ASSIGNMENT 3
UNIVERSITY MODEL

Team Members:
Rahul Bhiwande (001040583)
Urvi Aryamane (001040582)
Sneha Ravichandran (001096251)

PROBLEM STATEMENT:
To use software engineering design and programming techniques to improve the quality of education globally and to develop a performance measuring metric to quantify and improve the student's professional growth through the quality of education and feedback.

OBJECTIVE:
To provide career-oriented students with quality education designed to meet the current industry needs and trends by improving real-time with the university's alumni's feedback by calculating the impact the courses have on their career. We have designed a system that analyzes statistical data obtained from student's/alumni feedback and tracks students' growth in a professional setting and analyzes the courses that helped students in their careers.

PROPOSED SOLUTION:
To create a performance measurement solution that analyses how the students' courses contribute to their professional growth in the industry, the department must track a student's progress over the years in a corporate environment. Through the data collected (course impact, student's GPA, faculty rating and student's professional performance), the university will know how to tweak their educational courses and provide the best quality education to students to excel in their professional careers.

Course Impact:
Course impact is calculated by considering the **total number of courses and their types** taken up by the student during their education and **comparing them to the type of domain they work.**
For example, a student taking up Data science-related courses and securing a data science job would have a higher course impact when compared to a student who takes up more software engineering courses and ends up working as a data analyst.

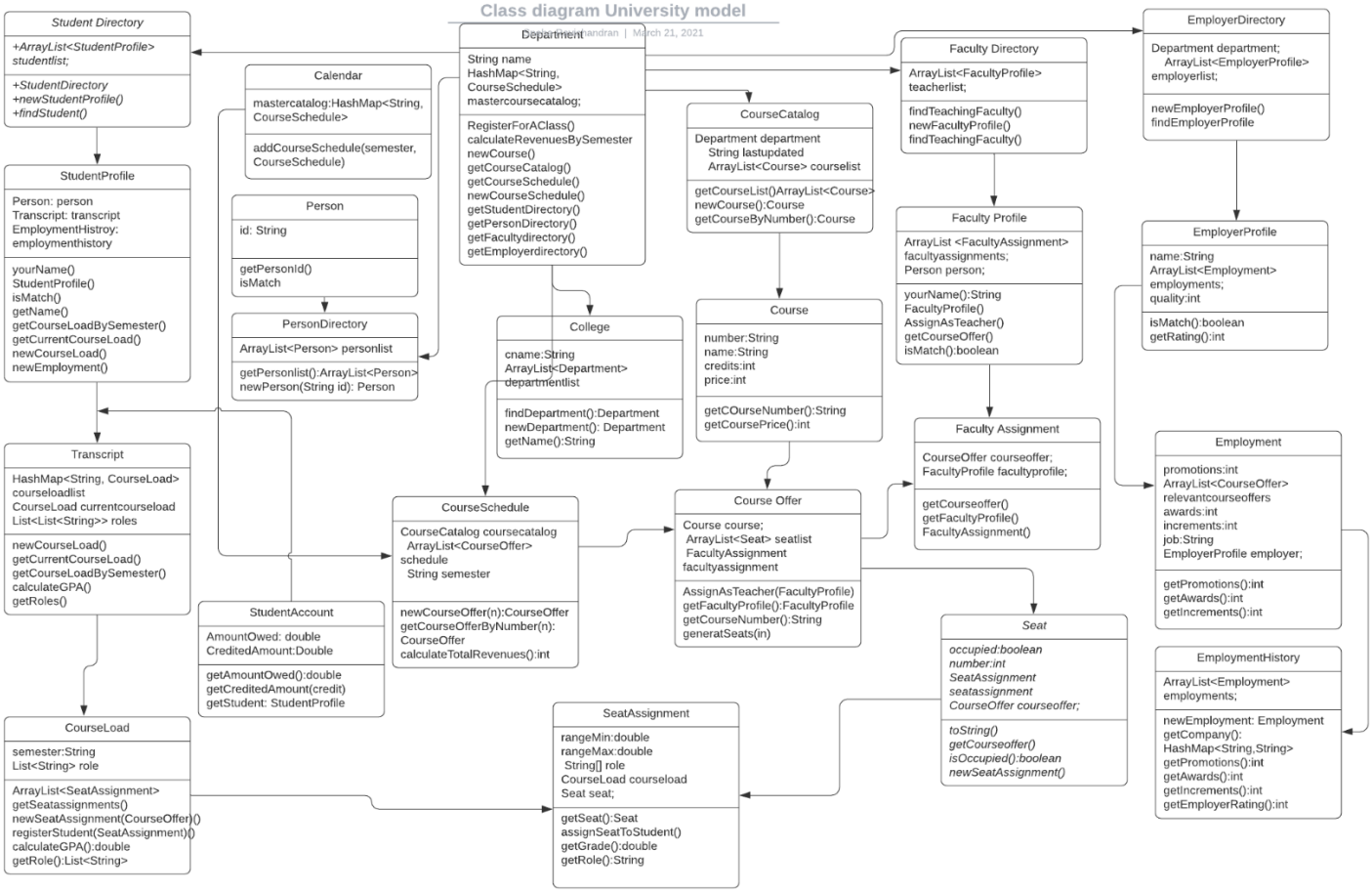
Student's Professional Performance:
A student's professional performance needs to be calculated by considering the **promotions (5), salary increments (5), and awards (5)** received by the student multiplied by the **employer rating (10)**.
Employer rating is a score given to the employer on a scale of 10; the bigger the company is, the more difficult it is for a person to get recognition in such companies than smaller startups.
For example, if an employer receives a score of 6 and the employee has the following rating promotions=2, salary increment=4, and the awards=5
The calculated Employer rating=(2+4+5)*6 =66 out of 150

