Report on Professor as Service Model

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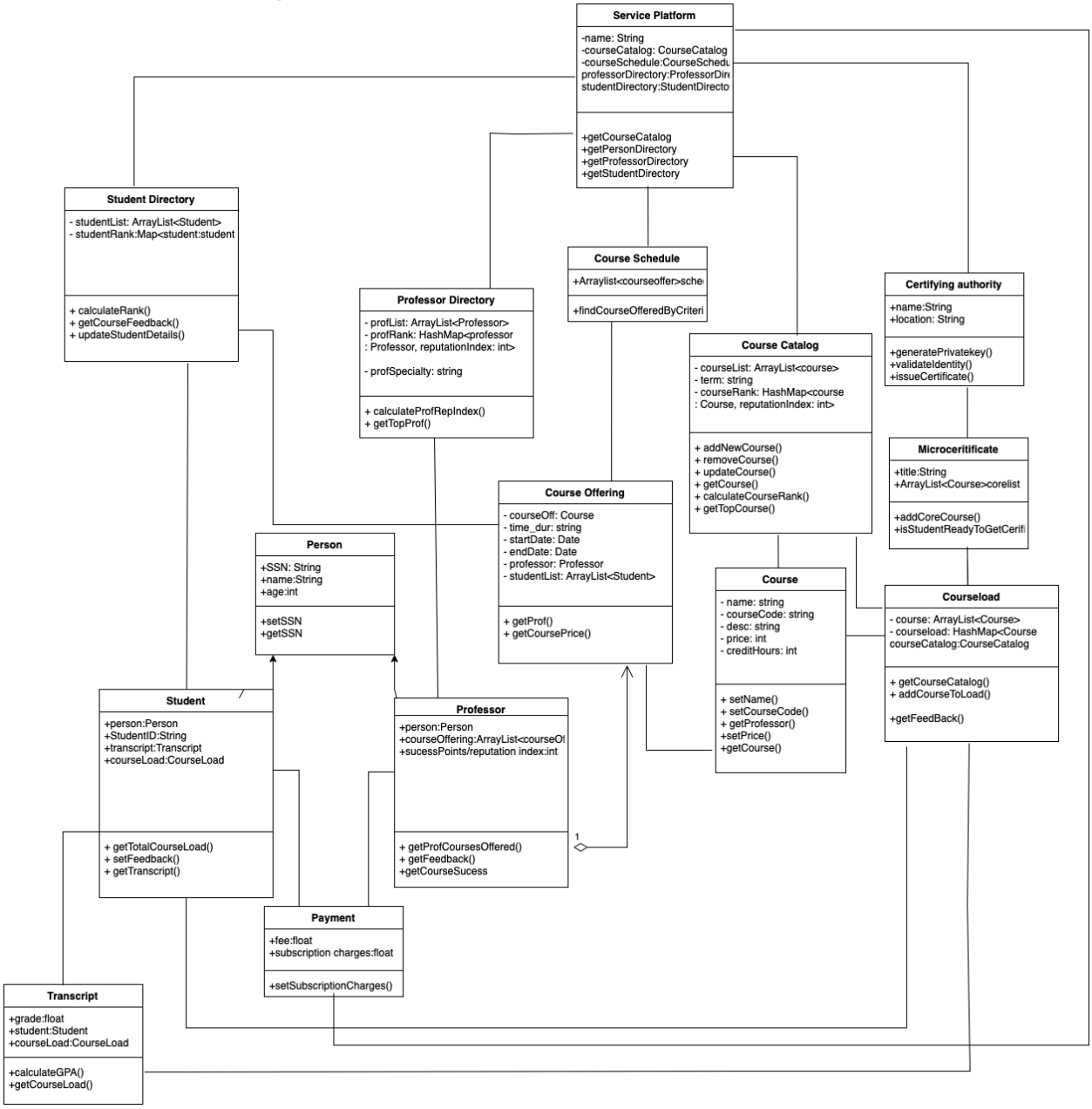
1. Objective

The main objective of this assignment is to create a model which helps improve the quality of life through education anywhere in the world. We will be able to achieve this by gathering information in the form of continuous feedback from the students and by creating a performance management system.

