Angular, Controllers and Routing

General part

- Describe the term Single Page Application and why it relevant for modern web-applications
- Describe how SPA's are implemented with AngularJS
- Explain about Controllers and Routing in AngularJS

Practical part

The task is to create a small application with two routes. An initial route, which will display a list of all users as sketched to left below, and when "details" are pressed a details view as sketched to the right.

Partial 1

Partial 2

The data sample provided on next page provides links to fetch both a thumbnail and a full size picture for all users.

Complete the exercise following these steps:

1. Create a new project and add the necessary infrastructure to support angular and angular routing (don't forget angular-route: http://fall2015.azurewebsites.net/angularRouting/angularRouting.html#8)
2. Create a data folder in the web pages folder, and in this folder, create a file *data.json*. Paste the JSON given below, into this file.
3. Create a Controller that can fetch the data via an http request[1].
4. Create an angular module and provide it with the necessary routes via its `config(..)` method.
5. Change index.html to use our application and provide it with an `ng-view` directive to hold the templates for the two routes.
6. Create the two templates.
7. When everything works as expected, and not before, style the application (not necessarily as on the screenshots above).

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[1] Hint: For this Exam-preparation exercise you can use the simple Controller given on next page. For the real exercise you are expected to do this by yourself

```javascript
var users=[];
app.controller("UserController", function ( $http, $routeParams) {
  var self = this;
  if (users.length === 0) {
    $http.get("data/data.json").success(function (data) {
      users = data.users;
      self.users = users;
    })
  }
  else{ //We used the cache property on the http request instead
    self.users = users;
  }
  if (users != null) {
    console.log("Adding user: "+$routeParams.id)
    self.user = users[$routeParams.id];
  }

});
```

Sample Controller which you can use to fetch the data (this is very similar to the JQuery's ajax method)

```json
{
  "users": [
    {
      "gender": "male",
      "title": "mr",
      "first": "francisco",
      "last": "medina",
      "street": "2748 w dallas st",
      "city": "flowermound",
      "state": "new jersey",
      "zip": "77511",
      "email": "francisco.medina65@example.com",
      "dob": "454252284",
      "phone": "(757)-889-2571",
      "cell": "(113)-542-2123",
      "picture": {
        "large": "http://api.randomuser.me/portraits/men/22.jpg",
        "thumbnail": "http://api.randomuser.me/portraits/thumb/men/22.jpg"
      }
    },
    {
      "gender": "female",
      "title": "mrs",
      "first": "sherry",
      "last": "elliott",
      "street": "3251 brown terrace",
      "city": "wichita falls",
      "state": "washington",
      "zip": "79455",
      "email": "sherry.elliott17@example.com",
      "dob": "224238139",
      "phone": "(225)-793-2067",
      "cell": "(968)-555-1402",
      "picture": {
        "large": "http://api.randomuser.me/portraits/women/37.jpg",
        "thumbnail": "http://api.randomuser.me/portraits/thumb/women/37.jpg"
      }
    },
    {
      "gender": "male",
      "title": "mr",
      "first": "johnny",
      "last": "medina",
      "street": "1313 samaritan dr",
      "city": "redding",
      "state": "new hampshire",
      "zip": "43269",
      "email": "johnny.medina76@example.com",
      "dob": "259176886",
      "phone": "(991)-957-7139",
      "cell": "(502)-773-1487",
      "picture": {
        "large": "http://api.randomuser.me/portraits/men/90.jpg",
        "thumbnail": "http://api.randomuser.me/portraits/thumb/men/90.jpg"
      }
    }
  ]
}
```

*Data for the exercise (paste into a file **data.json**, in a folder **data**)*