Student's GPA:
The student's GPA is calculated by taking the **average of the course GPA's** attained by the student.
This gives us more insight if the student is good student (GPA average > 3.2) or if the student needs to improve (GPA average<3.2)

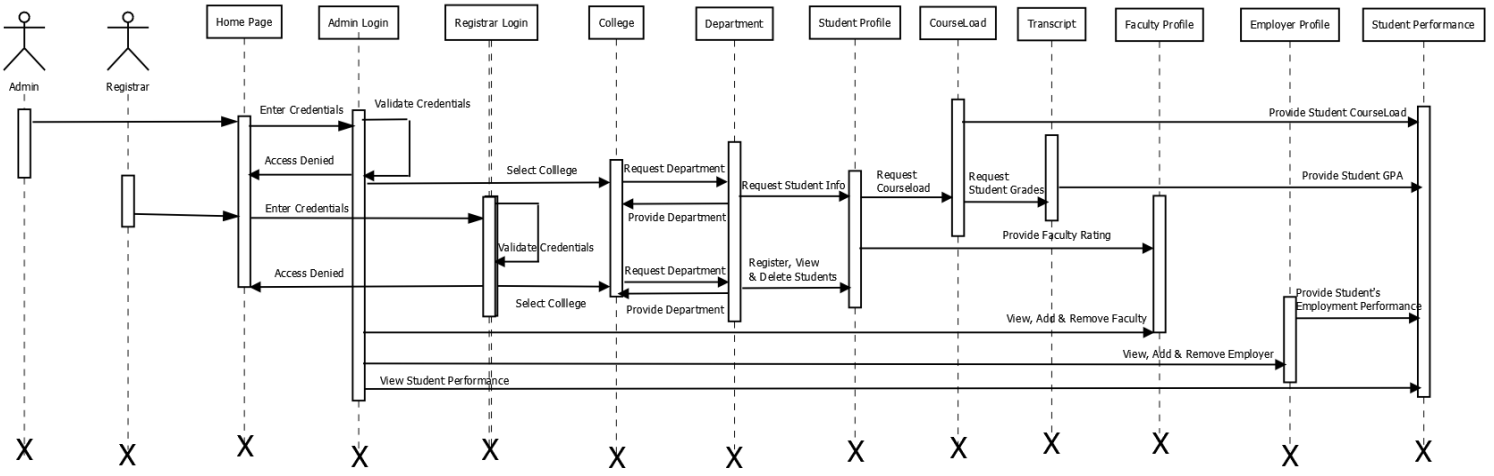
Performance Metrics Analysis:

Course Impact (%)	Student's Professional Performance (150)	Student's GPA (4)	Analysis
<38%	<40	>3.0	Courses had **no impact** The courses need to be tuned in order to meet the industrial standards.
<38%	<40	<3.0	Courses had **medium impact** on the student Student's performance needs to be improved.
>38%	>40	>3.0	Courses had **high impact** Student also performed well
>38%	<40	>3.0	Courses had **medium impact** Slight tuning of courses to meet industrial standards.
>38%	>40	<3.0	Courses had **high impact** Student could have performed better in studies.
<38%	>40	<3.0	Courses had **no impact** and student's marks do not matter
>38%	<40	<3.0	Courses had **medium impact** and the student could have performed better
<38%	>40	>3.0	Courses had **no impact** and the student has performed well

Object Model:



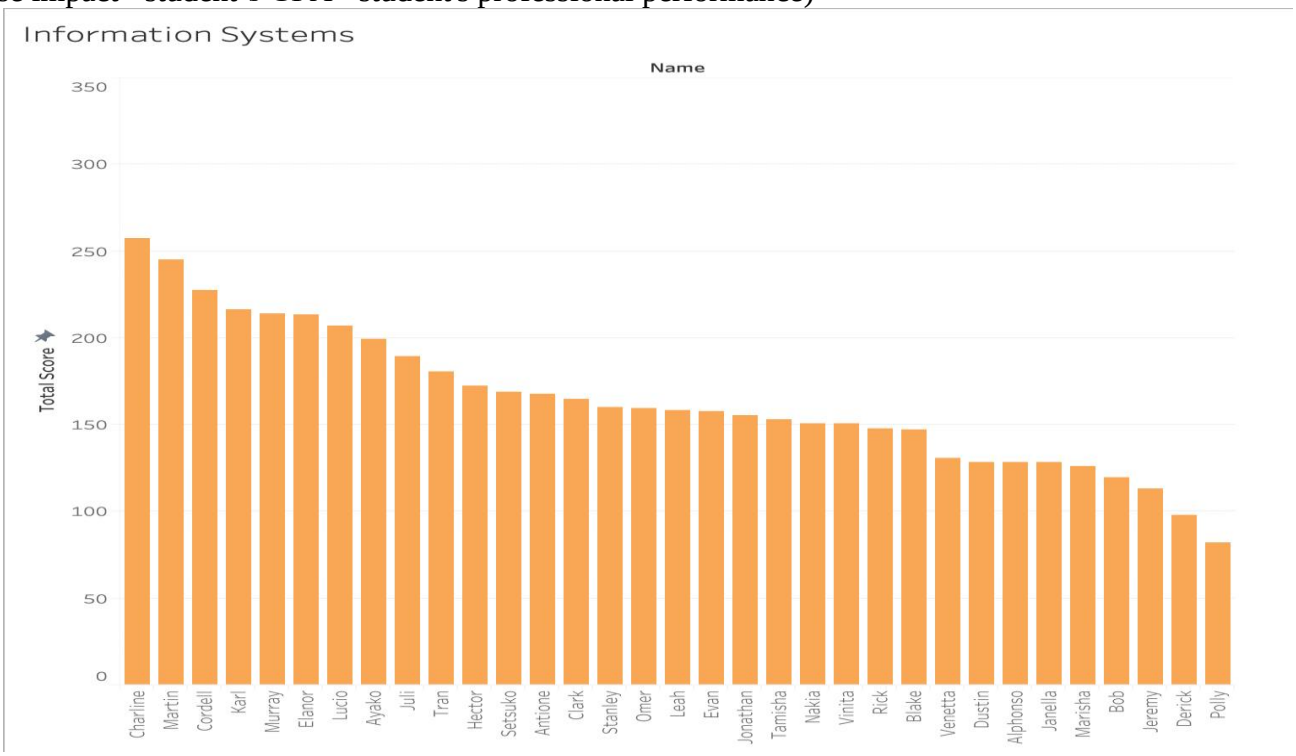
Sequence Diagram:



Dashboard Graphs:

