Application Engineering and Development
Assignment - 3 - University Model Design

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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:
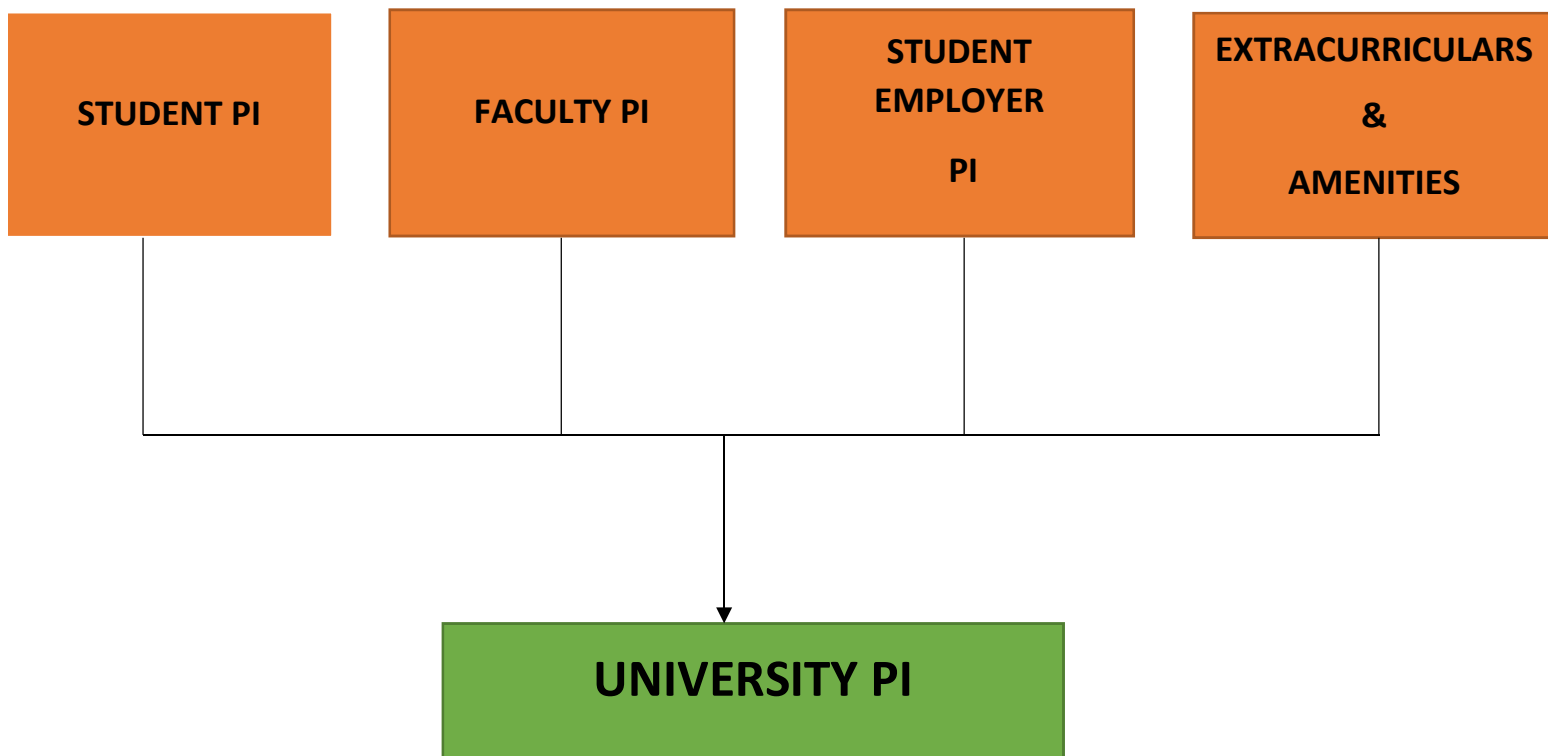
1- University Performance Indicator:

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

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

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

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STUDENT PI	FACULTY PI	STUDENT EMPLOYER PI	EXTRACURRICULARS & AMENITIES

UNIVERSITY PI

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:

