

Performance Measurement Solution for University

Purpose:

The objective of this application is for the University to monitor the university's performance based on factors like University Ranking, Student Performance, Faculty Performance, Jobs which students are assigned after graduation. These all factors are taken into consideration to maintain rating for each system. Overall we will maintain a rating for each entities and display on the University Admin Page. It helps universities to improve the quality of education.

Problems Addressed:

- Admins can login to the application using Username and Password
- If the admins are new, a new user can be created.
- Only university admins have access of view the performance of the entities.
- Admin can recover account in case he forgets the password.

Design Model:

This application is designed which will give feedback for the prospective students to track the career growth of graduates after the course is completed up till 5 years in the job market. This system is designed in such a way that university can keep updating their courses and course contents. This can be done rating from the analysis of students, faculty, employment details of students and come up with a strategy to implement the suggestions. Also feedback from alumni plays an important role in determining the rankings.

Classes and relevant methods:

Course

- CourseNumber: string
- CourseName: string
- Credits: int
- Price: int

Course Catalog

- CourseList: ArrayList<String>
- LastUpdated: String

Course Load

- Semester: String
- Seatassignments: ArrayList<String>

Course Offer

- Seatlist: ArrayList<String>
- jobRating : int
- growthRating: int
- getEmptySeat : To see which course is least preferred
- getJobRating: retrieves which course is in more demand in the industry(for jobs)
- calculateTotalRevenues: total revenue generated by that particular course
- isOccupied: Is the seat available for particular course

Department

- calculateRevenuesBySemester: calculates total revenue of semester

Employer Directory

- Employerlist: ArrayList<String>
- newEmployment: adding new employer profile in the employer list

Alumni Directory

- Alumni: ArrayList<String>
- newAlumniProfile: adding new alumni profile in the alumni list, adding the names of students who just graduated

Alumni Profile

- graduationYear: int

Student Directory

- newStudentProfile: adding new student profile in the student list
- findStudent: finding a particular student by its student ID

Transcript

- courseloadlist: HashMap<String, CourseLoad>
- newCourseLoad: Adding a new course to the semester
- getAllCourses: gives list of all courses in semester

Employment

- relevantcourseoffers: ArrayList<String>
- title : String
- promotionCount : int
- getGrowthRate : It displays the growth in salary by calculation
- getCurrentSalary : retrieves the current salary
- getYearsOfEmployment : retrieves the number of years person has worked

Employment History

- employments : ArrayList<String>

Faculty Directory

- newFacultyProfile : adds a new faculty profile in faculty list
- findTeachingFaculty : finds a faculty profile by ID

Faculty Profile

- facultyassignments : ArrayList<String>
- AssignAsTeacher : tells which teacher teaches which course

Course Rating

- getJobCourseRating : retrieves rating of the course by various measurements and
- getTopJobCourses : retrieves which course is more preferred in respect to job opportunities
- getCourseSalaryGrowthRatingForCourse: retrieves growth of person in industry who took the particular course
- getCoursePromotionGrowthRatingForCourse: retrieves which person had promotion who took the particular course
- getEnrollmentRatings: retrieves the rating of course
- getAverageGPA: retrieves the average GPA

Employment

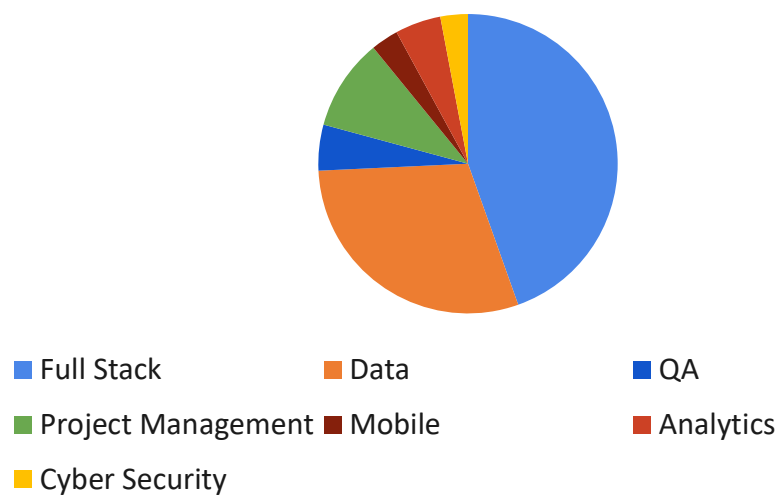
- getTotalNumberOfStudentsEmployed: retrieves total number of students employed
- getTotalNumberOfStudentsUnEmployed: retrieves total number of students unemployed
- getNumberOfStudentsEmployed: retrieves total number of students employed who took this course
- getNumberOfStudentsUnEmployed: retrieves total number of students unemployed who took this course
- getTopCourseForJobTitle : String

