



LaunchPad

An Internship Management System

Interim Report

Introduction

Domain Description

The LaunchPad Internship Management System is designed to streamline the internship process for the University of Colombo School of Computing (UCSC). It provides a centralized digital platform for students, faculty, and industry partners to manage internship-related activities effectively, addressing inefficiencies in the current manual system.

Current System and Limitations

The current internship management process is manual, leading to several inefficiencies:

1. Difficulty tracking and managing applications, causing lost opportunities and delays.
2. Inefficient communication between stakeholders, reducing coordination.
3. Challenges in monitoring and evaluating student progress.
4. Limited data analysis capabilities to improve the program.

Goal and Objectives

Goal

To develop and implement a comprehensive, user-friendly Internship Management System that streamlines the entire internship process for students, companies, and university staff.

Objectives

1. Establish a centralized hub for organizing and scheduling tech talks and industry events to enhance student-company interactions.
2. Implement a comprehensive feedback and evaluation system to assess and improve the quality of internship experiences for both students and companies.
3. Develop a platform to manage student internship requests until the hiring process is complete.
4. Create a platform for students to maintain an extensive profile that includes all qualifications and skills
5. Provide a platform to simplify the intern recruitment process for companies.
6. Create a valuable platform that simplifies and streamlines the internship management process.

Assumptions

- All team members will be available for the duration of the project and can dedicate the required time and effort.
- End users (students, companies, and university staff) will be willing to adopt and use the new system.
- Application requires a stable internet connection and a web browser compatible with HTML5, JavaScript, and PHP languages.
- PDC approves accounts from companies and students; the company does not directly contact the student after selecting a student for internship.
- Administrator is responsible for maintenance of the system, overseeing the system, and management of PDC accounts.
- All the advertisements should have essential details for intern recruitments and be reviewed by the PDC before being displayed.
- Students are selected to companies on a first come first serve basis and not allowed to select a job role from a different company after receiving a selection letter.
- Deploying organizations should have capabilities to run servers for the application and have resources for hosting the web-application.

Feasibility Study

Technical Feasibility

Overview

The project aims to develop a web-based application for managing industrial placements at UCSC and other universities. This involves registering companies and students, maintaining profiles, listing internship advertisements, managing applications, and generating reports. The chosen technology stack includes HTML, CSS, JavaScript, PHP, MySQL, Apache HTTP Server, Git, Pest/PHPUnit, GitHub, Google Docs, Asana, and Figma.

Frontend Technologies

HTML, CSS, JavaScript: These are standard technologies for web development, well-supported by all modern browsers. The team can create a responsive and interactive user interface using these tools.

Backend Technologies

PHP

PHP is a widely-used server-side scripting language known for its ease of integration with HTML and databases like MySQL. It has extensive documentation, a large community that can streamline development.

MySQL

A reliable and widely-used relational database, MySQL can efficiently handle the data storage and retrieval needs of the application. Its compatibility with PHP ensures smooth interaction between the backend logic and the database.

Web Server

Apache HTTP Server: Apache is a proven, stable, and secure web server. It can efficiently handle HTTP requests and serve the web application. Its compatibility with PHP and MySQL makes it an ideal choice for this project.

Version Control

Git provides robust version control, allowing multiple developers to work on the project simultaneously without conflicts. Its branching and merging capabilities will help manage the development process, from feature implementation to bug fixing.

Collaboration Tools

GitHub

GitHub will host the project's Git repositories, facilitating code review and collaboration. Its issue tracking and project management features will help organize tasks and track progress.

Google Docs

Google Docs enables real-time collaboration on project documentation, ensuring that all team members can contribute and stay informed.

Asana

Asana will help manage tasks, deadlines, and project milestones, ensuring the project stays on schedule and team members are aligned.

Prototyping

Figma will allow the team to create and iterate on design prototypes quickly. Real-time collaboration features ensure that designers and developers can work together effectively, refining the user interface and experience before development begins.

All the above-mentioned resources are easily usable within our knowledge. The use of open-source solutions ensures cost-effectiveness and flexibility in development and future maintenance. Hence the project is technically feasible.

Economic Feasibility

Development Costs

- Minimal software licensing costs due to use of open-source technologies
- No developer cost

Hardware Costs

- Utilize existing university server infrastructure if possible
- If new hardware is required, costs for a mid-range server would be incurred

Operational Costs

- Hosting costs if using cloud services (can be minimized with proper resource management)
- Ongoing maintenance and updates performed by university IT staff
- Potential savings on administrative staff time currently spent on manual processes

Return on Investment (ROI)

- Significant time savings in internship application processing and management
- Improved efficiency in matching students with appropriate internships
- Enhanced reporting capabilities leading to better decision-making

Cost Savings

- Reduction in paper-based processes and associated costs
- Decreased administrative overhead in managing internship programs
- Potential reduction in staff hours needed for manual data entry and coordination

Scalability

- System designed to handle increasing numbers of users with minimal additional costs
- Potential for expanding services to other departments or institutions in the future

Risk Mitigation

- Reduced risk of errors in internship placements and tracking
- Improved data accuracy and integrity compared to manual systems

Conclusion

The Internship Management System appears economically feasible. The use of open-source technologies significantly reduces software costs, making the project more economically viable.

Social Feasibility

A small social feasibility analysis of the proposed Internship Management System, based on the responses from 85 participants in the survey, indicates promising prospects for its acceptance and success within the target community. In the survey, respondents shared the challenges they face while using the current manual internship management system.

What are the **challenges** you have faced when using the **current manual system**? (Skip if no experience using it)

5 responses

Slow working

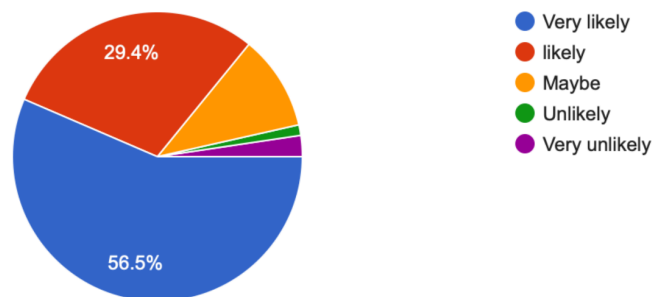
Much Difficult to handle the process and carry on in the manual way, bit difficult to manage all the students CVs and their intern applications

But results also indicate that a majority of respondents (90%) are interested in using an online Internship Management System over the current manual process. This demonstrates a positive attitude towards adopting digital solutions, suggesting good potential for user acceptance.

How likely are you to use a **fully automated**, online platform for industry placement programme?

 Copy

85 responses



Operational Feasibility

The internship management system aims to significantly enhance the internship process for students, companies, and the Placement and Development Center (PDC) by providing a user-friendly and scalable platform. It will simplify operations with easy navigation and clear instructions, ensuring users can easily access and manage their tasks. As user numbers increase, the system's scalability ensures continued performance without slowdowns. This solution replaces difficult manual processes with efficient digital workflows, benefiting all stakeholders. By being secure and accessible, it supports a productive environment where tasks can be completed efficiently and safely, making it a practical and operationally feasible choice for managing internships.

- Streamlines the entire placement process, benefiting students, companies, and the PDC, enhancing productivity and effectiveness.
- Easily accessible from any device with stable internet, allowing stakeholders to manage tasks conveniently and flexibly.
- User-friendly design requires minimal training, allowing intuitive navigation and immediate platform adoption.
- Runs smoothly on standard PCs, requiring basic IT skills, and ensuring compatibility across various devices.
- Supported by a dedicated team for timely updates and efficient operation, ensuring ongoing system reliability.

Requirements

Stakeholders

- Students
- PDC
- Admin
- Company
- Lecturer

Functional Requirements

Student

User Account Management

- Students shall be able to register for an account using their university email address.
- Students shall be able to log in to their account using their credentials.
- Students shall be able to reset their password through a secure process.
- Students shall be able to update their profile information.

Profile and CV Management

- Students shall be able to create and edit their CV within the system.
- Students shall be able to upload supporting documents (e.g., certificates, portfolios).

Internship Search and Application

- Students shall be able to view a list of available internship opportunities.
- Students shall be able to filter internship listings based on various criteria (e.g., company, location).
- Students shall be able to view detailed information about each internship opportunity.
- Students shall be able to apply for internships directly through the system.
- Students shall be able to rank preferences for multiple offers.
- Students shall be able to track the status of their applications.

Communication and Notifications

- Students shall receive notifications about new internship opportunities matching their preferences.
- Students shall receive updates on their application status.

Interview Management

- Students shall be notified of interview invitations.
- Students shall be able to schedule or reschedule interviews within given timeframes.
- Students shall be able to access interview preparation resources.

Feedback and Complaints

- Students shall be able to submit feedback about their internship experience.
- Students shall be able to file complaints or raise concerns through the system.

Tech Talk and Event Management

- Students shall be able to view a calendar of upcoming tech talks and events.
- Students shall be able to register for tech talks and events.
- Students shall receive reminders for events they've registered for.

Resource Access

- Students shall have access to internship-related resources (e.g., guidelines, best practices).
- Students shall be able to access FAQs and help documentation.

Reporting

- Students shall be able to generate a report of their internship applications and outcomes.
- Students shall be able to download their updated CV and application history.

Company

User Account Management

- Company representatives shall be able to register for an account.
- Company accounts shall require approval from PDC or admin before activation.
- Company users shall be able to log in to their account using their credentials.
- Company users shall be able to reset their password through a secure process.
- Company users shall be able to update their company profile information.

Company Profile Management

- Companies shall be able to create and edit their company profile.
- Companies shall be able to upload their logo and other relevant media.
- Companies shall be able to provide and update company description, industry, and other relevant details.

Internship Posting Management

- Companies shall be able to create new internship listings.
- Companies shall be able to specify internship details including job description, requirements, duration, and compensation.
- Companies shall be able to edit or update existing internship listings.
- Companies shall be able to set application deadlines for internships.
- Companies shall be able to close or reopen internship listings.

Application Review and Management

- Companies shall be able to view a list of applicants for each internship posting.

- Companies shall be able to filter and sort applicants based on various criteria.
- Companies shall be able to view detailed profiles and CVs of applicants.
- Companies shall be able to mark applicants as shortlisted, rejected, or under review.

Interview Management

- Companies shall be able to schedule interviews with selected candidates.
- Companies shall be able to send interview invitations through the system.
- Companies shall be able to reschedule or cancel interviews if needed.
- Companies shall be able to record interview outcomes and feedback.

Tech Talk and Event Management

- Companies shall be able to schedule tech talks.
- Companies shall be able to view and manage registrations for their events.

Feedback and Reporting

- Companies shall be able to provide feedback on interns at the end of the internship period.
- Companies shall be able to generate reports on their internship program (e.g., number of applicants, acceptance rates).

Notifications

- Companies shall receive notifications about new applicants, messages, and important deadlines.

PDC

Account Management

- PDC staff shall be able to log in to their accounts.
- PDC staff shall be able to review and approve student account registrations.
- PDC staff shall be able to deactivate or suspend student accounts when necessary.

Student Management

- PDC staff shall be able to track students' internship application status.
- PDC staff shall be able to approve student accounts if the automatic approval process fails.
- PDC staff shall be able to generate reports on student participation and placement rates.

Company Management

- PDC staff shall be able to review and approve company registrations.
- PDC staff shall be able to deactivate or suspend company accounts when necessary.

Internship Management

- PDC staff shall be able to review and approve internship listings submitted by companies.
- PDC staff shall be able to monitor the internship application process.

Communication

- PDC staff shall be able to send announcements to all or specific groups of students.

Event Management

- PDC staff shall be able to create time slots for tech talks.
- PDC staff shall be able to track student attendance at these events.

Reporting and Analytics

- PDC staff shall be able to generate various reports on internship placements, company participation, and student engagement.
- PDC staff shall be able to view analytics on the effectiveness of the internship program.

Feedback Management

- PDC staff shall be able to create and manage feedback forms for students and companies.
- PDC staff shall be able to view and analyze feedback submitted by students and companies.

Complaint Handling

- PDC staff shall be able to receive and manage complaints from students about companies.
- PDC staff shall be able to take appropriate actions on complaints and track their resolution.

Admin

User Management

- view, edit, and deactivate user accounts for students, PDC staff, and company representatives.
- Approve or reject new account requests for PDC staff.

Company Management

- Approve or reject company registration requests.
- Blacklist companies if necessary, with reason documentation.

Internship Management

- Review and approve internship postings from companies.
- Monitor the overall internship application process.

- Generate and view reports on internship placements and statistics.

Student Oversight

- View and export student profiles and CVs.
- Monitor student application status across different companies.

PDC Staff Management

- Monitor PDC staff activities and performance metrics.

Reporting and Analytics

- Generate system-wide reports on internship statistics, user engagement, and placement rates.
- Set up and view dashboards with key performance indicators.

Communication

- Send system-wide announcements to all users or specific user groups.

Feedback and Complaint Management

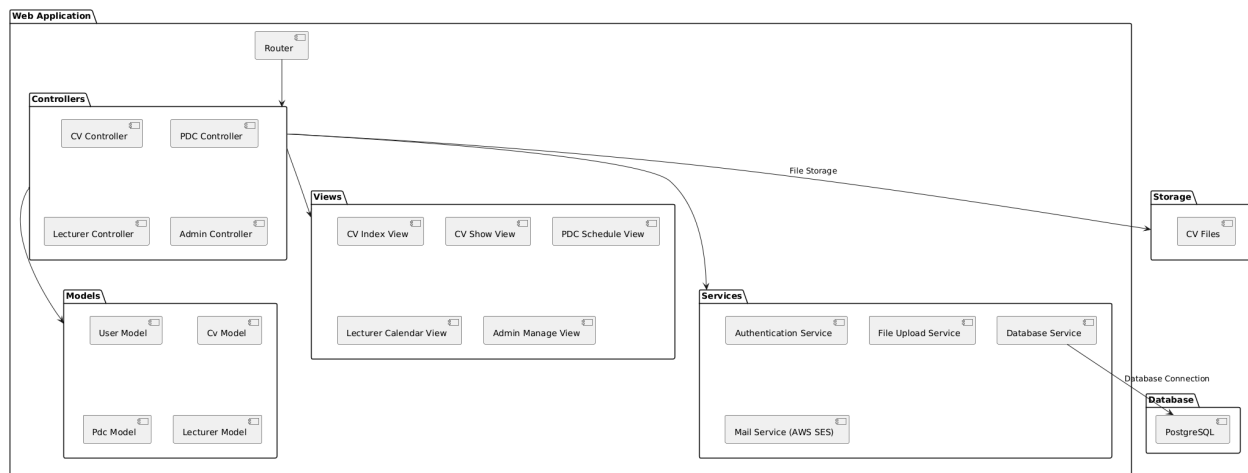
- Review student feedback on internships and companies.
- Manage and resolve reported complaints from students or companies.

Proposed System's Architecture

Components and Functionalities

1. **User Management:** Registration, login, role-based access control.
2. **Internship Management:** Listings, applications, and tracking.
3. **Communication:** Notifications and messaging.
4. **Reporting and Analytics:** Data visualization and trend analysis.

