Perfect Class Scheduler

by

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Project Proposal for CSCI 4390

The Computer Science Department

University of Texas Pan American

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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**

In this section, you will discuss your idea for the project. In paragraph form (*i.e.,* do not use the bulleted list format – it is used in this document for the sake of simplicity) address the following aspects of the project.

* The core project idea: What is the central idea/concept/problem of your project? This part of the summary is the high-level conceptual view of the project.
* The motivation for the project: Why do you want to do this project? In this part of the summary, you talk about your interest in and connection to the project. You can include ideas such as what gave you the initial idea for the project, how the project meets a need, and/or how the project provides an improved solution to the core problem.
* The proposed solution: How do you plan to go about creating a solution for the idea/concept/problem of your project? This part of the summary relates to the actual software/system/study you will be creating.

The project summary will be ½-1 page long.

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 based on easiness, helpfulness, clarity and overall quality.

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.

Perfect Class Scheduler would be a web application where users would input their classes they need to take. 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**

For this part of the proposal, you will explain how your project meets the specific goals of CSCI 4390. Address these 3 goals:

* In what way(s) does the project require computer science expertise to complete? This part of the goals section relates to the core project idea and/or the project motivation.
* How does the project address a real world problem? This part of the goals section should relate to the motivation section of your summary.
* What new knowledge will you have to acquire in order to complete the project? This part of the goals section relates to the proposed solution in your summary.

The goals section will be be ½-1 page long.

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**

You will include a timeline of major milestones for your project, preferably as a Gantt chart. You may make the chart with something like MS Excel or with more specialized software. Focus on the milestones for the software/experiments for the project. You may also include other items such as the final presentation and final report. In addition to the chart, include a list and description of the tasks that will be completed every 1-2 weeks.

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 – 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.

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

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.

Mandatory Classes – Adjust the algorithm so that prioritizes the schedule

**References**

Include a list of references you used for the proposal. Be sure to use a standard format, such as IEEE, ACM, or APA.