Faculty Rating

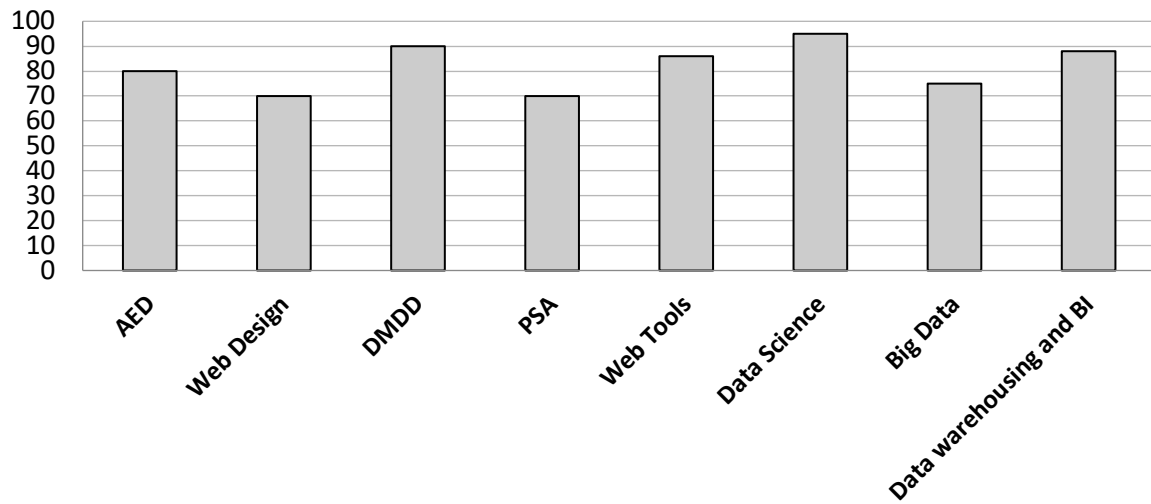
- getFacultyRating: retrieves the rating of a particular faculty
- getFacultyRatingByCourseName: : retrieves the rating of a faculty for a particular course

