

JavaScript 3

Agenda

- Homework questions!
- Technology review (board).
- By the way
- Single page apps (frameworks)
 - AngularJS
 - BackboneJS
 - EmberJS
- Maps
- WebGL

By the way

- Browser caching!
 - Browser dev tools.
 - ?id=random
- Method chaining!
 - https://en.wikipedia.org/wiki/Method_chaining
 - <https://schier.co/blog/2013/11/14/method-chaining-in-javascript.html>
- Document is ready!
 - <https://learn.jquery.com/using-jquery-core/document-ready/>
- Choosing the right JS library!

Single Page Apps

- https://en.wikipedia.org/wiki/Single-page_application
- Motivation (board)
 - Server: I don't want to do this work any more.
 - Client: That's ok, I'll take care of it!
- All necessary code (HTML, JavaScript, CSS) is retrieved on the first page load.
- Other resources are loaded dynamically.
- <https://angularjs.org/>
 - Routing
 - Rendering

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- Data manipulation

Maps

- How do they work?
 - Uses normal HTML elements (div tags).
 - Layers (Images).
 - <http://www.openstreetmap.org>
 - Google, Bing, Mapbox etc.
 - SVG for shapes
 - GeoJSON
 - <http://geojson.org/>
 - Format for encoding geographic data structures.
 - Events
- <http://leafletjs.com/>
- <http://leafletjs.com/examples/quick-start/>

WebGL

- <https://www.khronos.org/webgl/>
- <https://get.webgl.org/>
- Cross-platform, royalty-free web standard for a low-level 3D graphics.
- Based on OpenGL ES.
- Exposed to JS via the HTML5 Canvas element.
 - Canvas can be used for graphics (WebGL), graphs, photo compositions, animations, real-time video/photo processing/rendering.

```
<canvas id="canvas"></canvas>
```

- Plugin-free 3D to the web.
- ThreeJS makes it easy to do WebGL
 - <https://threejs.org/>
 - <http://chandlerprall.github.io/Physijs/>
- Examples
 - <https://experiments.withgoogle.com/chrome?tag=WebGL>
 - https://www.khronos.org/webgl/wiki/Demo_Repository

