Knockout.JS

MVVM library

Introduction

Js:

```
var myViewModel = {
    personName: ko.observable('Bob'),
    personAge: ko.observable(123)
};
ko.applyBindings(myViewModel);
```

Html:

```
The name is <span data-bind="text: personName"></span>
```

Generated html:

```
The name is <span data-bind="text: personName">Bob</span>
```

Bindings

```
<div data-bind="visible: shouldShowMessage">
<span data-bind="text: myMessage"></span>
<div data-bind="html: details"></div>
<div data-bind="css: { profitWarning: currentProfit() < 0 }">
<div data-bind="style: { color: currentProfit() < 0 ? 'red' : 'black' }">
<a data-bind="attr: { href: url, title: details }">

<input type='checkbox' data-bind="checked: hasCellphone, enable:
hasCellphoneEnabled" />
<input type='text' data-bind="value: cellphone, valueUpdate: 'keyup' " />

<input data-bind="hasFocus: isSelected" />
 <select data-bind="options: availableCountries"></select>
```

Bindings

```
<table>
   <tbody data-bind="foreach: people">
      <tr>
         <td data-bind="text: firstName"></td>
         <td data-bind="text: lastName"></td>
      </tr>
   </tbody>
</table>

   ko.applyBindings({
      people: [
         { firstName: 'Bert', lastName: 'Bertington' },
         { firstName: 'Charles', lastName: 'Charlesforth' },
         { firstName: 'Denise', lastName: 'Dentiste' }
      ]
   });
```

Bindings

```
<ul data-bind="foreach: planets">
   <li>
      Planet: <b data-bind="text: name"> </b>
      <div data-bind="if: capital">
         Capital: <b data-bind="text: capital.cityName"> </b>
      </div>
   </li>
</ul>


<script>
   ko.applyBindings({
      planets: [
         { name: 'Mercury', capital: null },
         { name: 'Earth', capital: { cityName: 'Barnsley' } }
      ]
   });
</script>
```

Aliases

```
ko.field = ko.observable;
ko.array = ko.observableArray;

ko.property = function (getter) {
      var result;
      if (getter.read) {
         result = ko.computed({
            deferEvaluation: true,
            read: getter.read,
            write: getter.write
         });
      } else {
         result = ko.computed({
            deferEvaluation: true,
            read: getter
         });
      }
      return result;
};
```

Aliases

```
function AwardsViewModel() {
    this.has10KPingsBadge = ko.field(null);
    this.hasReachedLevel10 = ko.field(null);
    this.awards = ko.array([]);
    this.tooltipVisible = ko.field(false);

    this.showTooltip = function () {
        self.tooltipVisible(true);
    };

    this.hasAnyBadge = ko.property({
        read: function() {
            return self. hasReachedLevel10 () && self.hasReachedLevel10 ();
        },
        write: function(val) {
            self.has10KPingsBadge (val);
            self.hasReachedLevel10(val);
        }
    });
}
```

Subscriptions

```
myViewModel.personName.subscribe(function(newValue) {
   alert("The person's new name is " + newValue);
});

myViewModel.personName.subscribe(function(oldValue) {
   alert("The person's previous name is " + oldValue);
}, null, "beforeChange");


var subscription = myViewModel.personName.subscribe(function(newValue) { /* do stuff */ });
// ...then later...
subscription.dispose(); // I no longer want notifications
```

Computed

```
function AppViewModel() {
    var self = this;

    self.firstName = ko.observable('Bob');
    self.lastName = ko.observable('Smith');

    self.fullName = ko.computed(function() {
        return self.firstName() + " " + self.lastName();
    });
}
```

