[Scripting] NOTES SHEET

VCD-3650 **SCRIPTING FOR INTERACTIVITY**

LESSON 12: DATA TEMPLATES

OVERVIEW

Often in an SPA (single-page _____) we have data coming in and out of our system.

When data comes in we often want to _____ it on the page. In order to do this we need _____ of HTML into which we can inject the data.

HANDLEBARS.JS

Handlebars.js is a _____ framework that allows us to:

» Prepare HTML snippets that contain _____ for data values

» _____ JSON data into the snippet

Handlebars.js includes dynamic templating features that include the ability to:

» _____ data using filters or "helpers"

» _____ through data sets

» display _____ data sets

» ...and more!

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1. PREPARE HTML TEMPLATE SNIPPETS

Either in the same HTML file or in a separate file, create a snippet that include Handlebars template _____ and _____ like this:

```
<div class="product">
    <h2>{{name}}</h2>
    <p class="price">{{dollars price}}</p>
    <div class="description">{{{description}}}</div>
</div>
```

» `name` is a _____ expression awaiting the value with that name.

» `price` is a _____ expression awaiting that value but will first process it using the `dollars` _____.

» `description` is an _____ expression (notice the extra handlebars) that makes it able to show HTML content such as tags and special characters.

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2. _____ THE TEMPLATE

1. _____ or _____ the HTML snippet.

2. Use `Handlebars.compile()` to precompile—_____—the snippet.

Option 2_A: Selecting an internal template

Add `<script>` tag to document containing template:

```
<script id="product-tpl"
        type="text/x-handlebars-template">
    <div class="product">
        <h2>{{name}}</h2>
        <p class="price">{{dollars price}}</p>
        <div class="description">
            {{{description}}}
        </div>
    </div>
</script>
```

Load <script> tag content with jQuery:

```
var source = $("#product-tpl").html();
var template = Handlebars.compile(source);
```

Option 2_B: Load an external template

Place template in separate file:

`templates/product.tpl.html`

```
<div class="product">
    <h2>{{name}}</h2>
    <p class="price">{{dollars price}}</p>
    <div class="description">
        {{{description}}}
    </div>
</div>
```

Load template when needed using AJAX:

```
$.get("templates/product.tpl.html", function(data) {
    var template = Handlebars.compile(data);
});
```

3. INJECT THE DATA

Use data objects to _____ the Handlebars expressions set up in the snippets.

```
var product = {
    name: "Product 1",
    price: 10.00,
    description: "<p>…</p>"
}
...
var html = template(product);
```

LOADING DATA FROM FILES

Injecting data into a template can involve loading _____ separate files: the template and the JSON data file.

```
$.get("data/product.json", function(data) {
    $.get("templates/product.tpl.html", function(tpl) {
        var template = Handlebars.compile(tpl);
        var html = template(data);
    });
});
```

This creates a "_____" AJAX series where the data is loaded, then the template is loaded and data is injected.

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MORE JSON

JSON can contain a variety of data formats including strings, numbers, booleans, objects, and arrays.

We can use all of these to our benefit when using for templating.

Often we'll package data as a collection: an array that contains objects as its items.

```
{
  “books”: [
    {
      “id”: “book-001”,
      “title”: “The Hobbit”,
      “author”: “J.R.R. Tolkien”,
      “yearPublished”: 1937
    },
    {
      “id”: “book-002”,
      “title”: “Monster”,
      “author”: “Frank Peretti”,
      “yearPublished”: 2006
    }
  ]
}
```

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HANDLEBARS TEMPLATING BLOCKS

Handlebars allows for the following helpful blocks:

Conditionals: ...snippets to open a conditional block

```
{{#if condition}}
```

(Replace `condition` with a boolean expression)

...start alternative snippets:

```
{{else}}
```

...and mark the end of the block:

```
{{/if}}
```

Loops: ...start a loop for each item in an array

```
{{#each array}}
```

(Replace `array` with an array property)

...and mark the end of the block:

```
{{/each}}
```

HANDLEBARS HELPERS

Custom filters for data. Use this pattern:

```
Handlebars.registerHelper("__1__", function(value) {
    __2__
    return value;
});
```

1. Name of the helper
2. Code that modifies value

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ADVANCED OPERATIONS WITH LODASH

» Both vanilla JS and jQuery provide some operations for working with arrays and objects but when we begin to work with complex objects a more advanced set of needs arise.

» Lodash.js is a library of functions we can use for more high-powered processing with lists.

» Where jQuery uses `$`, Lodash uses `_` (a "low dash")

_.FIND()

Allows us to search inside a collection for values of those inner objects.

```
_.find(__1__, __2__);
```

1. The collection in which to search.

2. The filter or search criterion such as an object snippet:

   ```
   { “color”: “Red” }
   ```