

Professor as a Service

Problem Statement:

The objective of this assignment is to instill in you the techniques for turning an object model into a machine for information gathering and data aggregation. We want to use software engineering techniques to reduce tuition cost while improving the quality of education anywhere in the world. We want to hold people accountable for improving the quality of life for the masses through education, learning to learn, and feedback. Consider the following digital educational model where the professor is at the center of students' learning (not the university). Let's call this model: "Professor as a Service" with the following requirements:

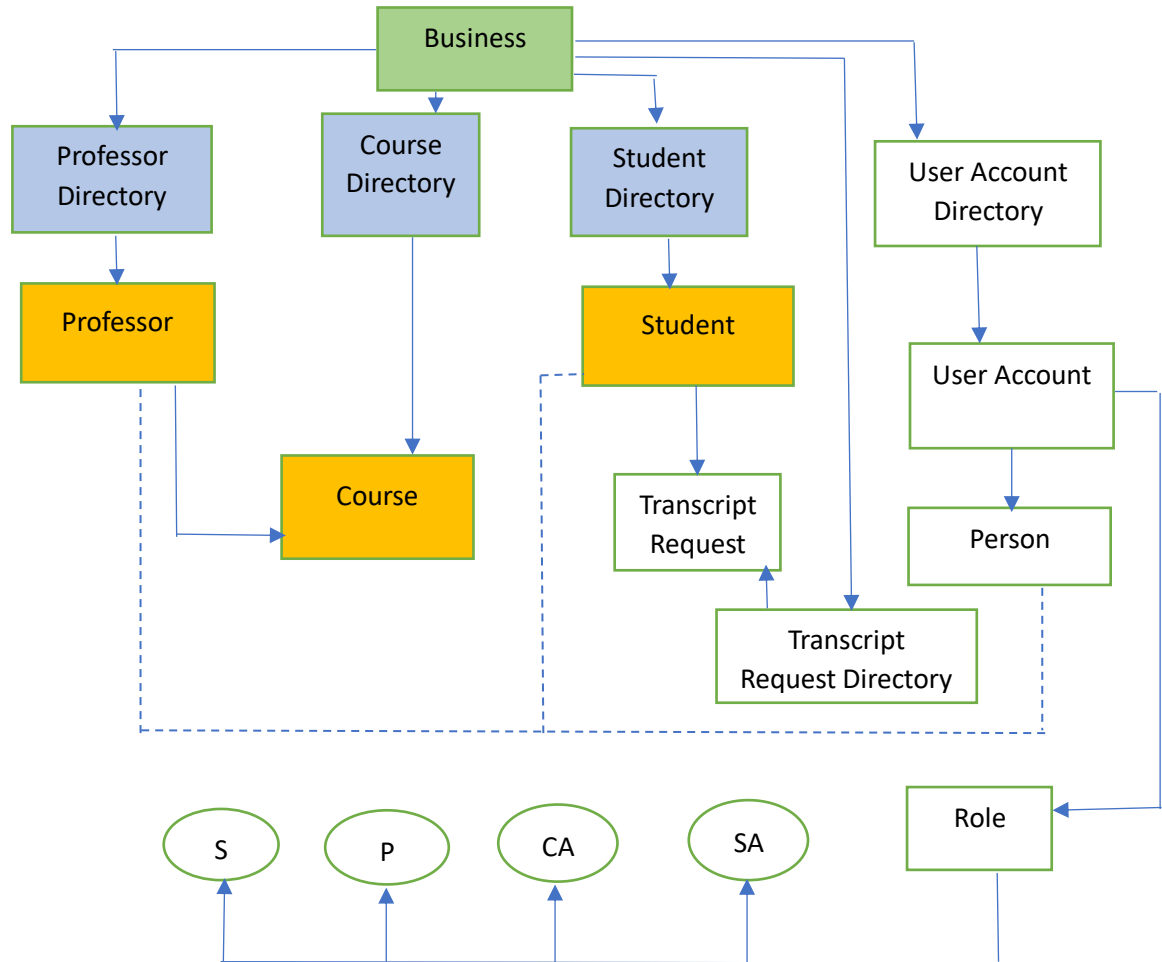
The system is totally decentralized where professors own their talent and experience not the educational institution.

