INTI International College Penang **School of Computing**

3+0 Bachelor of Science (Hons) in Computer Science, in collaboration with Coventry University, UK

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Coursework cover sheet

Section A - To be completed by the student.

Full Name: LEE YUEH YU	
CU Student ID Number: 14008751	
Semester: 2	
Session: **April 2023**	
Lecturer: **Puteri Nursyawati Azzuri (puteri.azzuri@newinti.edu.my)**	
Module Code and Title: **4067CEM Software Design**	
Assignment No. / Title: **Continuous Assessment**	% of Module Mark: **50**
Hand out Date: **12 May 2023**	Due Date: **Task 1: 02 June 2023, by 11.59pm.** **Task 2: 07 July 2023, by 11.59pm** **Task 3: 23 June 2023, by 11.59pm.** **Task 4: 23 June 2023, by 11.59pm.** **Task 5: 23 June 2023, 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 the appropriate storage of our work for plagiarism checking. Signature(s): 

Section B - To be completed by the module leader

Intended learning outcomes assessed by this work: Understand and apply appropriate concepts, tools, and techniques to each stage of the software development. Understand and apply design patterns to software components in developing new software. 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	

Task 5: Ethical Issues

5.1 Introduction

This Task is a continuation of Task 1, Task 3, and Task 4 which was the creation of the user story mapping according to the user stories obtained, the class diagram and design pattern selection, and the creating of a prototype user interface along with the usability testing respectively.

This task will be highlighting the ethical issues of the system.

5.2 Ethical Issues

Ethical issues refer to the moral dilemma and considerations that arise during the development and the implementation stages of creating a software system. The issues which will be addressed in this task will be the privacy concerns of the system, the intellectual property rights of the system, and the effect of society. By addressing these ethical issues, steps are taken to ensure that the system is designed and used in an ethical and responsible manner.

5.2.1 Privacy Concerns

Software applications usually deal with sensitive user data and privacy concerns which have become increasingly important especially in this day and age of the digital era. This Student Business System handles sensitive data such as personal information which includes the identification number, full name, date of birth and so on. This system also holds the financial information of the user, which is the account number, card number and more.

Because of this, there are some key points which should be considered such as the data handling, the access controls, and the third-party integration. The software designed should be able to only collect necessary data from the users and make sure there is no transparency in the data collection and consent. Encryption should be implemented in this system to ensure the securit of the data in the system. Access controls should also be implemented to ensure that the data will only be accessible to authorized personnel to maintain user privacy. Another way to ensure that the user data is properly secured is through third-party integration which would inspect if the system were able to integrate with the third-party services and proceeding to access their privacy policies and data handling practices.

5.2.2 Intellectual Property Rights

Intellectual property rights are crucial for software development. Some of the aspects that should be considered include the importance of a proper adherence to open-source licenses when incorporating open-source components into the software. The understanding of the license terms and obligations are important and necessary to be followed. Obtaining an appropriate license for any third-party resources used in the software should be considered to avoid any infringement of property rights. Another way is to examine if the system adheres to copyright laws when handling educational resources and other copyright materials.

5.2.3 Effect of Society

A software system can have a positive and negative effect on society. The system should be used responsibly and does not contribute any harm, discrimination, or unethical practices whatsoever. Besides that, the system should be able to provide a fair and equal opportunity for all students regardless of the user backgrounds and also avoid reinforcing any bias or inequalities as to keep the academic equity. The accessibility of the system should also consider the needs of students with disabilities to ensure they get equal access to the resources and are compliant with the accessibility standards. The ethical considerations include analyzing is the system upholds to the ethical principles which includes fairness, integrity along with the respect of user rights in the system's usage and functionality. The social impact of the system should ensure that the contribution is positive to society which means that the influence of the system to the student's well-being, academic performance, and the career prospects should be considered for a broader social impact of the system.