UNIVERSITY RANKING MODEL

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Objective: Quality of education is essential for the true learning and development of humankind, which is impacted by elements both within and outside the classroom, ranging from the availability of necessary resources to the people involved in this environment. The objective of this model is to apply software engineering principles to enhance the quality of education everywhere in the world and hold individuals accountable for enhancing the quality of life via the education they deliver to their students.

Problem Statement: Access to low-quality education is analogous to receiving no education at all. The current system lacks the performance measure which enables universities to measure the quality of education that the universities deliver to their students, along with the feedback loop and the alumni directory.

Proposed Solution: Our main goal is to develop a performance measurement solution that enables students to select courses by analyzing their interests and professional growth. The solution will involve a set of parameters for evaluating the performance measure such as faculty, courses offered, student's GPA, professional growth of the university's graduates over a 5 years span, alumni, placements, and feedback from the graduates.

Implementation: In our system, we've created an admin panel which is a single central zone that allows an administrator to manage all students, faculty members, and even alumni.

- Admin:
    - Admin will have a different username and password for logging into the application.
    - The admin account holder will have the capability of adding, updating, and deleting a student, faculty, employer, department, alumni profile and will have access to all student directories along with the employment history.
    - Admin can also view the revenue generated by each department, college, and university.

    - Admin has access to the dashboards and reports which include student performance, department performance, and its ranking, faculty performance, course ranking, feedback, and alumni performance.

- Student:
    - Students can log in to their account using their NEU I'd and password.
    - Student details such as name, age, contact details, email address, address are stored in the application which can be modified by a student.
    - A student has access to the course registration panel and can register for the courses provided by the department for that particular semester.
    - Course grades and total GPA can be accessed from the grades option.

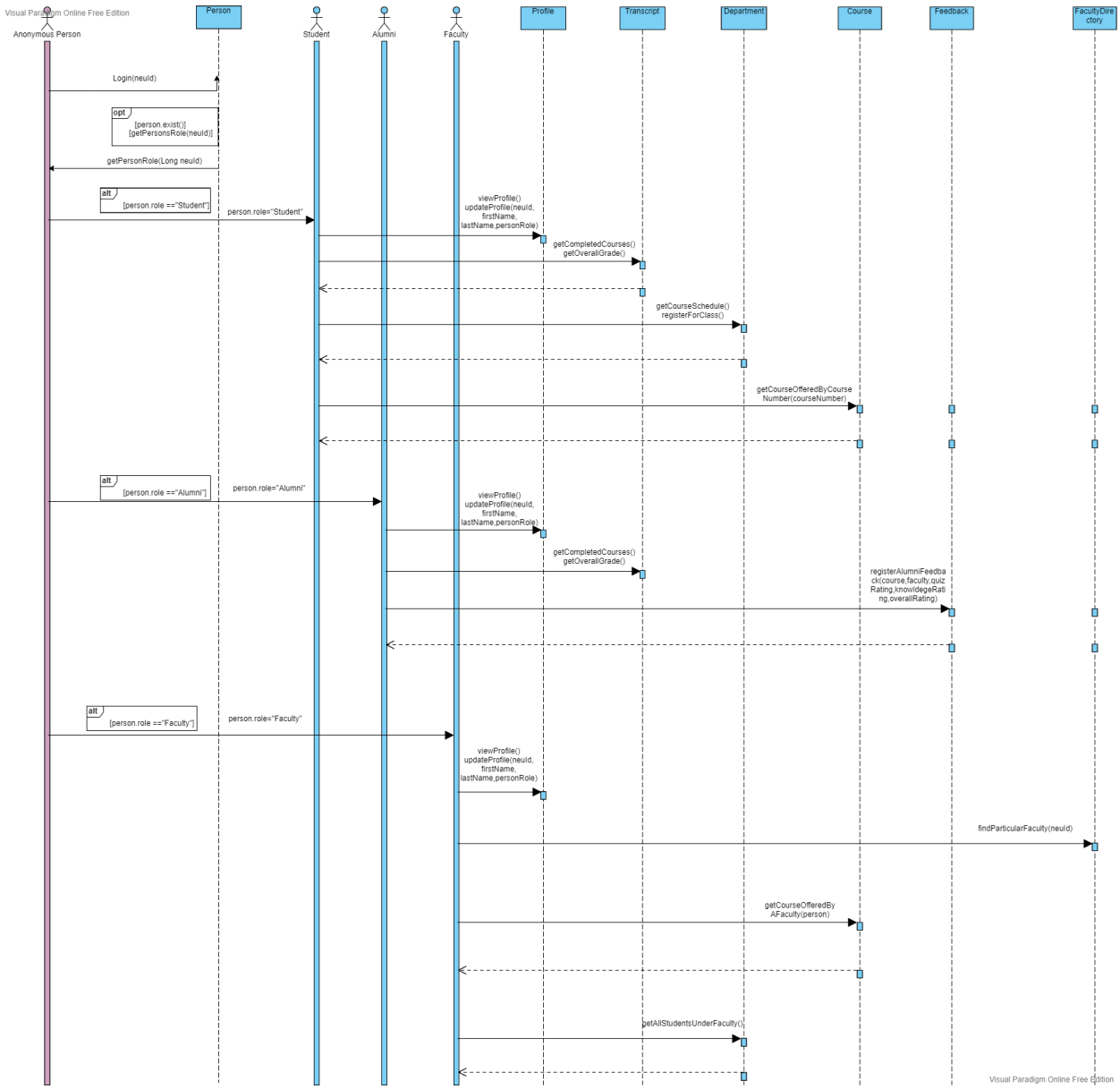
- Course:
    - The course has all the courses offered by the department in a university.
    - The seat is assigned to a course load which determines the seats that are occupied for a course per semester.
    - Faculty to seat mapping for each course.

