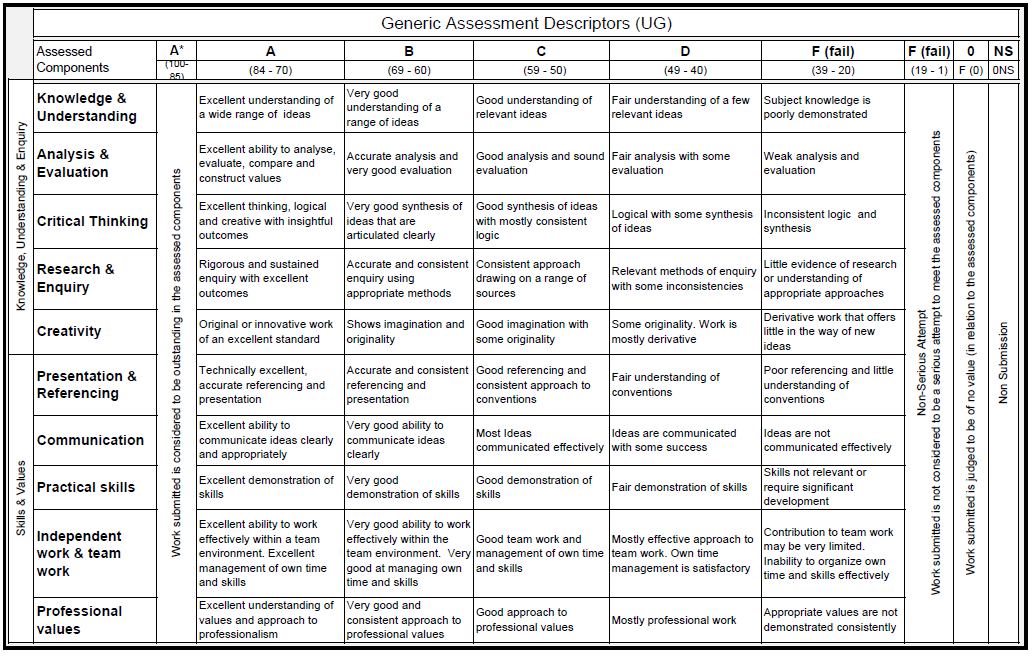
**ASSIGNMENT BRIEF**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Module Code** | 2CB105 | **Module Tutor** | | Dr Andrew Guest | | | |
| **Module Title** | Software Engineering Design Patterns | | | | | | |
| **Level** | 5 | **Credit Value of Module** | | | 20 | | |
| **Assessment Task** | Group Design & Build Project & Documentation | | | | | | |
| **Word Count/Time** | 2500 Total | | | | | | |
| **Assessment No** | 1 | **of** | 1 | | | **Weighting** | 100% |
| **Type of Submission** | Code & pdf/word doc | | | | | | |
| **Method of Submission** | Electronic through moodle & repl.it | | | | | | |
| **Publication Date** | 13/10/20 | | | | | | |
| **Due Date** | Noon 13/01/21 | | | | | | |
| **Expected Feedback Date** | 03/02/21 | | | | | | |
| **Format of Feedback** | Through Moodle | | | | | | |
| **Module Learning Outcomes** | | | | | | | |
| 1. Apply design patterns to the development of computer games 2. Evaluate and analyse the appropriate use of design patterns to typical game programming problems; 3. Apply decisions about design pattern to enable efficient and effect code re-use in game development. | | | | | | | |
| **Assignment Description** | | | | | | | |
| **Overview**  ***Please ensure you read all of this document. Page 3 gives a breakdown of the marking for this module. Page 4 gives a detailed breakdown on how the university grades different concepts.***  For this module you have to design and develop a game prototype. You will work in groups to design and develop the game using the Agile Scrum methodology using appropriate design patterns.  Each group is required to submit the completed code for the game and a project document detailing the process of developing the game. Each individual student should also submit a reflective essay on the project.  The game source files and documentation should be uploaded to repl.it and the notification document completed and submitted through moodle. The notification document is available on moodle (The notification document simply identifies which students are members of the group and provides a link to the repl.it repl).  **During the project each member of the team has to take on the role of Scrum Master at least once. Any student failing to do so will have 10% removed from their mark for the module.**  **Up to 20 marks may be removed from the Game Prototype mark for individual students who cannot demonstrate sufficient participation with the project.**  Any issues of students not engaging with the coursework should be brought to the attention of the lecturer as soon as possible. | | | | | | | |
| **1 – The Game**  Your group has to develop a game using Pygame and Python, following the Agile Scrum methodology and use appropriate design patterns.  Your group should select a classic arcade game or early home console game and recreate it to run on repl.it. You will need to check with the lecturer to ensure the chosen game is suitable. i.e. Pong is far too simple, the game needs to be complex enough to require the use of at least one design pattern per student. The Game Loop, Update and Double Buffer patterns are implemented by pyGame and are not valid patterns for this assessment. | | | | | | | |
| **2 – Project Documentation (1250 words per student in group)**  The group will submit a single document describing the project    The document should contain sections covering   * Introduction * Game Description * Project Management Overview * Initial Feature List & Backlog * Sprints * Conclusion | | | | | | | |
| **3 – Reflective Essay (1250 words)**  Each **individual student** will submit a report covering   * Design Pattern   + A brief description of the design pattern used by the student   + A description of how and why it was used * Reflective Report   + A reflective report considering the project as a whole, the agile process and design patterns   + At least one example of something that worked well   + At least one example of something that worked poorly   + At least one example of something you would do differently next time | | | | | | | |
| **Assessment Regulations** | | | | | | | |
| * Your attention is drawn to the [University policy on cheating and plagiarism](https://www.yorksj.ac.uk/media/content-assets/registry/policies/code-of-practice-for-assessment/23.Academic_Misconduct_Policy_2020-21.pdf). Penalties will be applied where a student is found guilty of academic misconduct, including termination of programme. * You are required to [keep to the word limit set for an assessment and to note that you may be subject to penalty if you exceed that limit](https://www.yorksj.ac.uk/media/content-assets/registry/policies/code-of-practice-for-assessment/29.Agreed_Penalties_Policy_2020-21.pdf). You are required to provide an accurate word count on the cover sheet for each piece of work you submit. * [For late or non-submission of work](https://www.yorksj.ac.uk/media/content-assets/registry/policies/code-of-practice-for-assessment/29.Agreed_Penalties_Policy_2020-21.pdf) by the published deadline or an approved extended deadline, a mark of 0NS will be recorded. Where a re-assessment opportunity exists, a student will normally be permitted only one attempt to be re-assessed for a capped mark. * An extension to the published deadline may be granted to an individual student if they meet the eligibility criteria of the [Exceptional Circumstances Policy](https://www.yorksj.ac.uk/media/content-assets/registry/policies/code-of-practice-for-assessment/16.Exceptional_Circumstances_Policy_2020-21.pdf). | | | | | | | |

