University Performance Measurement Model

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Team Members

1. Piyush Anand – anand.pi@northeastern.edu
2. Bismita Behera - behera.b@northeastern.edu
3. Mohit Malani - malani.m@northeastern.edu

Objective

This model is designed to enable universities to measure the quality of their education by using software engineering design and programming techniques. A University management system allows employers, administrators, and students to keep track of their data and manage their activities. To evaluate a student's performance in the university, we considered factors such as their GPA and performance over five years. Our reports provide a detailed list of values that are used for analysis.

Implementation

Our system gathered data about students and staff through manual records. However, this software allows different administrators to have access only to their own departments. It aims to integrate the modules and provide full access to the various departments. There is one central zone that combines all the sections, and this is the main administration. The administration facilitates student, teacher, and other faculty members' data management as well as all other school activities.

Student

- Students can log into their accounts using their username and password. For every student, the student's name, age, contact details, email address, and address are stored, and these details can be updated by the students.
- The courses offered by the department for that semester can be selected by students. They also may rate faculty on the courses list based on their experience with the faculty, such as course name and faculty name.
- The Grades option allows students to view grades for all their courses and their total grade point average. In addition, employers, job profiles, timelines, and employment history can be added by students.
- Furthermore, students must provide feedback to the university about the courses they found helpful and relevant for their jobs, which is then analyzed.
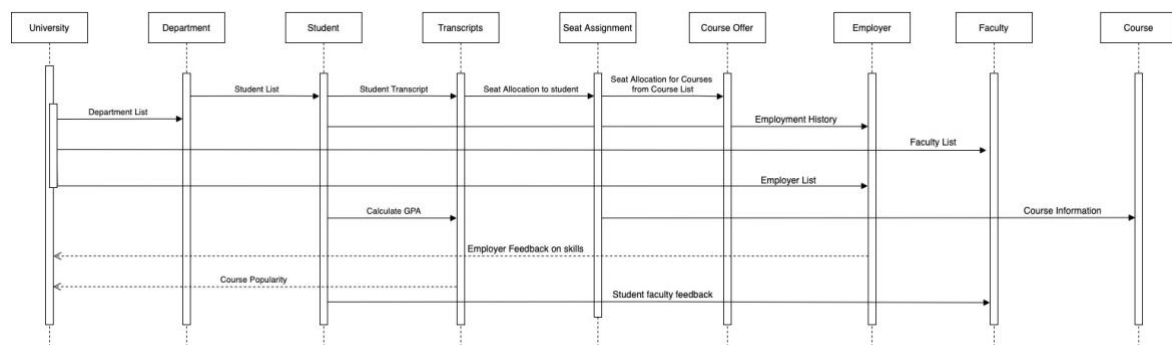
Admin