- Faculty:
    - Faculty profile holds information of all the faculty names, IDs, courses that are allocated to them.
    - Faculty can also see the students enrolled for the course which is allocated to them.
    - Faculty can grade the assignments for students which would determine the ranking of a student.
    - It also shows the history of the course list taught by that faculty.

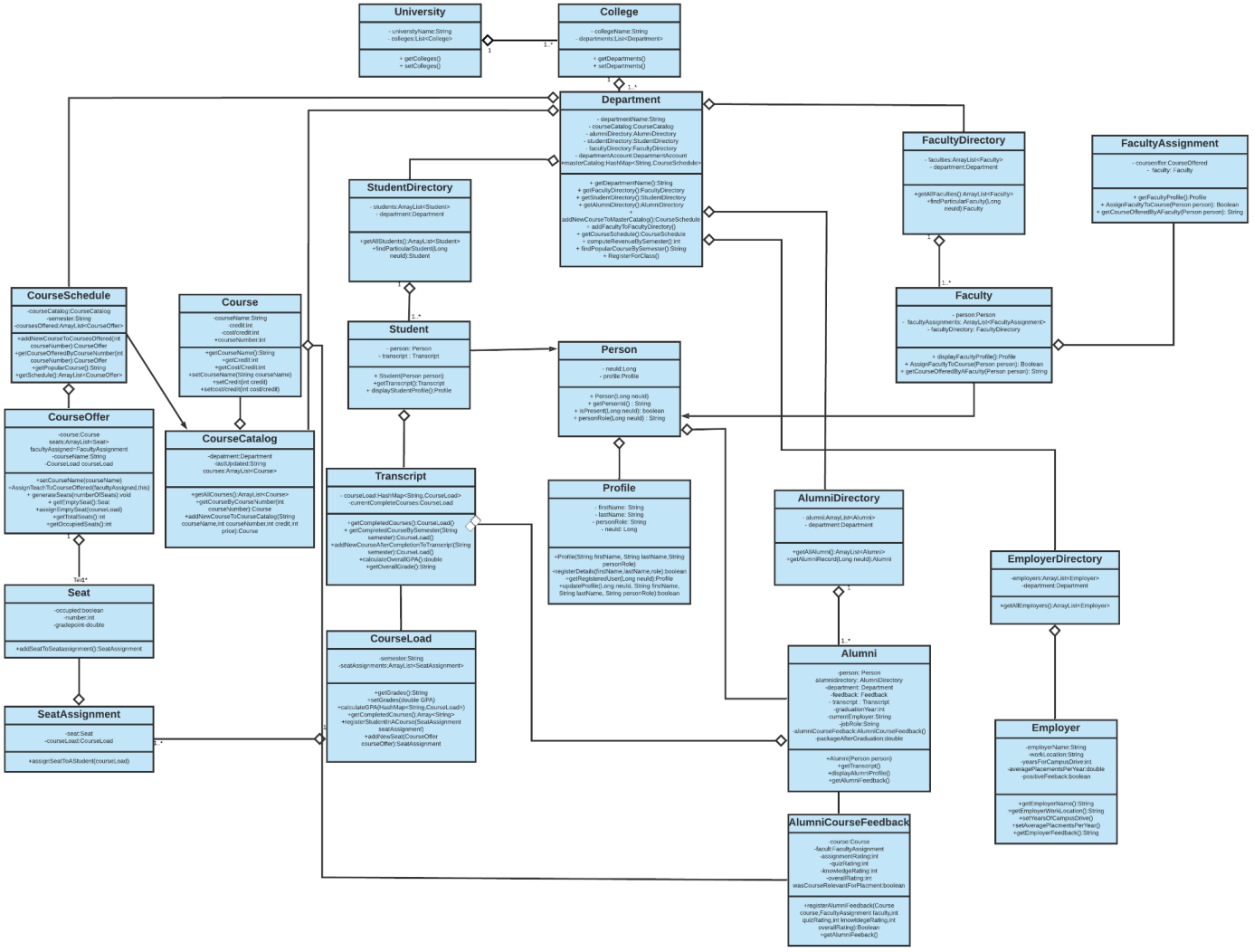
- Alumni:
    - The alumni have an option to add the employment details like an employer, job title, timeline and can view the employment history.
    - The alumni have to fill the feedback form for the courses and faculty members which would be useful for further analysis and performance rating of the university.
    - They can also view their transcript and update alumni profile details like updating employment details, name, ratings.

