

Introducing Backbone.js

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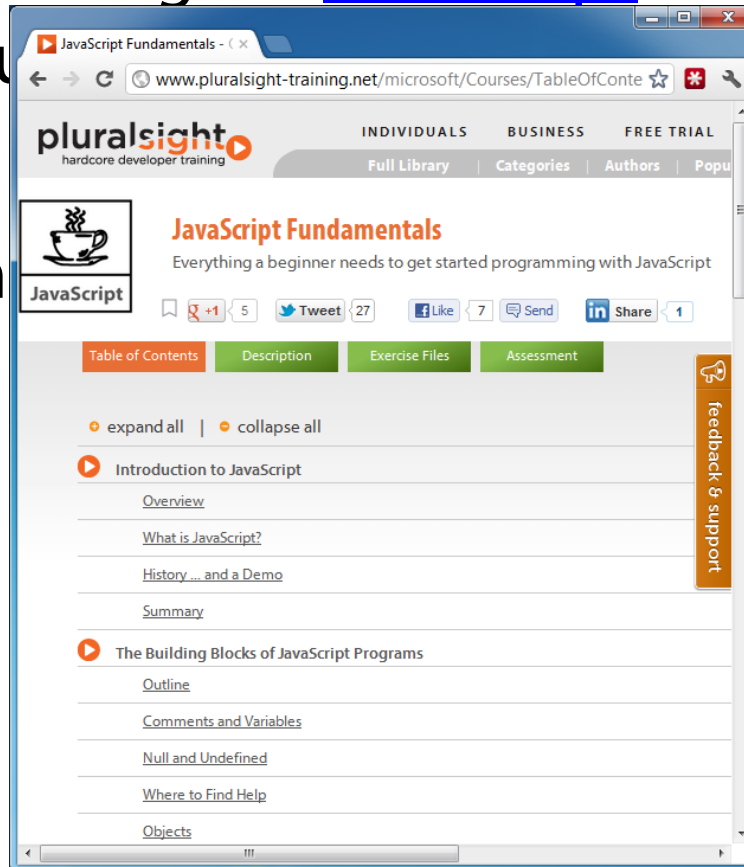


Outline

- Prerequisites
- What is Backbone.js?
- Anatomy of a Backbone.js application
- Why do we need Backbone.js?
- An example application

Prerequisites

- Basic knowledge of:
 - JavaScript. See pluralsight's [JavaScript Fundamentals](https://www.pluralsight.com/courses/javascript-fundamentals) course
 - HTML
 - Web programming



What is Backbone.js?

- A JavaScript library that provides helpful types for building and organizing rich JavaScript interfaces.
 - Not a framework
 - Not MVC
 - A library of tools that help build a richer web



BACKBONE.JS

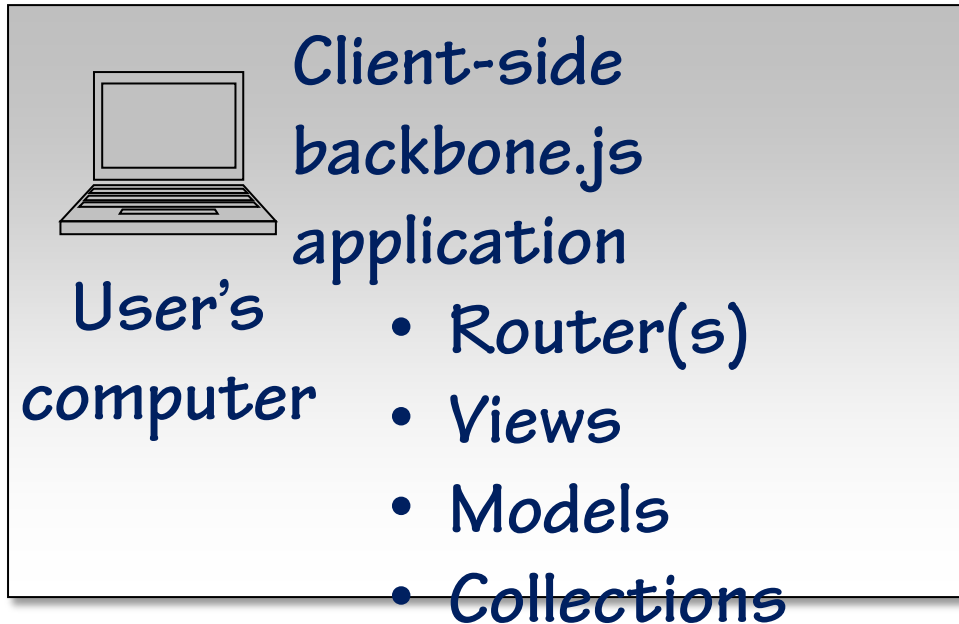
What is Backbone.js (cont.)

