

Application Engineering and Development

Assignment - 3 - University Model Design

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Team:

Netra Awate	NEUID: 001529534
Sakshi Nayak	NEUID: 002193939
Taru Shukla	NEUID: 002193864

Problem statement:

Apply 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 by evaluating Performance. The approach should be This enables universities to monitor and assess the quality of education they deliver.

Proposed solution:

Evaluating various Performance Indicators at multi-level in the University model to visualize the metrics via graph. Student performance is measured over a period of 5 years duration through Employer. This proposed approach can track the most relevant courses from the feedback received from Alumni, which can help University improve existing course structure.

Following are the Performance Indicators calculated:

- University Performance Indicator.
- Faculty Performance Indicator.
- Student Performance Indicator.
- Student Employment Performance Indicator.

Performance Metrics:

1- University Performance Indicator:

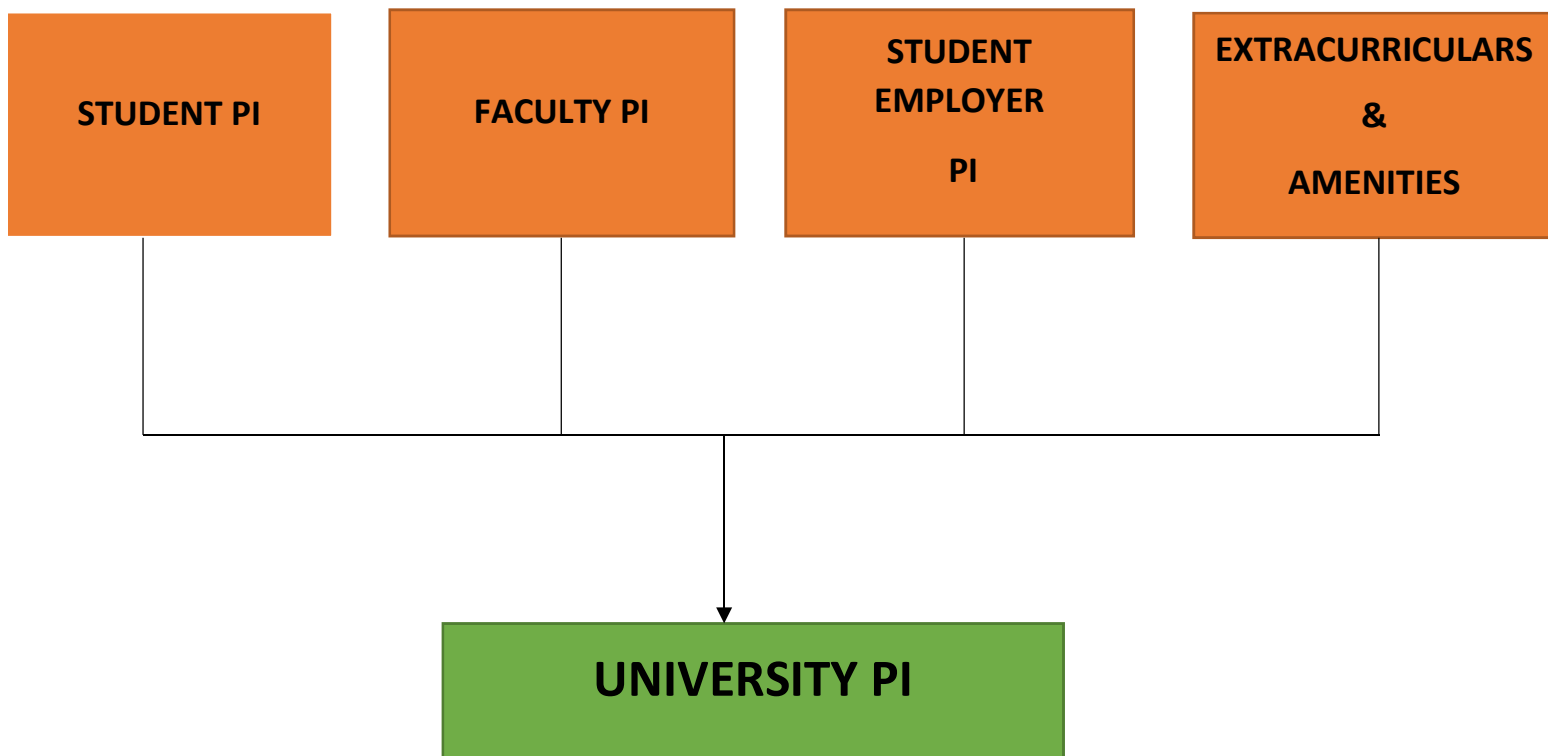
Demonstrates overall success of the University based on Student Performance Indicator, Faculty Performance Indicator, Student Employment Performance Indicator and amenities for the development of student the University offers.