- Students can log into their accounts using their username and password. A student's profile and their employment history may be viewed by administrators who can update, add and delete information on students, faculty, employers and departments.
- A Department, college, or university can view the revenue generated by each of them.
- Along with that, through different solutions, administrators can access analysis that includes Student's performance, department performance, faculty performance, and course ranking.
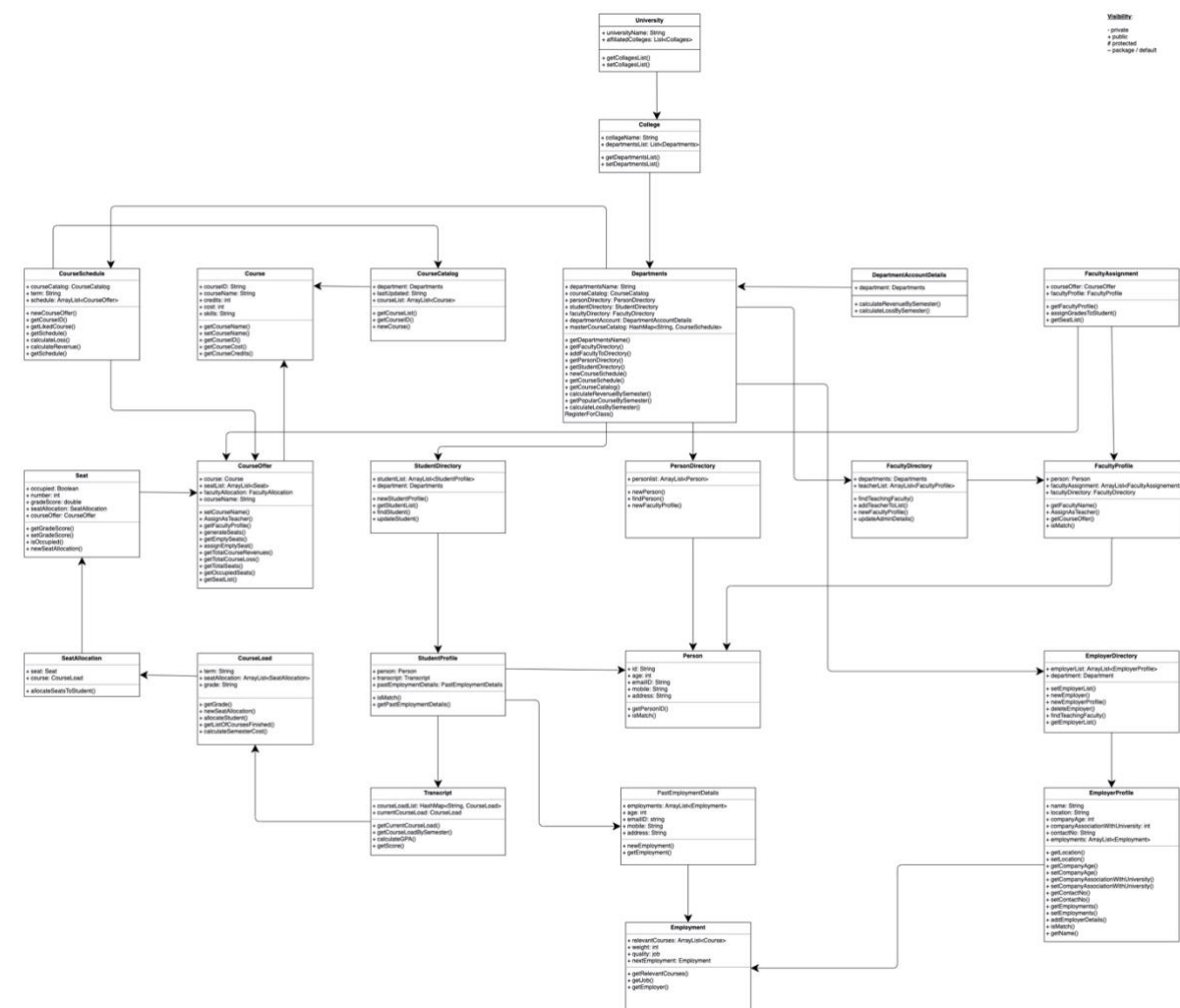
Employer

- Any employee with access rights can log in using their username and the password. When employers encounter any issues or problems during the hiring process, they can enter feedback into the system.
- Future Job openings can be posted by employers. Also, the company's Roles and departments can be added, updated, and deleted by the employer.
- An employer can fill out a feedback form on which there are list of several skills, and the employer can choose the skills that are best suited to their needs.

Sequence Diagram

Full Image Link

Unified Modeling Language (UML)

Full Image Link

Planned UI

Login

Three types of users can login to insert, update and view records. The users are Students, Administrator and Employee and they can be authenticated via their username and password.

Student Course Registration

Student can register for a class during a term from the available list of courses.

Student Feedback

Student can share feedback about their course along with their current employee organization name.

Administrator

Super user has access to enter and modify critical data of the application.

Reporting

Dashboard describing the:
1. Balance sheet for university involving income and expenditure.
2. Most popular roles student as offered.