2. Solution

2.1. Class Diagram



2.2. Classes:

2.2.1. Certifying authority

This class represents the third party certifying authority which will issue micro certificates to students who successfully complete the certificate requirements.
Methods in certifying authority are validation of credentials of students, issuing of private keys for certificates.

2.2.2. MicroCertificate

This class represents the Micro certificates which will be issued to the students on successful completion of required electives. It has methods like isStudent ReadyToGetCertified which will validate the corelist courses with the courses taken by the student.

2.2.3. Course Catalog

This class represents the course catalog of the department. It holds a list of courses, batch, hashmap of course, rank and success-points/reputation point.

It has a method to get, add, remove and update a course and to calculate the course rank .
Examples of course catalog are Spring 2022, Fall 2022 etc.

2.2.4. Course

This class represents the course a course catalog contains. It holds the name, description, cost, course number, course catalog, credit hours, reputation points of the course. It has methods to get a professor, get courses and get courses from the course catalog.

2.2.5. Course Offering

This class represents the details of the course being offered. It holds the course name, time, start date, end date, professor of the course and the student directory. It has methods to get faculty and to get the course name.

2.2.6. Course Schedule

This class represents the details of the course being offered. It holds the course name, classroom, seats, time, start date, end date, faculty of the course and the student directory. It has methods to get faculty and to get the course name.

2.2.7. Payment

This class represents the payment of the student to the professor. It contains a method for calculating subscription charges to the platform.

2.2.8. Course Load

This class represents the courses taken by a student. It holds a course catalog, list of courses and a hash-map which contains course, grade and feedback of the course. It has methods to get Course Catalog and to add a course to the course load.

2.2.9. Transcript

This class represents the transcript of a student. It holds a student, course load and his/her grade. It has methods to calculate GPA and to get the Course Load.

2.2.10. Student

This class represents a student's profile. It holds a person, student id, course load, transcript, and employment. It has methods to get Course load, get Transcript and to set feedback.

2.2.11. Student Directory

This class represents a student profile of a person. It holds a list of students and student rank. It has methods to calculate the rank of students, to get course feedback from the students and to calculate the total success based on GPA.

2.2.12. Person

This class represents a person. It holds a person's name, age and their SSN.

For example: Puja, Rohan, Bhawna etc.

2.2.13. Professor

This class represents a professor. It holds a Person, an ID, list of course offerings by the professor and his/her reputation points. It has a method to get the professor's course offering and their feedback.

For example: Khaled Bugrara, Daniel Peters etc.

2.2.14. Professor directory

This class represents a professor profile of a person. It holds a list of professors and the professor rank. It has methods to calculate the rank of professor, to get the top professor, to calculate total reputation points based on course and to aggregate 5-year points.

3. Evaluation of performance

To evaluate the performance of an entity in the model, we have defined a parameter called Reputation index/success points. For each class, we have certain Students who will provide their feedback for courses and professors. We will define the evaluation criteria in detail below.

Course Feedback: 1 to 10

3.1 Metrics

3.1.1 Student rank based on GPA

		Points
A+	**3.5-4.0**	**5**
A	**3.0-3.5**	**4**
B+	**2.5-3.0**	**3**
B	**2.0-2.5**	**2**
C	**1.0-2.0**	**1**
F	**0.0-1.0**	**0**

3.2. Course Reputation Index:

Course successPoints/reputation point = Student feedback

3.2.1. Metrics

3.2.1.1 Feedback Criteria

The following criteria define success points/reputation points for Course feedback.