Component Interactions



System Design Diagrams

Use case diagrams

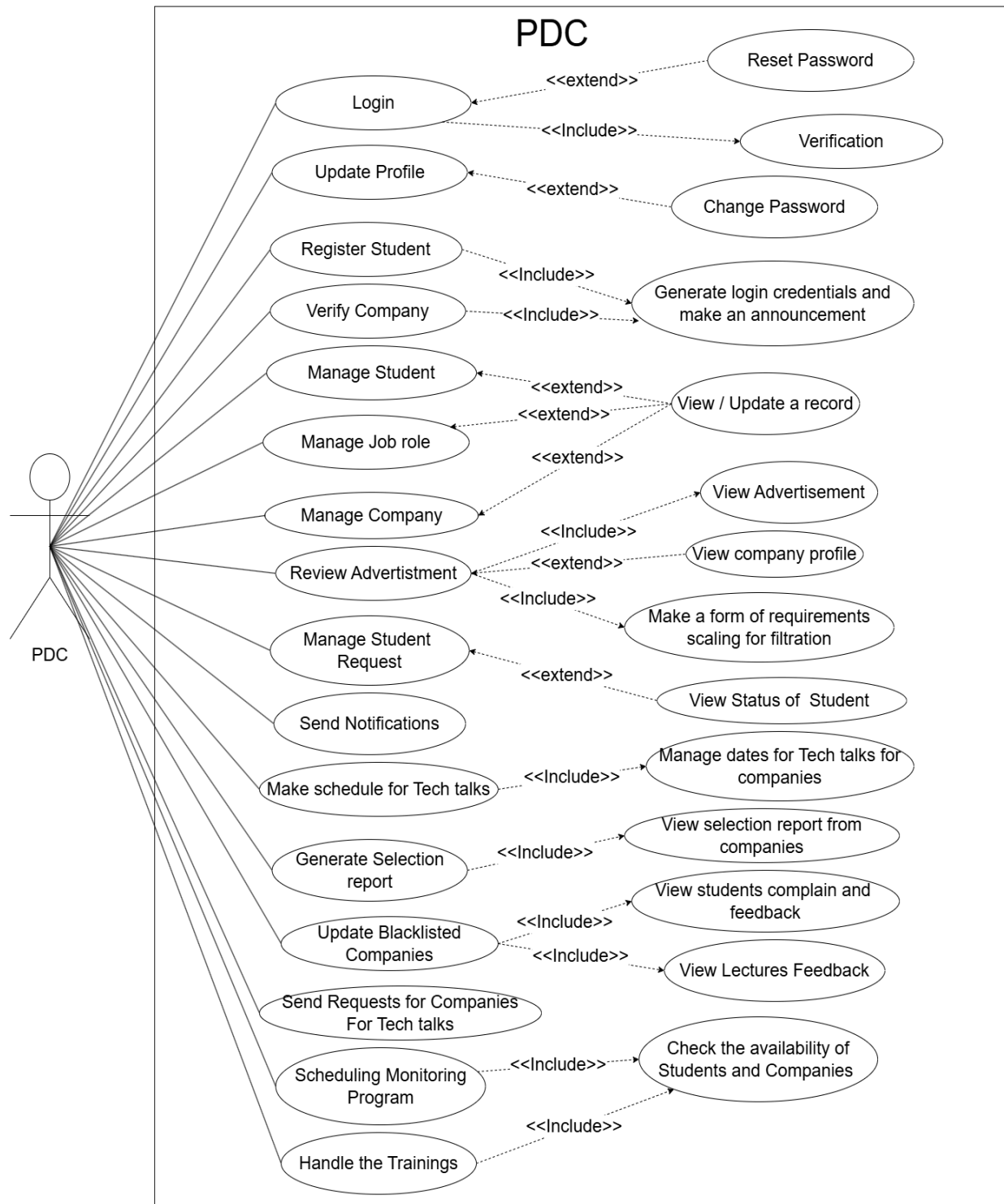
Student



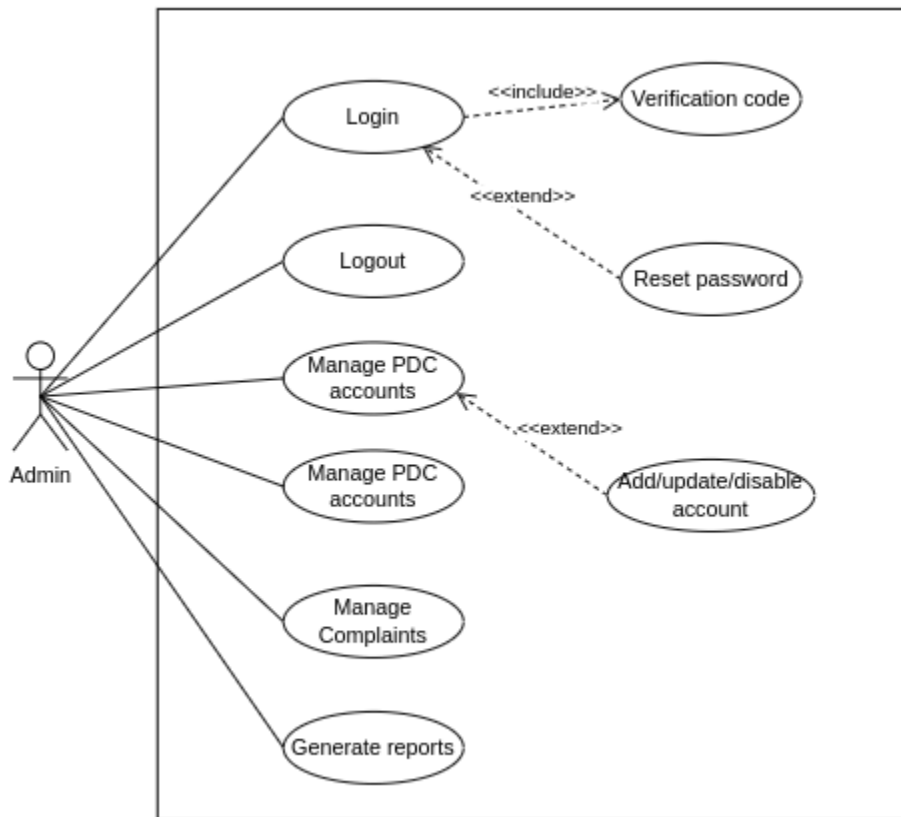
Company



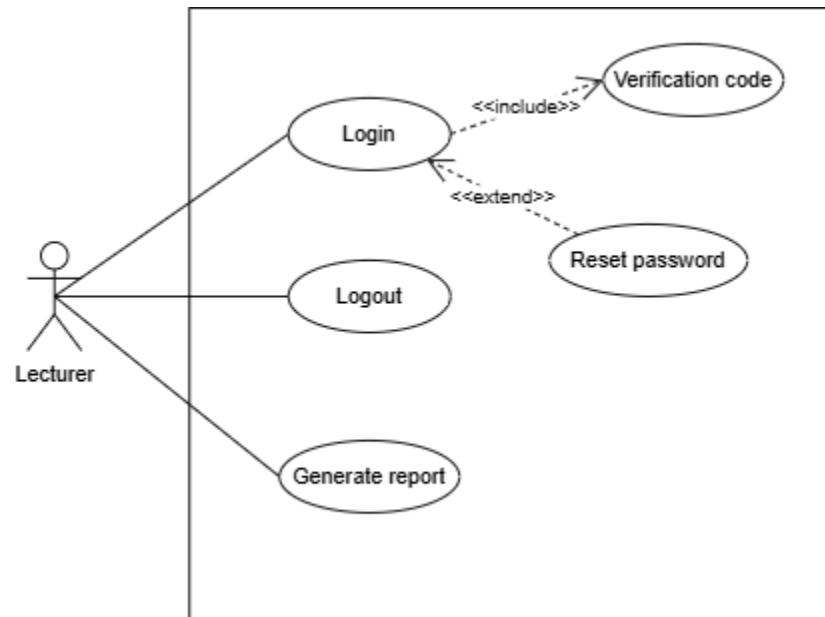
PDC



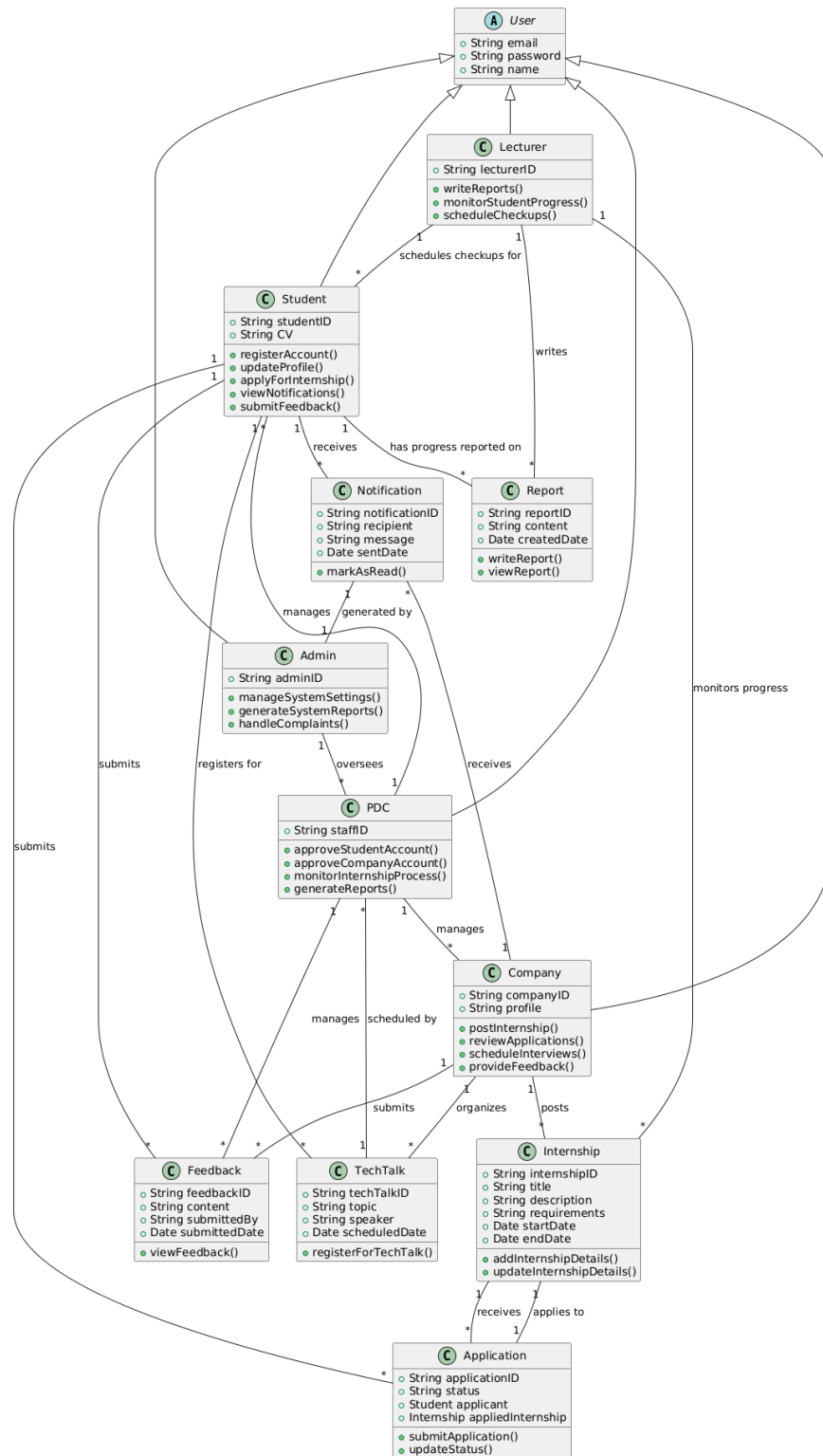
Admin



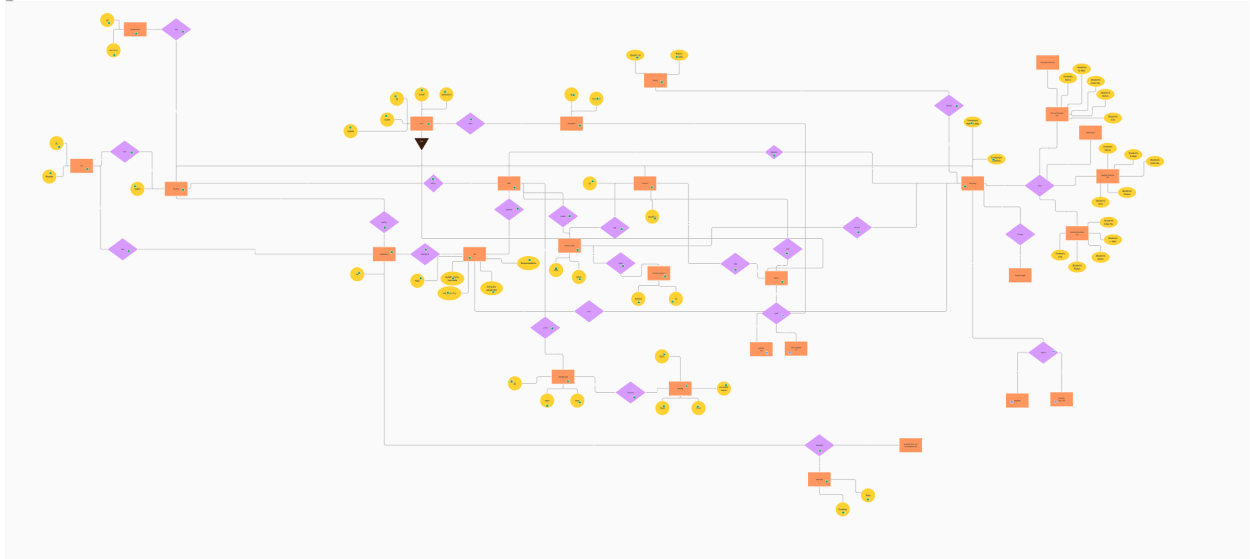
Lecturer



Class Diagram



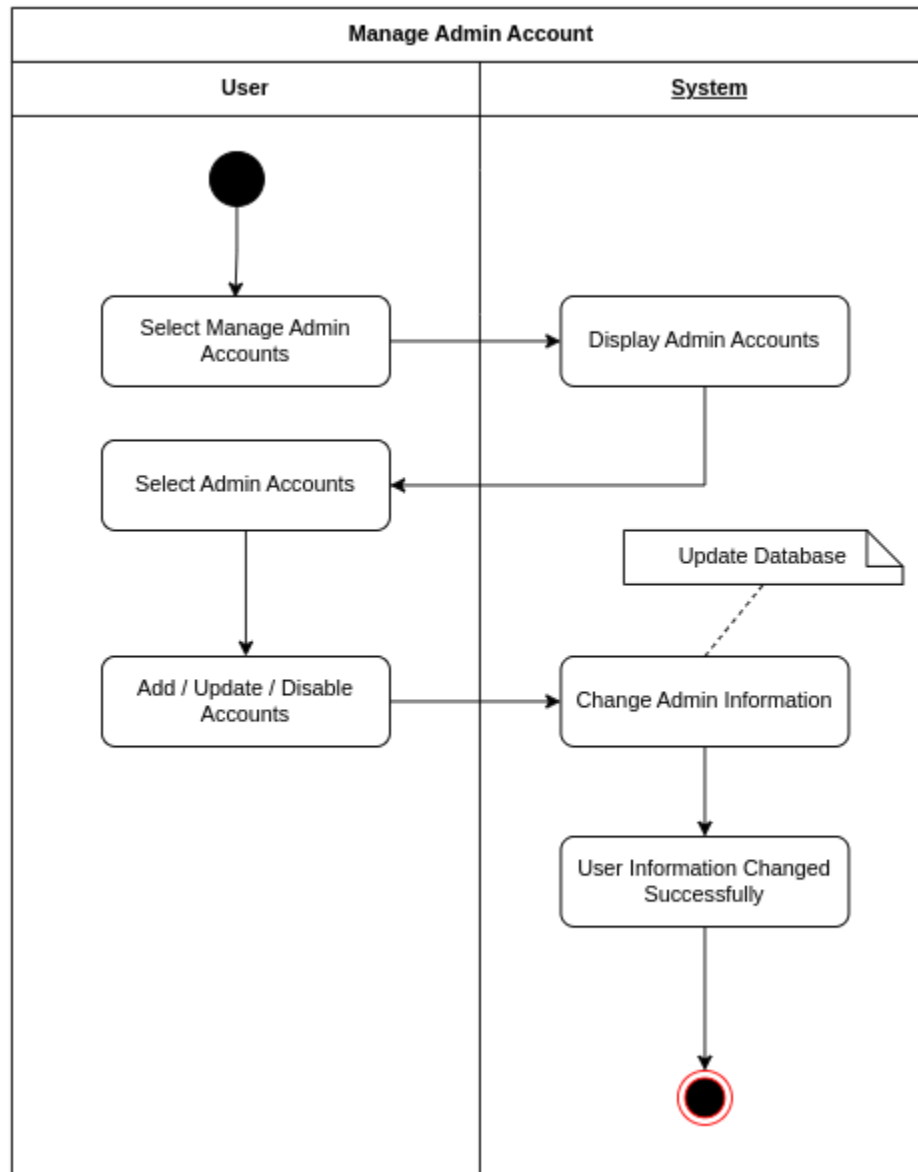
