

CSCI 552 (Spring 2023)

Project #3

Handout: Thursday, April 6, 2023

Due: 11:59 pm, Thursday April 20, 2023

Total points: 80

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. Your program needs to be tested on the following three data sets (you can write three separate vtk programs for the three datasets):

1. The CT Head in Volume16 data format (attached).
2. An Iron Protein dataset in vtk format (attached).
3. A 100^3 sampling data set of the quadratic function $x^2 + 0.6y^2 + 0.2z^2 + 0.1xz + 0.2x$.