**Project:** Combustion Data Visualization

**Client:** Jon Komperda

**Functional Requirements:**

* Visualize data properly without any modifications to it.
  + Current method of visualizing requires the client to manipulate the data to fit it into a mesh, but a mesh does not properly display the data.
  + We must find a way to display the data as it is without manipulation so that nothing is lost in translation and the image is smoother.
* Minimize quantity of data stored.

**Non-Functional Requirements:**

* Main format must still be VTK.
* Ideally a different data type than a mesh will be used.
* Could possibly use VTK quadrature format.

**Data:**

* The data is from the simulation of a supersonic combustion in a scramjet engine.
* The data itself includes variables of the flow in velocity, pressure, density, and energy in a 3D space.
* Currently in a VTK unstructured point format.
* Initially sample data.

**Workflow:**

1. Try to understand the ins and outs of the data.
   1. A Powerpoint of all the specifics of the data and the math behind it is provided by the client.
2. Look into VTK quadrature and see if that is a solution. According to the client, VTK quadrature was made to fix the issue he’s attempting to fix. If it works, it is a solution to the problem. If not, we need to get creative.
3. If VTK quadrature does not work, new solutions will need to be brainstormed.

**Data Format for Cave:**