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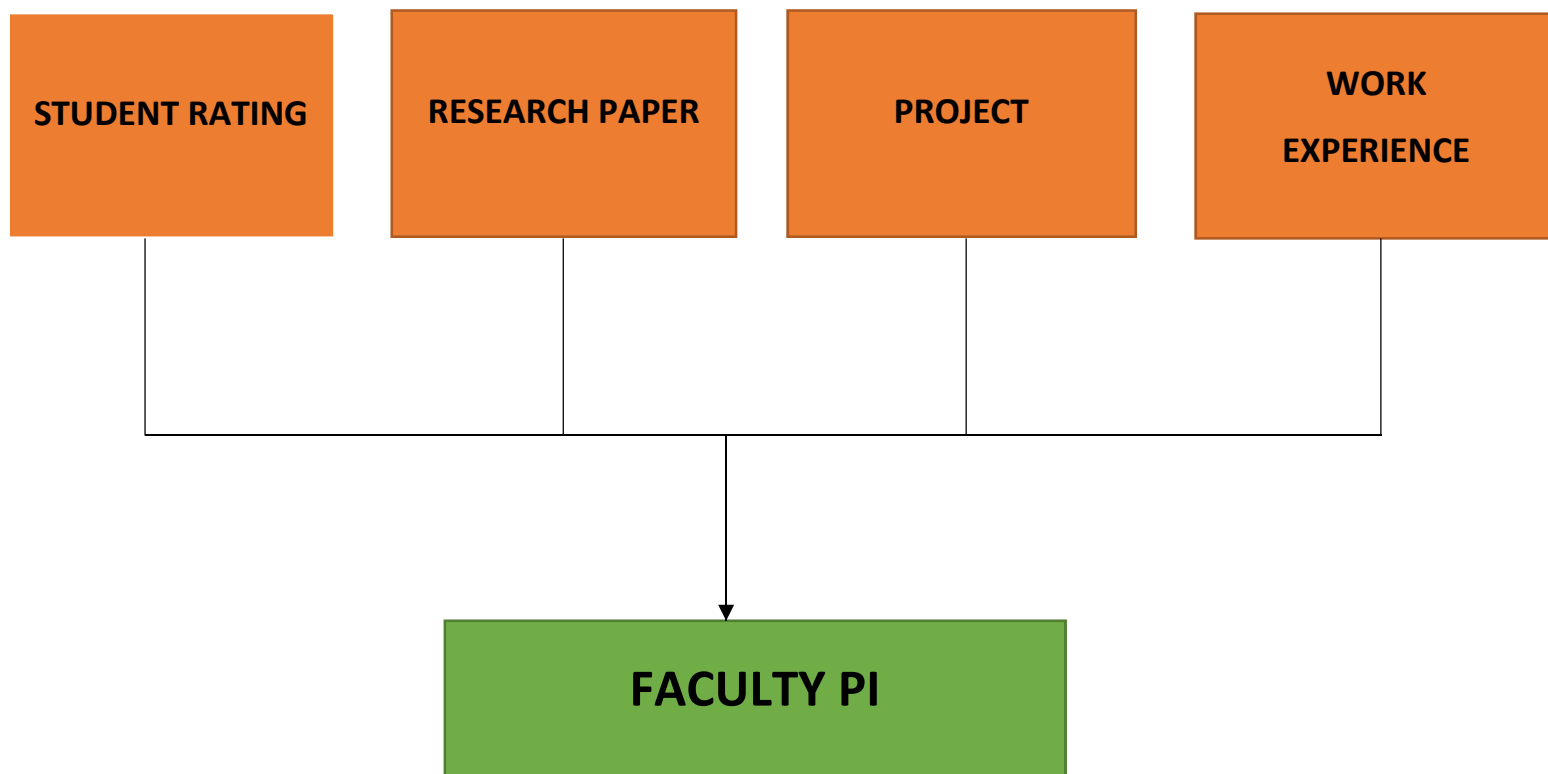| 1-10 projects	2.5 points
10-20 projects	5 points
20-30 projects	7.5 points
30+ projects	10 points

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

$$= \frac{\text{Student rating + Work Experience + Research paper + Project}}{4}$$

STUDENT RATING	RESEARCH PAPER	PROJECT	WORK EXPERIENCE

FACULTY PI

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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.