Aggregate of the Faculty Performance will be evaluated as

$$= \frac{\text{Student PI} + \text{Faculty PI} + \text{Student Employer PI} + \text{Extracurriculars \& Amenities}}{4}$$

Extracurricular activities and amenities from the University are divided into four major sections as follows and graded on the scale of 10:

Job Fair	2.5 points
Technical Event	5 points
Student Organization support	7.5 points
Athletics	10 points



2- Faculty Performance Indicator:

Demonstrates performance of the Faculty which is derived from the rating provided by students, faculty's work experience, projects and research papers.

Rating from student will be received on the scale of 10 by submitting a feedback with primary questions on faculty teaching and assignment understanding.

Work Experience points considered as follows:

0-3 years	2.5 points
3-7 years	5 points
7-10 years	7.5 points
10+ years	10 points

Projects taken up by the faculty will be graded as follows:

1-10 projects	2.5 points
10-20 projects	5 points
20-30 projects	7.5 points
30+ projects	10 points

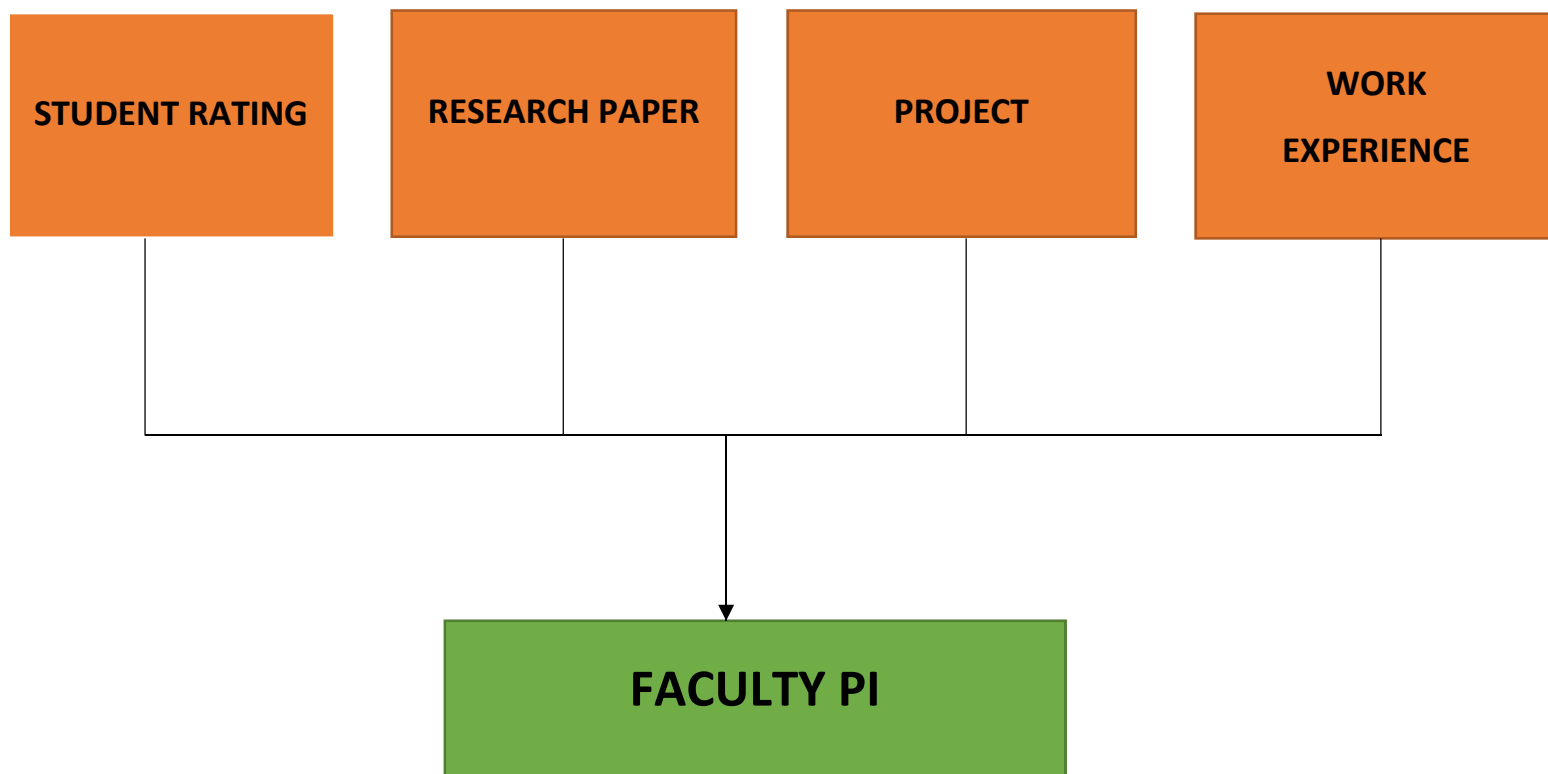
Research papers both active and published taken up by the faculty will be graded as follows:

