Cardiff School of Technologies

Assessment Brief

Module Code	Module Title
CIS5014	Introduction to Level Design and Game Asset Creation

Academic Year	Semester
2023/2024	1

Module Leader email

ismith@cardiffmet.ac.uk

Content

Assessment Details

Assessment title	Abr.	Weighting
Portfolio of Content	PORT1	100%

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

Task/assessment brief:

You are required to work on a Populous II: Trials of the Olympian Gods (Bullfrog, 1991) clone.

This is the successful sequel to Populous the very first 'God Game' and heralded as one of the all-time greats. The player takes on the role of a deity, tasked with encouraging their followers to settle and multiply to increase Mana, which can then be used to access divine powers. The objective of the game is to create a larger number of followers before attempting conquer the computer-controlled deity.

The game was developed by Peter Molyneux's Bullfrog Productions and published by Electronic Arts. Notable aspects of the game are its terraforming, which is required to sculpt the land into a place that can be settled and the ability to use Mana to perform divine acts to smite the opposition. Where Populous II built upon the first game was in the number of abilities the deity has (increased from 8 to 30 on PC, 29 on other platforms), a much-improved navigation system, and a more narrative structure that has the player cast as a demigod working their way through a pantheon of other demigods until they reach the ultimate showdown with Zeus. The original PC version of the game is available to play for free on Microsoft Game Pass. A short playthrough is available here: https://www.youtube.com/watch?v=IBJ35qZ7UgQ.

For the techniques we will look at in 2023 there is scope to expand on the original level design, models and styles and make good use of lighting / transparency.

For this assignment you are to create a **portfolio** of content created using appropriate tools. The assets you create should be in the context of the given game brief (above). Your portfolio should contain the following elements:

Important – The portfolio is not just to showcase the finished assets. Images generated during creation and proof of concept, with a description, are expected.

2.1) Content Creation:

a) **3D modelling**: Create a number of in-game characters and scenery elements using industry standard modelling tools and procedures. You will have a strict poly count that needs to be adhered to.

b) **Animation**: Using suitable tools, setup a character rig and animation sequence for at least one vehicle or character from step (a).

c) **Textures**: Create textures using appropriate source material and apply to your 3D scene models created in step (a). There will be limitations on texture size that will need to be considered.

d) **Level Design**: For the given game context, provide conceptual designs for at least 2 levels of the game, showing progression in difficulty for the player. Model part of a level using appropriate tools. This module does not require a working game prototype.

e) **Audio**: Create a small collection of *relevant* sound effects using appropriate source material and sound editing tools.

It is expected that you will be conducting your own research and not solely relying on information from the Studios. This is important for your critical evaluation and understanding of the techniques you are using and when they might be appropriate.

2.2) Content Import and Rendering:

Using the demos created and shown in lectures / workshops, create a project in a suitable game engine that uses appropriate techniques to import and render your content from step 2.1. This is a showcase of your work, so there is a degree of creative licence with how you choose to do this. **You will be required to make a video of this with an explanation of your methodology.**

Unity and 3Ds Max are installed on the lab machines but other tools are available to use, such as Blender and Unreal Engine. Just ensure that you are able to successfully push and pull projects from a repo and you can build a stand-alone executable project.

2.3) Portfolio - Detail

You are required to produce a presentation in PowerPoint that illustrates the key stages you went through and the tools you used to create your content. **Screenshots or video captures of each stage of development would be useful to show how you used each of the tools.** Dedicate no more than 4-5 slides for each type of content from section 2.1 above. Each slide should contain documentation explaining your use of the shown technique**.**

Hint: Start implementing each part separately and combine them later. This allows you to focus on each part individually.

Hint: The file formats you use for modelling and importing into your implementation might not be the same. This forms the basis of your content pipeline. You are also required to discuss this at the appropriate points in your presentation.

You are also required to complete a Technical Design Document and prepare a Closing Kit, both of which will be tailored to the assignment. These, along with your PowerPoint slides and video, should be included in your repo.

Word count (or equivalent):	4000

This a reflection 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.

Academic or technical terms explained:

3Ds Max – Autodesk's primary industry standard 3D modelling and animation tool.

3D Modelling – The process of creating 3D models, typically using software such as 3Ds Max, Blender, Maya…

Unity – A pre-built game engine which has been used to make both independent and small studio games. **Other engines are available and can be used**.