DASHBOARD

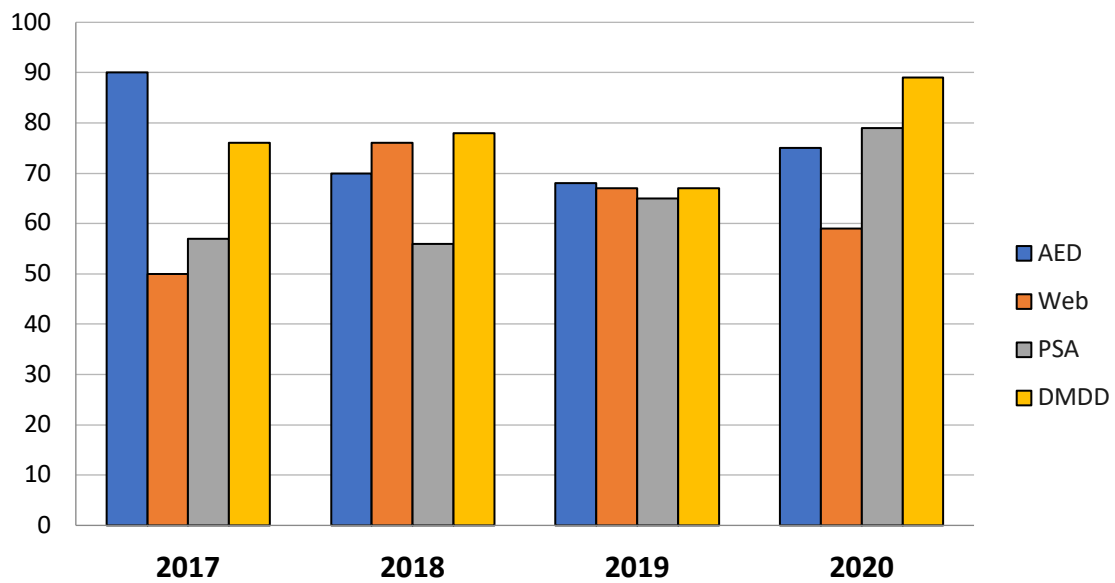
Jobs By Technology

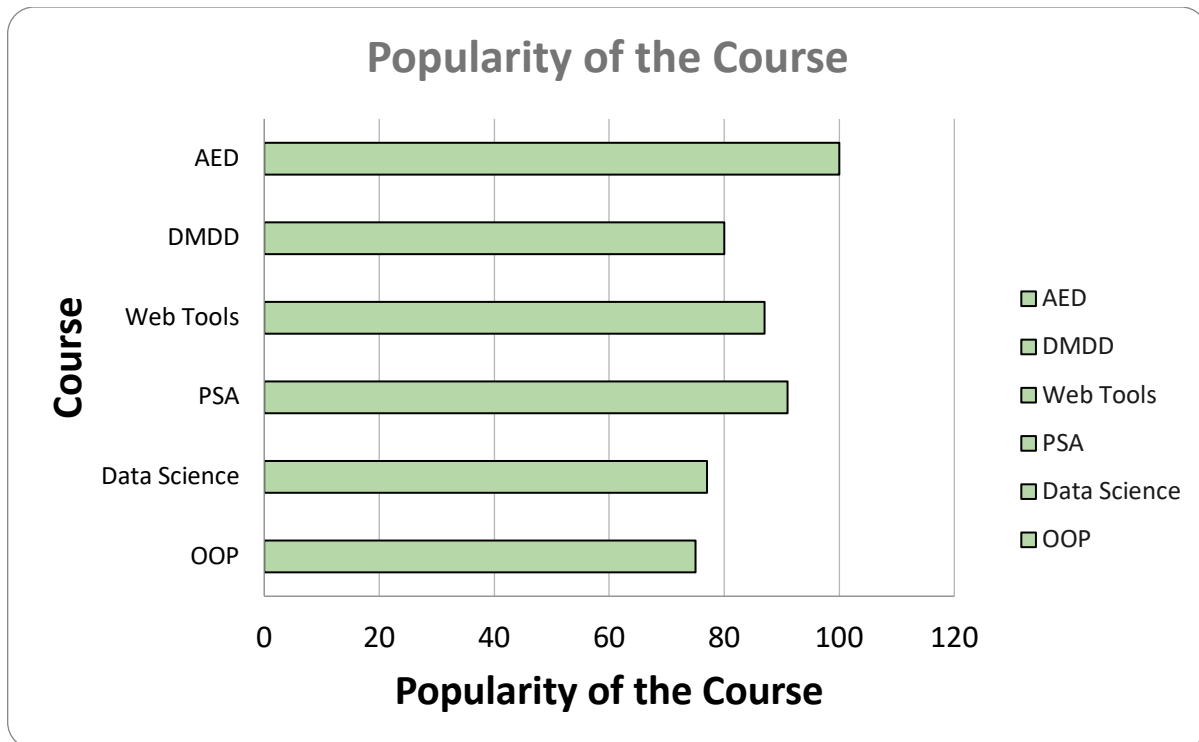


Course Relevance to Jobs



Year Wise Employment for Courses





Jobs by Technology

This panel of the dashboard displays the various jobs secured by the students passed out from the university. This is evaluated on the basis of the feedback provided by the alumni students of the university.