1-10 papers	2.5 points
10-20 papers	5 points
20-30 papers	7.5 points
30+ papers	10 points

Aggregate of the Faculty Performance will be evaluated as

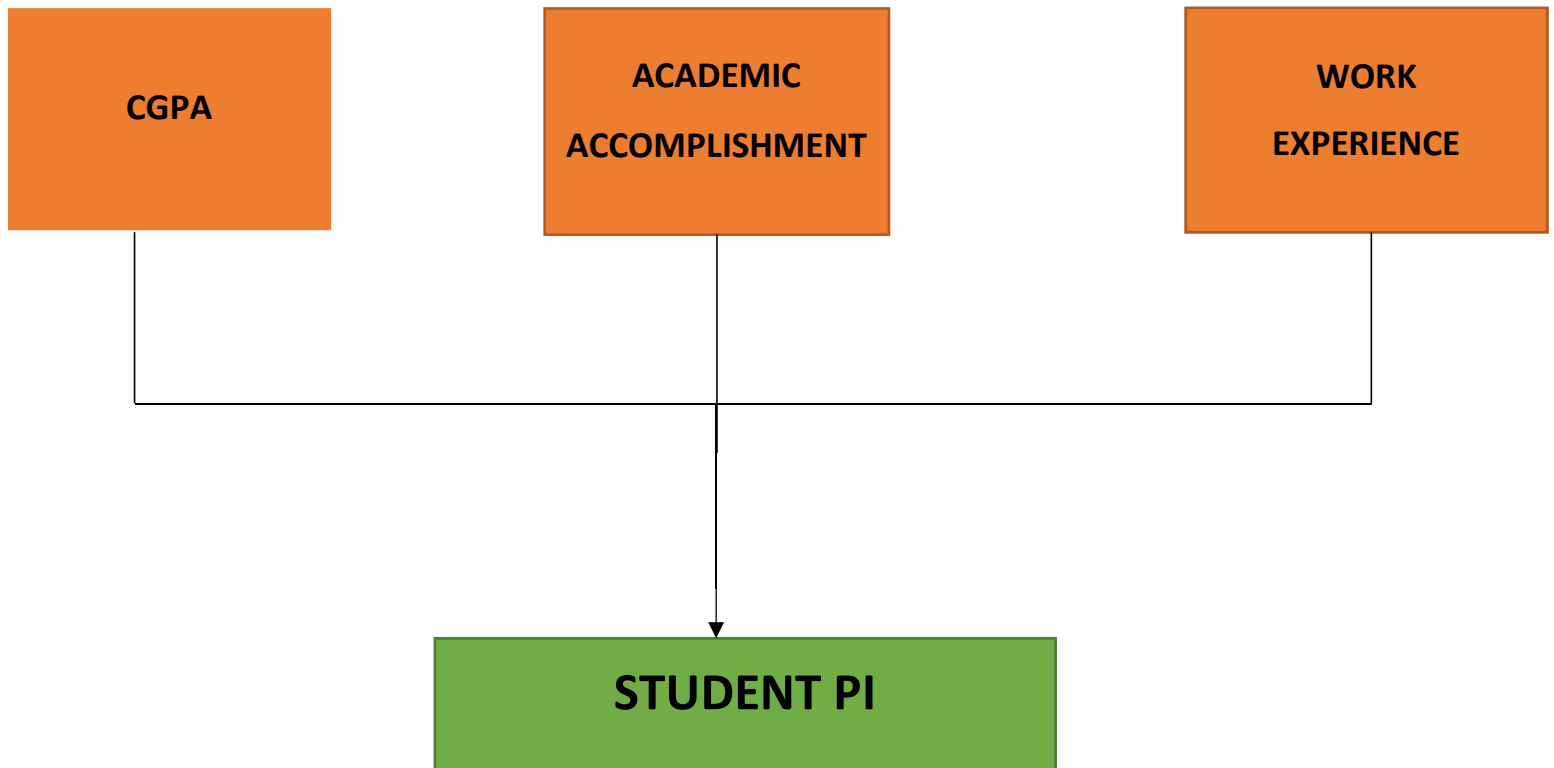
= Student rating + Work Experience + Research paper + Project

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3- Student Performance Indicator:

This assesses a student's academic success at the university, based on grades, research papers published, and projects completed.



