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| MHI1626897 |
| Coursework |
| Network Game Programming |

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| Module Leader: Mario Soflano (Mario.Soflano@gcu.ac.uk) |

*Session 2022 - 2023*

***Plagiarism***

*Attention is drawn to the University regulations on plagiarism. Whilst discussion of the coursework between students is encouraged, the actual work has to be undertaken individually. Collusion may result in a zero mark being recorded for the coursework for all concerned and may result in further action being taken.*

# Scenario

This coursework will test your ability to develop a 2D network game. The game should be 2D platformer game. You are free to design your own platformer game idea. The marking scheme is as followed

## Marking Scheme

Marks for this coursework will be awarded on the following basis:

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|  | Mark Up To |
| The Game |  |
| Intro Screen – Network Menu (Host, Client, Server) | 2 |
| Intro Screen – Matchmaking including joining the network game | 3 |
| Game – Networked Sound Effects for example, when another player get damaged, a sound effect will occur on every client | 3 |
| Game - Game Over condition for the game to finish and an UI to show the finish game including handler when quiting the network game | 7 |
| Network Object – for example: Timer that will sync when new player join in after the game starts | 5 |
| Network Object – Leaderboards | 10 |
| Player Controller - the player should be able to control a player character in the network game and in-sync to all clients. This includes animation, movement, effects of physics and actions. | 5 |
| Moving platforms – in sync for all players | 5 |
| Moving animated enemy – in sync for all players | 5 |
| Health – all clients can see each other’s health | 6 |
| Projectiles – all clients should be able to see projectiles and the effect of the projectiles when colliding with objects like other players or enemies for example | 6 |
| Player character and Game object interaction – if the player collide with the enemy, an animation will be played and the health will be reduced (and shown to all clients) | 5 |
| **Sub Total** | **62** |
| Video and Release |  |
| Video. There are 2 main parts of the video:   1. Up to 5 minutes gameplay listing the features implemented 2. 10 – 15 minutes Video Presentation of the game detailing your thought process when implementing the game. The presentation should explain 3 main multiplayer features implemented with highlights on 1) how do you implement them? 2) why are you implementing them the way they are? 3) what would you have done differently given the time? 4) what would you improve from the current game?   The video can be uploaded to Youtube and submit the link on Blackboard. | 20 |
| Create a Release version of your game which can be run directly through an exe file (5%) | 3 |
| **Sub Total** | **23** |
| Quiz / Class Test | **15** |
| **Total** | 100 |

**Note:**

* The Video Presentation could include yourself showing the code in the editor
* When addressing what would you have done differently given the time and what would you improve from the current game on The Video Presentation, please refer to the topic being discussed in the lecture (for example: data consideration, replication, security etc)
* Extra marks will be given for extended features like integration with other APIs such as Steam
* The marks for each component mentioned above will be granted based on how complex and well the implementation and finish product is.
* Any online resources such as arts assets and online tutorial should be credited.
* While learning from online / offline tutorial is allowed, the coursework should improve the tutorial much further for maximum marks and the submitted coursework should not only the direct result from the tutorial only.

## Submission

Submission of this coursework should be made electronically via **GCULearn** no later than **23:00 on TBA**.

Late submissions will not be accepted without a vaild and documented reason.

## Quiz / Class Test

The Quiz / Class Test will be on **TBA**. It will be open book and you would need to complete the questions within a period of time. Further details will be published soon.

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Plagiarism and cheating: <http://www.gcal.ac.uk/student/coursework/regulations/plagiarism.html>