

Advanced Computer Graphics

CS 563: *Project Proposal*

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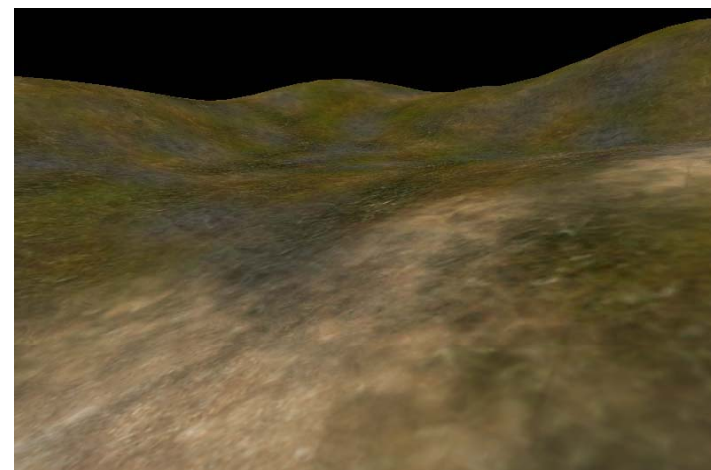
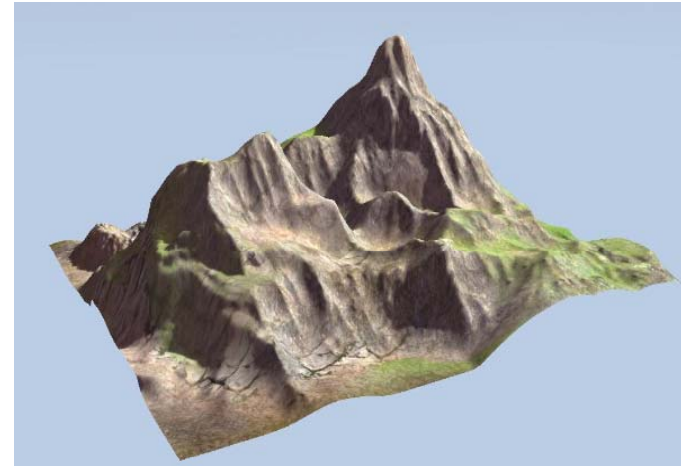
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Introduction

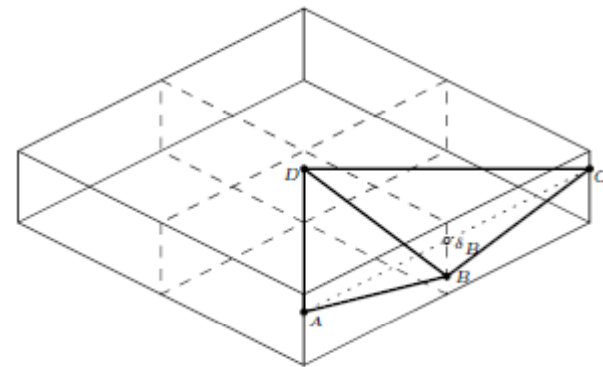
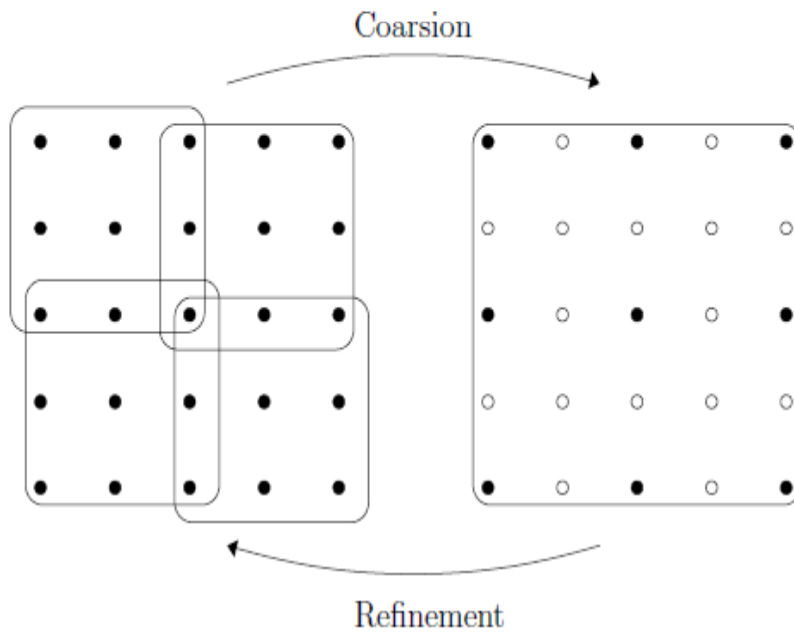
- Terrain Rendering
- Not using model
 - Too much complexity
- Using texture instead
 - Easy to rendering
 - More detail
 - Real time!!!





Background

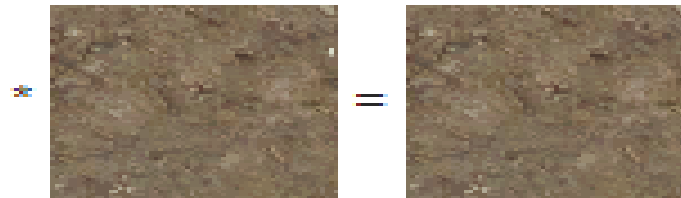
- Lindstrom et al.



