

Exercise 3: Creating Form Controls with Dijit

In this simple exercise you will learn how to create a number of user interface controls called Dijits. The controls that you work with in this exercise are part of a group of controls known as form controls which are typically used to gather information from your user.

Step 1: Examine the HTML File

- Navigate to the C:\Program Files\Apache Software Foundation\Apache2.2\htdocs\lab\advanced_doj\exercises folder and open FormControls.htm in your favorite HTML or text editor.

We have already written some of the code that will be used in this exercise. You will concentrate on adding the user interface controls for a simple web page that gathers user information.

Step 2: Import the Form Control Resources

Each Dijit form control has a corresponding resource that you'll need to import into your application before it can be inserted into a web page. In addition, you will also need to insert the Dijit Parser resource into your application. Before your Dijits can be displayed on a webpage you must invoke the Dojo Parser. The parser handles finding all DOM nodes that have been marked for parsing via `dojoType` and replaces the HTML control with the Dijit specified in `dojoType` using the theme that you have specified. Dijits can be parsed at the page level either when the page loads or through a manual call to `dojo.parser.parse`. Dijits can also be manually parsed at the DOM node level. However, in this case we are going to parse at the page level. Notice the following code that has already been written for you.

```
<script
  djConfig="parseOnLoad:true"
  type="text/javascript"
  src="http://o.aolcdn.com/dojo/1.1/dojo/dojo.xd.js">
</script>
```

The `djConfig` parameter can control a number of things, but in this case setting `parseOnLoad = true` basically initiates a page level parsing.

- Import the parse resource

```
<script type="text/javascript">
  dojo.require("dojo.parser");

  //simple validation
  function validate( ) {
    var f = document.getElementById("registration_form");

    if (f.first.value == "" ||
        f.last.value == "" ||
        f.email.value == "") {
      alert("All fields are required.");
      return false;
    }

    return true;
  }

  function setColor(color){
    var theSpan = dojo.byId("outputSpan");
    theSpan.style.color = color;
    theSpan.innerHTML = color;
  }

</script>
```

- Next, we'll import the various Dijit resources that will be added to our page. In this exercise we are going to add a TextBox, Button, NumberSpinner, CheckBox, and ColorPalette. Add the

following lines of code to your page.

```
<script type="text/javascript">
  dojo.require("dojo.parser");
  dojo.require("dijit.form.TextBox");
  dojo.require("dijit.form.Button");
  dojo.require("dijit.form.NumberSpinner");
  dojo.require("dijit.form.CheckBox");
  dojo.require("dijit.ColorPalette");

  //simple validation
  function validate( ) {
    var f = document.getElementById("registration_form");

    if (f.first.value == "" ||
        f.last.value == "" ||
        f.email.value == "") {
      alert("All fields are required.");
      return false;
    }

    return true;
  }

  function setColor(color){
    var theSpan = dojo.byId("outputSpan");
    theSpan.style.color = color;
    theSpan.innerHTML = color;
  }
</script>
```

Step 3: Create the Dijits

Creating Dijits is as simple as adding the `dojoType` attribute to a regular `<input>` tag. This is done inside the `<body>` tag of a webpage and in this case we are also going to use a `<table>` to control the alignment of our controls so that the appearance will be improved.

- First, we are going to add TextBox Dijits to capture first name, last name, and email address. Add the following lines of code to the <table> tag.

```

<form id="registration_form">
  <table>
    <tr>
      <td><label for="first">First Name:</label></td>
      <td><input id="first" dojoType="dijit.form.TextBox" propercase=true trim=true name="first"></td>
    </tr>
    <tr>
      <td><label for="last">Last Name:</label></td>
      <td><input id="last" dojoType="dijit.form.TextBox" propercase=true trim=true name="last"></td>
    </tr>
    <tr>
      <td><label for="email">Email:</label></td>
      <td><input id="email" dojoType="dijit.form.TextBox" length=25 name="email"></td>
    </tr>
  </table>
</form>

```

The <tr> tags represent a row within a table while <td> represents a column. So, in this case we are adding three rows to our table and each contains two columns. The first column simply represents the label (First Name, Last Name, Email). In each case you will notice that our <input> tags include an attribute called 'dojoType'. The Dojo Parser scans our page looking for this attribute. When it is found Dojo replaces the regular HTML form control with the Dijit specified in 'dojoType'. Here we are specifying that a TextBox Dijit be added to the page. For the First Name and Last Name text boxes you will also note the use of the 'propercase' and 'trim' attributes. Setting 'propercase' equal to true will automatically capitalize the first letter of each word while 'trim' simply removes any leading or trailing whitespace. Both are built in capabilities of the TextBox Dijit and are very handy for standardizing the input supplied by the user.

- Next we are going to add a NumberSpinner Dijit that will be used to capture the age of our user. Add the following lines of code to your page.

```

<form id="registration_form">
  <table>
    <tr>
      <td><label for="first">First Name:</label></td>
      <td><input id="first" dojoType="dijit.form.TextBox" propercase=true trim=true name="first"></td>
    </tr>
    <tr>
      <td><label for="last">Last Name:</label></td>
      <td><input id="last" dojoType="dijit.form.TextBox" propercase=true trim=true name="last"></td>
    </tr>
    <tr>
      <td><label for="email">Email:</label></td>
      <td><input id="email" dojoType="dijit.form.TextBox" length=25 name="email"></td>
    </tr>
    <tr>
      <td><label for="age">Age:</label></td>
      <td><input id="age" dojoType="dijit.form.NumberSpinner" value="35" constraints="{max:110,places:0}"
        name="integerspinner1" id="integerspinner1"></td>
    </tr>
  </table>
</form>

```

Here we set 'dojoType=dijit.form.NumberSpinner' with an initial value of 35, a maximum of value of 110 (the minimum defaults to 0) and the number of decimal places is 0.

