

CS 5150, Software Engineering

Sample Test 2

This test was set in a previous year when the tests were 45 minutes. The 2018 tests will be 60 minutes and the questions will be slightly longer.

Instructions

- 1) *Answer both questions.*
- 2) *Write your answers in an examination book. WRITE YOUR NETID ON THE FRONT OF EACH BOOK.*
- 3) *This is an open book test. You may use any books or notes.*
- 4) *Laptop computers, tablets, and similar devices may be used (a) to store lecture slides, notes, and other papers, and (b) as a calculator.*
- 5) *You may NOT listen to any audio materials or view the video lectures.*
- 6) *NO electronic device may be used for any form of COMMUNICATION, or any activity that involves networking, including email, texting, or searching the web.*

Question 1

At the end of your CS 5150 project, you mount your programs and documentation on GForge. The project team gives the client an unrestricted license to use the project for the client's purposes but not to distribute it to others.

A year later, the members of your team decide to go into business, selling a product that is based on your CS 5150 system. You start a small company and hire three programmers.

- (a) You would like to keep the specification of the system secret. For this purpose you remove the system from GForge. Can you claim legal protection of the specification as trade secret?
- (b) Your company extends the system with a new component. Can you protect the specification of the new component as trade secret? If so, what procedure would you follow?
- (c) Who owns the copyright in the original system? Who owns the copyright in your new component?
- (d) Can you charge the CS 5150 client money to use your new component?

- (e) Two of your programmers leave and start their own company. What use can they make of the programs that they wrote while working for your company? Can they write new software based on the specification of your new component?

Question 2

A banking system provides users with several services: (i) to check their accounts to see recent transactions and balances; (ii) to pay bills online; (iii) to buy and sell investments. All of these services require a secure log-in. If the system crashes or the network connection fails during a transaction, it is essential that all the financial data is left in a consistent state.

- (a) Draw use case diagrams for these requirements.
- (b) Give the use case specification for paying a bill online.