Textures – The surface colour and detail of a 3D model. Typically mapped or painted onto the surface of the model using a UV Map.

Animation – Creating movement through keyframing or a skeletal rig.

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

Feature – A distinct software behaviour or game mechanic.

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.

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.

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.

Critically Evaluate – Evaluate, but showing how judgements vary from different perspectives and how some judgements are stronger than others. This often means creating an objective, reasoned argument for your overall case, based on the evaluation from different perspectives.

Critical Understanding – Understand while appreciating the limits of our understanding and testing those limits via suitable techniques.

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 4.00pm 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 as a PowerPoint document uploaded to a Repository. Submit a link to the Repository through the Turnitin submission point in Moodle. **The title of assessment should include with your:** **student ID number, module code and assessment ID, e.g. st12345678**
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
• [LO1] Apply approaches to level design for different game scenarios by designing and modelling levels using industry-standard tools. • [LO2] Demonstrate the ability to create and play-back in-game audio by creating, importing and replaying audio content in a game environment using industry-standard tools and APIs. • [LO3] Demonstrate the ability to create and render graphical content by modelling, rendering and animating 2D and 3D objects using industry-standard tools and APIs.

Marking Criteria

Part 1: Content Creation (LO1, LO2, LO3)	**60%**
3D Models	10%
Animation	10%
Textures	10%
Level Design	20%
Audio Content	10%
Part 2: Implementation (LO1)	**20%**
Part 3: Presentation (LO2, LO3)	**20%**
Slides	10%
Demo	10%

Other skills/attributes developed

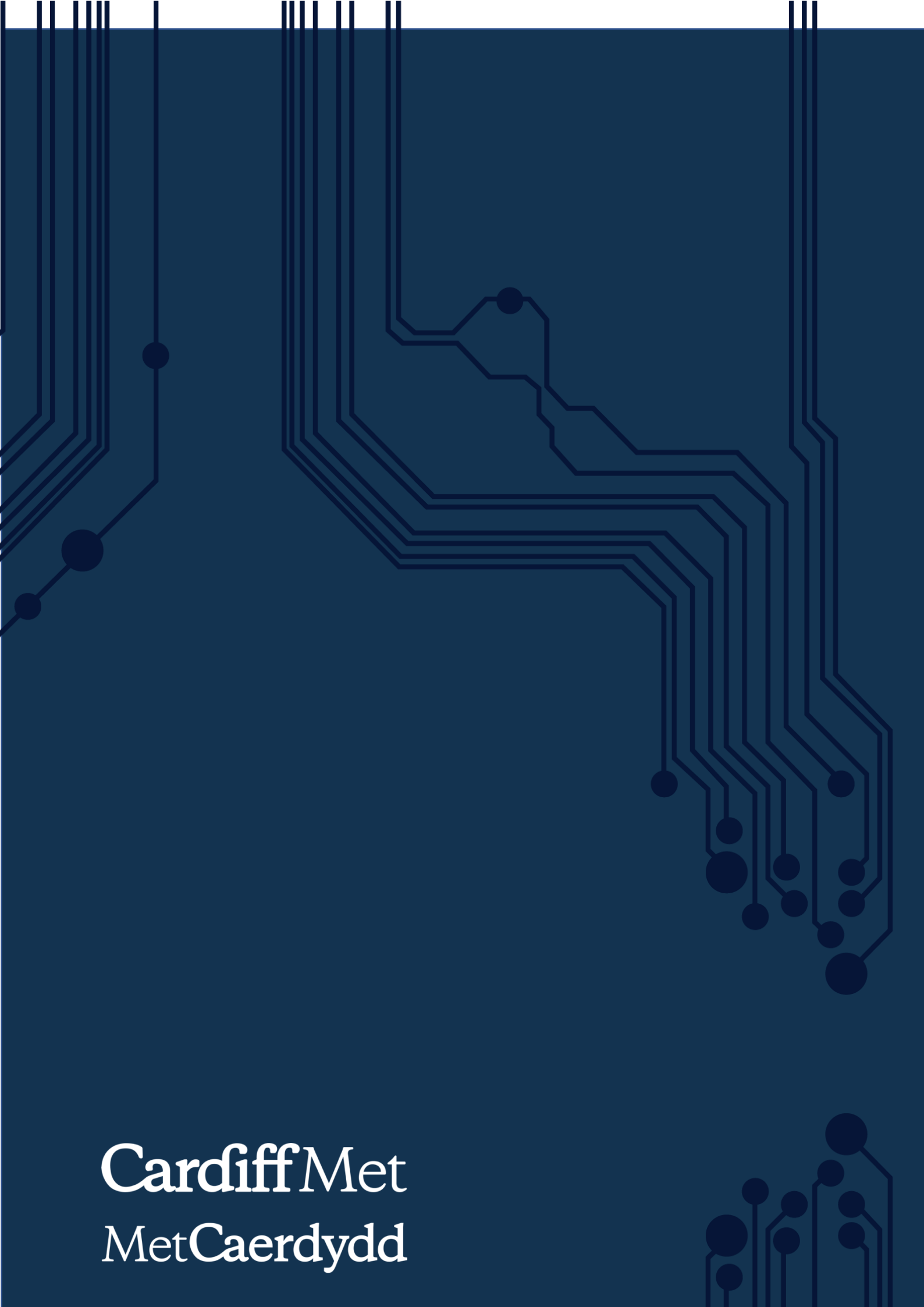
This includes elements of the Cardiff Met EDGE (Ethical, Digital, Global and Entrepreneurial skills) and other attributes developed in students through the completion of the module and assessment. These will also be highlighted in the module guidance, which should be read by all students completing the 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 can inspire different design ideas.
Entrepreneurial	Understand how the games industry works and recognise new opportunities for development.

