Perfect Class Scheduler

by

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Project Proposal for CSCI 4390

The Computer Science Department

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We hereby certify that this senior project report satisfies the project proposal requirements of CSCI 4390.

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Wendy Lawrence-Fowler Date

Faculty Advisor

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Robert Schweller Date

Senior Project Coordinator

**Project Summary**

Perfect Class Scheduler will allow UTPA students to create a class schedule. Based on their preferences, such as, days off, required classes, time of class and preferred professors qualities (easiness, helpfulness, clarity and overall quality) Perfect Class Scheduler will be able to create an optimized class schedule. The application will scan through a variety of courses to create the best possible class schedule.

We feel that this application will greatly help out students when creating their schedule. It has always been a tedious task to create a schedule that fits a student’s preference and ideally this application would automate the tedious task. Also, the current method of creating a class schedule is rather difficult to learn and sometimes just plain messy. Having dealt with this problem ourselves for multiple years has motivated us to think of our solution and to create an easier way to create a schedule to help future and current students.

Perfect Class Scheduler would be a web application where users would input their desired classes they need to take for the upcoming semester. After inputting classes, users would then input their preferences for their required classes. The application would then query the database and find classes that meet those requirements. Our application would then create a schedule with classes from that list.

**CSCI 4390 Goals**

In order for this project to be a success it requires web development skills, knowledge of interacting with a database, algorithm design and the ability to parse HTML. Web development skills are necessary in order to create the overall web application. Database knowledge will allow us to query specific classes that meet the user’s requirements. In order to return an optimal schedule we will need to create an algorithm that will deal with multiple cases and that runs efficiently. Lastly the ability to parse HTML will allow us to obtain information from outside sources such as ratemyprofessors.com.

Many students spend a significant amount of time planning their schedule. In addition many students are unable to attend classes on certain days or certain time periods which further complicates schedule creation. Our application would reduce greatly reduce the amount of time to create a schedule by allowing students to input their preferences and receive a schedule within seconds.

There are a few skills that we need to enhance or learn in order to make this project a reality. We would need to be able to create a website from scratch and apply high level web design knowledge. This will require an understanding of a variety of different internet programming languages, such as Javascript, PHP, HTML, and CSS. We will also need to create our own database to store all the class listings and need to further develop knowledge dealing with SQL. In addition we need to learn how to parse specific data sets from ratemyprofessors.com to obtain professor ratings.

**Project Timeline**

Set up hosting – Set up the environment in which our application will reside. Our application will be located at <http://jacobfigueroa.com/seniorproject/>

UI design/creation – Design a mockup and implement a UI that allows for an easy user interface.

Simple Algorithm – Develop and implement an algorithm that returns a schedule of the user’s classes that does not include conflicts. At this milestone in our project, the application does not yet take into account the user’s preferences.

Algorithm Design – Develop an algorithm that quickly creates a user’s schedule based on their preferences. During this stage we will also implement the algorithm and further optimize it.

Visual Output - Implement a way to visually display the user’s schedule similar to Assist’s Week at a Glance view.

Mandatory Classes – Adjust the algorithm so that prioritizes specific classes that need to appear in the schedule.

Mandatory Days Off – Adjust the algorithm to exclude days from the schedule.

Rate My Professor Parsing – Parsing specific data from ratemyprofessors.com and updating the database to reflect the new data.

Visual Input – Adjusting the website UI to allow the user to easily specify his/her course time availability.

Display Class Locations On Map – Using Google maps API display where classes are located to help newer students to adjust to college life.

**Project Timeline**

