IMAGE VIS3D

Jens Krüger & Tom Fogal
ImageVis3D

- Lightweight Application
- Interactive
- Large Dataset Support
- Flexible UI
- Support a Wide range of Software & Hardware
- Foundation for other Apps
- Foundation for Research Projects
- MIT License
Lightweight Application

- ImageVis3D is less than a megabyte in size
- No 3\textsuperscript{rd} party dependencies except for QT
- (Hopefully) Easy to use
- Easy to compile yourself

```
svn https://..../svn/ImageVis3D
qmake
make
```
Large-Scale Volume Rendering

What is “LARGE”?
“Large” may be something that does not fit

- into GPU memory (> 126 MB – 4 GB)
- into main memory (>2 GB – 64 GB)
- onto the local drive (>0.5 TB – 10 TB)
- into 32 bit address space (>4 GB)
- into 64 bit address space (>16 EB)
- ...

www.sci.utah.edu
Large Data Visualization

12 GB

600 GB
Techniques

- Out of core
- Bricking
- LOD
- Culling
Interactive Large Dataset Support

- Works with any dataset that fits on a hard disk or in 64bit memory space, whatever is less (please let me know where the second condition becomes the limitation 😊)

- LOD system allows for interactive exploration regardless of the dataset size

- Implements its own multitasking system and allows for fine grain control
Support a Wide range of Software & Hardware

Software:
- Windows XP & Vista (both 32 & 64bit)
- Mac OS 10.4 & 10.4
- *nix

Hardware:
- GPU capable of
  - OpenGL 1.2 + GLSL
  - or OpenGL 2.0
State of ImageVis3D

- Currently in semi-public beta can be downloaded from http://software.sci.utah.edu/devbuilds/imagevis3d

- Version 1.0 is planned for early 2009