Skylar Wurster

CSE 5544

Jian Chen

Assignment 1 – Part 1

Processing

Processing is a sublanguage of Java that includes its own IDE for development. A helpful framework was added on to Java in order to support a rendering engine and a standard game loop. Examples of this framework include the setup() and draw() function calls, which occur on start and at a regular interval, respectively. Processing has also created handy drawing functions, such as line() and ellipse() to draw shapes onto the window automatically created. The color of these shapes can also be defined, as well as the edge color, using color() and stroke() with the RGBA values as inputs. Typical Java had a rather cumbersome and extensive process in order to get a GUI running. Processing takes that difficulty away but keeps the power of Java. Processing can import .jar packages that use Java libraries. It can be run on a host of machines using JVM. Its lightweight and can be built upon to support many kinds of projects. The processing website keeps updated versions of packages made by users, which currently holds hundreds spanning from Data to Animation to Simulation.

Based on its high-level interface, hundreds of packages available, and the support on the forums, Processing seems to be a good choice for a visualization project. There seem to be many ways to represent both spacial and non-spacial data. Since it lies on top of Java, there is an abundance of other libraries that can be pulled from in order to best display data. This also means it’s not too low level and isn’t going to take a long time to get started. Overall, I feel Processing works very well in the scope of a class like CSE 5544.

D3.js

D3.js is a JavaScript spec that allows for simple manipulations to web pages for visualization purposes. HTML content can be accessed and changed, event listeners can be used, and attributes or styles are easily changed. Functions such as enter() and exit() allow for management of data nodes as needed. D3 uses only web standards, such as HTML, SVG, and CSS, so the spec is well defined. This ensures that it plays nicely on all devices from a browser. In order to begin using it, a simple script import at the top of your HTML document will do it. Since JavaScript doesn’t use explicit typing, many data types are supported. JSON files/variables will be useful when importing data and storing them in memory for display.

Due to its ease of use and dissemination, D3.js could be a very useful data visualization tool for this class. Project updates can be easily presented from the GitHub page housing the D3 document. There is no software or library dependence that could restrict anyone from viewing the visualization. However, I don’t know JavaScript very well, and think that this might make it difficult to do well in a single semester.