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

Coursework cover sheet

Section A - To be completed by the student

<table>
<tr><td colspan="2">Full Name: Matthew Loh Yet Marn</td></tr>
<tr><td colspan="2">CU Student ID Number: 13445539</td></tr>
<tr><td colspan="2">Semester: 1</td></tr>
<tr><td colspan="2">Session:
August 2022</td></tr>
<tr><td colspan="2">Lecturer:
Nadhrah Abdul Hadi (nadhrah.abdulhadi@newinti.edu.my)</td></tr>
<tr><td colspan="2">Module Code and Title:
4067CEM Software Design</td></tr>
<tr><td>Assignment No. / Title:
Continuous Assessment</td><td>% of Module Mark:
50</td></tr>
<tr><td>Hand out Date:
6th September 2022</td><td>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.</td></tr>
<tr><td colspan="2">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.</td></tr>
<tr><td colspan="2">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):  </td></tr>
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Section B - To be completed by the module leader

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 2. Setting up a GitHub Repository 3. Creating a Class diagram and design pattern selection 4. Creating a Prototype User Interface and Usability Testing 5. Discuss the ethical issue related to the software	20 10 30 20 20	
Total	100	

Task 5 – Discuss the ethical issue related to the software (20 marks)

Matthew Loh Yet Marn – 13445539

BACKGROUND

In this task, we take a look at the College Buddy System from social, professional, legal and ethical standpoints. These aspects can represent several potential issues down the line in the system's software development life cycle. In the digital age, laws govern far more than the development of software at its core. In the following contents, a critical analysis will be made in regards to the various areas that are important to keep in mind not just a member of the software development community, but in society as a whole.

1. Data Privacy, Protection and the Personal Data Protection Act 2010

The College Buddy System, like many other social networking software services, is built upon user information, that is, information that spans across the vast domains of the Internet. Malaysia, like many other countries, has laws that are codified for the modern, digital society where most Malaysians have a likeness of themselves in some form using social media and the like. In this *cyberspace*, digital citizens are afforded blanket protection for their data by acts like the Personal Data Protection Act 2010 (PDPA). The PDPA seeks to cover commercial transactions and caters for the individual's right to data privacy on the Internet and data protection by companies. Companies typically have terms of use and service agreements that dictate the Privacy Policy in place to protect their interests, which users have to specifically opt-in for to ensure that the company's liability when it comes to legal issues regarding data processing is minimized.

The legal reasons behind choosing to incorporate privacy policies into the terms are numerous. Under the PDPA, individuals have the personal data they provide to systems, just like our College Buddy System, protected from misuse and unconsented disclosure. The PDPA also dictates guidelines for how the system we created handles data, including how the collection, storage and usage of personal data is handled. In the big picture, this law and several other similar forms of it help to ensure users the peace

of mind that companies have to comply with the laws and regulations set by the country in defining the proper processing of personal data in day-to-day activities in cyberspace.

The collection of personal data is everywhere, and personal data includes any information that can identify us or from information from which we are identifiable. This includes our name, nationality, telephone number, bank and credit card details, personal interests, email address, government-issued identification numbers, race, biometric data, race, date of birth, marital status, health information, religion and so on. As such, data has become the key driver of marketing communications. The PDPA exists to ensure the legitimacy of the actions that companies carry out to collect and process our data. In general, the College Buddy System must fully disclose that the collection of Personal Data is only through voluntary sources, that is when the user provides it. Users must be able to opt-out of receiving marketing communications and be ensured that their data may not be sold, manipulated, or disseminated unintentionally on the internet. The College Buddy System has to be responsible for the safeguarding of the user's sensitive personal data including that which may be at threat of data breaches. The lasting impacts on society if privacy policies were to not be implemented are tremendous. As cybercrimes like digital fraud and scams continue to run rampant, user data is prime to be exploited through unauthorized access and hacking. Mechanisms to safeguard user data from abuse may not see much development if acts were to be cast to the side in favour of profits. Additionally, companies that violate privacy laws may face fines or other penalties. Companies will continue to capitalize on careless holes present in data privacy policies and create targeted advertisements and promotions, that if misused, could spell drastic ramifications on the well-being and harmony of Malaysian society.

