

**Gameplay Programming (CT5GPROG)**

Module Code: M30849

Level: 5

**Assessment Brief**   
Module Coordinator/Lecturer: Adam Jerrett

Email: [adam.jerrett@port.ac.uk](mailto:adam.jerrett@port.ac.uk)

# General Assessment Information

**Assessment 1 (100%): Mechanics Demo and Presentation**

*Submit online via Moodle**by* ***Monday, 8 January 2024 at 15:00PM***

**Short Description:**

The coursework is completed individually and consists of a video demonstrating and evaluating your artefact, while also reflecting on your progress in the module. You will also be required to submit the actual artefact, which will contribute to your mark.

this is not marked. This assessment constitutes 100% of your marks for this module and will assess Learning Outcomes 1, 2, 3, and 4 of the module description.

**Second Attempt:**Complete the assessment again, submitting a new or updated video presentation.

# Module Abstract, Learning Outcomes and Key Dates

|  |  |
| --- | --- |
| **Gameplay Programming (CT5GPROG)** | |
| **Abstract** | |
| This module introduces the practicalities of implementing gameplay for computer game prototypes. Through a mixture of code analysis and guided practical experimentation the students will gain familiarity with common programming patterns and gameplay mechanisms, and examples of approaches to implementing them in code. For their coursework they will be required to present small scale but nonetheless challenging artefacts, demonstrating appropriate implementation skills in suitable programming environments. | |
| **Learning Outcomes** | |
| **On successful completion of this module, students should be able to:** | |
| **LO 1** | Implement common gameplay mechanisms in code. |
| **LO 2** | Utilise industry-relevant programming patterns in the creation of a software artefact. |
| **LO 3** | Respond effectively to small-scale programming challenges. |
| **LO 4** | Critically evaluate high-level options for game prototyping. |
| **Key Dates** | |
| **Assessment 1 (100%): Games Research and Referencing Exercise**  Monday, 8 January 2024 by 15:00pm - online submission via port.ac.uk/moodle | |

# Assessment 1 Brief – 100 marks

|  |
| --- |
| Your final deliverable for your coursework mark for Gameplay Programming is a **15-minute video** detailing discussion of decisions around a gameplay demo of your artefact for this module. Your artefact should focus on the theme of **adventure**, which can be interpreted however you would like. The artefact should consist primarily around a core mechanic system, with auxiliary secondary mechanics that support a **small gameplay loop.** Overall, your gameplay system should have 2 or more discrete gameplay mechanics that you can isolate and talk about.  This assessment constitutes 100% of your marks for this module and will assess Learning Outcomes 1, 2, 3, and 4 of the module description.  **The Task**  Create a small gameplay demo based on the theme of **adventure**. Your gameplay demo should include a small gameplay loop, and at least two gameplay features/mechanics, one of which should be a primary mechanic, supported by one or more secondary mechanics. Examples of a primary mechanic system supported by secondary mechanics could be:   * A text parser system for an adventure game, supported by a movement system based on that text (e.g., “move to door”) * A puzzle game where players need to time solve puzzles to avoid patrolling guards * A loot system that you then use in a crafting system to upgrade gear to get more loot * A time manipulation system used in a platformer game with associated mechanics * A monster capture system where monsters can be combined to form new monsters   You may use any game engine or programming language of your choice for the assessment, and you should ideally make your choice regarding platform based on the strengths of the platform for implementing your chosen mechanics. In addition, though much of the marking process relies on how you discuss your artefact in the presentation video, you will also be marked on **how satisfying your game feels to play**. This does not mean you need to teach players how to play. Instead, provided an understanding of the controls, the game system should run effectively when played. You will also be marked on the quality of communication and relevance of the video to the assignment itself. Remember that this is a programming assignment, so the discussion should primarily focus on technical aspects (programming structures, problem solving). While you can also discuss design or aesthetic decisions, as well as how you made the game loop engaging, these should not be the primary focus.  Your artefact will be assessed using the following criteria:   * 10 marks are allocated to your discussion of planning your artefact. This includes broader design decisions, but should critically include technical planning, such as class diagrams, logic flowcharts, mechanics diagrams etc. Additionally, reflect on how this planning may have changed during implementation. You should also consider how you adhered to the theme of **adventure**. * 10 marks are allocated to the discussion of your chosen platform, how and whether that platform was appropriate for the task at hand. Consider whether there were suitable alternatives. * 20 marks are allocated to the presentation of the game and discussion of the gameplay mechanics implemented. You must fully describe your mechanics and show their technical implementation and reflect on how these might change or be extended in future. * 20 marks are allocated to a professional discussion of your **programming approach** – that is the design/algorithm, not the syntax - was (or wasn’t) professionally-relevant and based on research. This includes elements like good programming practice (using classes, functions and extensible code), utilising data structures and design patterns from the module, and doing your own research on good programming practice in industry. * 10 marks are allocated to the discussion of problems you encountered and solutions you implemented throughout the project. * 10 marks are allocated to how satisfying your game feels to play (is the core loop understandable at launch, are controls responsive, is a suitable gameplay loop present?) and a suitable discussion thereof (e.g., why did you make certain design decisions that affected game feel?) * 10 marks are allocating for reflecting on your growth throughout the module, evidence of your dedication in working through the workshops, and evidence on conducting further research to expand your knowledge. * 10 marks are awarded for your good use of English in your presentation. This includes elements such as clarity, academic (formal) tone, structure, pace, and your overall quality of communication.   **What you can’t do**  The work must be entirely your own. Do not plagiarise others’ reference management entries or their research summaries. You can learn more about plagiarism in the section at the end of this brief.  **What you must do**  Discuss your gameplay demo idea with your lecturer to ensure it meets the learning outcomes. Your gameplay demo should both demonstrate the skills and techniques you’ve learnt in the module as well as your own independent research on industry-appropriate programming techniques. |

