

Distilled JavaScript

Session 2 - Building the front end

A yellow square containing the letters 'JS' in a bold, dark grey sans-serif font, representing JavaScript.

JS



We're Osper.

We believe in financial freedom for young people.

We believe in building good habits early.

We believe in simplicity and safety.

We believe it's time for something new.

About me - Grahame 'Frank' Oakland

Programmer - recovering Java-holic

JavaScripter - {

```
1: 'Closure',  
2: 'AngularJS',  
3: 'ExtJS',  
4: 'YUI',  
5: 'jQuery',  
6: 'Vanilla DOM'
```

}



Now searching for the **MEAN**-ing of life?

JS

MEAN tools

```
shanks:~> yo --version  
1.1.2
```

```
shanks:~> bower --version  
1.2.8
```

```
shanks:~> grunt --version  
grunt-cli v0.1.13
```

```
shanks:~> node --version  
v0.10.25
```

```
shanks:~> mongo --version  
MongoDB shell version: 2.4.9
```

{{ meanstack }}

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JS

Vapourising - Building the front end

Project Outline - Choosing the blend - **tea.js**

AngularJS - putting the **A** in MEAN

Why not - **BMEN** (Backbone stack)



“Plus velvet gommini men loafers male genuine leather winter warm shoes the trend of fashion boat shoes. Department Name: Adult ; Athletic Shoe Type...” - ‘BMEN’ Google Image search

JS

AngularJS - more than just a library

Module - The starting point for your app

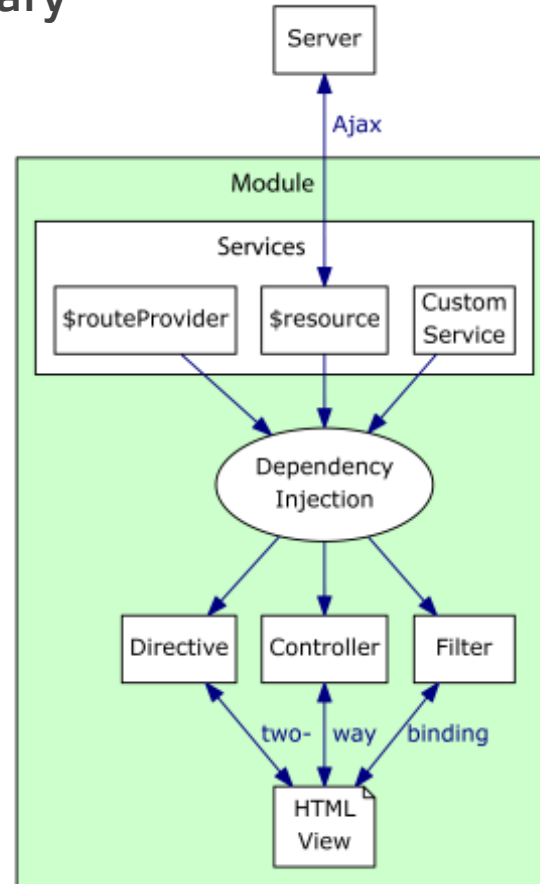
Dependency Injection - IOC Angular style

