FINAL PROJECT

CS 4150/5150 ~ FALL 2013

The final project takes the place of a final exam. Group projects are encouraged but not required.

Proposal Deadline: **November 10, 11:59pm**
Prototype Demos: **December 3, in-class**
Final Deadline: **December 11, 11:59pm** – *due to final grading requirements and deadlines, this **cannot** be extended*

This document describes the aims of the project and provides example topics, and also details the deliverables.

PROJECT DESCRIPTION

The aim of this project is to delve into a particular AI technique you learned about this semester. It must go beyond what was covered in assignments; however, you are permitted to extend an assignment you found particularly interesting for the project. There are two options for your final project:

OPTION 1: CREATING AN AI-BASED GAME

For this option, you will be designing and creating a game in which AI **heavily** influences its core aesthetic. For example, a stealth game with opponents that can react to player decisions, a game that incorporates procedural content generation in a meaningful way, or a game with content that adapts intelligently based on player performance.

For this option, your game will be judged based on its merits for AI, not other concerns (e.g. graphics, art, audio). If you are creating a game from scratch, you are encouraged to make a computational prototype that abstracts away these other issues. For example, the stealth game might be a top-down map rather than 3D first person, with squares and circles representing the NPCs and player. You may also choose to adapt an existing game (either one you have created, or one that is open source) as part of this project. If you choose to adapt an existing game, you **must** make it clear in your project proposal how much of the game is complete already, and what you will be adding to it for the project.

OPTION 2: FACULTY-APPROVED RESEARCH

You may choose instead to work on Game AI-related, faculty-approved short research project for your final project. You must seek permission for this option ahead of time. If you are interested in pursuing a research-oriented project but do not have ideas for where to start, you should see me during office hours to discuss (or make an appointment). If I am not the supervising faculty member, I must still approve that this project is suitable for the course.

DELIVERABLES

PROJECT PROPOSAL

Your project proposal should be a two page document, single-spaced, with any references in AAAI format (similar to the midterm). The proposal should include the following:

- A description of the game you want to make and why AI is core to the game's aesthetics
- Why you think this is an interesting project to explore
- What you plan to do as part of the project
- A short timeline describing your weekly milestones
- A brief description of what you would propose as grading criteria:
    - What would you consider a successful project result (worthy of an A)?
    - What would you consider a mediocre project result (worthy of a C)?
    - What would you consider a failed project result (worthy of a D/F)?

PROTOTYPE DEMOS

In-class on Tuesday, December 3rd (the last day of class!), students will break into groups to discuss projects. I will try to assign students to groups that are thematically related so that you will have useful information to share with each other.

For this milestone, you should be able to show either a live demo of your work or a brief (no more than 2 minutes) video of your progress thus far. Turn in your video and a brief progress report on Blackboard.

FINAL REPORT AND VIDEO

For the final project turn-in, you will need to submit a 4-6 page, single-spaced report describing what you did, how you did it, and how it is related to what we learned in class. I recommend you follow this outline, though you may deviate as you wish:

- Introduction – set up the problem, why it is interesting, and why you chose to do it
- Related Work – what others have done that is similar to what you did, and how your project is related to them
- Method – what you did and how you did it
- Discussion – screenshots of your game, a discussion of what you think the strengths and weaknesses of your project are, what you would like to do with more time

You should also turn in a link to a video showcasing your project.

EVALUATION

Your final project grade will be a balance of each milestone. 20% of your grade comes from the project proposal, 20% from the in-class demo, and 60% from the final report, video, and quality of the submitted work.

All work must be turned in via Blackboard. **Emailed assignments will not be accepted.**