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**COP 3710 Intro Data Eng. – Group Project**

**Product Description:**

The purpose of this system is to create a place for software engineering students to put their experiences, projects, titles, wages, and employment status on their internships over the years as they progress through the degree at Florida Gulf Coast University. The university currently has no system in place for students to learn about internships and what is potentially possible during their time at the university in terms of experience outside of the main curriculum. This system looks to solve that problem, by incorporating a way for the FGCU software engineering club to maintain and manage internship records and potential available internships in one place. This is a very practical tool for the students as it allows them to understand things such as the interview process, the kinds of projects they could expect to work on by internship title, the kinds of companies who work with FGCU students frequently, and much more. The system also gives the FGCU software engineering club officers a way communicating with companies who seek FGCU students as interns. Not only does this system work as a way for students to gain knowledge about the range of what kinds of internships they could procure, but also the interview process at these companies in case they were planning to apply for a full-time position after their completion of the degree. Another important thing is the kinds of projects that are associated with the different kinds of internships and job titles, so this product works to include the jobs that go along with each title. What this means is if a student is interested in a specific kind of title say, “Front-end Engineer”, when they query that title, they will be able to see what kinds of projects the students worked on as a front-end engineer at the company. This not only gives students an idea of what to expect but also the opportunity to work on personal projects pertaining to that style of project, making them a more favorable choice at their desired company and title. The main goal of this project is to create a deliverable and objective way for incoming and current students to have a better chance of undertaking future internships and full-time positions.

**Product Features:**

* A student can create an account allowing them to have access to information on available, past, and current internships or internship opportunities.
* A student can search for internships by duties and title to get an idea of the kinds of projects and interview experiences to expect from specific companies.
* A company can approach a software engineering club officer to aid them in making listings of internships for students to apply.
* Students can have multiple internships paired with their student ID and can use the system to look back at their past internships if they need to.
* Students can still make an instance of an internship even if they do not receive an offer, simply to share their interview experience and any other relative information they can share on their experiences.
* Students will be able to break down their dates they worked at the company, the title they held at the company, the wage if they received one at the company, their experiences, projects, and general duties they had during the course of their internship.
* Students will have the option to post their internship information anonymously or with their email attached in case other students would like to reach out and inquire about their experience with the company.
* There is a preexisting template for students to use when creating an internship with a specific title, this will help by default if they leave any of the spaces null when filling out the duties relation during the internship instance creation.
* FGCU software engineering club officers will act as admins for the system and will be elected each year during the main club meetings throughout the semesters at FGCU.

**Analysis and Development Techniques:**

During the development of the software, we had to make a lot of assumptions of how the external systems would function such as the interactions with student information and the product itself, as well as some of the physical system attributes we made assumptions on. We are not actually storing logins or any real user information as we can assume, in the live version of this software we would use FGCU’s universal login system to ensure that a student is submitting factual information bounded to their real student information. We are also making assumptions on how the system will create new officer accounts and remove officers who have graduated or left the club itself. We also assume that officers would be completing company registration during the creation of the internship opportunity, meaning the company will not directly be interacting with the system itself. Since we will be using the login information generated through FGCU’s universal login system it will be assumed that the ID will be correctly attributed to the student according to their FGCU ID. The current system assigns an ID starting at 1 to simply demonstrate functionality. *Most* of the intended system implementation did not occur in our Python code as desired. Right now, only students may register. They may not interact with the DB through the application.

**Application Architecture:**

The Application Architecture Diagram is an example of what the system would typically look like in a production environment. We can see that the diagram starts with the external login system as this system would use the FGCU universal login system in order to verify a student’s identification, before allowing them to create internship instances. The next set of boxes contains the front end which holds the user interface and the client application, and to understand what these things contain we can look at the client application and how the API sends information through the database query API from the database itself. We also included a set of administrative tools to be utilized by officers and the club sponsor itself. These tools give the officers the ability to create internship instances as opportunities, and the club sponsor system administration to remove/add those officers who need access to the system tools. All of this is sent from the client application to the user interface displaying all of this on the local machine of the student.

**Application Architecture Diagram:**

Diagram

Description automatically generated