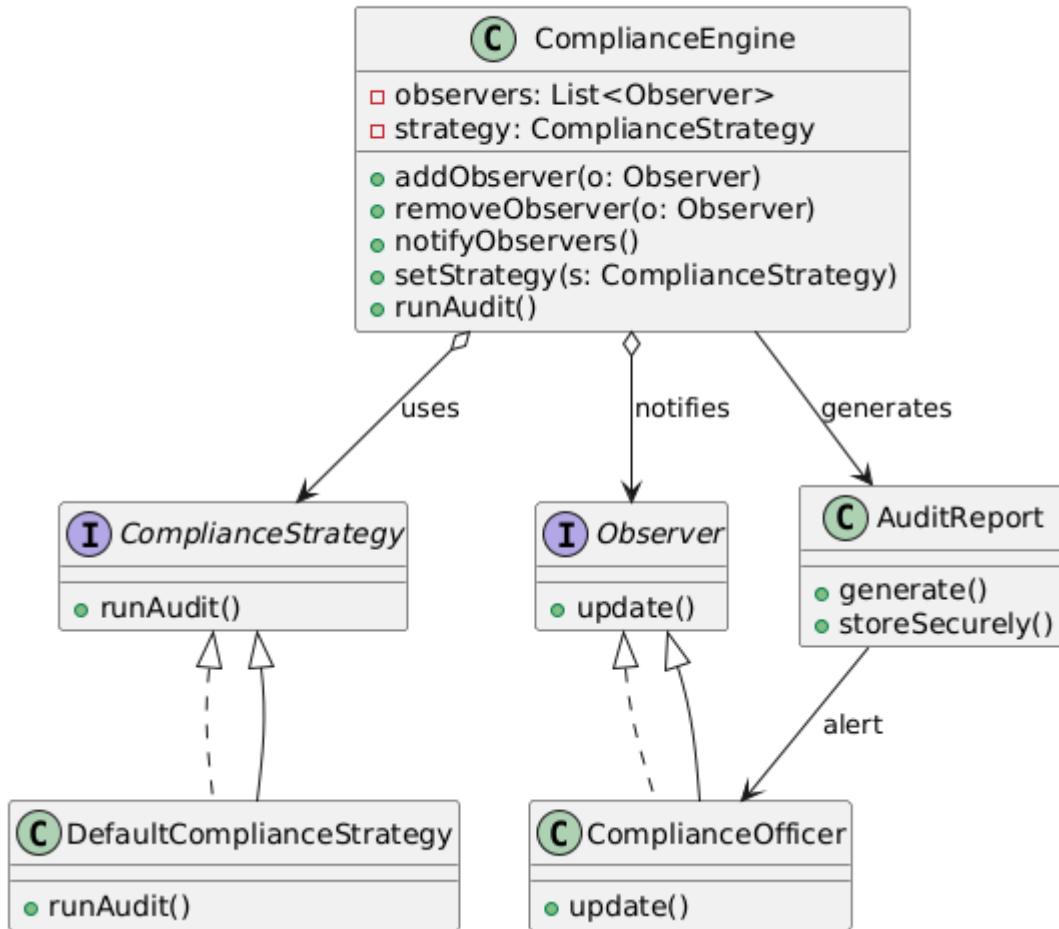
Scenario 13: Secure Role-Based Access Control - Design Patterns



