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Building a Mapping Application Start-to-Finish

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Introductions

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Topics Covered

- **Web App development (Mashup)**
 - Dojo
 - HTML + JavaScript + CSS
 - ArcGIS API for JavaScript
- **ArcGIS.com webmaps**
- **Social Feeds and API's**

Agenda

- What
- How
 - Demos
 - App code + Dojo gems
- Demos
 - More apps
- Deployment
- Future

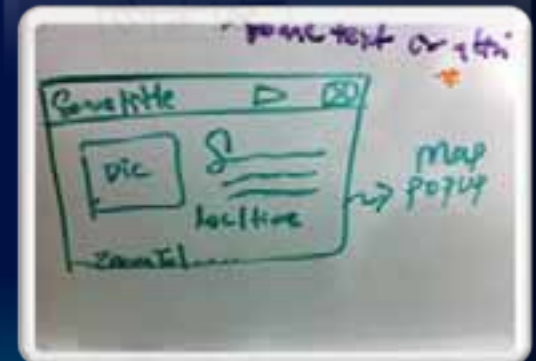
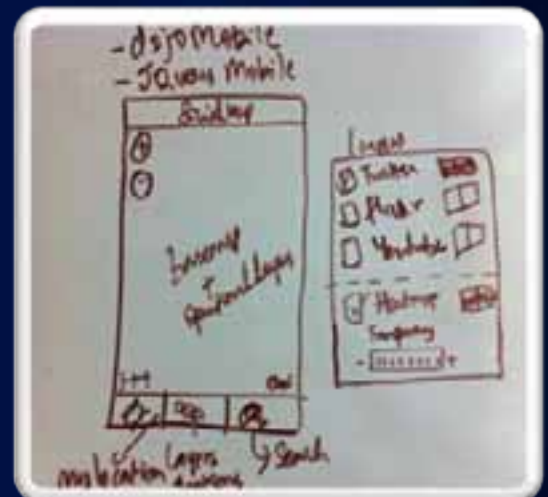
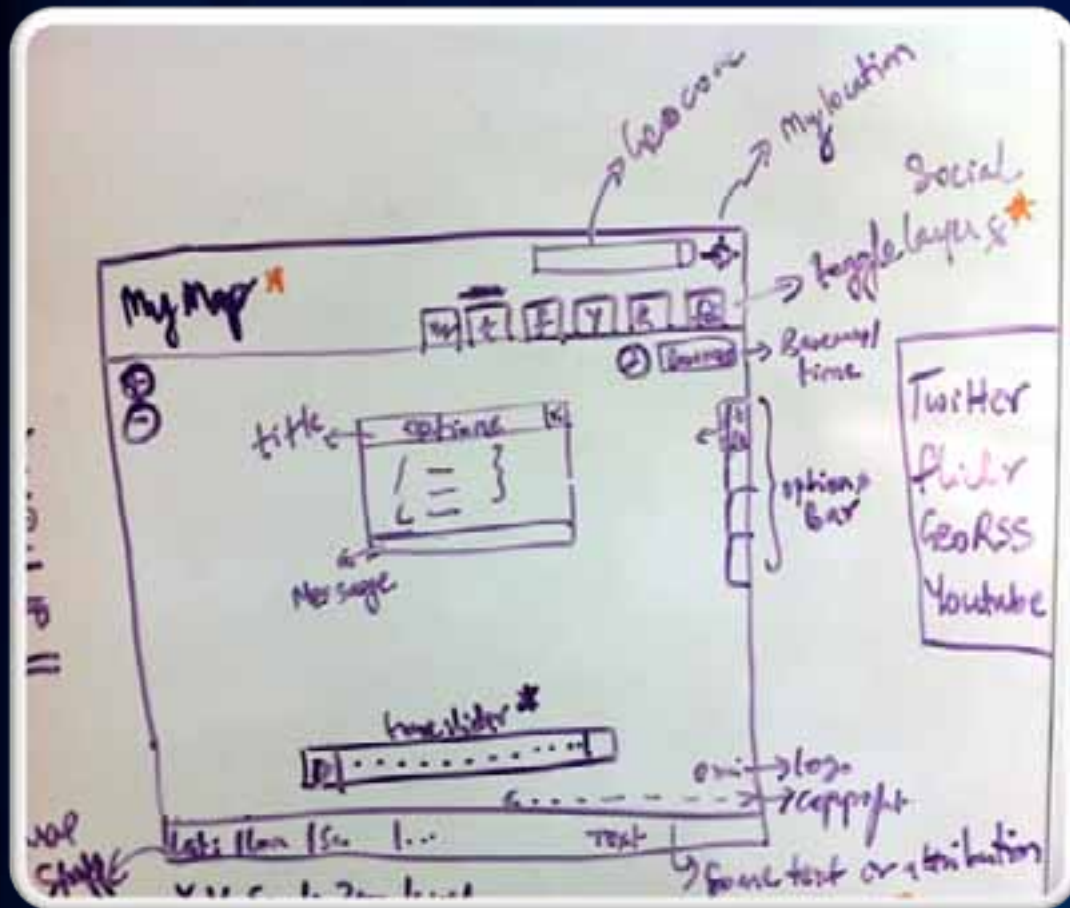
Requirements