**Marking Guide**

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| --- | --- | --- | --- |
| **Part** | **Component** | **Overall** | **Required Content** |
| **Game Prototype (50%)** | Basics | 50% | The game :   * Runs * Is object oriented * Is well structured and commented * Hasn’t been downloaded from the internet |
| Design Patterns | 50% | The game code   * Correctly implements a design pattern from each student * Identifies which student was responsible for the design pattern   (Marks here are for the group as a whole, individuals students who fail to contribute will lose marks). |
| **Project Documentation (25%)** | Introduction | 10% | 1. Purpose, Scope, Objectives of document 2. Document Overview |
| Game Description | 10% | 1. Description of the game you are seeking to make. 2. Screen shots, features, etc 3. Information on the original game with references |
| Project Management Overview | 20% | 1. Description of the project methodology – Agile Scrum 2. Schedule for the project, sprint dates, scrum master dates, etc |
| Initial Feature List & Overview | 20% | 1. Detailed list of the core features required for the game 2. Overview of the full initial feature list 3. (Full initial backlog list as |
| Sprints | 20% | For each sprint   1. Identify Scrum Master, Start Date, End Date 2. Sprint Planning Summary - including    1. Which items from the backlog are in the sprint    2. Sprint backlog priority    3. Task Board at start 3. Sprint Review Summary    1. Which items were completed (and by whom)    2. Which items were not completed    3. Task Board at end 4. Retrospective Summary    1. What is working well?    2. What is working poorly?    3. What changes are to be made? |
| Conclusion | 10% | A brief conclusion summarising the project, its successes and failures. |
| Quality | 10% | Document   1. Is properly structured with headings and section numbers 2. Is readable with sentences that make sense, correct spelling and grammar 3. Is properly referenced using Harvard referencing style |
| **Reflective Report (25%)** | Design Pattern | 50% | A brief description of the design pattern implemented by the student  A description of how and why it was used |
|  | Reflective Report | 50% | A reflective report considering   * The project overall * The Agile Process * Design Patterns   It should also include   * At least one example of something that worked well * At least one example of something that worked poorly * At least one example of something that you would do differently next time. |
|  | **There will be a flat 10% removed from the mark of any student who does not take on the role of Scrum Master at least once**  **Up to 20 marks may be removed from the Game Prototype mark for individual students who cannot demonstrate sufficient participation with the project.** | | |

University Generic Assessment Descriptors

**Knowledge & Understanding, Analysis & Evaluation, Critical Thinking, Practical Skills** – Throughout. Game Prototype coding & design pattern use. Project document and reflective report.

**Research & Enquiry** – game prototype choice, design pattern choices

**Creativity** – game implementation

**Presentation & Referencing, Communication** – Through the project documentation and reflective report.

**Communication, Independent & Team Work, Professional Values** – how you work as a team and how you work on your individual tasks for the team.