



Assignment - 3

Application Engineering Development



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Table of Contents

Contents	Page No.
Introduction	3
Problem Solution	4
User Interface Dashboard	7
UML Diagram	10
Sequence Diagram	11

Introduction

Aim:

Use software engineering techniques to improve the quality of education anywhere and hold people accountable for improving the quality of life through education, learning to learn, and feedback.

Problem Definition:

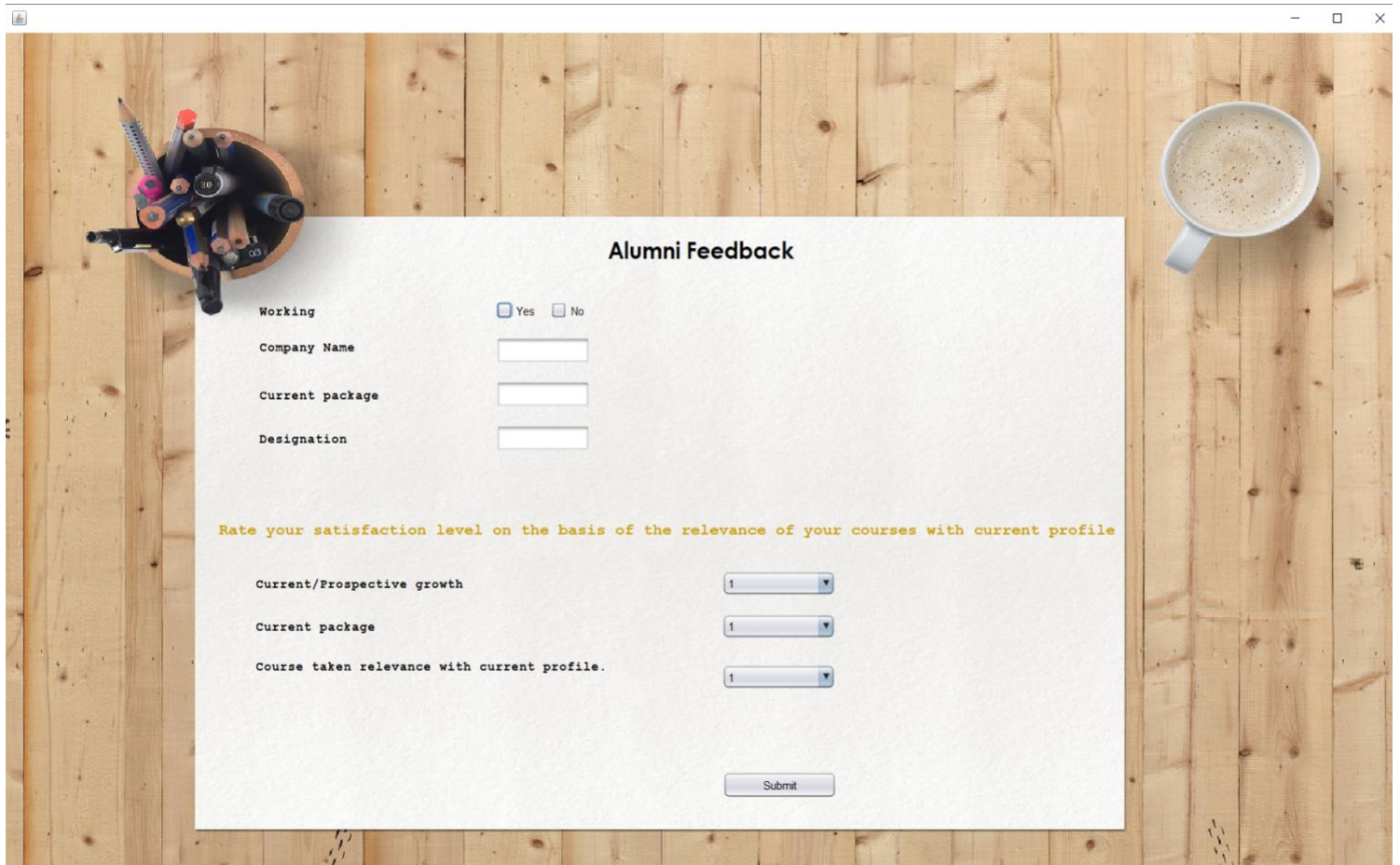
The institute faces universal competition which demands them to emphasize supervising and assessing the quality of education delivered. The Colleges should be considering the composition of courses proposed by a department with the existing real-time employment opportunities. For a learner, it is very vital to examine the course that is relevant to their area of interest and aligns with the industry standards. On the same note, even the university requires to observe a technique to quantify its performance enabling it to devise strategies to tackle its reputation. To address these problems, we aim to build a performance measurement solution to enable universities to measure the quality of the education they deliver to their students.

Problem Solution:

Integrated a new feedback system in which feedbacks are taken every year for five years since alumni pass out. **Median package** and **satisfaction level in their current job** are measured through various questions in alumni feedback, which are taken as **ranking parameters** to create graphs. These graphs will help the university to measure the quality of education they deliver to students and modify the curriculum respectively. We have taken feedback from the recruiters about the student employment to measure the student work performance on cooperative education. Students can see the course catalog before enrolling in the class to decide whether they want to enroll in that course or not.

The current system is biased toward research, we have displayed following the Performance Graph based on Student/Alumni/Recruiter's feedback on their real time-work experience:

- University Reputation's graph representation based on Alumni's average package over the five years of time and their satisfaction percentage cumulative of each college.

The image shows a web application window titled "Alumni Feedback" overlaid on a background image of a wooden desk with a pencil holder and a cup of coffee. The form contains the following elements:

- A "Working" checkbox with "Yes" and "No" options.
- Text input fields for "Company Name", "Current package", and "Designation".
- A section header: "Rate your satisfaction level on the basis of the relevance of your courses with current profile".
- Three dropdown menus for rating: "Current/Prospective growth", "Current package", and "Course taken relevance with current profile.", each with a "1" selected.
- A "Submit" button at the bottom.