- Employer:
    - An employer can log into the application using username and password credentials.
    - Explorers can rate the students/ alumni of the university as per their performance.
    - Count of the hired student to calculate hiring ratio as per department, university

Sequence Diagram:

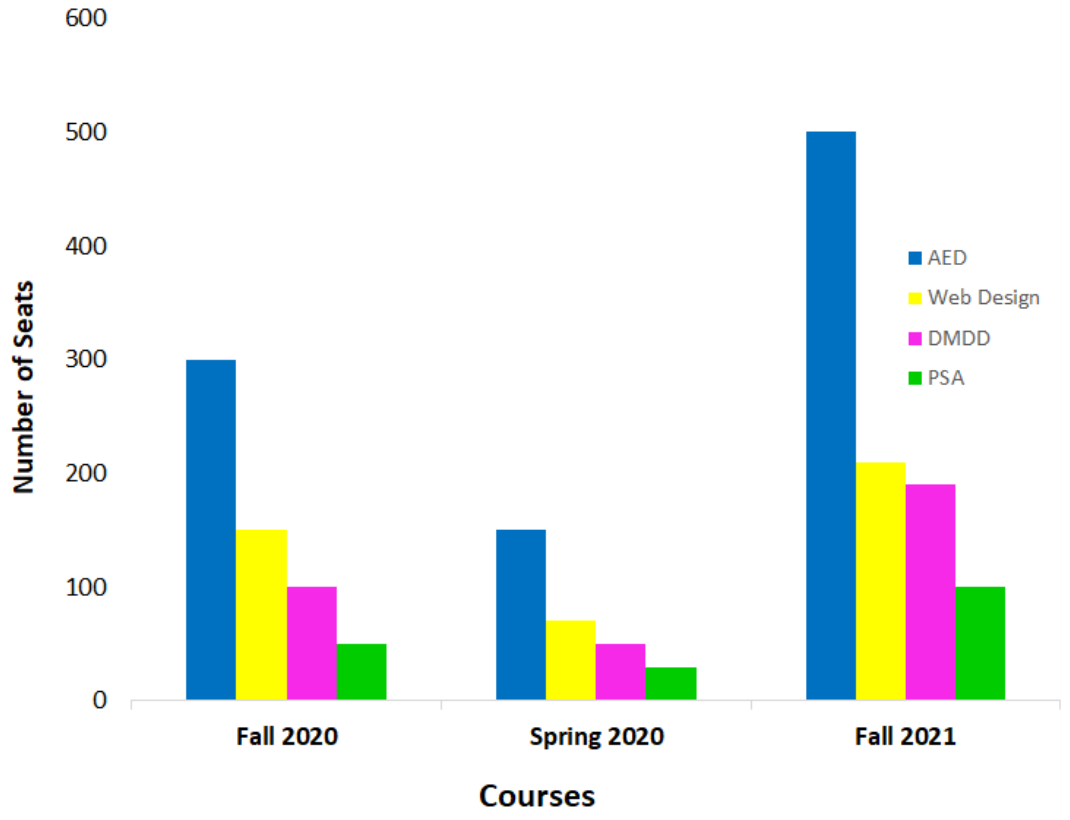