ER diagram

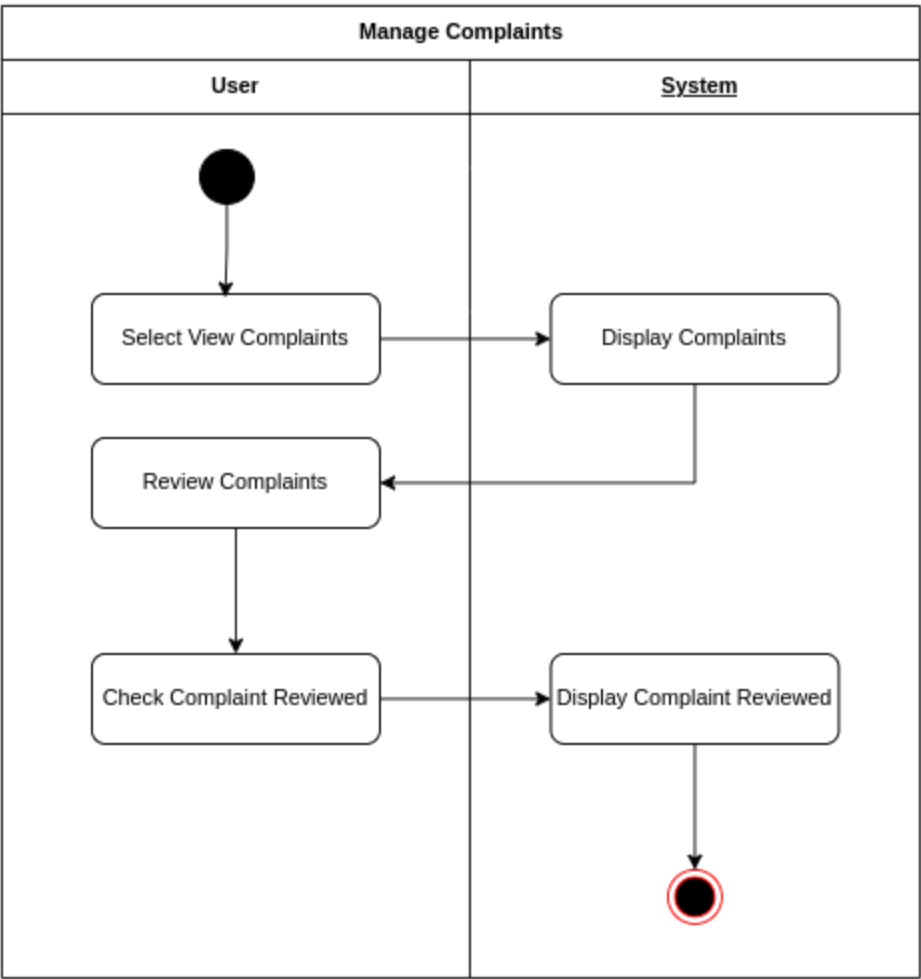


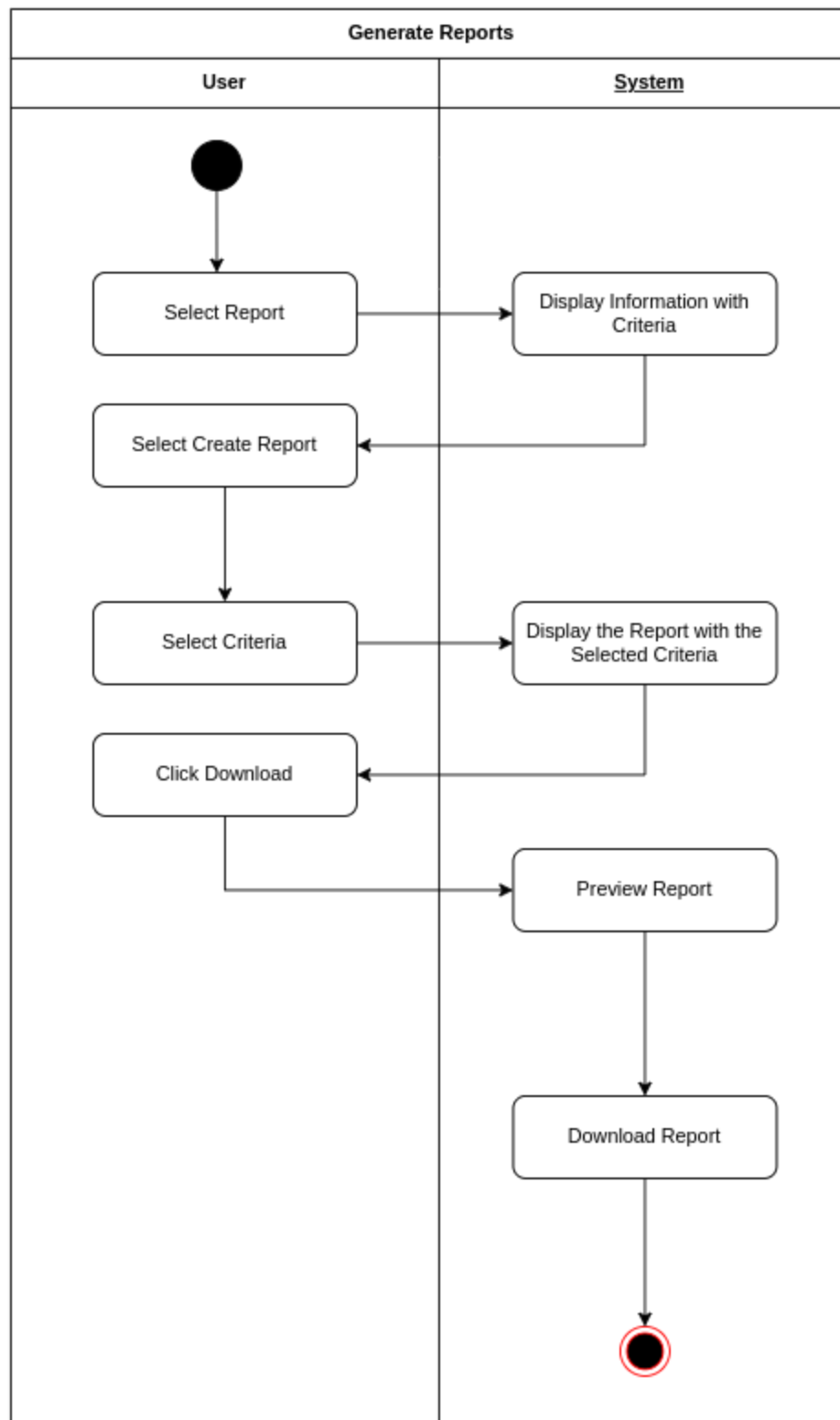
[https://www.figma.com/board/vBC7HCoMkANUvKuAp2U3tk/Entity-relationship-\(ER\)-Diagram-\(Community\)-\(Copy\)?node-id=0-1&t=pvbZZibxyuHQgWII-1](https://www.figma.com/board/vBC7HCoMkANUvKuAp2U3tk/Entity-relationship-(ER)-Diagram-(Community)-(Copy)?node-id=0-1&t=pvbZZibxyuHQgWII-1) ER Diagram