Fig.1 Alumni Feedback GUI

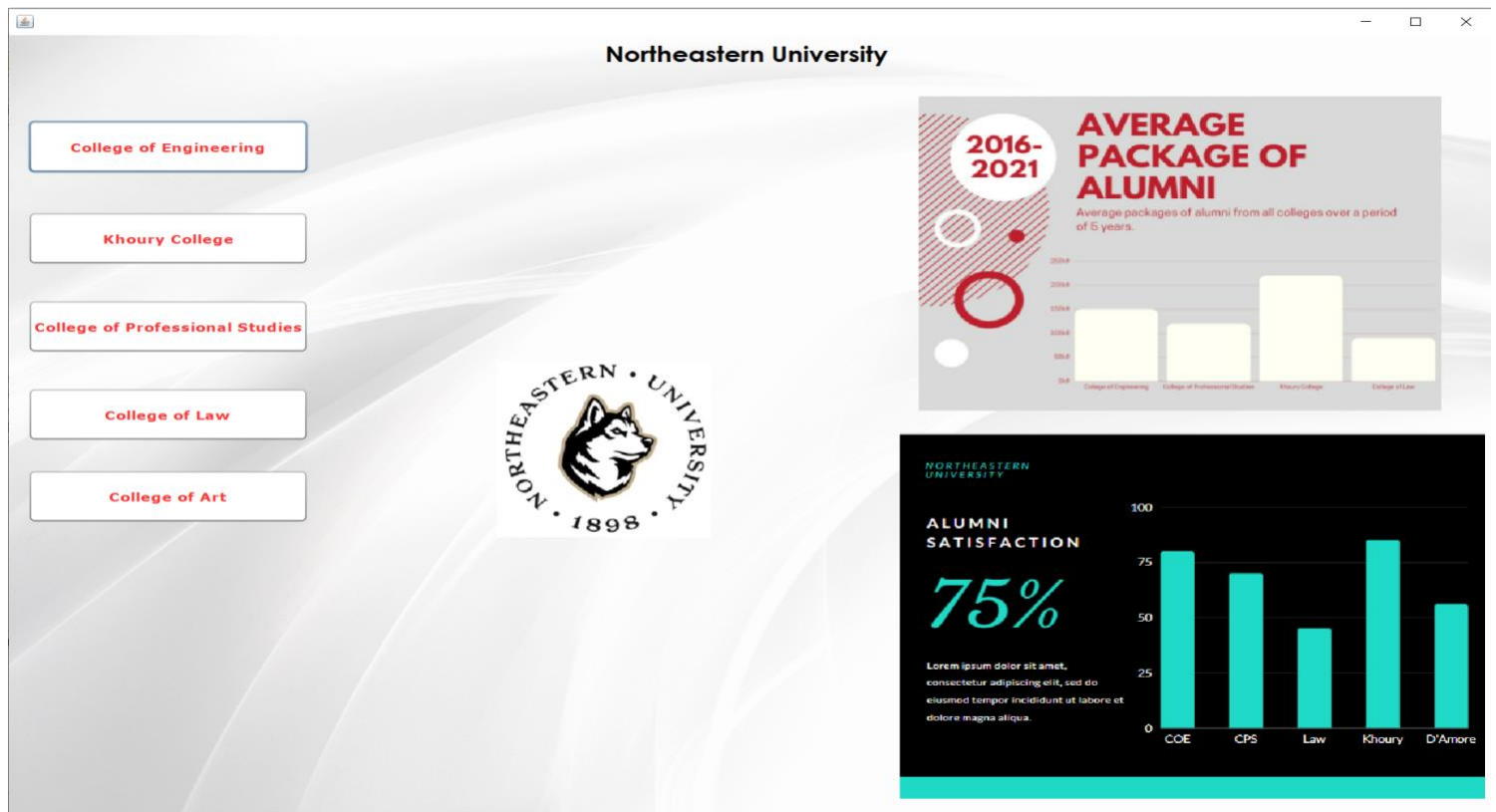


Fig.2 University Level demonstration of average ranking parameters of each college in GUI.

