

Planned

Excluding the features that were planned as extras, the list of planned features as explained in the paper by Kun Zhou:

- Volumetric representation of a mesh as a graph.
 - Dividing mesh into inner and outer shell and inner rigidity structure.
 - Connecting shells and nodes by adjacency and weighting.
- Realistic deformation preserving details and volume.
 - Laplace operator on manifolds, vertex on mesh and vertex on volume.
 - Quadratic minimization to calculate new vertex position.
 - WIRE deformation. [Singh and Fiume 1998]
 - Propagation field.

Results

My results, including features added for using the algorithm.

- Volumetric representation of mesh as graph.
 - Divided into outer shell and inner rigidity structure.
 - Connected vertices and nodes by adjacency with weighing, as described.
- Deformation somewhat preserving details and volume.
 - Laplace operator on manifolds, vertex on mesh and vertex on volume, as described.
 - Simple function for guessing a somewhat decent new position for vertices.
 - Propagation field, as described.
- Environment
 - Modes for drawing mesh, graph or both. Turn on and off mesh with '1', toggle between graph drawing and selected vertex drawing with 'm'.
 - Mode for showing selected vertex to deform.
 - Camera movement with mouse+RMB and WASD.
 - Vertex selection with pointer and click(Currently barely working).
 - Step through vertices with numpad+ and numpad-.
 - Deform selected vertex with mouse+LMB.

None of the planned extras such as tearing and physics made it into the results.