- **Client side web app**
 - HTML + JavaScript + CSS
- **Use ArcGIS API for JavaScript for mapping**
- **Framework**
 - Dojo/DojoX/Dijits for core and UI
- **Highly customizable and configurable apps**
- **Mobile web app**
 - Dojox Mobile
- **GIS content**
 - Integrate with ArcGIS.com

Requirements

- **Social Media layers**
 - Twitter, Flickr, YouTube, Wikipedia, News feeds, etc.
- **Build reusable social media layers**
 - Social library, fully functional, self-contained
- **Add heat map at client side**
- **In 2 weeks or less**
 - Design, content, coding

Initial Design



Demo

Finished Web App

Mobile App

Anatomy of the App

- **HTML**
 - Index.html
- **CSS**
 - Layout.css, IE.css
- **JS**
 - App.js
 - Twitter.js, flickr.js, youtube.js (social layers)
 - Heatlayer.js

Social Layers – Library

- **Social.twitter**
 - **Social.flickr**
 - **Social.youtube**
 - **Social.wikipedia**
 - **.....**
-
- **Easy to add**
 - **Have common methods & properties**
 - **Uses feature layer**

Tools used

- **Coding**
 - Aptana Studio + code assist plugin
 - Notepad ++
- **UI**
 - JavaScript + CSS + Dojo/Dijits
- **Browser**
 - Chrome 13.0.782.41
 - Firefox 5.0
- **Debugging**
 - Chrome Developer Tools
 - Firefox firebug extension

API's used

- **Mapping: ArcGIS API for JavaScript**
 - Compact version 2.4
 - Bundled Dojo version 1.6.1
 - ArcGIS.com web maps
- **Social Media**
 - Twitter API
 - Youtube Data API
 - Flickr API
 - GeoRSS feeds

Testing tools

- **Manual Testing**
- **Browsers**
 - Chrome 13, Firefox 5, IE 9 (with compatibility modes)
- **Deployment**
 - Fiddler for http headers

Demo

ArcGIS.com

Webmap

URL params

App Code

Debugging

Dojo Gems

- **Dojo.hitch**
- **Dojo.query**
- **Dojo.forEach, Dojo.map, Dojo.some**
- **Dojo.connect**
- **Dojo.declare**
- **Dojo.mixin**

Deployment

- **Optimizing**
 - **Minifying**
 - **Gzip and cache headers**
- **Hosting**
 - **Local or on-premise web servers**
 - **Amazon S3 buckets**
 - **Google AppEngine**
 - **Amazon BeanStalk**

Optimizing

- **Minifying and Obfuscating (optional)**
 - YUI Compressor
 - Google Closure tools
 - Dojo Build

File	Original Size	Minified	Compressed
Index.html	9.69 KB	--	3 KB
App.js	19 KB	12 KB	4 KB
Layout.css	8 KB	6 KB	2 KB

Options to Run your app

- **Simple HTML based**
 - Client side
- **Include in server side solutions**
 - Java Web App (WAR file)
 - PHP/RoR etc
 - ASP.Net MVC

Deploying Options

- **On-premise**
 - Local Webservers
- **Cloud based**
 - Amazon EC2
 - Hosting providers
 - PaaS (AppEngine. Azure)

Local Webservers / Amazon EC2 / Hosting Providers

- IIS, Tomcat, Apache etc...
- Enable
 - Gzip compression
 - css,html and javascript (Not for images)
 - Cache headers for fairly static resources
 - css, images and javascript

Hosting: Amazon S3 bucket

- Mark S3 bucket as static website
- Upload your files
- Configure HTTP headers
- Configure index and error pages
- <http://esri.apl.uc2011.s3-website-us-east-1.amazonaws.com/socialmap>
- Cannot use traditional server-side proxy for cross domain access
 - JSONP and YQL proxy works
- Does not GZIP content
 - Upload Gzip'd files and add header

YQL Proxy

```
var contentType = "xml"; //can be xml or json or html
var url = "http://earthquake.usgs.gov/earthquakes/catalogs/7day-M5.xml";
var requestHandle = dojo.io.script.get({
    url: "http://query.yahooapis.com/v1/public/yql",
    content: {
        "format": "json",
        "diagnostics": true,
        "debug" : false,
        "q": "select * from " + contentType + " where url='" + url + "'"
    },
    callbackParamName: "callback",
    timeout: 10000,
    load: requestSucceeded,
    error: requestFailed
});
```

[Link](#)

App Engine

- **Create a new application on appengine.google.com**
- **Install Eclipse + Google Plugin for Eclipse**
- **Create a new appspot project**
- **Add your files**
- **Deploy to your account**
- **<http://uc2011demos.appspot.com/>**

Demo

Other Apps

Future – Things we didn't get to do

- **HTML 5 template**
 - With Modernizer for older browsers
 - With local storage for caching map tiles
- **Adding analytics**
- **Add Graphics**
- **Optimize further**
 - Using image sprites

Questions?

- **Download Link**
 - <http://esriurl.com/socialmap>
- **Session Feedback (Online only)**
 - www.esri.com/sessionevals