# **Coursework 1 (CW1)**

# **Software Development and Ethics**

**Due date:** **Friday 12th November @ 17:00 (UK time)**

**Submission:** Via Blackboard (Assessment and Feedback >> CW1)

**Weight:** 50%

## Plagiarism, Late Submission and Marking

This is an **individual assignment**. To avoid plagiarism or collusion, you **should not be working together** on this coursework. Any plagiarism or collusion will result in a serious penalty. <https://www2.le.ac.uk/offices/sas2/assessments/plagiarism/penalties>.

**Late submission will result in a penalty** as per the senate regulations. <https://www2.le.ac.uk/offices/sas2/assessments/late-submission>.

**Marking will be anonymous**. Please do not include your name in your submission. The marking rubric, also available on Blackboard, details the marking process. Please read the rubric to see how you can gain (or lose) marks.

## Introduction

You should use your knowledge of the software development process and of ethical issues in CW1. Throughout this coursework, please think of real-world examples of software and potential ethical issues that the developers may have faced. Use evidence when possible to justify the claims you make, with evidence referenced and cited correctly. For more information on this CW and referencing, please attend the CW1 unpacking session in Week 13 (or watch the recording available on Blackboard).

*When providing evidence for each question, resources found online and used should be referenced correctly, using the IEEE reference style (*[*click here for an in-depth guide*](https://ieeeauthorcenter.ieee.org/wp-content/uploads/IEEE-Reference-Guide.pdf)*). References should be listed at the end of each answer, with correct citations within the text. References do not count in the word count for each question.*

***(30%) Q1 (400-500 words):*** **Describe and explain one ethical issue that you (as a software developer) could potentially face during the “Requirements”, “Design” or “Development” phase of the production of your chosen software.**

Choose one example of software (desktop application, mobile application, website) that interests you: this could be something you have used or just something you are aware of (read ahead for details about what you will need to discuss regarding this software – this may help you to choose a suitable example).

Imagine you are a software developer working on the production of the software you have chosen. Please decide which software development methodology (either Waterfall or Agile) you are using and clearly state this. Consider the following points when writing your answer.

* Clearly state the software and development methodology you have chosen
* What is the ethical issue you may face and why is this a concern (think about the possible impact of this issue)? Recall the “code of ethics” discussed in our lectures.
* Link clearly to the development methodology you have chosen, including how your issue can be handled within that methodology (such as interaction with the client, fellow developers etc.). Good understanding of the phase of development should also be demonstrated, including how this ethical issue is **most appropriate to the phases listed above.**
* What actions could you (a developer) take to increase/decrease the impact of this issue?
* DO NOT use data privacy as your ethical issue (this is covered later in the module.

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| Me and my team are assigned to develop a social platform that will connect music artists with their listeners. The platform will be provided as software as a service to which listeners will pay a monthly fee in order to keep listening to the artists’ published songs. Moreover, the team decided to approach the Agile development methodology as it is best suitable for the project. Also, several ethical issues that are bound to be raised, can easily be resolved in agile’s early stages of lifecycle. The most concerning issue that is inevitable to any artist to audience model platform is the agreement of the distribution of wealth that is obtained by the users between the platform owners and the artists. The employers could get greedy and attempt to manipulate the artists into getting a much less pay than what they provide for, or vice versa. Furthermore, this issue contravenes the second code of ethics, “CLIENT AND EMPLOYER – Software engineers shall act in a manner that is in the best interests of their client and employer consistent with the public interest” [1]. The aforementioned issue can be addressed in the design stage of agile’s lifecycle. The employers should meet a number of artists that have a high chance of using the platform and all together should agree on the distribution of wealth. For example, a fair division could be 25 per cent for the employers to 75 per cent for the artists, the whole 75 per cent sum should be given to the artists accordingly based on the amount of plays they are getting on their songs, because the more the plays the larger the number of users that get attracted to the application. In addition, a contract should be agreed between both parties on how these percentages could change in the future as the platform gains more users. To illustrate, the application has the potential to reach millions of users in which at some point the stakeholders could not care about artists leaving their platform as there is already many users to fund the platform’s maintenance. Furthermore, they could vote in making the distribution amount more into their favour and keep exploiting less known artists who will stay on the platform no matter how much they earn. An agreement at the emergence of the application could prevent that and the distribution percentages stay ethical. Multiple copies of the contract should be archived and owned by both parties and the maintenance team, to make sure that the agreements are not broken.  D. Gotterbarn, K. W. Miller, S. Barber, S. Rogerson “Software Engineering Code of Ethics and Professional Practice” researchgate.net  <https://www.researchgate.net/publication/278417404_Software_Engineering_Code_of_Ethics_and_Professional_Practice> (Accessed Oct. 24, 2021) [1] |

***(30%) Q2 (400-500 words):*** **Now repeat Q1 (above), but this time** **describe and explain an ethical issue that you may expect to face in the “Testing” or “Maintenance” phase of the production of your chosen software.** Consider the same points listed above in Question 1 (go back and read them again now) when writing your answer to Q2.

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| Please enter your answer here (remove this placeholder text). Your answer should consist of clear paragraphs (the bullet points are a guide to the content of your answer). |

***(20%) Q3 (300-400 words):*** Think about the actions you would take during the development lifecycle when faced with an ethical issue. **In your opinion, would you prefer to be developing software under the Waterfall or Agile (such as Scrum) methodology when handling an ethical issue? Why would you prefer this?**

* Your answer should link specifically to the handling of ethical issues, and NOT whether in general you prefer one methodology.

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| Please enter your answer here (remove this placeholder text). Your answer should consist of clear paragraphs (the bullet points are a guide to the content of your answer). |

***(20%) Q4 (300-400 words):*** **Technology has affected society. In your opinion, is this effect more positive than negative, more negative than positive, or equally positive and negative?** Use examples (recent or historical examples – remember the “History of Computation” topic) and resources to justify your conclusion. Link your answer to Technological Determinism and/or Social Constructivism.

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| Please enter your answer here (remove this placeholder text). Your answer should consist of clear paragraphs (the bullet points are a guide to the content of your answer). |