

Interactive Visual Data Analysis

Assignment 12 – *Order independent transparency*

In this last assignment, we will add support for multiple, shaded smoke surfaces through order independent transparency and finalize our visualization tool.

12.1. Realtime Concurrent Linked Lists

Implement concurrent linked lists. The method is described in detail (including a DX11 code example) in the paper “Real-Time Concurrent Linked List Construction on the GPU”:

Paper: <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8659.2010.01725.x/abstract>

Slides: http://developer.amd.com/wordpress/media/2013/06/2041_final.pdf

To demonstrate your results, add shading to your smoke surface rendering (i.e., modify the smoke color by applying Phong lighting), and ensure that the user can seed multiple smoke surfaces with different colors.

12.2. Final Cleanup

Last but not least, cleanup your code, fix remaining bugs and prepare you tool for the Demo Day (Feb 4, 4pm).

Please ensure that **older features are still working** (volume rendering!).

Optional: Add support for stereoscopic rendering (side-by-side). You can work at the big 3D-TV in the demo room, which we will also use at the Demo Day. For 3D-glasses / help with the TV just pay us a visit.

12.3. Visualize

One last time, take a few screenshots of some pretty renderings generated by your tool and commit them to a folder called `screenshots/assignment12/` outside of your solution directory.

The working solution must be committed until **January 29, 09:00am**. If anything is not working as described here or if you want a specific SVN Revision to be rated, explain yourself in the `readme.txt` file within your `solution` directory.