Assignment 3: Professor as a Service Model

Group 12:

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Problem Statement:

To design and build a digital educational model where the professor is at the center of students' learning.

Objectives:

1.To study how to turn an object model into a machine for data aggregation and information collecting by employing software engineering techniques to lower tuition costs while enhancing education quality anywhere in the world.

2.To improve quality of life through new education techniques to ease learning through ceaseless feedbacks.

3.To provide a user-friendly environment and knowledge, as well as the opportunity to study, regardless of where they are, as long as they register with the system.

Problem Analysis:

Due to a scarcity of resources, students are unable to gain knowledge beyond what the lecture delivers. This, in turn, inhibits student performance because everything a student learns in class is gathered through lectures. Hard copies are used by students to submit assignments to lectures. Students can only benefit from lectures if they are held in their classes. Students are expected to physically attend class in order to learn knowledge, putting all other duties on hold.

On the other hand, using E-Learning System where Professor is a center for all the management and monitoring of the transactions, in Professor as a Service model. The professor has the full autonomy to manage all the courses and as professor works remotely from anywhere in the world it becomes easy for the Professor as well the student to gain knowledge without any geographical obstacles. Study material is directly accessible to the student provided by the Professor through Digital Platform. Student can choose courses according to their willingness from the recommendations regulated by the reputative index through the platform. Moreover, the tuition fees in this system are directly paid to the Professor and the professor pays to the system. Thus, creating a less commission in-between two parties.

Components:

The different components involved in this Professor as a Service model are:

1. Professor
2. Student
3. E-Learning Platform

Professor:

- The professor is in charge of their own courses, including what they want to teach and when they want to teach it. Students can sign up whenever they choose.
- The professor has complete control over his or her work. Almost certainly, the professor will give courses in their field of expertise. A reputation index will be offered to assist prospective students in determining which courses are the best fit.
- A professor will join the service and will be able to work from anywhere on the world.
- Professor services are visible and accessible from anywhere in the world via tablets, browsers, smart devices, and other similar technologies.
- Professors determine course costs, which can fluctuate and be easily adjusted depending on demand.

Student:

- To earn their degree, students must fulfill course requirements which means courses must be taken from many professors residing anywhere in the world.

E-Learning Platform:

- The degree is approved by a third-party certifying body, which is provided by the underlying E-Learning platform. Different certifying authorities may be worth considering. For example, a third party might have better access to student.
- Tuition for courses go directly to the professor. The professor will pay subscription fees for use of the digital platform.

Performance Measurement Techniques:

Professor :

Professor can add courses by addCourse() and remove courses by dropCourse().

getProfessorList() method is used to view all Professors available for the current semester.

getModeOfTeaching() is used to choose between the video-conferencing platforms for example Zoom, Google meet, Teams, GotoWebinar,etc

Student :

getCourseList() lists all the courses from which the student can choose

registerCourse() is used to register courses for the particular term.

getMatchCourse() to know the course match for the student with the help of suggestions from the reputation index

Study Material :

Professor provides the Study Material by addStudyMaterial() and can make changes in the material by updateStudyMaterial()

Seat :

Available seats for the Student can be viewed by getAvailableSeat() and to find empty seats by findEmptySeats()

Course Offerings :

Students can get the information about the courses taught by the particular professor by getProfessor(). There can be multiple professors teaching same course. Professor ratings and feedback can be used by the student to select courses and the faculty.

Course Fees are described in the addCourseFee() whereas the seats for the distinct courses by addSeats()

Course Registeration :

For Registeration of the courses getCourseId() is provided which is unique for each subject.

Student uses getRegisteredCourses() to view the registered course history.

Feedback :

Student can come up with feedback and suggestions by the getStudentFeedback() method where this data can be used for the upcoming students

Learning platform experience, ratings is receive by getProfessorFeedback()

Third Party :

Certifications from the authorized parties based on the grades received by the student can be received through getCertificate()

