**Project title**

An investigation into techniques for procedural generating realistic cities.

**Brief outline of the work**

I will explore and prototype some different techniques for procedurally generating cities. I will be evaluating these techniques against several criteria and use this to pick a single technique to move forward with and refine.

**Rationale:**

**Project timeline and Milestone deliverables:**

Milestone 1: End of October

To have successfully created one prototype capable of:

* Major roads
* Minor roads
* Building placement

Milestone 2: End of December

To have prototyped multiple systems capable of the above bullet points. To have evaluated these different techniques against a set of criteria, and then choose and justify my decision of which technique to continue onwards with.

Milestone 3: End of project

Refinement. Refinement can come in many forms, for example:

* Creating my own height maps, population maps, water boundary maps, etc.
* Iterate and improve building creation – different types of buildings, more variations, improve building placement, what buildings are placed where, etc.

**Clear employability statement of how the completed project will demonstrate the relevant specialist skills:**

This project will allow me to demonstrate ability to procedurally generate “random” content in a controlled way.

Algorithms such as the Drunkard walk are a fully-random system used for created procedurally generated content, however fully-random systems to not suit well for creating realistic or believable worlds.

This project will allow be to demonstrate the ability to restrict and “control” the random elements in such a way that the content is created sensibly and produces “realistic” output.

**Examples of specific organisations and/or current jobs in the relevant industry sector in which the specialist skills will be of value:**

-programming jobs

-procedural content jobs

-does not have to be specifically about procedural cities

**What do I wish to be marked on for the final project?**

Similar to my own criteria for evaluating the different systems and techniques I have identified, I propose to be marked on the following:

* Realism – How “realistic” is the city. Does it closely resemble cities we see today? Does it *look* like a real place?
* Scalability – Can the final system be scaled to produce small or large cities? Does it face any issues with this?

**Annotated bibliography**

Bibliography to go here with annotated sources and references to explain why they are helpful to me in this project