

Term Project (30%)

***The proposal is separate and worth 10%.

Due: April 8th. Upload to Brightspace by 11:59pm Newfoundland time.

Compress the folder containing your source files as a .zip for submission.

You do not have to include: node_modules, package.json, and package_lock.json

The goal of the term project is to take the topics we have learned throughout the course and implement them cohesively in an AI based game or interactive art installation.

The project should be completed either individually or in groups of 2.

The theme and what your project actually does is up to you, but it must be interactive with the user in some way and must be implemented in javascript using three.js.

Pick at least one concept from each of the following categories to include in your project.

You may use multiple concepts from each category, but you have to use at least one in each.

Category	Concepts/Algorithms
Complex Movement Algorithms	Wander Path following Collision Avoidance Flocking
Pathfinding	A* Flow Field Pathfinding Jump Point Search Hierarchical A*
Decision Making	State Machine Behaviour Tree
Procedural Content Generation	Perlin Noise Depth-First Backtracking Maze Generation Procedural Dungeon Generation Cellular Automata Lindenmayer System (L-system)
Pick one other topic learned in class (<u>must</u> be independent of the other categories) *could be something outside of these topics	One (or more) Simple Movement Algorithms: e.g. pursue, evade, separate, align, cohesion Pseudorandom Number Generation: e.g. linear congruential generator (LCG), Halton sequence, Gaussian distribution, a custom distribution (e.g. Monte Carlo)

Requirements/Deliverables

1. Javascript Application (25% of your final mark)

- Categories (15% of your final mark)
 - Successful implementation of each category is worth 3% of your final mark.
 - (3 x 5 categories = 15%)
- Coding Style/Documentation (5% of your final mark)
 - Code legibility, efficiency, and comments
 - Please include a README document file which should include: a brief description of the project, how to run, the controls, which topics you have implemented, and how to view each topic in the application
 - If you are working in a pair, describe each individual's contributions
- Creativity (5% of your final mark)
 - Cohesion: does each topic implemented contribute to a project theme?
 - Visuals: are the graphics compelling?
 - Interaction: are the implemented interactions compelling? Are they sensible for contributing to the overarching theme?

2. Presentation Video (5% of your final mark)

Project presentations will be videos in **.mp4** format. Your video will be approximately 5-10 minutes and should have an accompanied slideshow.

The goal of the presentation is to share ideas of what you have decided to create and how your creation will meet the project requirements (which topics you will implement/have implemented). This is independent of the final game or installation – you do not need to have your implementation completed for the presentation, however, if you have a demo (either completed or partially functional), you are encouraged to share it.