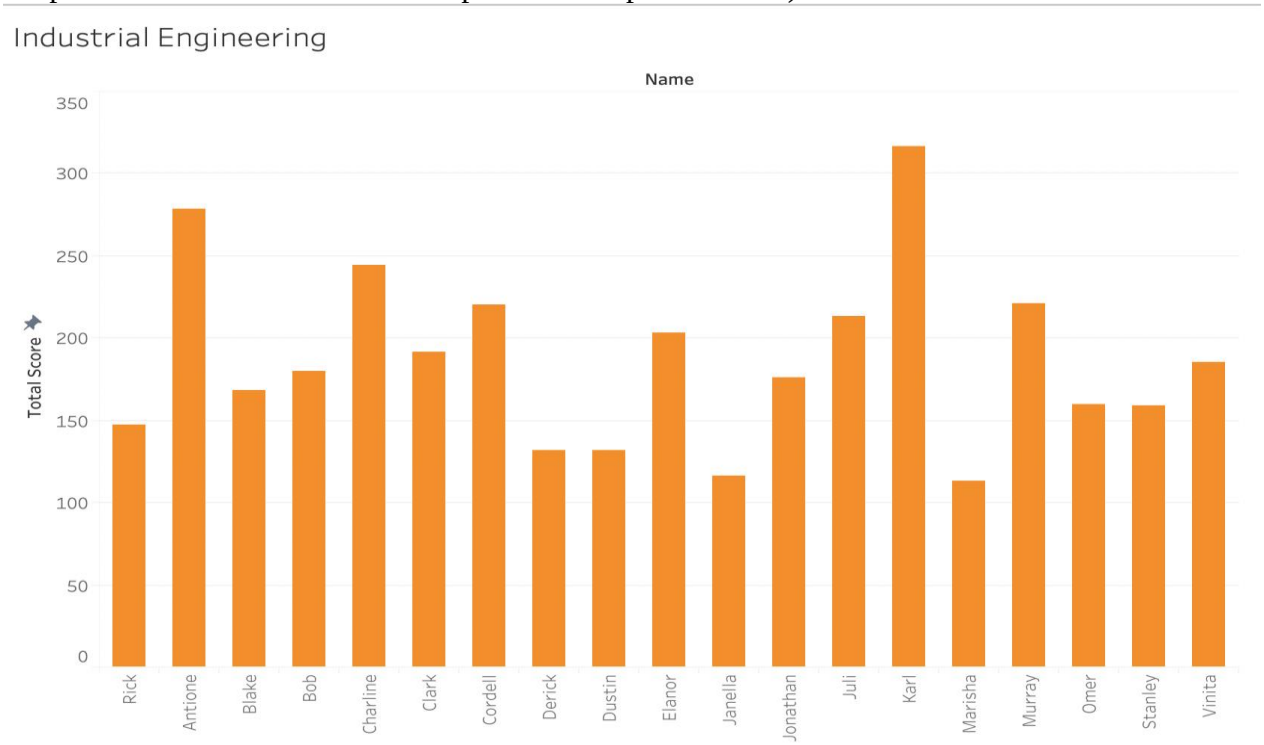
Total Score for Information Systems Department

(course impact+ student's GPA+ student's professional performance)