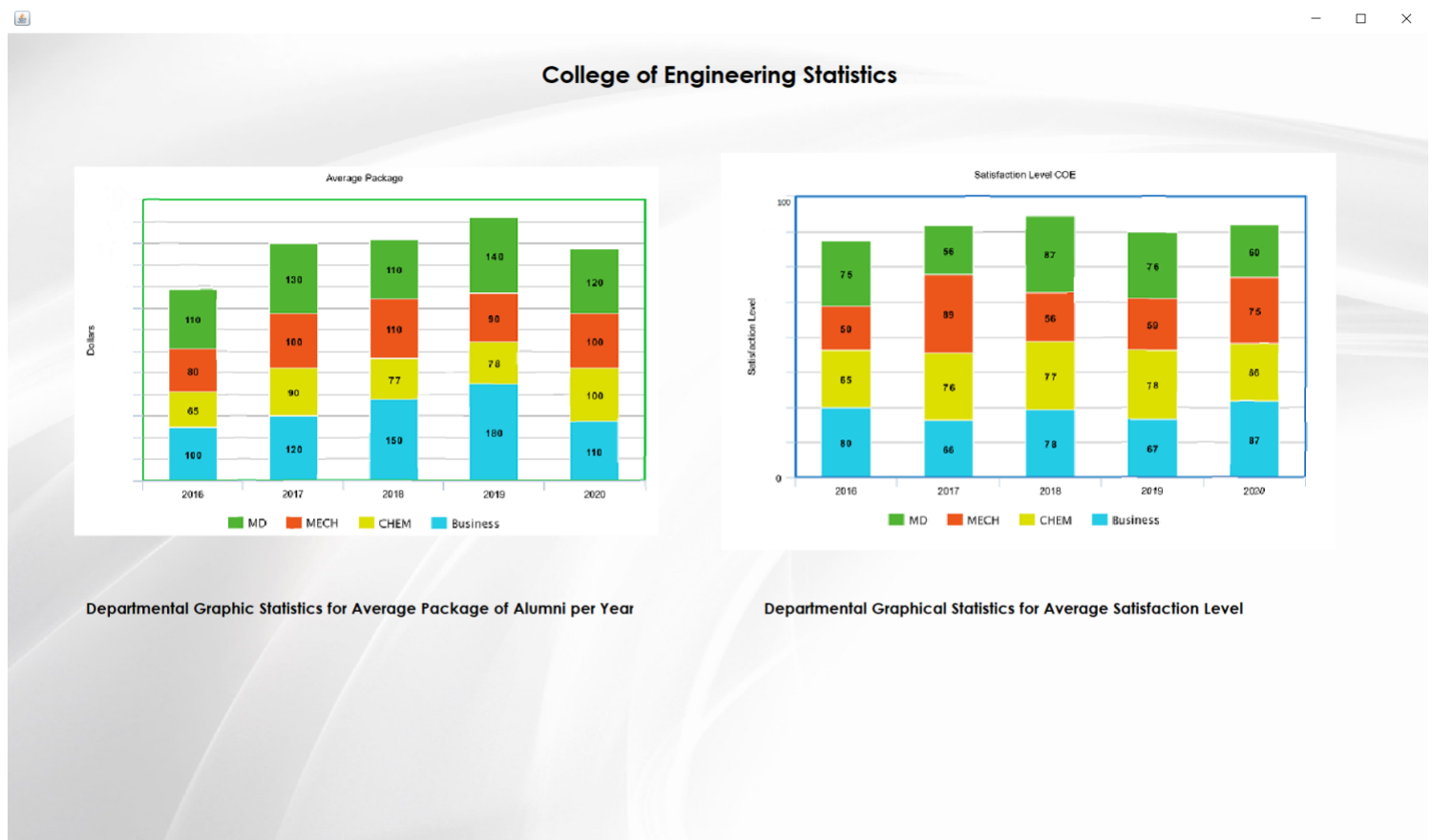
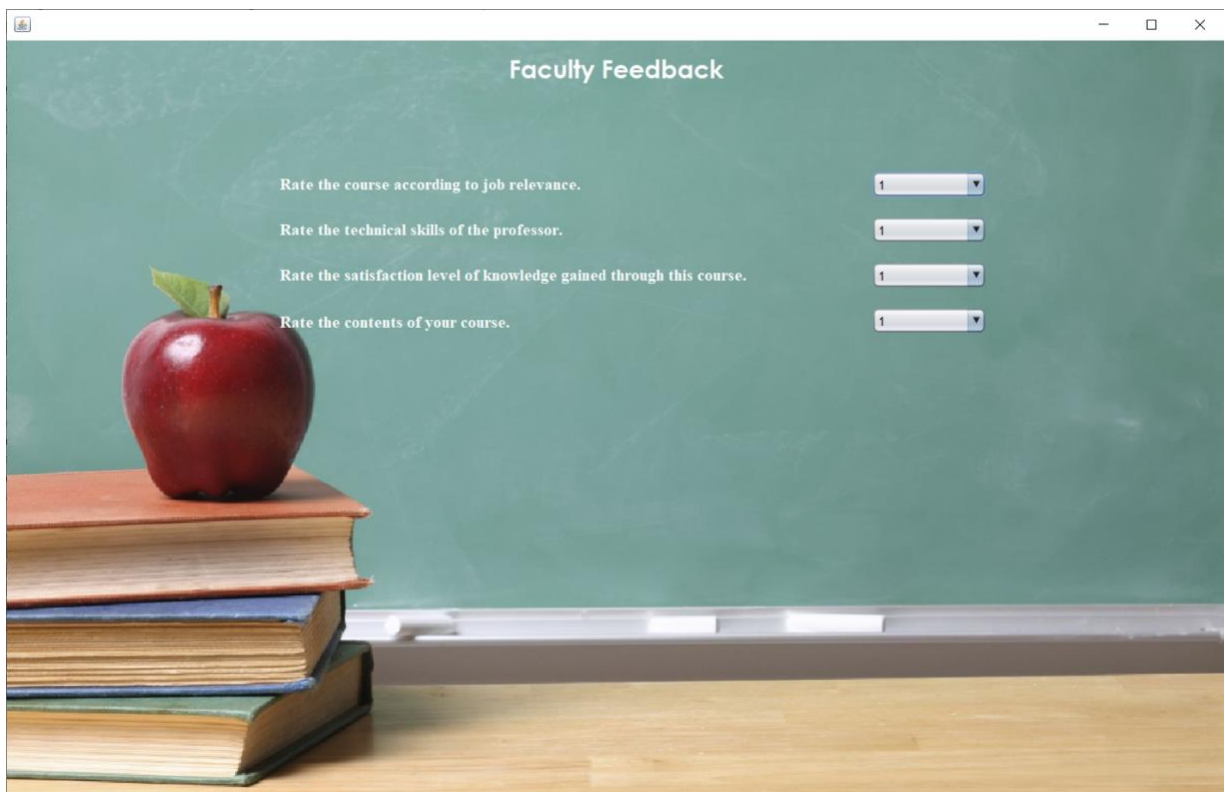


Fig.3 College Level demonstration of average ranking parameters of each department in GUI.

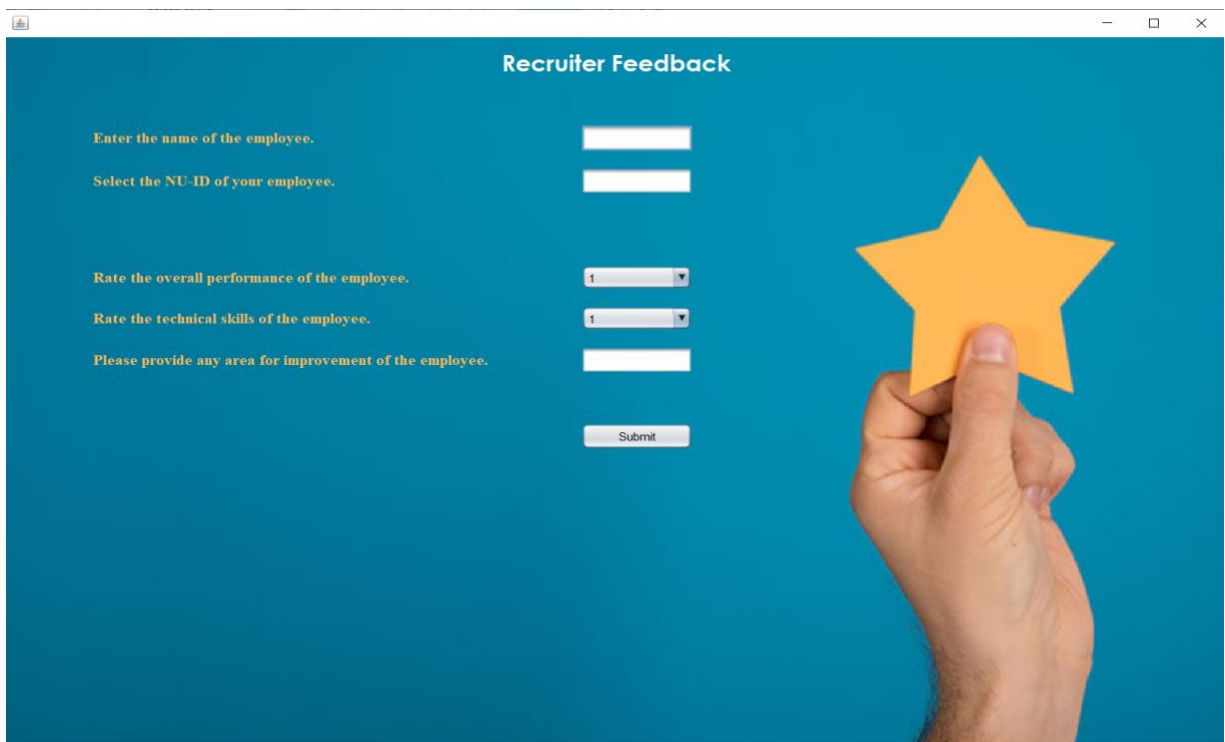
- Faculty Ratings based on student feedback. Based on feedback, administration will analyze whether the course curriculum needs any enhancement.

