SCORE MyCourses – A Course Scheduling System

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Scenarios

Context

The MyCourses scheduling system will allow program managers, program administrators, lecturers, and students to create, assign, detail and sign up for courses. This will be an end-to-end system that incorporates an algorithm that will automatically schedule courses based on a list of constraints. The program administrator will designate and list out all the possible courses, times, and location. The program manager determines which courses and lecturers that will be offered in the particular quarter. The lecturer fills out his constraints and information about the course. Finally, the students signs up for the courses.

Scenario 1

In this scenario, we will outline the initial roll of the Program Administrator who functions similar to the registrar’s office. They are in charge of the overall MyCourses system and managing the database across all departments

1. The Program Administrator signs into the browser-based MyCourses Portal with their credentials
2. Once logged in, the Program Administrator enters the Portal and a notice pops up indicating that the database needs information to be filled in order to continue
3. Upon opening the database, it opens an empty table in a spreadsheet format
4. The top of the table requires will need the following information:
   1. List of all classrooms and buildings available
      1. Classroom size
      2. Subject preference (Social Sciences belong with Sociology)
   2. List of all the day slots
   3. List of time slots
   4. List of courses offered of every subject
      1. This will be submitted separately into a database table by the Program Manager
   5. Initially, each of the classrooms will be completely free and available unless otherwise
5. The Program Administrator manually enters each classroom organized by building
   1. Baskin Engineering 🡪 BE 156
   2. E2 🡪 E2 192
6. The Program Administrator also enters the time slots and dates available to all the classrooms
   1. Monday, Wednesday and Friday
   2. Tuesday & Thursday
   3. Monday & Wednesday
7. The Program Administrator enters all the courses organized by subject
   1. Economics 🡪 Econ 1
   2. Computer Science 🡪 CMPS 12A
8. Once the information has been filled, the Program Administrator submits and the information will be stored and the Program Manager can start determining which courses to offer for the upcoming quarter

Scenario 2

In this scenario, we will outline the initial relationship between the Program Manager and the MyCourses system. For this particular system, Program Managers are segregated into different subjects (Art, Computer Science, Economics). The Lecturer has not yet submitted any constraint information.

1. The Program Manager signs into the browser-based MyCourses Portal with their credentials
   1. This particular Program Manager is in charge of the Computer Science department.
2. Once logged in, a message pops up saying that the database is ready for information about the Fall 2010 quarter. The Program Manager opens a database of all listed courses for the Computer Science department specified by the Program Administrator
   1. This database will list all of the courses (in this case Computer Science courses) offered at UCSC.
      1. The course list will be displayed in a table-like interface and will highlight upon selection
      2. Selecting the courses will indicate that the course will be offered for this quarter
   2. Upon selecting the lecturers for the course, another small table will pop up next to the selected course and the Program Manager will be able to select which professors to teach this course
      1. The table will display all available professors in the Computer Science Department
      2. It will also place the professors that have previously taught the course at the top of the table
3. The Program Manager selects the following courses to be offered in Fall 2010: CMPS 115, CMPS 12A, CMPS 101, CMPS 12B, etc
4. Upon selecting CMPS 12A, a table will pop up of the teachers that have previously taught the course: Wesley Mackey, Patrick Tantalo, etc.
5. The Program Manager selects and highlights Wesley Mackey and Patrick Tantalo in the table as possible candidates to teach CMPS 12A for Fall 2010
6. When finished, the Program Manager clicks the “submit” button, and the courses selected will be stored onto another table in the database titled: “Fall 2010”
   1. At this point, the table is ready to be reviewed upon completion of the table of the Lecturer constraints.
   2. Once the lecturers submit their constraints, the Fall 2010 database will be submitted for approval to the Program Administrator

Scenario 3

In this scenario, we will outline the initial relationship between a Lecturer’s first time logging into the MyCourses system before the new quarter begins. The lecturer submits constraint information.

1. The Lecturer signs into the browser-based MyCourses Portal with their credentials
   1. This lecturer is a Computer Science Professor
2. Once logged in, a message pops up indicating that the Lecturer has not yet filled out his personal information about his constraints for the quarter and he must fill it out in order to continue using the MyCourses portal
3. The lecturer opens the form and fills out the constraints which include, in pull down-menu-style:
   1. Courses - This will display the courses available to the professor pre-determined by the Program Manager and can select multiple at a time
   2. Time – This will display his preferred time slots
   3. Days – This will display his preferred day slots
4. After the lecturer completes the form, they will submit the form into the database where it will await for further approval from the Program Administrator

Scenario 4

In this scenario, the Program Manager has already determined which courses and which *preferred* lecturers will be teaching next quarter into a database table. The lecturer has also determined their scheduling and class constraints for the quarter into another database table. After both parties have submitted the proper information, the table is merged together and sent to the Program Administrator.

1. The Program Administrator logs into the MyCourses Portal and a message pops up indicating that all the Program Managers and Lecturers have completed their necessary information and everything has been merged onto a new database table.
2. The Program Administrator opens the database and pops up a big table with all the information submitted by the Program Manager and Lecturer
   1. The Program Administrator is able to see the following:
      1. Subjects offered this quarter
      2. Lecturers available
   2. As he selects the Subjects offered he sees:
      1. All the courses offered this quarter specified by the Program Manager
      2. When the Program Administrator selects the courses, he can see also the recommended professors to teach the course
      3. It will also display all the Professor information provided in a window
3. The Program Administrator reviews everything and ensures that all the information has been filled and/or not missing
   1. He can also view a summary of the information indicating statistical analysis of the information
4. Once approved, the Program Administrator runs the MyCourses algorithm to create the course schedule
5. Once the program has finished running, then the MyCourses Portal will send a message to the Program Administrator that it is complete running the program
6. The Program Administrator reviews the course schedule and once he approves, he submits it to the Program Managers of each department for further review and approval
   1. The course schedule can be displayed in a summary page or in a detailed table
7. Once the Program Managers approves the course schedule, the schedule will be made available online and available to the public (students)

Scenario 5

In this scenario, the MyCourses scheduling system is complete and posted on the website. The students can now log into the system and sign up for classes

1. The student user logs into the MyCourses Portal and sees that he is able to sign up for classes
2. A pull-down menu is initially shown to show which subjects are available this quarter and also right next to it, a table of courses selected along with the professor and times and dates
   1. This table next to the pull-down menu will be known as a shopping cart
3. The student selects Computer Science
4. Upon selection of Computer Science, a list of courses appears
5. The student selects CS 12A
6. After selecting the course, he can click “submit” and the course will transfer over to his shopping cart
7. After filling their shopping carts with their desired classes, they can submit their shopping cart and will automatically sign up for his classes