Planned UI

Screenshots from the UI

Figure 1: Login Screen

Figure 2: Student Course Registration

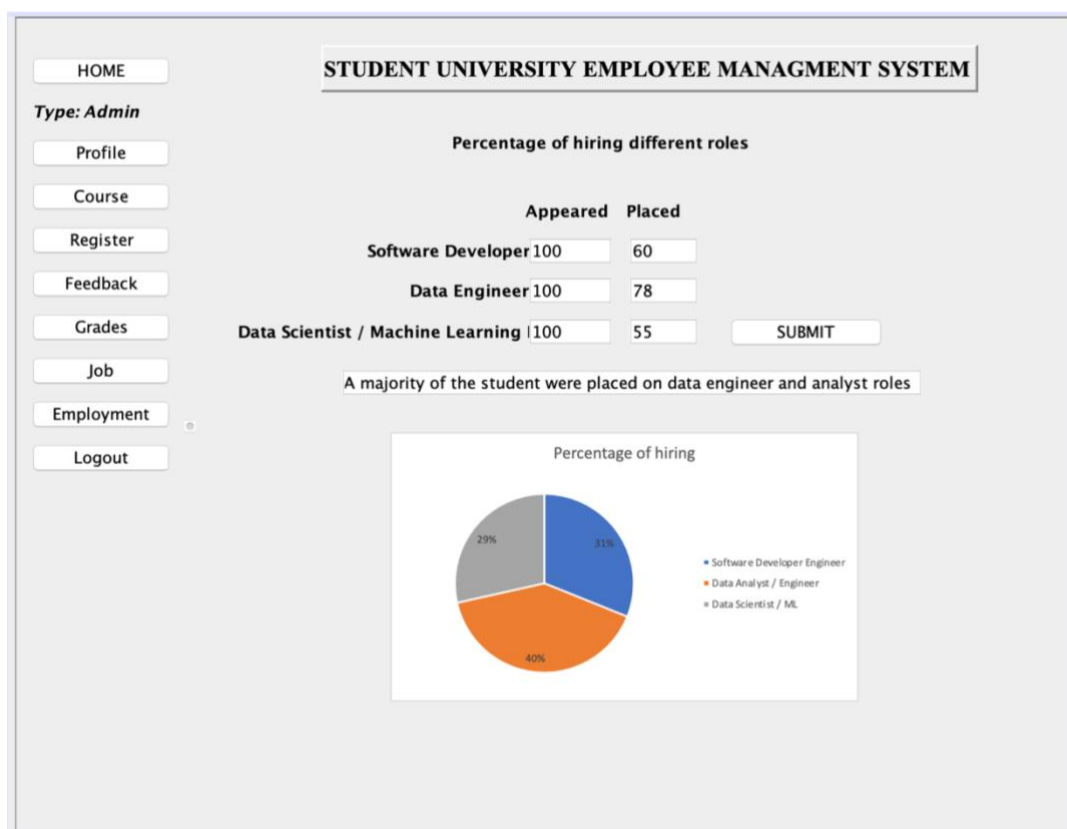*Figure 3: Employee Registration*
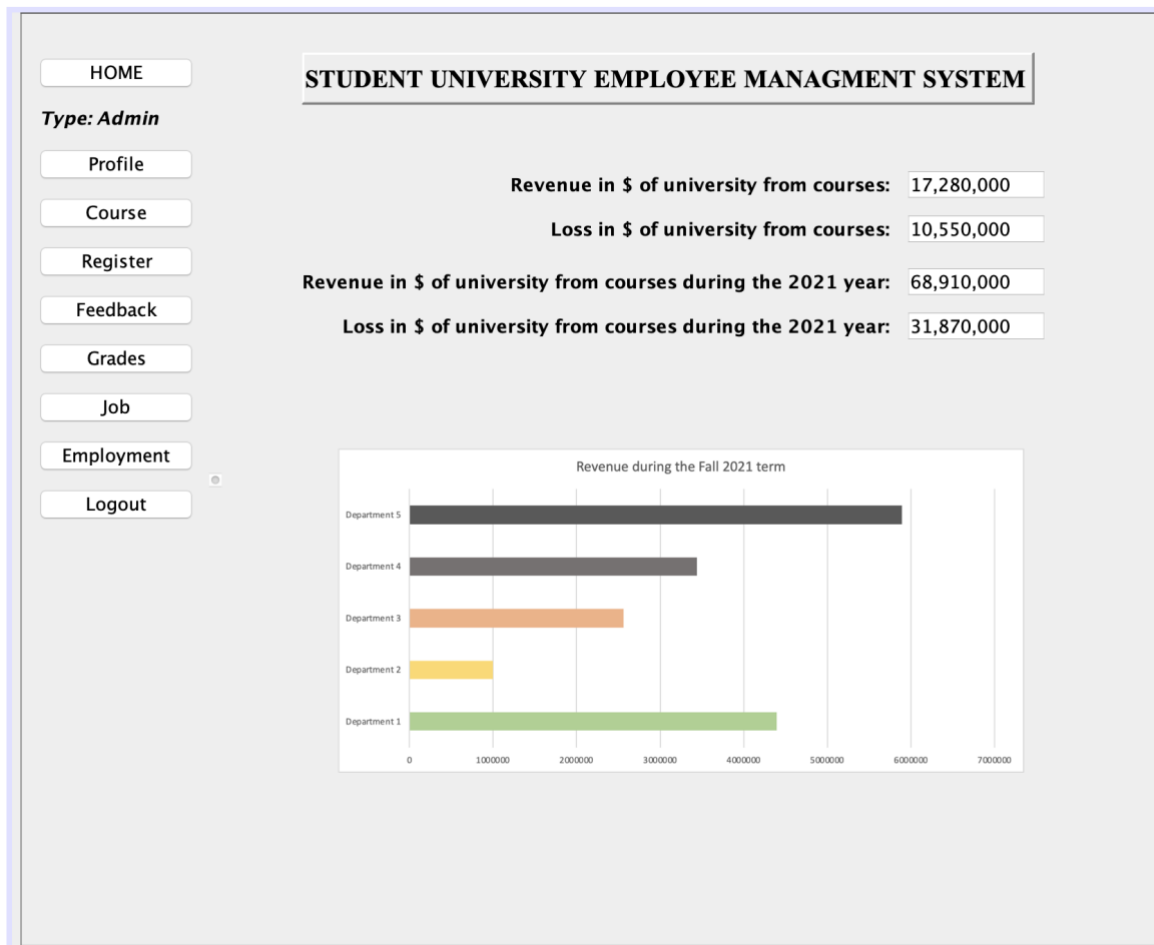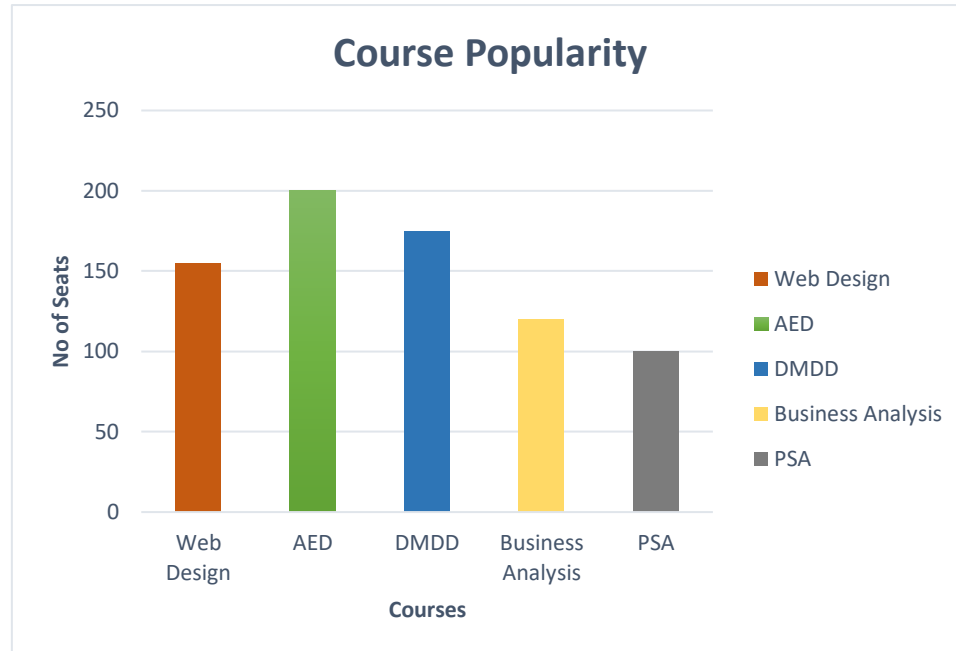

Figure 4: Comparison between job roles

Figure 5: University Revenue

Performance Measurement

Popular Course

Getting the most popular course is determined by the number of filled seats for the given semester.

