ANGULARJS

HTML enhanced for web apps!

What is ANGULARJS?

- It's not a JavaScript library (As they say). There are no functions which we can directly call and use.

- It is not a DOM manipulation library like jQuery. But it uses subset of jQuery for DOM manipulation (called jqLite).

- Focus more on HTML side of web apps.

- For MVC/MVVM (Model View ViewModel) design pattern.

- AngularJS is a Javascript MVC framework created by Google to build properly architectured and maintenable web applications.

Philosophy

"ANGULARJS is what HTML could have been if it had been designed for web application development."

""ANGULARJS is built around the philosophy that declarative code is better than imperative code while building UIs and wiring different components of web application together."

```html
<!doctype html>
<html ng-app>
  <head>
    <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.0.7/angular.min.js"></script>
  </head>
  <body>
    <div>
      <label>Name:</label>
      <input type="text" ng-model="yourName" placeholder="Enter a name here">
      <hr>
      <h1>Hello {{yourName}}!</h1>
    </div>
  </body>
</html>
```

Why ANGULARJS?

- Defines numerous ways to organize web application at client side.

- Enhances HTML by attaching directives, custom tags, attributes, expressions, templates within HTML.

- Encourage TDD (Test Driven Development)

- Encourage MVC/MVVM design pattern

- Code Reuse

- Good for Single Page Apps (SPA)

