Chapter 18 Homework

18.1 Why is it important to define exceptions in service engineering?

18.2. Standards are fundamental to service-oriented architectures, and it was believed that standards conformance was essential for successful adoption of a service-based approach. However, RESTful services, which are increasingly widely used, are not standards-based. Discuss why you think this change has occurred and whether or not you think that the lack of stand- ards will inhibit the development and take up of RESTful services.

18.3. Extend Figure 18.5 to include WSDL definitions for MaxMinType and InDataFault. The temperatures should be represented as integers, with an additional field indicating whether the temperature is in degrees Fahrenheit or degrees Celsius. InDataFault should be a simple type consisting of an error code.

18.4. Suggest how the SimpleInterestCalculator service could be implemented as a RESTful service.

18.5. What is a workflow? List out the key stages in the process of system construction by composition.

18.6. Design possible input and output messages for the services shown in Figure 18.13. You may specify these in the UML or in XML.

18.7. Giving reasons for your answer, suggest two important types of application where you would not recommend the use of service-oriented architecture.

18.8. Explain what is meant by a "compensation action" and, using an example, show why these actions may have to be included in workflows.

18.9. For the example of the vacation package reservation service, design a workflow that will book ground transportation for a group of passengers arriving at an airport. They should be given the option of booking either a taxi or a hire car. You may assume that the taxi and rental car companies offer web services to make a reservation.

18.10. Using an example, explain in detail why the thorough testing of services that include compensation actions is difficult.

References