GPA relationship to Job Success

Based on our research, we have determined that courses and the skills acquired from them are more relevant to succeed in the industry. This analysis shows that skill acquisition through study of the courses has been more helpful in helping students find jobs than having a good GPA.

Employer and Student Feedback

A student can make an informed decision from an economic as well as a learning perspective when choosing a course. From his course load, we gather information about the student's employment including his employer, job profile, and the courses he feels are relevant to his job profile. Also, the courses have skills that the student has learned during the course duration. All the students for a particular job profile are asked to provide a list of skills then the employee receives this list and gives feedback. Based on this feedback taken from students and employers, the University analyzes related courses and professional growth to find out where the gap between industry needs and the coursework provided by the University should be filled, helping to make the university's course offerings update as per the need.
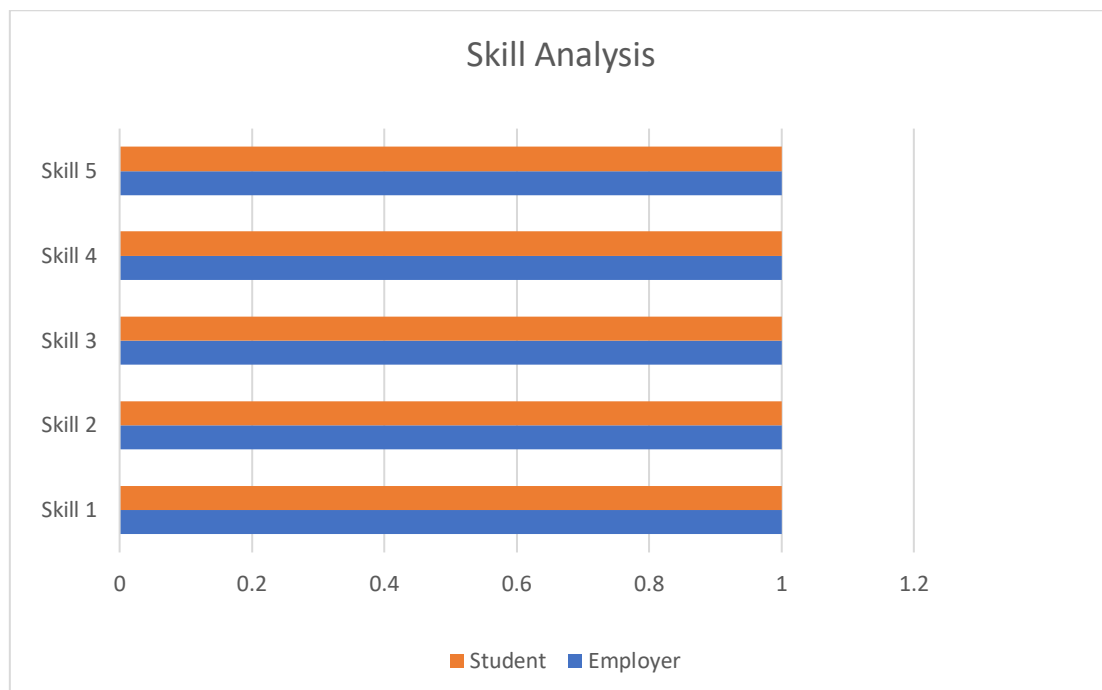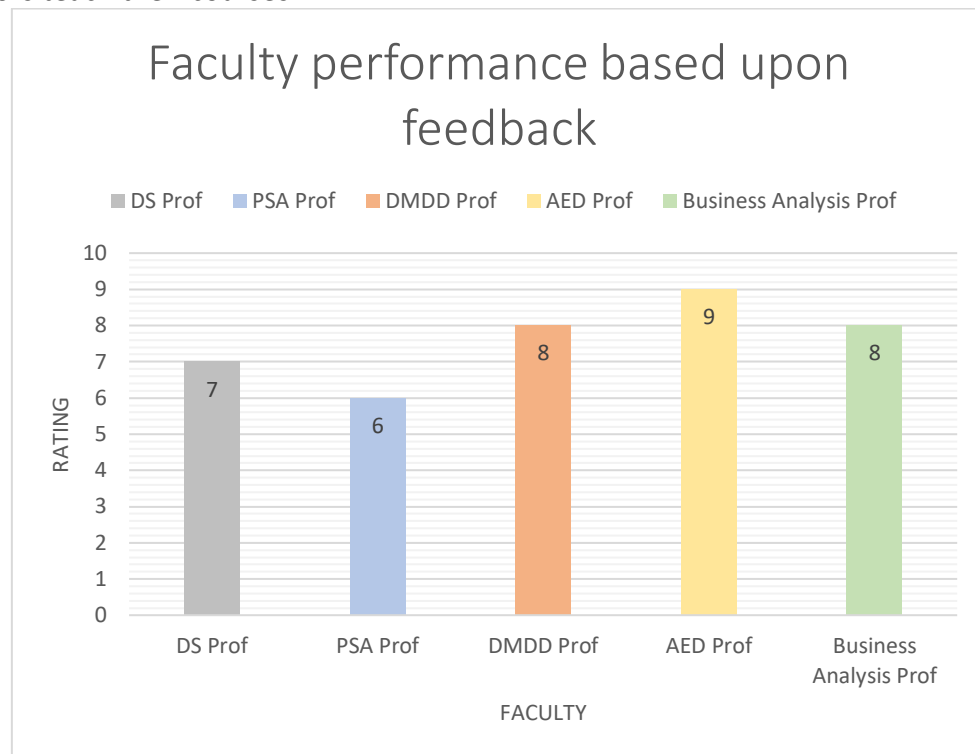