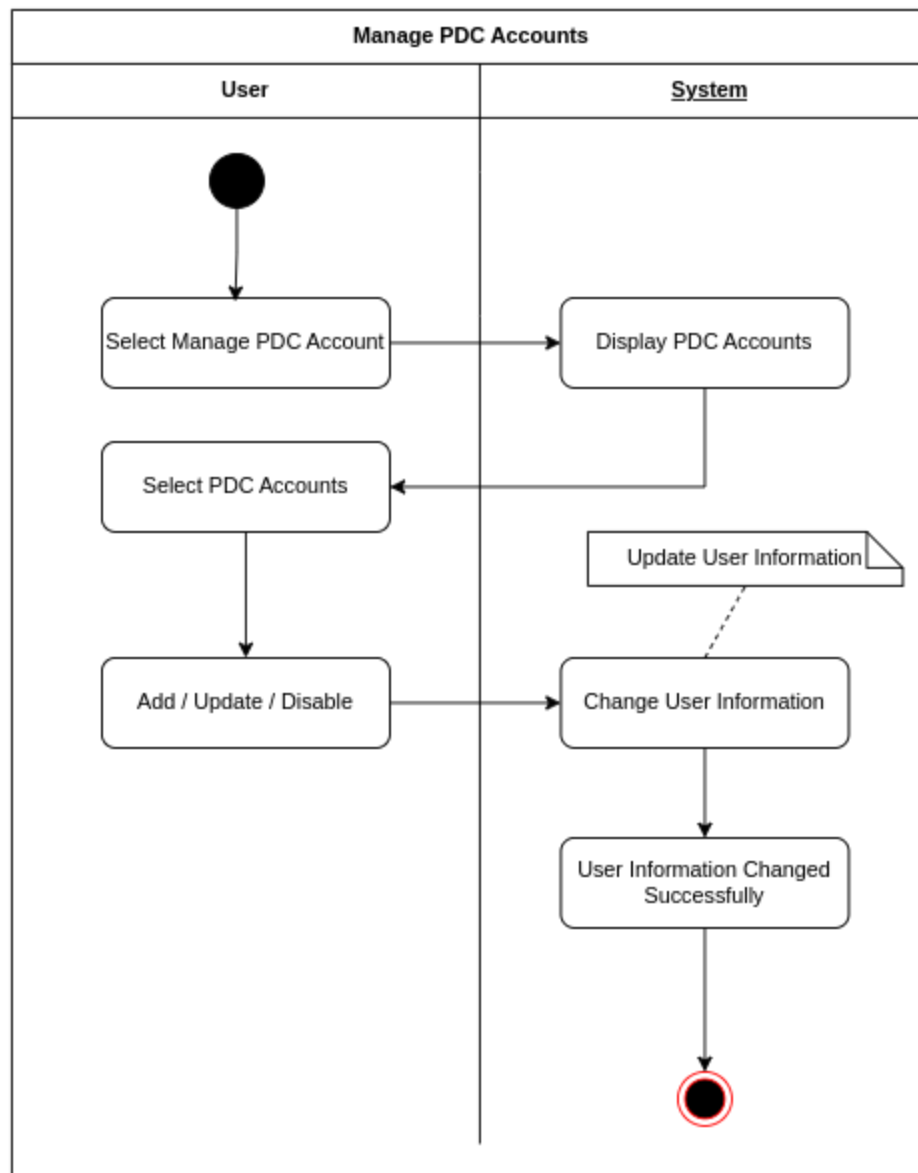
Activity diagrams

Admin

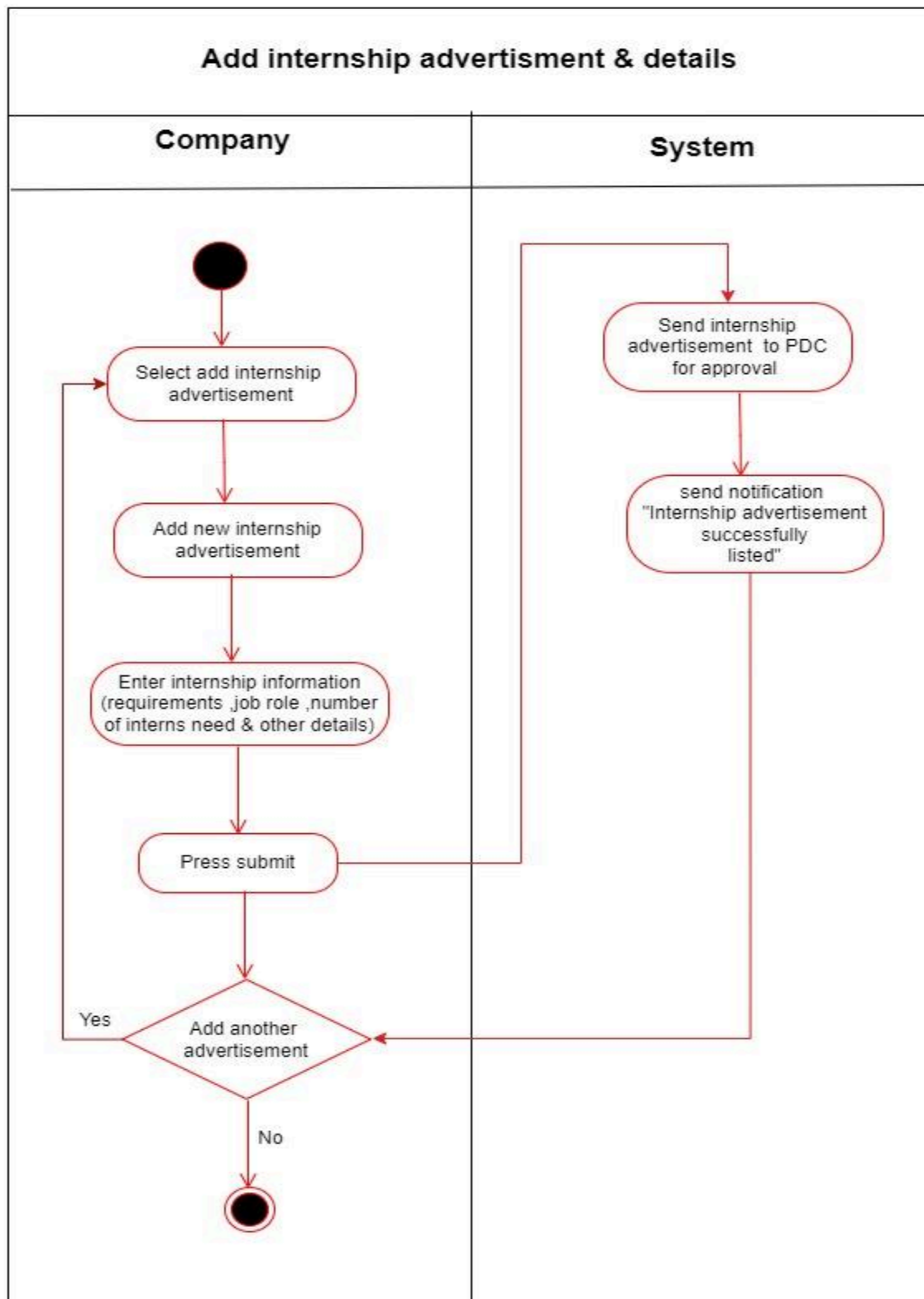


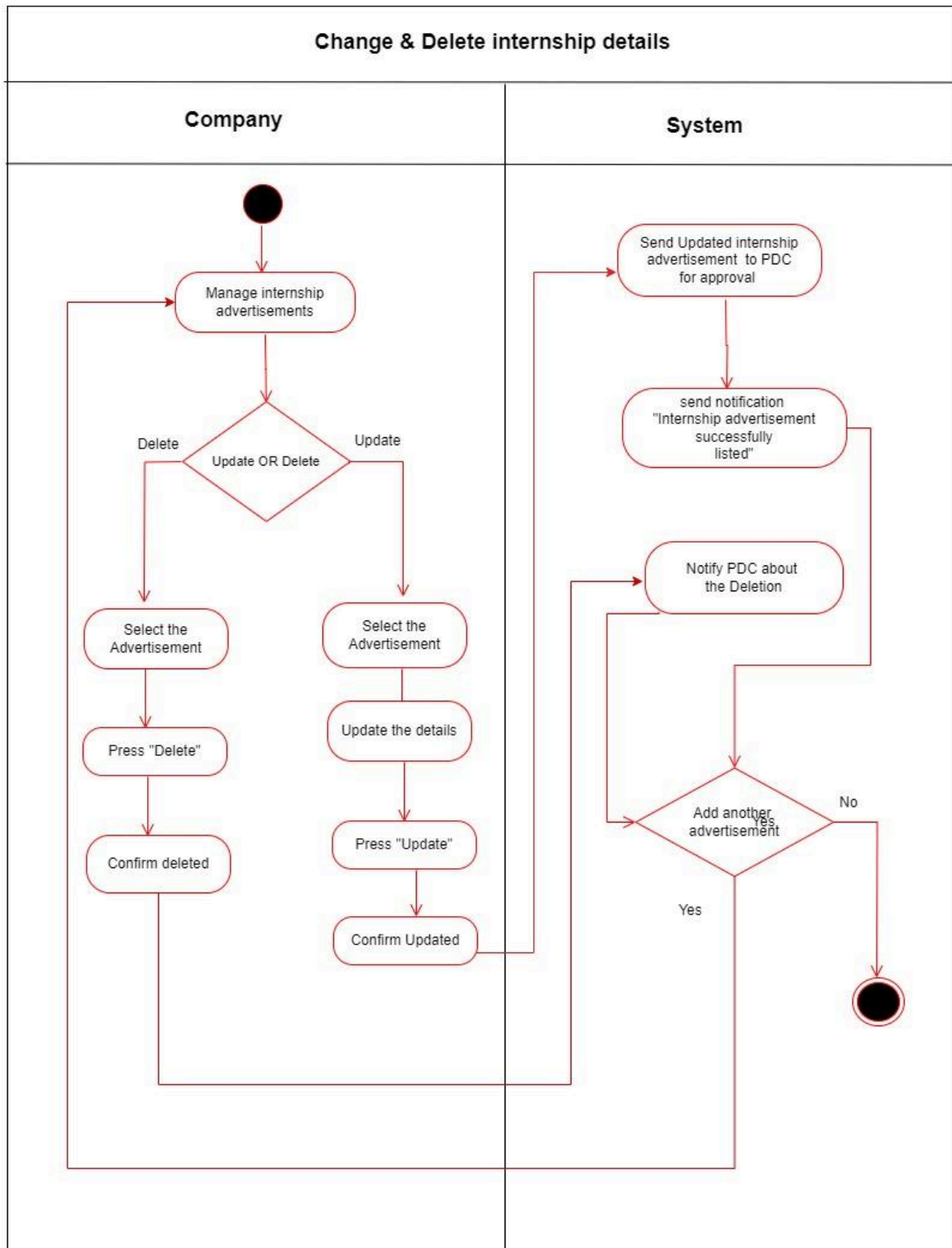


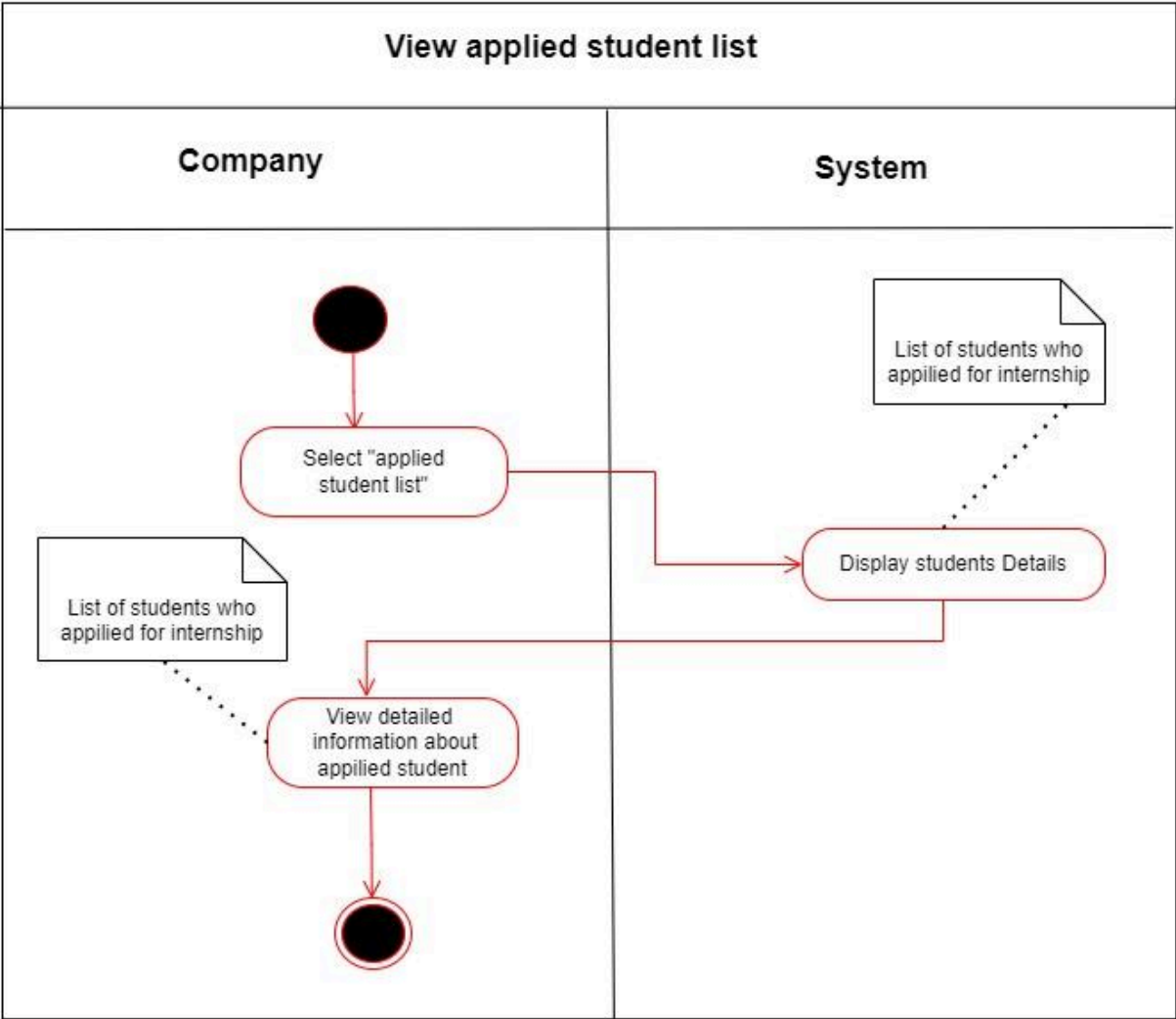


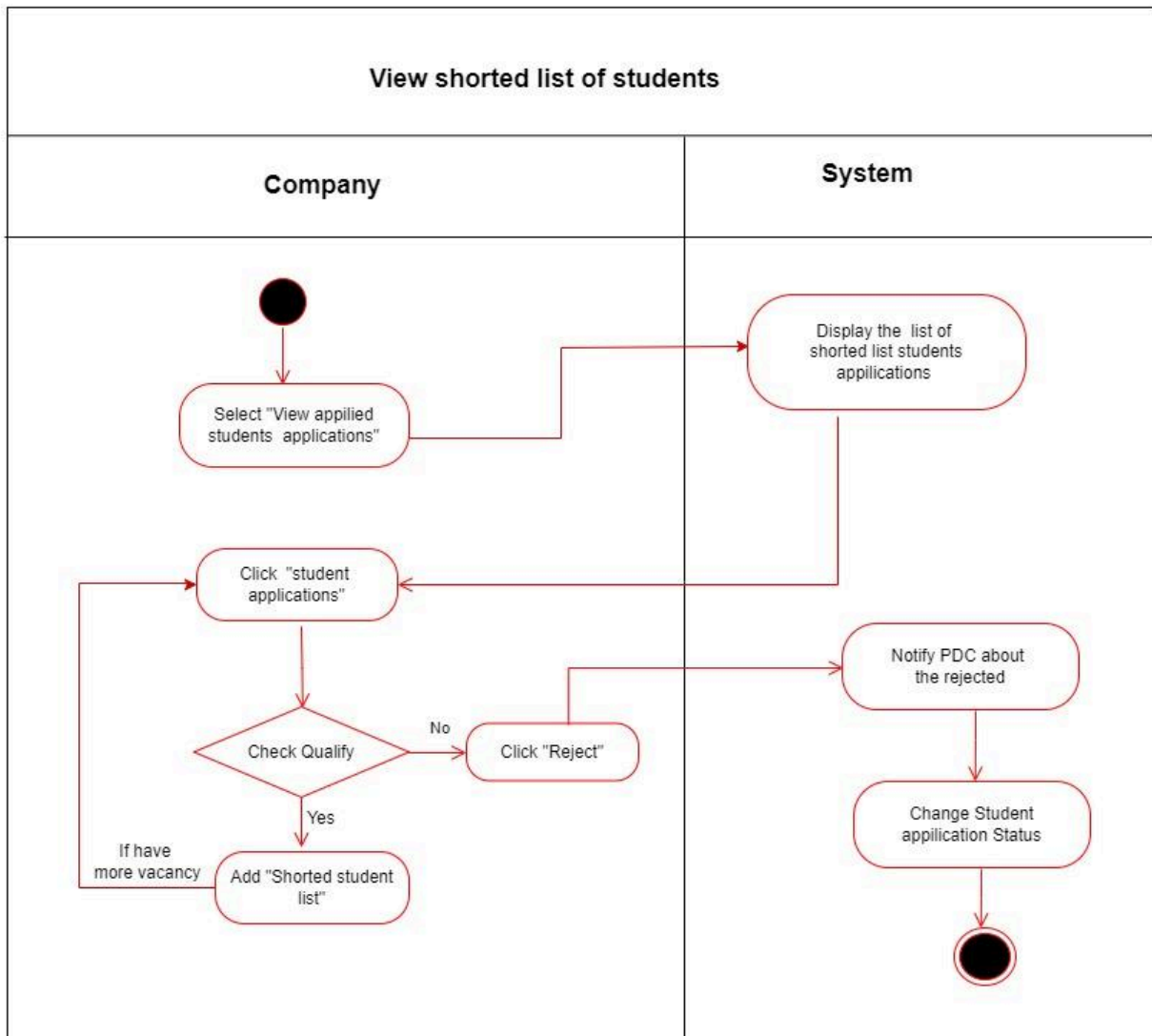


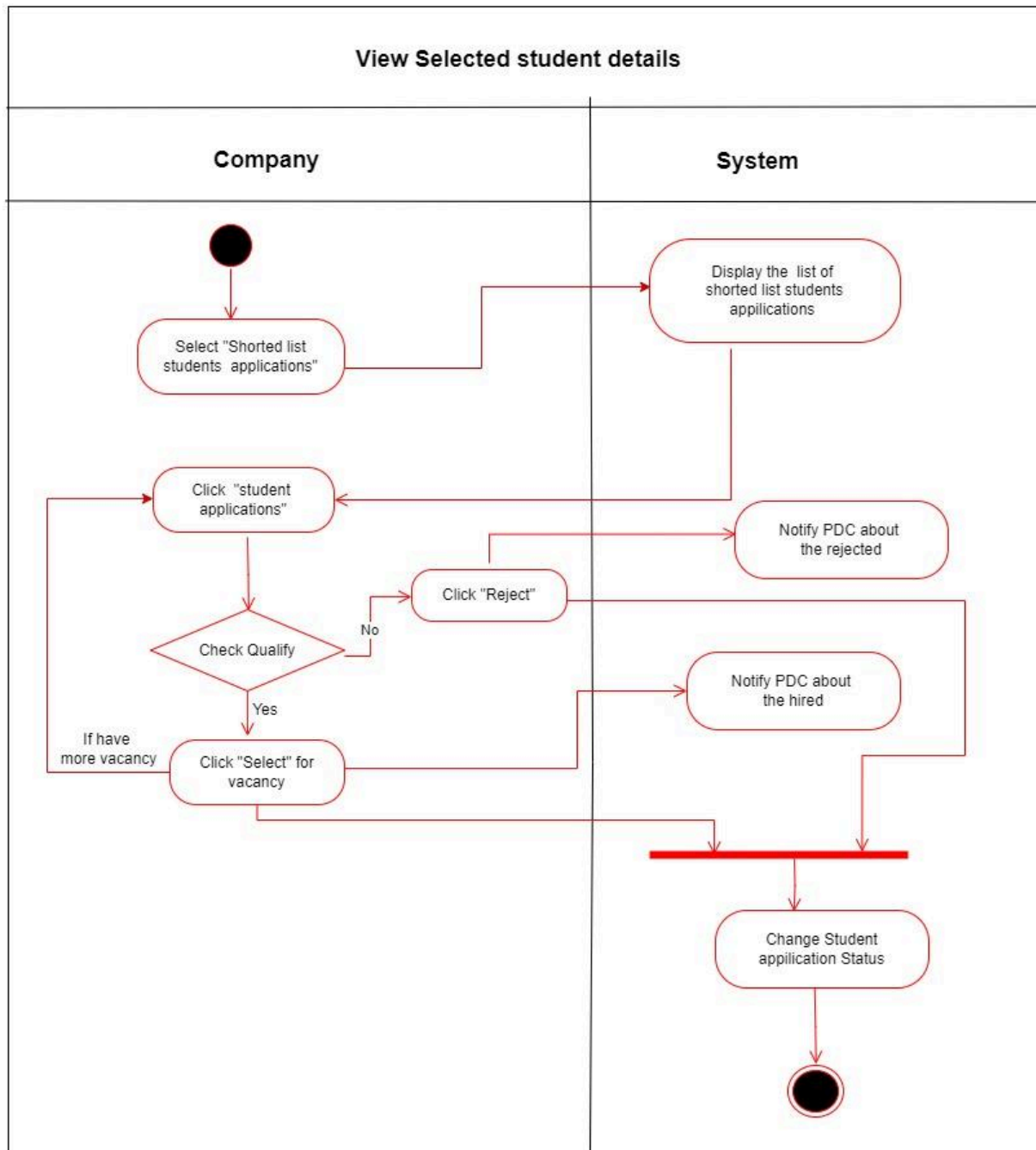
Company

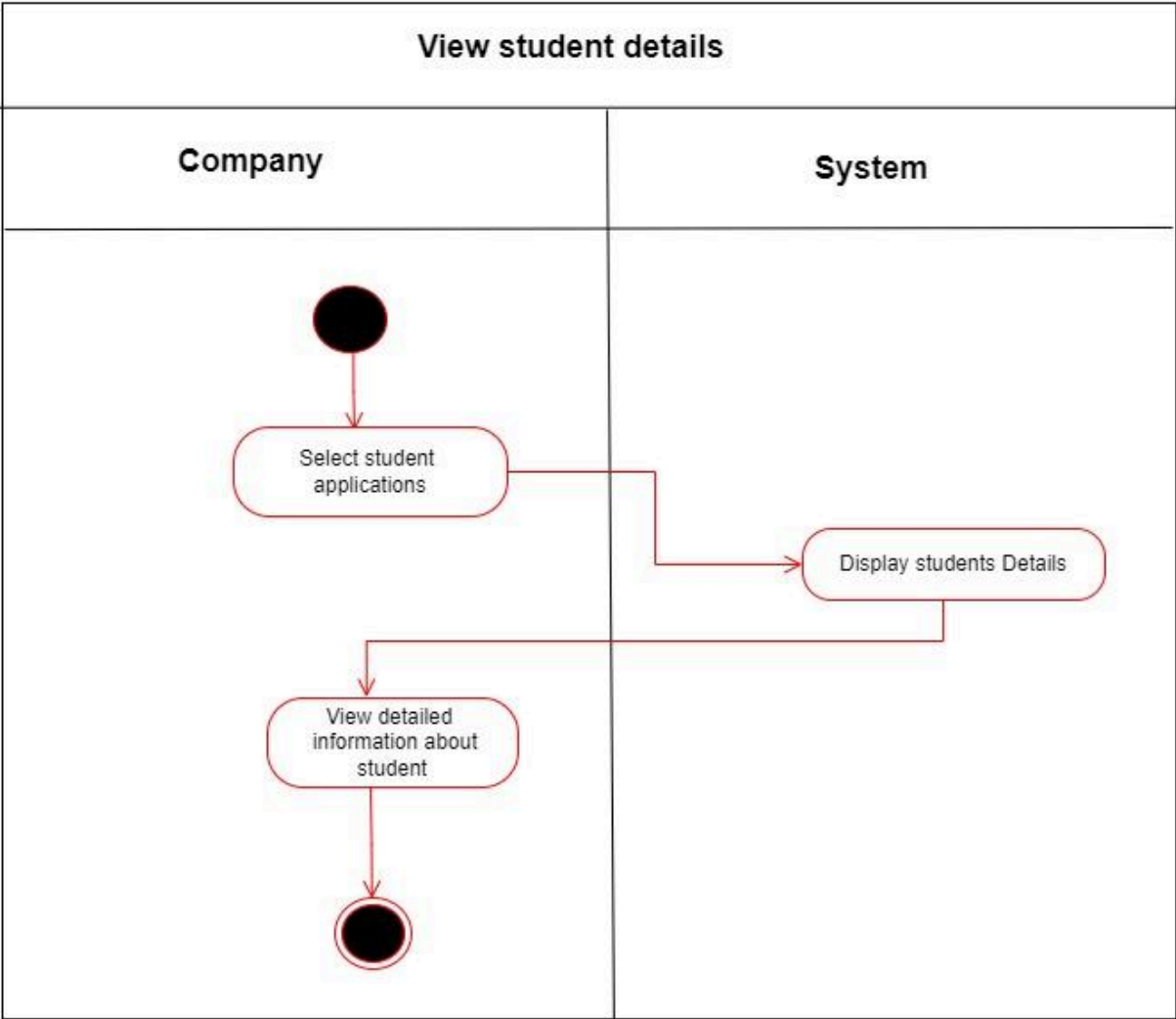


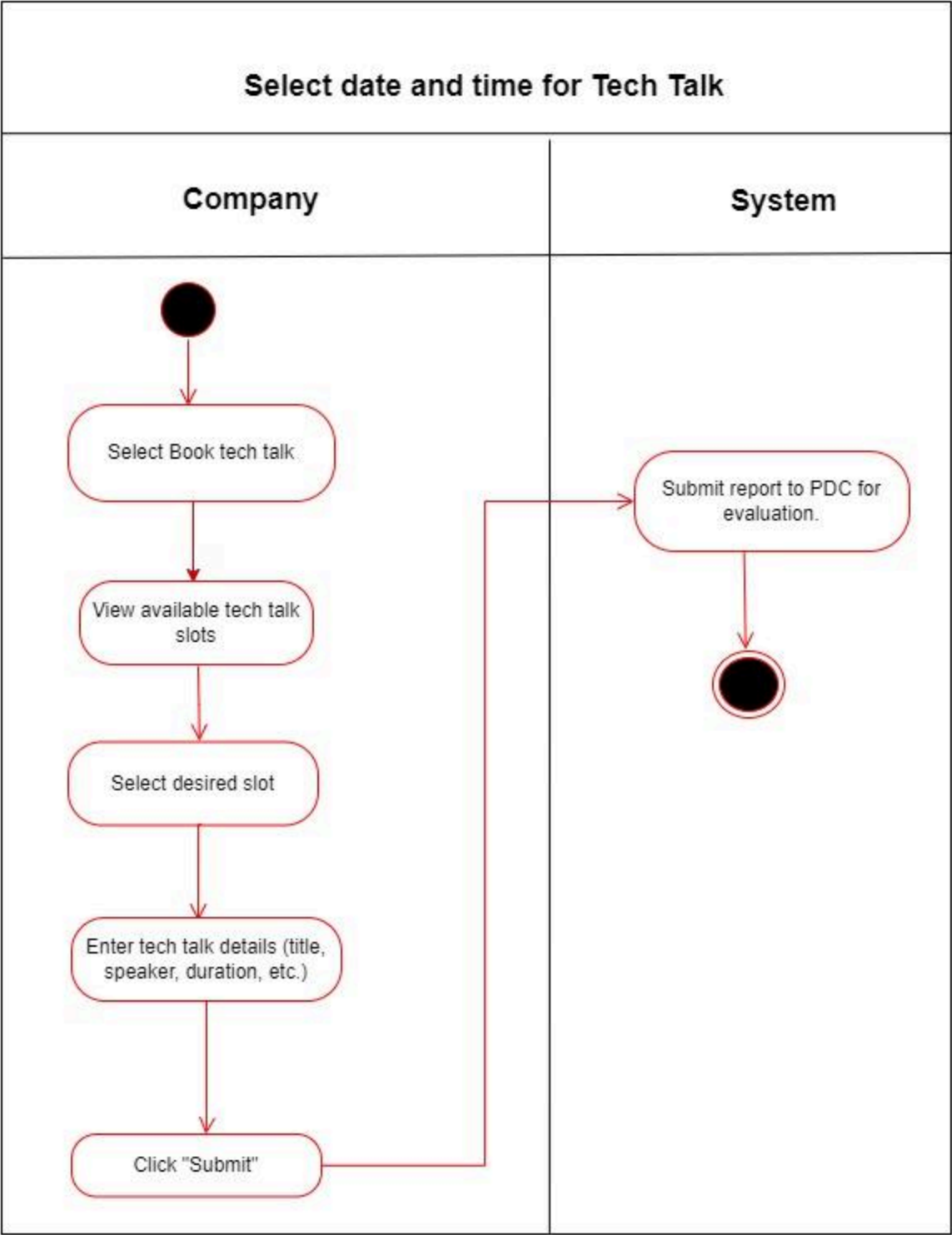


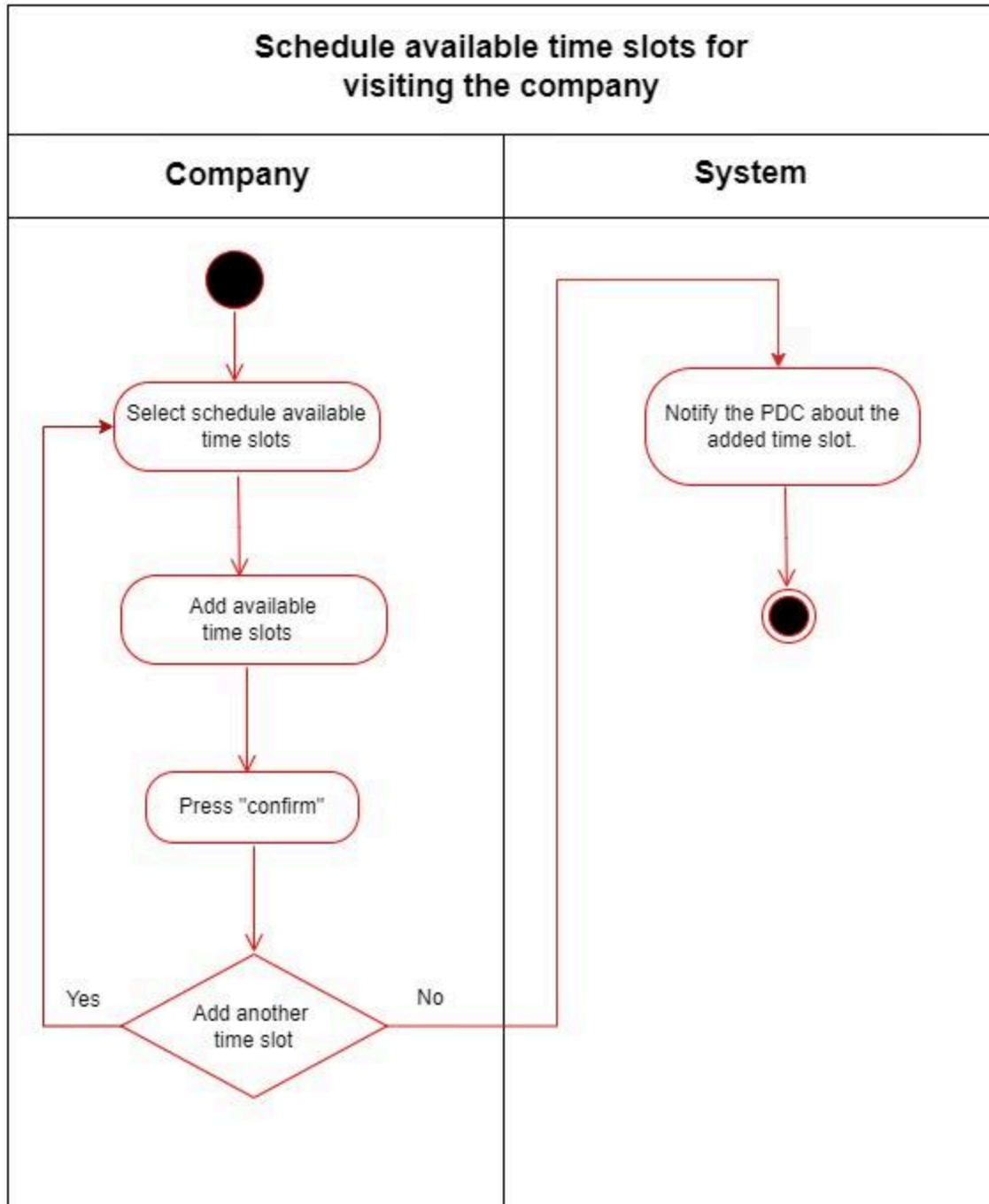


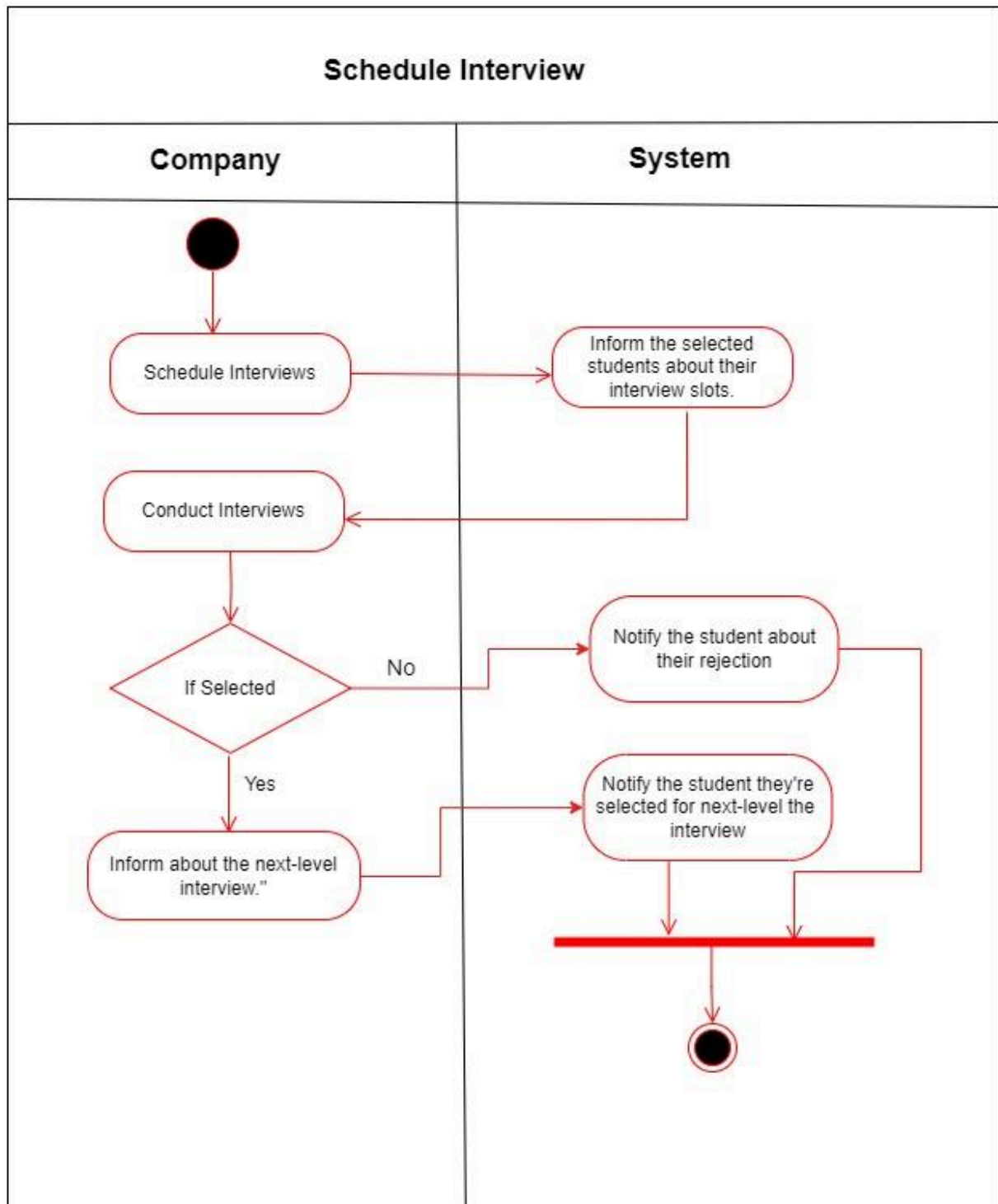


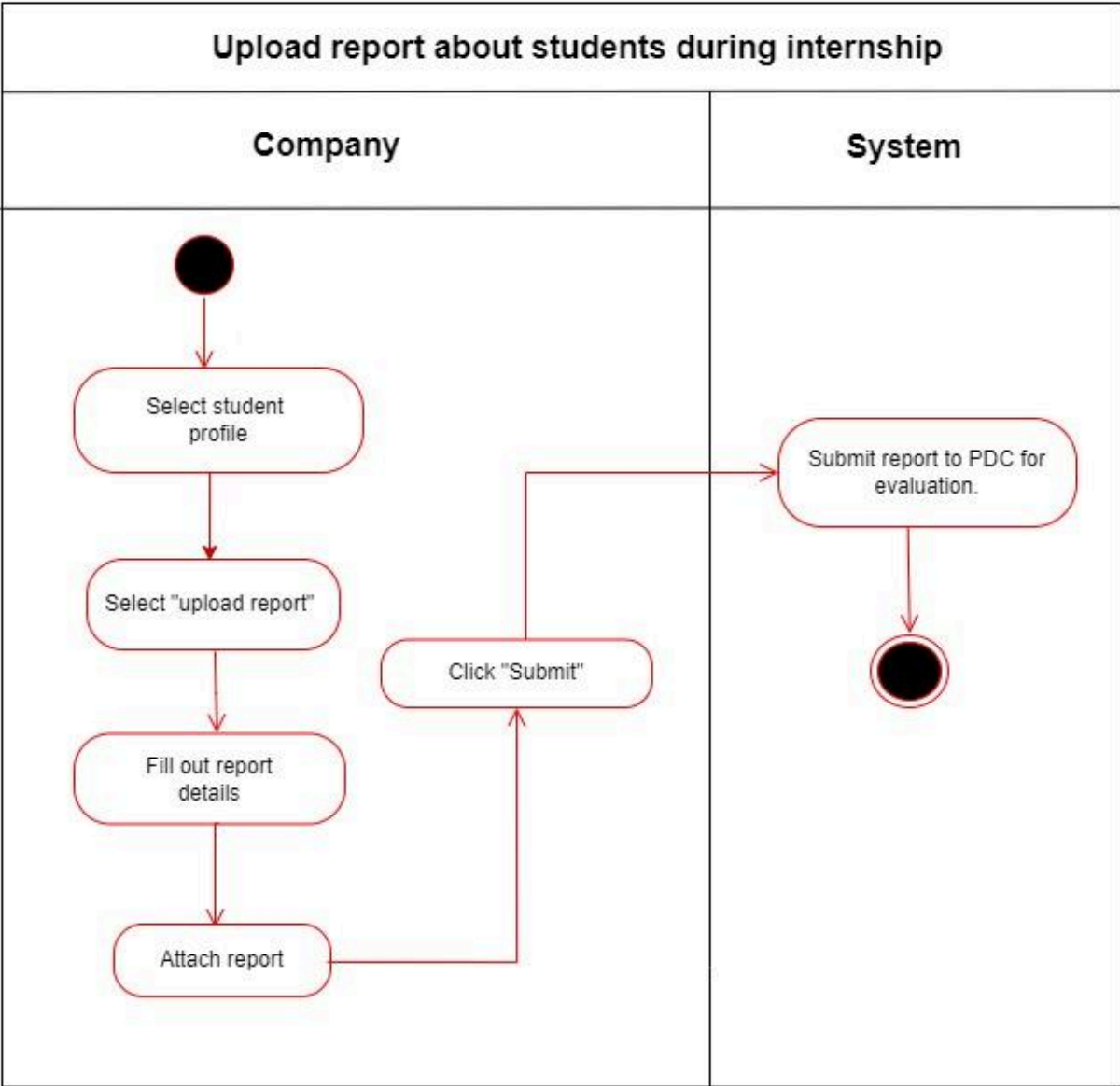




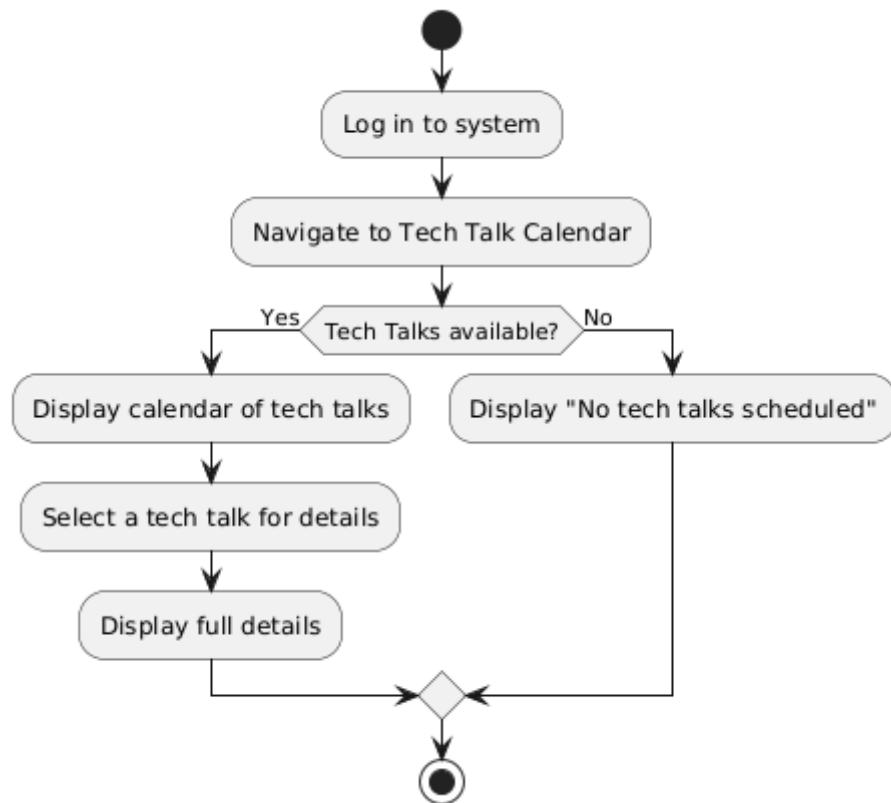


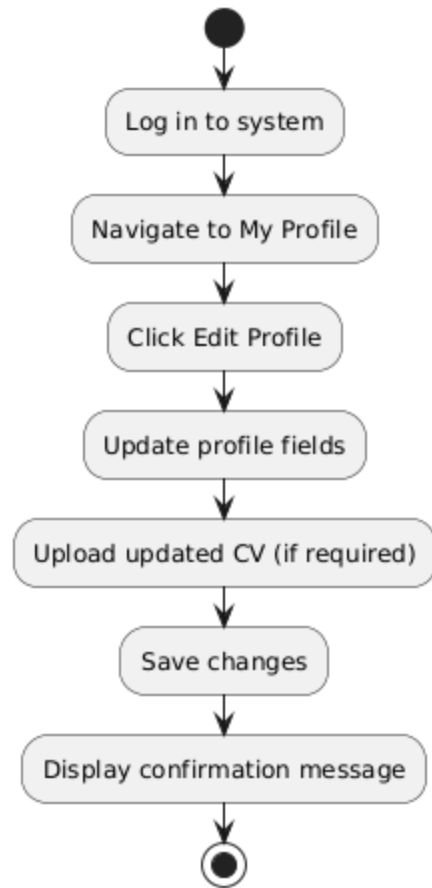


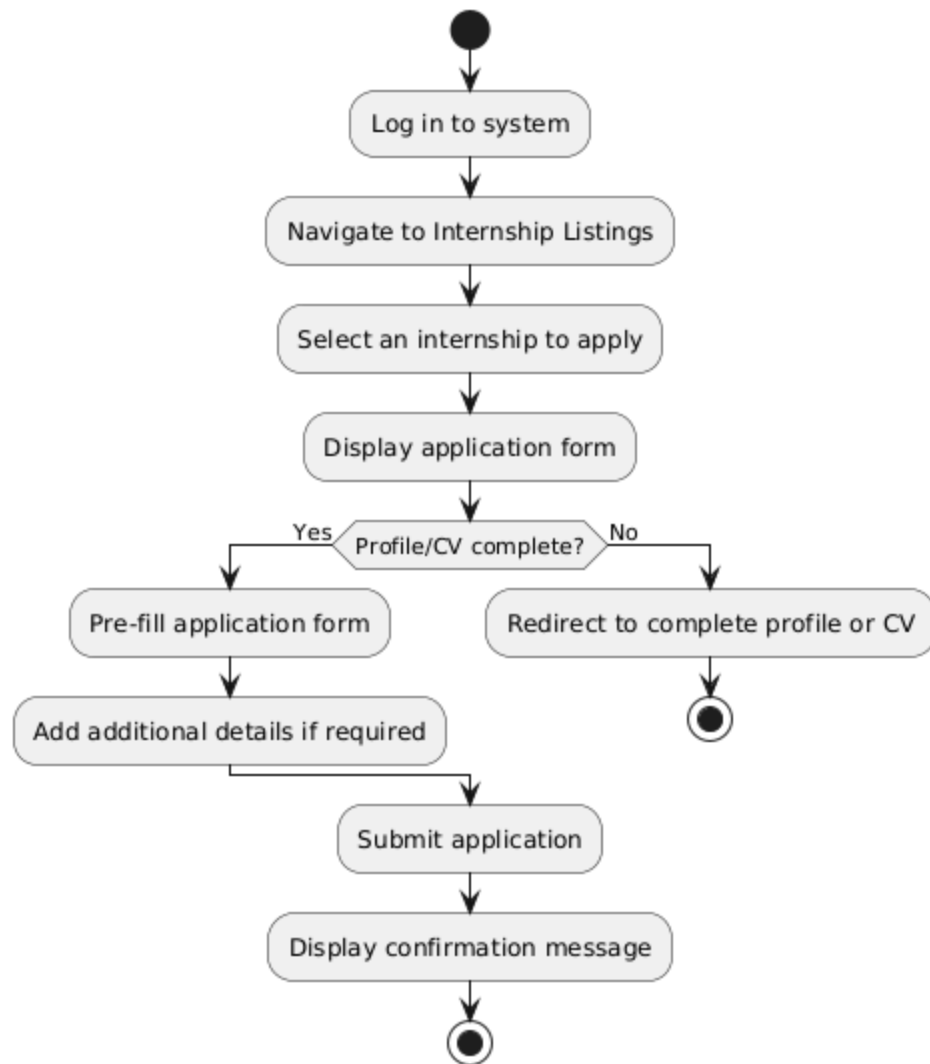


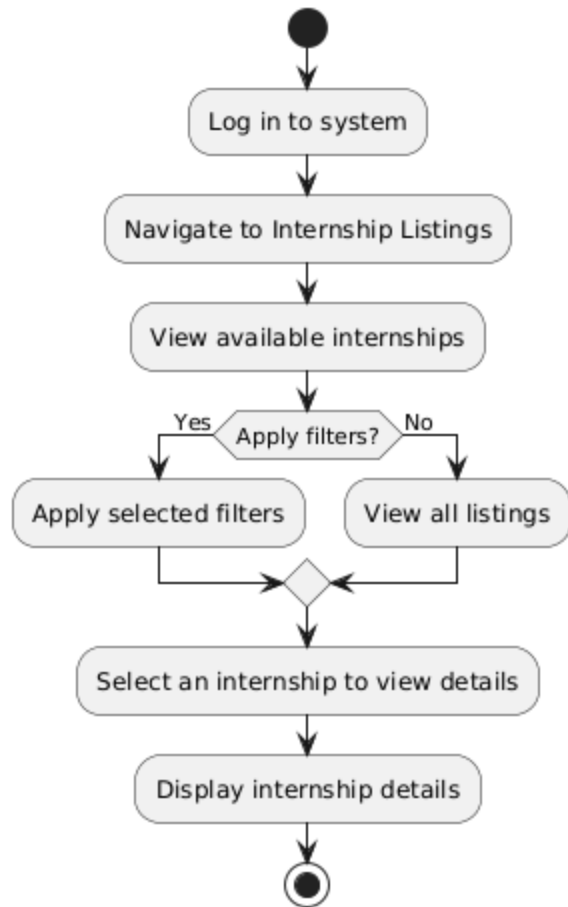


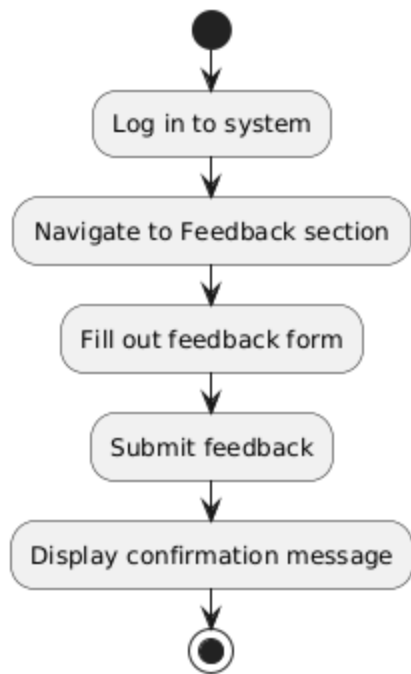
Student



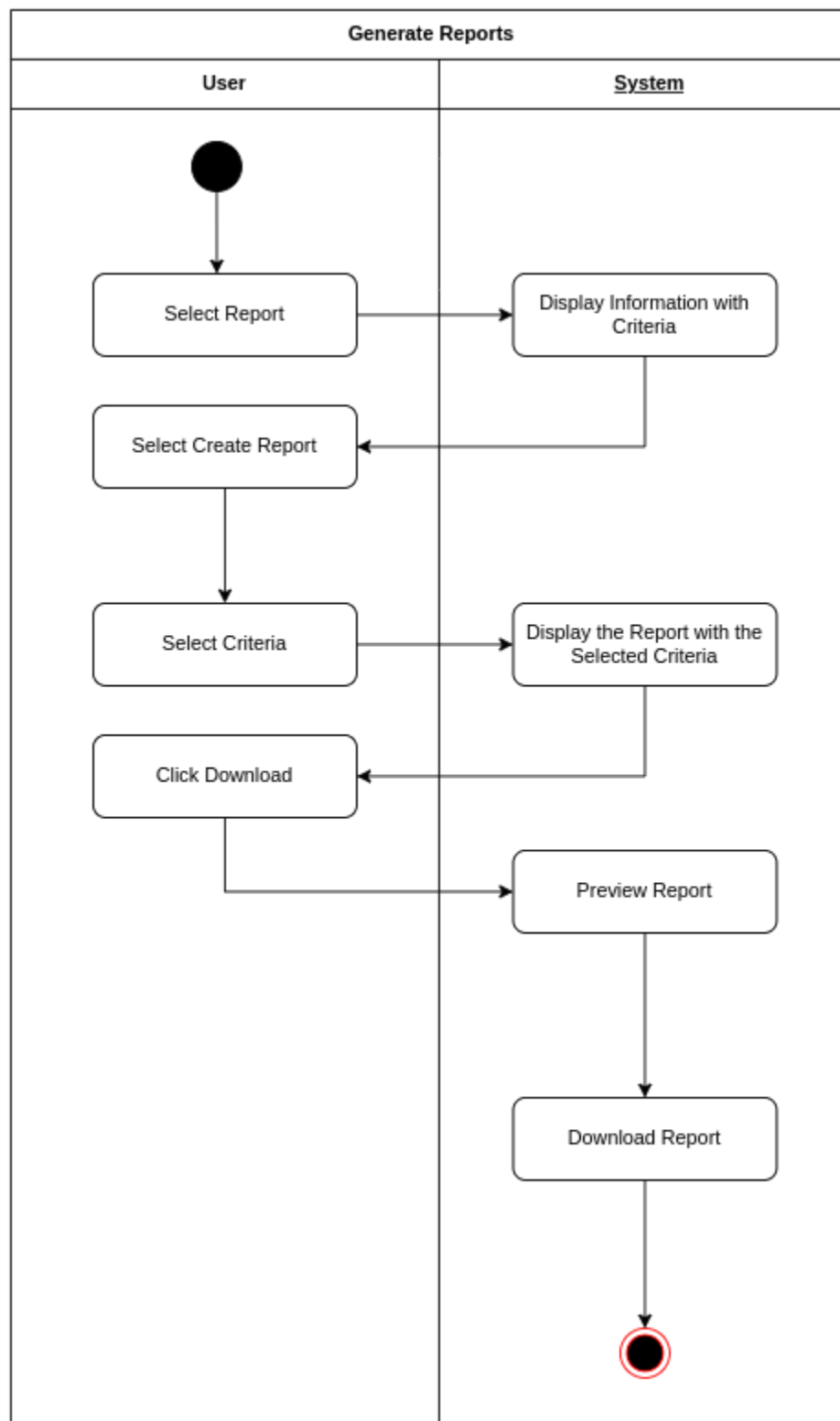




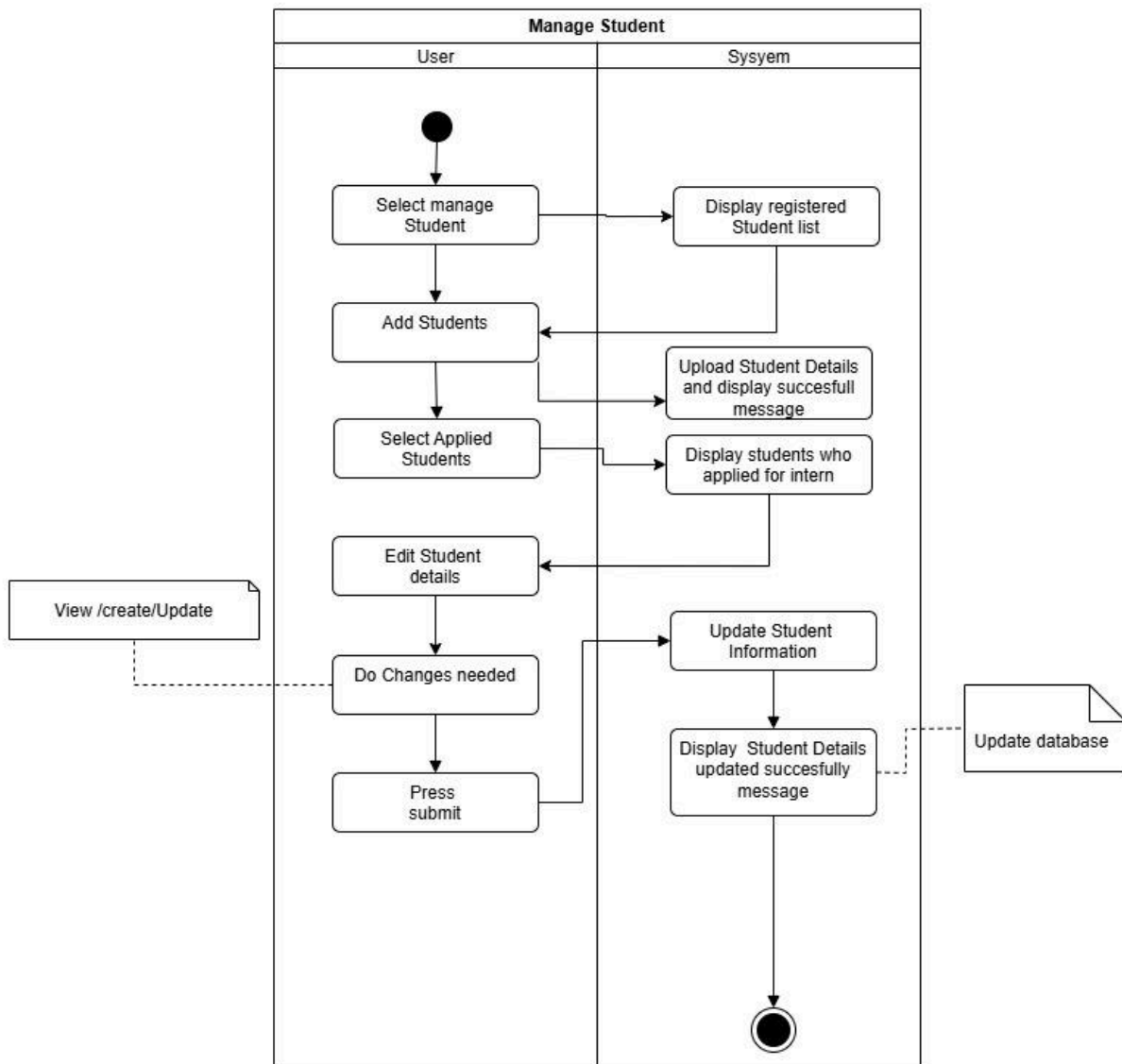


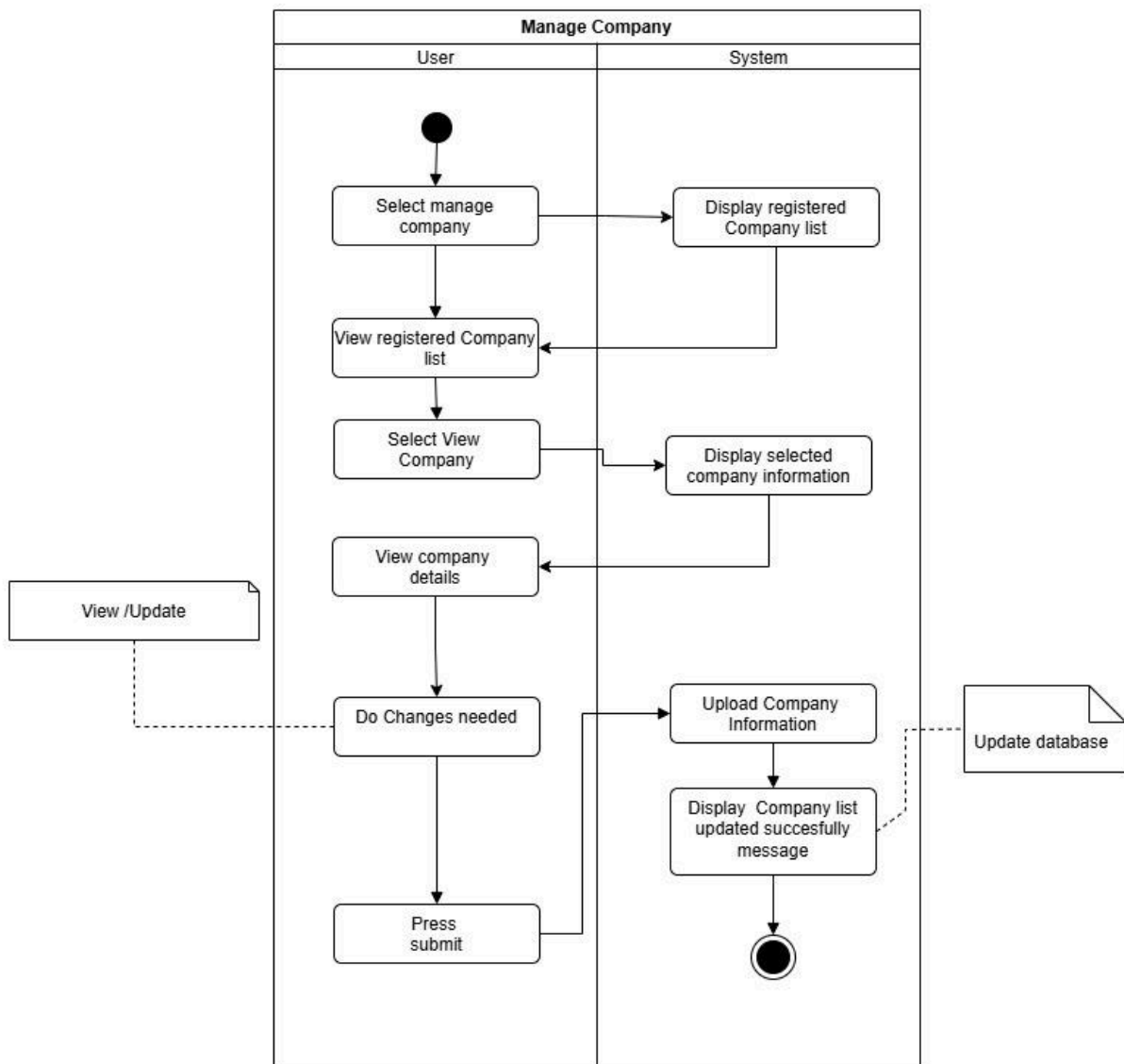


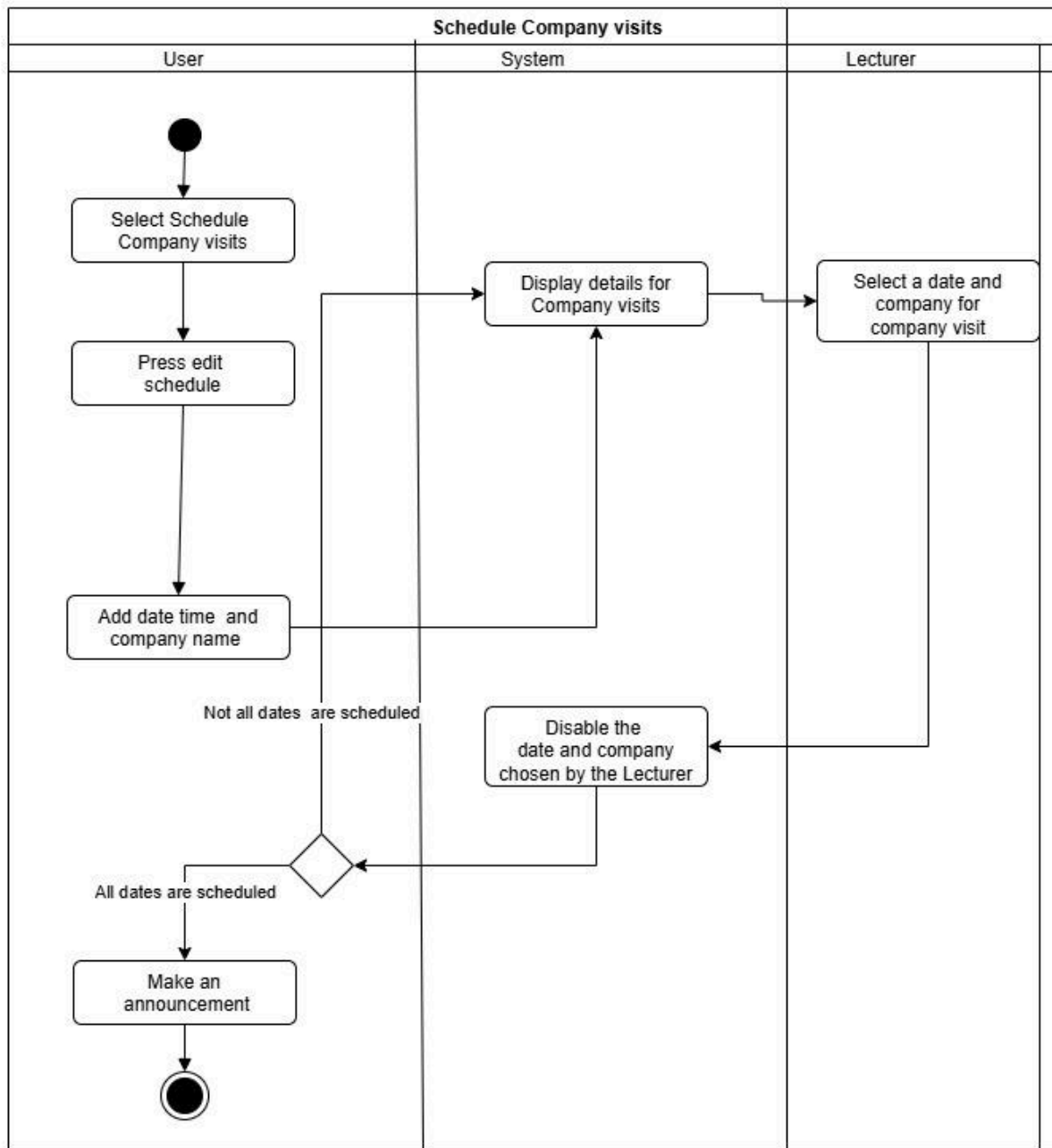
Lecturer

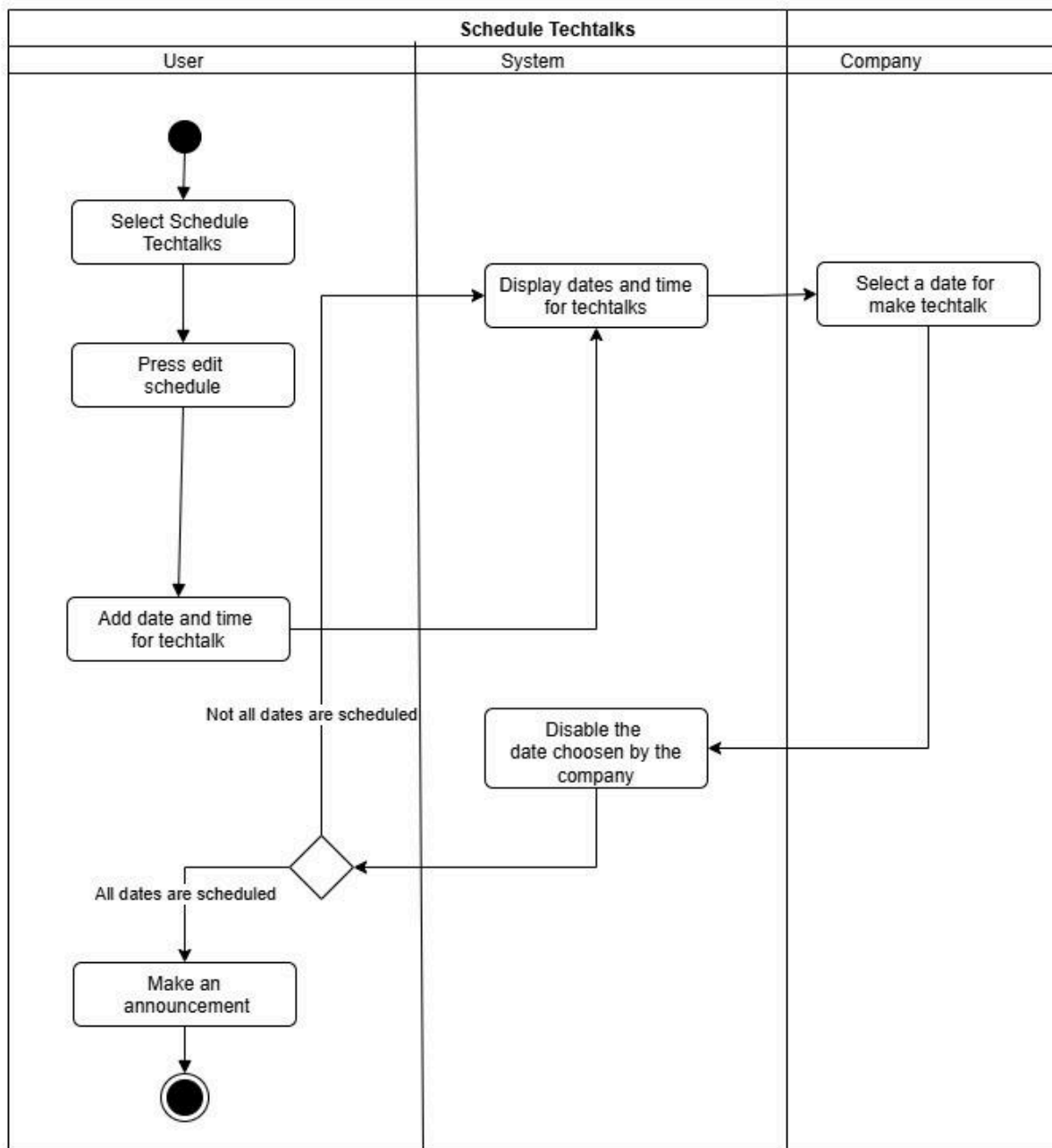


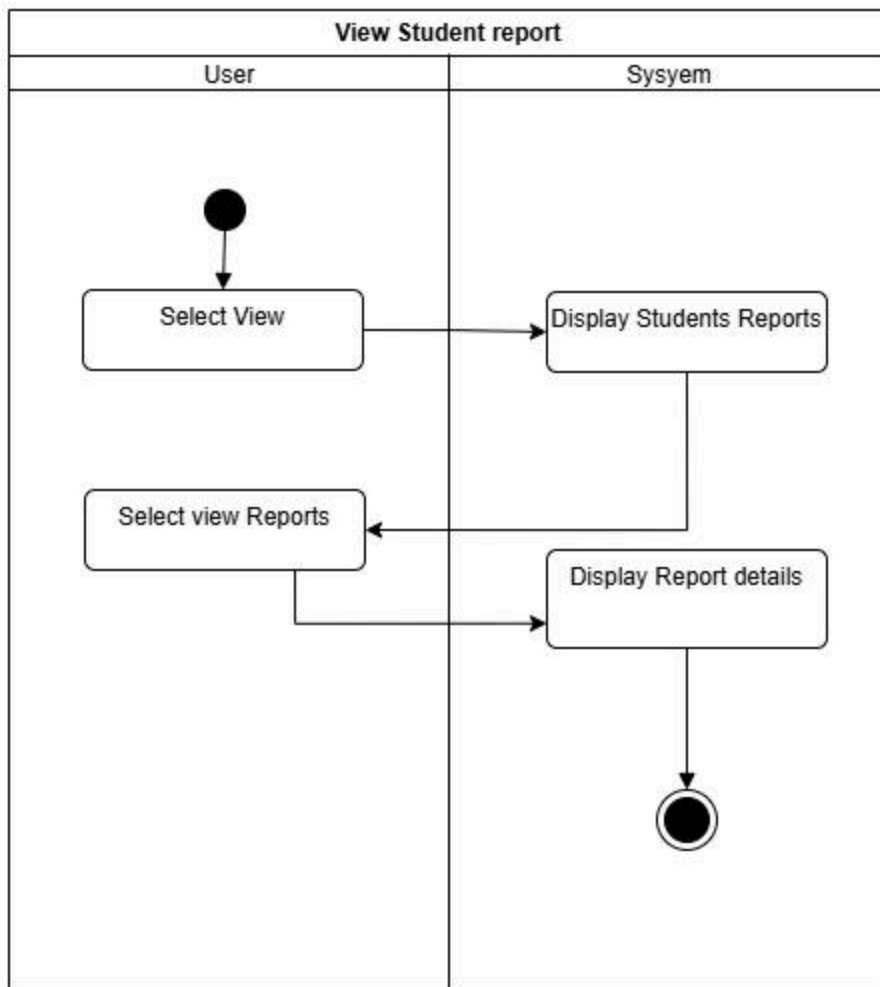
Pdc

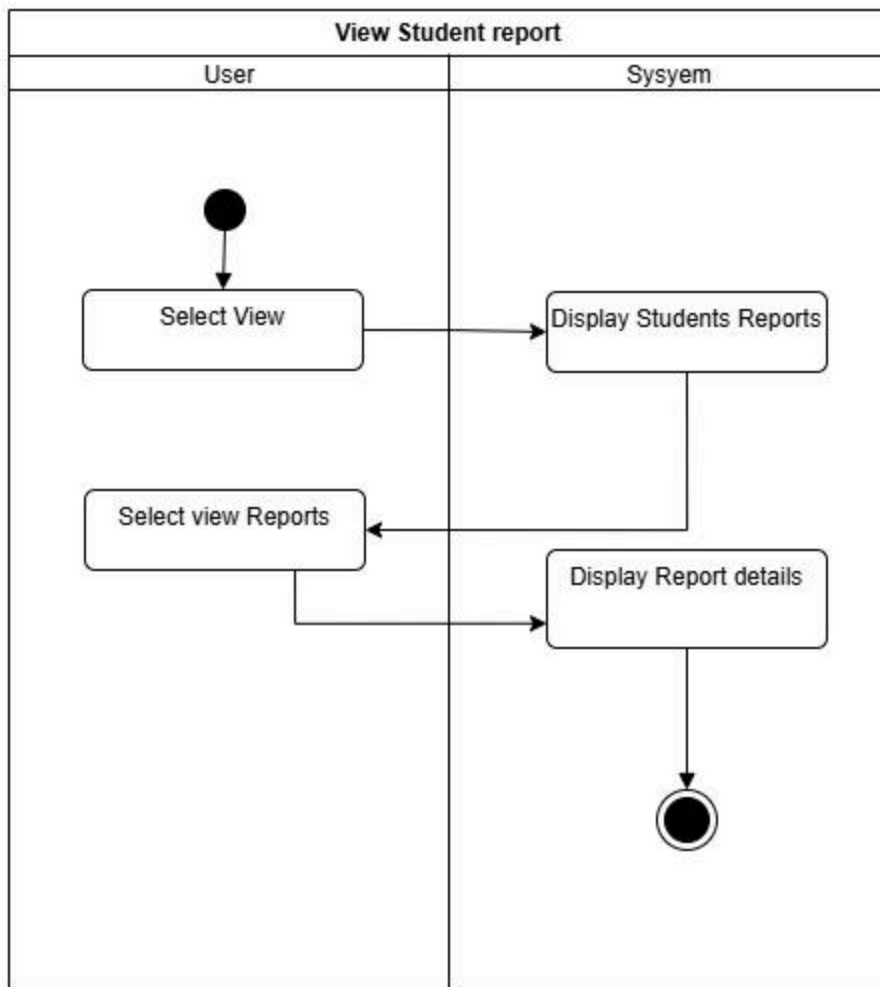












Current Process

Current Progress

The development progress of the LaunchPad Internship Management System has been aligned with key system requirements, reflecting significant advancements in both design and development phases.

1. Design Stage:

- Began with the creation of intuitive, user-friendly wireframes using **Figma**, focusing on seamless navigation and efficient user flows.
- Multiple iterations were performed based on client feedback and analysis, ensuring the designs met technical and user needs.
- Finalized UI designs served as the blueprint for frontend implementation.

