**Sequence Diagram**



**Sequence Diagram Explanation**

Following the CRC Card information for Registering a Student, a staff member or a student must first enter or retrieve the students information (RETRIEVESTUDENT()) , then they must choose a course and display the course information (DISPLAYCOURSES()), followed by displaying specific class information (DISPLAYCLASSES()), and then selecting a class (SELECTCLASSFROMLIST()).

Once this is done the Registration process needs to validate the registration (VALIDATEREGISTRATION ()). If the validation process fails the validation message as to why it failed is displayed ([Invalid Registration] DISPLAYVALIDATIONMESSAGE ()), If the validation process passes then the confirmation message displays ([Valid Registration] DISPLAYCONFIRMATIONMESSAGE ()). Upon successful registration the Class enrollment is updated (UPDATECLASSENROLLMENT ()) and a registration record is created (CREATEREGISTRATIONRECORD ()).

After the registration process is completed the registration object can be destroyed because each new registration process will require a new registration object. None of the other class objects are destroyed because Student, Course, and Class, are not actually creating any new information, just accessing or pulling information from the classes in question.

**Communication Diagram**



**Communication Diagram Explanation**

To me the Registration process really is a sequential event, as such there was not any point in the process that could be jumped ahead to or bypassed like the example that is in out textbook. The only real difference here is in the registration process, where instead of everything all being one box, it is branched off to valid and invalid registration so that those calls can be placed depending the current conditions of the registration process. The final step of Registration: Successful has two communication lines going to it because successfully registering calls two different methods.

I tried configuring the communication diagram horizontally, however I didn’t like the way that it looked, so converted this to a vertical diagram which is still very clear and easy to understand.

**Object State Diagram**



**Object State Diagram Explanation**

Again this process was fairly straight forward for me, the registration process begins with identifying the student and then proceeds through the registration process until it is complete. The Invalid validation is sent back to Class Determined phase of the registration as that was the previous step in the registration process. After successful validation, the Course Enrollment Update and Registration Record Created are split off on their own path, because they happen at the same time.

Also for this entire lab, I used MS Visio instead of RSA. While I have used RSA in the previous labs, the Professor that does the iConnect live lectures keeps using MS Visio instead of RSA, and MS Visio has even been mentioned in this week’s lab discussion thread. Also the iConnect Live professor mentioned that there was some sort of issue when creating the communication diagram that had an easy work around, that he was going to send an email to someone about so that the solution could be passed on to all the courses. As of the writing of this, I have not seen that solution posted, so did not even want to attempt to use RSA for this assignment.