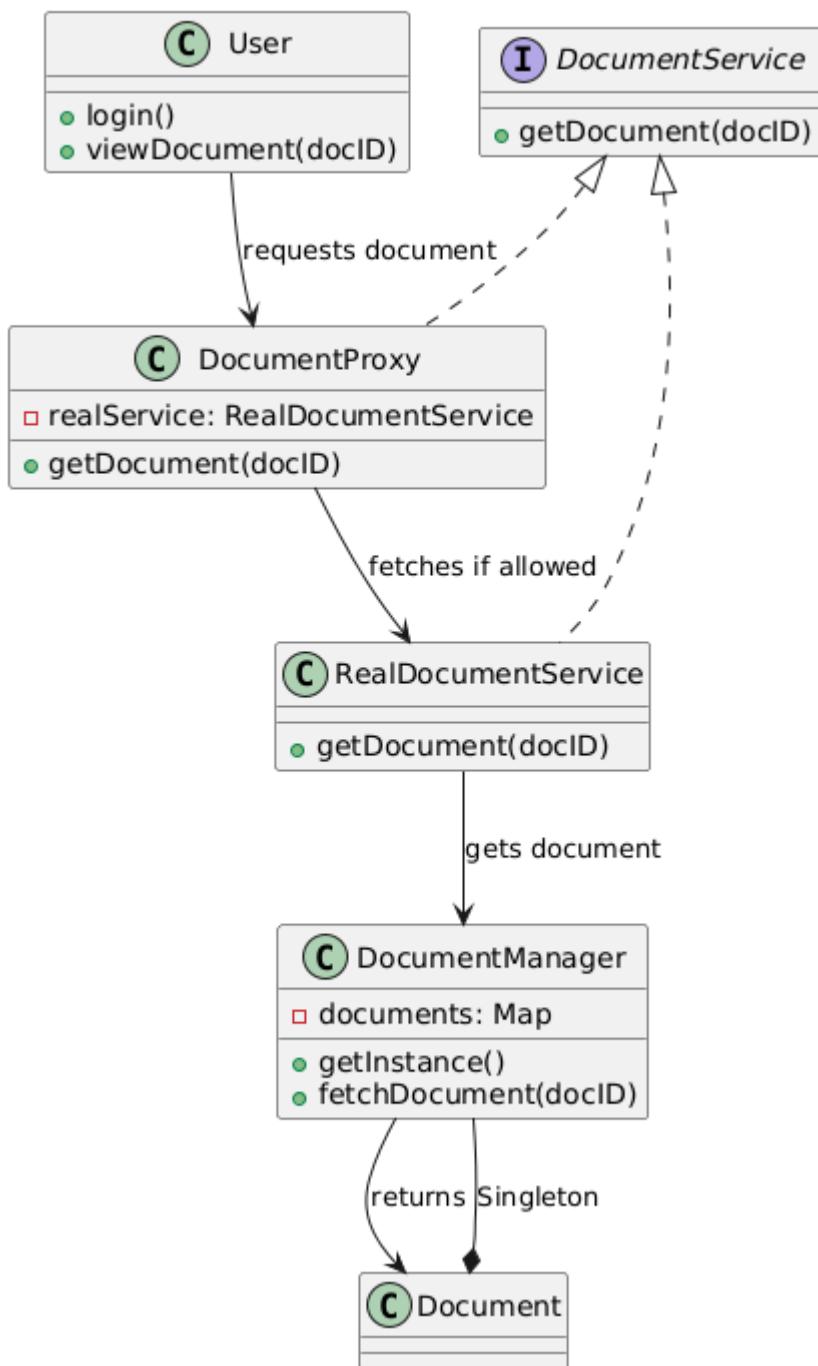
Scenario 14: Password Recovery - Different Design Patterns

