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CS 499

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Algorithm and Data Structures Narrative

In IT 315 We were tasked with creating an algorithm that could help students at SNHU and the staff to register for classes and change classes. So, we took the SIS (student information system) and made an algorithm or at least the building of the algorithm with documents to show the different ways the interactions on the site should work. For instance we wanted students to be able to change and register for classes, but we wanted the staff to be able to do the same. The SIS should maintain records of basic information about students such as:First name, Middle initials, Last name, Date of birth, Student ID, Department (e.g., psychology), Cumulative GPA (on a scale of 1.0 to 4.0)**.** These records are updated by the enrollment staff who has the permissions to add, modify, and/or delete any student record.Maintain Course Recordsthe SIS should maintain records of all the courses offered by the college.The system should maintain the following fields for each course:Course ID**,** Course name, Credit hours, Description, Prerequisite course**,** these records are updated by the enrollment staff who has the permissions to add, modify, and/or delete any course record. We also had to show the two different classes, online and face-to-face. The diagram below helps to show what we wanted.

A close up of a map

Description automatically generated

To be completely honest I choose this project as my algorithm because I only had this assignment that I ever worked on that was an algorithm. I don’t find these types of assignments interesting, but the class did teach me how to make diagrams to show the flow of an algorithm which could be used in a job where I’m working on games. Below is what we were asked to make to show the flow of each option. This assignment wasn’t making an actual algorithm, but it was all about showing how it would work if we were to invest time in to make. So, for my portfolio I expanded the complexity. When you look at the new document attached in this folder you will find all the extra forms of test and diagrams, I made to help further push this assignment.

**SIS Method Contract 1 template** (refer to textbook pages 306–314):

|  |  |  |
| --- | --- | --- |
| Method Name:  Course Records | Class Name:  Course Records | ID:  2 |
| Clients (Consumers):  Enrollment staff | | |
| Associated Use Cases:  Class records, student records | | |
| Description of Responsibilities:  Maintain update and delete course records | | |
| Arguments Received:  none | | |
| Type of Value Returned:  confirmed | | |
| Pre-Conditions:  Maintain course records and create new courses | | |
| Post-Conditions:  none | | |