

Proxy Design Pattern

The pattern I chose for this homework was the proxy design pattern. The proxy design pattern provides a placeholder for another object to control access too. What the pattern essentially allows you to do is to create a wrapper class over a real object. This is useful for when you create a class that you do not want a client to be able to access all its methods or variables via an object. In order to prevent this you create an interface with abstract methods. This interface will then be implemented by two different classes. One is the class you are trying to protect and the other is a proxy class. The proxy class creates an object of the class we are trying to protect. The proxy class then uses the abstract method from the interface to call the abstract method of the class we are protecting. Therefore the proxy class works as a middle man between the client and the class we are protecting. For example in my homework I created a program that allows the user to know when their registration opens for a certain semester. They input the number of credits they currently have and the semester they are planning to register for. For this I created an interface "Account" with one abstract method called "getRegistrationDate." This method will then be implemented by two classes. One is the class that sets the registration date for the student and the other is a proxy class. The proxy class creates an object of the class that sets the registration date. Then it implements the abstract method from the interface by calling the abstract method getRegistrationDate of the class that sets the registration date. Therefore when I get the information from the user I call the abstract method of the proxy class who then sends that information to the actual class that sets the registration date via the abstract method.

This then prevents the user from being able to access the methods that set the day and the month of their registration date, and the variables that hold the values for the day and the month. A drawback of the proxy design pattern is that it adds an extra layer of abstraction.