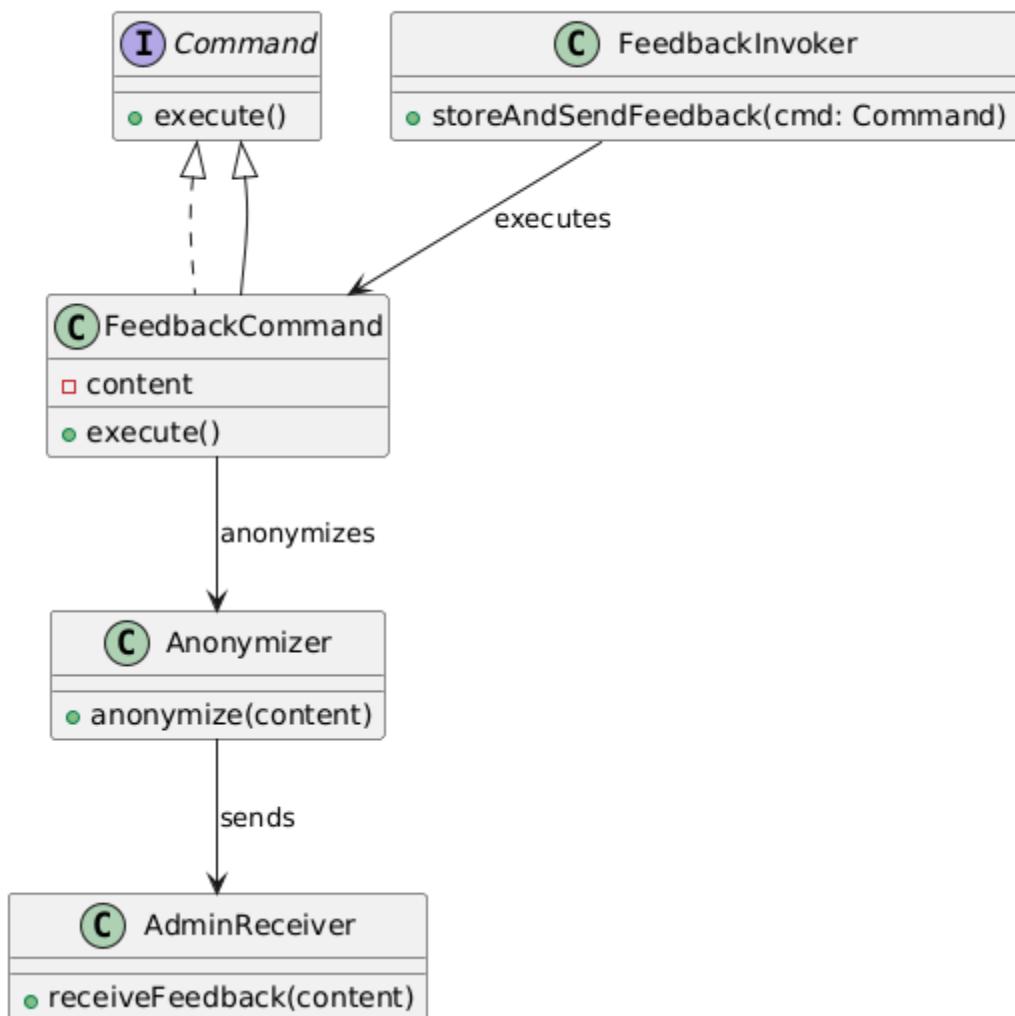


Scenario 15: Automated Compliance Monitoring

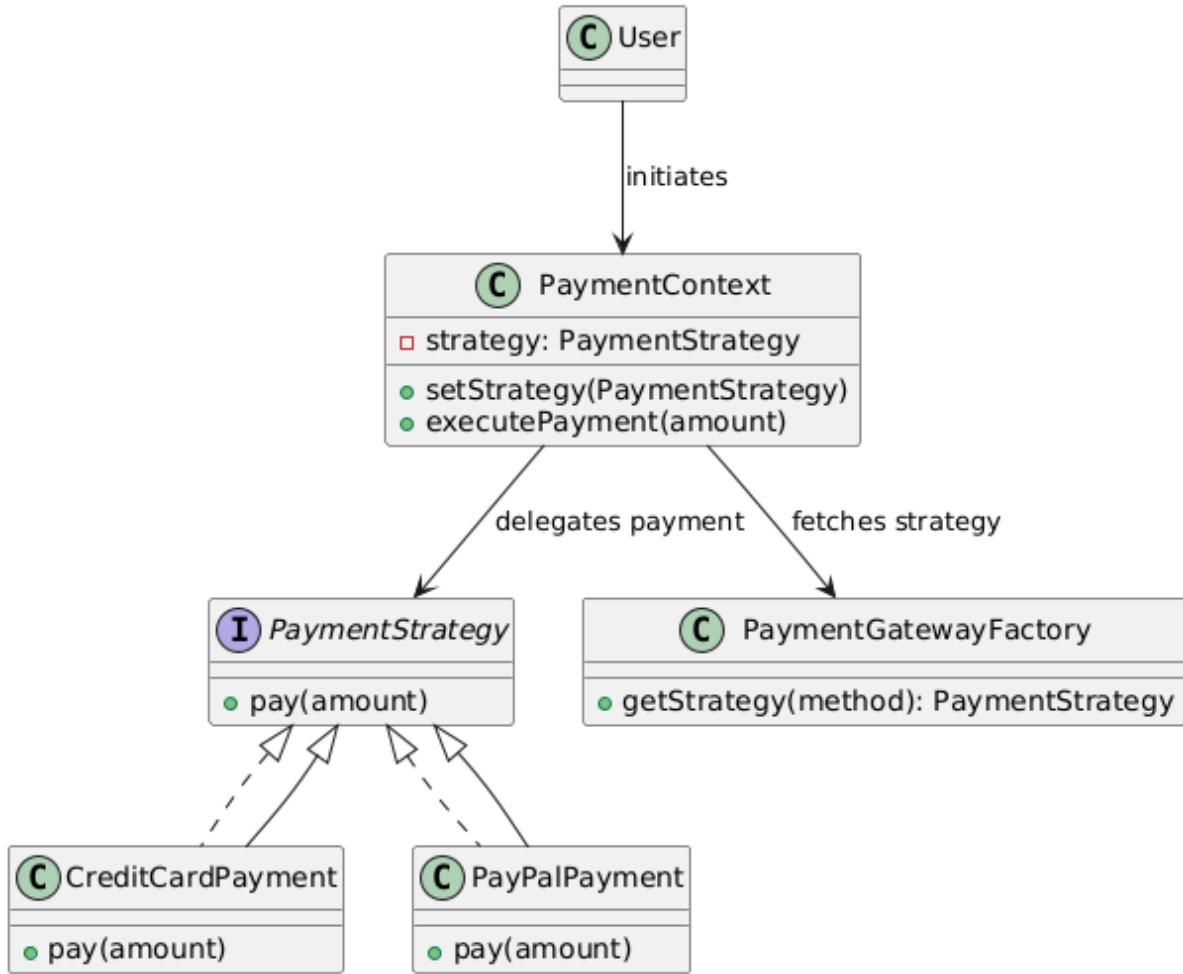


Scenario 16: Viewing University Regulations

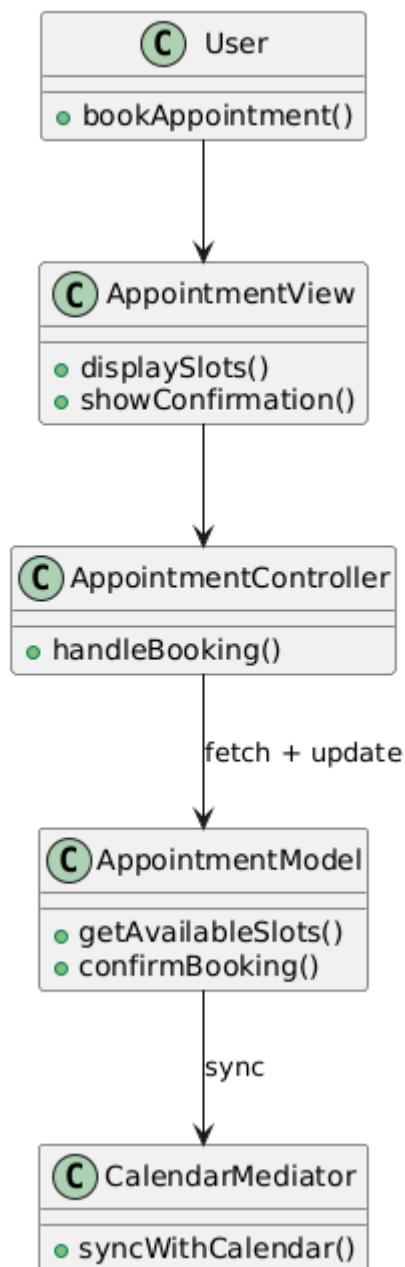


Scenario 17: Submit Student Feedback

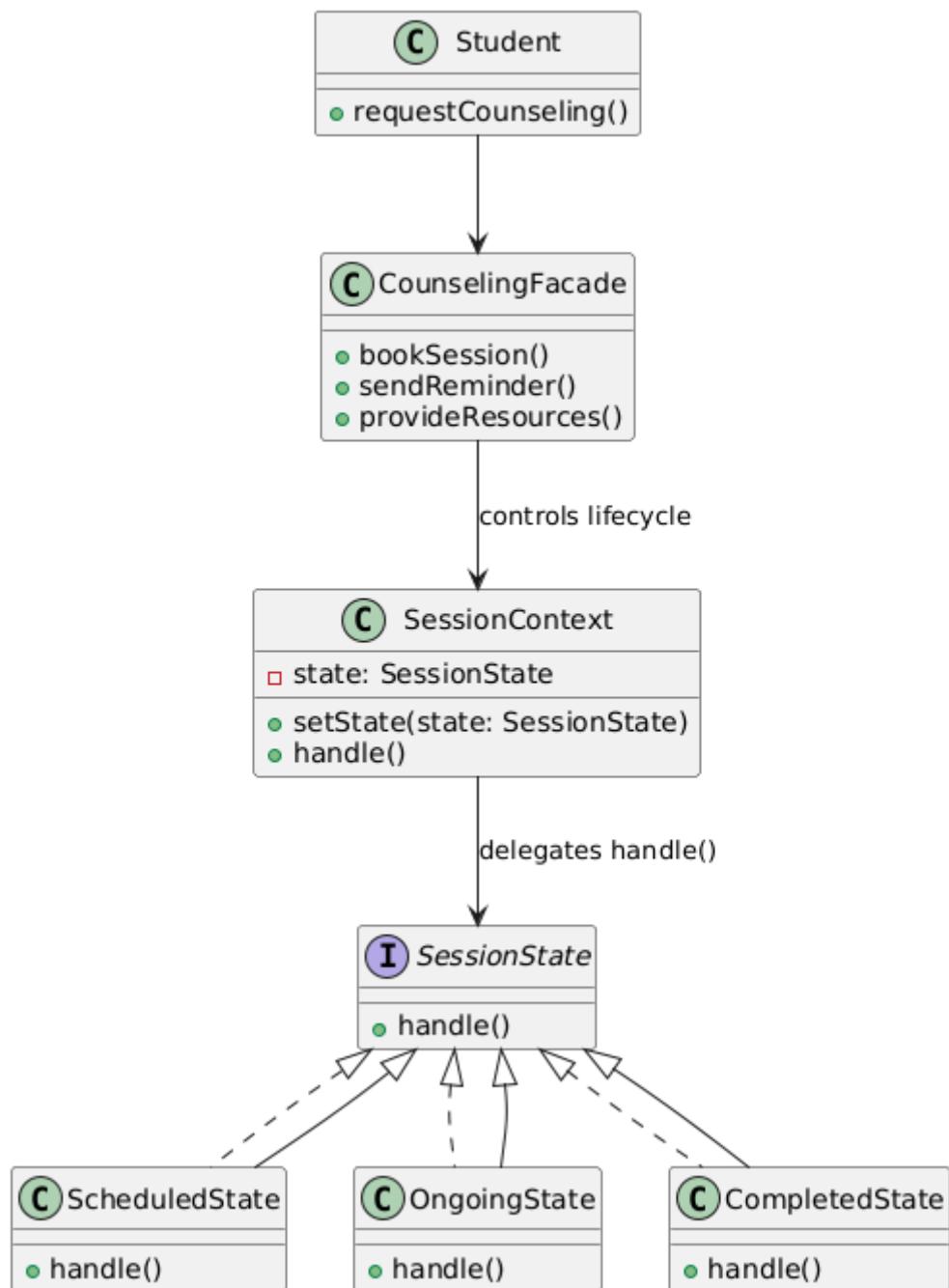
Scenario 18: Online Tuition Payment



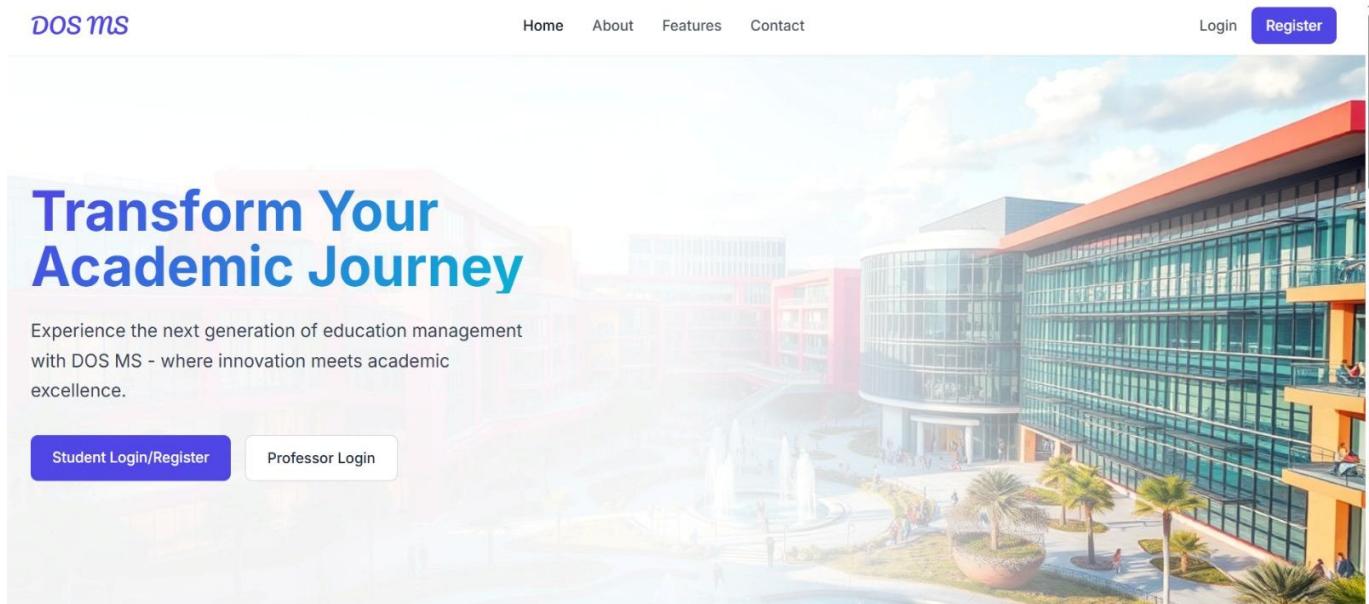
Scenario 19: Appointment Booking



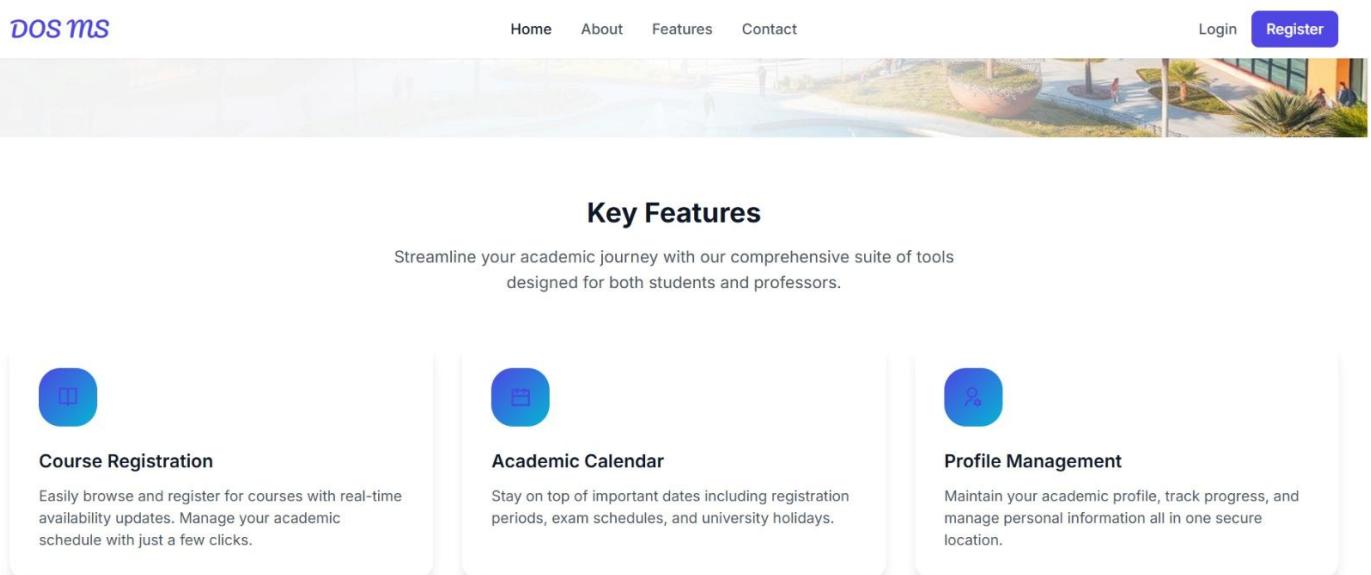
Scenario 20: Career Counseling Session



6 High Fidelity Prototype



The image shows the homepage of the DOS MS website. At the top left is the logo "DOS MS". Along the top navigation bar are links for "Home", "About", "Features", and "Contact". On the far right of the bar are "Login" and "Register" buttons. The main content area features a large, semi-transparent overlay with the text "Transform Your