

Procedural Modelling of Cities implemented as a Blender Plug-In

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1 Previous Short Term Objectives

1.1 Python Instantiation of a Road Network

The goal for this past week was to get some visual results out of the completed python instantiation of the road network generation system. This was to bring the new Python version of the system up to a similar level of road generation as the previous ad-hoc script was able to produce at.

1.2 Literature Review Update

As one of last weeks objectives, a simple one page summary of [?] was submitted. An objective for this week was to improve on this summary and to implement some of the suggestions given for the summary.

2 Progress

2.1 Python

A python implementation of the road generation network was successfully completed. This system is now able to generate a simple branching highway system on a flat plain. Thus I can move forward from this point to implement other methods of road generation within this test system. A slight problem was encountered however with the integration of the Blender API with the test system, as such whilst the system generates an appropriate set of co-ordinates to represent very simple branching road systems it still lacks the ability to represent those roads graphically.

2.2 Literature Summary

A second draft of the summary of [?] was completed. This draft incorporated the changes and corrections suggested for the summary.

3 Problems

The only problem encountered this week was my inability to integrate the co-ordinates generated by the test system with some form of visualization system within Blender. Upon reflection of this issue however it is apparent that I may have been approaching this issue from the wrong perspective. Specifically it was my intention to implement a Blender representation of each object created by the system within its own class. This was leading to problems with Python where it was unable to appropriately assign a type to the complex Blender variable types. A solution to this problem however is adjust the system so that the various object classes simply generate and store an array of vertexes and possibly other properties of the object such as base colour or material type. This information can then be accessed by a simple blender script which can then do the appropriate casting of each objects vertex information into the relevant Blender object. This then minimizes the number of classes and files which need to reference the Blender API and also greatly simplifies the process of Blender object creation.

4 Objectives for Next Week

4.1 Visible Results in Blender

The objective for next week is to finally get some meaningful results out of the test system. This will include the successful generation of different road types and patterns, it will also include some way of generating a visualization of this system within the Blender environment.

4.2 Literature Review

A second objective for next week is to summarize a second paper on the topic of procedural city modelling. This will again be a simple one page summary which aims to help in the classification of each paper into its relevant and central points which can then be easily used in the creation of the projects overall literature review.