		Points
Poor	1-2	1
Not satisfied	3-4	2
Average	5-6	3
Satisfied	7-8	4
Extremely satisfied	9-10	5

3.3.1. Pseudo Code

If(feedback > 8 && feedback <11)

Successpoints+ = 5
Else If(feedback > 6&& feedback <9)

Successpoints+ = 4

Else If(feedback > 4 && feedback <7)

Successpoints+ = 3

Else If(feedback > 2 && feedback <5)

Successpoints+ = 2

Else If(feedback > 0 && feedback <3)

Successpoints+ = 1

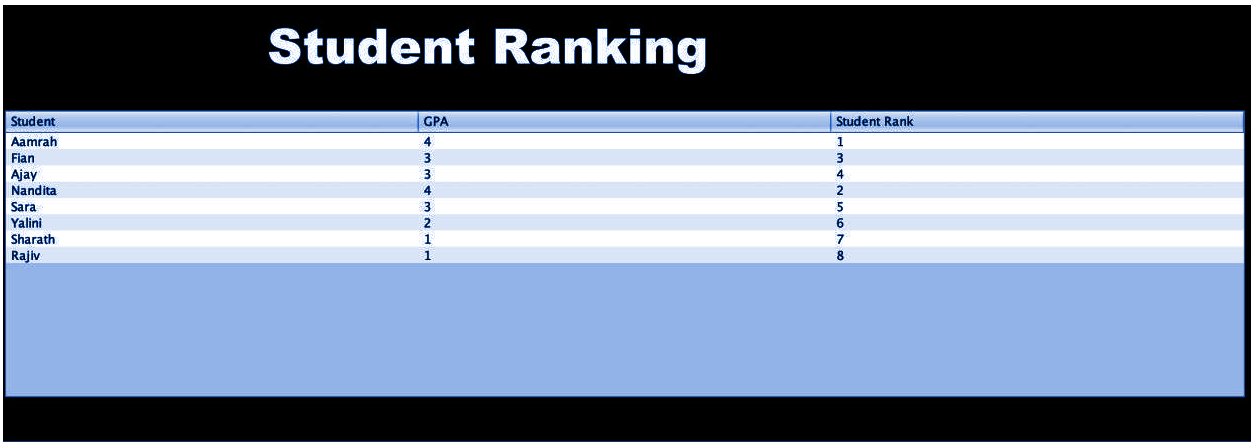
3.4. Professor Reputation Index

Professor success = Cumulative of all Course feedback + student feedback for professor