2. Frontend Development:

- Utilized **HTML**, **CSS**, and **JavaScript** to transform Figma wireframes into interactive user interfaces.
- The process has been dynamic, with ongoing adjustments to enhance the user experience.
- Most core UIs have been developed and are in the integration phase.

3. Backend Development:

- Designed and implemented the core database architecture using **MySQL** to store and manage data related to users, advertisements, applications, and roles.
- Developed scalable and efficient backend services to support smooth data retrieval and system performance.
- Conducted extensive testing to ensure stability and security, allowing potential issues to be identified and addressed early.

4. Key Functionalities Implemented:

- **User Registration and Authentication:** Fully functional for all user roles (students, companies, PDC, lecturers, and admin).
- **Internship Listings Management:** Basic functionalities for adding and viewing job listings are operational.
- **Application Process:** Students can browse available internships and submit applications.
- **System Architecture:** Established core backend services and a robust database schema, laying a solid foundation for future growth and additional features.

The platform is progressing steadily and is positioned to handle both current requirements and future enhancements efficiently.

Estimated Completion Percentage

Approximately **60%** of the system has been completed. Several key features central to the platform's operations are now fully functional, including:

- **Login System:** Successfully implemented for all five user roles (Admin, PDC, Company, Student, and Lecturer), enabling secure access to role-specific sections.
- **PDC Functions:** PDC administrators can verify students, manage profiles, and add new students, ensuring a seamless registration process.
- **Company Functions:** Companies can register, log in, and manage job advertisements (add, edit, delete, and view). Advertisements require PDC approval before becoming visible to students.
- **Student Application Process:** Students can view approved advertisements and apply for job roles directly through the platform.
- **Admin and Lecturer Functions:** Admin users can approve PDC and Lecturer accounts to maintain platform integrity and ensure that only authorized users access sensitive system features.

These core functionalities have established a strong operational foundation for the system. As development progresses, efforts are focused on refining existing features, integrating additional functionalities, and enhancing the overall user experience.

Remaining Tasks for Each Role

Student

1. Profile and CV management: Provide features for students to create, update, and manage their profiles and CVs.
2. Notifications: Implement notifications for updates on application status and new internship opportunities.
3. Application tracking: Create an interface for students to track the progress of their internship applications.
4. Interview scheduling: Develop features to allow students to view and manage interview schedules.
5. Feedback submission: Enable students to submit feedback on their internship experiences after completion.

Company

