Demo Reel Breakdown

Aleksandar Rodic – Technical Artist - Demo Reel 2011
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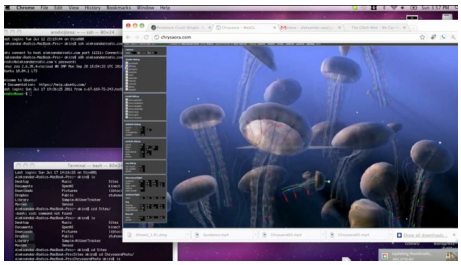
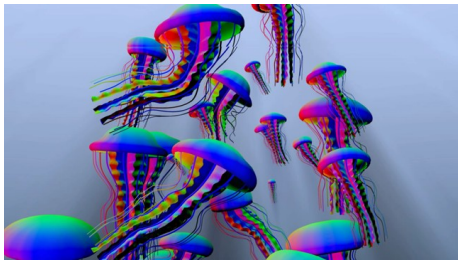


Real-time Rendering and Simulation

- I created rendering and simulation engine from scratch using javascript and web browser.
- To synchronize multiple simulations across multiple machines, I migrated the first step of the simulation on a server and established simulation streaming using WebSocket protocols.

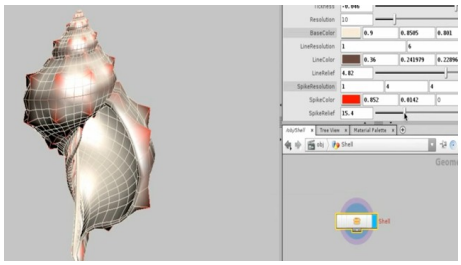
Lighting and Color Study

- I wrote a GLSL lighting system with support for directional, point and ambient light.
- Created a HTML GUI for the purpose of lighting and color study.



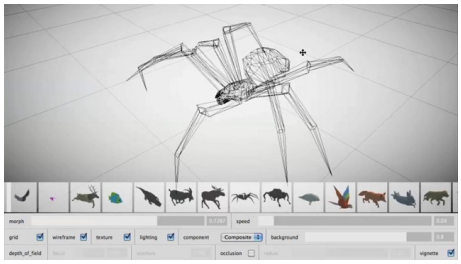
Shading and Effects

- I wrote several GLSL shaders with skinning, procedural animation, lighting, texturing, transparency and fog.
- Volumetric shadow faked with camera.light-facing sprites.
- Textures painted with Autodesk Mudbox



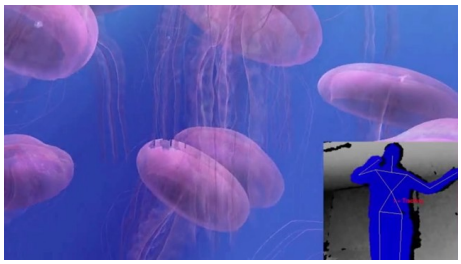
Procedural Modeling

- Created several procedural modeling networks in Houdini.
- Wrote a Houdini-to-WebGL geometry exporter using Python.



Web-based 3D Asset Viewer

- For the purpose of http://ro.me/tech project at Google Creative Lab, I created an interactive viewport for the showcase of digital assets created by Mirada VFX company. Morphing/animation shader not written but optimized and customized by me.
- All features of the viewer are written from scratch using open source Three.js javascript library.
- List of features:
    1. Dynamically loading/unloading models from a web server.
    2. Lighting and animation controls.
    3. Rendering to texture.
    4. Post effects such as depth of field and screen-space ambient occlusion.
    5. Awesome HTML5 interface made with customized dat.gui library.



Biokinetic Interface

- Used an OpenNI C++ library and modified one of the existing body tracking examples to send user's skeleton data from Kinect depth sensor to a web server over a TCP connection.
- On the server-side, I forwarded the data to a web client using WebSockets protocols.
- Used skeleton data to articulate and propel physics-based camera rig in a browser.

Selected old Work

- Energy Plant - still image (Maya, Photoshop)
- Fractal Broccoli – still image (prman and text editor)
- Paper Shutter – visual effects (Maya)