

Building HTML5 and JavaScript Apps with MVVM and Knockout

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Getting Started with Knockout

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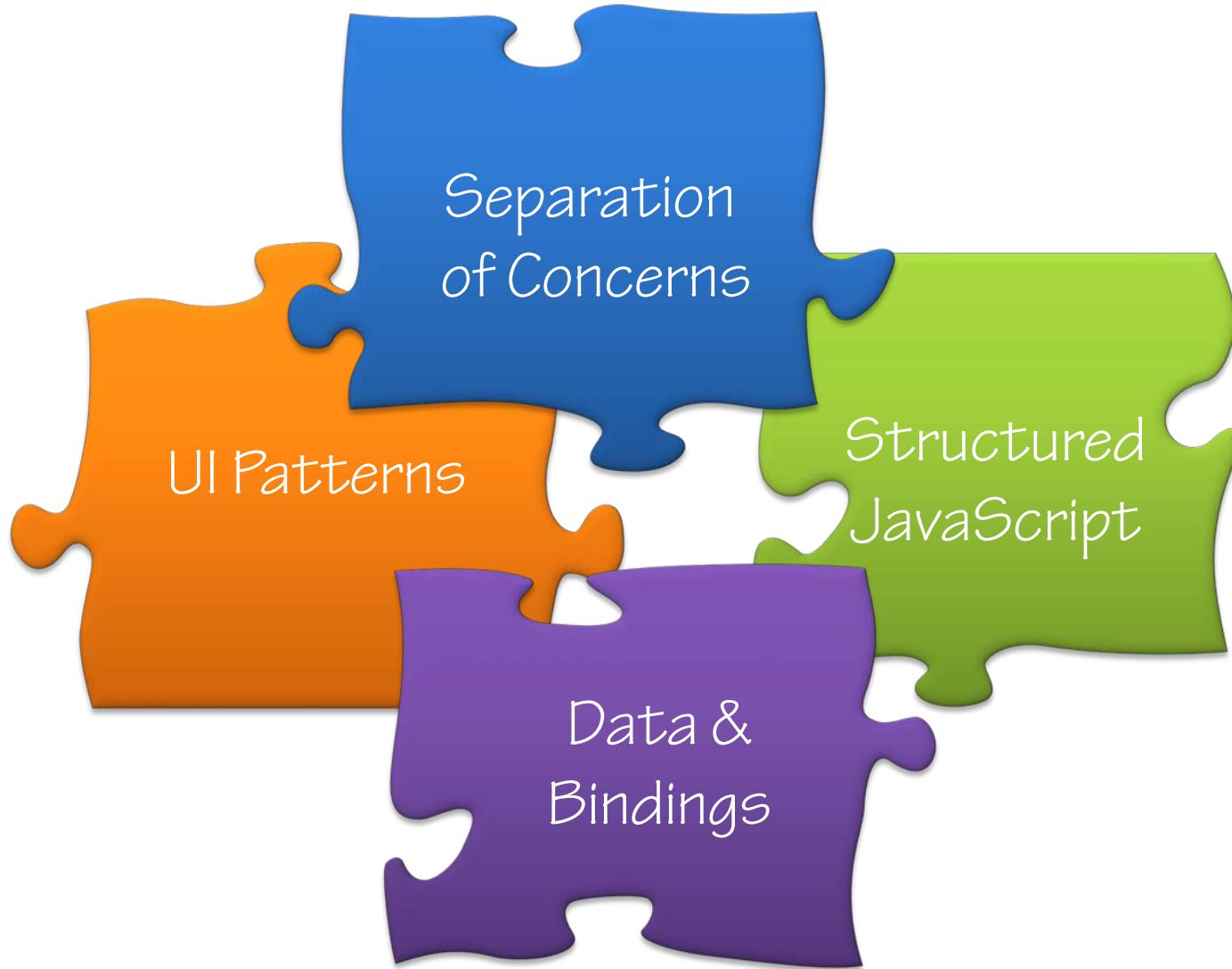
<http://johnpapa.net>



Outline

- **JavaScript, Data Binding and Knockout**
- **MVVM with Knockout**
- **jsFiddle**
- **Using Knockout in Visual Studio**
- **Key Resources**

JavaScript Development



What is Knockout ?