2. Content Policy, Cybercrimes and the Communications and Multimedia Act 1998

Several laws define the content policy that College Buddy System users have to follow. For example, in Malaysia, the Communications and Multimedia Act 1998 (CMA) prohibits the use of social media for activities such as sending offensive or obscene messages. In blanket terms, indecent content, obscene content, false content, menacing

content and content offensive in nature are considered to be an offence to the CMA. Critically analyzing the system, to use the system's services, users must obey the content policy which in the case of infringement, may result in the termination of the user's account on the platform. Like the CMA, laws exist to require companies that work in the domain of social media to post clear and concise content policies to rule that the content being posted coincides with societal norms and widespread acceptance. Speaking in terms of implications on the College Buddy System, as a platform provided to students to discuss intellectually on various topics, the Content Policy that is set in the terms of use and service must toe the narrow line of maintaining content correctness while still preserving the freedom of speech. Most content policies on existing social media platforms typically draw the line between freedom of speech and hate speech by prohibiting content that is likely to cause or intended to cause harm. In the case of this system, context matters. The intended audience of INTI Penang students also carries the best interests of INTI as an organization. As such, the College Buddy System for INTI students has to prohibit hate speech that targets individuals based on race, religion, gender, sexual orientation and other similar protected characteristics. In the domains of similar legislation, including the Copyright (Amendment) Act 1997, cybercrimes that are most related to this discussion include cyberbullying, dissemination of fake news and intellectual property theft. The preservation of intellectual property rights is the responsibility of both the creators of CBS and the user. When a user posts content on CBS, the content may be removed if it violates the terms of service or content policy. For example, regarding intellectual property, users are expected to not maliciously steal intellectual property for personal gains, such as claiming creative works as their own and profiting from it.

In terms of impacts on society, the violation of content policies following the Communications and Multimedia Act 1998 could precipitate lasting detriments towards the image of INTI Penang and the College Buddy System. Users who seek to abuse the platform for malicious and harmful intents would not be held accountable and responsible for possible harm caused to other users. The general conclusion is that when content

policies are breached, the effects can vary depending on the severity of the breach. For example, a user who posts offensive or obscene content on a social media platform may be banned. In more severe cases, individuals who engage in hate speech or other forms of online harassment may be subject to legal action. Finally, when content policies are routinely breached, it can erode trust in social media platform providers and reduce people's willingness to use these platforms.

3. The Wide Spectrum of Possible Ethical Issues Faced by Developers

As part of the greater collective involved in information and communication systems, developers too must be held to a standard that adheres to the definition of professional bodies. The Malaysian National Computer Confederation (MNCC) is a professional body for computer professionals in Malaysia. Its objectives include promoting the use of computers in Malaysia and developing and maintaining standards for the computer industry. Focusing on the latter, what expectations are computer professionals held to in terms of ethical responsibility? In Malaysia, the MNCC define a code of conduct that developers in general are expected to conform to. In the College Buddy System, these codes of conduct include upholding the highest standards of professional and ethical conduct, respecting the confidentiality of client information, avoiding conflicts of interest and refraining from engaging in any dishonest or illegal activity. Some examples of conduct that may be considered unethical include the stealing of data for personal gain and the distribution of proprietary information obtained from the software project. Furthermore, the code of conduct must ensure developers never maliciously corrupt or modify the user’s files and data nor violate the privacy of the individual, group or organization. Also, the content present in the system should never serve to facilitate or propagate the developer’s selfish agenda, which may include political or personal intentions. Software developers must adhere to uphold intellectual property rights in facets including the assets used in the creation of software projects. As such, projects created by developers must have a zero-tolerance policy for pirated and stolen works of creativity. It is also in the best interest to ensure that the goods and services

provided by the software do not infringe on laws that protect copyright, trademarks, patents or licenses. For example, the pictures used in the creation of the College Buddy System must be attributed to their rightful owner and used with rights obtained through the purchasing of rights of usage or by permission of the rightful party itself.

The code of conduct expected by a professional software developer bears tremendous implications for improving the past, present and future of technology. In a world that is defined by digital media created through the usage of various platforms, developers must work to ensure that the domain upon which these platforms are created serves the common good. The code of ethics at the end of the day seeks to help developers produce high-quality software. The artists and other creative minds that produce designs and concepts must be credited in order to not come off with their ideas as our own original ones.

CONCLUSION

This marks the end of Task 5. All in all, the topics that were critically analyzed in regard to the system were related to the processing and handling of user data, content policy for users and the ethical issues faced during the creation of the system. When considering the grand scheme of things, though this project may be of a smaller magnitude, the overall impact it has brought in terms of learning and deepening my software design skillset to be a good developer cannot be overstated. All in all, this task has managed to emphasize the importance of the debate regarding ethical issues present in the software developing world.