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Realistic ocean workflow in Houdini

Annotated Bibliography:

Darles, E., Crespin, B., Ghazanfarpour, D. and Gonzato, J., 2010. A Survey of Ocean Simulation and Rendering Techniques in Computer Graphics. Computer Graphics Forum, [online] 30 (1), 43-60. Available from: https://www.scribd.com/document/133991157/A-Survey-of-Ocean-Simulation-and-Rendering-Techniques-in-Computer-Graphics [Accessed 22 May 2017].

Very interesting survey. It was valuable as a starting point, as it helped me gather all the various components to touch the ocean subject. It presents both the procedural ways to generate the ocean surface, and the Navier-Stokes based simulation approaches. Furthermore, it helped with understanding the rendering of the ocean surface, and especially of the white water part.

Giesen, A., 2017. Houdini: Intermediate Ocean FX | Pluralsight. [online] Pluralsight.com. Available from: https://www.pluralsight.com/courses/houdini-intermediate-ocean-fx [Accessed 20 May 2017].

Even though I discovered this series of tutorials at the last stage of my research, its contribution was important. Giesen, in his tutorial had a very similar path my approach. The tutorial did not escape the pure showcasing of certain parameters though, losing the chance to explain better why he followed his specific workflow. He helped in great length with the white water implementation, even though my approach did not reach the desired result.

Lynch, J., 2017. Houdini 16 Masterclass | Ocean Tools. [online] Vimeo. Available from: https://vimeo.com/204806144 [Accessed 24 May 2017].

The main document that assisted with the ocean workflow in Houdini. This Master-class from Sidefx goes in great lengths to explain not only the ocean tool additions in the Houdini 16 version, but how they actually were conceived and function. On the other hand, the guided ocean layer tool was the least well explained component and white water was not explained at all.

Bibliography:

Agrotis, A. (2016), A Fluid Implicit Particle (FLIP) Solver Built in Houdini, [online]. Available from: https://nccastaff.bournemouth.ac.uk/jmacey/MastersProjects/MSc16/01/thesis.pdf [Accessed 22 May 2017].

Seymour, M. (2011), The Science of Fluid Sims,[online, article] FX PHD, Available from : https://www.fxguide.com/featured/the-science-of-fluid-sims/ [Accessed 24 May 2017]

Tessendorf, J. (2001), Simulating Ocean Surfaces, in SIGGRAPH 2002 Course Notes #9 (Simulating Nature: Realistic and Interactive Techniques), ACM Press.

Tessendorf, J., 2017. Simulating Ocean Surfaces. [online] evasion. Available from: http://evasion.imag.fr/~Fabrice.Neyret/images/fluids-nuages/waves/Jonathan/articlesCG/waterslides2001.pdf [Accessed 24 May 2017].