| CGPA | ACADEMIC ACCOMPLISHMENT | WORK EXPERIENCE |
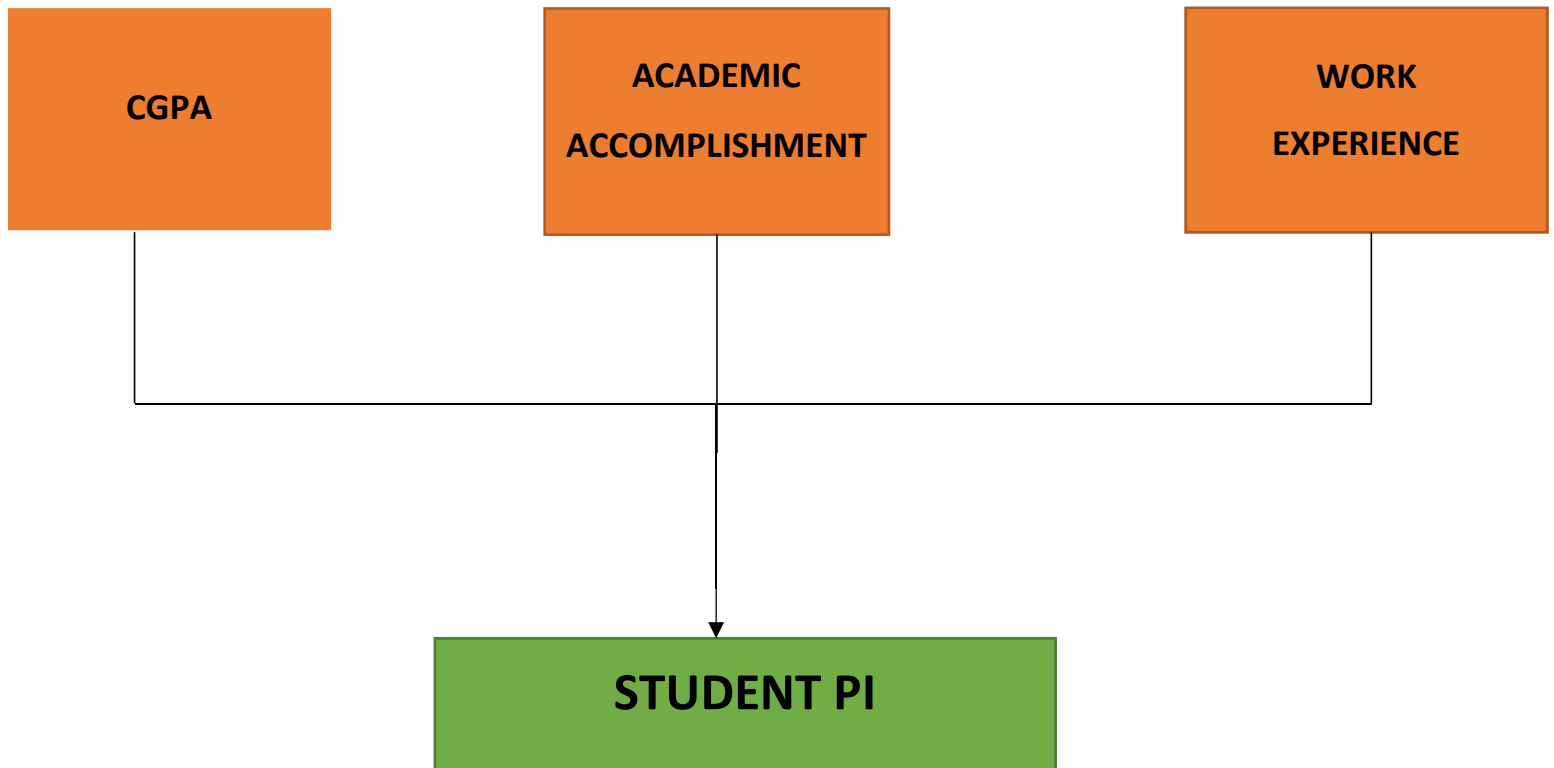
STUDENT PI

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
Teaching 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

