

Procedural Modelling of Cities implemented as a Blender Plug-In

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1 Previous Short Term Objectives

1.1 Code Review

A meeting was to be held to review the existing python scripts and implementation of the road generation network. Any recommendations from this meeting were to be implemented and updated within the Road Generation system.

1.2 Literature Review

An overview of the literature review for this project was to be produced to facilitate a discussion on the overall objectives of the literature review. This overview was then to be used as a basis for the full literature review.

1.3 City Planning Data

Data and methodology on real world city planning was to be collected and contrasted in order to determine the commonalities and differences between the major city planning approaches. These approaches were then to be refined down to a simple few which could be implemented algorithmically in order to assist the road generation system in creating realistic road networks.

2 Progress

2.1 Code Review

A meeting was held on Wednesday the 16th of May to review the python code for the Road Generation system. It was agreed that the general style of the implementation was correct and that future developments were to continue in a similar manner. A decision was also reached as to the method of implementation for road pattern implementation. A script was developed which

receives as parameters various properties of the required road segment, these include the possible range of angles which the road could be generated along, and the length of the road segment. At present this implementation is being tested using a restriction that the subsequent road segments can only occur at 90 degrees and that all of the road segments must be of an equal length. The results of these restrictions should result in a square grid of roads. Further issues that were encountered include the ability to prevent the system from generating the same road segment from both ends and thus overlaying two roads on each other. Finally intersections needed to be effectively managed by implementing a list of intersecting roads within each intersection.

2.2 Literature Review:

A basic layout for this project's literature review was drawn up. This layout included the major topics for discussion in the review and the relevant papers associated with each topic. A very brief description was given as to how each paper linked to each topic and what its conclusions were.

2.3 City Planning Data:

Unfortunately due to other work constraints and the time spent on the literature review, no further information was gathered with respect to the road planning rules and regulations.

3 Problems

No major problems were encountered this week

4 Objectives for Next Week

4.1 Road Planning Data

In the next week, either sufficient data must be collected to allow for the construction of road generation rules, or an equivalent set of rules must be decided upon. The results of this will allow the algorithmic implementation of these rules into the system.

4.2 Inconsistent Raster Roads

Extending upon the simple set of constraints applied to the road generation system at present, parameters must be found which allow for the generation of non-regular raster road layouts, thus the roads must be of variable lengths but must still adhere to the 90 degree parameter.

4.3 Literature Review

Further progress must be made on the literature review, aiming towards having a full first draft by the middle of next week.