- The professor manages their own courses as well as what they want to teach and when to teach them. Students sign up as they please.
- The professor has full autonomy. Likely the professor will be offering courses in their specialty. A reputation index will be available to help aspiring students decide which courses fit best.
- A professor will join the service and operate remotely from anywhere in the world.
- Professor services are visible and accessible from anywhere in the world, using tablets, browsers, smart devices, etc.
- To earn their degree, students must fulfill course requirements which means courses must be taken from many professors (residing anywhere in the world)
- The underlying digital platform offers third party certification authority to approve the degree. You might want to consider different certification authorities. One third party certifier might be sufficient.
- Course prices are set by the professor and can vary and easy to adjust depending on demand.
- Tuition for courses go directly to the professor. The professor will pay subscription fees for use of the digital platform.

Solution Proposed:

The conventional approach to selecting courses in universities is inflexible. However, the Professor as a Service model offers students the flexibility to choose from a wide range of courses and study them at their own pace. This model is beneficial for professors because they can determine their course fees and teach remotely. After completing the courses, the certification authority grants the students their degrees. The students can rely on a reputation index to decide which classes to take, which is displayed when they register for school. Therefore, the Professor as a Service model is more efficient than the traditional method.

Architecture Model:



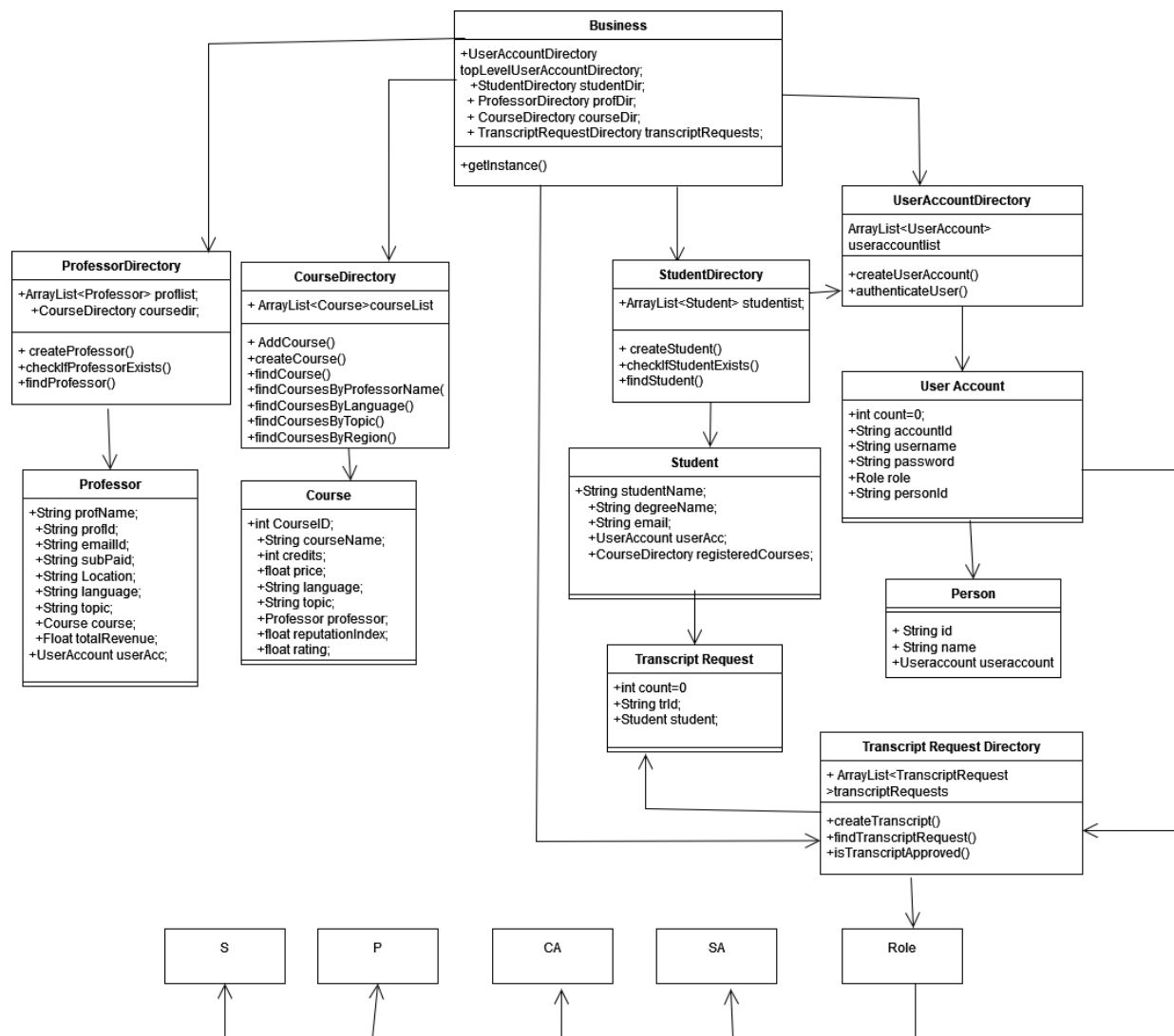
Design Decisions:

The diagram above depicts the architectural model for professor as a service, which contrasts from the conventional university model as described below:

- The conventional university model is centered around the classes offered by colleges and departments, while the new model revolves around the "Professor" class, making the professor the focal point of students' learning instead of the university.
- In the traditional university model, an account of classrooms assigned, classroom seating, classroom strength, bills and other infrastructure needed for a professor/faculty to conduct a class. However, in the Professor as a Service model, the cost overhead is eliminated, so instructors can teach whenever and from wherever they want.
- The payment system is handled by the college or department entity in the regular university model, but in this specific model, the student's payment goes directly to the professor, and the professor must pay subscription fees for using the Portal.

- The regular university system grants degrees through the department or the institution itself, while the new model involves a third-party certificate authority responsible for awarding degrees.
- The traditional university model does not have a concept of a course reputation index, unlike the new model, which considers a reputation index as an important aspect. The reputation index serves as a mechanism to provide insights to both professors and students about the course quality. This helps incoming students select the best course for their stream.
- Typically, after completing the necessary courses, students will ask the certifying authority for a "transcript". The authority will then verify whether the student has completed the required courses for graduation and approve the request for a transcript if the requirements are met. In this case, the transcript will display the word "GRADUATED". However, if the prerequisites are not satisfied, the institution may reject the request for a transcript, and the word "NULL" will be shown in the transcript instead.

Class Design Model:



Functionalities:

- Admin- Can view details of course, professor and student
- Student- Can register themselves, login and register in courses as per their choice from anywhere. Student would be rating the professor after they take a class and reputation index for course.
- Professor- Can register themselves, login and add courses.

- Certifying Authority- Can view the transcript request from student and approve/reject the request, after checking if the student has taken required number of courses.
- Transcript generation- Transcript will be generated as “GRADUATED” after the certifying authority approves.

Opinion and conclusion:

The potential of digital educational tools is immense, providing students with access to a wide variety of courses and utilizing modern learning methods for greater convenience and innovation. This model can offer students the opportunity to design their own curriculum and choose courses according to their interests. It is especially beneficial for students who cannot afford traditional educational institutions, as they can obtain a degree using only a smart phone, tablet, or iPad from anywhere in the world. Additionally, students can track their progress on digital educational platforms, and the interactive nature of this type of education makes learning more enjoyable and accessible to students worldwide.