The image shows a web browser window titled "Faculty Feedback". The background is a green chalkboard with a stack of books and a red apple on a wooden desk in the foreground. The form contains four rating questions, each with a dropdown menu currently set to "1":

- Rate the course according to job relevance.
- Rate the technical skills of the professor.
- Rate the satisfaction level of knowledge gained through this course.
- Rate the contents of your course.

Fig.4 Faculty’s feedback form to be filled by student.

- Student Employment Performance Indicator based on the recruiter’s feedback for individual student working with them.

The image shows a web browser window titled "Recruiter Feedback". The background is a solid blue color with a hand holding a large yellow star on the right side. The form contains five input fields and two dropdown menus:

- Enter the name of the employee. (text input)
- Select the NU-ID of your employee. (text input)
- Rate the overall performance of the employee. (dropdown menu, set to "1")
- Rate the technical skills of the employee. (dropdown menu, set to "1")
- Please provide any area for improvement of the employee. (text input)
- Submit button

Fig.5 Student’s feedback form to be filled by recruiter.

Dashboard – UI:

There are a total of three login interfaces for the end-user.

University/Admin Login:

The University Admin has access to each college statistic. The University admin can log in to view the statistics of every college under the university. To give a short summary of every college, there are two graphs displayed on the university dashboard itself to describe the overall statistics of all colleges.

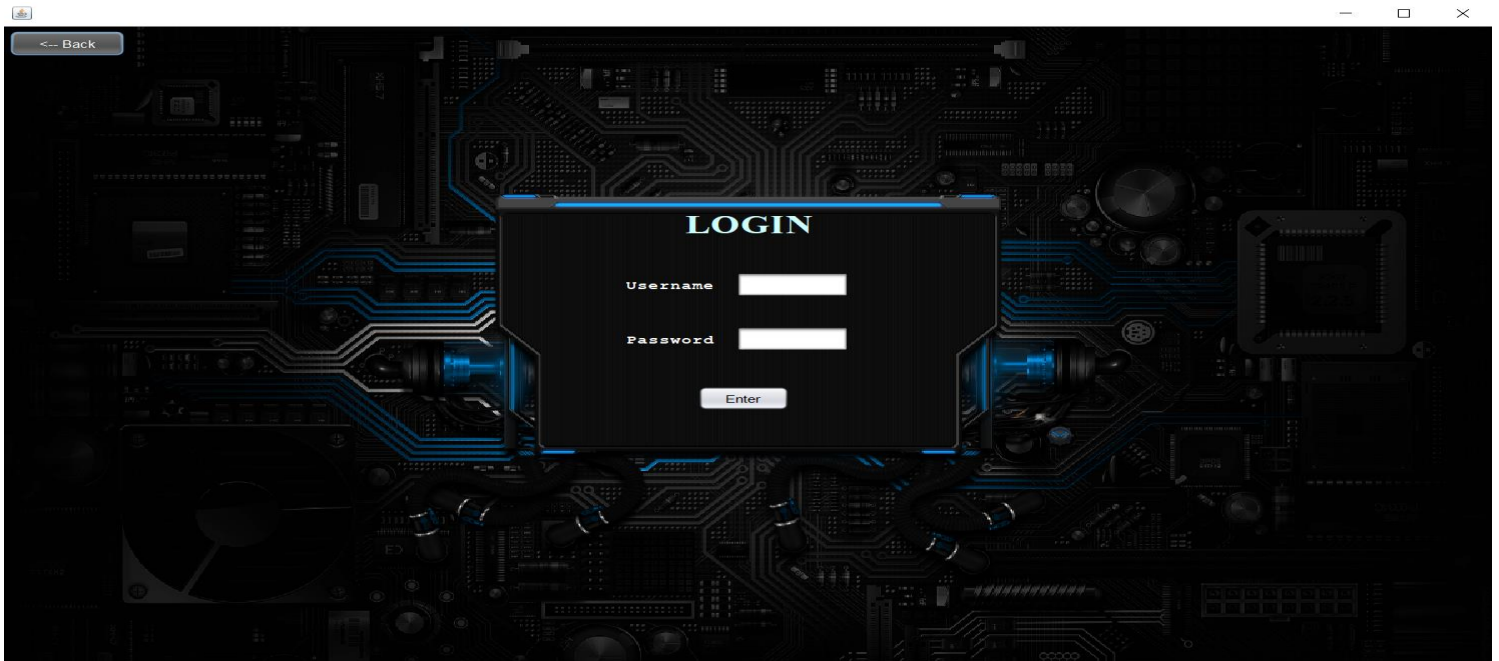


Fig.6 Admin Login.