1. Applicant management: Finalize functionalities for shortlisting, rejecting, or selecting candidates.
2. Interview scheduling: Provide companies with tools to schedule and manage interviews with students.
3. Report upload: Enable companies to upload detailed reports about interns and events, with support for multiple file formats.
4. Send complaint: Enable companies to send detailed complaints about interns and system.
5. Scheduling system: Develop a backend system for coordinating company visits and tech talks, including calendar integrations and conflict prevention.
6. Notifications: Implement automated notifications for application updates and scheduled tech talks.

PDC

1. Scheduling system: Develop a backend system for coordinating company visits and tech talks, including calendar integrations and conflict prevention.
2. Report upload: Add features to securely upload and retrieve reports related to company activities and events.
3. Student application management: Enhance workflows for reviewing and selecting/rejecting student applications, with automated notifications for decisions.
4. Blacklist management: Introduce a system to flag and restrict companies that violate platform policies.
5. Attendance tracking: Implement tools to monitor and track student attendance for tech talks and other events.

Lecturer

1. Field visits: Implement a scheduling system for lecturers to visit companies and monitor student progress during internships.
2. Performance review: Provide features for lecturers to review reports submitted by companies on student performance.
3. Feedback submission: Develop tools for lecturers to provide feedback and update evaluation results in the system.

