

Discuss the Ethical Issue related to the software

Task 5



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4067 CEM

INTI International College Penang

**INTI International College Penang School of Engineering and Technology 3+0 Bachelor of Science (Hons) in Computer Science, in collaboration with Coventry University, UK**

# Coursework cover sheet

**Section A - To be completed by the student**

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| CU Student ID Number: 13446776 | |
| Semester: 2 | |
| Session:  **August 2022** | |
| Lecturer:  **Nadhrah Abdul Hadi (nadhrah.abdulhadi@newinti.edu.my)** | |
| Module Code and Title:  **4067CEM Software Design** | |
| Assignment No. / Title:  **Continuous Assessment** | % of Module Mark:  **50** |
| Hand out Date:  **6th September 2022** | Due Date:  **Task 1: 30 September 2022, by 11.59pm.**  **Task 2: 18 November 2022, by 11.59pm**  **Task 3: 4 November 2022, by 11.59pm.**  **Task 4: 4 November 2022, by 11.59pm.**  **Task 5: 4 November 2022, by 11.59pm.** |
| Penalties: No late work will be accepted. If you are unable to submit coursework on time due  to extenuating circumstances, you may be eligible for an extension. Please consult the lecturer. | |
| Declaration: I/we the undersigned confirm that I/we have read and agree to abide by the University regulations on plagiarism and cheating and Faculty coursework policies and procedures. I/we confirm that this piece of work is my/our own. I/we consent to appropriate storage of our work for plagiarism checking.  Signature(s): Text, whiteboard  Description automatically generated | |

# Section B - To be completed by the module leader

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| Intended learning outcomes assessed by this work:   1. Understand and apply appropriate concepts, tools and techniques to each stage of the software development 2. Understand and apply design patterns to software components in developing new software 3. Demonstrate an understanding of project planning and working to agreed deadlines, along with professional, interpersonal skills and effective communication required for software production   5. Demonstrate an awareness of, and ability to apply, social, professional, legal and ethical standards as documented in relevant laws and professional codes of conduct such as that of  the Malaysian National Computer Confederation. | | |
| Marking scheme | Max | Mark |
| 1. User Story Mapping | 20 |  |
| 2. Setting up a GitHub |  |
| Repository | 10 |
| 3. Creating a Class diagram and |  |
| design pattern selection | 30 |
| 4. Creating a Prototype User |  |
| Interface and Usability Testing | 20 |
| 5. Discuss the ethical issue |  |
| related to the software | 20 |
| Total | 100 |  |

**Ethics**

An ethical principle governs whether an action is right or wrong. Principles of ethics are generally founded on the objective of achieving happiness. In this case, it is gaining profit and benefits from some activity.  
(Singer, 1998)

A study of ethics in information technology entails the study of ethical issues related to technologies and their uses. The primary reason behind learning ethics in IT field, is to analyze an individual's actions and responsibilities which are based on moral basis. Ethics comes in play in literally every field, whether it be sports, business, IT, school etc.

There are numerous Ethical codes that is followed in different organizations. For instance, Code of Conduct and Code of Practice.

**Importance of Ethics through a software Engineer’s perspective** – Positive and honest employees who demonstrate fairness and decency at work enhance the morale of the whole organization and contribute to its success. But it is not that simple, during the course of their work, employees are often expected to maintain integrity, responsibility, and professionalism. The ethical law demands that confidential information be handled correctly, the work environment be safe, and that bribes are not accepted.

**Importance of Ethics though a student’s or customer’s perspective** – As it seen, the internet is a child’s best friend and yet the biggest enemy as well. It’s not the internet that makes it bad, it’s the people who misuse it. Which is why Ethics does not only come in play for the developers or staff who are making a system. But it also comes for the people who are going to use it. These ethics ensure that the system is a safe environment for people. It helps in reducing the cases of Cyber-Bullying.

**Laws**unlike Ethics, Laws are rules or regulations set by the government or the ruling body, and these are bound to followed by everyone. Any individual reported to not following a certain law could be penalized. There are laws and Acts for IT field as well. These are made to ensure the safety of people on the internet. To keep them safe from malicious attacks, cyberbullying, Identity Theft, and various other attacks. Each country has their set of laws and Acts. A few of the laws that concern the Technological or Data related stuff are: Copyright law, The Personal Data Protection Act 2010 (PDPA) and The Computer Crimes Act 1997 (CCA)

**Importance of Laws in a country** – In order to maintain peace, laws play an essential role. By establishing these rules, citizens and politicians are encouraged to engage in civil and political discourse. Every individual is protected by the law. It is the regulations and rules that provides access to justice for all citizens. In order to set a standard for what is acceptable (and what is not), laws are established.

**Ethics and Laws in the Buddy System –**

As it is known that, the Buddy System is all about people sharing information, viewing them and then further interacting with people if the user wants to. There are several concerns that arises here. Concerns like, the developer of the system, **misusing the power and exposing or selling the data** that the user inputs. Other issues that could happen not by the developer but the students or the users of the system itself, **Identity Theft/Identity fraud** or even **Cyber-Bullying.** There is a possibility as well that a hacker could potentially do a **Data breach** on the system. So to Ensure that this system is a safe and friendly environment, and to make sure, no malicious attacks take place, Several Laws and Ethical Codes are practiced.

**Data Breach** – Due to the increase in the number of hackers in the current times, the system is most likely to be undergo a Data Breach attack, where the hacker may have access to all the information that people post in the Buddy system. Therefore, to ensure such incident or ethical law isn’t broken, The **Personal Data Protection Act 2010** (PDPA) comes in play. But if there is a Data breach taking place, The **Data Breach Prevention and Compensation Act** and the **Critical Infrastructure Act of 2022** comes in action. The DBPCA helps the system in certifying that, all the Data inputted in the records are all Safe and Supervised at all times. There is a penalty imposed on the people who were monitoring the data if in case a data breach takes place. If a data breach does take place, every user, whose data was involved in the breach is compensated accordingly. Secondly, once a data breach takes place, Due to the Critical Infrastructure Act, the team who built the Buddy System must report the incident to the Security Department of the country within 72 hours of the incident.

**Unethical behavior of the Student or the User** – As mentioned above, there are chances that the students might misuse the Buddy system. This could be possible by them stealing someone’s identity and talking with others, or it could happen through Cyber-Bullying as well. Here, the **Computer Crimes Act** (CCA) comes in, as this act makes sure that any consumer of the system, (students in this case) does not Misuse this technology given to them. The students are not allowed to post any kind of racist information or pictures that is considered sexual or wrong in any kind of way. A person who is caught in the action of unethical behavior or is found misusing the system, will be penalized. Along with this Act, the **IEEE Code of ethics** must be followed by the Developer team, so that they can handle and manage the students well.

**Unethical Behavior of the Developer** – Here, the **Personal Data Protection Act 2010** comes in again, and along with this, the **Ethical Code of Practice** needs to be there. This ensures, that all the data is kept in with integrity, security and privately. It also makes sure that, when the user asks for their data, the system must accurately present all the necessary information to the user.

That covers all the issues that could potentially take place in the system and how it can be avoided or fixed thanks to the Ethical Codes and Laws.