Definition from the *backbone.js* documentation

Backbone.js gives structure to web applications by providing models with key-value binding and custom events, collections with a rich API of enumerable functions, views with declarative event handling, and connects it all to your existing API over a RESTful JSON interface.

<http://documentcloud.github.com/backbone/>

Anatomy of a Backbone.js Application



JSON data



RESTful endpoint



Server

Pros

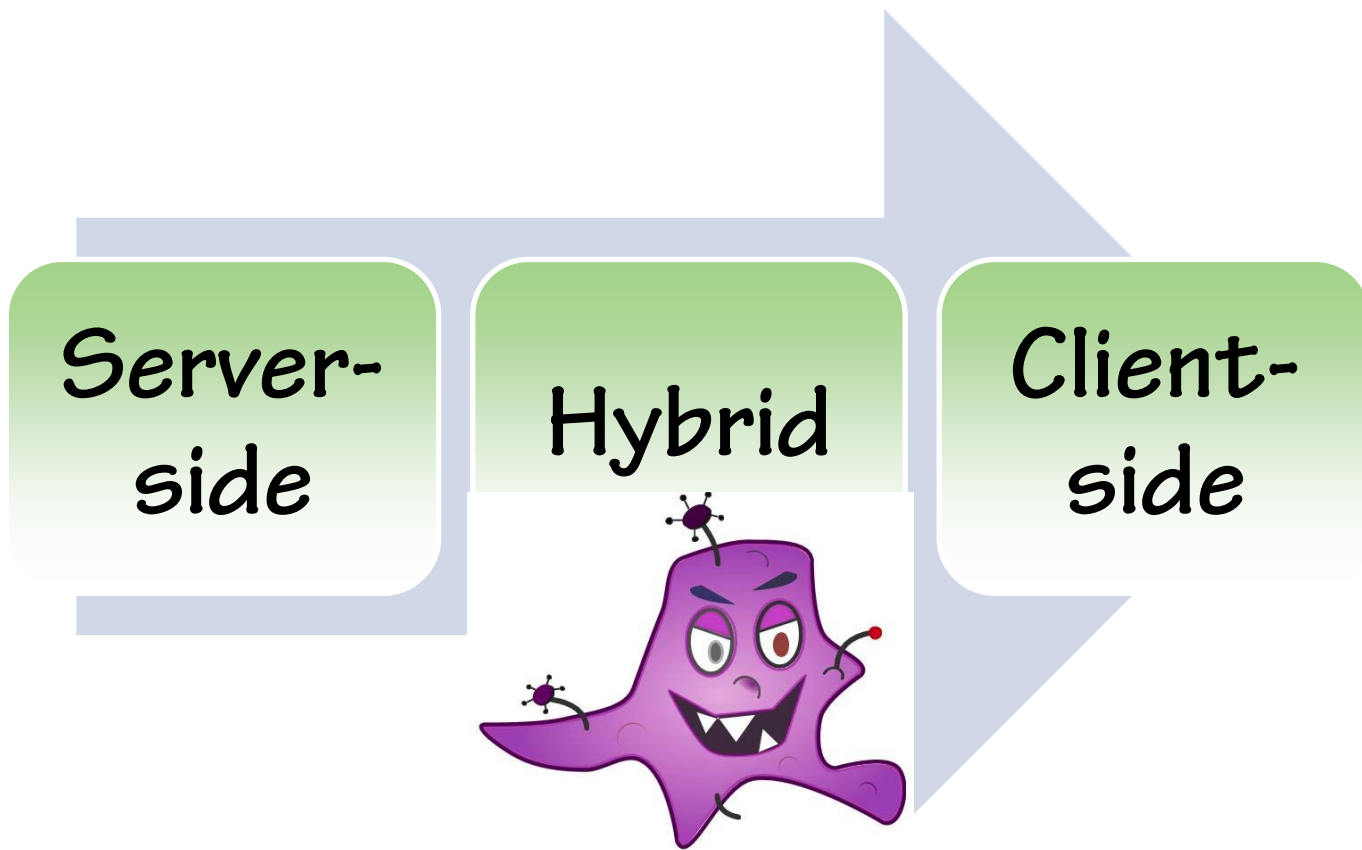
- Fast
- Highly interactive
- Scalable

Cons

- Cannot be indexed by search engines (without extra work)
- Difficult to test
- Security issues