Services - `$routeProvider`, `$resource`

Controllers - connect Model and View

Directives - custom HTML tags

Two way data binding - Observe and learn



Dependency Injection – IOC the Angular way

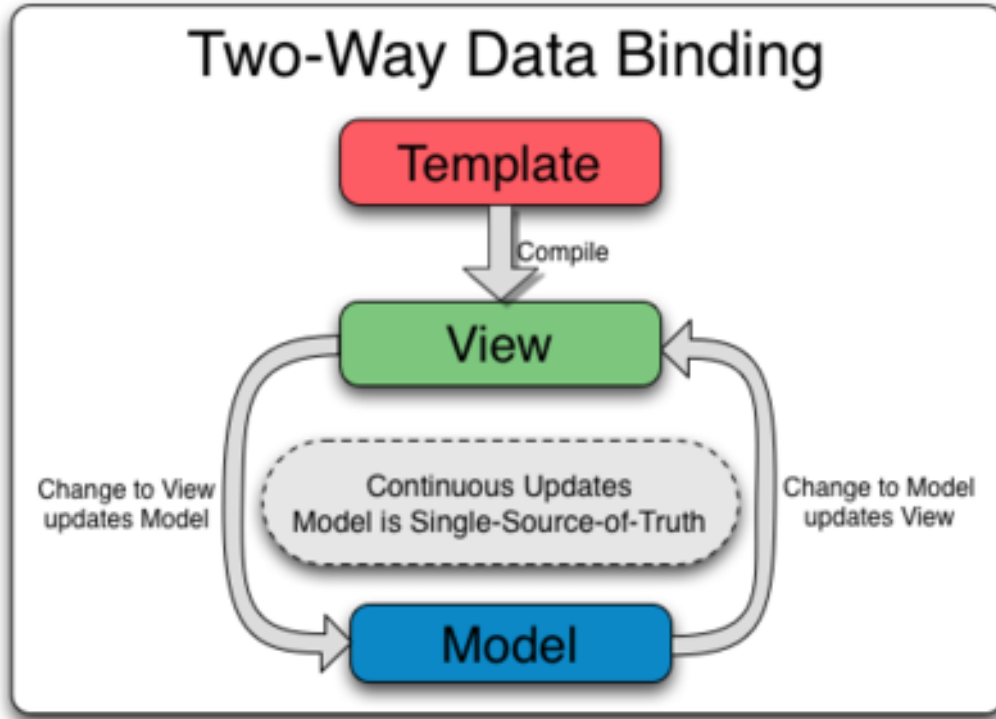
```
// Explicit construction
var ProblemWritingService = function() {
  var myHelper = new MyHelper();
  var result = myHelper.doSomething("test");
  // ...
};
```

```
// Injected by higher power
var ProblemWritingService = function(myHelper) {
  var result = myHelper.doSomething("test");
  // ...
};
```

```
// Angular controller definition
function MyController($scope, greeter {
  $scope.sayHello = function() {
    greeter.greet('Hello World');
  };
}

// 'ng-controller' directive does this for you
injector.instantiate(MyController);
```


Data Binding The killer AngularJS feature



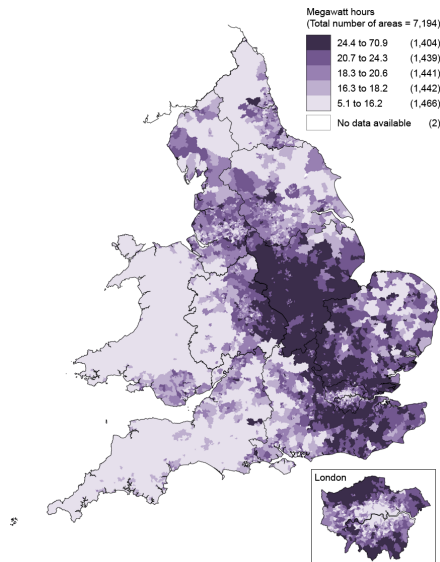
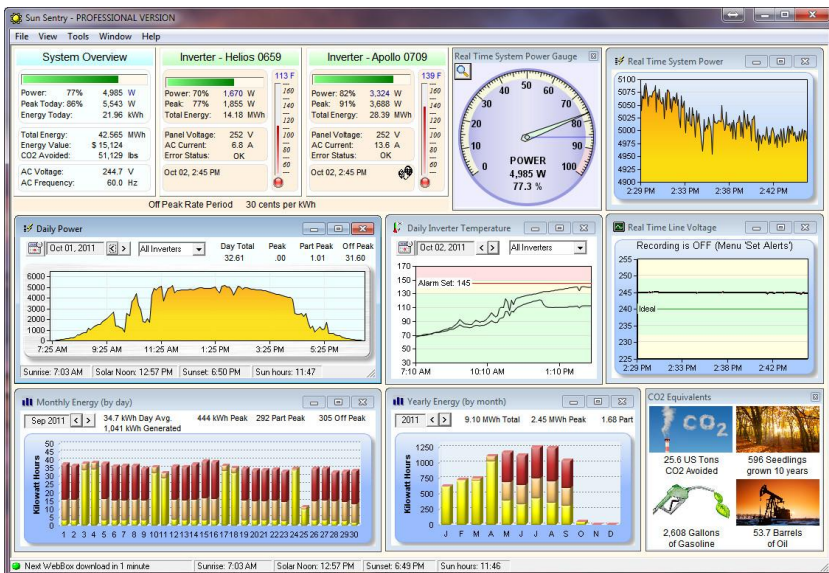
{{ code }}

JS

tea.js - how much does a cup of tea cost?

