**D3GL** is D3 for spatial data

D3GL provides a simple API for hardware-accelerated 3D data visualization in the browser

**Motivation:** Spatial data in it’s native form

The human brain has powerful mechanisms for spatial reasoning. We want to leverage these to allow users to grasp data in a tactile and efficient way.

**Problem:** WebGL is powerful but unwieldy

WebGL is very powerful, but it is a JS wrapper for a low-level C API. Libraries like Three.js, PhiloGL, and Facet provide a nicer interface, but are still geared to 3D games and demos, requiring a lot of manual control.

**Solution:** D3GL

D3GL provides a set of primitives that can be bound to data. You can make polished and interactive visualizations without dealing with cameras, lights, materials, and matrix transformations. Data binding is done in the style of D3.js.

**Future Work:**

- **Support:** new 3D data primitives
  Expand D3GL to support primitives other than the globe and its overlays, including arbitrary 3D meshes including CAD models.

- **Publish:** open-source on Github
  We already have demos and documentation. We want to make it easy for developers to learn and use.

**First high-level view: the globe**

The globe supports four primitives: points, shapes, bars, and arcs

- **Points**
  Shows points and circles. You can map each datum to a latitude, longitude, radius, color, etc.

- **Shapes**
  Renders arbitrary shapes. Like points, it supports color-coding, mouse interaction, etc.

- **Bars**
  Displays a bar char on a globe. Top view shows spatial distribution, side view allows accurate comparison. Supports color, size.

**Features**

- Transitions & animation
- Large datasets
- Mouse interaction via raytracing
- Multi globe
- Multiple views per globe

by Jiwon Kim and Daniel Posch