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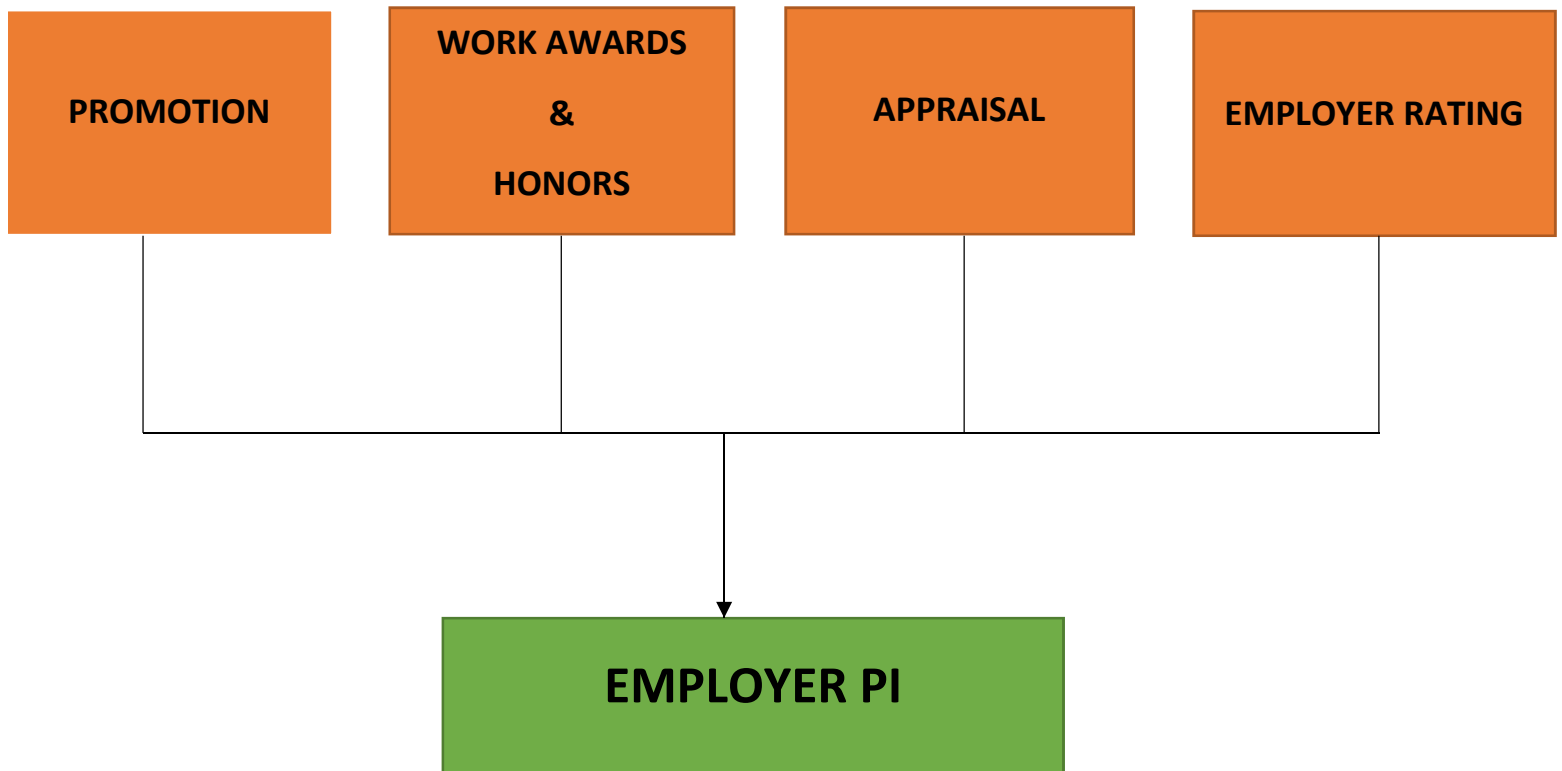**4- Student Employment Performance Indicator:**

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.

