CSCI 552 (Spring 2018)

Project #2

Handout: Thursday, February 22, 2018
Due: 11:59 pm, Thursday, March 8, 2018
Total points: 60

All projects will be submitted through Canvas.
Your submission should include: (1) your source code files; (2) the executable file; and (3) a README file containing necessary instructions, known bugs, and any other notes you would like me to read.

Write an interactive VTK program to explore the iso-surfaces and the planar cross sections of a volume data set. The user will be able to interactively define the iso-value and the cross-section plane (vertical or horizontal) using a slider (VTK Slider Widget). Your program will display the corresponding iso-surfaces and the cross-sections interactively in two separate renderers within the same window. The user should also be able to examine each iso-surface or cross-section individually using the VTK interactor. You need to build a single combined vtk pipeline. Your program needs to be tested on two data sets:

1. The Iron Protein data set (attached, in vtk data format).

2. A 100^3 sampling data set of the quadratic function $x^2 + 0.5y^2 + 0.2z^2 + 0.1xz + 0.2x$.