**Project Title: TBA**

CMPS 4910 Senior Project I

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**1 EXECUTIVE SUMMARY**

ProjectName is a web-embedded user interface for a university registrar to more clearly display a student’s progress toward completing their degree. This is similar to existing software like DegreeWorks, but it is not currently in use by CSUB, making it very difficult for a student to determine what courses are necessary to complete their goals in a timely fashion. Unlike DegreeWorks, which is closed source and sold as a service to universities, we plan for this to be Free and Open Source Software for any campus to use.

The team consists of Shadi Abdul Razzak, Haylee Allen, Justin Ulloa, and Tristan Bock, all students with senior standing at the California State University, Bakersfield. *\* Individual Descriptions here \** Tristan has several years of prior experience using DegreeWorks and is excited to help his fellows develop a solid competitor. He has prior experience working on a senior project at the University of California, Irvine, and plans to leverage that experience working with an even larger group here. Haylee has been working on front-end organization/design as of late and hopes to utilize her expanding knowledge to contribute to making the application’s envisioned design come to life. She is also currently enrolled in CMPS 3420 (Database Systems) and hopes to use what is learned via that class to assist in the database portion of the project. Justin has taken courses in both front-end development and back-end development here at CSUB, Web Programming 1 and Web Programming 2, and will use the knowledge and skills learned from these courses to help build and create an exceptional application that students will be able to benefit from in the future. He also taken Database Systems which will also aid in the development of the necessary functions that will be required for the overall state of the database.

**2 INTRODUCTION**

**2.1 Target Market**

There are thousands upon thousands of students admitted to universities annually across the country, and not every school uses or can afford to use DegreeWorks or equivalent closed-source packages for their registrars. (citation) Due to this, students are offered with either an ineffective program or sometimes no program at all to efficiently help them track their degree progress. This is an issue because often times students do not have an efficient way to check their progression through their degree. Common issues are distinguishing between overlapping courses, such as ones that are required for a major but can also be considered as an elective for a major. Some programs offered to students are so outdated that they will show required courses as satisfying elective requirements, software as such only confuses the student.

**2.2 Competitors**

There are a few preliminary things to note when it comes to competitors. The first thing to note is that open-source programs with a similar concept vary from university to university. Quite a few universities use their own programs which can be tricky for comparison if not enrolled in that particular university. The main edge our project plans to have over other similar programs is cost. We intend for our program to be free and accessible to everyone. With other programs they more than likely not are being paid for via the attending university. The thing is though, these programs are usually made inaccessible upon leaving the university or you have to wait till enrollment before you can access the features the program has to offer. This is not helpful for incoming students who want to get a gist of what is required of their selected degree program. With our goal to have a free program that is accessible to all, students would be able to see what coursework is required for their specific degree at universities before enrolling. They’d also be able to use this throughout the duration of their studies to keep track of what classes they’ve completed and how many courses and or units they need left to complete their degree. (Potentially will add citations/more information here).

**2.3 Team Description**

Table 1. Description of each team member’s role and experience

|  |  |  |
| --- | --- | --- |
| **Team Member** | **Experience** | **Role** |
| Justin Ulloa | CMPS 2680: Web Programming 1  CMPS 3680: Web Programming 2  CMPS 3420: Database Systems | Design and develop front and back-end of application and assist with database design |
| Shadi Abdul Razzak | CMPS 3350: Software Engineering  CMPS 3420: Database Systems  CMPS 3390: App. Development | Database input entries and assist with Application design |
|  |  |  |
|  |  |  |

**2.4 Work Plan**

Start of by designing the app how we want it to look like, and get it integrated with a database so we can start working on user login and more data inputs. Roles will later be assigned to team members as according to strong experience.

**3 FUNCTIONAL REQUIREMENTS AND DESIGN**

There will be two primary components to this application: the database querying back-end that pulls a student’s records and the school’s catalog, and the presentation front-end that displays the information in a clear, concise way…

**3.1 User Interfaces**

The User Interface will rather be straight to the point with a progress bar showing the students progress and how far along have they have completed college. We want to make it accessible as possible when inputting class information, so the add option will take you to a page where you can enter the custom information yourself.

**3.2 External / Communication Interfaces**

**3.3 Universal Design Elements**

**3.4 Database Requirements**

We want our database to be precise with the information, meaning we will most likely be storing a lot of data at once into the database. For this reason, we want our database to be able to take such amount of information and declare it without conflict.

**3.5 Security**

Our application will be using hashed passwords to prevent potential attackers from being able to gain access to a user’s account/personal information. We will also avoid possible SQL injection attacks by using prepared statements and creating queries and stored procedures that will have careful and proper parameterization.

**4 References**