EN 605.462 Data Visualization

Project #5 – Scientific Visualization using ParaView

Announced: First Day of Module #10

Due: First Day of Module #13

I. Purpose:

The purpose of scientific visualization is to graphically illustrate scientific data to enable researchers understand, illustrate, and obtain insight about their data. The purpose of this project is to get familiar with different visualization techniques commonly used in scientific visualization including volume rendering, isosurfaces, and glyphs visualization. You will be using ParaView -- an open source multiple-platform application for interactive, scientific visualization.

II. Task:

1. Find two different 3D datasets that you would like to explore.

2. Once you have selected your visualization, explain:
   a. The datasets (source, size, domain, etc…)
   b. The type of visualization(s) can be used to illustrate that dataset

3. Load each of the datasets into Paraview and perform three different visualizations for each of the datasets. Visualizations can including volume rendering, isosurfaces, glyphs visualization, streamline, clipping, etc…

III. Useful Links

- www.paraview.org/
- www.paraview.org/Wiki/The_ParaView_Tutorial
- www.paraview.org/tutorials/

IV. What to submit

- Document explaining the datasets and the visualization techniques that were employed

- Document must include screenshots for each visualization (2 datasets and 3 visualizations for each dataset = 6 screenshots). More screenshots can be included can be included. Please explain how the different parameters were chosen.

- Six different Paraview files with the different visualizations.