Graphics Research Journal

COMP220- Research Journal

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1 Introduction

For my graphics and simulation project I have chosen to make a voxel based game, where the player is a light source that will light up the terrain. The terrain will be generated using perlin noise to change the height of the ground.

Paper One: Perlin Noise Pixel Shaders [1]

This paper demonstrates how they used procedural shading techniques to compute high resolution textures efficiently in real time. This means that materials like wood and stone can be generated using procedural texturing to quickly produce dynamic animated enviroments.

They use the perlin noise function to generate these procedural shading techniques [2].

Paper Two: Improving Noise [2]

This paper is what I used to implement the perlin noise algorithm into my project. It work by calculating a random vector for each of the nearest verticies in a cube. This paper is improving upon his last paper.

Paper Three: The Multilevel Finite Element Method for Adaptive Mesh Optimization and Visualization of Volume Data [3]

Paper Four: Dual/primal mesh optimization for polygonized implicit surfaces [4]

Paper Five: Illumination for computer generated pictures [5]

This paper

Paper Six: An improved illumination model for shaded display [6]

Paper Seven: Texturing techniques for terrain visualization [7]

Paper Eight: Hypertexture [8]

References

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