UML Diagram:


University
College
Department
StudentDirectory
FacultyDirectory
FacultyAssignment
CourseSchedule
Course
Student
Person
Faculty
CourseOffer
CourseCatalog
Transcript
Profile
AlumniDirectory
EmployerDirectory
Seat
CourseLoad
Alumni
SeatAssignment
Employer
AlumniCourseFeedback

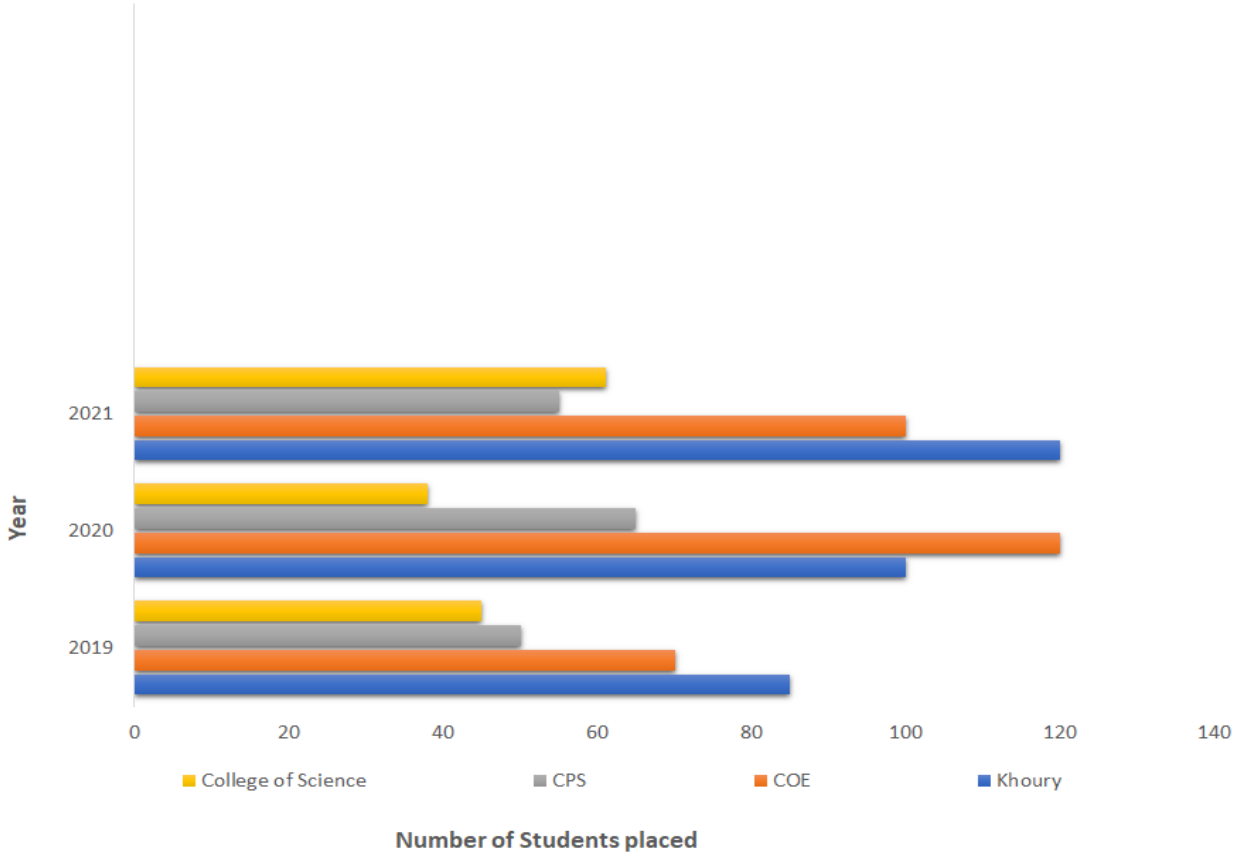
Dashboards:

