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9/16/2016

CS 6310 Software Architecture and Design

Assignment 5: Course Management System – Next Design Phase (v3)

Static Description

For this assignment I will be using UML 1.4. In this phase I have decided to reconstruct my whole system. Here, I have defined my classes a little bit better and I have added more attributes and methods for them. With the new requirements added from the client in this phase I have added Admin class that will be in charge of managing students, records, courses and instructors. Admin has the privileges to Create – Read – Update – Delete (CRUD). The cardinality for the number of classes a student can take per semester has changed to 5 as specified in the requirements. The operation in the Student class will check if a student can retake a course or not based on their performance. There is an operation in a student class to check if a student can take a course based on the prerequisite that a major course might have. Moreover, if a student fulfills all the requirements their request will be checked against seats available for that course and if there are not seats available the request will be denied. I have chosen to create an object for the Records because it needs to be able to talk to many other classes. Since the requirements are constantly changing I implemented in my diagram an option for cardinality values to be manually entered as needed. That cardinality is shown with the (m..n) notation. I think this keeps my uml class diagram very reusable and easily maintained. In my courses class I have a function that will keep the track of maximum seats available and it will keep all the prerequisites for that course.