GPA/grades, Projects, and Research papers influence a student's performance.

Aggregate of the Faculty Performance will be evaluated as

= CGPA+ Academic Accomplishment + Work Experience

4

Student Rating	90 percent good reviews	9
Work experience	8 years	7.5
Research papers	12 papers	5
Project work	10	2.5

Average of all metrics = $(9+7.5+5+2.5)/4 = 6$

4- Student Employment Performance Indicator:

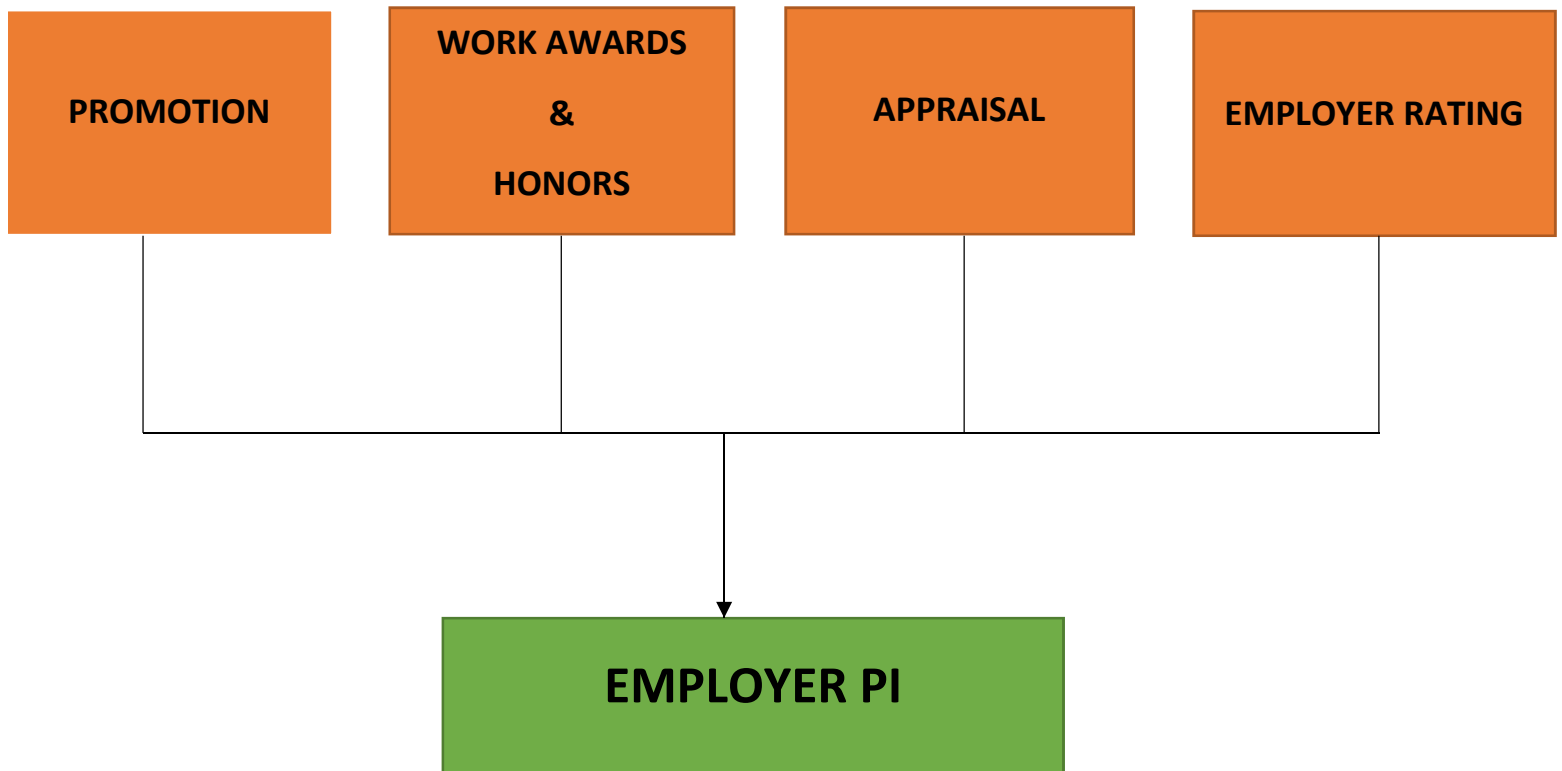
This metric demonstrates the career growth of the student on the basis of feedback received by answering few questions on appraisal, promotion and awards at the workplace.

