

INFO5100 Application Engineering and Development - University Model

Report

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Objective:

The University Performance System is an application built to gather and aggregate university data. Produce insightful dashboards for the colleges and administrators of the universities to improve and analyze their performance in terms of quality of education, faculty or staff recruitment, department-wise delivery.

We aim to achieve this by collecting feedback through a survey from the existing students and the alumni of the universities. Gather metrics that enable us to measure the performance and determine university ranking.

We also aim to help universities with decision-making involving course structural changes by including state-of-the-art and relevant programs by understanding industry trends.

Metrics:

UniversityPerformance System calculates the below metrics -

1. Career Growth Metrics
2. Course Relevance Metrics
3. Recommendation Metrics
4. Infrastructure/Resources Rating

5. Student Indebtedness Metric
6. Current Student Performance Metric
7. Course Structure Satisfaction
8. Faculty Performance Rating
9. University Ranking

1. **Career Growth Metrics**

This metric measures the weightage of the student's experience as a professional which indicates how well the university has contributed to student performance during work.

Years of experience

Years	Points
< 1	1
1 - 2	2
3 - 5	4
5+	5

Promotions

Count	Points
0	1
1	2.5
2	3.5
3	5

Salary Brackets

Bracket	Points
75K - 85K	1
90K - 100K	3

120K - 130K	4
130K +	5

Professional Growth Metric can be calculated on the scale of 5 by taking Years of experience, Promotions, Salary and we can take the average of the metrics.

Experience	4	4
Promotions	2	3.5
Salary	95K	5
Growth Metric		$(4+3.5+5)/3 = 4.2$

2. Course Relevance

Course Relevance says how close/similar is the course that the alumni has completed is to the job he is currently working on. If the courses are relevant and give the student an industry-level ,hands-on experience in his coursework, we ask the student to rate it.

Strongly Agree that the coursework was relevant	5 points
Agree that the coursework was relevant	4 points
Somewhat the coursework was relevant	3 points
Disagree that the coursework was relevant	2 points
Strongly Disagree that the coursework was relevant	1 points

- Sum of all the alumni rating / total alumni surveys

3. Recommendation Metrics

A school's reputation stays upright when an alumni gives back to the community that made him what he is today. Hence, we ask the Alumni if they would recommend their alma mater to upcoming graduates. We rate this according to their satisfaction.

Strongly Agree that they would recommend this school to future students	5 points
Agree that they would recommend this school to future students	4 points
Somewhat think that they would recommend this school to future students	3 points
Disagree that they would recommend this school to future students	2 points
Strongly Disagree that they would recommend this school to future students	1 points

4. Infrastructure/Resources Ratings

A university's infrastructure determines if the students have enough resources to carry forward their projects/ PhD programs/research in the university. We give a rating for this.

Strongly Agree that the infrastructure was top-notch	5 points
Agree that the infrastructure was top-notch	4 points
Somewhat think that the infrastructure was top-notch	3 points
Disagree that the infrastructure was top-notch	2 points
Strongly Disagree that the infrastructure was top-notch	1 points

5. Student Indebtedness Metrics

Graduate students, when they go to college, usually take student-loans to pay for their tuition. So we take into account, If the students finish their debts. This stands inapplicable to alumni who have work- experience > 5 years.

Agree that they are able to settle their loan	5 points
Disagree that they are unable to settle off their loans	0 points
N/A	NILL

6. Current Student Performance:

Calculate GPA:

The basic formula for calculating GPA is to divide the total points earned in a program by the total number of credits attempted. The resulting figure is the GPA for the program.

$$\frac{\text{Total Points Earned}}{\text{Total Credits Attempted}} = \text{Grade Point Average}$$

Courses per Sem
Course 1
Course 2
Course 3

Course 4

Credits
4
3
2
1

Grade Points	Grade
4.0	A
3.7	A-
3.3	B+
3.0	B
2.0	C
0.0	F

7. Course Structure Satisfaction

Course Structure satisfaction determines how content the students are with the course structure.

