CSCI 4972 Introduction to Visualization
Assignment #7 - High Dimensional Data
Due: Tuesday October 19th at 11:59PM

This week's assignment is an exploration of the techniques for handling high dimensional data in VTK. Your first task is to find (recognize) your target high dimensional data set. As you should be in parallel working on the design and development of your final project, try find a dataset that is related to your final project topic and/or your own research.

- Before diving into the visualization, make a hypothesis about a feature in this dataset.

- Use VTK to produce a visualization of this data using either A) parallel coordinates *or* B) PCA to reduce the data to a 2D or 3D point cloud.

- Analyze and think about the resulting visualization. Can you prove that your hypothesis is validated? Discuss in your README.txt. As time permits, iterate on the visualization to further explore the data, debug your use of or understanding of the data, revise your hypothesis, improve the clarity of the visualization.

Grading Criteria
(5 pts) Finding an interesting & complex high dimensional dataset
(5 pts) Hypothesis & design of visualization to test that hypothesis
(5 pts) Technical content (e.g., correct use of PCA or parallel coordinates)
(5 pts) Exploration of data and analysis of results

Submission Requirements
1. Submit your implementation code to the homework server by Tuesday @ 11:59pm.
2. Submit a document (either plaintext writeup + images OR .pdf format) to LMS by Tuesday @ 11:59pm summarizing your choice of dataset, your hypothesis, image(s) of your results and your analysis of the visualization and discussion with respect to your initial hypothesis.