Aggregate of the Faculty Performance will be evaluated as

$$= \frac{\text{Promotion} + \text{Work Awards \& Honors} + \text{Appraisal} + \text{Employer Rating}}{4}$$

Following are the pointers considered to graph out the feedback:

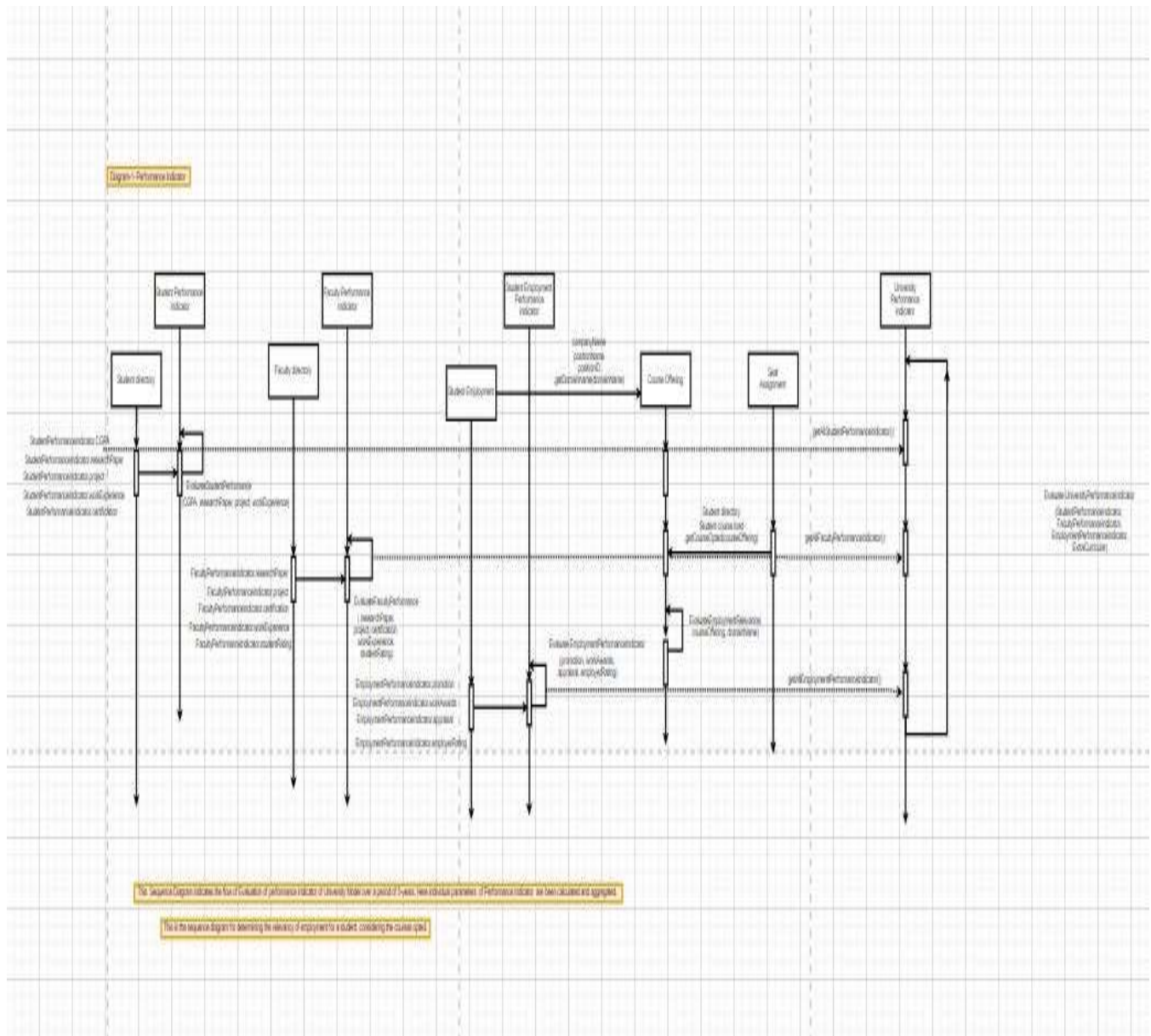
Appraisal	2.5 points
Promotion	5 points
Awards and recognition	7.5 points
Course relevancy	10 points

