Cardiff School of Technologies

Assessment Brief

Module Code	Module Title
GDV4000	Introduction to Game Industry Practice
Academic Year	**Semester**
2024-2025	01

Module Leader email

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Content

Assessment Details

Assessment title	Abr.	Weighting
Implementing a Game Prototype	PRAC1	60%

Pass marks are 40% for undergraduate work and 50% for postgraduate work unless stated otherwise.

Task/assessment brief:

For this assignment you are required to implement a game prototype in a game engine of your choice based on your WRIT1 Game Design Document (GDD), that includes the relevant Core and Non-Core Mechanics outlined in the documentation. The prototype may be implemented in the engine of your choice, but a researched rationale based on the needs of your game is expected.

This will be a ***team-based assignment*** and your final submission is to contain the following:

Part 1 - Documentation

Your development documentation must include the following **two sections** and should be no longer in total than **400 words** (**per team member**) (not including diagrams and illustrations / sketches of your design). The report should contain an abbreviated TDD and Closing Kit as detailed below.

Cut Down TDD

The accompanying TDD Template (TDD_Structure_GDV4000.docx) has been highlighted to help you structure this section of the documentation.

Please Note:

1. The minimum specification for the target hardware your game will run on will be used to justify optimisations in your code.
2. Including a class diagram showing the classes, attributes, methods and relationships between the classes in your game.
3. Prefer including sequence diagrams that show at least the following scenarios:
   - Initialisation
   - Game Loop
   - NPC spawn
   - Projectile collision with NPC
4. Be sure to plan your testing and report any testing undertaken.

The use of **Generative AI** is **not** permitted on this module. Spell checking and Grammar checking using in-built tools is accepted. All citations and references must be in Harvard style as per Cite Them Right.

Cut Down – Closing Kit

The accompanying Closing Kit Template (ClosingKit_Structure_GDV4000.docx) has been highlighted to help you structure this section of the documentation.

Please note:

1. You must provide access to your repository ahead of the hand in date.

Part 2 - Development

Using techniques covered in lectures and workshops, your game must contain the following elements…

- Initialisation
- The Game Loop, which in turn contains…
- Methods to control the player (keyboard or gamepad for example)
- Methods to spawn, animate / control non-player elements
- Interaction and collision detection with in-game elements
- A means to track points, or rewards as the game progresses
- Render / Draw the game elements on-screen

Your team will have regular check-ins and meetings with your Tutor during Workshop time to track progress. You are required to use a suitable **version control system** (VCS) to manage the development of your game best to do this from the start! You can use the provided scripts to add behaviours to elements within your game as well as develop your own scripts. Test your game within the team and ask fellow students, family, or friends outside your team to play your game and provide feedback. **Feel free to test your game at any point during development to get early feedback.**

Hint #1: Discuss your ideas with your tutor during workshops to make sure you're on the right track.

Hint #2: Implement one feature at a time.

Hint #3: Don't forget, comment your code.

Part 3 - Presentation

You will also be required to explain your implementation (include a walkthrough of how the gameplay worked – showing how your scene, scripts and assets were setup in your choice of engine) in a short video recording including game demonstration, informal **code demo** lasting no more than 5-10 minutes, this will be required to attach with submission in the form of a link to an **unlisted YouTube video**. **This part of the assignment is mandatory, and the implementation will also be marked according to how well you demonstrate your understanding of the code in the recorded presentation.**

Part 4 - Reflective Report (~400 words per team member)

Each team member is expected to submit a short report reflecting on their contribution to the group work, and their experience to date. This is the only part of the written work that should be in **first person**. It is recommended to use a structure, such as Gibbs' Reflective Cycle and write a paragraph on each of the 6 phases:

- **Description** – What happened? Describe the experience.
- **Feelings** - What were you feeling and thinking? Why might you have felt that way?
- **Evaluation -** What did you consider to be good and bad? Were all members contributing equally?
- **Analysis -** What sense can you make of the situation? What steps could be considered?
- **Conclusion** - What could you have done in that situation?
- **Action plan** - How would you think and react if that situation arose again?

Word count (or equivalent):	2400 words (**per team member**)

This reflects of the effort required for the assessment. Word counts will normally include any text, tables, calculations, figures, subtitles, and citations. Reference lists and contents of appendices are excluded from the word count. Contents of appendices are not usually considered when determining your final assessment grade. Code is never assessed in terms of word count.

