

Term Project Instructions

As I already announced, I want every student to make games in Unity and C++. Please read the following requirements to complete this group project.

1. Unity Game

You have learned how to make 2D and 3D games. Based on what you learned, you are asked to make any of 2D or 3D games in two different ways: i) make a new game or ii) significantly enhance your previous game. However, there are certain requirements to successfully make your game.

Like both 3D defense and running games, your game through this project should have a goal. For example, the 3D defense game has a goal to defend as many enemies as possible. The 3D running game has a goal to reach the destination as quickly as possible. Next, please feel free to use Unity assets to save time. It is okay to partially use or employ Unity assets but is not allowed to just submit the purchased one for this project. Please keep in mind that the most important grading criteria are creativity, and please see Appendix A for the grading rubric.

2. C++ Game

You have learned a variety of concepts of C++. As I showed the dice game in class, functions, loops, and conditions are the main concepts for this game. Like this example, you should employ multiple C++ concepts. However, I think you probably have a difficulty to come up with a new idea, so let me provide some game topics.

The first game is about improving the rock-paper-scissors game. In Korea, there is a very popular game called Muk-Jji-PpA, which is a variant of the rock-paper-scissors game. Please read the following Wikipedia page and watch the YouTube video to understand the rule. You may have fun with Muk-Jji-Ppa!

<http://en.wikipedia.org/wiki/Muk-jji-ppa>

<https://www.youtube.com/watch?v=urZJtUYxgnc>

You don't need to implement a penalty like showing in the YouTube clip ☺ The simple example will be like following (but no restriction). Please use functions as many as possible.

Welcome to the game of Muk-jji-ppa.
You can press a 'r' button for Rock, 'p' for Paper, and 's' for Scissors.
Press any key when ready
Rock! Paper! Scissors! r
Rock (You) vs Paper (Computer)
I am going to attack!! One! Two! Three!! r
Rock (You) vs Scissors (Computer)
You are going to attack!! One! Two! Three!! s
Scissors (You) vs Rock (Computer)
I am going to attack!! One! Two! Three!! p
Paper (You) vs Paper (Computer): You lose!!
Press any key if you want to play again or press 'q' to quit q
Good bye, it was fun. Play again soon.

The second game is a guessing game. A sample run for the game follows, and user input is shown in boldface in the sample run.

```
Welcome to the game of Guess It!  
I will choose a number between 1 and 100.  
You will try to guess that number. If you guess wrong, I will tell you if  
you guessed too high or too low.  
You have 6 tries to get the number.  
  
OK, I am thinking of a number. Try to guess it.  
  
Your guess? 50  
Too high!  
Your guess? 112  
Illegal guess. Your guess must be between 1 and 100.  
Try again. Your guess? 23  
**** CORRECT ****  
  
Want to play again? N  
Good bye, it was fun. Play again soon.
```

Depending on your decision, you can develop one of the games above or make your own game in C++. Please submit 1 Unity game and 1 C / C++ game by **11:59PM, 11/16/2020**. Good luck and let me know if you have any questions.

Appendix A Grading Rubric for the Group Project

Name:

Criteria	Minimal = 1	Basic = 2	Proficient = 3	Advanced = 4	Professor Assessment
Originality An original piece expressing student vision informed by choice, perspective and/or values	Expresses an unclear perspective	Expresses a clear perspective	Offers a vision expressed in a unique way	Offers a vision expressed in a completely unique way	
Knowledge Creative piece reveals student knowledge of concept(s)	Reflects a lack of knowledge consistent with purpose of project	Attempts to reveal knowledge or provides partially correct knowledge that reflects purpose of project	Reveals knowledge that is mostly correct and consistent with purpose of project	Reveals knowledge that is correct and consistent with purpose of project	
Tools/Techniques Demonstrates awareness of and ability to use the tools and techniques for completion of the project	Demonstrates inappropriate choice or use of tools / techniques that do not meet purpose of creative piece	Demonstrates appropriate choice and use of tools / techniques that meet purpose of creative piece	Demonstrates skillful use of tools / techniques that meet purpose of creative piece	Demonstrates masterful and/or inventive use of tools / techniques that meet purpose of creative piece	
Reflection explains purpose of creative piece, the process, and results	Attempts to explain purpose of creative piece and its process but is unclear and/or incomplete	Explains purpose of the creative piece and the process for completion in writing	Clearly explains the purpose of the creative piece and the process for completion	Clearly and completely explains the purpose of the creative piece and the process for completion	
Total:					