

2011 Paper 3 Question 9

Software Engineering

- (a) Describe the waterfall model for software development and list **three** of its advantages for software development. [5 marks]
- (b) When discussing system development Fred Brooks says, “plan to throw one away – you will anyway”. What disadvantages of the waterfall model is he referring to? Outline an alternative software development model that deals with these disadvantages. [7 marks]
- (c) You work for a large “social networking” company which has recently introduced a one-to-one chat mechanism, promising that they will never censor conversations. Users are now reporting that their friends’ computers are being compromised by malicious software. When users click on links within messages sent by this malicious software, their machine is also compromised, and spreads the infection still further. A crisis meeting has decided that the chat software must be modified to block this “worm” behaviour.

As manager of this project, how will you approach the development, how will you estimate how long the task will take, and how will you establish that your solution is safe to deploy? [8 marks]