- Cool Features -> Next Slide

MVC

Model

- The Data

Controller

- The Behaviour

- Modifying / updating the models

Javascript

View

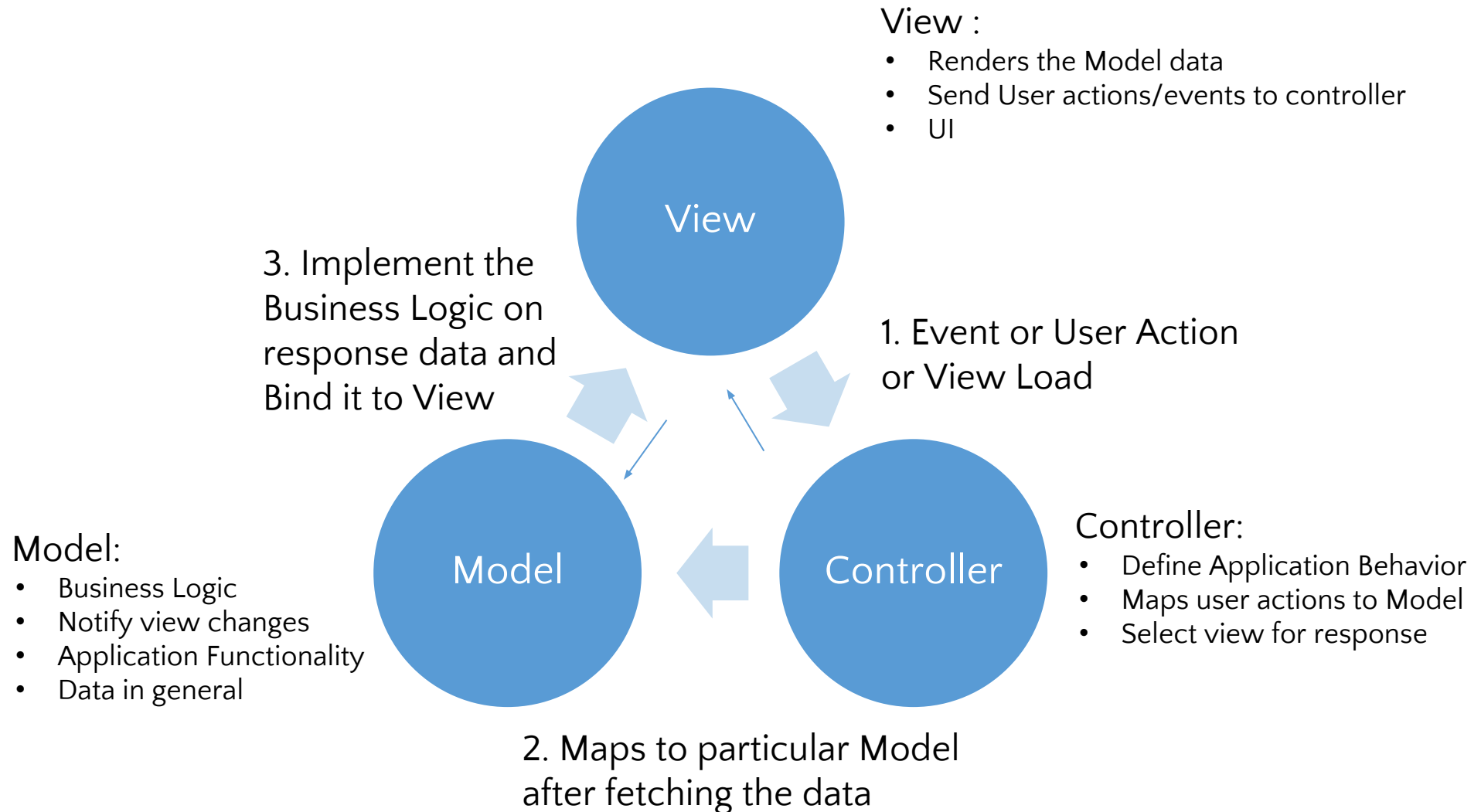- The Interface
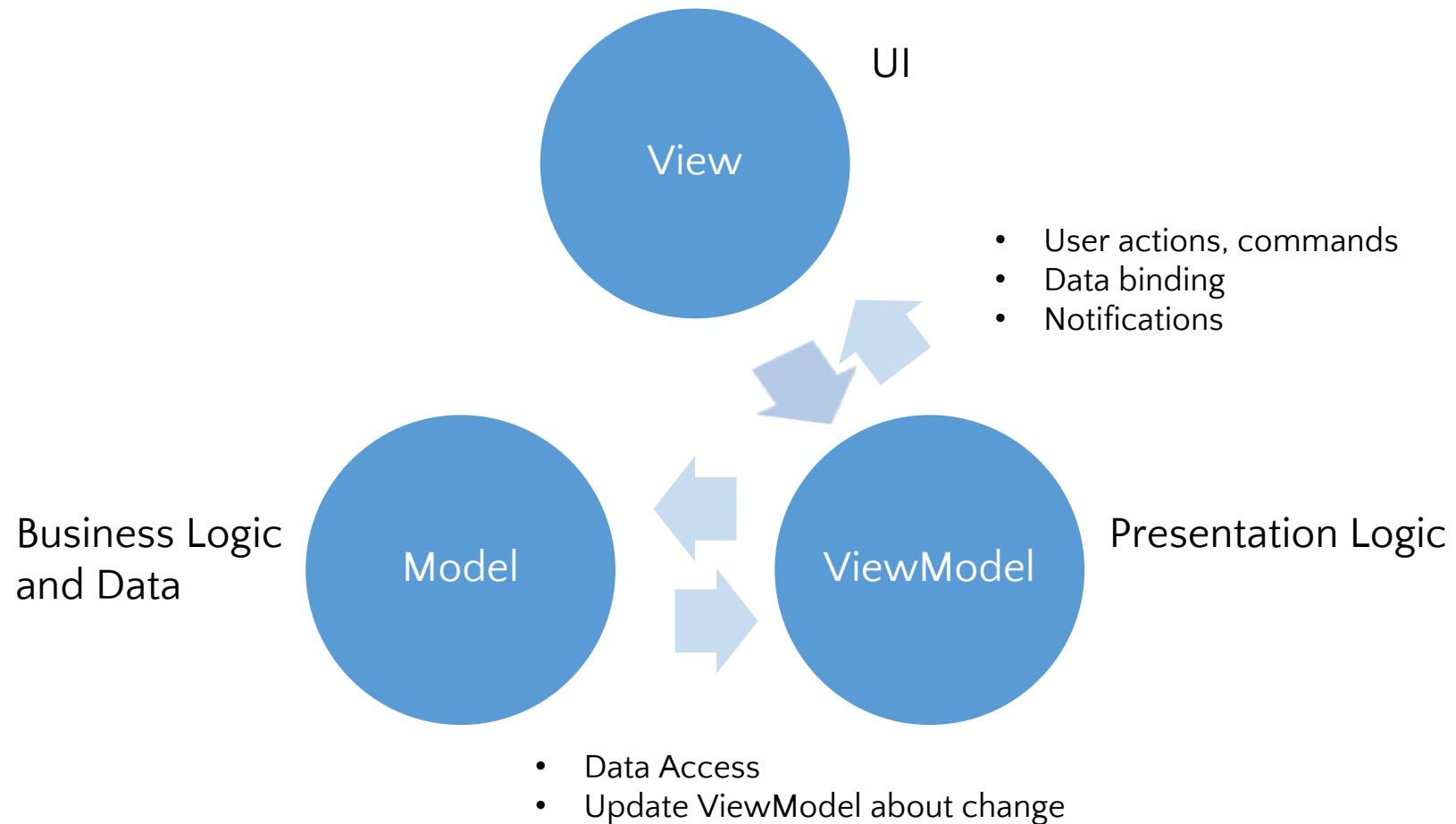
- How the data is presented to the user.