Total Score for Industrial Engineering Department

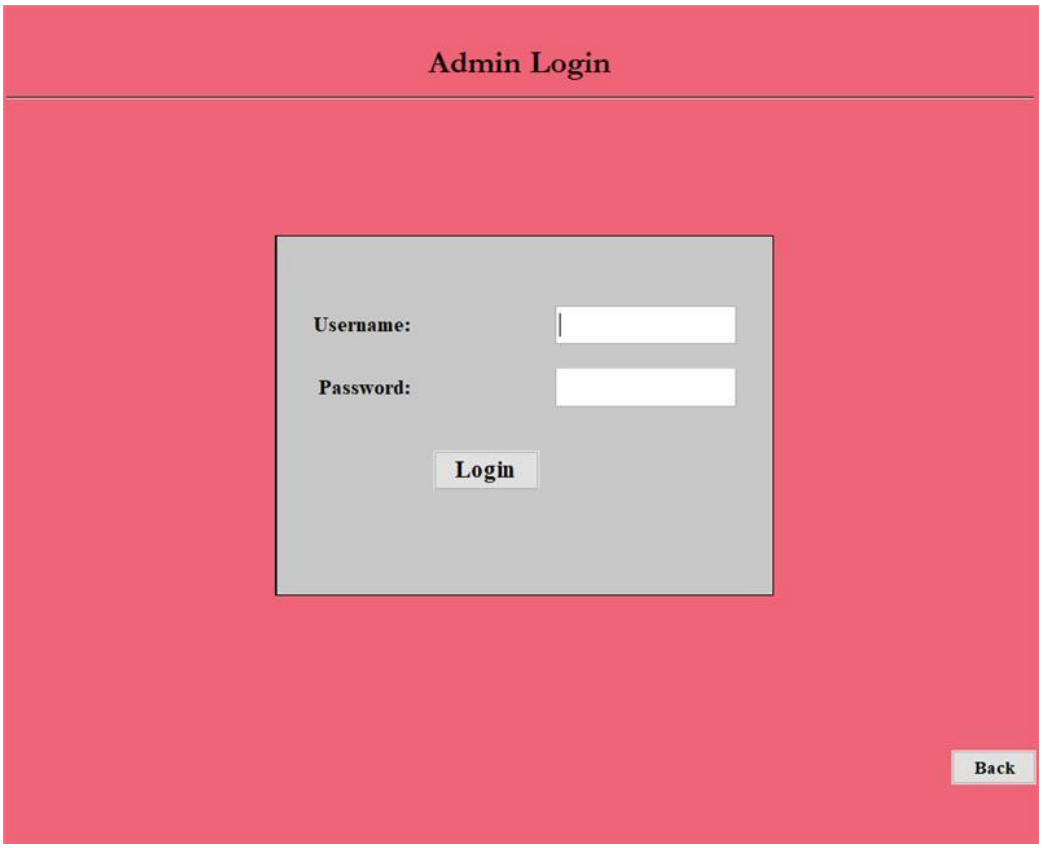
(course impact+ student's GPA+ student's professional performance)

