Procedural Modelling of Cities implemented as a Blender Plug-In

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1 Previous Short Term Objectives

1.1 Long Term Objectives

A meeting was to be organised where the overall plan for the research project was to be discussed with a view to formally organising the remaining objectives and goals required by the project. This meeting was to result in a clearer plan for the progression of this project from this point onwrds.

1.2 Code Implementation

The road generation system was to be further extended and optimised in order to allow for the aims of this project to move beyond simple road generation towrds the more complex goals of region isolation and complex suburb and structure generation.

1.3 Road Intersections

A process was to be implemented whereby thensystem could dynamically determine where various roads overlapped so that these points could be converted to intersections and the road segments broken up into smaller pieces.

2 Progress

2.1 Long Term Objectives

A meeting was held where the objectives and goals of the project were revised and prioritised. This resulted in the creation of a project to-do list which will assist with the future developmemt of this project. The most important objectives on this list are the completion of the 90 degree branching road system including an implementation of an intersections algorithm. Further to this

the project will look to create better looking road systems by relaxing the 90 degree constraint and applying various other heuritics in order to generate more realistic looking city road layouts. Finally some method of face or region extraction will be rewuired in order to allow for the subdivion of lots for further road generation and structure construction.

2.2 Code Implementation:

A complete a cleanly optimised version of the core elements of the road creation system have now been implemented whcih allows for the easier implementation and generation of various road systems and types.

2.3 Road Intersections

The mathematics underlying the road intersection system have been implemented and as a resutlt the system currently outputs the point of intersection as well as the two road segments involved to the command line. This will be extended to automatically split crossing road segments and place a new intersection at the point where the two cross.

3 Problems

No major problems

4 Objectives for Next Week

4.1 Extension of Road Intersection Algorithm

The final implementation of the road intersection algorithm will be completed allowing for any intersection between two roads to be identified and a further intersection to be added. This will enable the progression of this project onto more complex road segment types.

4.2 Initial Experimentation With Relaxation of Road Generation Rules

Once the completed interection algorithm is in place experimentation will begin which aims to generate more realistic city layouts, this includes the relaxation of such rules and the road angles and the proximityof intersections.