Academic or technical terms explained:

Prototype – An incomplete version of the software (or Game) developed to explore technological boundaries, techniques, libraries or user experience (e.g. gameplay).

Feature – A distinct software behaviour or game mechanic.

NPC – Non-Player Character (AI controlled player).

IP – Intellectual Property. Intangible property that is the result of creativity. In this context assets, images used for aesthetic queues etc. This also covers references and any copyrighted materials.

VCS – Version Control System. Software used in conjunction with good developer practices to track and manage changes to source code.

Evaluate - Measure or evaluate one or more aspect of something with emphasis on an overall judgement of something, explaining the extent to which it is, for example, effective, useful, or true. Evaluation is therefore sometimes more subjective and contestable than some kinds of pure assessment.

Discuss – A written debate using reasoning skill and selected evidence (i.e. references). This may present an argument for and against or highlight advantages and disadvantages of a given context, method, tool etc. ending with a conclusion.

Demonstrate an awareness – Show that you are conscious of something, i.e. not just recall facts connected to a subject but consider how this impacts on a given scenario, task or project.

GDD – Game Design Document, a document used to describe the aesthetic design of the game and it's intended mechanics. This maps out how the game should look and play at the end of development.

TDD – Technical Design Document, a document used to describe the technical design of a game along with details of its implementation and testing. Due to the Agile nature of the development process this is often a live document.

Closing Kit – This is a combination of documentation and software artefacts which provides an archive of the game for handover or future resurrection.

EDGE (Ethical, Digital, Global and Entrepreneurial skills)

Artificial Intelligence Models – Guidance for this assessment:

Artificial Intelligence (AI) models can be a powerful tool to support your learning. The University has provided some resources to support you in its appropriate usage:

- Library Services AI Hub
- Student Guide to AI and Assessment
- Code of Conduct for Students on the use of AI
- Cite Them Right resource on citing materials relating to AI (if permitted)

As per the academic regulations (Academic Handbook Ah1_08), in all cases you must submit work that is your own, acknowledging any part of it that has been informed by another source – including that which is AI generated. Upon submission of work, you will be asked to confirm the following statement:

> *I confirm that this assignment is my own work, except where I have acknowledged the use of works from other sources, including the use of any artificial intelligence (AI) tools, in accordance with what is allowable as described in the assessment brief.*

Please note the following:

- AI should not be used as a substitute for your own knowledge, and you should never include any material that you do not understand and could not explain if asked.

- Not being able to explain your work when asked is likely to be a key factor when considering cases of academic misconduct related to AI.

The following information provides specific guidance for this assessment about what level of AI use is appropriate for this assessment. Remember that in all cases you must submit work that is your own, acknowledging any part of it that has been provided by another source.

NO USE OF GENERATIVE AI EXPECTED • Your assignment should be produced using information sourced by you from your learning materials and academic sources and cited appropriately. • AI tools for checking spelling, grammar and referencing may be used.	☑
AI ACKNOWLEDGED • You can use AI tools to learn about your topic, as part of your study, or in preparing initial guidance on assignments (e.g. headline structure, suggestions for inclusion of topics). • Any materials that you have sourced from AI should be rewritten or reconfigured and integrated into your own work and referenced appropriately. It is recommended that this is confirmed by a relevant academic source. • Any support gained from AI should be acknowledged in a statement at the end of the assignment, making clear what the support was, and how you used it and developed it for your own work. Example statements are available in the Student Code of Conduct [link].	
AI EMBEDDED • Use of AI is an integral and expected part of the assessment. • The explicit inclusion of AI within the assessment means that instructions on the expected use will be part of the assessment brief. • Your assessment brief will describe how you should acknowledge the way in which you used AI tools.	

Submission Details

Submission Deadline:	This will be provided on the Moodle submission point.	**Estimated Feedback Return Date**	This will normally be 20 working days after initial submission.