SPAs

- Single page applications
 - Improved user experience

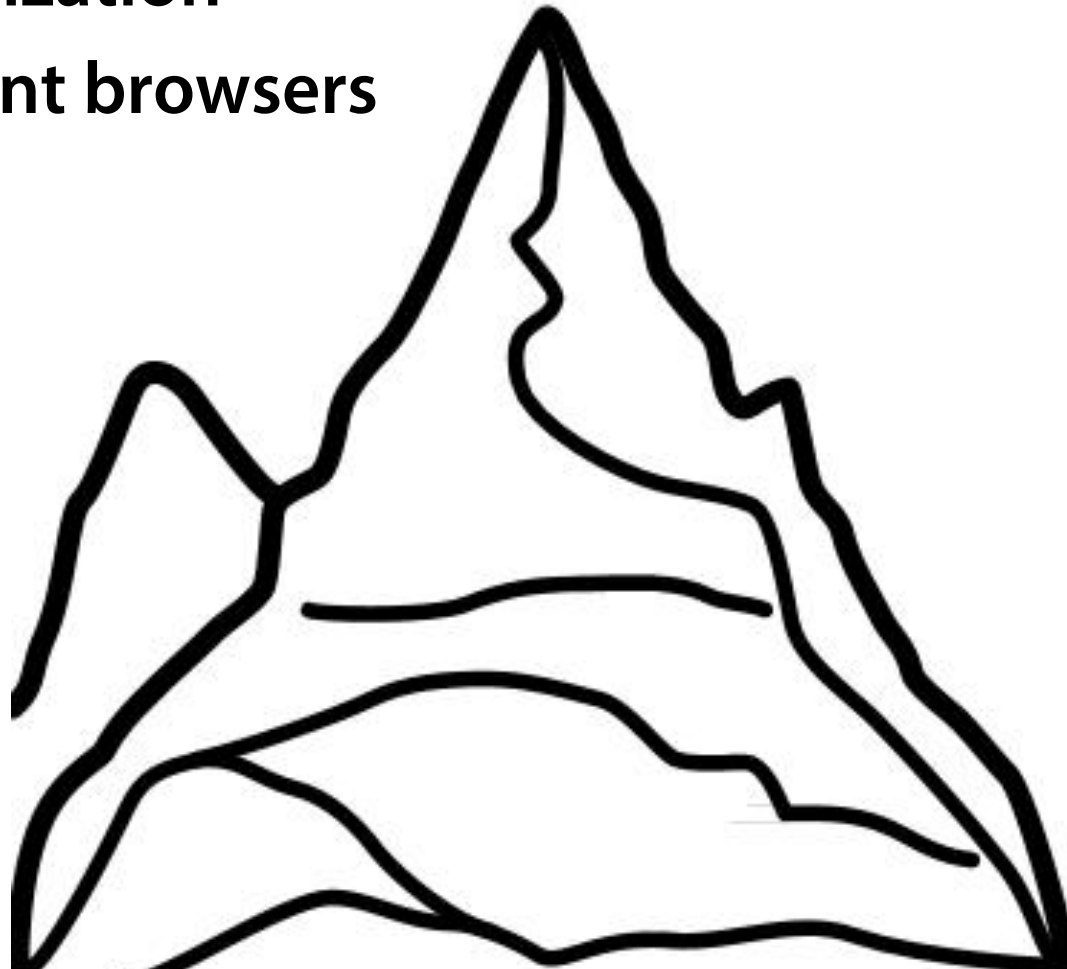


SPA Examples

- Gmail
- Facebook
- Twitter
- [Trello](#)

SPA Challenges

- Lack of tooling and experience
- Search engine optimization
- Working with different browsers



