

GameAI Final Project Requirements

First milestone due: November 25th, 2022

Final project (and writeups) due: date/time of the final exam

Goals: To create, present and reflect on your work this semester.

Steps:

1. Decide if you'd like to do this project solo or with one other person in the class. Groups of two are allowed for the project, although in general things submitted to myCourses (with the exception of the presentation itself) should be submitted individually.
2. Decide on what type of project you'd like to do for your final project. All projects will use Unity. The choices are:
 - a. Write a genetic algorithm for a problem of your choice.
 - b. Generate a dungeon using an L-System representation. You may use code seen in class to help start this.
 - c. Procedurally generate a city using a variety of procedural generation techniques.
 - d. Expand on your AI Architecture assignment. If you choose expansion, then must specify the extent of the expansion. This should be the equivalent of roughly 4 weeks of work (or 2 assignments).
 - e. Procedurally generate a biome. This biome should have multiple terrain textures and should have items like trees/plants.
3. Submit your code to the GameAI.git repo of one group member that you created for the GameArchitecture assignment. Put the code into a directory called **FinalProject** so that I can find it when I pull from git. For those that didn't create the appropriate repo last time, I will take off double the points of last time if you don't this time (20 points) and I expect that the repo will be fixed and I will not have to individually pull from it this time.
4. (20 points) Determine what to submit for the first milestone. There will be a myCourses submission where each individual submits the following:
 - a. A description of what you've accomplished for your first milestone as an individual as well as a group. Also detail what you have left to do for your second milestone.
 - b. The github repo to pull from.

You will also make sure that your github is up-to-date with the code for the first milestone and is not broken. This code will be pulled from whenever your file is submitted to myCourses. You may use remaining late days for this submission, although both members of a group must have the number of late days to spend if they spend late days.

5. (60 points) For the final submission, each individual/group will give a short (5-minute) presentation on their project from this semester during the final. Submit your presentation to myCourses under one group member's name (please make sure one person submits). Please note that you can show code snippets in your presentation to the class.
 - a. This presentation should have the following details:
 - i. What you did and how it works.
 - ii. The system for game AI that you created and if you expanded on a current project, then what you had already done previously and then did for this project.
 - iii. The overall design of your final project (please show diagrams) along with what was tested and works as well as what remains to be implemented or what remains of your stretch goals. Please especially concentrate on what behaviors happen for AI that involve NPCs and simulation. For terrain generation, then make sure to discuss the details of your implementation algorithms.
 - iv. What the best or most cleverly implemented parts of the project were (again, it is ok to show the code in class or to do a short video if it's a behavior)
 - v. What the most difficult parts were and how you dealt with those parts (again, it is ok to show code)
 - vi. Things you would do differently if you were to do the project over again and especially any performance difficulties with your code. Any surprises or problems that you had during development

6. (20 points) (Individually) Create a short writeup of your final project. Submit this to myCourses. The overall goal of the writeup is to reflect on the project in terms of good and bad things about it. The same topics as shown above should be discussed, but the writeup can contain more technical details that you would not share in a presentation (you really are talking for only 5 minutes in the presentation).