- Our next step is to add radio buttons that allow the user to select their gender. Add the following code to your page.

```
<form id="registration_form">
  <table>
    <tr>
      <td><label for="first">First Name:</label></td>
      <td><input id="first" dojoType="dijit.form.TextBox" propercase=true trim=true name="first"></td>
    </tr>
    <tr>
      <td><label for="last">Last Name:</label></td>
      <td><input id="last" dojoType="dijit.form.TextBox" propercase=true trim=true name="last"></td>
    </tr>
    <tr>
      <td><label for="email">Email:</label></td>
      <td><input id="email" dojoType="dijit.form.TextBox" length=25 name="email"></td>
    </tr>
    <tr>
      <td><label for="age">Age:</label></td>
      <td><input id="age" dojoType="dijit.form.NumberSpinner" value="35" constraints="{max:110,places:0}"
        name="integerspinner1" id="integerspinner1"></td>
    </tr>
    <tr>
      <td>Gender</td>
      <td><input dojoType="dijit.form.RadioButton" type="radio" name="gender" id="g1" value="male"><label for="g1">Male</label>
        <input dojoType="dijit.form.RadioButton" type="radio" name="gender" id="g2" value="female" checked="checked"><label for="g2">Female</label>
      </td>
    </tr>
  </table>
</form>
```

- Next up is the inclusion of a ColorPalette that will allow our user to select their favorite color. Add the following code to your page.

```
<form id="registration_form">
  <table>
    <tr>
      <td><label for="first">First Name:</label></td>
      <td><input id="first" dojoType="dijit.form.TextBox" propercase=true trim=true name="first"></td>
    </tr>
    <tr>
      <td><label for="last">Last Name:</label></td>
      <td><input id="last" dojoType="dijit.form.TextBox" propercase=true trim=true name="last"></td>
    </tr>
    <tr>
      <td><label for="email">Email:</label></td>
      <td><input id="email" dojoType="dijit.form.TextBox" length=25 name="email"></td>
    </tr>
    <tr>
      <td><label for="age">Age:</label></td>
      <td><input id="age" dojoType="dijit.form.NumberSpinner" value="35" constraints="{max:110,places:0}" name="integerspinner1" id="integerspinner1"></td>
    </tr>
    <tr>
      <td>Gender</td>
      <td><input dojoType="dijit.form.RadioButton" type="radio" name="gender" id="g1" value="male"><label for="g1">Male</label>
        <input dojoType="dijit.form.RadioButton" type="radio" name="gender" id="g2" value="female" checked="checked"><label for="g2">Female</label>
      </td>
    </tr>
    <tr>
      <td>Favorite Color</td>
      <td><div dojoType="dijit.ColorPalette" onChange="setColor(this.value);"></div>
        Favorite color is: <span id="outputSpan"></span></td>
    </tr>
  </table>
</form>
```

Here you will notice the inclusion of the 'onChange' event which will call a JavaScript function called 'setColor' which we have already written for you. This function simply displays the color value chosen by the user.

- Our final step is to add a submit button which would theoretically submit the information to a server side script to process. Add the following code to your page.

```

<form id="registration_form">
  <table>
    <tr>
      <td><label for="first">First Name:</label></td>
      <td><input id="first" dojoType="dijit.form.TextBox" propercase=true trim=true name="first"></td>
    </tr>
    <tr>
      <td><label for="last">Last Name:</label></td>
      <td><input id="last" dojoType="dijit.form.TextBox" propercase=true trim=true name="last"></td>
    </tr>
    <tr>
      <td><label for="email">Email:</label></td>
      <td><input id="email" dojoType="dijit.form.TextBox" length=25 name="email"></td>
    </tr>
    <tr>
      <td><label for="age">Age:</label></td>
      <td><input id="age" dojoType="dijit.form.NumberSpinner" value="35" constraints="(max:110,places:0)" name="integerSpinner1" id="integerSpinner1"></td>
    </tr>
    <tr>
      <td>Gender</td>
      <td><input dojoType="dijit.form.RadioButton" type="radio" name="gender" id="g1" value="male"><label for="g1">Male</label>
        <input dojoType="dijit.form.RadioButton" type="radio" name="gender" id="g2" value="female" checked="checked"/><label for="g2">Female</label>
      </td>
    </tr>
    <tr>
      <td>Favorite Color</td>
      <td><div dojoType="dijit.ColorPalette" onChange="setColor(this.value);"></div>
        Favorite color is: <span id="outputSpan"></span></td>
    </tr>
    <tr>
      <td><button id="btnSubmit" dojoType="dijit.form.Button" onClick='alert("Information Submitted")' iconClass="plusIcon">Submit</button></td>
    </tr>
  </table>
</form>

```

Step 4: View the File

- Save your file.
- Open a web browser and point to:
http://localhost/lab/advanced_dojo/exercises/FormControls.htm

- You should see something similar to the figure below.

Just Use the form below to submit your information:

First Name:
 Last Name:
 Email:
 Age:
 Gender: Male Female

Favorite Color: Favorite color is: .

- Enter your first name in all lowercase characters and click the Tab button or use your mouse to navigate to the Last Name box. Notice how the TextBox Dijit automatically capitalizes the first letter. The same applies to the Last Name Text Box.
- Set the Age NumberSpinner to a value of 111 and click the Tab button. Notice how the NumberSpinner control automatically checks the value and identifies it as being outside the range that you set. This is an example of client side validation that does not require you to write JavaScript code to check the range nor does it require a round trip to the server for validation.

First Name:
 Last Name:
 Email:
 Age: 
 Gender: Male Female

This value is out of range.

Many Dijits contain similar validation routines that make your life as a developer much easier.