Advising Assistant

December 2021

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Maysia Miles

Charleston Southern University

Senior Project Proposal

Name: Maysia Miles

Degree: Bachelor's Degree

Major: Computer and Information Sciences

Project Advisor Name: Dr. Sean Hayes

Expected Graduation Date: Spring 2023

Problem Statement:

While students create their own schedules, they often lack classes that are required and fall behind, because they aren't taking advantage of their resources. A visual course schedule planner will help students state their graduation goals, identify obstacles, and plan for success. [STH1] Ideally, students would be able to easily see how a change in their academic schedule will impact their future course loads and graduation time. Also, students would be automatically made aware their plans are not feasible due to course requirements or availability. Many students have trouble figuring out when they should take certain classes and what specific classes they need to take. This program will help relieve that problem and help students become independent and refrain from solely relying on their academic advisor. Students miss graduation dates because they don't know when they should take classes. I've seen students struggle with this position before and I genuinely think this could help! The proposed solution for students is a schedule management system with a map with a student's schedule, by year, with lines indicating the prerequisites. In our scheduling system, a student can add a class to their schedule and have the prerequisites automatically checked. The presented course map will adapt to the students' major and outline the prerequisites they need and have already met.

Project Description

The student will be prompted to choose the desired major: Cybersecurity, Computer Science, or Applied Computing. After that initial screen, a map is shown for the desired major. CSCI classes will be red, math credits will be blue. Criminal Justice, Business and Science courses will be green, and prerequisites are purple. For Computer and Information Sciences, the student will be asked if they are pursuing a specific track. The three tracks will be listed and added to the map; there will be a total of 6 maps

Cybersecurity: Will map a suggested class schedule for Computer Science (CSCI), Criminal Justice (CRIM) and Mathematics MATH) courses

Computer Science: Will map a suggested class schedule for Computer Science (CSCI) and Mathematics (MATH) courses
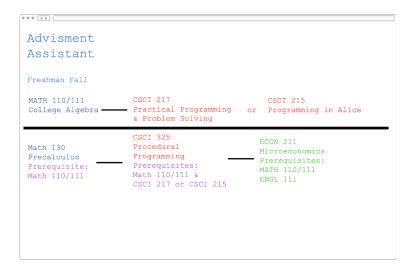
Applied Computing: Will map a suggested class schedule for Computer Science (CSCI), Accounting (ACCT), and Economic (ECON) courses.

Applied Computing w/ Networking Track: Will map a suggested class schedule for Computer Science (CSCI), Accounting (ACCT), and Economics ECON) courses. The map will include the three additional Computer Science (CSCI) courses with their prerequisites

Applied Computing w/ Systems Track: Will map a suggested class schedule for Computer Science (CSCI), Accounting (ACCT), and Economics ECON) courses. The map will include the three additional Computer Science (CSCI) classes.

Applied Computing w/ IT Management Track: Will map a suggested class schedule for Computer Science (CSCI), Accounting (ACCT), and Economics ECON) courses. The map will include the three additional business (BUSI) and Management (MGMT) courses.

Applied Computing w/ Human-Computer Interface Track: Will map a suggested class schedule for Computer Science (CSCI), Accounting (ACCT), and Economics ECON) courses. The map will include the three additional Computer Science (CSCI), business (BUSI), and marketing (MRKT) courses with their prerequisites.

Advisment
Assistant

Freshman Fall

MATH 110/111   CSCI 217   CSCI 215
College Algebra ──── Practical Programming   or   Programming in Alice
                       & Problem Solving

Math 130   CSCI 325   ECON 211
Precalculus   Procedural   Microeconomics
Prerequisite: ────   Programming   Prerequisites:
Math 110/111   Prerequisites: ────   MATH 110/111
                        Math 110/111 &   ENGL 111
                        CSCI 217 or CSCI 215

Proposed Implementation Language(s):

HTML, JavaScript

Alternatives:

C++, Python

Data Source(s):

I would mostly get my data from catalog.csuniv.edu

Libraries and frameworks:

React JS (with HTML/JavaScript)

QT (with C++)

Electron[STH4] (for creating a desktop app using JavaScript/HTML)

Additional Software/Equipment Needed:

NetBeans/ Eclipse

GitHub[STH5]

Alternate routes:

Visual Studio code (if using HTML)

Personal Motivation

This project will help students further their knowledge by understanding what languages you implement in this specific project. It will also help students fully understand what's needed in their major to excel in the department. This project specifically interests me because I wasn't sure what classes I needed and fell behind, my original graduation date would have been spring 2022, and because I didn't fully know, or keep track of the audit and map, I fell behind. In return, I have had a full schedule fall through summer to at least try to make up for it; But, it does take a toll mentally, and I would hate for someone else to go through it as well.

Outline of Future Research Efforts:

My key technical challenges would probably be my system retaining the information students input based off of their ID number, i.e. will it be inputted into a note(.txt)? Will it be saved in another window. Or will it be saved into memory of the program?

The key components of this project will be:

1. A map of the various majors
2. Different minors for specific majors
3. Prerequisites for specific classes

Schedule:

August - December: Creation of proposal ideas

December - Finish proposal and requirement documents

January - Create a program

February - Finalize maps

March - Begin creating a presentation

April - Run through presentation with advisor