Homework 12, CPSC-4175

Chapter 18, Object-Oriented and Classical Software Engineering

November 7, 2017

1. What do you think is the difference between an *aspect* in the aspect oriented development model and a *class* in an object oriented development model? Be specific.

2. Consider the problem of targeting software to a particular platform, e.g. a handheld device as opposd to a desktop computer. Describe the differences between addressing this problem in the design phase(s) of the engineering process and the analysis phase(s) of the engineering process.

3. (Not in book) The Universal Windows Platform (UWP) is one major effort to solve the problem of deploying software to different platforms. Research the UWP, and briefly describe its approach to solving this problem.

4. How does a point-and-click IDE (such as Visual Studio) promote component based design? What do you think the benefits of component based design are? What are its costs?

5. Describe infrastructure-as-a-service (IaaS), platform-as-a-service (PaaS), and software-as-a-service (SaaS). What are the differences between them? What are the similarities?

6. The *Semantic Web* incorporates the concept of marking up information, as opposed to marking up structure (HTML) and presentation (CSS). This is commonly done with XML. Create a document marking up the information contained in a fast food menu (hamburgers, tacos, pizza, sandwiches, etc.). Your document should contain about ten or twelve different items.

7. Discuss one specific technique you can use in your personal software development process that addresses the concerns of software security. "Discuss" includes describing the technique, explaining how it promotes security, and giving a concrete example.

8. Read the article by E. F. Codd entitled *A Relational Model of Data for Large Shared Data Banks*, in the PDF directory in my class Github repository as *codd.pdf*. Write a one paragraph appreciation of this article.