**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**

|  |  |
| --- | --- |
| Full Name: TEH GER MIN | |
| CU Student ID Number: 12672763 | |
| Semester: 3 | |
| Session:  **April 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:  **22nd April 2022** | Due Date:  **Task 3: 17 June 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): TEH | |

**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 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 3 - Class diagram and design pattern selection**

**Simple Class Diagram**

Diagram

Description automatically generated

**Figure 1: Simple Class Diagram**

One or many **Student**(s) can join zero to many **Club**(s), which means **Student**(s) can join either none or some **Club**(s).

One or many **Student**(s) can join zero to many **Online Room**(s), which means **Student**(s) can join either none or some **Online Room**(s).

One or many **Student**(s) can register to join zero to many **Event/Activity**(s).

After the **Student**(s) participated in the **Event/Activity**(s), then one or many **Student**(s) can provide zero or one **Feedback** of the **Event/Activity**(s).

One or many **Committee**(s) can manage one or many **Club**(s), which means they can become the **Committee** in difference **Club**(s) at the same time.

One or many **Committee**(s) can assign zero to many **Student**(s) become a **Committee**, which the **Student** must be the member in the **Club**.

One or many **Committee**(s) can manage zero or many **Online Room**(s).

One or many **Committee**(s) can book zero or many **Facility**(s) with the purpose to book venue for the **Event/Activity**(s).

One or many **Committee**(s) can organize zero or many **Event/Activity**(s).

One or many **Committee**(s) can view zero or many **Feedback**(s) of the **Event/Activity**(s).

One or many **Club**(s) can open zero or many **Online Room**(s) for conducting some **Event/Activity**(s).

One or many **Club**(s) can conduct zero or many **Event/Activity**(s).

One or many **Event/Activity**(s) will gain zero or many **Feedback**(s) from the **Student**(s).

**UML Diagram with Design Pattern**

Diagram

Description automatically generated

**Figure 2: UML Diagram with Design Pattern**

The problem with this website is how to help the club’s committee manage their club easily through the designed website. A suitable design pattern that can be implemented on the problem is the Facade design pattern. If the user just wants to access a specific page, the user can choose the feature or page that they wish to access inside the home page. This hides the system's complexities and gives users a simple interface via which they can interact with the system. As a result, rather than interacting with each separate subsystem, the client would interact with the facade.