“So I have been thinking about getting something to track my energy bills, I'm a consumer only, no fancy pants solar cells I'm afraid. I would like to monitor gas, water and electricity. My gas meter has a pulse output and I plan on adding a water and electricity meter with the same.

...for example, I'd like to see exactly how much energy I use when I make a cup tea of tea and how this saving could make a difference if others are doing the same”



Source: Department of Energy and Climate Change
Contains Ordnance Survey data © Crown copyright and database right 2013

JS

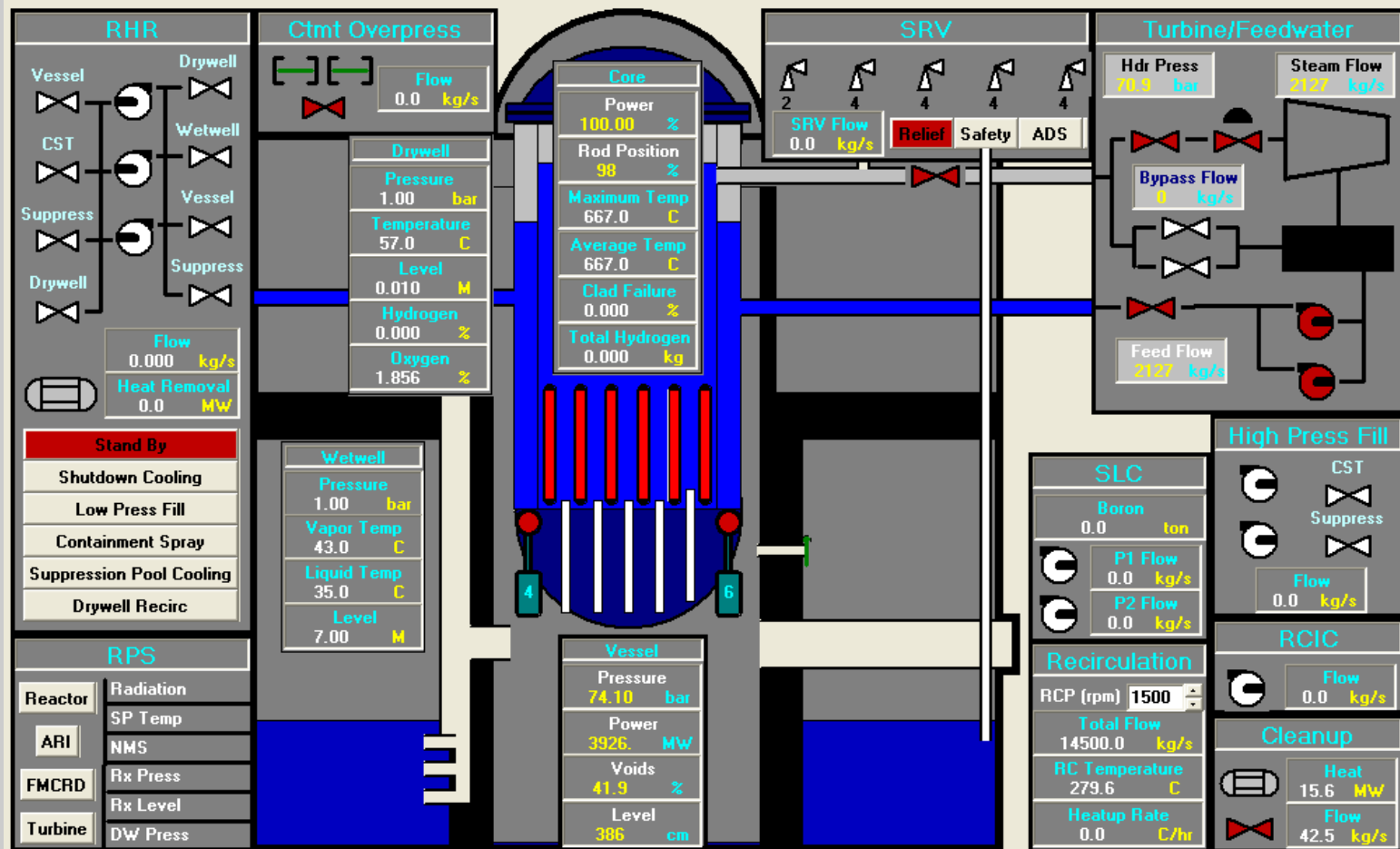
tea.js - data logging of smart meters using Energy monitor

“Remember to only fill the kettle with as much water as you need. British people waste £91m in electricity when boiling kettles with too much water in them. You can save up to £10 a year...”