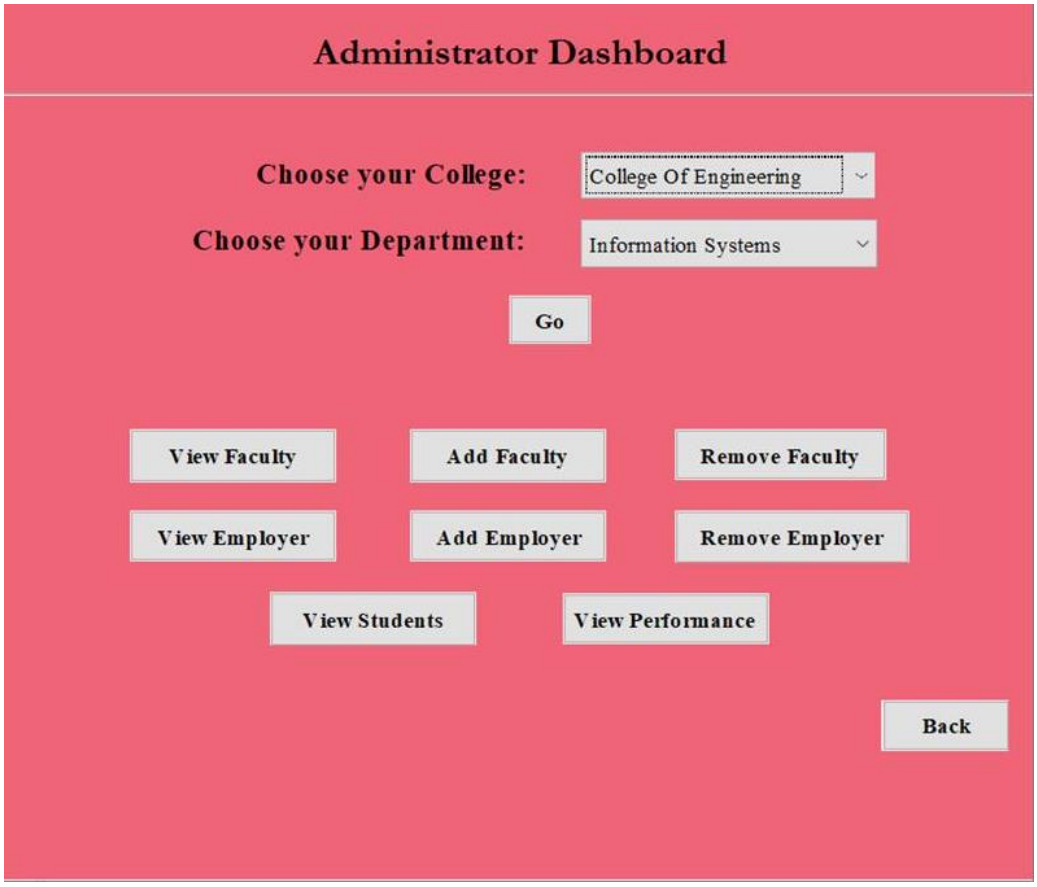


UI Snippets

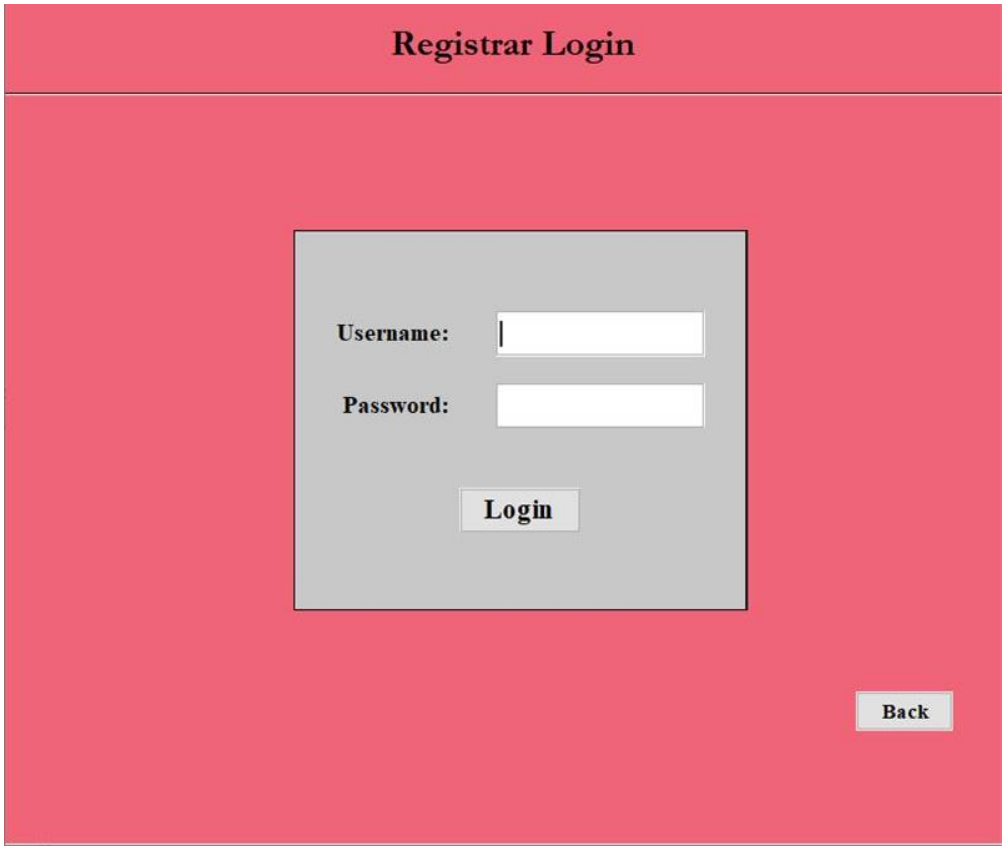
Homepage

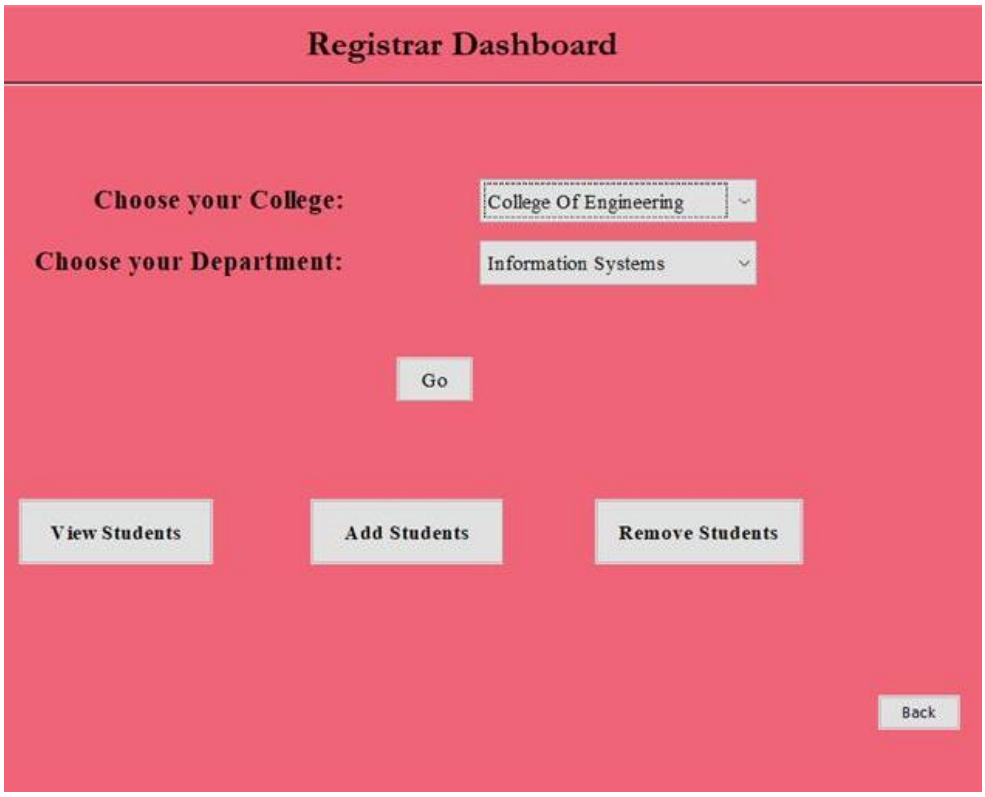
Admin login and Dashboard