Course popularity: This chart shows us the popularity of the courses as per the seat assigned for each course in each intake. It is calculated by evaluating the percentage ratio of the number of seats filled in a given semester per course name.
The below chart shows the course popularity for the MSIS department of the College of Engineering.

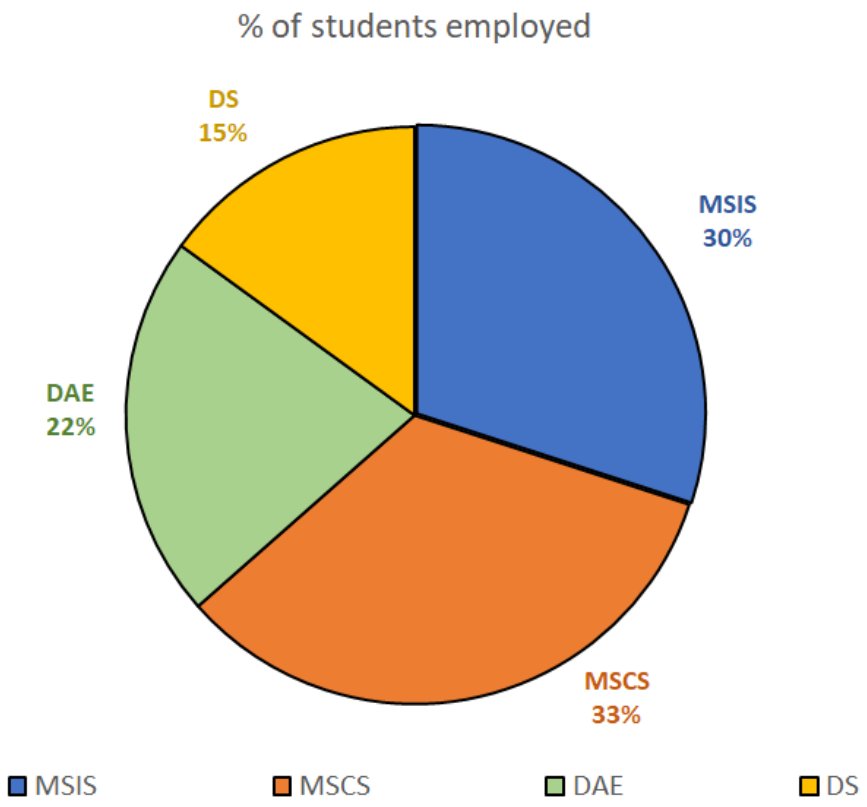


Placement ratio by College: We have analyzed the number of students placed every year by the college which would help the current students identify the placement ratio for college. We can use the alumni placement data like salary, designation, college name, company name, courses taken which will help the

current student find the package range and number of students with that package range.