Year Wise Jobs

It will display the jobs last 4 years which students are able to get after completion of courses. It will also be useful to track jobs in order to achieve performance measurement that can help university to reach the desirable outcome.

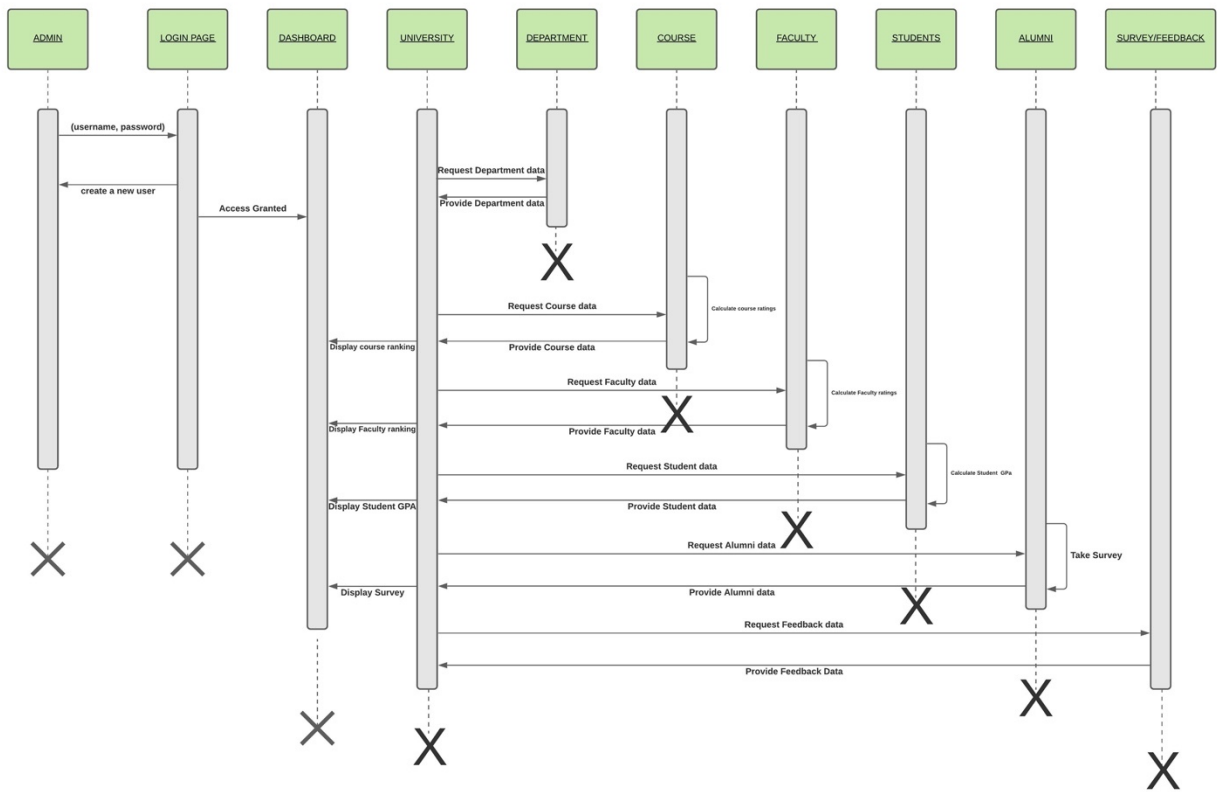
Course Relevance to Jobs

This panel displays the relevance of the courses opted by the students who are currently working and passed out from the university. It is evaluated using the feedback received from the student who is doing job in the field relating the courses.