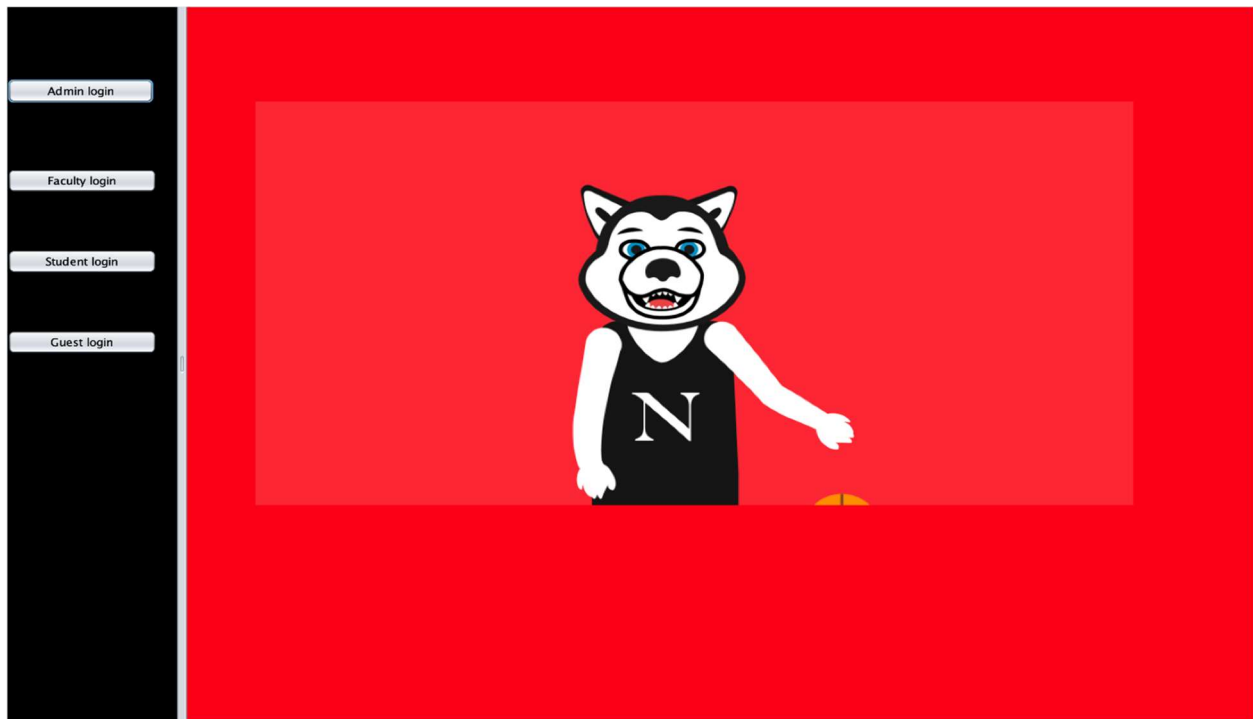


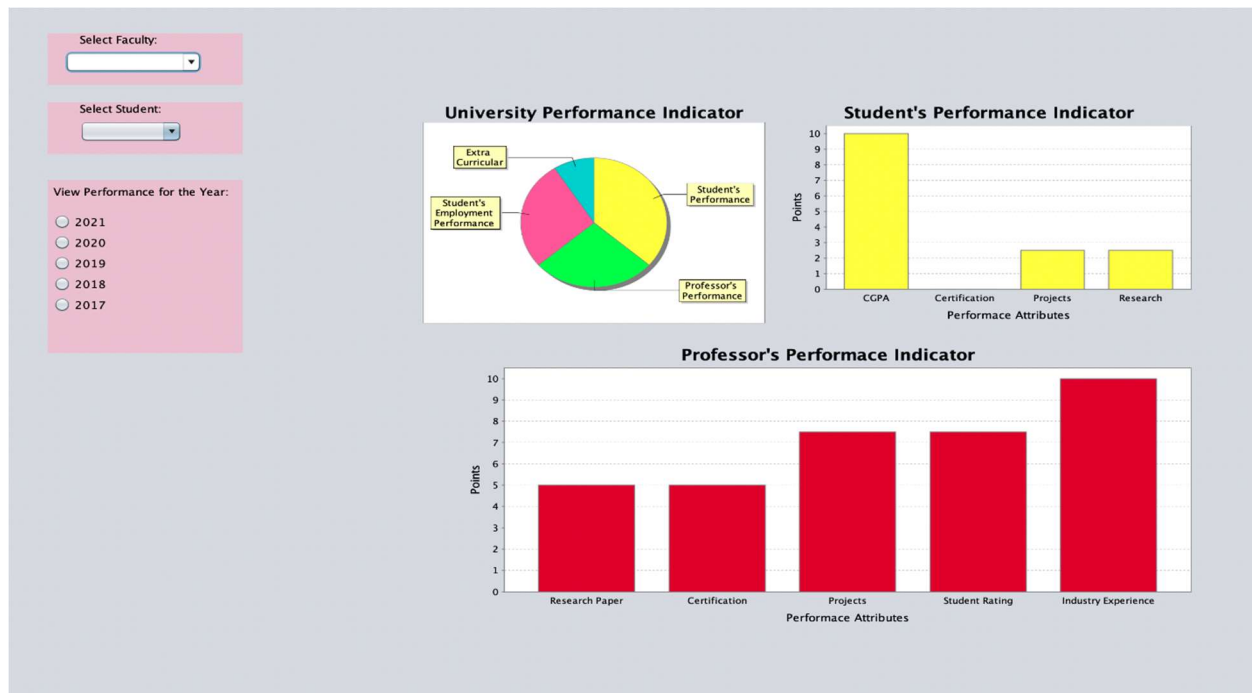
CLASS DIAGRAM:



SEQUENCE DIAGRAM:



USER INTERFACE (UI):**HOME:****ADMIN LOGIN:**The screenshot shows the Admin Login page. On the left, there is a black sidebar with four white buttons labeled "Admin login", "Faculty login", "Student login", and "Guest login". The main content area has a light pink background. In the center, there is a form titled "Admin Login" in bold. Below the title, there are two input fields: "Email:" and "Password:". Below these fields is a "Login" button.

