Short Answer/Essay

1. Why should you validate user input both within the interface tier and business rules tier?

2. Why should input received in the business rules tier be filtered? What are the different ways you can filter the information?

3. Explain how you can reduce errors from user input by the type of HTML objects (such as radio buttons) used to accept information.

4. What causes the example code shown in the dependency injection section of this chapter inefficient? How does this code help a developer with version changes to the application?

Projects

1. Create an application that registers a runner for the local 5K road race. The interface should accept all necessary personal information (name, address, gender, age, and T-shirt size). Whenever possible, use HTML objects that restrict input (such a select object for T-shirt size and state). Validate all information in the interface tier using both HTML5 and JavaScript. If the information is valid, pass the information to the business rules tier. The business rules tier will validate the information received and filter out any harmful information. Once all information has been accepted, the program will display the cost of entering the race ($25). Any shirts over XL will add an additional charge of $2. Any runner 65 or older will be charged $5 less.

2. Develop the application described in #1 to use dependency injection to allow the developer to change file name and locations without requiring code changes to the application itself.

Term Project

1. Update the Chapter 3 Term Project to validate all information as it is entered into an HTML form (via HTML and JavaScript as shown in Chapter 4) in the interface tier. After the information is validated it is passed to the business rules tier. The business rules tier will validate the information received and filter out any harmful information. Once the information is accepted (and stored in the properties) the application will display all fields of the product stored in the warehouse of the ABC Computer Parts Company. The interface tier and the business rules tier must be separated using dependency injection (via an XML file), as shown. Your completed project should use logic similar to the examples shown in this chapter.