# Assessment 1 Submission details

|  |
| --- |
| Submission is via the online submission box on moodle.port.ac.uk. Additional guidance will be provided on Moodle.  **Your submission to Moodle should include a video or link to your video presentation, a ZIP file containing the executable files for your game, and a ZIP file/repository link to your source code.**  See the Assessment Brief above for more advice regarding your submission.  **Labelling Your Work**  Your lecturers will see hundreds of pieces of assessment work a year. You must make sure your files are labelled clearly, indicating your student number and the contents.  **Good Practice for labelling work:**  StudentNumber-Module-Assessment Name |

# Assessment 1 rubric

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Criteria | **Absolute Fail** | **Marginal Fail** | **Adequate** | **Good** | **Very Good** | **Excellent** | **Outstanding** |
| **0-29** | **30-39** | **40-49** | **50-59** | **60-69** | **70-79** | **80-100** |
| **Descriptors of typical student work in each grade band** | | | | | | |
| **Planning:** How effectively did your plan your artefact using relevant tools? Did you adhere to the theme?  **10 marks** | No discussion or evidence of planning presented, no adherence to theme. | Minimal discussion with insufficient evidence of planning. No diagrams or critical planning tools shown. Vague adherence to theme. | Basic level of planning discussed. Simple diagrams or tools used, but may not be industry standard. Adheres to theme in a simplistic way. | Clear discussion of planning with diagrams and tools. Interesting interpretation of theme. | Comprehensive planning with well-detailed diagrams and tools. Some reflection on changes during implementation. Strong adherence to theme. | Thorough planning with evidence of adapting plan to challenges. Adequate reflection on planning evolution. Theme adherence presents a unique artefact. | Exceptional detail in planning and reflection, showcasing a deep understanding of an integrated process. Game is a truly novel reflection of the theme. |
| **Platform Discussion:** Discussion of chosen platform, reasoning, and alternatives  **10 marks** | No discussion or rationale for platform choice. | Mention of platform without convincing justification. | Convincing rationale for platform choice provided. | Clear reasoning for platform choice, highlighting some of its strengths. | Comprehensive analysis of platform strengths and weaknesses, with comparisons to alternatives. | Detailed analysis of platform in relation to game mechanics. Thoughtful consideration of alternatives. | Discussion on platform choice that thoroughly weighing pros and cons of multiple options in the context of the game's requirements. |
| **Mechanics:** Presentation and discussion of implemented mechanics  **20 marks** | No or very little discussion of discrete gameplay mechanics with no technical implementation shown. | Unclear distinction between mechanics. Little to no technical implementation shown. | Distinct presentation of discrete mechanics with some discussion of technical implementation. | Clear presentation of discrete mechanics with good supporting discussion on their technical implementation. | Clear showcase of interplay between gameplay mechanics. Technical implementation is suitably complex at this level. | Clear showcase of interplay between gameplay mechanics, with link to specific design decisions. Technical implementation is challenging for this level. | Exceptionally detailed mechanics analysis, with clear links between design, technical decisions, and future possibilities. Technical implementation exceeds expectations at this level. |
| **Programming Approach:** How was the solution designed with regards to module-relevant examples and professional practice?  **20 marks** | Details regarding distinct programming approach are unclear | Programming approach lacks clarity or relevance to examples or professional standards. | Discussion showcases adequate programming practices. Limited mention of module-related structures/patterns. | Discussion shows understanding of good practices. Some evidence of module learning. | Comprehensive discussion of approach. Good integration of professional practices and/or module concepts. | Professional application of programming practices. High evidence of module learning and external research integration. | Masterful understanding and application of best practices, heavily backed by both module learning and external research. |
| **Problem Solving:** How did you solve problems encountered throughout the module?  **10 marks** | No mention of problems or solutions. | Brief mention of problems with little to no discussion of solutions. | A few problems discussed with basic solutions mentioned. | A few problems and their associated solutions and presented clearly | Many problems discussed in depth with associated solutions. | Problem solving showed innovative or industry-appropriate solutions. Reflection on learning from challenges. | Exceptional discussion on problems faced, showcasing innovation in solutions and deep reflection on these from challenges. |
| **Game feel:** How satisfying does your game feel at play?  **10 marks** | Game lacks an obvious core loop, may be a collection of unrelated mechanics. | Game loop is overly simple, or feels poor at play. | Basic loop present and adequate, with satisfying but improvable game feel. | Defined loop with responsive controls and satisfying game feel. | Engaging loop, highly responsive controls, and strong game feel. | Highly polished gameplay that results in deep satisfaction | Exceptional gameplay experience that could easily be further expanded. |