UNIVERSITY PERFORMANCE INDICATOR:**FACULTY LOGIN:**

Faculty Login

Admin login

Faculty login

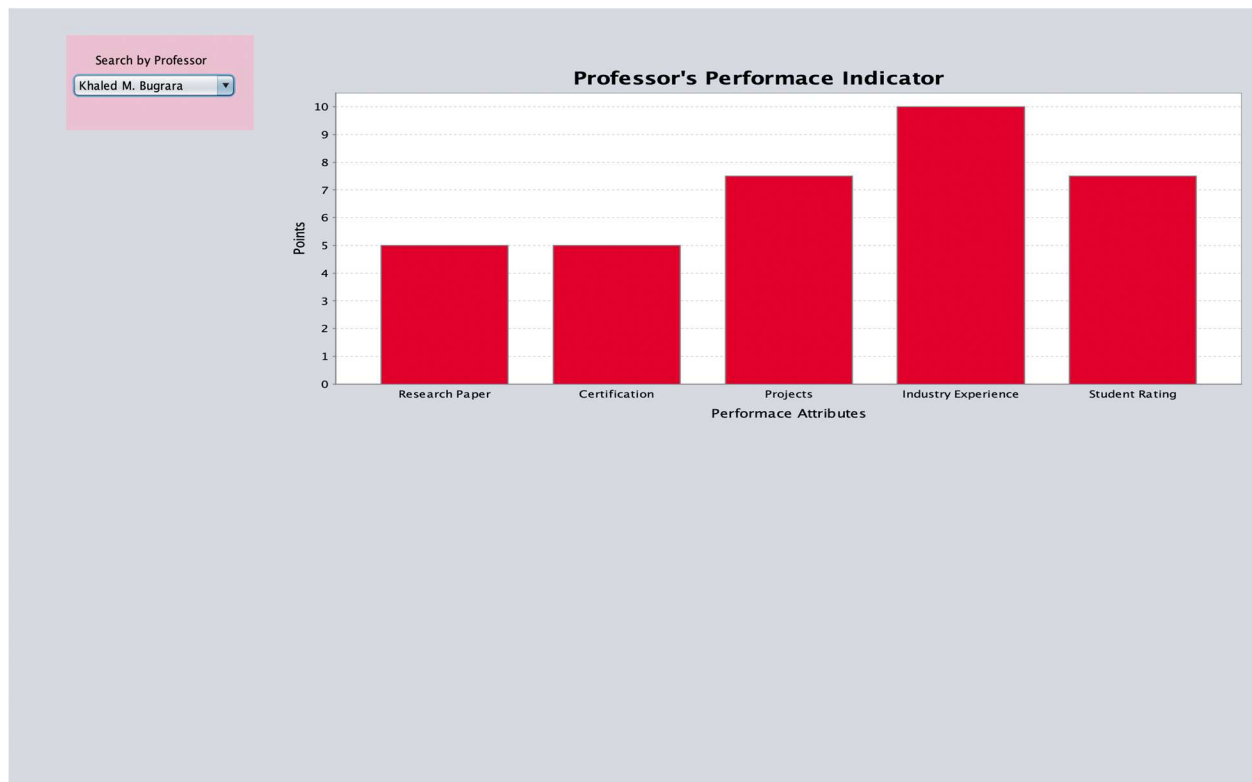
Student login

Guest login

Email:

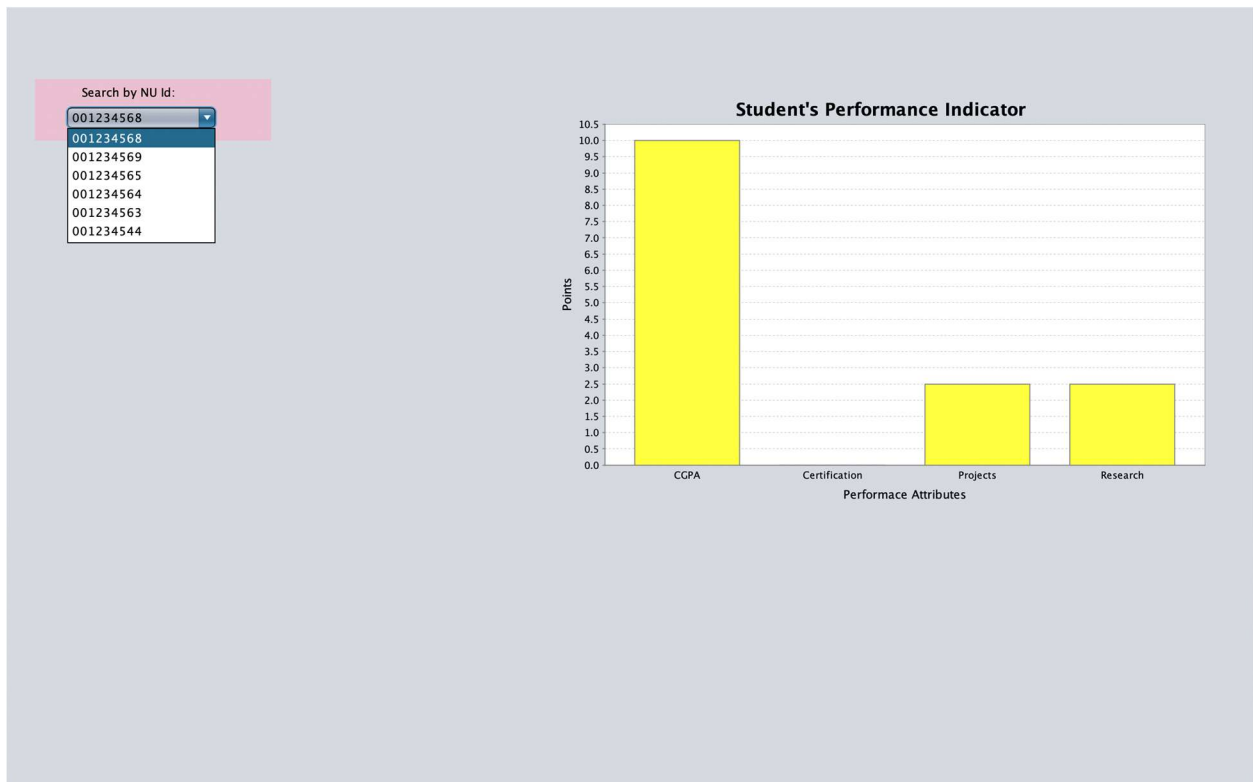
Password:

Login

FACULTY PERFORMANCE INDICATOR:**STUDENT LOGIN:**

The figure shows a "Student Login" form. On the left, there is a sidebar with four login options: "Admin login", "Faculty login", "Student login", and "Guest login". The "Student login" option is highlighted. The main form area has a pink background and contains the following fields:

- Email:** A text input field.
- Password:** A text input field.
- Login:** A button to submit the login information.

STUDENT PERFORMANCE INDICATOR:**GUEST LOGIN:**

Guest Login

Email:

Password:

Login

OVERALL UNIVERSITY PERFORMANCE INDICATOR:

