



**BSc, BEng and MEng Degree Examinations 2019–20**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**Project Management for Computer Scientists**

Open Individual Assessment

**Issued: 18 November 2019 (Aut/8/Mon), 12:00 (noon)**

**Submission due: 5 December 2019 (Aut/10/Thu), 12:00 (noon)**

**Feedback and marks due: 6 January 2020 (Spr/1/Mon), 12:00 (noon)**

All students should submit their answers through the electronic submission system:  
<http://www.cs.york.ac.uk/student/assessment/submit/> by 5 December 2019 (Aut/10/Thu), 12:00 (noon). An assessment that has been submitted after this deadline will be marked initially as if it had been handed in on time, but the Board of Examiners will normally apply a lateness penalty.

Your attention is drawn to the section about Academic Misconduct in your Departmental Handbook: <https://www.cs.york.ac.uk/student/handbook/>.

Any queries on this assessment should be addressed by email to James Woodcock at [jim.woodcock@york.ac.uk](mailto:jim.woodcock@york.ac.uk). Answers that apply to all students will be posted on the VLE.

**Rubric:**

Answer all questions. Note the word limits for each question. Parts of answers that go beyond the word limit will not be marked. References must be listed at the end of the document and do not count towards word limits.

**Your exam number should be on the front cover of your assessment. You should not be otherwise identified anywhere on your submission.**

### **Question 1 [40%]**

The PMCS course has covered concepts and techniques for project management. Explain how this material applies to the individual project that you will undertake next term. You should explain which techniques can be applied in a single-person project, and which are not suitable. Give justifications for all your arguments.

Limit: 500 words.

### **Question 2 [30%]**

Consider the following scenario:

YorKlinik is a healthcare company. When it was founded, the company made a strategic decision to run its infrastructure and applications in the cloud, rather than invest a large amount of money in an in-house data centre. The scalability and cost-effectiveness of Amazon Web Services (AWS) seemed a perfect fit for the lean startup.

Discuss the implications for cloud security solutions for the YorKlinik development team as well as for the entire company. Include comments about AWS's security tools, YorKlinik's capabilities, and the challenges for a small-scale company working in an enterprise-scale security model.

Limit: 500 words.

### **Question 3 [30%]**

Consider the following scenario:

A software developer must decide whether to include some software in the next release of the company's main product: an X-ray machine. There's a problem: the software hasn't been subjected to all the company's required quality controls, so there's no guarantee that a catastrophic error cannot happen when the software is used for real.

The stakeholders involved are: the company's shareholders; its employees and staff; the technical people involved (including other software engineers); the hospital staff that will operate the X-ray machine's software; the patients undergoing X-ray therapy; and their healthcare professionals.

The software engineer has two options.

1. Release the product before it has passed the verification and validation processes

required to determine that nothing can go wrong in the operational phase.

2. Inform clients that there will be a delay in the deployment of the software.

Discuss the ethical issues involved in these two choices from the point of view of each stakeholder. Is there an argument that could ever justify option (1)?

Limit: 500 words.

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## **Marking Criteria**

For each question, the following criteria will be used:

**Excellent (80-100):** very clearly communicates all of the key points to be covered. Shows very good understanding of all of the relevant sections of course material

**Good (60-79):** clear communication of most of the key points. Good understanding of most relevant course material.

**Satisfactory (40-59):** communicates some key points, but not always clearly. Relevant course material is referred to, but it's not clear that it's well understood.

**Needs work (30-39):** Points being made are not clear or not relevant to the question. Some course material is referred to, but not always relevant or well understood.

**Outright fail (0-29):** Very unclear what points are being made. Course material is either absent or so poorly presented that it is of little value to the answer.

**End of examination paper**