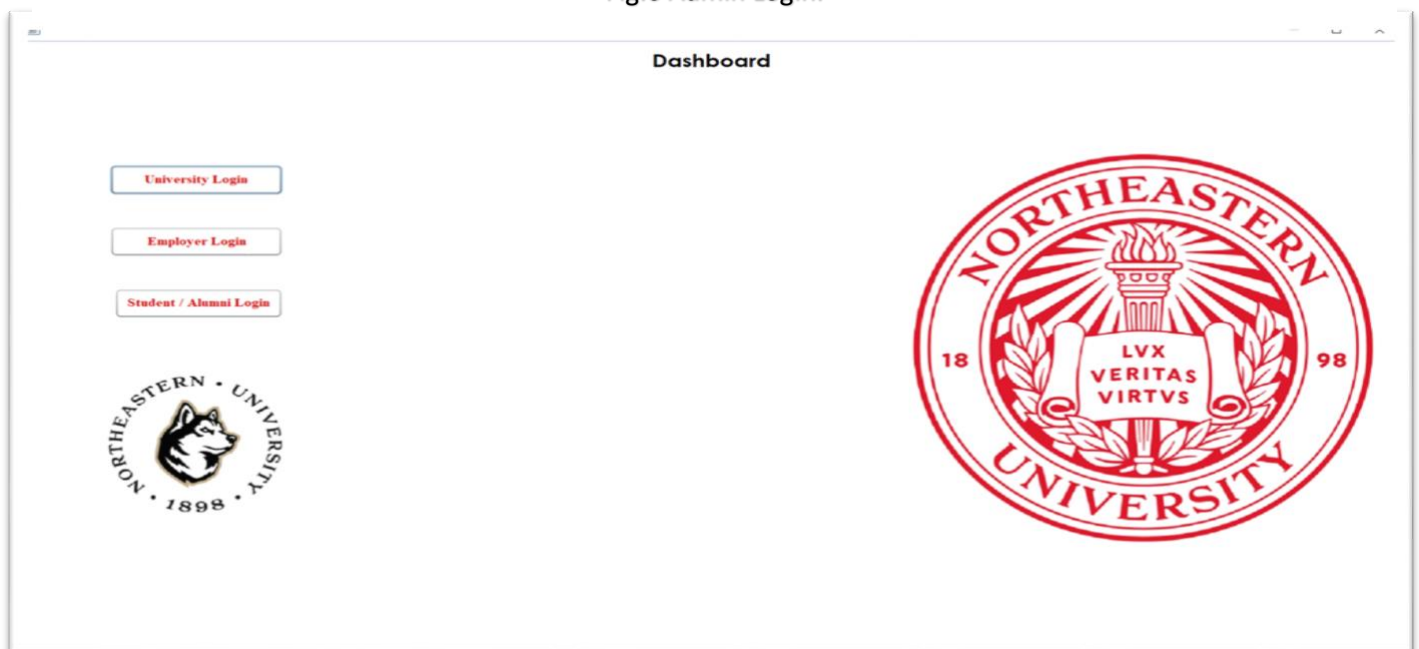


Fig.7 Dashboard.

Employer Login:

The Employer Admin is used to take the feedback of the student from the Employer. The Employer can log in from their credentials into the system and add rank attributes for their employees who were students either for co-op or who turned out full-time after co-op.

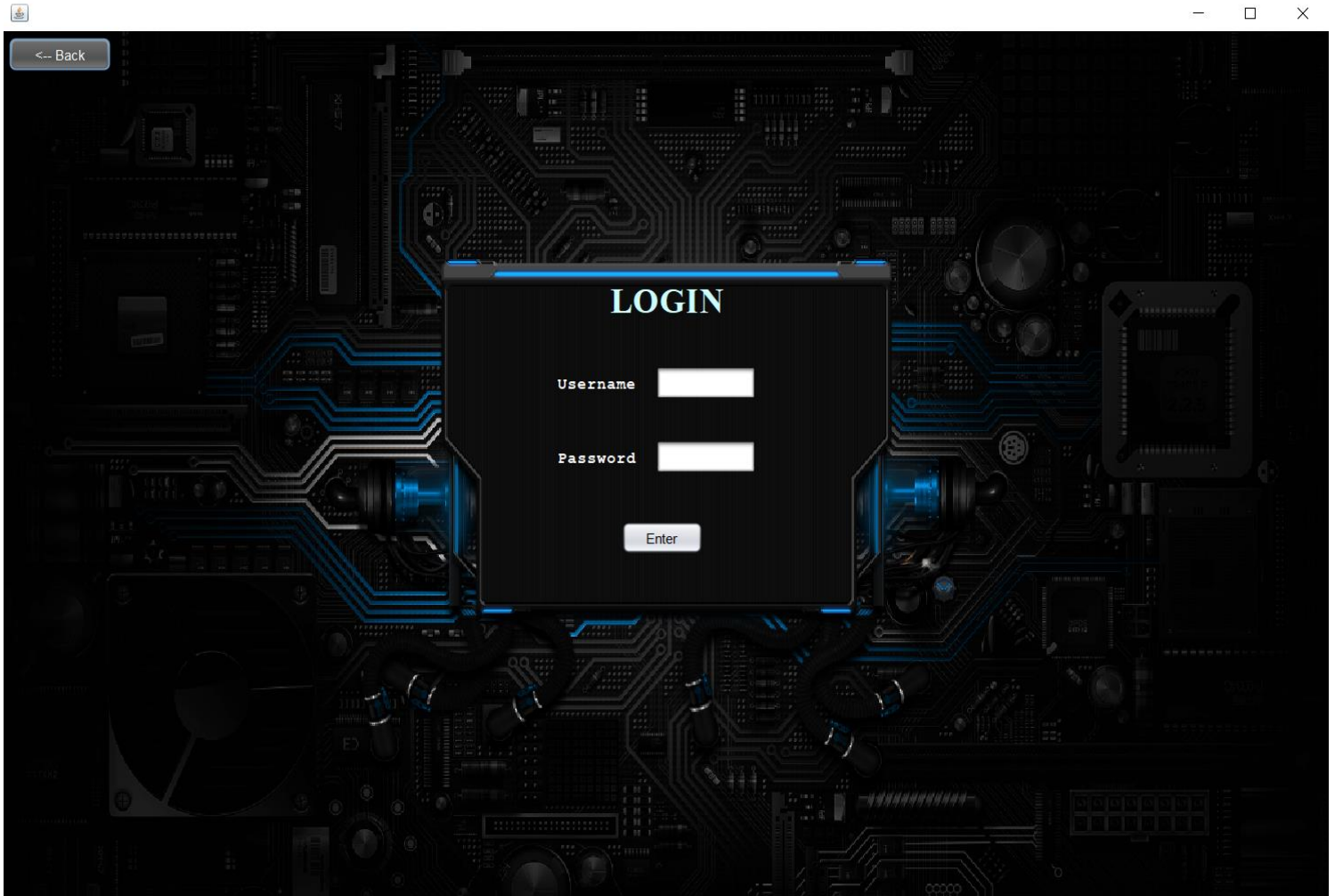


Fig.8 Employer Login.

Student/Alumni Login:

The Alumni Login is used to take feedback from the students who have passed out from the university and are currently working. The feedback is used to determine factors like current salary, current work field, and the satisfaction of present job. Current student can give feedback for the current or previous courses they enrolled in relevance to their current profile. Based on their feedback, we can analyze if any enhancement in the coursework is needed.