Strongly Agree that they are happy with the course structure	5 points
Agree that they are satisfied with the course structure	4 points
Somewhat think that they are satisfied with the course structure	3 points

Disagree that they are not satisfied with the course structure	2 points
Strongly Disagree that hate the course structure	1 points

8. Faculty Performance Metrics

Faculty rating determines how good faculty delivers, depth of the concepts that he teaches and communication.

Faculty Rating
5
4
3
2
1

This metric gives us an insight about the professor's performance in the university based on Ratings that student provide.

- Sum of all Faculty rating by students / total students surveys

9. Metric calculation for University Performance rating

University Rating is determined by the average of Course-Relevance, recommendation, Infrastructure Rating, Student - Indebtedness divided by the total no.of parameters, course Satisfaction)

University Total Rating =

(Avg .Course-relevance + Avg. Recommendation +Avg. Infra Rating +Avg. Indebtness +Avg. Course Satisfaction)

5

We custom sort the ratings and rank the colleges respectively.

User Interface & Views

Main login Page



The admin is able to login and fill in his details. The admin can select the colleges that they want to compare

Welcome Admins

UserID

Password

First Name

Last Name

Phone Number

Date of Joining


Campus

Current Graduates Details

The current student is asked to fill in their Uni IDs, name and the year of graduation dates. We also calculate the metrics on the basis of students pursuing a PhD. The current students are asked to fill out a survey form that can help the University scale better.

Alumni

Current Graduate

 Print Transcript upto last semester

University ID

First Name

Last Name

Start & End Year

2018

2020

Are you planning doing PhD?

Yes


Submit

[Click here to fill out a survey](#)

An Alumni gets to tell us the job portal he used to secure a job. We also get the Salary bracket, Position. they're offered. We ask them to fill out a survey.

Alumni

Current Graduate

 [Print Transcript](#)

University ID

First Name

Last Name

Company

Current Position

Years of experience

Less than a year

Base Salary

70k-80k

Portal used for placement

LinkedIn

Submit

[Click here to fill out a survey](#)

Alumni Survey Forms to collect Course, Department, Faculty, CourseRelevance, Course Satisfaction Ratings, Student loan indebtedness etc. This metric is further calculated and points are awarded to rate colleges.

Alumni Survey Form

1. My course through the 2 years was structured well

- ☐ Strongly Agree
- ☐ Agree
- ☐ Not sure
- ☐ Disagree
- ☐ Strongly Disagree

2. My department helped me in choosing my courses & shaping my future

- ☐ Strongly Agree
- ☐ Agree
- ☐ Not sure
- ☐ Disagree
- ☐ Strongly Disagree

3. My professors and teaching assistants were well-experienced & teach well

- ☐ Strongly Agree
- ☐ Agree
- ☐ Not sure
- ☐ Disagree
- ☐ Strongly Disagree

4. My college provided me with good infrastructure / resources to excel in my projects

- ☐ Strongly Agree
- ☐ Agree
- ☐ Not sure
- ☐ Disagree
- ☐ Strongly Disagree

5. I would recommend my university to upcoming graduates

- ☐ Strongly Agree
- ☐ Agree
- ☐ Not sure
- ☐ Disagree
- ☐ Strongly Disagree

6. I'm satisfied with my graduation at the University

- ☐ Strongly Agree
- ☐ Agree
- ☐ Not sure
- ☐ Disagree
- ☐ Strongly Disagree

7. The course at the university is relevant to your job?

- ☐ Strongly Agree
- ☐ Agree
- ☐ Not sure
- ☐ Disagree
- ☐ Strongly Disagree

8. How many promotions did you get, if any?

- ☐ 1 Promotion
- ☐ 2 Promotions
- ☐ 3 Promotions
- ☐ None yet

9. Were you able to settle your student-loan post graduation?

- ☐ Yes
- ☐ No
- ☐ Not Applicable

SAVE

Visualizations

The Administrator can analyze the performance on the University and Department Dashboards





Conclusion

University Performance Application is aimed to improve quality of education by focusing on the metrics discussed above, thus, assisting the administrators in structuring and improving course delivery accordingly.

Our application can help new students derive inputs about the college and course he could enroll into.