JavaScript User Interface Development
Using AngularJS

Course Requirements:  JavaScript programming knowledge
Environment Requirements:  Windows/Mac/Unix/Linux Laptop or a Desktop with internet access

Topic Outline

Getting Started
This module will provide the foundation for how to use AngularJS for single page application (SPA) development, including:

- Model-View-Controller paradigm in JavaScript
- Definition of Angular Terms
- Options for bootstrapping an AngularJS application
- Using the angular-seed project template
- How to run your AngularJS application
- How to test your AngularJS application

Exercise #1 - Create sample application project. Walk through the configuration, bootstrapping, running, and testing.

Model
This module will discuss how the ‘business model’ can be represented in AngularJS, including:

- JSON
- RESTful API implementation
- $http / $resource
- Modules
- Factory function
- Services
- Dependency injection
- Mocking

Exercise #2 - Create unit-testable Model and Service layers for our sample application.
View
This module will discuss how the ‘view’ is handled in AngularJS via templating, including:

• Directives
• Expressions
• Two-way data binding
• Filters

**Exercise #3** - *Continue to build on the application creating the basic view layer of the sample application.*

Controller
This module will demonstrate how AngularJS utilizes the ‘controller’ to bridge the gap between Model and View, including:

• Modules
• Dependency injection
• Scope

**Exercise #4** - *Bring the sample application to life by supplying the ‘control’ layer between our already created Model and View layers.*

Routing
This module will demonstrate how to create multiple views in the sample application, including:

• “Layout” templates
• “Partial” templates
• Deep linking
• Browser history
• $route / $routeProvider

**Exercise #5** - *Configure multiple views, and utilize routing capabilities, deep-linking, and browser history*

Forms & Validation
This module walks through how to create forms and perform validation, including:

• Simple forms
• CSS forms
• Form / Control state
• Basic validation
• Custom validation
Exercise #6 - Add basic and custom validation to the sample application.

Customizing AngularJS
This module walks through the creation of custom directives, including:

- Why would you want to do this?
- HTML “compiling”
- Directives
- Filters

Exercise #7 - Create custom directive(s) and utilize them in the sample application.

Note: All exercises described in this outline build upon each other. At the completion of this course, students will have a working reference application.