

CPT306 Individual Project  
Coursework Assignment Specification2022/23 Semester 2  
Bachelor Degree – Year 4

Module Code	Module Leader	Module Title
<b>CPT306</b>	<b>Hai-Ning Liang Nan Xiang</b>	<b>Principles of Computer Games Design</b>

Coursework Assignment Number: **4 of 4**Method of Working: **Individual**Coursework Title: **Creating a 3D Game**Percentage (%) Weighting: **40% of the overall module marks**Date and time of publication: **10:00 am on Tuesday, 4 April, Week 8**Date and time for submission: **11:59 pm on Sunday, 21 May, Week 14**General Instructions

1. One copy of this assignment should be handed via the module **Learning Mall** page at <http://learningmall.xjtlu.edu.cn> no later than the time and date shown above, unless an extension has been authorized by the module leader.
2. Before submission, each student must complete module coursework submission form obtainable from the module **Learning Mall** page. This assignment is being marked by student name and id, please ensure that you complete the correct coursework submission form.
3. Format of the coursework assignment submission:  
Please refer to "**What to Submit**" section of the coursework assignment specification for details.
4. Use of unfair means:  
You are reminded of the University's Code of Practice on the Use of Unfair Means and that the work you submit for assignment should contain no section copied in whole or in part from any other source unless where explicitly acknowledged by means of proper citation.
5. Late penalties:  
For work submitted late the penalty is loss of **5%** marks per day. Work that is **5** or more days late will automatically be graded as **FAIL**, and no re-submission will be allowed.

## Purpose of the Assignment

The general purpose of this assignment is to design and develop a **desktop 3D survival game**, employing the design approaches, perspectives, and techniques discussed throughout the module. Overall, this assignment is intended to be open-ended with a predefined framework. You will start with the game framework, design gameplay and elements, and implement them in your final game.

This year, the game framework will include the following:

- A map generator: it allows you to generate a map randomly. The map is viewed looking down from a certain angle—from a top-down perspective.
- A controllable character: once the map has been generated, the framework will instantiate a character that can walk around the game environment. Players control the character via arrow keys.

The framework will be released with the assignment description and available on Learning Mall. Consequently, it is up to you to decide:

- the genre of your game (the primary genre must be survival);
- what gameplay your game should have;
- what features your game should include;
- and so on.

You will need to complete and submit three parts for this assignment: *game prototype*, *game design report* and *video*.

## Game Prototype

You are required to continue with the given Unity project, design, and develop the game. It is expected to complete the core game logic as you designed. Some minor flaws, and unpolished elements are acceptable.

For the prototype of your game project, you hand in the whole Unity project folder, including all the required files. The project should be able to be opened, built, and run. Please also build the game as an .exe executable file and submit it. Because large files are not accepted on Learning Mall, you will need to submit these files via BOX (campus cloud storage). You are reminded that the department reserves the right to use similarity detection software to detect cases of plagiarism and other forms of cheating.

## Game Design Report

In the game design report, please include the following component:

### 1. Cover Page and Table of Contents

You should indicate the course name, game name, and your information (your name and student ID). In addition, please include a table of contents.

### 2. Overview

This is a short description of what your game is all about and what its unique hook is. It should interest and excite the reader and set your game apart from others.

### 3. Story Synopsis

Please describe the game story. Introduce the main character, identify the problems faced by the character, describe any villains in the game, and explain how the player will ultimately overcome all of these. If there is important backstory, be sure to include it here as well.

#### 4. Gameplay Design

Please describe the game design in detail, including the game genre, concept, world, interactions, etc. Please include suitable pictures or screenshots of your game. Here we list the components that you must include in this section, you can also add other components if you think they are necessary.

- Game Genre
- Gameplay Mechanics and Gameplay: actions, outcome, win/lose conditions, etc.
- Game Elements: AI, animation, graphics, sound, networking, etc.
- Game Progression
- User Interfaces

#### 5. Implementation

Describe briefly how you develop the game. You should include a unified modeling language diagram to describe the game's structure. With this diagram, you should introduce your game's core components and explain how they work. Note that, given the limited length, you are not allowed to copy and paste code snippets in this report. Try to summarize the core methods and describe their purposes, workflow, triggered events, etc.

UML

#### 6. Ethical and Social Issues

This is a statement as to who the intended players of the game are. Be sure to also think about geographics, psychographics, and demographics. You should also consider and describe any ethical and social issues that may be relevant to your game.

#### 7. Limitations and Future Work

You should critically analyze your game and identify its limitations. Describe why such a limitation exists and provide potential solutions to address it. You can also describe other future work for your game, such as another game mode when you have more time to implement it.

Please use a page size corresponding to A4 (21cm x 29.7cm). The margins should be set as follows: 2.54cm for top/bottom and 3.18cm for left/right (i.e., the Normal layout in a Word document). The entire document should be in Times New Roman or Arial font. Please use 18pt bold font for the title, 12pt bold font for module, assignment, and section names, and 10pt regular font for the main content and all other elements. Please set up 1.15 line spacing for the entire document. You are free to use figures or tables to support your report, but they should be explained with texts. *Your report should be around 20 pages using the above settings and must not exceed 25 pages.*

#### Video

Create a short video showing how your game works (<10 minutes). It should demonstrate the key gameplay of your work.

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## What to Submit

1. **Submission form** (properly completed with the signatures of ALL your team members) in **PDF** format. The submission form will be made available on **Learning Mall**. Submission forms with incorrect information certainly will affect your marks, so carefully complete the submission form.
2. **Game Design Report** in **PDF** format.

You should submit a **ZIP** file on **Learning Mall** module page. Please use your **First Name, Last Name**, and **Student Number** to name above mentioned files and the ZIP file—for example **HaiNing\_Liang\_999999** will be the name of the files module leader would be submitting, with 999999 being as his student number. In addition, you need to make a single copy of them and staple all the pages together (put the submission form on the first page). Drop the document in the module leader's course locker. It is located next to the elevator on the **4th floor of the SD Building**.

You need to submit the **Game Prototype**, including the whole Unity project folder and the exported executive file, and **Video** via **BOX** (campus cloud storage).

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