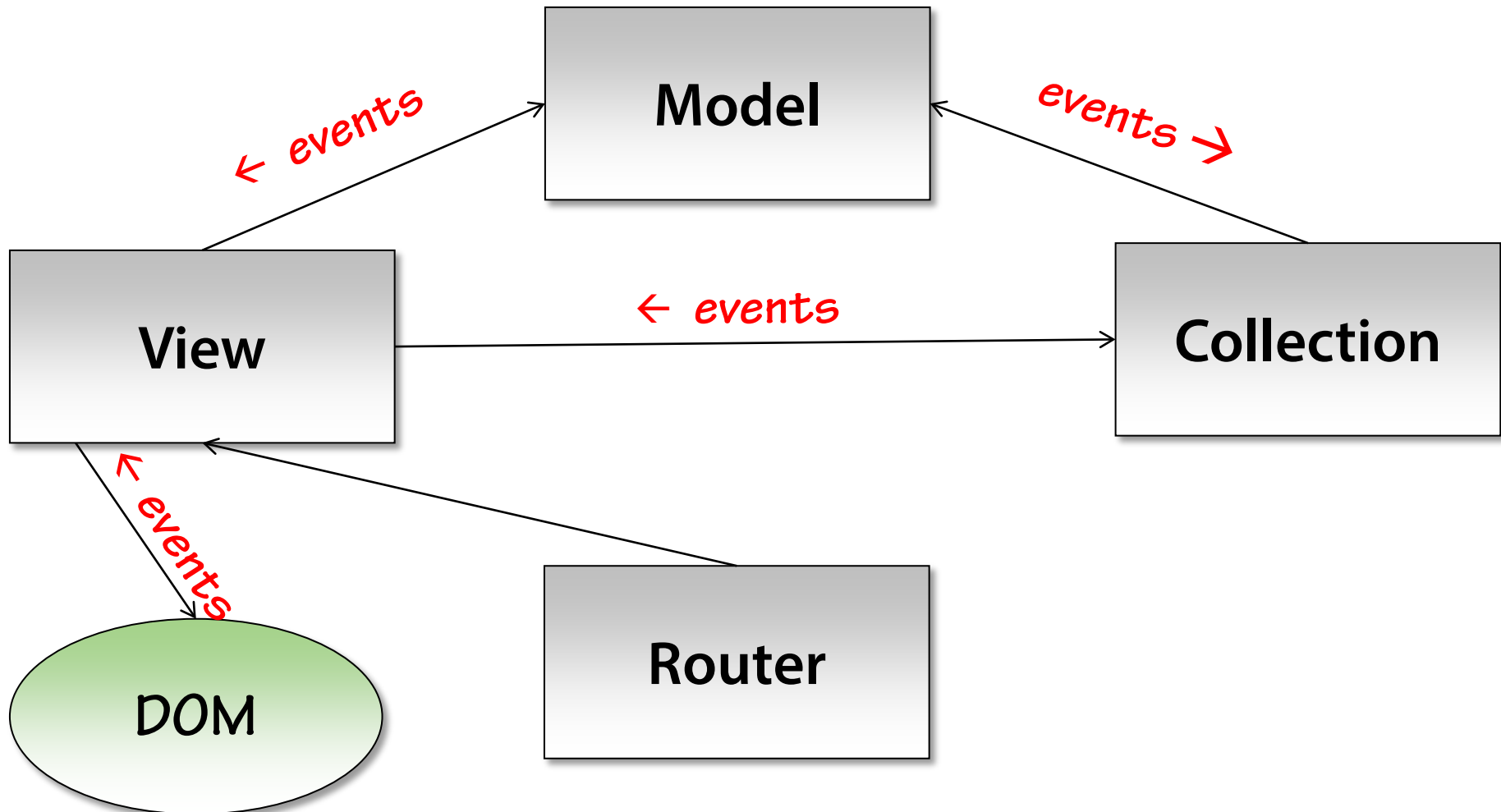
Why do we need Backbone.js?

- Developing a coherent, readable, structured, testable & maintainable client-side application is not easy.
- Backbone contains tools and codified knowledge that minimize the difficulties.