Submission Time:	By 4.00 pm on the deadline day.
Moodle/Turnitin:	Any assessments submitted after the deadline will not be marked and will be recorded as a non-attempt unless you have had an extension request agreed or have approved mitigating circumstances. See the School Moodle pages for more information on extensions and mitigating circumstances.
File Format:	The assessment must be submitted through the Turnitin submission point in Moodle. You can use any support file type for your report (Word, PDF for example). This must include a **link to the code repository** you have used and instructions to obtain the project **and a code demo must be attached!** **Your assessment should be titled with your:** Your assessment should be titled with your Group Name, module code and assessment id, e.g., "**GroupID GDV4000 PRAC**". The title page of your project should contain the names and student numbers of the group members.
Feedback	Feedback for the assessment will be provided electronically via Moodle. Feedback will be provided with comments on your strengths and the areas which you can improve. View the guidance on how to access your feedback. All marks are provisional and are subject to quality assurance processes and confirmation at the programme Examination Board.

Assessment Criteria

Learning outcomes assessed

Learning Outcomes
1. Apply the game development process and approaches to game design by documenting a game concept and design. 2. Implement and test a design using industry standard tools. 3. Demonstrate the ability to work collaboratively by developing and presenting a game project as part of a team using industry-standard source control and project management tools. 4. Discuss the organisation and operation of a game development studio and the career paths and business opportunities open to graduates within the game industry by reflecting and reporting on the different roles and responsibilities within the games industry. 5. Discuss the legal, social, ethical and diversity issues relevant to game development by producing a detailed report on the issues inherent in different game designs and genres.

Assessment Criteria	100%
Part 1: Implementation	**60%**
Asset creation and setup (LO1, LO2)	10%
Scene setup (LO1, LO2, LO5)	20%
Correct Game Object / component associations (LO1, LO2, LO5)	10%
Use of scripts/Blueprints /components to add relevant behaviour (including collisions and triggers) (LO1, LO2)	20%
Part 2: Report	**10%**
Product Backlog Items and allocations (LO2, LO3)	5%
Commit log from chosen Version Control System (LO2, LO3)	5%
Part 3: Presentation	**20%**
Overview of gameplay and testing (LO1, LO2, LO3, LO4)	10%
Overview of implementation in Game Engine (LO1, LO2, LO4)	10%
Part 4: Reflective Report	**10%**
Personal Reflection	10%

Other skills/attributes developed

This includes elements of the Cardiff Met EDGE (Ethical, Digital, Global and Entrepreneurial skills) and other attributes developed in students through the completion of the module and assessment. These will also be highlighted in the module guidance, which should be read by all students completing the module. Assessments are not just a way of auditing student knowledge. They are a process which provides additional learning and development through the preparation for and completion of the assessment.

Ethical	Understand the legal and ethical implications of game design and development decisions.
Digital	Use industry standard tools to create game content
Global	Understand how different cultures factor into and interpret different design ideas
Entrepreneurial	Understand how the games industry works and recognise new opportunities for development.

Marking/Assessment Criteria

70 – 100% (1st)	An excellent implementation is given that uses a very good range of techniques discussed in lectures. The implemented game accurately reflects the design will all features covered. Thorough testing has been done and a very well written reflection on the original design and what needs to be changed is evident. A detailed re-design has been completed based on the feedback obtained. A detailed set of appendices are given showing excellent use of and understanding of version control systems. Excellent project management skills are also evident with clear, well documented activities and meetings given.
60-69% (2:1)	A very good implementation is given that uses a good range of techniques discussed in lectures. The implemented game closely reflects the design, with most features covered. A good range of testing has been done and a well written reflection on the original design and what needs to be changed is also given, but there is scope for these to be expanded upon. A proposed re-design is given but this could be more detailed – you need to elaborate on which core / non-core features have changed. A very good set of appendices are given showing good use of and understanding of version control systems. Very good project management skills are also evident with detailed documentation covering activities and meetings given.
50-59% (2:2)	A good implementation is given that uses a number of techniques discussed in lectures, but the range of techniques used could be expanded. The implemented game reflects the design in many respects, in particular the high priority / core "must have" features, but closer attention to other aspects of the design is needed. A range of testing has been done and a good reflection on the original design and what needs to be changed is evident, but these need to be expanded further. A proposed re-design is given based on the testing feedback obtained, but this could be more detailed – in particular you need to elaborate on which core / non-core features have changed. A good set of appendices are given showing some use of and understanding of version control systems. Good project management skills are also evident with an outline of activities and meetings given.
40-49% (3rd)	A basic implementation is given that uses a number of techniques discussed in the lectures, but a wider range of techniques are needed to fully realise your design. The implemented game reflects some elements of the design, in particular the high priority / core "must have" features, but closer attention to other aspects of the design is needed. Basic testing has been done and an overview of what needs to be changed is evident. However, these need to be expanded further and more reflection is needed as well as further justification for the proposed changes. The appendices show only basic use of and understanding of version control systems. Basic project management skills are also evident – you need to manage meetings and the documentation of activities better.
35-39% (Narrow Fail)	A very basic implementation is given that uses only a few of the techniques discussed in the lectures. This needs to be significantly expanded. The implemented game does not resemble the design. In addition, little to no attention has been paid to the core / high priority "must have" features set out in the design. Little to no testing has been done and no reflection or proposed changes to the design are evident. The appendices show little to no use of or understanding of version control systems. In addition, little to no project management is evident – you need to better plan and manage meetings and document activities more thoroughly.
<35% (Fail)	No meaningful implementation is given. What has been implemented does not reflect the original design and little to no testing has been done. In addition, no reflection or meaningful changes have been proposed to the original design. No use of version control has been made and there is no evidence of project management throughout the assignment.