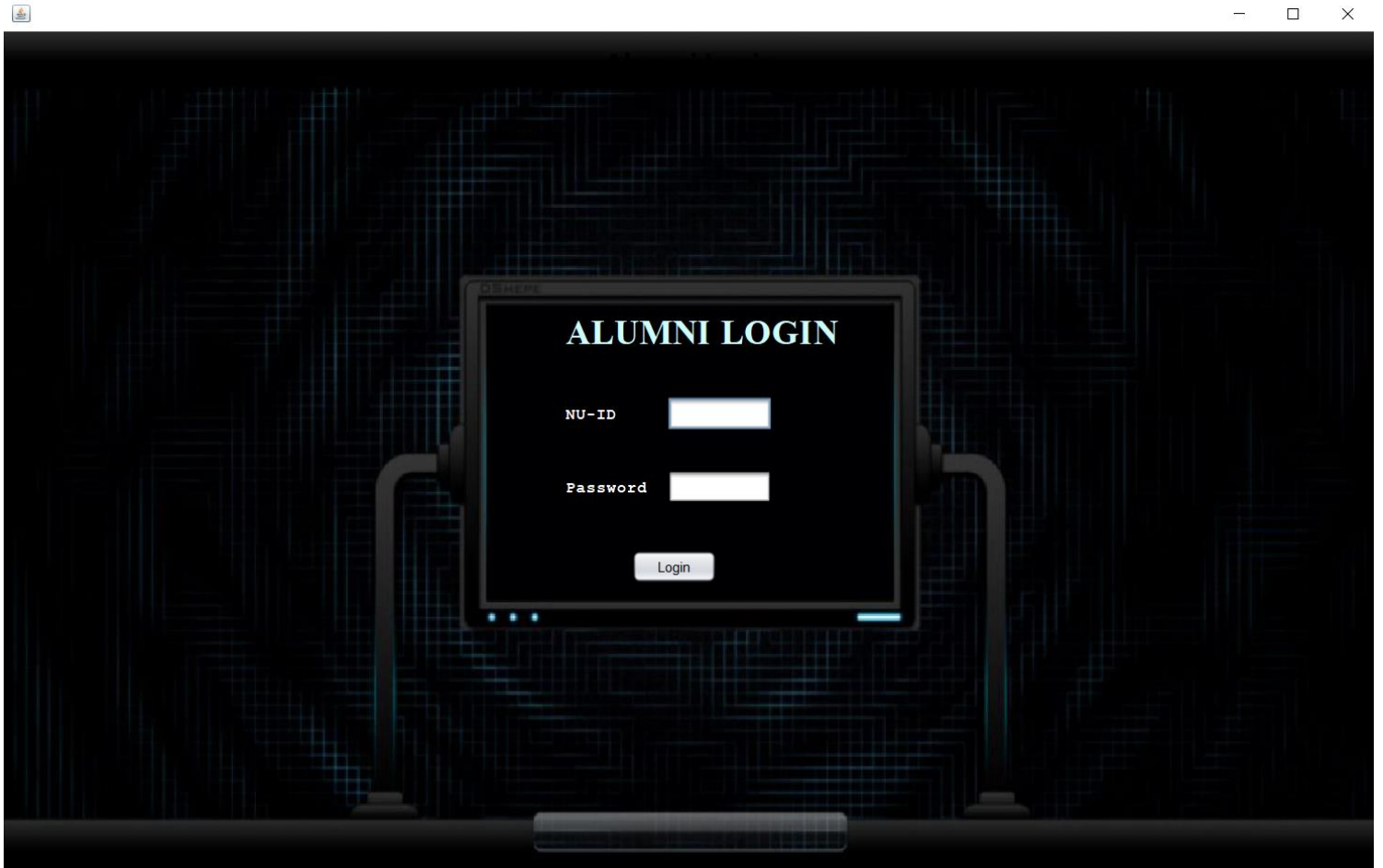


Fig.9 Student/Alumni Login.

Class diagram with extended functionality showing ranking system and complete university model.



Sequence Diagrams

This provides a visual representation on how to navigate through our application.