Class Digram:
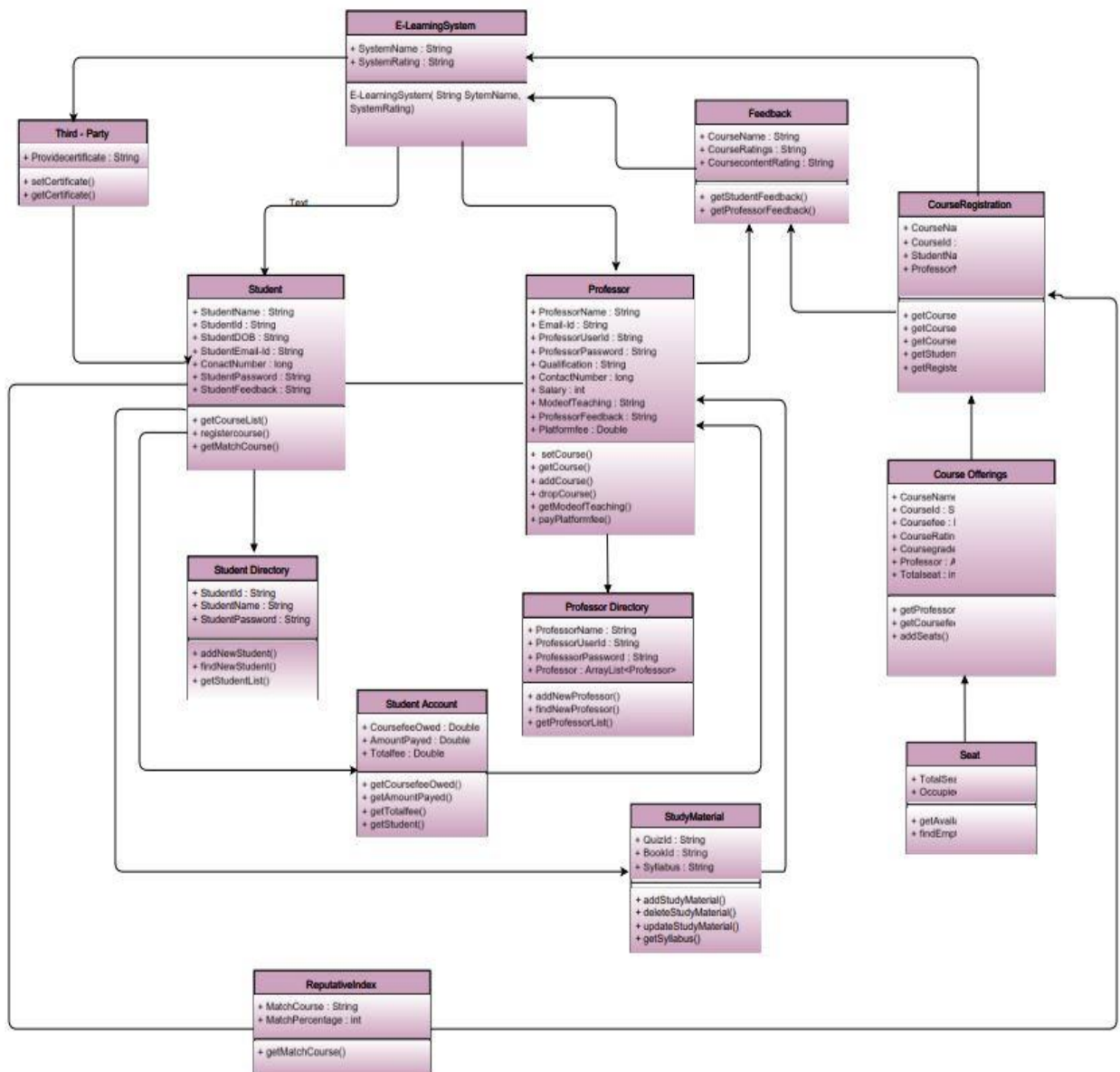
Fig 1.1 UML Class Diagram for Professor as a service model.

Architecture Diagram:
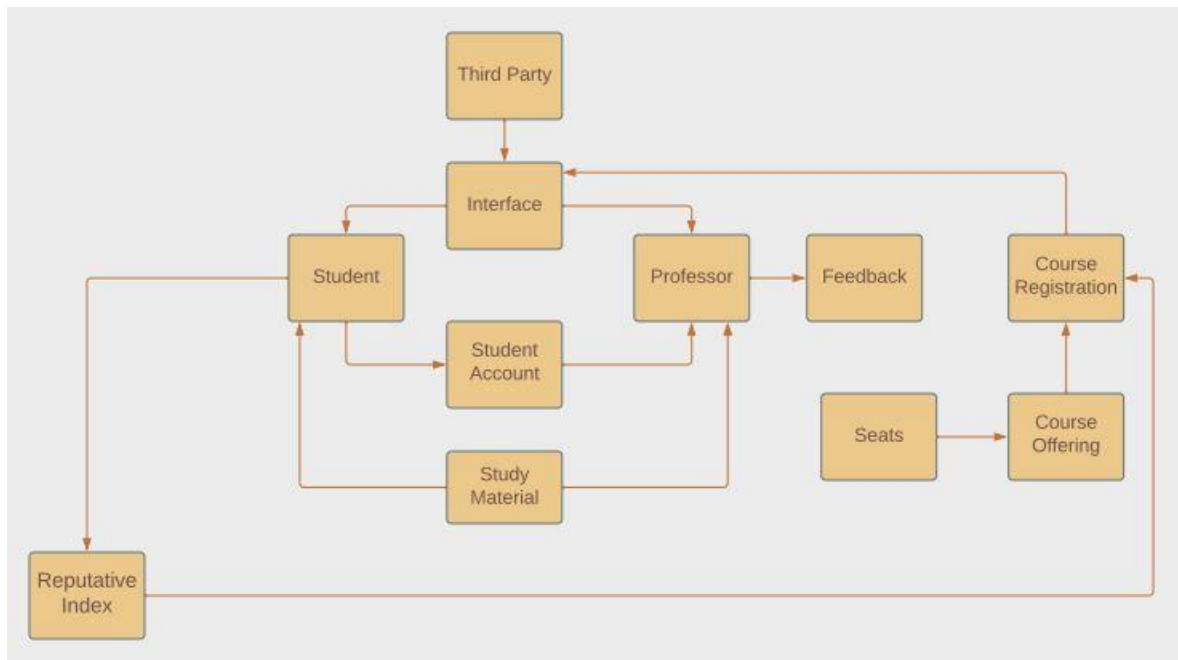
Fig 1.2 Architecture Diagram for Professor as a Service Model

