University Management and Performance Measurement

**Problem Definition:**

**University Ranking** is one of the major determinants of the performance of employment organizations and educational institutions. Universities are facing global competition and therefore, emphasis on management and performance of every department and relevant courses offered plays a pivotal role in defining the quality of education. From a student’s perspective, the primary challenge confronted is to choose a course which is pertinent to their field of interest and is also well aligned to the dynamic requirements of the industry. From universities’ perspective, the challenge is presented in the form of quantifying academic performance, measuring the quality of education and, consequently building strategic plans to improve it. In the backdrop of challenges presented above, our henceforth goal is to develop an application that provides a deep insight into the educational system and contributes to the overall career development of students. The tool will assign rankings to courses and departments in a systematic approach and act as an aid to decision makers for devising a long term academic plan for the university.

Course Rating is important because of the following reasons:

Ø Instructors can view course ratings to improve the course content and teaching methods, and to determine the relevance of the course in the context of job-search and research interests.

Ø Departments can review course ratings to make decisions with regards to their course structure and faculty network.

Ø Administrators can build strategic plans to improve academic standards.

**Problem Solution:**

Our goal is to deliver a system where the students can get an overview of the courses ahead of time allowing them to select courses specific to their interests and research dispositions. The process will track the feedback of each course within the system that will automatically calculate the rating of each course. Our application will also record faculty feedbacks and help administrators to rank the courses and optimize the existing course structure for better performance.

The criteria to rank a course will be based on assigning a specific weight to each contributing factor that are analyzed within the system. These weights can be changed by the administrator.  
Students and faculty can perform the basic functions such as add, drop and update courses. The application will allow administrator to modify courses as per the performance ratio and setup a benchmark plan to rank the educational system. Furthermore, we will build a dashboard to display ranking of different courses and departments in the university over a period of 5 years. It will also help any university to compare their performance against other universities. Our dashboard will also display reports by semester, course, year, number of students and other parameters.

Basic Workflow of Our Ranking System:

Ø Our system allows different login page each for Admin, Student and Faculty.

Ø As an **Admin**, capabilities are to add/delete a new course, department, faculty, college and view/edit a basic benchmark for ranking of courses, department, faculty, college based on various factors. Admin has a dashboard to view ranking of department, courses and faculty.

Ø As a **Student,** they can view courses taken in a given semester and view grades for each course. Student can view rating of each course, faculty associated with that course and can add/drop courses accordingly. Student can also view dashboards depicting comparison of courses, faculty which help them pursue job-focused or research courses. Student can also provide feedback for each course which helps college and faculty to improve their courses.

Ø As a **Faculty**, they can view courses in given semester and see seats assigned for that course and students registered. Also, he can grade performance of students and view dashboard/feedback for any improvement of courses.

**Ranking Process:**

§ **Course Ranking**

Different Criterion used in our system to calculate Course Rating:

Ø **Number of Students in a Course by Employer Count:** This is the major factor determining the rating of course. It counts the number of students that gets employed by taking that course. Our **Course Feedback** class has a method - “**getEmployerConversionCount()**” which calculates the number of employments for that course. Our application gives maximum value to this criterion which is around **40%**.

Ø **Number of Scholarships offered in a course:** This is also an important which help decide students choose a course by economic and learning perspective. Our **Course Feedback** class has a method - “**getScholarshipConversionCount()**” which calculates the number of scholarships offered in that course. This factor contributes around **20%** in determining rating of a course.

Ø **Total Number of Faculty for a Course –** It is also one of the major criteria contributing around **20%** for course rating. It helps decide student to pursue a course-based faculty available for a course in given semester. If count of faculty is more then it helps student to get personal attention from a faculty and clear their doubts.

Ø **Number of International Students in a Course** – Students also compare the trend of course by measuring the international students taking that course and it help decide to enroll in a good course. Method “**getInternationalStudentsCount()**” calculates number of international students enrolled in a course for a given semester. It contributes around **10%** in our rating process.

Ø **Course Popularity-** It is calculated by number of filled seats of a course in given semester and is weighted as **10%** in overall rating process.

**Snapshots of prototype:**

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