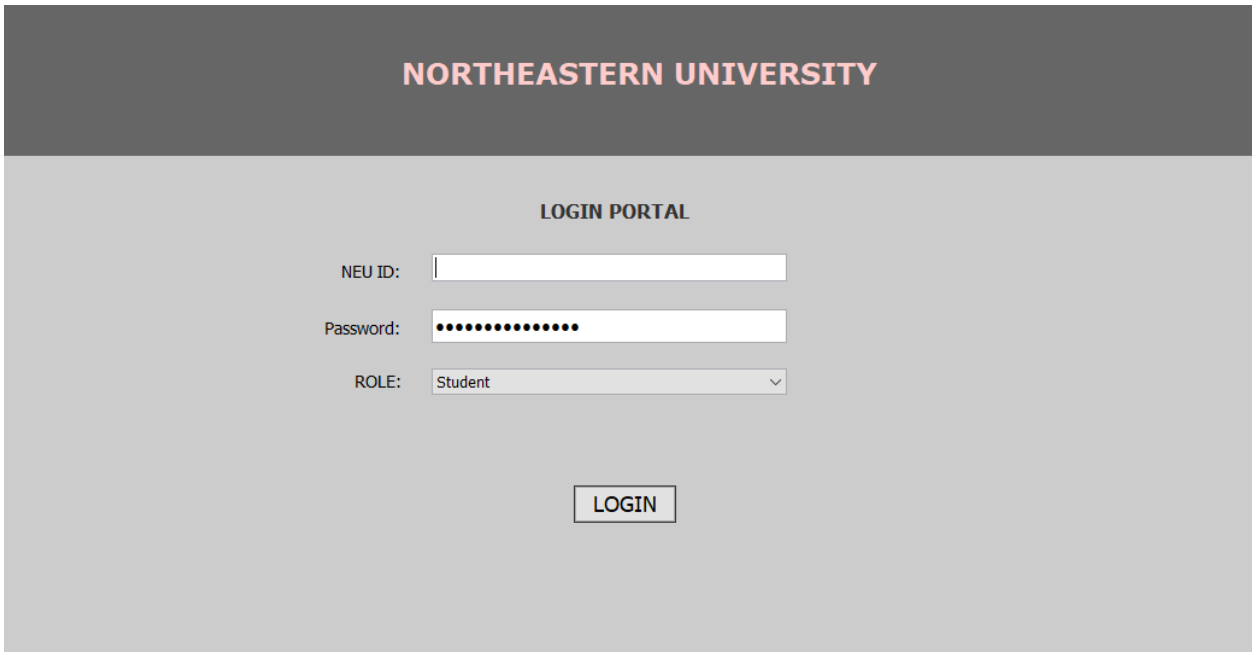


Department ranking as per employment history: Every alumnus will be a part of the department and we can fetch the employment history of that alumnus from alumni details, based on these details, we can get the ranking of a department with respect to students employed in a particular department.

