

# Mastering SPA in Just One Day

**Tiberiu Covaci**  
**@tibor19**



**This is SPA**

# Mastering Single Page Applications in Just One Day

**Tiberiu Covaci**  
**@tibor19**





# Who am I

- Tiberiu 'Tibi' Covaci
- Software engineer, 20 years experience
- Senior Trainer & Mentor in Romania
- MVP for Windows Azure
- Father & Geek
- Twitter: @tibor19 / [#gotocon](#)
- Artifacts and code at: <http://bit.ly/158Nulo>

# Agenda

- What is SPA
- Why we need it
- When we need it 😊
- MVVM Intro

# Agenda

- ASP.NET WebApi
- Knockout.js
- Require.js
- Durandal.js
- Breeze.js



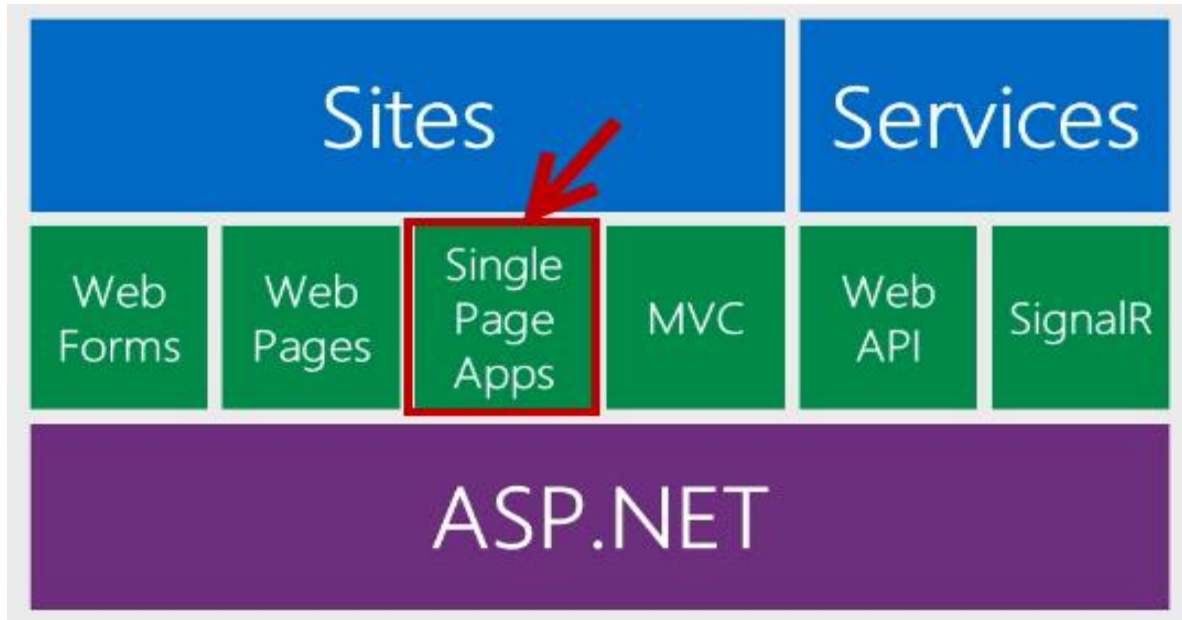
# Single Page Application

Rich Client App in HTML/JavaScript

# Why SPA?



# One ASP.NET



# Hybrid is the norm

ASP.NET  
Web Form

ASP.NET  
MVC Page

SPA

ASP.Net  
MVC Page

No one pattern is the best

Evolution, not revolution

# MVVM

- Model View View-Model
- Model
  - The business data
- View-Model
  - The programmatic representation of your UI
- View
  - The UI

# MVVM On the client

- AngularJS
- Backbone
- Batman
- CanJS
- Ember
- Knockout
- Meteor
- Spine

<http://bit.ly/OJ4SUM>

# ASP.NET WebApi

- ASP.NET Web API is a framework that makes it easy to build HTTP services that reach a broad range of clients, including browsers and mobile devices.
- ASP.NET Web API is an ideal platform for building RESTful applications on the .NET Framework.



**Knockout**



*Knockout.*

# What is Knockout

- Independent library
- Developed by Steven Sanderson
  - Now works for the company! 😊
- JavaScript MVVM framework
- Works well with other frameworks

# Knockout but How

- Declarative bindings
- Automatic refresh
- Dependency tracking
- Support for templating

# Knockout observables

- Observable properties
- Observable arrays
- Computed(dependent) observables



# Knockout bindings

- Controlling text and appearance
- Control flow
- Form field bindings
- Rendering templates
- Custom bindings

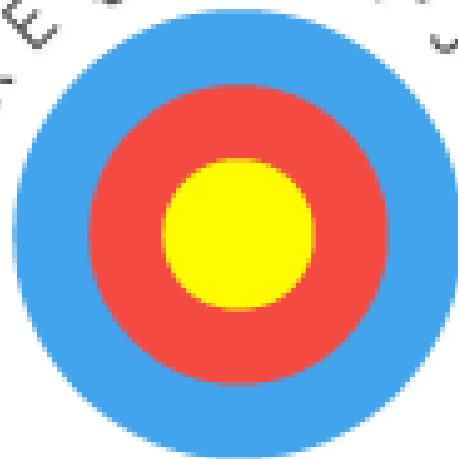


# Demo

*learn more* **Knockout.** *at*

[knockoutjs.com](http://knockoutjs.com)