Rich client-side interactivity

MVVM-like pattern

Wide browser support

Separates behavior and structure

Declarative bindings

Observables



6+



2+



Key Knockout Concepts



Dependency
Tracking
via Observables

Declarative
bindings

Templating
Support

Knockout in 3 Steps

Declarative
Binding

```
<input data-bind="value: firstName" />
```

Create an
Observable

```
var myViewModel = {  
  firstName: ko.observable("John")  
};
```

```
ko.applyBindings(myViewModel);
```

Bind the ViewModel
to the View

<http://jsfiddle.net/johnpapa/BEzJc/>

DEMO

Hello Knockout



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Separation, Organization, Data Binding

■ MVVM

- Foremost, a separation pattern
- Model – View – ViewModel
- Not technology specific
- Works well with data binding



*Separation
of Concerns*

■ But what about everything else?

- Just helpers

MVVM Components

View (HTML)

Model
(JSON)

MVVM Components

View

ViewModel

Model

- The Data
- JavaScript object

MVVM Components

View

- The web page, the HTML
- User friendly presentation of information

ViewModel

Model

MVVM Components

ViewModel

- Behavior and Data for the View
- Contains Properties, Methods & the Model

```
viewModel = {  
  id: ko.observable("123"),  
  salePrice: ko.observable(1995),  
  rating: ko.observable(4),  
  isInStock: ko.observable(true),  
  guitarModel: {  
    code: ko.observable("314ce"),  
    name: ko.observable("Taylor 314 ce")  
  },  
  showDetails: function () {  
    /* method goes here */  
  }  
};
```

View

Model

<http://jsfiddle.net/johnpapa/u9S93/>

<http://jsfiddle.net/johnpapa/zBqxy/>

DEMO

Knockout with MVVM



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jsFiddle: Chalkboard for Ideas

- Created by Piotr Zalewa and hosted at <http://jsFiddle.net>
- Free code sharing tool
- Within a browser you can:
 - Edit
 - Share
 - Execute
 - Debug
- Ideal for quick chalkboard ideas

jsFiddle

HTML

CSS

The screenshot shows the jsFiddle web application interface. At the top, there is a dark blue header bar with the jsFiddle logo and the text "JSFIDDLE ALPHA". To the right of the logo are several buttons: "Run", "Update", "Fork", "Reset", "Base", "TidyUp", "JSLint", and "Share". On the far right of the header is a user profile dropdown menu labeled "johnpapa". Below the header is a left sidebar with a list of links: "Choose Framework", "Panels", "Manage Resources (1)", "JavaScript/CSS URL" (with a plus icon), "knockout-2.0.0.js", "Info", "Testing Ajax requests", "Examples", "Legal stuff and credits", and "Read our documentation". The main area of the interface is divided into four panels. The top-left panel is labeled "HTML" and is currently empty. The top-right panel is labeled "CSS" and is also empty. The bottom-left panel is labeled "JavaScript" and is empty. The bottom-right panel is labeled "Results" and is empty. Four blue arrows point from labels outside the interface to these four panels: one from "HTML" to the top-left panel, one from "CSS" to the top-right panel, one from "JavaScript" to the bottom-left panel, and one from "Results" to the bottom-right panel.

JavaScript

<http://jsfiddle.net/johnpapa/nBWKZ/>

Results

DEMO

jsFiddle



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Valuable Visual Studio Extensions

- [NuGet](#)
 - manage 3rd party libraries and references
- [Web Essentials](#)
 - Code collapsing, add vendor specific CSS properties, much more
- [Web Standards Update](#)
 - HTML intellisense and validation
- [WoVS Default Browser Switcher](#)
 - Quickly change the default browser from Visual Studio
- [JSLint](#)
 - JavaScript code analysis
- [CSSCop](#)
 - Catches common CSS issues
- [Resharper 6](#)
 - JavaScript refactoring tools



Free



Free Trial Only

DEMO

Visual Studio Extensions



Begin Coding with Knockout

- **Referencing Knockout**

- Get source from GitHub
- Use NuGet

- **Intellisense in *.js files**

```
/// <reference path= "/scripts/knockout-2.0.0.debug.js" />
```

DEMO

Getting Started in Visual Studio



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Knockout Resources

- Knockout
 - Source code
 - Documentation
 - Forums
 - Tutorials
 - Stackoverflow
 - Ryan Niemeyer's blog
 - jsFiddle
- <http://knockoutjs.com>
 - <https://github.com/SteveSanderson/knockout>
 - <http://jpapa.me/kodocs>
 - <http://jpapa.me/koforum>
 - <http://learn.knockoutjs.com/>
 - <http://jpapa.me/kostackoverflow>
 - <http://www.knockmeout.net>
 - <http://www.jsfiddle.net>

DEMO

Knockout Resources



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