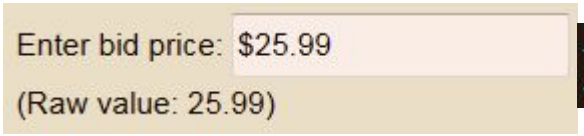
Writable Computed


```
<div>First name: <span data-bind="text: firstName"></span></div>
<div>Last name: <span data-bind="text: lastName"></span></div>
<div class="heading">Hello, <input data-bind="textInput: fullName"/></div>
```

```
function MyViewModel() {
    this.firstName = ko.observable('Planet');
    this.lastName = ko.observable('Earth');

    this.fullName = ko.computed({
        read: function () {
            return this.firstName() + " " + this.lastName();
        },
        write: function (value) {
            var lastSpacePos = value.lastIndexOf(" ");
            if (lastSpacePos > 0) { // Ignore values with no space character
                this.firstName(value.substring(0, lastSpacePos)); // Update "firstName"
                this.lastName(value.substring(lastSpacePos + 1)); // Update "lastName"
            }
        },
        owner: this
    });
}
```

Writable Computed




```
<div>Enter bid price: <input data-bind="textInput: formattedPrice"/></div>
<div>(Raw value: <span data-bind="text: price"></span>)</div>
```

```
function MyViewModel() {
    this.price = ko.observable(25.99);

    this.formattedPrice = ko.computed({
        read: function () {
            return '$' + this.price().toFixed(2);
        },
        write: function (value) {
            value = parseFloat(value.replace(/[^\.\d]/g, ""));
            this.price(isNaN(value) ? 0 : value); // Write to underlying storage
        }
    });
}
```

Computed

```
ko.computed(function() {
    var params = {
        page: this.pageIndex(),
        selected: this.selectedItem.peek()
    };
    $.getJSON('/Some/Json/Service', params);
}, this);

var myComputed = ko.computed(function() {
    var isFirstEvaluation = ko.computedContext.isInitial(),
        dependencyCount = ko.computedContext.getDependenciesCount();
    console.log("Evaluating " + (isFirstEvaluation ? "for the first time" : "again"));
    console.log("By now, this computed has " + dependencyCount + " dependencies");
 });

someObservableOrComputed.extend({ rateLimit: { timeout: 500, method:
"notifyWhenChangesStop" } });

myViewModel.fullName = ko.computed(function() {
    return myViewModel.firstName() + " " + myViewModel.lastName();
}).extend({ notify: 'always', rateLimit: 500 });
```

Computed

```
var upperCaseName = ko.computed(function() {
    return name().toUpperCase();
}).extend({ throttle: 500 });    // deprecated


ko.observableArray.fn.pushAll = function(valuesToPush) {
    var underlyingArray = this();
    this.valueWillMutate();
    ko.utils.arrayPushAll(underlyingArray, valuesToPush);
    this.valueHasMutated();
    return this;
};

this.users.pushAll(dataFromServer);
```

Validation

ko.validation

```
var myObj = ko.observable().extend({ required: true });
var myObj = ko.observable().extend({ required: { onlyIf: function() { return true; } } });
var myObj = ko.observable().extend({ min: 2 });
var myObj = ko.observable().extend({ maxLength: 12 });
var myObj = ko.observable().extend({ pattern: '^[a-z0-9].$' });

ko.validation.rules['exampleRule'] = {
   validator: function(val, otherVal){
       /* awesome logic */
   },
   message: 'Sorry Chief, {0} this is not Valid'
};
```

https://github.com/ericmbarnard/Knockout-Validation

Custom bindings

```
ko.bindingHandlers.slideVisible = {
    init: function (element, valueAccessor) {
        // Initially set the element to be instantly visible/hidden depending on the value
        var value = valueAccessor();
        $(element).toggle(ko.unwrap(value)); // Use "unwrap" so we can handle values that may or may not be observable
    },
    update: function (element, valueAccessor, allBindingsAccessor) {
        // First get the latest data that we're bound to
        var value = valueAccessor(), allBindings = allBindingsAccessor();

        // Next, whether or not the supplied model property is observable, get its current value
        var valueUnwrapped = ko.utils.unwrapObservable(value);

        // Grab some more data from another binding property
        var duration = allBindings.slideDuration || 400; // 400ms is default duration unless otherwise specified

        // Now manipulate the DOM element
        if (valueUnwrapped == true)
            $(element).slideDown(duration); // Make the element visible
        else
            $(element).slideUp(duration);   // Make the element invisible
    }
};

<div class="cpm-panel" data-bind="slideVisible: isCpmOpened, slideDuration: 450">
```