Academic Journey" in blue. Below this, a subtext reads: "Experience the next generation of education management with DOS MS - where innovation meets academic excellence." At the bottom of the overlay are two buttons: "Student Login/Register" and "Professor Login". The background of the page is a photograph of a modern university campus with a large glass building and a central fountain.



The image shows the "Key Features" section of the DOS MS website. At the top left is the logo "DOS MS". Along the top navigation bar are links for "Home", "About", "Features", and "Contact". On the far right of the bar are "Login" and "Register" buttons. The main content area features a large, semi-transparent overlay with the text "Streamline your academic journey with our comprehensive suite of tools designed for both students and professors." in black. Below this, there are three feature cards:

- Course Registration**: Easily browse and register for courses with real-time availability updates. Manage your academic schedule with just a few clicks.
- Academic Calendar**: Stay on top of important dates including registration periods, exam schedules, and university holidays.
- Profile Management**: Maintain your academic profile, track progress, and manage personal information all in one secure location.

Quick Access Portals

Tailored interfaces for both students and professors to efficiently manage academic responsibilities.



Student Portal

- ✓ Course registration and schedule management
- ✓ Grade tracking and academic progress
- ✓ Assignment submission and feedback
- ✓ Communication with professors and advisors

[Access Student Portal](#)

Professor Portal

- ✓ Course management and syllabus creation
