

UNIVERSITY OF ESSEX

Undergraduate Examinations 2011

LARGE SCALE SOFTWARE SYSTEMS

Time allowed: **TWO** hours

The paper consists of **FOUR** questions.

Candidates must answer **ALL** questions.

The questions are not of equal weight.

The percentages shown in brackets provide an indication of the proportion of the total marks for the **PAPER** which will be allocated.

Please do not leave your seat unless you are given permission by an invigilator.

Do not communicate in any way with any other candidate in the examination room.

Do not open the question paper until told to do so.

All answers must be written in the answer book(s) provided.

All rough work must be written in the answer book(s) provided. A line should be drawn through any rough work to indicate to the examiner that it is not part of the work to be marked.

At the end of the examination, remain seated until your answer book(s) have been collected and you have been told you may leave.

Candidates must answer ALL questions.

Question 1

Agile techniques (e.g., extreme programming) have radically changed the way software is developed.

- (a) Explain what the key values of agile software development are. [10%]
- (b) Compare and contrast the traditional notion of success for a software project with the notion of success that extreme programming embraces. [10%]
- (c) Compare and contrast how the need for change (e.g. due to changing client requirements) is seen and acted upon in traditional software engineering and in extreme programming. [10%]

Question 2

Version control is a key tool in the development of software in teams.

- (a) What is version control and why is it so important? [10%]

- (b) List and briefly explain five key functions that the Subversion version control system provides. [15%]

Question 3

Testing has traditionally been reserved to the last stages of a software project. However, extreme programming requires testing in a different manner.

- (a) Explain the key type of testing adopted in extreme programming indicating why it is applied. [10%]
- (b) What is refactoring? How is refactoring affected by tests and what is its role in extreme programming? [10%]

Question 4

You are part of an extreme programming team that has been asked to build a collaborative editor which specifically targets extreme programmers. In particular, the editor should support the practice of pair programming when the two pairing programmers are at different sites.

You are asked to sketch a release plan for the editor. Given the specific nature of the project you can act as both a programmer and as a customer. In your release plan please specify:

- (a) A list of features identified for the release. [15%]
- (b) A priority for each item of value for the customers using on a point system where 3 = very valuable, 2 = valuable and 1 = optional. [5%]
- (c) A list of the features that should be implemented in the first iteration. [5%]

END OF PAPER CE320-6-SP