CS5625 Final Project Proposal

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March 31, 2013

1 Overview

2 Game design

3 Tentative Schedule

- Week 1: April 1 - April 7

  1. Tree model: build a skeleton mesh procedurely for the palm tree rendering and physical simulation.

  2. Explore physics engine and try to connect to our base code.

- Week 2: April 8 - April 15

  1. Tree model: build the basic tree mesh procedurely by using the skeleton mesh.

  2. Terrain: build a basic terrain using subdivision surface.

- Week 3: April 16 - April 23

  1. Optimize tree simulation by using the interpolation of leaves and fronds based on the hair model.

- Week 4: April 24 - May 1

  1. Apply the physics simulation to the skeleton mesh.

  2. Apply certain techniques to make the tree look nice. e.g. Normal mapping for the trunck.

- Week 5: May 2 - May 9

  1. Game implementation: Shooting a rock to the desert.

- Week 6: May 10 - May 15

1. Implement wind simulation similar to the method described in Chapter 6. GPU-Generated Procedural Wind Animations for Trees from Gem3.

4 Outline

5 Palm Tree

5.1 Hair Model

5.2 Wind Model

6 Terrian

6.1 Sand Pile Model

6.2 Subdivision Surface

7 Other related

7.1 Target

7.2 Sun & Sky

8 Conclusion