| **Module Engagement:** Is it clear that you engaged with the module and have grown as a result?  **10 marks** | No or little evidence of appropriate module engagement. | Some evidence of module engagement, but not enough to meet threshold level. | Basic evidence of module engagement with some reflection on growth as a result. | Good reflection on personal growth, evidence of module and workshop participation. | Comprehensive reflection based on strong evidence of module engagement | Deep reflection showcasing significant growth, high module engagement, and evidence of external research. | Reflection, engagement and research have clearly had a transformative effect on the student. |
| **Quality of Presented Work**: This includes elements such as clarity, academic (formal) tone, structure, pace, and your overall quality of communication  **10 marks** | **Written:** Formatting and presentation of the work fail to meet the requirements for the assignment. The work exhibits significant spelling and grammatical errors. There may be a significant lack of clarity of explanation and technical use of English may fall well short of the expected threshold level.  **Video:** Significantly inappropriate / inaudible speaking volume and pace.  The verbal presentation had no structure, was unclear and could not be understood by any audience.  Significant lack of technical use of English. Falls well short of the expected threshold level. | **Written:** Formatting and presentation of the work fail to meet the requirements for the assignment. The work exhibits spelling and grammatical errors. There may be a lack of clarity of explanation and technical use of English may fall short of the expected threshold level.  **Video:** Inappropriate / inaudible speaking volume and pace.  The verbal presentation lacked in structure, was unclear and could not be understood by an audience with a specialist knowledge of the subject area.  The technical use of English and the complexity of argument and explanation fall short of the expected threshold level. | **Written:** Formatting and presentation of the work meet the requirements for the assignment. The work exhibits only a small number of spelling and grammatical errors. The clarity of explanation and technical use of English fall just short of the expected threshold level.  **Video:** Appropriate / Audible speaking volume and pace.  The verbal presentation had a structure, was presented clearly and could be understood by an audience with a specialist knowledge of the subject area.  The technical use of English and the complexity of argument and explanation fall just short of the expected threshold level. | **Written:** Formatting and presentation of the work meet the published requirements for the assignment. The work contains only minor spelling and grammatical errors. The clarity of explanation and technical use of English meet the expected threshold level.  **Video:** Professional and appropriate / audible speaking volume and pace.  The verbal presentation was structured, presented clearly and could be understood by an audience with a specialist knowledge of the subject area.  The technical use of English and the complexity of argument and explanation meet the expected threshold level. | **Written:** Formatting and presentation of the work confidently meet the published requirements for the assignment. The work contains very minor spelling and grammatical errors. The clarity of explanation and technical use of English meet the expected threshold level.  **Video:** Professional, confident, and appropriate / audible speaking volume and pace.  The verbal presentation was well structured, presented clearly and could be easily understood by an audience with a specialist knowledge of the subject area.  The technical use of English and the complexity of argument and explanation meet the expected threshold level. | **Written:** Formatting and presentation of the work meet the requirements for the assignment and are at a just short of a publishable standard. The work contains no spelling and grammatical errors. The clarity of explanation and technical use of English are beyond the threshold level.  **Video:** Professional, confident, and appropriate / audible speaking volume and pace, but just short of the level expected of conference speakers.  The verbal presentation was well structured, presented clearly and could be easily understood by an audience with or without specialist knowledge of the subject area.  The technical use of English and the complexity of argument and explanation exceeds expectations. | **Written:** Formatting and presentation of the work meet the requirements for the assignment and are at a publishable standard. The work contains no spelling and grammatical errors. The clarity of explanation and technical use of English are beyond the threshold level.  **Video:** Professional, confident, and appropriate / audible speaking volume and pace, at or above the level of conference speaker.  The verbal presentation was incredibly well structured, presented very clearly and could be easily understood by any kind of audience.  The technical use of English and the complexity of argument and explanation far exceeds the expected threshold level. |