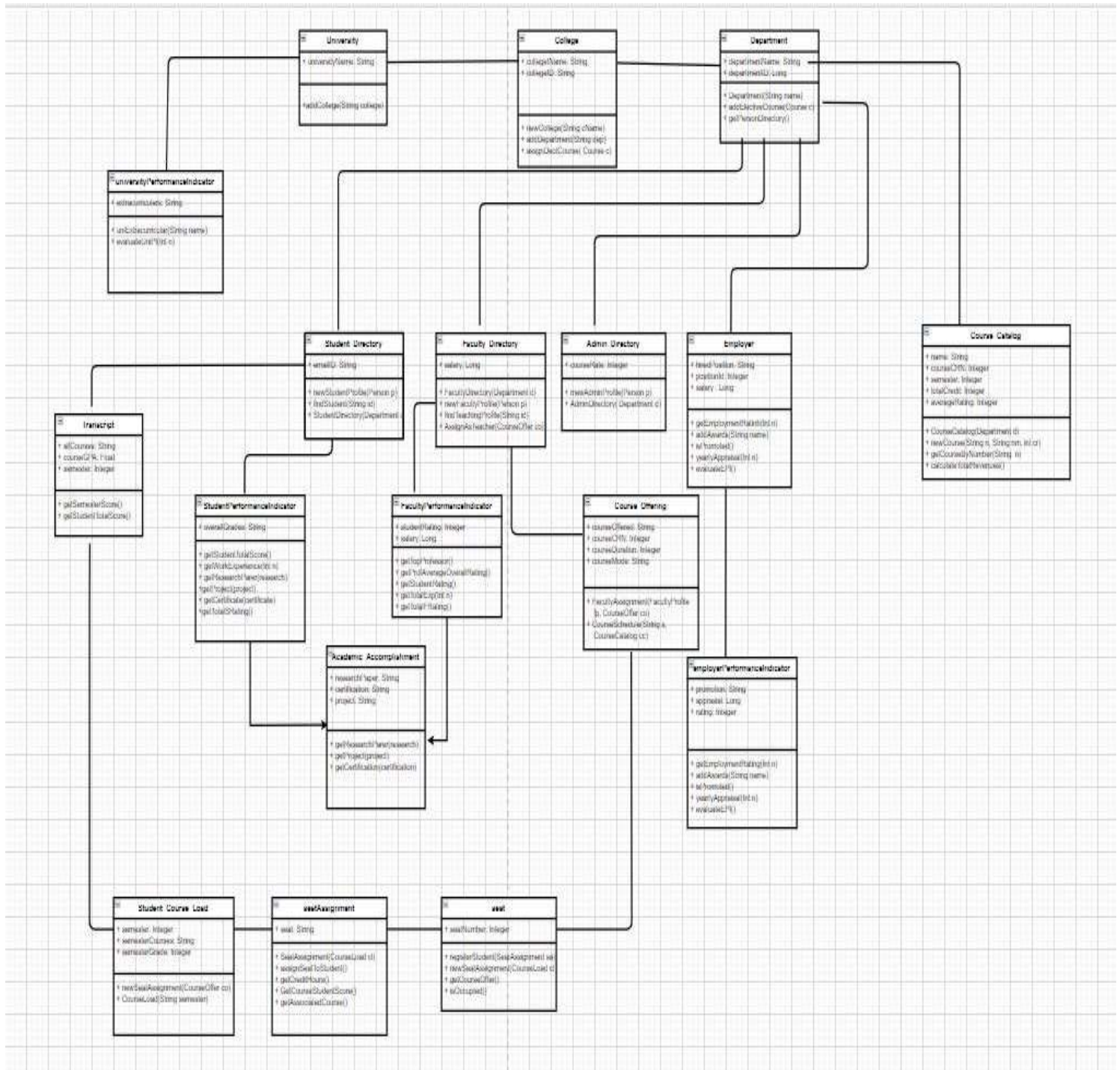Aggregate of the Faculty Performance will be evaluated as

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

Following are the pointers