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VSFX 350
Project 1

Floating Lanterns

For this exercise, we were instructed to create a complex scene. I took inspiration from Disney's Tangled and chose to create floating lanterns.

Ocean: This was essentially my first time working with any type of fluid body in 3D, so I kept it simple and experimented with Houdini's new ocean toolkit. I had to copy additional geometry instead of instancing it because issues occurred with light reflections when it was instanced. The shader was rather straightforward- because I wasn't worried too much about what was under the water, I decided to take a more stylized approach and make it purely reflective (which also avoided increased render times, which were already lengthy due to instancing several hundred lights). The lilypads were created fairly easily- merely scattering a few points on the mesh and then instancing them onto said points.

Lilypads: Each lilypad is instanced with it's own rotation and degree of completeness- that is, each lilypad's circle is between 300 and 360 degrees of rotation, producing the well-known “pie slice” in each lilypad.

Lanterns: The lanterns were fairly simple to model- spheres with certain divisions extruded inwards to give them the hatched look and tapered rectangular prisms. Each lantern has a hole on the top and bottom to allow light to shine through, and the shader used is set at about 0.8 opacity to allow them to glow from within. A glow around the lanterns was later composited in Nuke.

Lighting: Two lights were required for the lanterns- a point light to cast light on the entirety of the lantern itself, and a spotlight to illuminate the bottom of the lantern and to cast light on the water. Unfortunately, the presence of two lights per lantern, and then an instancing of 250 lanterns, resulted in 500 lights- which increased my render time by an extreme amount. By the end of the project, images that were rendered out at HD 540 took approximately 66min, and images rendered out at HD 720 took nearly two hours. An environment light was also used for a mixture of being an HDR for reflections off the water and to lend the blue, stylized glow to the water in the background.

Boat: Still being somewhat unfamiliar with Houdini's modeling system, the boat was also rather straightforward- just a rectangular prism with some edits and extrudes. UVing is quite the hassle in Houdini, so I exported out the geometry, unwrapped the UVs in Roadkill, and then imported the geometry back. The original geometry is hidden but available in the file should the user wish to see the modeling process.

Depth-of-field: Rather than risk the render times being driven up any more, the depth-of-field was created by rendering a depth pass and then later compositing it into Nuke with the zDefocus node.