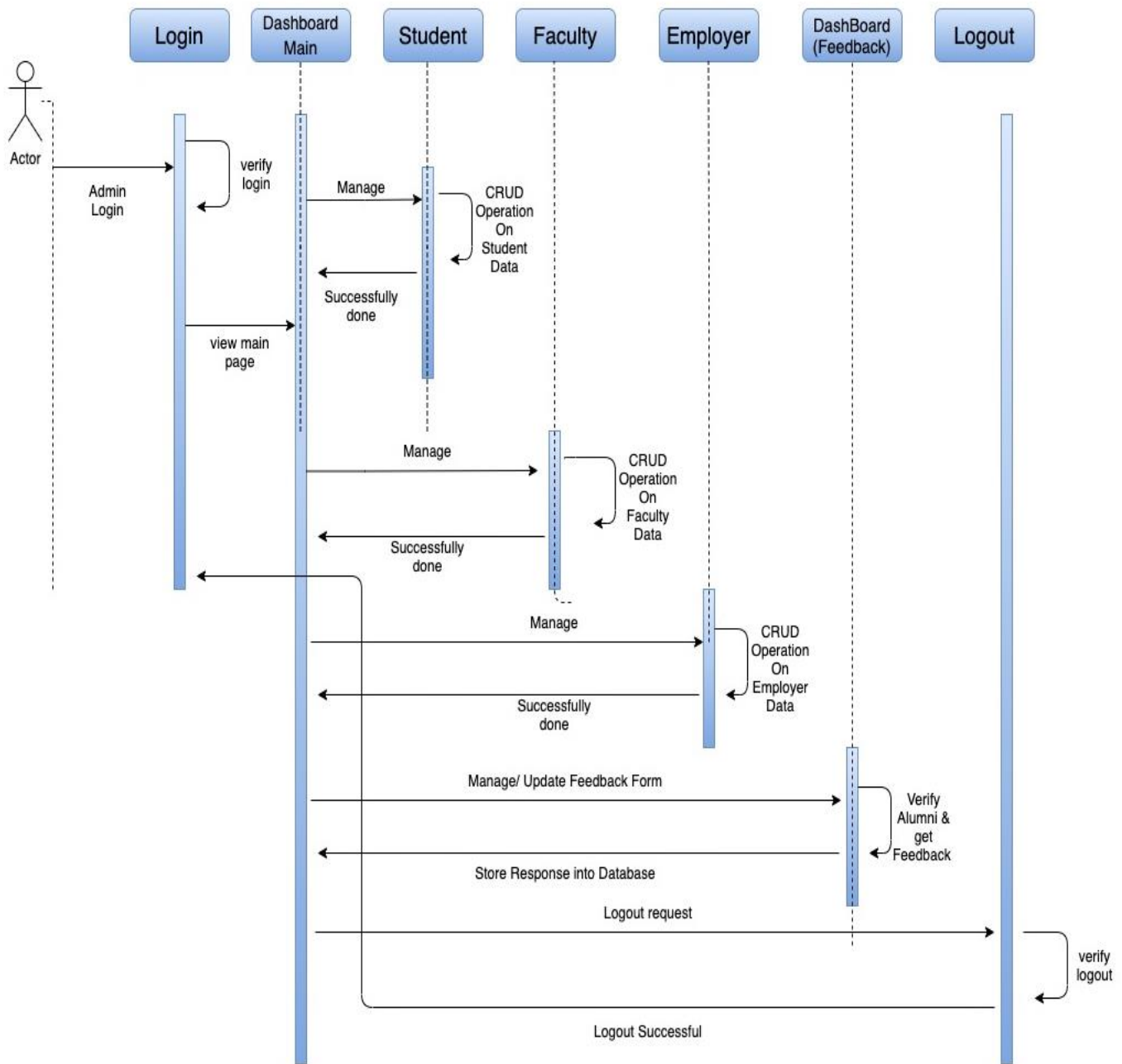


Fig.11 Sequence diagram for admin.

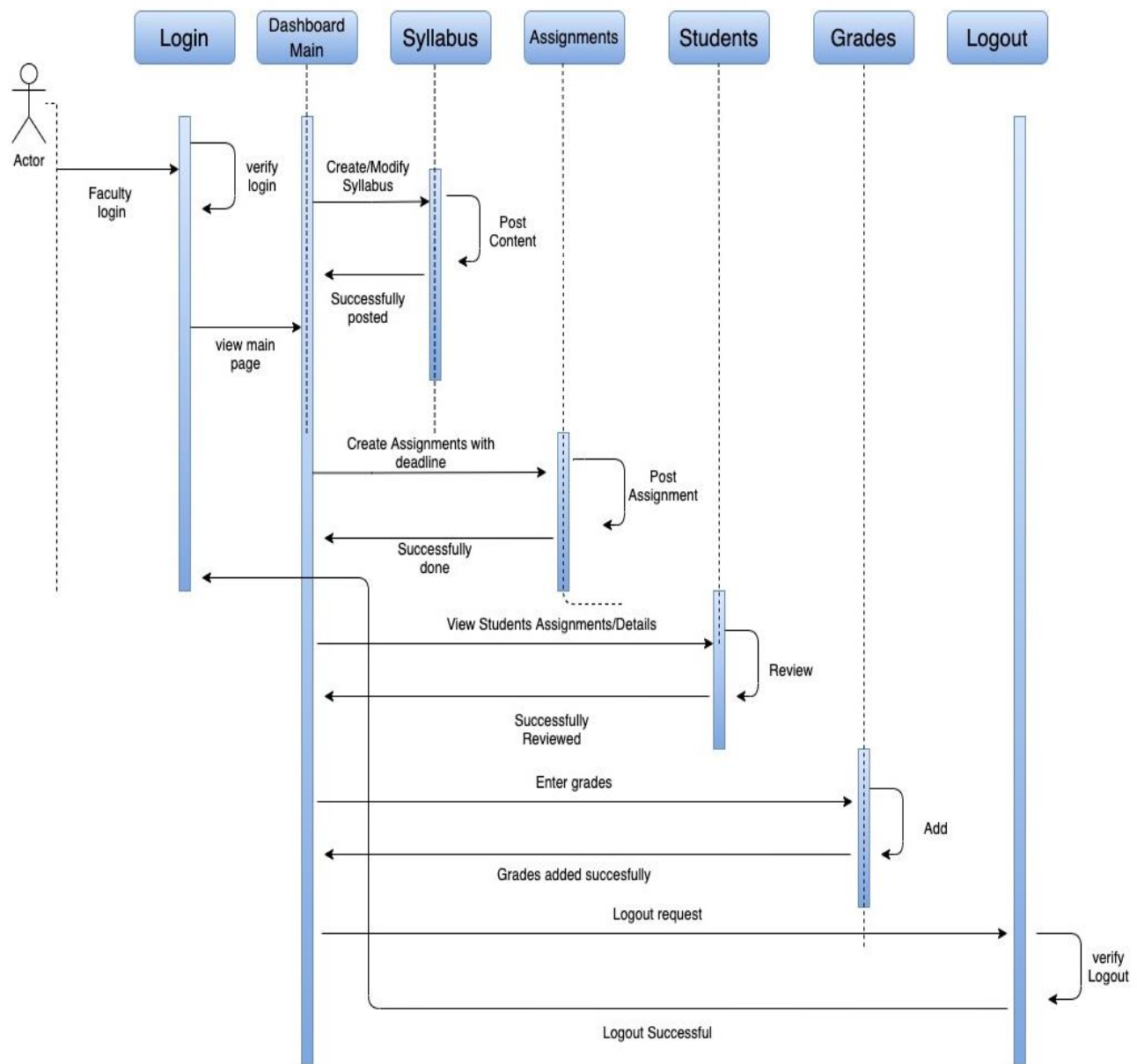


Fig.12 Sequence diagram for Faculty.

