



Building Rich User Interaction with Knockout JS

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POWER DNN
DOTNETNUKE® DONE RIGHT!



Charlotte Day of DotNetNuke – June 2nd, 2012





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Agenda

- Introduction
- Key Knockout Concepts
- How? Live examples
- DotNetNuke 6.2
 - User File Manager Example





Overview

- Why JavaScript Frameworks?
 - <https://github.com/addyosmani/todomvc>
 - Backbone, Spine, Ember, Knockout
 - Structure provided by proven patterns (MVC, MVVM)
- Knockout
 - MVVM
 - Model = Data (e.g. service)
 - View = UI (e.g. html)
 - ViewModel = Code representation of data (e.g. JS object)





Key Concepts: Declarative Bindings

- Declarative Bindings
 - What and where, not how

```
<p>First name: <input data-bind="value: firstName" /></p>  
<p>Last name: <input data-bind="value: lastName" /></p>  
<h2>Hello, <span data-bind="text: fullName"> </span>!</h2>
```





Key Concepts: Automatic UI Refresh

- Automatic UI Refresh
 - Your data drives the UI
 - Manipulate your data, not the DOM

```
this.planets = ko.observableArray([
    { name: "Mercury", type: "rock"},
    { name: "Venus", type: "rock"},
    { name: "Earth", type: "rock"},
    { name: "Mars", type: "rock"},
    { name: "Jupiter", type: "gasgiant"},
    { name: "Saturn", type: "gasgiant"},
    { name: "Uranus", type: "gasgiant"},
    { name: "Neptune", type: "gasgiant"},
    { name: "Pluto", type: "rock"}
]);
```



Key Concepts: Dependency Tracking

- Dependency Tracking
 - Create relationships between data
 - Observables, Observable Arrays, and Computed Observables





Key Concepts: Templating

- Templating
 - Native (e.g. foreach, if)
 - String Based (third-party, e.g. Underscore, jQuery.tmpl)





Named Template

```
<h2>Participants</h2>
Here are the participants:
<div data-bind="template: { name: 'person-template', data: buyer }"></div>
<div data-bind="template: { name: 'person-template', data: seller }"></div>

<script type="text/html" id="person-template">
  <h3 data-bind="text: name"></h3>
  <p>Credits: <span data-bind="text: credits"></span></p>
</script>

<script type="text/javascript">
  function MyViewModel() {
    this.buyer = { name: 'Franklin', credits: 250 };
    this.seller = { name: 'Mario', credits: 5800 };
  }
  ko.applyBindings(new MyViewModel());
</script>
```



External Template Engine

```
<h1>People</h1>
<div data-bind="template: 'peopleList'"></div>

<script type="text/html" id="peopleList">
    {{each people}}
        <p>
            <b>${name}</b> is ${age} years old
        </p>
    {{/each}}
</script>

<script type="text/javascript">
    var viewModel = {
        people: ko.observableArray([
            { name: 'Rod', age: 123 },
            { name: 'Jane', age: 125 },
        ])
    }
    ko.applyBindings(viewModel);
</script>
```



Live Examples

Live example

First name:

Last name:

Hello, Steve Aperson!

Source code: View

```
<p>First name: <input data-bind="value: firstName" /></p>
<p>Last name: <input data-bind="value: lastName" /></p>
<h2>Hello, <span data-bind="text: fullName"> </span>!</h2>
```

Source code: View model

```
// Here's my data model
var ViewModel = function(first, last) {
    this.firstName = ko.observable(first);
    this.lastName = ko.observable(last);

    this.fullName = ko.computed(function() {
        // Knockout tracks dependencies automatically. It knows that fullName depends
        return this.firstName() + " " + this.lastName();
    }, this);
};

ko.applyBindings(new ViewModel("Planet", "Earth")); // This makes Knockout get to work
```