- ✓ Grade submission and student performance tracking
- ✓ Assignment creation and evaluation
- ✓ Office hours scheduling and student communication

[Access Professor Portal](#)

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Dean of Students Management System

DOS-MS

Dashboard

Welcome back, Argjend!

Here's what's happening with your student portal today.

Total Students **2,847**

↑ 8.2% vs last semester

New Registrations **186**

↑ 12.4% last 7 days

Active Scholarships **423**

↑ 5.3% vs last year

Gender Ratio **1:1.2**

M:F ratio 45:55

Registration Trends

Weekly **Monthly** Yearly

Subject Enrollment

Export

Subject	Enrollment
CS	580
Engineering	450
Science	400
Law	200

DOS-MS

Dashboard

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Gender Distribution

Male Female

Scholarship Distribution

[View All →](#)

Category	Count	Percentage
Research	66	15.6%
Merit	148	34.99%
Sports	86	20.33%
Need-based	123	29.08%

Recent Activity

STUDENT	ACTIVITY	SUBJECT/PROGRAM	DATE	STATUS	ACTION
Olivia Martinez	New Registration	Computer Science	May 21, 2025 10:23 AM	Completed	View Details
Ethan Williams	Scholarship Application	Merit Scholarship	May 20, 2025 3:45 PM	Pending	Approve
Sophia Johnson	Subject Change	Physics → Chemistry	May 19, 2025 11:17 AM	Completed	View Details
Alexander Chen	Fee Payment	Semester Tuition	May 18, 2025 2:30 PM	Completed	View Details
Isabella Garcia	New Registration	Business Administration	May 18, 2025 9:15 AM	Incomplete	Send Notifications

All Activities

[+ Add New Activity](#)

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Showing 5 of 243 entries

Quick Actions

- [Add New Student](#)
- [Process Scholarship](#)
- [Generate Reports](#)
- [Send Notifications](#)