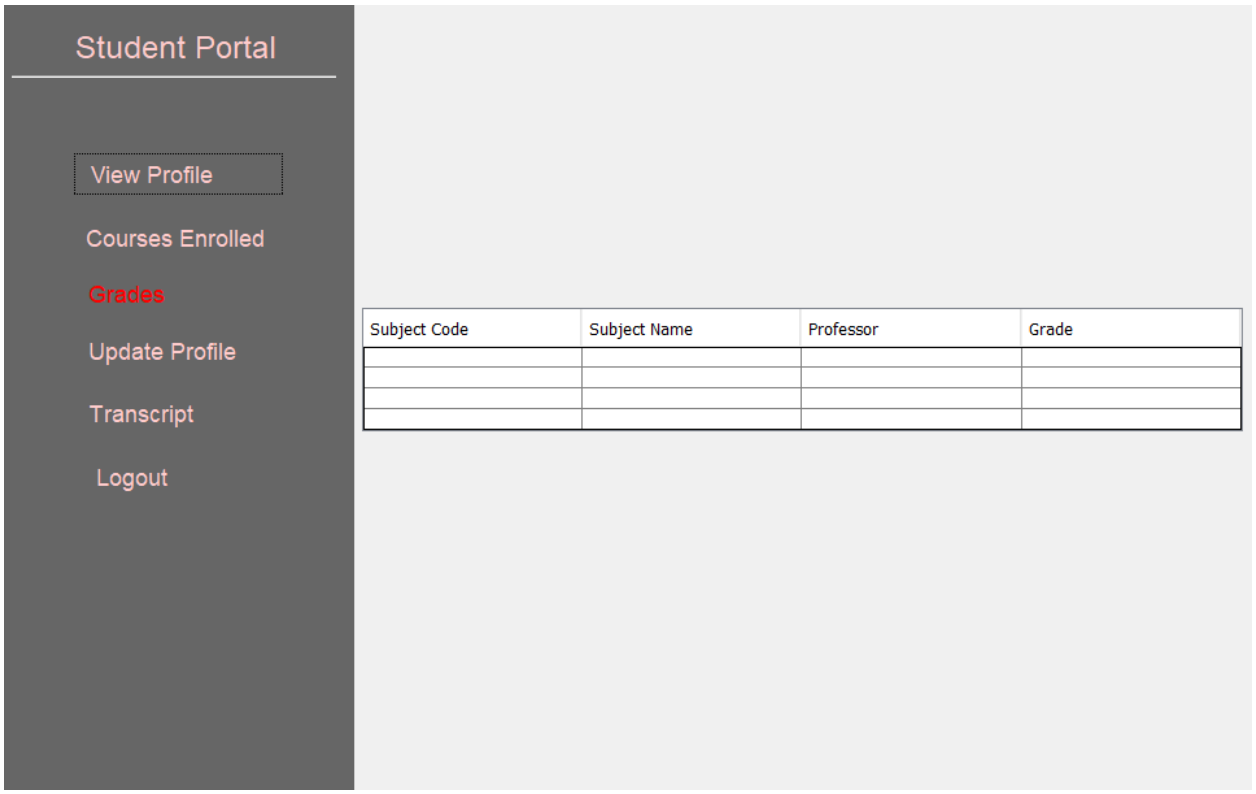

% of students employed
DS
15%
MSIS
30%
DAE
22%
MSCS
33%
MSIS
MSCS
DAE
DS

User Interface:

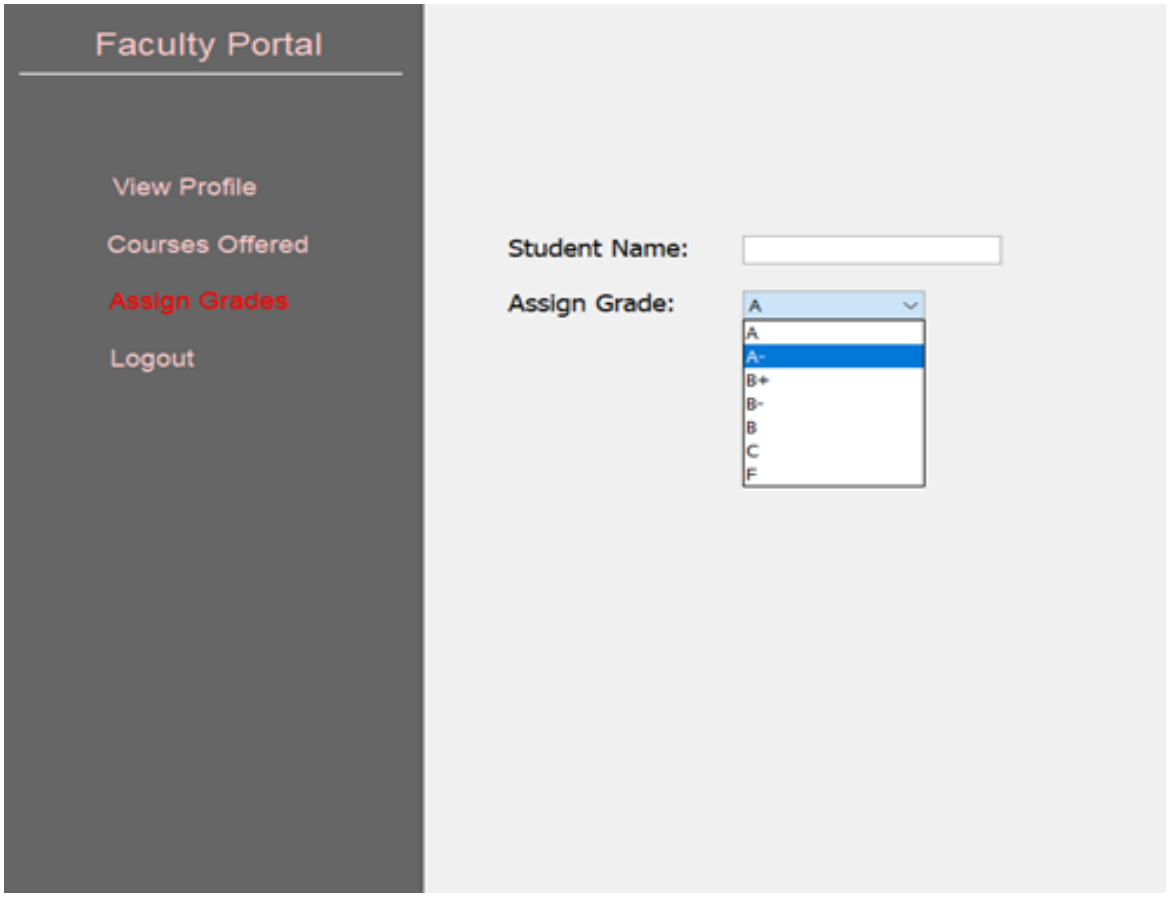
1. Login Page:



