

FOR INTERNAL SCRUTINY (date of this version: 24/7/2012)

UNIVERSITY OF EDINBURGH
COLLEGE OF SCIENCE AND ENGINEERING
SCHOOL OF INFORMATICS

PROFESSIONAL ISSUES

Thursday 1st April 2010

00:00 to 00:00

Year 3 Courses

Convener: ITO-Will-Determine
External Examiners: ITO-Will-Determine

INSTRUCTIONS TO CANDIDATES

Answer QUESTION 1 and ONE other question.

Question 1 is COMPULSORY.

All questions carry equal weight.

**This is an OPEN BOOK examination.
You may consult any books or other documents during this examination.
The use of Calculators is permitted.**

1. You MUST answer this question.

Consider the following extracts from a Scottish Government *Review of ICT Infrastructure in the Public Sector in Scotland*:

4.1 Enabling Organisation-Wide Productivity and Savings

There is no doubt that efficiency and productivity have been, and remain, core elements of the justification for the pursuit and adoption of ICT solutions. This is regarded as being of prime value to those organisations providing public services and it could be argued that the automation of business and other processes through the use of ICT still represents one of the most effective ways of reducing the costs of delivering services. In that sense the adoption of ICT can be seen as an investment that delivers savings in the other costs of operating organisations.

In the context of the amount of investment, the way in which ICT is deployed is crucial. Shared deployment across organisations can spread the cost so that individual organisations spend less on ICT but still deliver their own targeted savings.

4.4 Making it Easier to Access Services *For the citizen or the business the experience of benefiting from public services is greatly enhanced by the access and engagement being made easier by ICT. The less time spent and the less complexity or difficulty encountered in requesting services then the greater the value to the citizen. In this respect having online access to all public services is crucial as is having ongoing electronic communication and status reporting.*

- (a) Suppose you are developing a consultation document for concerned groups and individuals so they can comment on this proposed development. Provide a list of four groups you think should be consulted, outline why you think they should be consulted and the areas you think will be of special concern to them. In your choice you should aim for diversity in concerns. Listing several groups all of whom have similar concerns will gain less credit than a more diverse response. [8 marks]
- (b) It is important that a large-scale reorganisation of public service provision should ensure it complies with all existing legislation. Consider the data protection principles in the Data Protection Act. List two of the principles that could obstruct the proposed changes and justify your choice by providing an explanation of how the principle could obstruct the implementation of changes. [6 marks]
- (c) Suppose you are an ICT manager in one of the organisations involved in delivery of public services list two management challenges that are likely to arise from the proposed changes in access to public services and provide brief justifications for your choice. [5 marks]

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- (d) The costs of a project to evaluate the impact of the proposed changes. Assuming 10% inflation, which would be the cheaper to implement? Explain how you arrived at your answer and use this to justify your answer.

Year	Scheme A	Scheme B
1	100000	120000
2	100000	120000
3	100000	100000
4	110000	90000
5	70000	40000

[6 marks]

2. You should either answer this question or question 3.

Imagine you are working for a small software company that is struggling to meet deadlines on an important project. The development team, in order to save time, are proposing to use open source software for some components in the project. The team have found several different open-source projects that are potential sources for components in their project. You have been tasked to prepare a short report for the company management that outlines the properties and consequences of using software with different open source licences. The development team manager has also proposed using consultants and some work derived from student projects developed by local university students on placement with the company. Your answer to this questions should be a draft of your short report. Your answer should cover:

- (a) An outline of two popular open source licences with a short description of each. [6 marks]
- (b) For each of your chosen licenses you should write a short paragraph on how the licence will affect the licencing of the software the company is developing and how this could impact the marketing of your products. [6 marks]
- (c) A discussion of approaches to IP protection and the balance between legal and non-legal approaches to IP protection in the context of different licensing regimes. [6 marks]
- (d) A discussion of the potential impact of using work created by students on IP protection and how best to tackle such issues. [3 marks]
- (e) Advice on the use of patents in the protection of company IP. You should assume the company is aiming to market the product world wide. [4 marks]

3. You should either answer this question or question 2.

For critical calls in urban areas, UK ambulance services have performance targets requiring 75% of calls have a first response within 8 minutes and 95% of calls have a first response within 14 minutes. Achieving these targets could save up to 1800 lives of people under the age of 75 years. A key part of the computer systems used by ambulance services is the system to track and dispatch ambulances to calls.

You are working for a company that has developed a successful bus tracking and communication system that is designed to track busses and keep drivers in touch with control room staff. Your company thinks its bus solution might be adaptable to support ambulance services. Using your knowledge of computer systems and the BCS code of conduct prepare a one-page report outlining the issues that might arise in making the transition into this new market. Your report should include at least:

- (a) What your company has to put in place around this shift in market to ensure its employees can comply with the BCS code of conduct? For each of the four main sections of the code of conduct you should outline how this change in market impacts on compliance with the code. [12 marks]
- (b) Outline the main changes in the legal context associated with this change in market and what the company might do to deal with the change? [5 marks]
- (c) Outline the main changes in the properties of the system that would be associated with this change of market. [4 marks]
- (d) Outline the sorts of changes in development process that might be necessary to achieve this change of market. [4 marks]