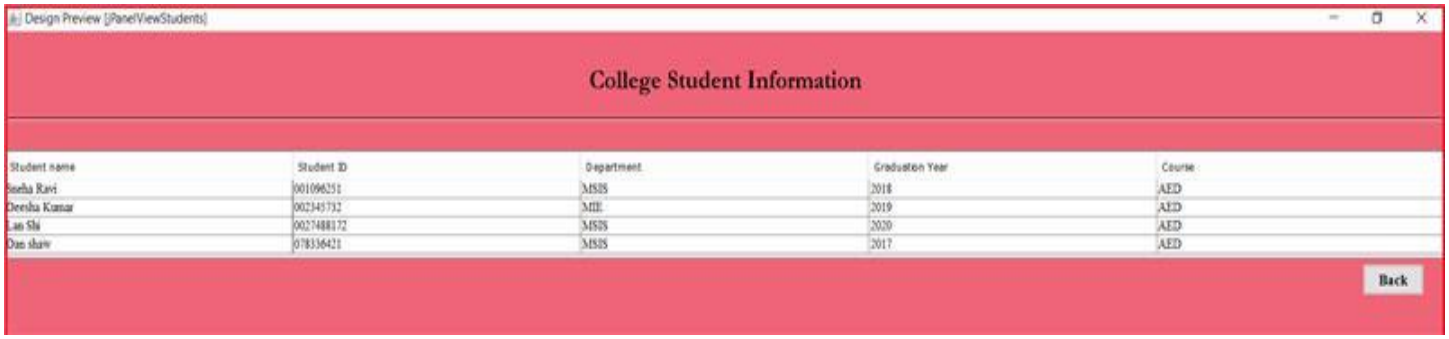


Registrar Login and Dashboard





University Performance & College Student Information



Student and Faculty Profile