Sequence Diagram:
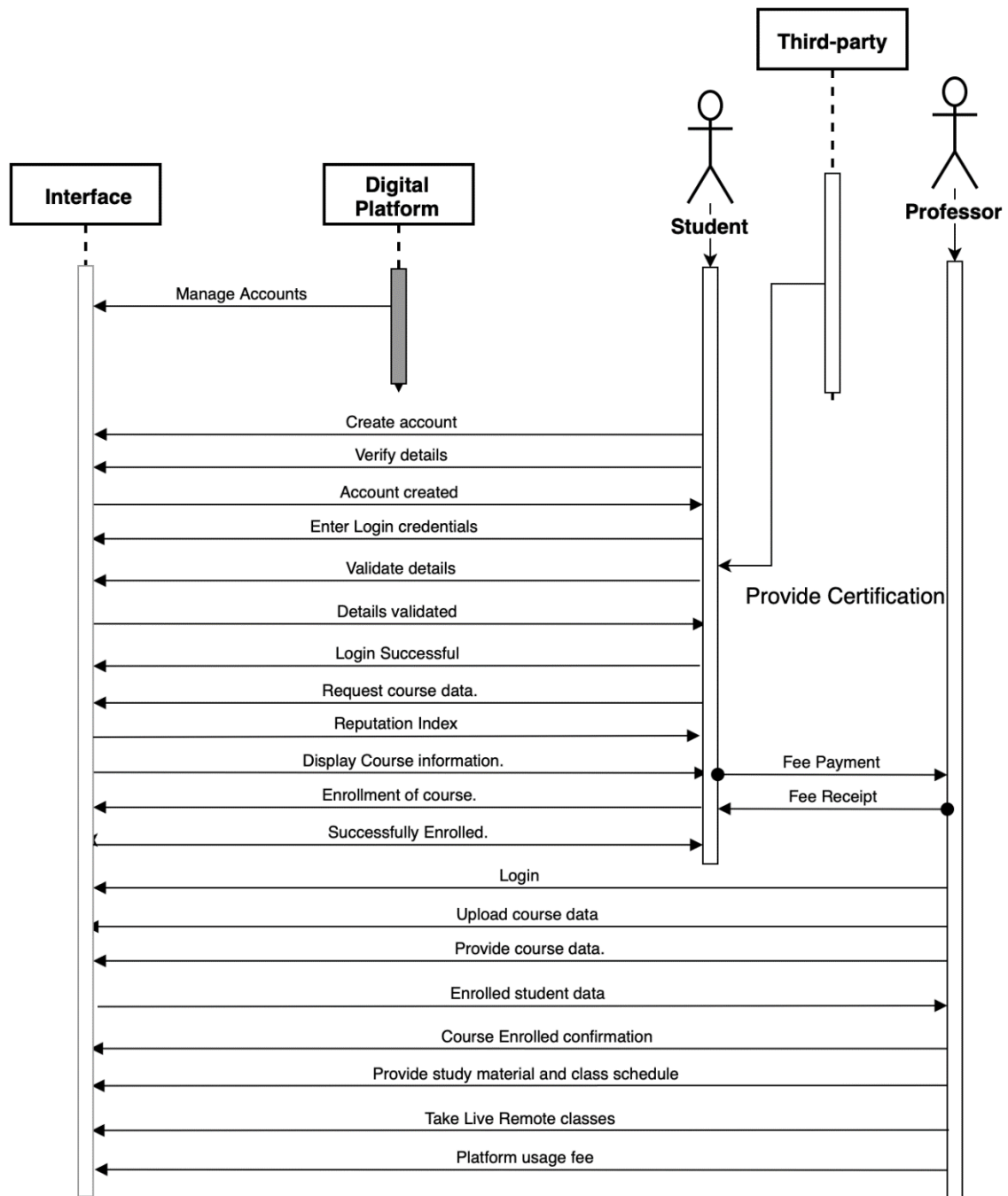
Fig 1.3 Sequence Diagram for Professor as a Service Model

Performance Based User Interface:

Fig:1.4 It displays the Student and/or Faculty log in or sign up

Fig 1.5: If Student or Faculty is not having account and is signing up for the first time

Fig 1.6: Professor Panel where he/she can add, delete, view or update the course. Along with the availability to view the Course information by searching method and table gets displayed

Fig 1.7: Redirected from Professor Panel. This panel contains Subscription and payment option

Fig 1.8: Student Panel which displays registered classes with meeting links and lecture recordings. Moreover, it contains option like display all courses, course certificate, course registration.

Fig 1.9: This Panel allows student to Register for new Course and contains Payment method which are sent directly to the Professor