70 – 100% (1st)	A wide range of well-considered techniques, with sound justification, have been used to create a complete portfolio with all elements present. An excellent, well thought out level design is also evident. An excellent scene is implemented, showing the assets to good effect and demonstrating and applying a broad range of knowledge from Studios and asynchronous learning. The presentation is clear, well laid out and succinctly describes each element and the methods used to create it, with clear reflection on the process undertaken and techniques used. Very good use of screenshots and screen video capture has also been made. The presentation shows the student understands the key issues of game asset creation and level design as well as the development of a content pipeline.
60-69% (2:1)	A broad range of considered techniques have been used to create a complete portfolio with all elements present. A good, clear approach to the level design is also evident. A very good scene is implemented, showing the assets to good effect and demonstrating good use of knowledge from studios and evidence of asynchronous learning. The presentation is clear, well laid out and describes each element and the methods used to create it. Good use of screenshots and screen video capture has also been made. This shows the student understands the key issues of game asset creation and level design as well as the development of a content pipeline.
50-59% (2:2)	A range of techniques have been used to create a complete portfolio with all elements present. A good approach to the level design is also evident, but the learning curve could be improved upon. A good scene has been implemented, but some elements could be expanded upon. Good application of knowledge from the module is evident, but less so evidence of asynchronous learning. The presentation describes each element and the methods used to create it but could be better laid out and clearer. Some use of screenshots and screen video capture has also been made. The presentation demonstrates the student understands the key issues of game asset creation and level design.
40-49% (3rd)	Some techniques have been used to create a portfolio with most elements present, but this needs to be expanded upon. The level design is adequate and could be expanded upon to include more challenges for the player. A basic range of techniques have been attempted but the scene is basic, and more could have been done to demonstrate the techniques. The presentation describes each element and the methods used to create it but could be expanded upon, better laid out and clearer. Little to no use of screenshots and screen video capture has been made. More on the techniques used is needed.
35-39% (Narrow Fail)	A narrow range of techniques have been used to create a portfolio with some present. The content needs to be significantly expanded to fit the game brief. Despite this, the key learning objectives are largely addressed. Some techniques are evident to create the portfolio, but several key approaches have not been used or incorrectly implemented. The presentation contains some key elements but is unclear and could be better laid out and more succinct. Very few screenshots used to show the journey from concept to model.
<35% (Fail)	An extremely narrow range of techniques have been used to create a portfolio with few elements present. The content needs to be significantly expanded to fit the game brief. No meaningful level design is evident. No

	meaningful implementation is given. The presentation contains few elements and needs to be significantly expanded.

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



Cardiff Met

MetCaerdydd