CDT generator: Testing report

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1 Objective

This report documents the complete testing process adopted for verification and validation of the developed CDT generator.

2 PLY Import and Export

PLY reading/writing is performed using RPly[1] library. It was checked using reading a cube dataset as input and writing Delaunay tetrahedralization of vertices of cube as outout in a PLY file. Later, it was visualized using MeshLab and AnuVi to conform the vertices, faces and tetrahedrons were all written correctly back to PLY file.

2.1 Issues

Here are the issues faced/currently present in PLY reading writing:

1. Some facets have vertices writen in *clockwise* order, resulting in holes in the rendered tetrahedrlization. However, this also revealed bug in AnuVi which is rendering all facets regardless of their orientation.

2.1.1 Solution(s)

(a) Regarding vertex ordering in facet a query[2] has been posted on CGAL forum.

(b) Mr. S. K. Bose is handling the issue of rendering on AnuVi.

3 Segment recovery

We take example of cube dataset and trace the execution of all subparts.

References

[1] http://w3.impa.br/~diego/software/rply/

[2] http://cgal-discuss.949826.n4.nabble.com/Issue-in-visualizing-Delaunay-tetrahedralization-of-a-cube-td4660416.html