Admin

1. User account management: Expand capabilities for creating, updating, deactivating, and monitoring user accounts.
2. Blacklist system: Finalize backend and frontend changes to manage and enforce restrictions on flagged companies.
3. Analytics and reports: Develop advanced analytics and reporting tools to track system-wide performance metrics.
4. Complaint resolution: Enhance complaint management workflows and monitoring of platform activities.
5. System maintenance: Finalize maintenance features like data backups and settings updates.

Member Contribution

Name	Index No	Contributions
Thathsara Madusha	22001158	<ul style="list-style-type: none">• Designed and implemented the user interface for the 'Student' component.• Implemented CRUD operations related to applying for the internship.• Developed the authentication module
Pasindu Madushan	22002235	<ul style="list-style-type: none">• Designed and implemented the user interface for the 'Admin' component.• Designed and implemented the user interface for the 'Lecturer' component.• Implemented CRUD operations related to approve lecturer• Developed the authentication module
Sothilingam Nivethan	22001417	<ul style="list-style-type: none">• Designed and implemented the user interface for the 'PDC' component.• Implemented CRUD operations related to student management• Developed the authentication module
Karunya Raveendran	22001662	<ul style="list-style-type: none">• Designed and implemented the user interface for the 'Company' component.• Implemented CRUD operations related to advertisement management• Developed the authentication module

