CSE2101 Software Engineering Fundamentals

Tutorial 7

Part A: Discussion
Topic (Lecture 7): Design Modelling 2

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1. Why is it important that we understand the skills of the users when creating the user interface of a software?

2. What is task analysis and how will it improve the user interface design of a software?

3. Search the following URL: http://en.wikipedia.org/wiki/Component-based_software_engineering. Discuss Component-level Design.

4. Why is Component-level Design important?

5. What are the steps in Component-level Design?

6. What are the advantages of Component-Based Development?

7. Discuss the options for reusable components to be identified and selected for integration with a software that is being developed.

Part B: **Project**
Task: Architecture Design

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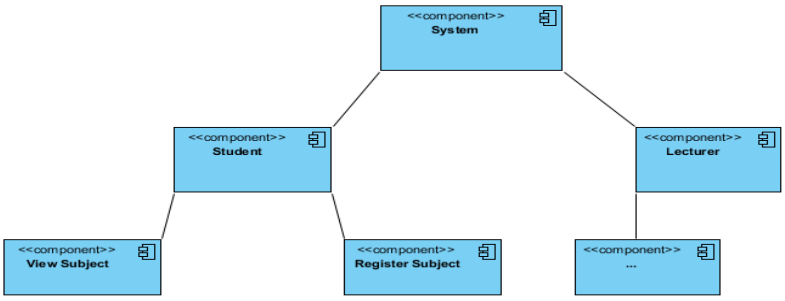
1. Based on the Use Case Diagram, identify related use cases that can be grouped as subsystems. Draw a component structure diagram to represent the software architecture. For example:



(Note: This example groups use cases according to actors)

2. Examine the Sequence Diagrams from your project and identify all the interface objects and number them according to their use case e.g. interfaces in use case 1 would be numbered 1.0, 1.1, 1.2, 1.1.1, etc.

3. Determine additional interfaces such as main system screen, actor home screen, etc. and determine the transitions between these additional interfaces and the interfaces from the use cases.

4. Draw the State Transition Diagram to represent the transitions between the interfaces. Clearly label the events that cause the transition from one interface to another. Refer to the following webpage on how to draw state diagrams:

   http://www.visual-paradigm.com/support/documents/vpuserguide/94/2579/6714_creatingstat.html