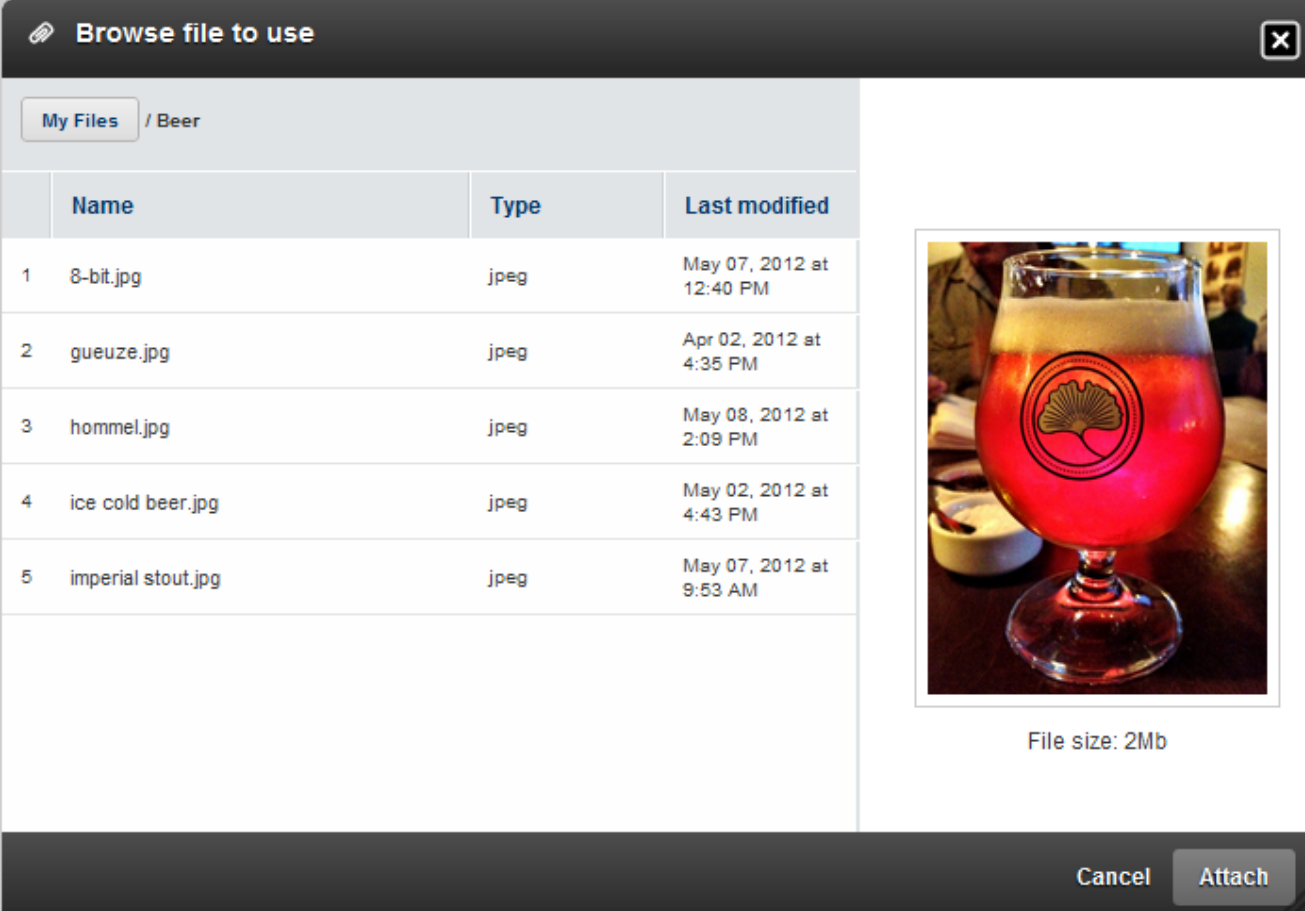


Knockout in DotNetNuke 6.2

- Shipped with DotNetNuke
 - /resources/shared/scripts/knockout.js
- Used throughout the new modules
- I implemented it in User File Manager
 - Templating
 - DNN Service API
 - Custom bindings
 - Computed bindings
 - jQuery Plugin / Reusable Component




User File Manager



Browse file to use

My Files / Beer

	Name	Type	Last modified
1	8-bit.jpg	jpeg	May 07, 2012 at 12:40 PM
2	gueuze.jpg	jpeg	Apr 02, 2012 at 4:35 PM
3	hommel.jpg	jpeg	May 08, 2012 at 2:09 PM
4	ice cold beer.jpg	jpeg	May 02, 2012 at 4:43 PM
5	imperial stout.jpg	jpeg	May 07, 2012 at 9:53 AM



File size: 2Mb

Cancel
Attach



Thank you!

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