The Backbone Solution

- Backbone provides a set of tools for introducing structure into client-side applications



Required Dependencies

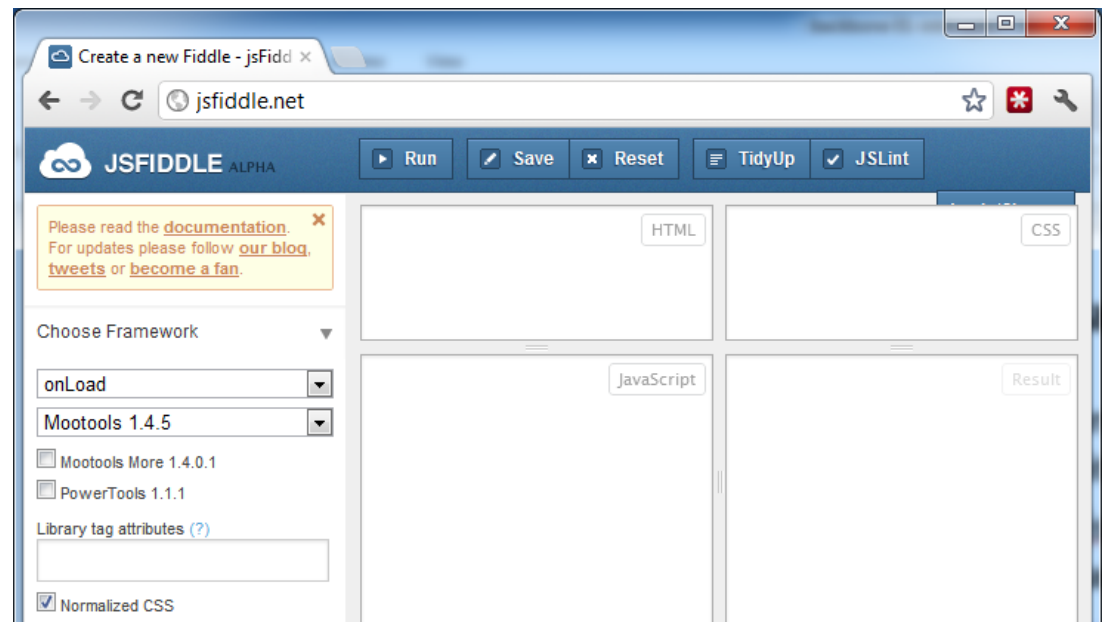
- **Underscore.js**
 - Functional programming support for JavaScript
- **jQuery / zepto**
 - DOM manipulation and ajax
 - Zepto is only for modern browsers

A Minimal Backbone.js Environment

```
<!DOCTYPE html>
<html>
  <head>
    <title>title</title>
    <script src="jquery-1.7.2.js"></script>
    <script src="underscore.js"></script>
    <script src="backbone.js"></script>
  </head>
  <body></body>
</html>
```

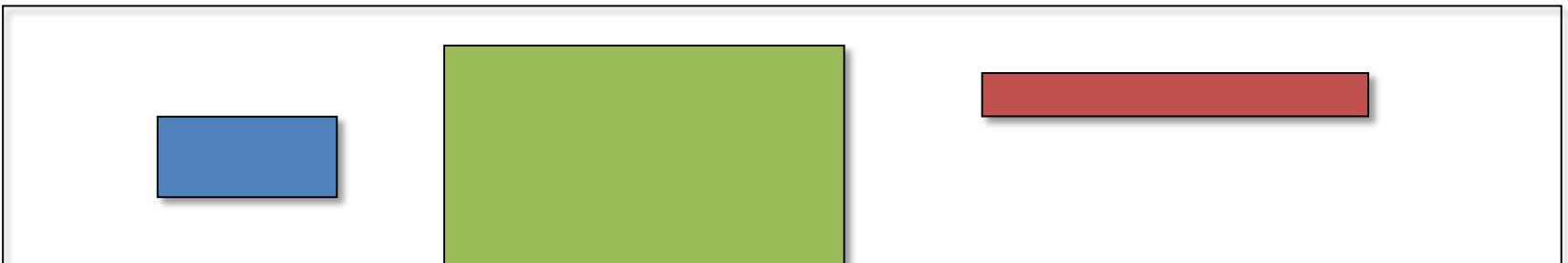
A jsFiddle Backbone Environment

- jsFiddle is an online environment for experimenting with html, javascript and css
- A preconfigured jsFiddle for working with Backbone.js is available at:
 - <http://jsfiddle.net/ynkJE/>



A Backbone Example

- **Rendering rectangles on a canvas**
- **Rectangles will be represented as Backbone models**
 - A rectangle has a width and height
 - A rectangle has a position
 - A rectangle has a color
- **A Backbone view will have responsibility for rendering a rectangle model**



Summary

- Web applications are becoming more interactive.
- Developing web applications with client-side state is hard – and the tools are relatively immature
- Backbone is a library that helps organize client-side applications – it's not a framework (and it's not mvc!)



BACKBONE.JS