considered to graph out the feedback:

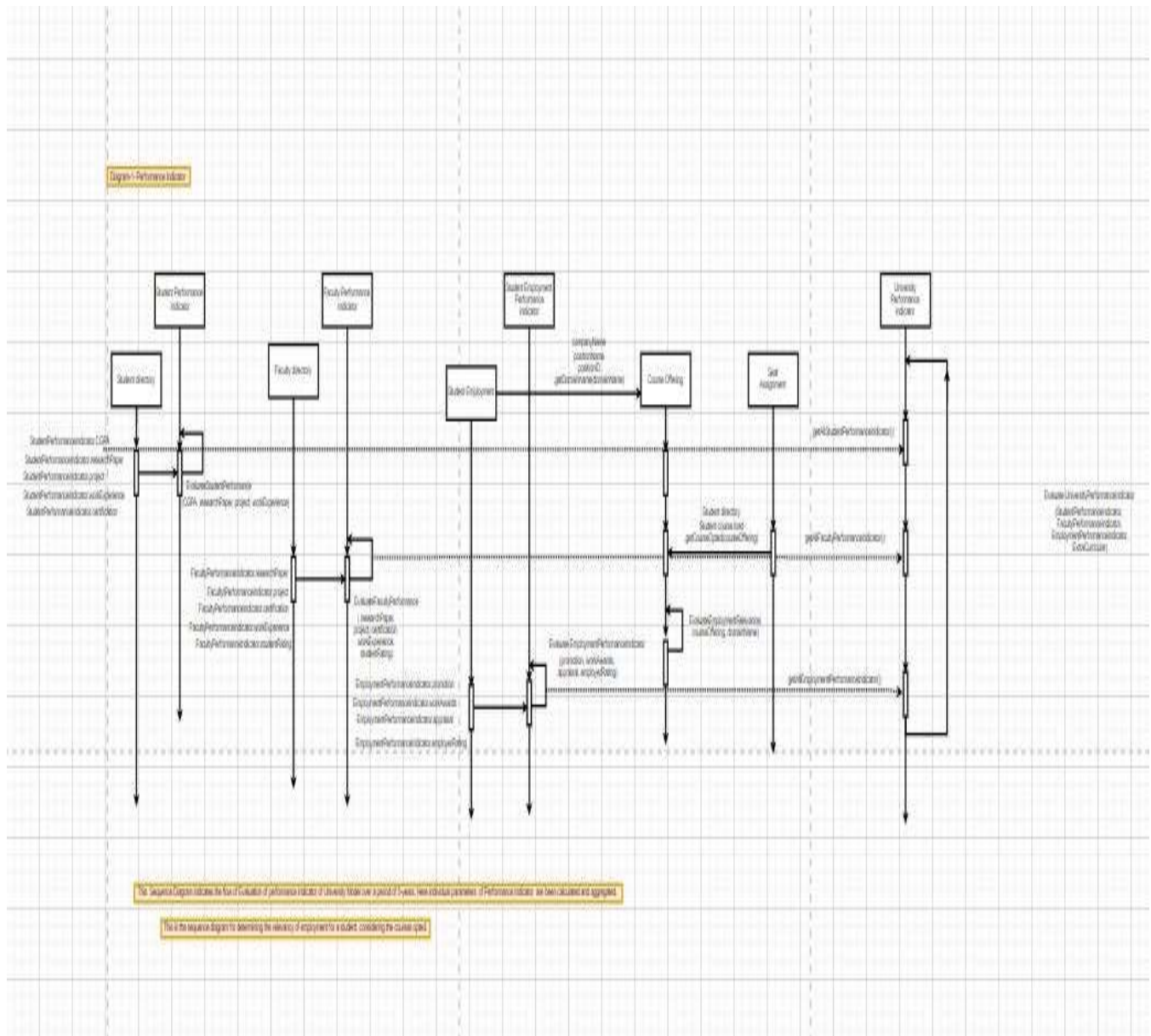| Appraisal	2.5 points
Promotion	5 points
Awards and recognition	7.5 points
Course relevancy	10 points

