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ELEC-3225-01

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5/25/2021

**Integration and Configuration**

**Requirements Specification:**

The goal of the system is to have three types of users: student, instructor and admin. The student can register, can see available courses and their own schedule. The instructor can see available courses and their own course roster. The admin can see everything, can edit courses/user/schedules. The system should include multiple semesters, print-out of schedule, and have scheduling preferences. Additionally, there should be two types of databases for users and courses. The database for users should work for 100 students, 10 instructors and 1 admin. The database for courses should contain information such as the CRN, course name, times, and instructor. A constraint would be that the system cannot contain more than three types of users. For example, if there was a guidance counselor then there would not be a user type that would fit this description in the database.

**Total Time**: To create the whole system it would take approximately 14 weeks.

**Component Analysis:**

Using the geeksforgeeks source, a student data management code is already existing which asks for the number of students, registration number, subject code, and proctor ID.

[**https://www.geeksforgeeks.org/student-data-management-c/**](https://www.geeksforgeeks.org/student-data-management-c/)

**Requirements Modification:**

Use the geeksforgeeks source as a reference, replicate a similar model of it for the user inputs and functions needed for student, instructor and admin.

**System Design with Reuse:**

Edit the geeksforgeeks code and add any additional functions or attributes that are needed which are described in the requirements specification. For example, there is no search function that is found in the geeksforgeeks source so adding this function for the student so that they can search their course would be necessary.

**Development and Integration:**

Compile the reused and modified code that was changed from the geeksforgeeks source and make sure that there are no bugs or problems with the new code. Test multiple test cases for the user inputs to find any bug issues and keep track of them. Integrate all of these new functions that were written into the reused code and make sure that they all work regarding user inputs.

**System Validation:**

If there are bugs, fix them by using the debugging tools in Visual Studio. Once these bugs are addressed, the system is ready and validated.