Experiment - 09.

- **Aim :** Design an application using angular JS. eg. Design registration (first name, last name, username, password) and login page using Angular JS.

- **Theory :**

(1). **Angular JS :**

- Angular JS is a javascript framework developed and maintained by google. It is used for building dynamic web applications, particularly single page applications

- Angular JS extends HTML with additional attributes and provides a structure for organizing and managing client side web applications.

(2). **Advantages :**
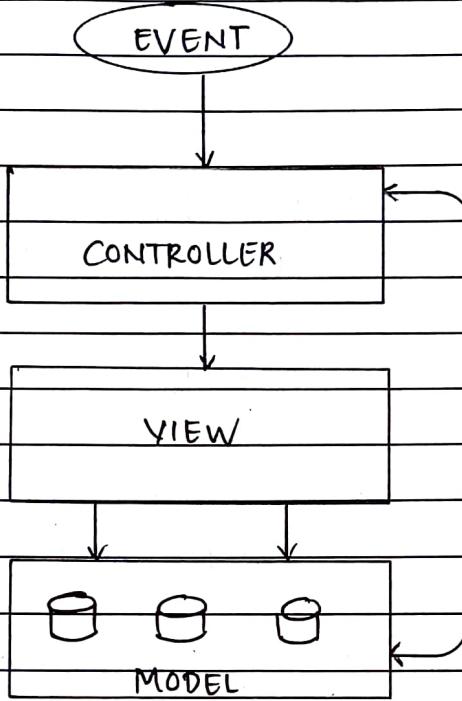
1. MVC support - It is based on model view controller architecture which provides separation of model, view and controller components.

2. Comprehensive :- Angular JS is a comprehensive solution for rapid frontend development.

3. Unit Testing - The angular JS code is unit Testable.

4. Reusable code - Angular JS supports for using reusable components.

5. less code - It supports less code and more functionality.

(3). **Features of Angular JS -**

1. Directives - designed to give HTML new functionality.

2. Filters - This feature allows to select subset from array of items.

3. Routing - This feature allows to switch between multiple views.

4. Services - There is support for many built in services for angular JS.

5. Data Binding - It allows the automatic synchronisation between model and view components.

6. Scope - There are some objects from model that can be correlated to controller and view.

(4). <u>MVC Model</u> -

```
        ⬭ EVENT ⬭
             │
             ▼
    ┌──────────────────┐◄─┐
    │    CONTROLLER    │  │
    └──────────────────┘  │
             │            │
             ▼            │
    ┌──────────────────┐  │
    │      VIEW        │  │
    └──────────────────┘  │
        │        │        │
        ▼        ▼        │
    ┌──────────────────┐  │
    │  🗄  🗄  🗄       │◄─┘
    │      MODEL       │
    └──────────────────┘
```

1. <u>Model</u> - It is the lowest level of the pattern responsible for maintaining data.

2. <u>View</u> - It is responsible for displaying all or a portion of the data to the user.

3. <u>Controller</u> - It is a software code that controls the interactions between the model and view.

(5). An angular JS application consists of following three important parts -

1. <u>ng-app</u> - This directive defines and links an angularJs application to HTML.

2. ng-model - This directive binds the values of Angular JS application data to HTML input controls.

3. ng-bind - This directive binds the Angular JS application data to HTML tags.

(6). Creating angular JS application -

Step 1 - load framework - Being a pure Javascript framework, it can be added using <script> tag

```
<script src = "https://ajax.googleapis.com/ajax/libs/
angularjs/1.3.14/angular.min.js">
</script>
```

Step 2: Define angular JS application using ng-app directive.
```
<div ng-app = " ">
...
</div>
```

Step 3: Define a model name using ng-model directive.
```
<p> Enter your name: < input type = "text"
ng-model = "name" > </p>
```
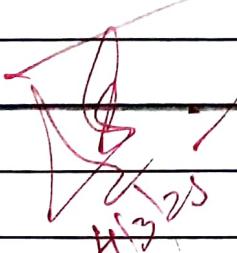
Step 4: Bind the value of above model defined using ng-bind directive.
```
<p> Hello <span ng-bind ="name" ></span>
!</p>
```

- How angular Js Integrates with HTML -

1. The ng-app directive indicates the start of AngularJS application.

2. The ng-model directive creates a model variable named name, which can be used with the HTML page and within the div having ng-app directive.

3. The ng-bind then uses the name model to be displayed in the HTML <span> tag whenever user enters input in text box.

4. Closing </div> tag indicates the end of AngularJs application.

- ng-init - This directive is used for initializing an angularJS application data. Used to assign values to variables.

- ng-repeat - This repeats the html elements for each item in a collection.

Conclusion : Hence we successfully created an angular JS application using the different directives.

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