4. Dashboard

4.1 Course Ranking

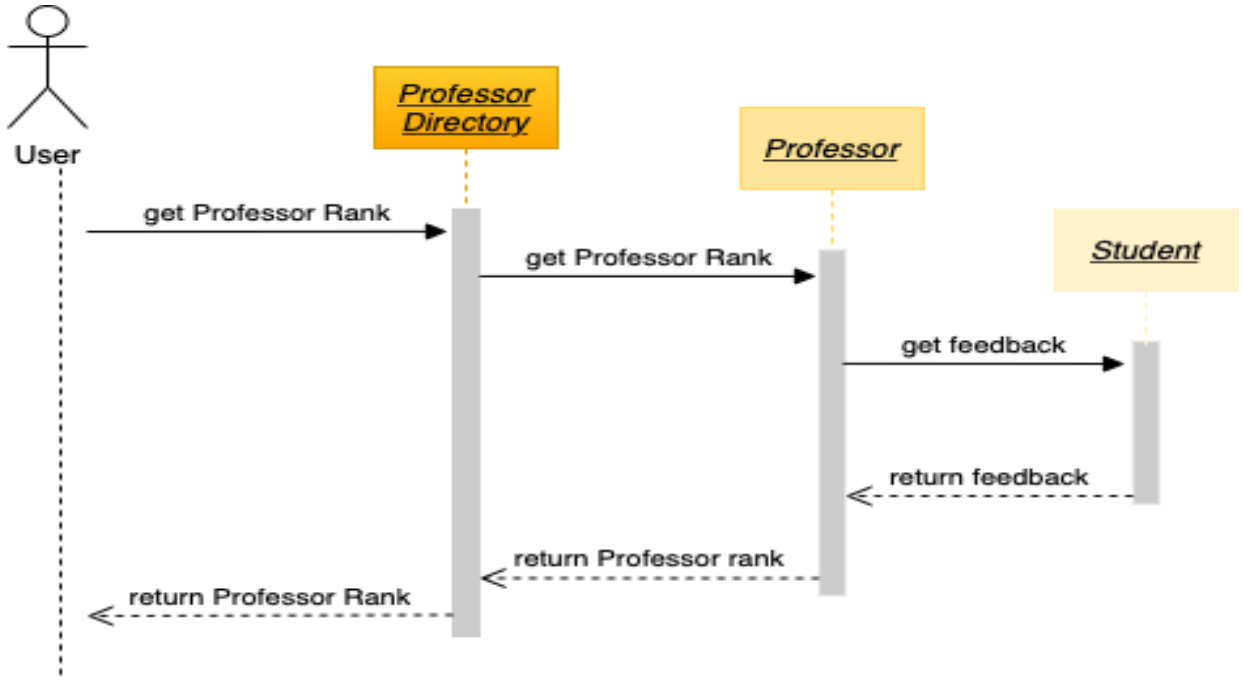
4.2 Student Ranking



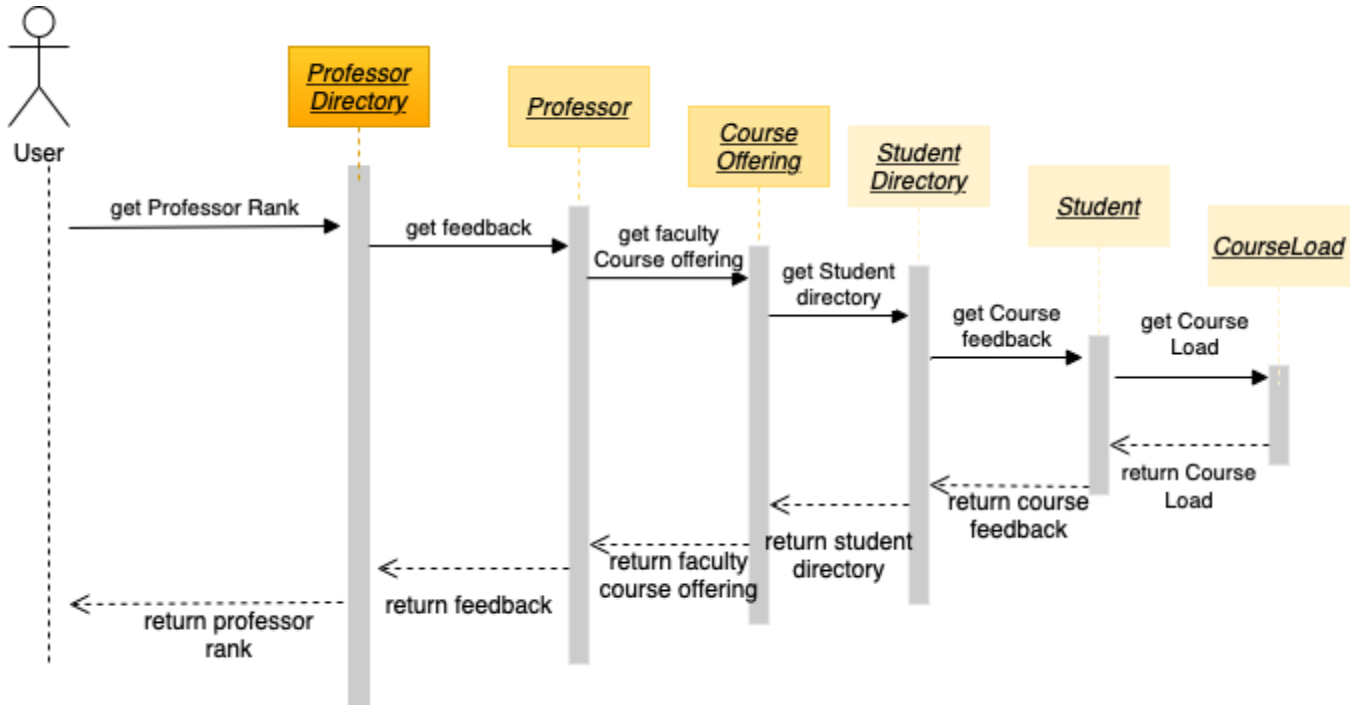