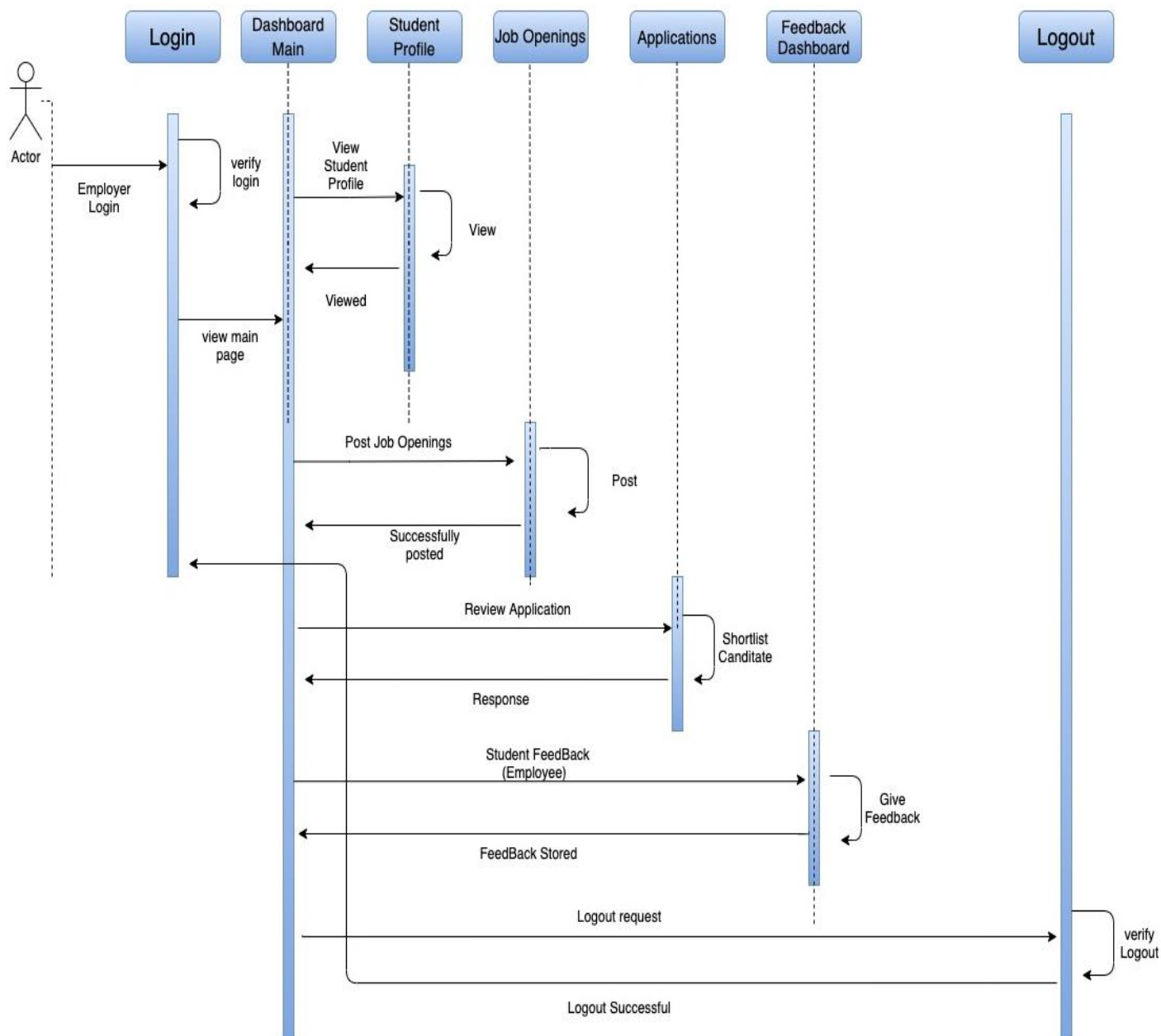


Fig.13 Sequence diagram for Employer.

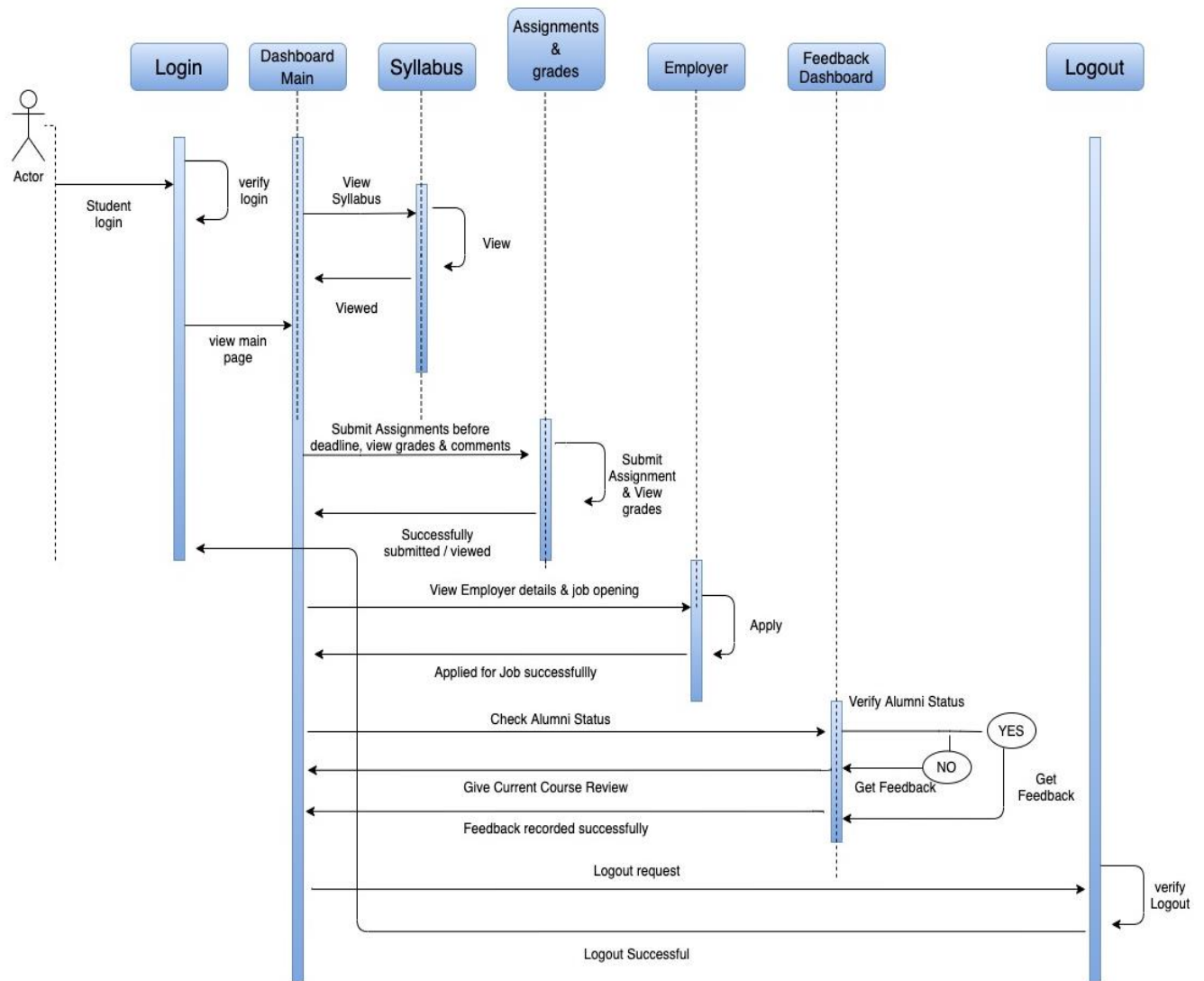


Fig.14 Sequence diagram for Student.