PROMOTION	WORK AWARDS & HONORS	APPRAISAL	EMPLOYER RATING

EMPLOYER PI

CLASS DIAGRAM:

001529534   002193939   002193864

Netra Awate

Sakshi Nayak

Taru Shukla

001529534

002193939

002193864

Netra Awate   Sakshi Nayak   Taru Shukla

SEQUENCE DIAGRAM:

001529534   002193939   002193864

Netra Awate   Sakshi Nayak   Taru Shukla

USER INTERFACE (UI):

HOME:

ADMIN LOGIN:

Netra Awate   Sakshi Nayak   Taru Shukla

UNIVERSITY PERFORMANCE INDICATOR:

Select Faculty:

Select Student:

View Performance for the Year:
- 2021
- 2020
- 2019
- 2018
- 2017

University Performance Indicator

- Extra Curricular
- Student's Employment Performance
- Student's Performance
- Professor's Performance

Student's Performance Indicator

Points

CGPA   Certification   Projects   Research

Performace Attributes

Professor's Performace Indicator

Points

Research Paper   Certification   Projects   Student Rating   Industry Experience

Performace Attributes
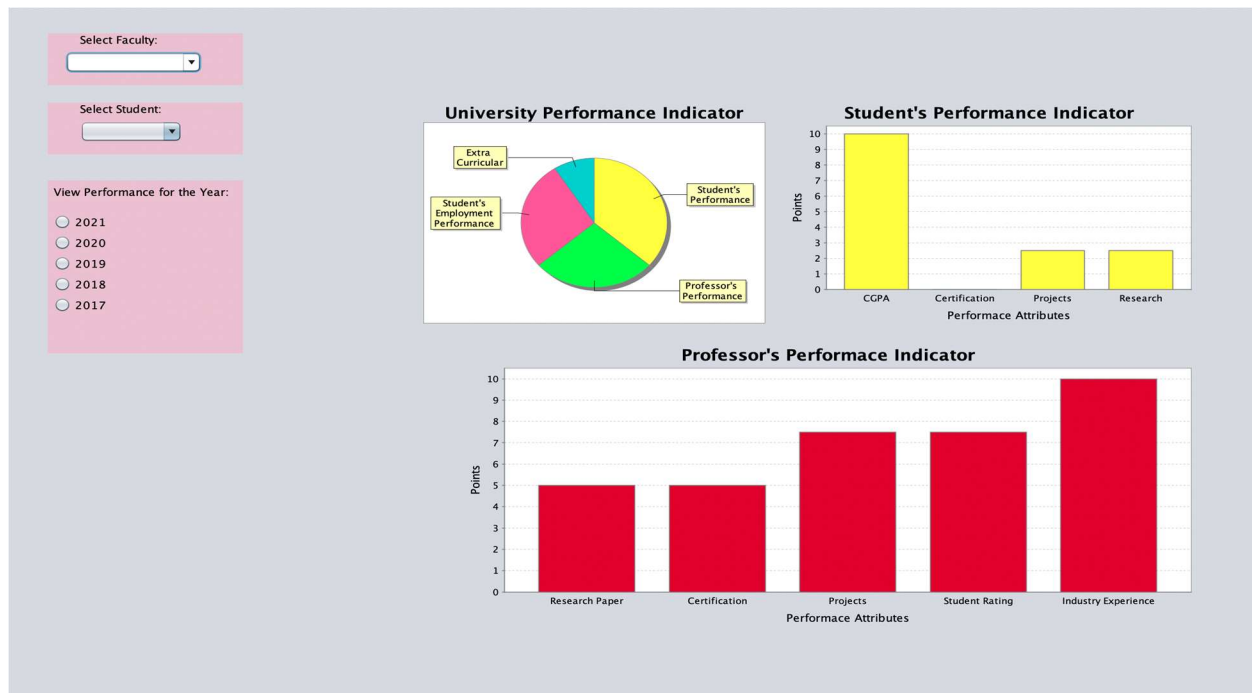
FACULTY LOGIN:

- Admin login
- Faculty login
- Student login
- Guest login

Faculty Login

Email:

Password:

Login

FACULTY PERFORMANCE INDICATOR:
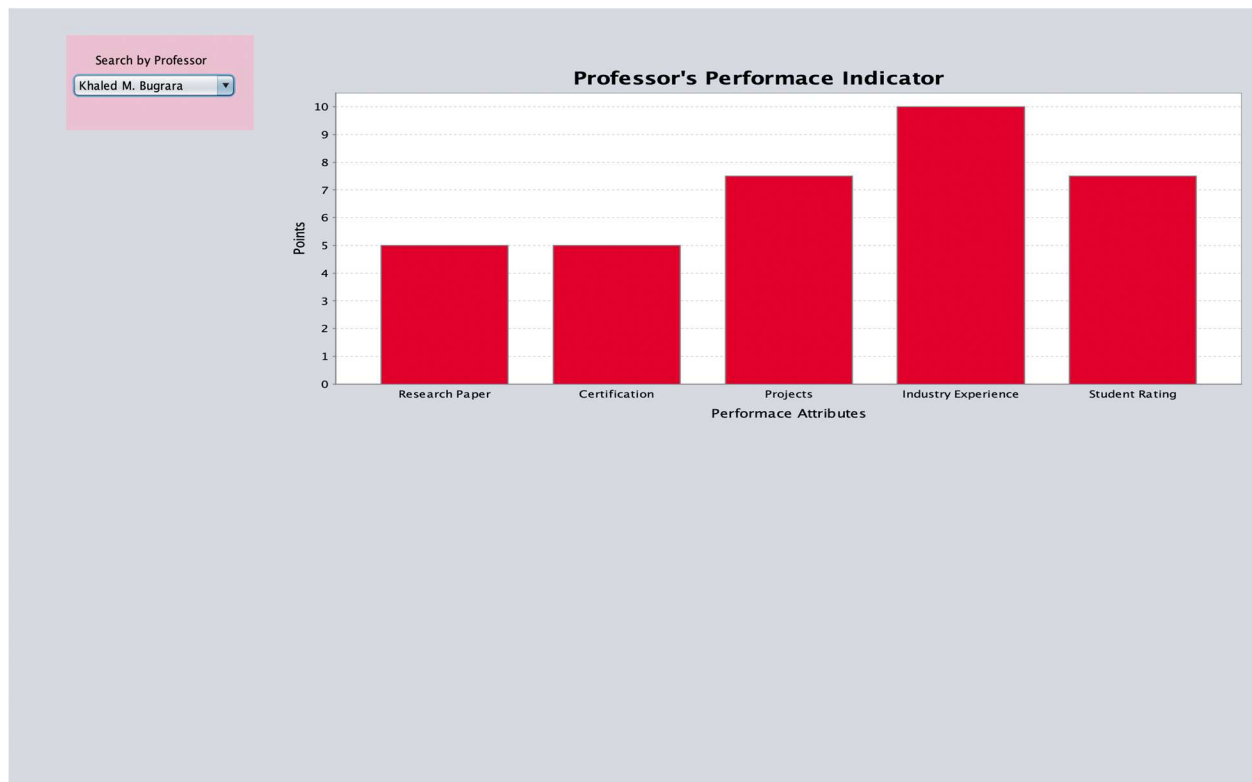
Search by Professor

