Final project 570Q – Winter 2006

Dates to watch out for:
- Submit three project ideas by 1/24/06 (instructor will approve/assign approved project)

- Submit a 1-2 page project description and start project by 1/31/06

- Bi-weekly project check-in: 2/21/06 and 2/28/06 and 3/3/06(should be able to demonstrate some progress on the project)

- Final project demos either 3/14/06

In general final projects should relate to the course topic of 3D models. Projects based on any of the papers are appropriate and projects related to the general problem of acquiring, editing, displaying, remeshing 3D surfaces are appropriate.

Possible project ideas:
- Data fitting (2D and 3D problems)
- Surface reconstruction from scattered data (i.e. compute tangent planes for point data)
- Marching cubes implementation
- Projects related to range data acquisition
- View dependent texture mapping (data)
- Compute distance contours on meshes
- Compute normal map for mesh
- Explore polynomial texture maps
- Continue work paths on terrain data
- Continue work on discrete shells origami
- Continue work on structured light scanner
- Start to build robust mesh editing program (simplify/paint/transform)
- Build a water tight mesh from arbitrary input
- Camera calibration from images
    - Intel's OpenCV library:
      http://www.intel.com/research/mrl/research/opencv/
    - Matlab version by Jean-Yves Bouget:
      http://www.vision.caltech.edu/bouguetj/calib_doc/index.html
    - Zhengyou Zhang's web site:
      http://research.microsoft.com/~zhang/Calib/