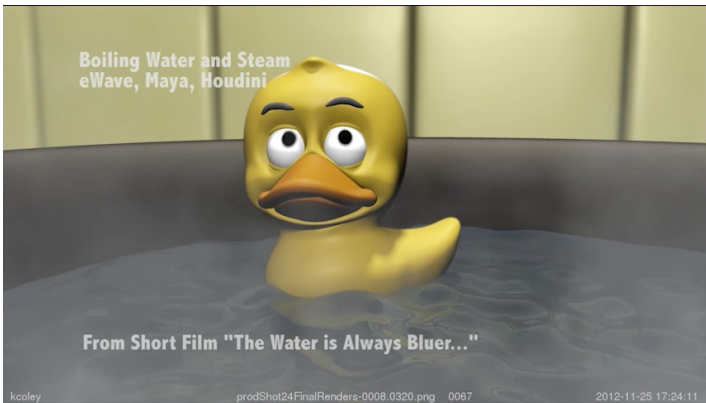


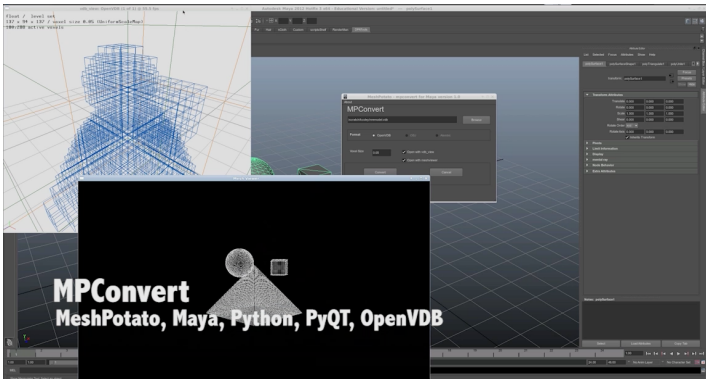
Created a flame trail in Houdini by creating a flame map and an initial starting point for the flames. The source values then crawl along the flame map by a custom cellular automata simulation, until the lifetime of the source points expires.



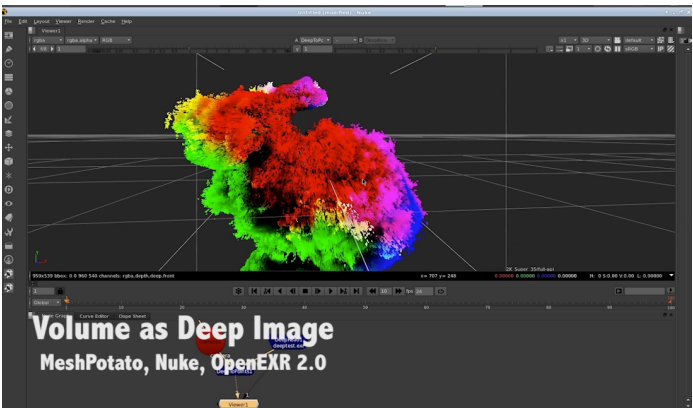
Implemented Dr. Jerry Tessendorf's FFT Wave and eWave simulations in C++. FFT Wave simply depends on time, where eWave allows ripple generation through the use of a ripple source and an obstruction. The C++ code is wrapped into a Python interface and the images were rendered using Ash, a Python production raytracer.



Boiling Water sequence in the short film "The Water is Always Blue...". The water is generated using a base sim in Houdini used as a ripple source in eWave. The resulting height map is used as a displacement for the water surface. The steam is implemented through a fluid simulation in Houdini.



MPCConvert is a Python tool based on MeshPotato, A C++/Python Volume modeling API (my thesis work). Artists can use the tool to convert geometry into level sets, which can be further modified in MeshPotato, or other applications which can support OpenVDB files.



The deep image is the result of raymarching a level set using MeshPotato (my thesis work). Each sample is stored in a custom data structure which then gets converted into an OpenEXR 2.0 deep image in C++. The images can then be viewed in Nuke or other applications which support deep images.