COMP 3710 Wireless Software Engineering
Spring 2014

Essential Question What functions should your term project provide?

Overview The *use case* is a typical starting point for development. It is a tool for defining the boundary of the software, as well as for exploring who will use the software and what functions the software will provide. It consists of two parts: an overall use case diagram that gives a visual depiction of all the users and uses, and a description of each use case explained to the 25-cent level of detail.

Guiding Questions
1. What are the four fundamental characteristics of modeling that a software engineer needs to keep in mind? How is each supported by the use case diagram and accompanying use case descriptions?
2. What is the purpose of a use case? What are the strengths of use cases? Weaknesses?
3. What software engineering role do use cases play? What software engineering activity do they best support?
4. What is the difference between a use case overview diagram and a use case description? What is the purpose of each?
5. What is the purpose of identifying the "boundary" of a system when developing a use case description?
6. What are use case actors? How do you go about identifying an actor? How much control does your software have over what an actor does? Should a use case have a communication line from one actor directly to another?
7. What heuristics determine whether a use case is "good"?
8. What are coupling and cohesion in the context of use cases.
9. What does it mean to "write a use case at the 25-cent level"?
10. What stereotypes do use cases typically employ?
11. What is the meaning of the <<include>> annotation on a use case diagram?
12. What forms can the use case description text take?
13. What information goes into a use case description (also referred to as a use case table)? Why?

Resources Here are some resources that might be of assistance:
1. Course notes
2. *http://en.wikipedia.org/wiki/Unified_Modeling_Language*
3. http://en.wikipedia.org/wiki/Use_case_diagram
4. http://www.andrew.cmu.edu/course/90-754/umlucdfaq.html
5. http://www.cragsystems.co.uk/use_case_tutorial.htm
6. http://www.omg.org/spec/UML/2.4.1/
7. http://www.uml.org/

Guiding Activities

1. What is the boundary of your term project? In other words, if you were to draw a box representing your software, what would be outside the box that provides input to and receives output from your software?
2. Who uses your software? Consider active actors that initiate actions as well as passive actors that are the recipients of actions.
3. How does each actor put your software to use? For complex uses (or, if you have to use "and" to describe use), consider breaking the use into smaller parts.
4. Consolidate the boundary, actors, and uses into a *use case* diagram.
5. For each use case in your diagram, describe what actions that are observable by the actor associated with the use case.
6. Examine your use case diagram and individual use cases to ensure the information is complete, depicts the appropriate level of detail, and has no implementation details.

Submission

Develop the following for your term project:

1. App name

2. One-paragraph description

3. Use case diagram

4. Use cases

5. System Sequence Diagram

6. Domain Model

Upload these items to Canvas in .doc, .docx,. rtf, .ppt, pptx, .pdf, or .jpg format. You may upload scanned images of hand-drawn images, but make sure the images are readable. Please make sure **all** documents are readable from a computer screen without having to rotate them.