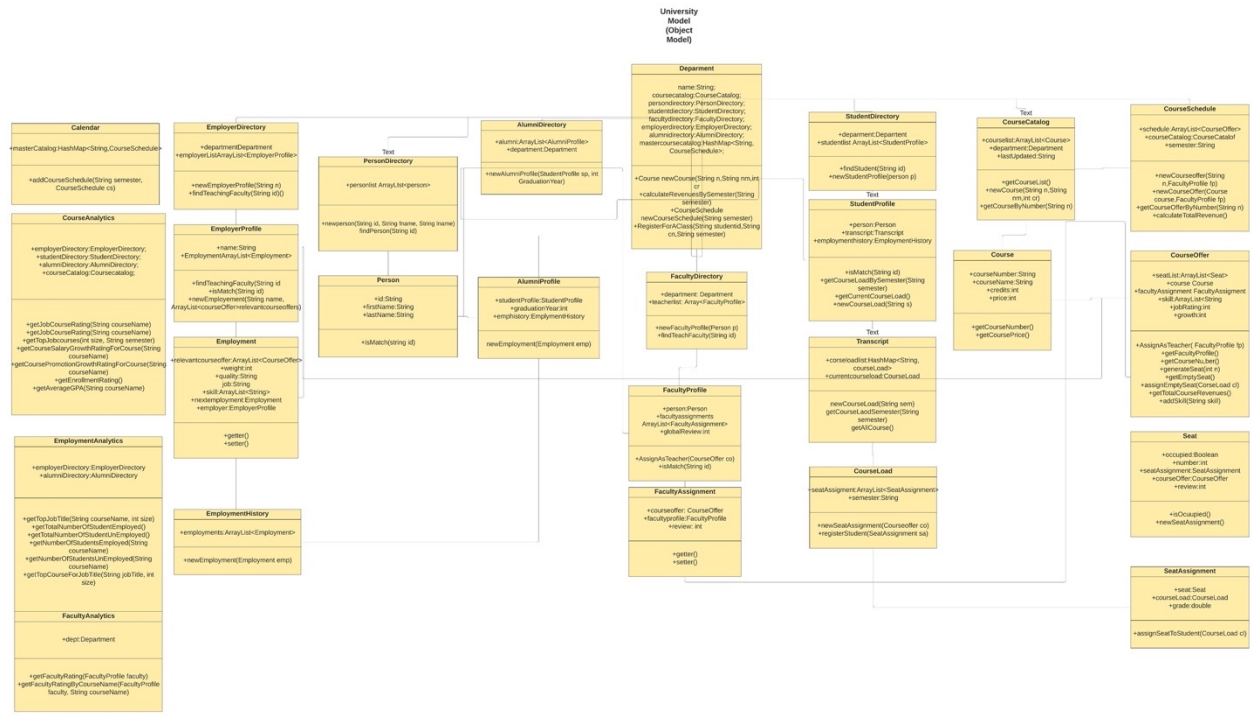
Course Popularity

This panel displays the popularity of the various courses the students have opted. It is displayed using the feedback received from the students who have recently completed the course.

SEQUENCE DIAGRAM



CLASS DIAGRAM



PROPOSED USER INTERFACE

User Login

Username:

Password:

OUR PACK DOESN'T SLACK.

#PROTECTTHEPACKNU

Create New User

Username:

Email:

Password:



Create a New Student Account



Northeastern
University

Enter the name of new Student: Vishal Narasimha

Enter Department: COE

Create a new student Username: v.narasimha

Select the term: Spring 2021

Select the courses: ☒ AED ☐ Web design ☐ PSA ☐ OOPs

Done

Update

University Ranking

Course Ranking

Professional Growth

Faculty Ranking

Course Name: AED

Course Ranking

Performance over 5 years

1



Feedback Form

Name:

Course Taken:

Faculty under which course was taken:

Employment Status:

Provide Rating 1-lowest and 5-highest

Course Structure: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ 5

Course Relevance in job perspective: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ 5

Professor Rating: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ 5

Knowledge Gained: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ 5

University as an intermediate

University can create a separate portal which will have details of each student from their grades to personal skills, activities performed them and all. At the same time it will have employer information like, when was the company formed, location ,what kind of employment they are providing, salary range they wish to provide, type of people they are willing to hire . An employer can view the profile of students via filters and directly chat with the student they are interested to hire. The university will have the record of each employment details and keep a track on each student and employer.