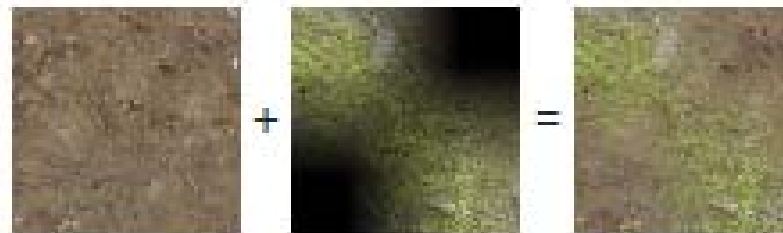
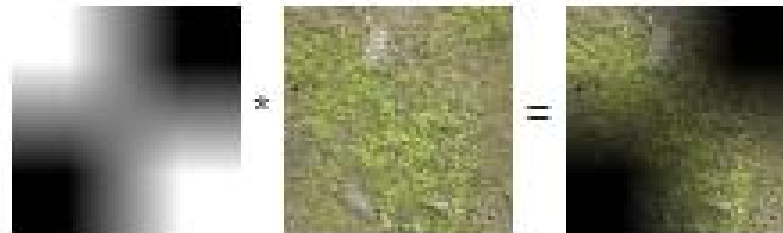


Technique Detail

- First splat is dirt.



- After the first splat, the grass layer is added on top



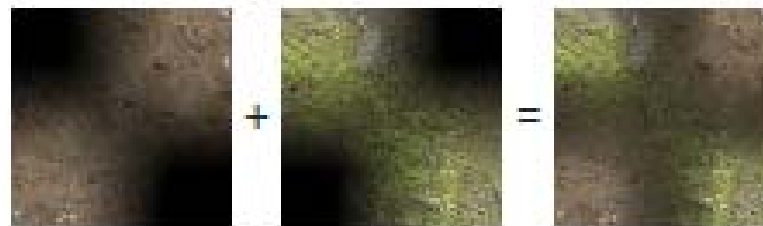


Technique Detail

- We need to render everything in same order
- Otherwise.....



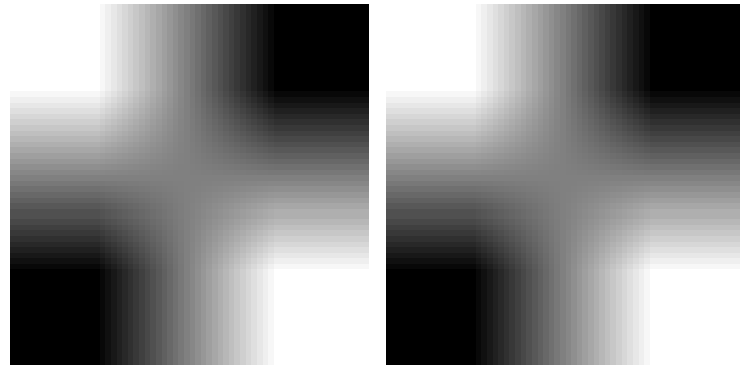
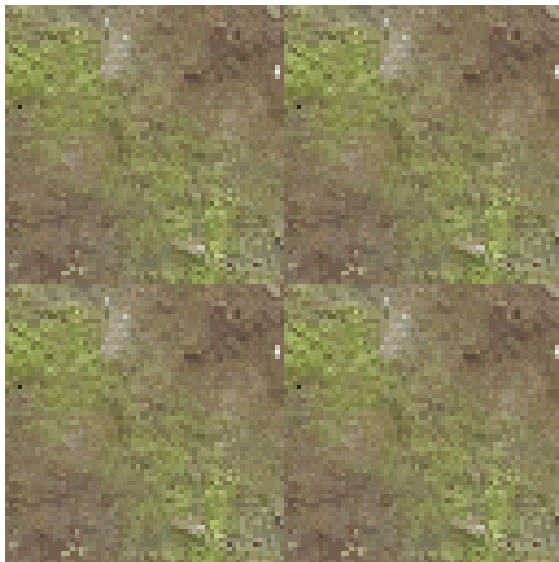
- The first should be opaque
- Otherwise....





Technique Detail

- If texture splatting has a downfall
 - Two neighboring splats come together
- Tiling four of the example splats from before





Implement Challenge

- Splatting with the fixed function pipeline
 - One texture unit for alphasmap
 - One texture unit for texture
 - Correct blending states
- Splatting with a pixel shader
 - Using all channels available in a texture
 - Rendering four splats in a single pass



Milestones

- April 1st week, do some sort of terrain representation, such as HeightMap, LightMap, etc.
- April 2nd week, a set of texture to be rendered on the terrain
- April 3rd week, make the alphamap for each texture
- April 4th week, final done



Add-on

- If it is possible might add ocean rendering to make scene greater!!!





References

- Terrain Texture Compositing by Blending in the Frame-Buffer by Charles Bloom
- http://www.gamedev.net/page/resources/_/technical/game-programming/texture-splatting-in-direct3d-r2238