

CSC 331/631 Midterm Sample Questions

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- Give 4 examples of different types of software systems and indicate how the software process might be different for each
 - What are three important attributes that a software product (such as the ones you are developing) should have? Explain.
 - What are the fundamental activities common to all software processes? Explain.
 - Suggest a most appropriate software process for the development of the following systems:
 - A web-based system for keeping track of student club activities
 - A mobile app for student enrollment into courses (mobile version of win.wfu.edu)
 - A controller delivery of anesthetics in an operating room
 - Give examples of “change” in the development process and give examples of software process activities that help manage such changes.
 - Why is rapid prototype delivery often more important to business than the detailed functionality of these systems?
 - What are *stories* in agile development or extreme programming? What are they used for? What is their business value?
 - Having a user too closely involved with a software development team can lead to the user “going native.” What does this mean and how can the problem be avoided?
 - What are functional vs. non-functional requirements?
 - What is ethnography? Give an example.
 - Using your knowledge for how an ATM is used, write a set of related functional and non-functional requirements specifications.
 - What is dynamic binding? How does it relate to polymorphism?
 - What is a Java interface and what is the purpose of using interfaces?
 - What is the adapter pattern?
 - Given sample object-oriented C++ or Java code, draw a UML diagram specifying the relationships between its classes.
 - What are the strengths of the waterfall model? Is there a reason to use it?
 - What are the four quadrants of Boehm’s spiral model? How does the model address change?
 - What are *abstract models* of a software system? What are they used for?
 - What is a UML sequence diagram and what is it used for?
 - What are the main elements in a UML use case diagram? What are they used for?
 - How does the SCRUM methodology address the development of software?
 - What is a product backlog and a sprint backlog? What are their differences?
 - How can productivity be addressed using SCRUM?