Further Information on assessment, referencing and grading can be found in the Module Handbook (on Moodle)

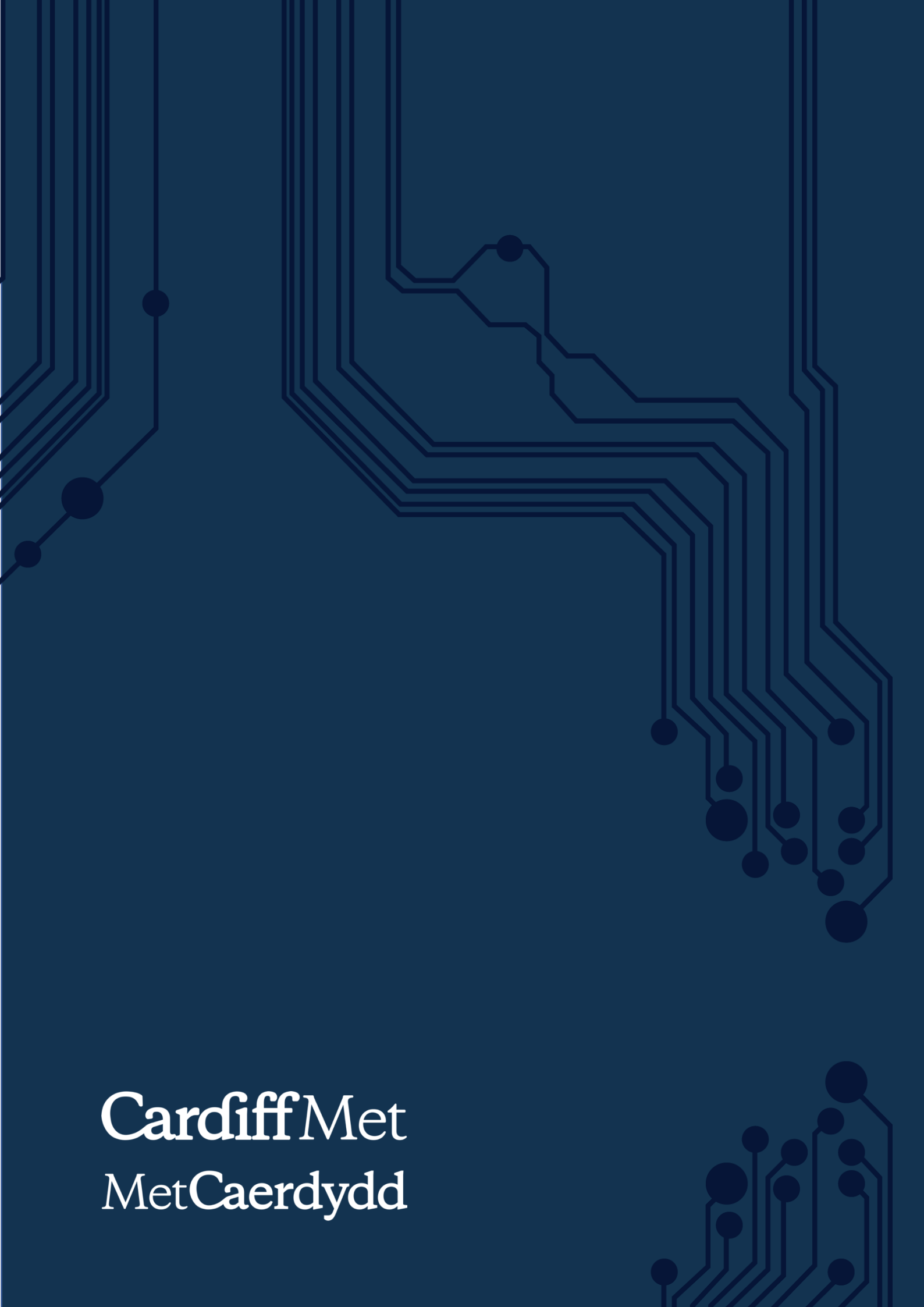
Marking/Assessment Criteria

Group#	

	<35% Fail	35-39% Narrow Fail	40-49% Pass	50-59% 2:2	60-69% 2:1	>70% 1st
Implementation **(60%)**	No meaningful implementation is given. What has been implemented does not reflect the original design.	A very basic implementation is given that uses only a few of the techniques discussed in the lectures. This needs to be significantly expanded. The implemented game does not resemble the design. In addition, little to no attention has been paid to the core / high priority "must have" features set out in the design.	A basic implementation is given that uses a number of techniques discussed in the lectures, but a wider range of techniques are needed to fully realise your design. The implemented game reflects some elements of the design, in particular the high priority / core "must have" features, but closer attention to other aspects of the design is needed.	A good implementation is given that uses a number of techniques discussed in lectures, but the range of techniques used could be expanded. The implemented game reflects the design in many respects, in particular the high priority / core "must have" features, but closer attention to other aspects of the design is needed.	A very good implementation is given that uses a good range of techniques discussed in lectures. The implemented game closely reflects the design, with most PBI features covered.	An excellent implementation is given that uses a very good range of techniques discussed in lectures. The implemented game accurately reflects the design will all PBI features covered.
Report **(20%)**	Little to no report has been provided, and no team allocations are evident.	Only a few PBIs are given, making the tasks for the implementation difficult to identify and manage; Few to no notes documenting the Scrum meetings are given; Few to no logs from the chosen VCS are evident; No clear team member task allocations are given.	A basic list PBIs are given, but more thought on prioritisation is needed; Only basic notes documenting the Scrum meetings are given; Few logs from the chosen VCS are also given; A basic set of team allocations is evident.	