Blue – value 1: Employer assumes that the skills are pertinent
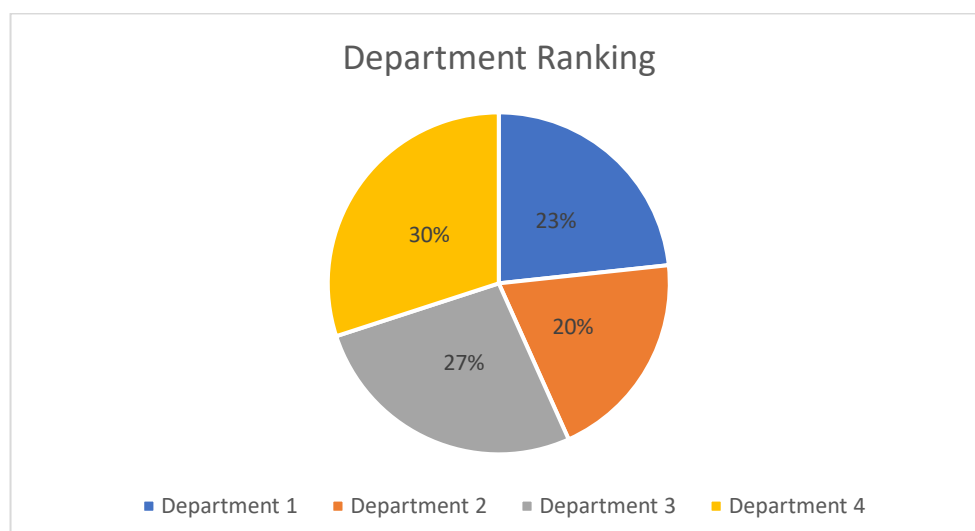Orange – value 1: Students assumes that the skills are pertinent

Student feedback on faculty

Feedback forms are given to the students requesting feedback on how well the professors teach their courses.

Department Ranking

Alumni employment histories are retrieved, and we associate each alumnus with a department. Alumni will be affiliated with a department. Using this information, we calculate the share of students employed by a particular department and rank it accordingly.

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