# Plagiarism

Clearly, we want to thoroughly encourage students to work together to solve problems in groups, and to learn from each other based on comparing experiences. Unfortunately, however, this can lead to an increase in plagiarism/poor scholarship.

As explained in the University regulations, plagiarism is a form of cheating characterised by (and not limited to):

* Copying material from any source and trying to pass it off as your own work - this includes computer language, drawings, models and programs, in addition to standard written text.
* Paraphrasing material (i.e. writing someone else's work in your own words) without appropriate acknowledgement and not in accordance with the University’s agreed referencing conventions. This also includes computer language, drawing, models and programs in addition to standard written text.
* Submission of whole or partial essay, project, computer program or material written by someone else, with or without their consent.

Plagiarism is extremely easy to spot for a variety of reasons, and as you can imagine is taken very seriously by the University. You will probably need to attend a hearing, and your mark for the module could be reduced to zero, which could have the knock-on effect of causing you to fail the year and have to repeat, which can be a big drain on both time and money.

If you are struggling with your work, do not be tempted to plagiarise. The work can still be completed to a good standard with a "failed" attempt at your assessment. Contact your lecturer to flag up the problem and get support. The Games team can also help with things like referencing your sources for computer code taken from the internet (where applicable) and referencing computer games.

# USING CHATGPT AND OTHER AI TOOLS

If you want to explore using ChatGPT or other AI tools to assist with your studies, including assessment tasks or research, you should:

1.       Use AI as a tool to assist and inform you in your initial research, generation of ideas, planning and output development, **but not as a replacement for your critical thinking and analysis**.

**2.**       Ensure that you appropriately cite and reference any text or output generated by AI in your assignment, along with any other sources you use. **You should indicate clearly where in your assessment task you have used AI-generated material.**

3.       Understand the AI tool’s limitations and therefore use it in conjunction with other sources to ensure the information you present is credible and reliable. **You need to check the accuracy of all information** generated by AI tools.

4.       Be aware of the University’s Examination and Assessment regulations (which align with the Academic Integrity Charter for UK Higher Education) and the Student Conduct Policy, and ensure that you follow them.

**5.**       Make sure that any final product (your assessment as submitted) is your own work, and not just copied from an AI generator, in whole or in part. You can use the generated text or output as a prompt to give you inspiration or guidance, as a starting point for example. But **the final submitted assessment must be all your work, your creation, and your analysis.**

By following these guidelines, you can use generative AI as a valuable tool to assist and inform you in your research, initial thinking and writing, and output development. Understanding how to use these tools correctly is essential for avoiding breaches that could impact your successful course progression and possibly even your graduation.