Assignment of IsoSurfacing

Overview:

In this assignment, you will try the visualization techniques of IsoSurfacing by VTK. You can learn from the examples we provided in class: MedicalDemo1, MedicalDemo2, and MedicalDemo3.

Project - Isosurfaces

We have provided 3D scalar data sets in the file head.120.vtk. These are binary files of a CT scan of a human head, from the Visible Man dataset. Actually, the datasets we are providing have been resampled from the original scan, in order to lower the resolution (making it faster to visualize).

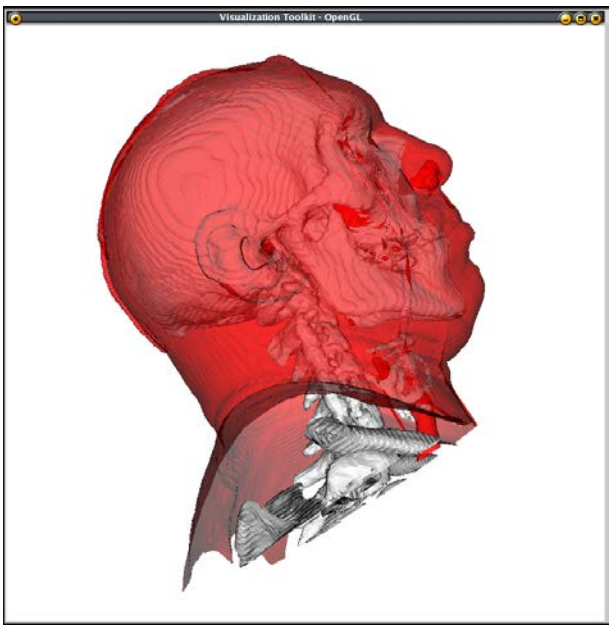
The head.120.vtk file contains the data for a 120x120x130 grid. Each sampled data value is an ``unsigned char'': an unsigned 8-bit integer value between 0 and 255.

Your work:

Try to use VTK to do the visualization of the head. The bone's value is around 75, and the skin's value is around 25.

You can extract the isosurface of the skin and bones. You can also add some cross-section plots. Take screen shots of your results and put them into a report with the description of the techniques you used to obtain other pictures.

Example:



Turn in:

Please submit your python code and report.