ARIA Tutorial :: Week 6 -- MVC Applications
Monday March 5th, 2012

Exercise 2 - Build a simple List Application in MVC using Backbone.

For this exercise you will be working alone.

You're going to build your first MVC application using Backbone.js

This application is very simple and uses very little code to create a dynamic page with a simple MVC pattern.

1) DOWNLOAD THE HELPER FILES

Normally for building applications we would download all the javascript files so that it's easier to debug.

This time, however, we're going to use the files provided for us on a server already, so we don't have to add them to our project.

From Moodle, download the helloWorldMVC.html file for this week.
Also download the helloWorldMVC.js file for this week.

Put these two files in the same folder somewhere on your desktop.

2) MAKE SURE IT WORKS

Double click helloWorldMVC.html to see it in the browser.

You should see "hello world" as a list item render in the browser.

Pretty boring, right?

3) EXAMINE OUR HTML

Take a look at the source of our HTML file.

It is essentially empty! All we're doing is linking in some JavaScript files.

The heavy lifting (well, relatively speaking!) is happening in the JavaScript file.

4) EXAMINE OUR JAVASCRIPT

Now let’s look at the JavaScript file - examine the HelloWorldMVC.js file.

Here’s what is going on there:

1) We’re creating a VIEW called ListView. ListView is our main application view.
   We create “el” so we can attach content to the <body> element of our HTML page.

2) We initialize ListView. The initialize() function is called upon instantiation. Any kind of setup you need to do for your view can happen here.

3) We define the render function. Render tells the browser what this looks like when it is called.

In this case, we want the default view to show an unordered list with one list item containing hello world mvc in it.

4) Finally, we create an instance of our ListView (called listView) and instantiate it.

Make sense? It’s not doing much, just creating a default view for the page.
It is jQuery which forces this function to run when the page is loaded.

5) NOW ADD A BUTTON

Next we want to make it a bit more interactive.

We’re going to add a button to our page. When the user clicks the button, we’ll add another list item to the page.

First we need to get the button to show up. Change the render function in your JavaScript page to look like this:

```
    render: function(){
      $(this.el).append("<button id='add'>Add list item</
button>");
      $(this.el).append("<ul></ul>");
    },
```

Save & reload the page. Now you should have a button that does nothing, and no more “hello world mvc” text.

6) NOW ADD THE BUTTON FUNCTION

To make the button do something, we need to do two things:

a) create an event for clicking on the button
b) define what happens when someone clicks the button.

Underneath the line “el: $(‘body’), add the following text. It should be right above your initialize function.

```
events: {
   'click button#add': 'addItem'
 },
```

This tells our app that when the button is clicked, we should call the ‘addItem’ function.

Now to create the addItem function:

Underneath the render function, add the following text. CAUTION: make sure it’s BEFORE the “});” text under render or it will get ignored.

```
addItem: function(){
  this.counter++;
  $('ul', this.el).append("<li>hello world</li>");
}
```

Because it’s JavaScript, you’ll also need to add a “,” after the render function’s final “}”

If you get lost, take a look at the HelloWorldMVCFINAL.js file to see if you’ve missed some syntax. JavaScript can be picky about syntax!

7) RELOAD IN THE BROWSER AND MAKE SURE THE BUTTON WORKS

Now reload your HTML file in the browser and make sure the button does something when clicked.

If it isn’t doing anything use a browser debugger to figure out where the problem is, it’s probably a syntax error.

Congratulations, you’ve just built your first MVC application using Backbone.js!

If you’d like to continue this tutorial, click here and start with Step 3: http://arturadib.com/hello-backbonejs/