



# College of Engineering, Construction and Living Sciences

## Bachelor of Information Technology

### ID737001: Game Development

#### Level 7, Credits 15

## Assignment

### Assessment Overview

In this assessment, you will form a **group of two or three** to design and develop a game in collaboration with **Bachelor of Design (Communication)** learners using **Unity** and **C#**. In addition, marks will be allocated for code quality and best practices, documentation and Git usage.

### Assessments

Assessment	Weighting	Due Date	Learning Outcome
Assignment	30%	07-06-2024 (Friday at 4.59 PM)	1
Project: Game Development + Demo	70%	21-06-2024 (Friday at 4.59 PM)	1

### Conditions of Assessment

You will complete this assessment during your learner-managed time. However, there will be time during class to discuss the requirements and your progress on this assessment. This assessment will need to be completed by **Friday, 07 June 2024 at 4.59 PM**.

### Pass Criteria

This assessment is criterion-referenced (CRA) with a cumulative pass mark of **50%** over all assessments in **ID737001: Game Development**.

## Authenticity

All parts of your submitted assessment **must** be completely your work. Do your best to complete this assessment without using an **AI generative tool**. You need to demonstrate to the course lecturer that you can meet the learning outcome(s) for this assessment.

However, if you get stuck, you can use an **AI generative tool** to help you get unstuck, permitting you to acknowledge that you have used it. In the assessment's repository **README.md** file, please include what prompt(s) you provided to the **AI generative tool** and how you used the response(s) to help you with your work. It also applies to code snippets retrieved from **StackOverflow** and **GitHub**.

Failure to do this may result in a mark of **zero** for this assessment.

## Policy on Submissions, Extensions, Resubmissions and Resits

The school's process concerning submissions, extensions, resubmissions and resits complies with **Otago Polytechnic** policies. Learners can view policies on the **Otago Polytechnic** website located at <https://www.op.ac.nz/about-us/governance-and-management/policies>.

## Submission

You **must** submit all application files via **GitHub Classroom**. Here is the URL to the repository you will use for your submission – <https://classroom.github.com/a/UgQiaWTF>. If you do not have not one, create a **.gitignore** and add the ignored files in this resource - <https://raw.githubusercontent.com/github/gitignore/main/Unity.gitignore>. The latest application files in the **main** branch will be used to mark against the **Technical and Professional Proficiency** criterion. Please test before you submit. Partial marks **will not** be given for incomplete functionality. Late submissions will incur a **10% penalty per day**, rolling over at **5:00 PM**.

## Extensions

Familiarise yourself with the assessment due date. Extensions will **only** be granted if you are unable to complete the assessment by the due date because of **unforeseen circumstances outside your control**. The length of the extension granted will depend on the circumstances and **must** be negotiated with the course lecturer before the assessment due date. A medical certificate or support letter may be needed. Extensions will not be granted for poor time management or pressure of other assessments.

## Resits

Resits and reassessments **are not** applicable in **ID737001: Game Development**.

## Instructions

### Technical and Professional Proficiency (Individual and Group) - Learning Outcome 1 (50%)

- Group:
  - The game needs to open without code or file structure modification in **Unity**.
  - Gather requirements from the client and deconstruct them into user stories.
  - Design and develop a game using **Unity** and **C#** that meets the client's requirements.

- Demo the game on **itch.io**.
- Individual:
  - Contribute a meaningful amount of code to the game. This will be judged by the number of **Git commits** and the number of lines of code contributed.
  - Perform the following for each feature that is merged into the **main** branch of the **GitHub** repository:
    - \* Code review another team member's code.
    - \* Play test the feature and provide feedback to the team member.
  - This needs to be documented in the **GitHub** issue that the feature is associated with.
  - Communicate with team members. This should be through **Microsoft Teams**. If you wish to use another communication tool, you need to get approval from the course lecturer. Provide screenshots of your communication in the **GitHub** repository.

### Code Quality and Best Practices (Individual) - Learning Outcome 1 (30%)

- A **Unity .gitignore** file is used.
- Appropriate naming of files, variables, methods and classes.
- Idiomatic use of values, control flow, data structures and in-built functions.
- Efficient algorithmic approach.
- Sufficient modularity.
- Each file has an **XML documentation comment** located at the top of the file. In the **root** directory of the **course materials** repository, you will find an **XML documentation comment** example in the **xml-documentation-comment.txt** file.
- Formatted code.
- No dead or unused code.

### Documentation and Git Usage (Individual and Group) - Learning Outcome 1 (20%)

- **Group** requirement - **GitHub** project board or issues to help you organise and prioritise your development work. The course lecturer needs to see consistent use of **GitHub** issues and the project board for the duration of the assessment.
- **Group** requirement - In a **Microsoft Word** document called **game-document**, explain the following:
  - Core concept
  - Design pillars
  - Main features and mechanics
  - Target platform and audience
  - Interface and controls
  - Basic story
  - Visual style
  - Audio style
  - Known issues and bugs
  - Future improvements
  - A URL to the game on **itch.io**.

- **Individual** requirement - Select two interesting game mechanics that you implemented and explain in a **Microsoft Word** document called **reflections** the following:
  - What did you implement?
  - What did you research during the implementation? Provide a link to the resources you used.
  - What did you try? What worked? What did not work?
  - What did you learn?
  - How can you apply what you learned to future games?
  - During the development of your game, what did you find most challenging professionally? How did you overcome it?
- **Individual** and **group** requirement - Correct spelling and grammar.
- **Individual** requirement - Your **Git commit messages** should:
  - Reflect the context of each functional requirement change.
  - Be formatted using an appropriate naming convention style.

### Additional Information

- **Do not** rewrite your **Git** history. It is important that the course lecturer can see how you worked on your assessment over time.
- You need to show the course lecturer the initial **GitHub** project board or issues before you start your development work. Following this, you need to show the course lecturer your **GitHub** project board or issues at the end of each week.