- periodically poll Energy monitor (~every 5mins)
- store the results for Water, Electricity and Gas
- push the updates to the **tea** cups
- publish our savings to the street, town world!

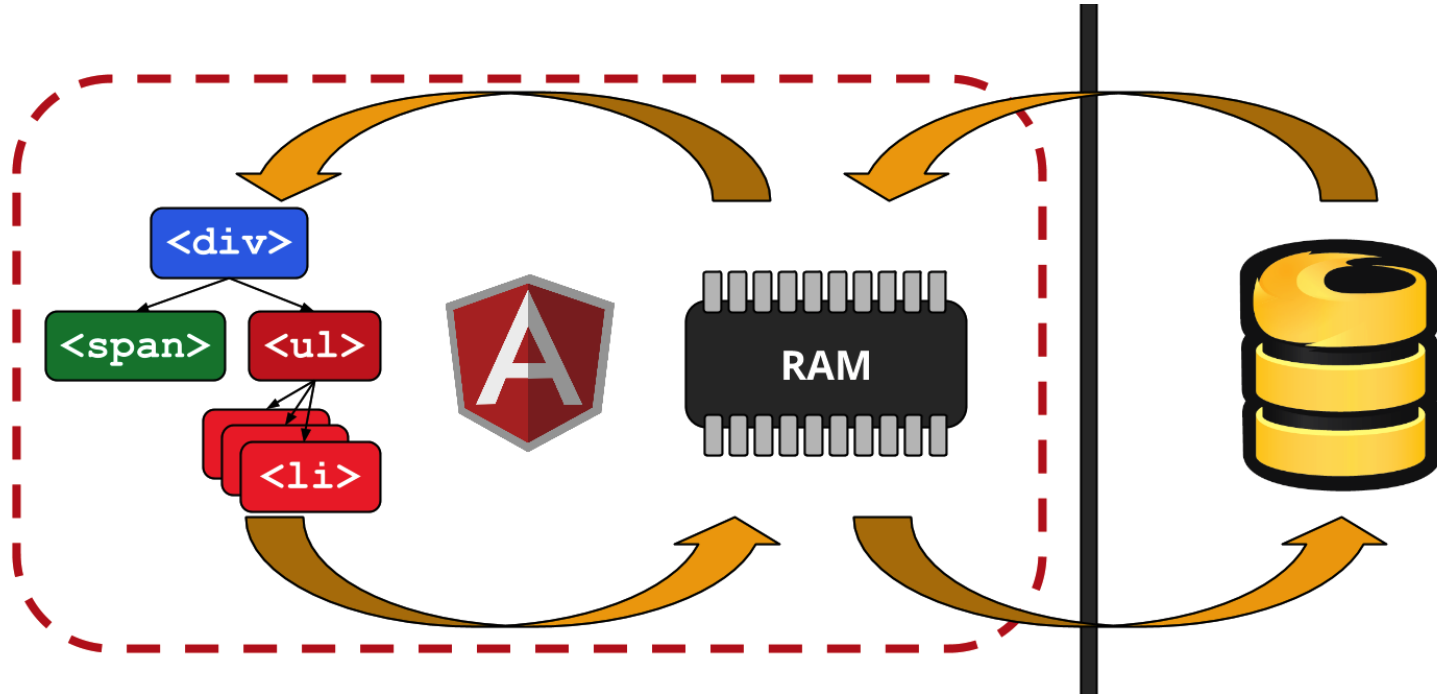
JS



{{ have.a.brew }}

JS

Tri-Ply Three way data binding



{{ code }}

JS

Core concepts

Template	HTML with additional markup
Directives	extend HTML with custom attributes and elements
Model	Data that is shown to the user and with which the user interacts
Scope	context where the model is stored so that controllers, directives and expressions can access it
Compiler	parses the template and instantiates directives and expressions
Filter	formats the value of an expression for display to the user
View	what the user sees (the DOM)
Data Binding	sync data between the model and the view
Controller	the business logic behind views
Dependency Injection	Creates and wires objects / functions
Module	configures the Injector
Service	reusable business logic independent of views

Review About the course

Day 1: JavaScript distilled and putting the **M** in mean (mongodb)

Day 2: Views - Angular and Backbone

Day 2: Server side - Express and Node

Day 4: Node and project wrap up

