

The program runs out of the box with the libraries in Linux

Using Python Version: 3.6

Libraries to install:

- Matplotlib
- Numpy
- Mayavi
- PyQt5

For windows:

There is an error in one of the mayavi files: state_picker.py

Location: C:\Python37\Lib\site-packages\apptools\persistence

Replace it with the included replacement file

Packages:

Package	Version	Latest version	
PyOpenGL	3.1.0	3.1.0	+
PyQt5	5.12.1	▲ 5.12.2	-
PyQt5-sip	4.19.15	▲ 4.19.17	▲
Pygments	2.3.1	▲ 2.4.0	○
apptools	4.4.0	4.4.0	
configobj	5.0.6	5.0.6	
cycler	0.10.0	0.10.0	
envisage	4.7.1	▲ 4.7.2	
kiwisolver	1.0.1	▲ 1.1.0	
matplotlib	3.0.3	3.0.3	
mayavi	4.6.2	4.6.2	
numpy	1.16.3	1.16.3	
pip	19.0.3	▲ 19.1.1	
pyface	6.0.0	▲ 6.1.0	
pyparsing	2.4.0	2.4.0	
python-dateutil	2.8.0	2.8.0	
scipy	1.2.1	1.2.1	
setuptools	40.8.0	▲ 41.0.1	
six	1.12.0	1.12.0	
traits	5.1.1	5.1.1	
traitsui	6.0.0	▲ 6.1.0	
visvis	1.11.2	1.11.2	
vtk	8.1.2	8.1.2	

Input files **required** to run spline program:

- smoothpath.csv - given
- GCorridor.csv - given
- MRI images - submitted with program

Input files required to generate MRI images

- Spliced MRcolorData files - submitted
- Submitted slices.py file

To compile: have the correct libraries installed, and the necessary files in a shared directory.

From windows command line: py final_spline.py

Program will take ~30 to process data, then display the splice by itself, next it will prompt user for input and then display the vessel

VIDEOS:

PowerPoint Overview:

<https://youtu.be/dmYPOF5Tfzg>

Code Overview: (Sound on low volume)

<https://youtu.be/5MJC0ZJ4GSg>