Faculty of Engineering, Environment and Computing
5031CEM 3D Modelling

Assignment Brief

Module Title	Individual	Cohort	Module Code
3D Modelling		(Sept/~~Jan~~/~~May~~)	5031CEM

Coursework Title (e.g. CWK1)	Hand out date:
Coursework 1	13/09/2021

Lecturer	Due date and time:
Michael Richards	Date: 10/12/2021 Online: 18:00:00

Estimated Time (hrs): **100** Word Limit*: **1500 - 2000**	Coursework type: **Practical project with written report**	Credit value assessed 20

Submission arrangement online via Aula: **Submit via assessment submission link**
File types and method of recording: **Written report and all project files**
Mark and Feedback date (DD/MM/YY): **17/01/2021**
Mark and Feedback method (e.g. in lecture, electronic via Aula): **Via Aula**

Module Learning Outcomes Assessed:

1. Understand the workflow for creating visual digital artefacts.

2. Create a range of 3D models and environments using a variety of appropriate techniques.

3. Create and implement a variety of materials and textures within a 3D scene.

4. Be familiar with the requirements and limitations of current 3D engines and technologies, allowing the students to produce content for interactive multimedia applications and computer games.

Task and Mark distribution:

1. For this assignment, you are required to create two 3D models for a game/film or animation. You are required to document the entire creative process, including initial sketches, mood boards and any research you conduct. You must also demonstrate an understanding of mesh optimisation and evidence any implementation of this in your written report.
2. For **one** of your models from task 1, complete all of the following:
   a. UV unwrap the model
   b. Create custom textures / materials using an appropriate method
   c. Render a basic animation showing your model

For this submission, you must include all of the following:
- d. Your 3D files (e.g., Blender or 3DsMax files)
- e. Each model exported individually
- f. Image of each model rendered
- g. Written report that includes:
    - i. Concept generation (research/mood boards / sketches)
    - ii. Evidence of 3D modelling
    - iii. 3D mesh optimisation
    - iv. Visual evidence of your modelling workflow
    - v. UV Unwrap process
    - vi. Texture creation workflow
    - vii. Render setup
    - viii. Critical reflection

Notes:
1. You are expected to use the Coventry University APA style for referencing. For support and advice on this students can contact Centre for Academic Writing (CAW).
2. Please notify your registry course support team and module leader for disability support.
3. Any student requiring an extension or deferral should follow the university process as outlined here.
4. The University cannot take responsibility for any coursework lost or corrupted on disks, laptops or personal computer. Students should therefore regularly back-up any work and are advised to save it on the University system.
5. If there are technical or performance issues that prevent submitting coursework through the online coursework submission system on the day of a coursework deadline, an appropriate extension to the coursework submission deadline will be agreed. This extension will normally be 24 hours or the next working day if the deadline falls on a Friday or over the weekend period. This will be communicated via your Module Leader.
6. You are encouraged to check the originality of your work by using the draft Turnitin links on Aula.
7. Collusion between students (where sections of your work are similar to the work submitted by other students in this or previous module cohorts) is taken extremely seriously and will be reported to the academic conduct panel. This applies to both courseworks and exam answers.
8. A marked difference between your writing style, knowledge and skill level demonstrated in class discussion, any test conditions and that demonstrated in a coursework assignment may result in you having to undertake a Viva Voce in order to prove the coursework assignment is entirely your own work.
9. If you make use of the services of a proof reader in your work you must keep your original version and make it available as a demonstration of your written efforts. Also, please read the university Proof Reading Policy.
10. You must not submit work for assessment that you have already submitted (partially or in full), either for your current course or for another qualification of this university, with the exception of resits, where for the coursework, you maybe asked to rework and improve a previous attempt.

This requirement will be specifically detailed in your assignment brief or specific course or module information. Where earlier work by you is citable, i.e. it has already been published/submitted, you must reference it clearly. Identical pieces of work submitted concurrently may also be considered to be self-plagiarism.

Mark Scheme

Grade	3D models (30%)	Optimisation (10%)	UV Unwrap (10%)	Texturing (30%)	Rendering (10%)	Written report (10%)
70+	The quality of 3D models is above that expected at this stage. Student has used appropriate workflow and produced near-industry level assets.	Clear evidence of appropriate modelling and optimising techniques. Work may include different levels of detail or discussion of how topology was optimised.	Student demonstrates a near-professional level of ability when unwrapping 3D models. Methods such as seam marking, and projection are implemented.	Quality of work is exceptionally high and shows an appropriate workflow. Work might include custom made PBR materials/textures or use of high-resolution custom-made materials.	Model has been rendered in an appropriate environment to a high quality. Work is of a very high standard and shows little to no visual issues. End product may contain some postproduction.	A comprehensive written report has been produced that includes evidence and implementation of all required components. Report is well written, appropriately referenced and includes critical reflection.
60 - 69	3D models may have minor issues, or not enough were submitted. Quality of work is good but could be improved.	Student has attempted to optimise all of their 3D models but there may still be some minor issues that need attention.	Model has been unwrapped but there may be one or two minor issues. Work is good but needs tweaking.	Custom made textures have been created or PBR workflow has been attempted but may show minor issues.	Model has been rendered in an environment to a high level but either final quality of render is lacking, or work shows minor visual issues.	A good written report has been produced that covers all of the required components. There may be some minor content missing or small issues with layout/ spelling/ grammar/ referencing/ evidence of work.
50-59	3D models have obvious issues or lack sufficient detail to achieve a higher grade. Significant work required to improve overall grade.	Student has either made a minor attempt at optimising all models, or only optimised 1 to a reasonable standard. Obvious improvements could be made in several areas.	Student has either attempted to unwrap the model using basic, or autonomous methods.	Custom made textures have been attempted but work may show major issues that need to be addressed or end result may be lacking realism.	Final render lacks composition and/or effective lighting. Work needs further effort to be brought up to a higher quality.	Quality of written report is adequate, but some of the required content may be missing. There may be some issues with layout/ spelling/ grammar/ referencing/ evidence of work.
40-49	Either the quality of the models submitted is very poor, or only 1 model was submitted. Work shows basic understanding of 3D modelling principles.	Little to no attempt at optimising at least 1 of the 3D models submitted. Mesh shows serious issues that need considerable alterations.	Very basic attempt at unwrapping that is likely incomplete. Work shows major issues.	Either a basic attempt was made to produce a custom texture or student used third-party images for their textures.	Quality is severely lacking in all areas of the final composition and render.	The report submitted either lacks evidence of work, is severely lacking in at least 1 of the required categories or contains significant issues with layout/ spelling/ grammar/ referencing/ evidence of work.
<40	Either nothing was submitted, or quality is below that required for a passing grade.	Either nothing was submitted, or quality is below that required for a passing grade.	Either nothing was submitted, or quality is below that required for a passing grade.	Either nothing was submitted, or quality is below that required for a passing grade.	Either nothing was submitted, or quality is below that required for a passing grade.	Either nothing was submitted, or quality is below that required for a passing grade.
Comments						Total
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