A good list PBIs are given, but clearer prioritisation is needed; A good set of notes documenting the Scrum meetings are given; Logs from the chosen VCS are also given showing clearly the development of the prototype, though this could be expanded; A good set of task allocations is evident.	A very good list PBIs are given; A very good set of notes documenting the Scrum meetings are also given; Detailed logs from the chosen VCS are given showing clearly the development of the prototype; A very good set of task allocations is evident and well thought-out.	An excellent list PBIs is given that shows well considered prioritisation of tasks; A very detailed set of notes documenting the Scrum meetings is given; Very detailed logs from the chosen VCS are also given showing clearly the development of the prototype; A very detailed set of task

						allocations is evident and well thought-out.
Presentation **(20%)**	No meaningful presentation is given - the key requirements have not been met	A very basic presentation is given that does not address the requirements set out in the assignment brief. Much more detail is needed.	A basic presentation is given that outlines the main gameplay elements and feedback obtained, but much more is needed here. Only a basic overview of the Unity implementation is given - much more detail on the scene structure and scripts used is needed.	A good presentation is given that covers the main gameplay elements and discusses the feedback obtained as well as changes to be made, but this could be expanded. A good overview of the Unity implementation is given but more detail on the scene structure and scripts used is needed.	A very good presentation is given that covers most of the implemented gameplay and discusses the feedback obtained as well as changes to be made. A very good overview of the Unity implementation is given but more detail on the scripts / components used is needed.	An excellent presentation is given that covers all of the implemented gameplay and discusses in detail the feedback obtained as well as changes to be made. An excellent overview of the Unity implementation is given, discussing each aspect in-depth.

Additional Comments: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