D3.js

D3.js is a JavaScript library that allow the developer to connect data with document object model. It also allows the user to interact with the visualization system which represents the data. It was based on Mike Bostock's work during his PhD studies. The version 2.0.0 was released in August 2011 and the latest version so far is 4.2.3. D3. The latest version of the library can be downloaded here: <https://github.com/d3/d3>. D3.js is not a chart creation JavaScript library like Google Chart but it interacts with HTML and CSS and also provides an API to manipulate SVG (Scalable  Vector Graphics). It is flexible enough to develop the visualization framework that fits user requirements. Most of the early data visualization tools do not run on the browsers or need a plug-in to run on the browsers. One of the advantages of d3 is it works with any browser including mobile devices and that makes it a good fit for the applications intended for the larger audience. D3.js has great user community and well maintained documentation for developers. To use d3 requires some prior knowledge of web technologies and the design details and syntax are not easy for the beginners and the new user will face steep learning curve in the beginning.

Open GL

OpenGL was originally developed by Silicon Graphics, Inc. (SGI) and it became increasingly popular in graphical community. SGI developed a workstation and a set of routines called GL (Graphics Library). Graphics Library became widely used library in the graphics community. The library became a de fecto graphics standard and was extended to other hardware systems. As a result OpenGL was developed as a hardware independent version of GL (Graphic Library). The OpenGL library is now maintained by the OpenGL Architecture Review Board which contains representatives from many graphics organizations. In addition to the OpenGL core library, there are some associated libraries for handling special operations. OpenGL Utility provides routines for setting up viewing and projection matrices and other complex tasks. OpenGL Utility Toolkit (GLUT) provides a library of functions for interacting with any screen-windowing system. Since GLUT is an interface to other underlying systems, programmers use GLUT so that their programs will be device independent. Programmers can also use system specific software package like GLX, Apple GL, and WGL.