4.3. Professor Ranking

5. Sequence Diagram

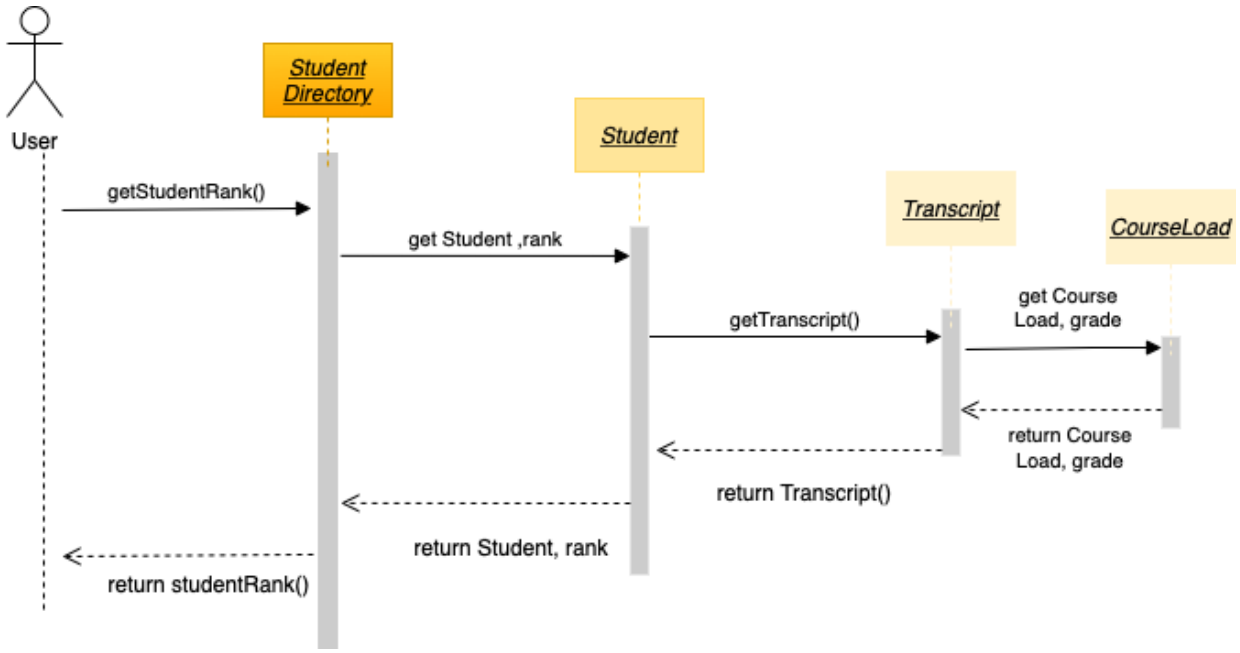
5.1. To get Professor Ranking based on student feedback:



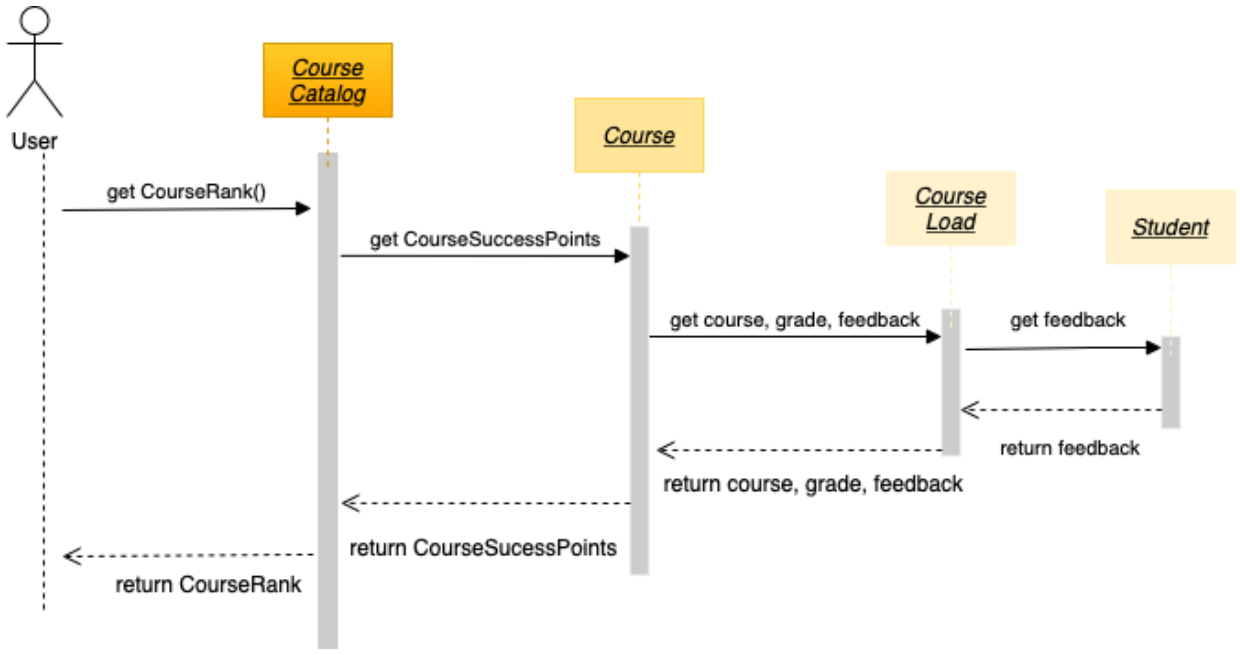
5.2 To get Professor Ranking on the basis of course feedback:


User
Professor Directory
Professor
Course Offering
Student Directory
Student
CourseLoad
get Professor Rank
get feedback
get faculty Course offering
get Student directory
get Course feedback
get Course Load
return Course Load
return course feedback
return student directory
return faculty course offering
return feedback
return professor rank

5.3. To get student ranking by GPA



5.4. To get course rank



6. Conclusion

This digital educational model will make education more accessible.

This will ensure that best professors are teaching courses and are readily available to all students across the globe .Also another advantage of this is that students can take courses depending on their learning objectives. Suppose, student wants to learn from securing a job perspective then he can sign up for a professor whose classes are more inclined towards job orientation and also somebody who wants to go into research can sign up for courses from those kind of professors.This makes model quite flexible

Also with the advent of platforms like Udemy, Coursera, Khan academy we can see the use and adoption by students of these platforms and further states that these platforms are here to stay .

Big advantage of these platforms is the fees of the courses.As it is a digital platform it is a scalable model which ensures professors can offer courses at minimum price and therefore ensures large participation from students.

As any professor can sign up here it takes away the dependency of the platform for the professor.

Further enhancement in these platforms can be connecting recruiters to these platforms and getting a sorted list of students for hiring .

So as we see these platforms are here to stay and will truly revolutionize 21st century education thereby making skilled students and eliminating financial barriers