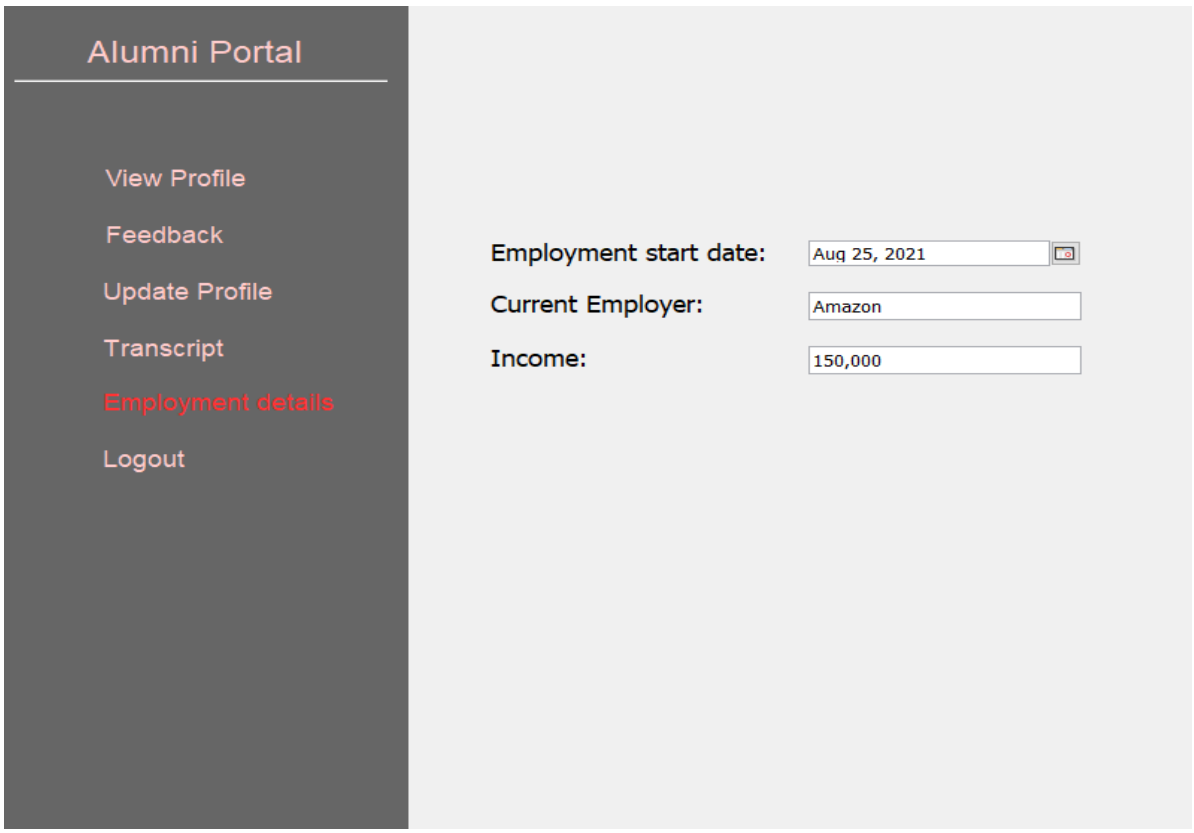
2. Student Portal:



3. Faculty Portal:



4. Alumni Portal:



5. Analytics Dashboard