Project Team5100

INFO 5100

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Design Document

**University** **Education System**

**Group members:**

Hung-Chih Huang, Junyao Li, Yining Chen

**System purpose:**

* create a performance measurement solution to enable universities to measure the quality of the education they deliver to their students.
* look into how an educational system in terms of faculty and courses contribute to the growth of their graduates over a 5-year period.
* track the jobs and promotions graduates get over time and assign rankings accordingly.
* track the connection of courses and their relevance to graduates’ growth.
* design a dashboard that enables college and university administrators to compare the performance of their academic units.
* define your own ranking system for students to decide where they want to go for their studies.
* enable the creation and update functions for any of the attributes of concern.

**System function:**

1. **Creation and update functions for any of the attributes:**

* Each University has one or more Departments, Person.
* University objects can create and update the Department List, Person list.
* Each Department may have one more Course.
* Department objects can create and update student and course list.
* Each Course has one professor attribute. and may have one Grade list and Course evaluation.
* Course objects can create and update grades, official List, and course evaluation.
* Each Course Evaluation has one Professor Score.
* Course Evaluation can create and update Professor score.
* Each Grade has one Transcript objects and StudentID.
* Each Transcript can get and set credits, GPA, honor, and activities.
* Grade objects can be created and updated grade metric and transcript object.
* Each CourseList store course objects as an Array List. it can be created and updated course object. SearchCourse() method provides searching function for course. DeleteCourse() methods provides deleteting function for course.
* Each Person object is an abstract class of Students and Professor object
* Each Professor have one DepartmentID
* Professor objects can create and update the DepartmentID and person name.
* Each Student have one DepartmentID and feedback object
* Student objects can create and update the DepartmentId, person name, and feedback object
* Each Employment has one StudentID and Position object.
* Employment object can create and update Position.
* Each Position has one Salary object.
* Position Object can create and update the Position Name and Salary Object.
* Salary Object can create and update the total salary.

1. **Measure the quality of education:**

* Students can rate their school’s professors based on Teaching Style,course Content, TA performance. The rating indicator store in course evaluation object.

1. **Faculty and Courses contribute to the growth of their graduates:**

* Check out the class years attribute in both person and Department object
* studentProfessorRatio( ) can show the ratio between Professor and student over the past five years. Then return the Double ArrayList.
* courseStudentRatio() can show the ratio between Professor object and students object over the past five years. Then return the Double ArrayList.

1. **Track the jobs and promotions graduate get over and assign rankings:**

* showPositionRank() method in the University can show the sorted jobs ranking based on the Salary object.
* Create a Position Arraylist then sort it with the salary amount.

1. **Dashboard:**
2. **Ranking System for students to decide where they want to go for their study.**

* showDepartmentEvaluation() method in University object can show the sorted mean of course evaluation in each department. Then return the Map with the department and the mean of course score.
* showSalaryRank() method in University object can show the sorted mean of salary in each department. Then return the Map with the department and the mean of salary