REQUIREJS



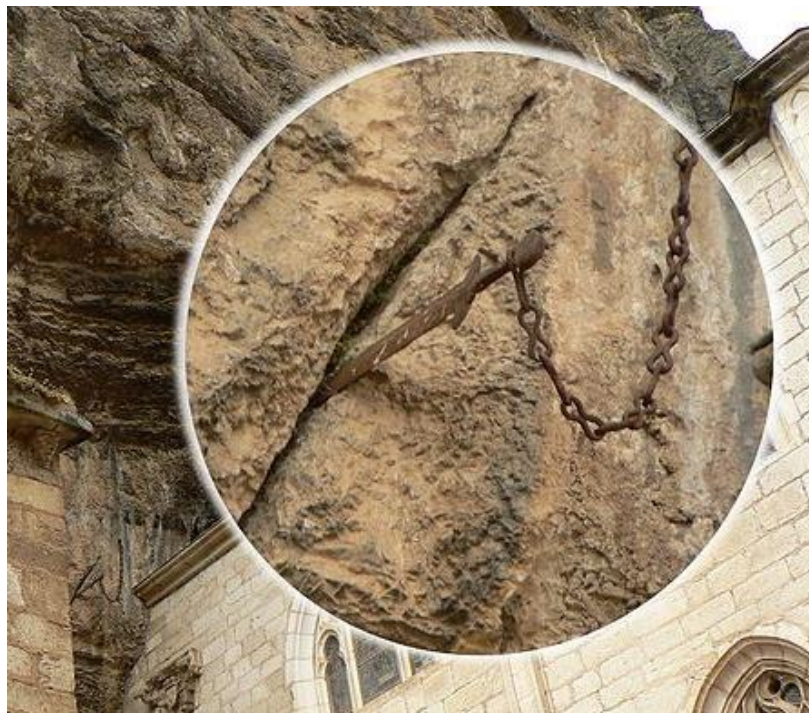


# What is Require.js

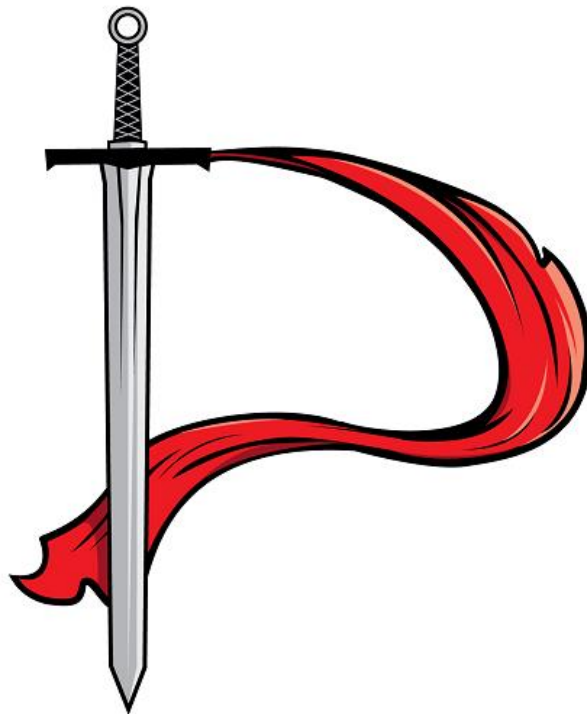
RequireJS is a JavaScript file and module loader. It is optimized for in-browser use, but it can be used in other JavaScript environments, like Rhino and Node. Using a modular script loader like RequireJS will improve the speed and quality of your code.

# Require.js in the World

IE	6+	.....	compatible	✓
Firefox	2+	.....	compatible	✓
Safari	3.2+	.....	compatible	✓
Chrome	3+	.....	compatible	✓
Opera	10+	.....	compatible	✓



**Durendal**



**Durandal**

# What is Durandal

- Clean MV\* Architecture
- JS & HTML Modularity
- Simple App Lifecycle
- Eventing, Modals, Message Boxes

# What is Durandal

- Navigation & Screen State Management
- Consistent Async Programming w/ Promises
- App Bundling and Optimization



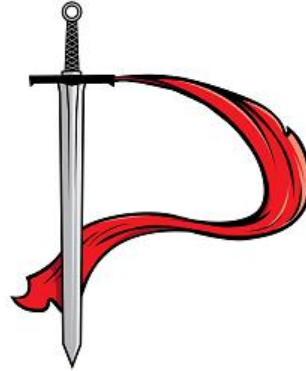
# Durandal

- Use any Backend Technology
- Built on top of jQuery, Knockout & RequireJS
- Integrates with other libraries such as Bootstrap
- Make jQuery & Bootstrap widgets templatable and bindable (or build your own widgets).

# Demo



*learn more*



*at*

[durandaljs.com](http://durandaljs.com)



**Breeze**

# Breeze

# Rich data

Client Queries

Caching

Change Tracking

Validation

Batch Save

Roll Your  
Own

**Breeze**



Free

Open Source ([GitHub](#))

MIT License

# My Todo List

Hello, [tibi](#) | [Log off](#)

Add Todo list

Save Changes

## My Todo List #1

- ☐ Todo item #1 x
- ☐ Todo item #2 x
- ☐ Add new elem x
- ☐ Text x

Type here to add

# Demo

*learn more* **Breeze** *at*

[breezejs.com](https://breezejs.com)



# Thank you!

 @tibor19

 [blog.multi-core.net](http://blog.multi-core.net)

 [www.linkedin.com/in/tcovaci](http://www.linkedin.com/in/tcovaci)