Javascript

Topics

- Initialization

- ng-app

- ng-model and data binding

- Using Api's

MVC : Model View Controller

View :
- Renders the Model data
- Send User actions/events to controller
- UI

3. Implement the Business Logic on response data and Bind it to View

1. Event or User Action or View Load

Model:
- Business Logic
- Notify view changes
- Application Functionality
- Data in general

Controller:
- Define Application Behavior
- Maps user actions to Model
- Select view for response

2. Maps to particular Model after fetching the data

MVVM: Model View ViewModel

ng-app

Use this directive to auto-bootstrap an application.

Only one ng-app directive can be used per HTML document

<html ng-app>

Expression

Expressions are JavaScript-like code snippets that are usually placed in bindings such as {{ expression }}

 <body>

   1+2={{1+2}}

 </body>

Forms

Form and controls provide validation services, so that the user can be notified of invalid input. This provides a better user experience, because the user gets instant feedback on how to correct the error.

```
<input type="text" ng-model="user.name" name="uName" required />
```

```
<button ng-click="update(user)" ng-disabled="form.$invalid || isUnchanged(user)"
>SAVE</button>
```

Module

Modules declaratively specify how an application should be bootstrapped.

There can be multiple modules in an app

Those could be interdependent too.

```
 // declare a module

var myAppModule = angular.module('myApp', [--here goes the dependent Modules--]);
```

Modules are configured with routes, controllers, models etc.

Routing

It Is used for deep-linking URLs to controllers and views (HTML partials). It watches $location.url() and tries to map the path to an existing route definition.

```
$routeProvider.when('/Book', {

    template: 'examples/book.html',

    controller: BookCntl,

});

 $routeProvider.when('/Book/chapter01', {

    template: 'examples/chapter01.html',

    controller: ChapterCntl,

});
```

Scope

Scope is an object that refers to the application model.

It is an execution context for expressions.

Scopes are arranged in hierarchical structure which mimic the DOM structure of the application.

Scopes can watch expressions and propagate events.

Actually the ViewModel of MVVM.

$scope

Filters

Angular filters format data for display to the user.

{{ expression [| filter_name[:parameter_value] ...] }}

{{ uppercase_expression | uppercase }}

{{ expression | filter1 | filter2 }}

Can create custom filters

Resources

Documentation

- AngularJS Developer Guide

- AngularJS API

- AngularJS Tutorial

Videos

- AngularJS Fundamentals In 60-ish Minutes

- Introduction to Angular JS

- AngularJS end-to-end web app tutorial Part I