Khaled M. Bugrara

Professor's Performace Indicator

Points

10
9
8
7
6
5
4
3
2
1
0

Research Paper   Certification   Projects   Industry Experience   Student Rating

Performace Attributes

STUDENT LOGIN:

Admin login

Faculty login

Student login

Guest login

Student Login

Email:

Password:

Login

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STUDENT PERFORMANCE INDICATOR:

Search by NU Id:

001234568
- 001234568
- 001234569
- 001234565
- 001234564
- 001234563
- 001234544

Student's Performance Indicator

(Bar chart — Y-axis: Points, X-axis: Performace Attributes. CGPA ≈ 10.0, Certification ≈ 0, Projects ≈ 2.5, Research ≈ 2.5)

GUEST LOGIN:

Admin login

Faculty login

Student login
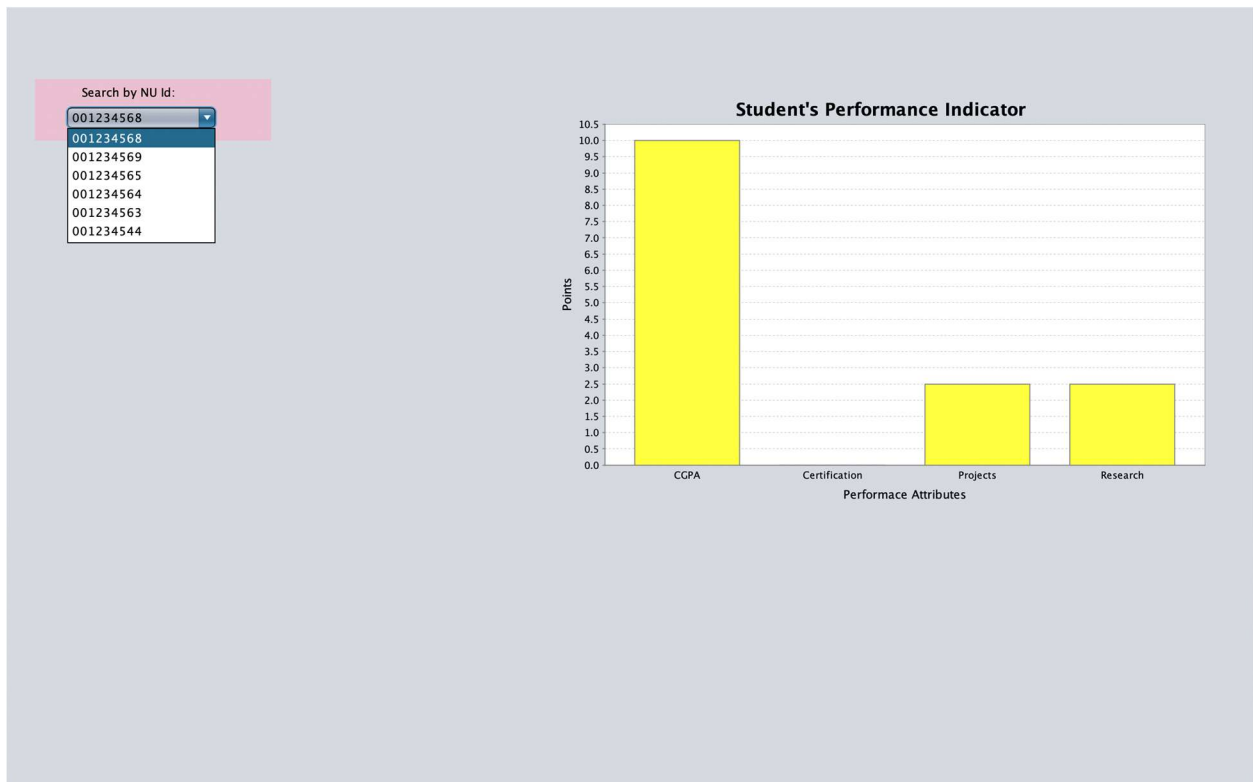
Guest login

Guest Login

Email:

Password:

Login

Netra Awate   Sakshi Nayak   Taru Shukla

OVERALL UNIVERSITY PERFORMANCE INDICATOR:

001529534   002193939   002193864