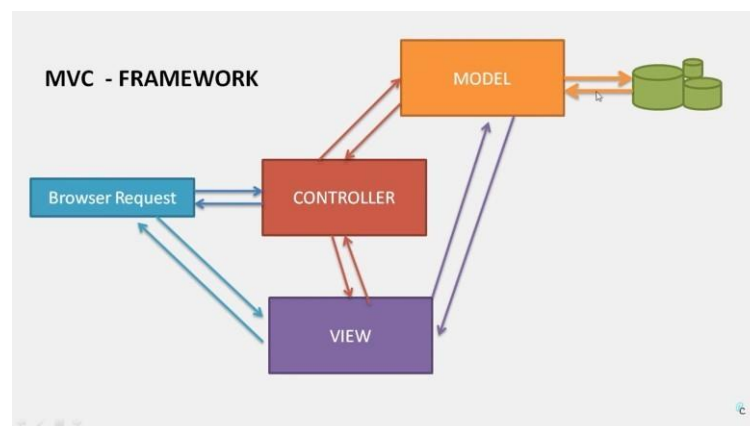# Practical – 11

Model View Controller is a form of software architecture used in software engineering. The basic principle of MVC is that the data presentation should be kept separate from the logic.

MVC separates the application into:

- **The model**: This is the component that communicates with the database instructing it to manipulate data input. It is a conduit between the view and the controller. Oncethe information is passed to the view or controller, it is no longer relevant to the model

  The view: The view is responsible for user interaction. The user's requests and reactions are transferred to the controller which responds accordingly. For instance, when a user clicks on a link, the action is triggered in the controller.
- **The controller:** The controller processes data input by the user. Without user interaction, the controller cannot carry out any action.

MVC project structure

- controller
  - Index.php   -> control the model and view
- Model
  - Arrymodel.php -> deals with the data
- View
  - About.php
  - Home.php   -> display page information
  - Erro.php
- Index.php

Index. Php
// This file contains the routing information

```php
<?php
    // include controller file.
    include ("control/controller.php");

    $obj = new controller();
    $function='home';

// redirect to the controller based on URL
    if(isset($_GET['function']) &&
$_GET['function']!='')
    { $function = $_GET['function']; }
    if($function=='home')
    {     $obj->home();
    }
    elseif($function=='insert')
    {
        $obj->insert();
    }
    elseif($function=='display')
    {   $obj->display();
    }
    elseif($function=='update'){
      $obj->update();
    }
    else{
      $obj->error();
    }


  ?>

Controller.php
<?php
```

```php
class controller
{   public $modelobj;

    function __construct()
     {  // include view files for header and footer
        include ("view/header.php");

        include ("view/footer.php");

        include ("model/modelclass.php");

    // create model class object and establish connection
        $this->modelobj = new modelclass();

        $this->modelobj->connection();


     }

     function home()
     {

      // include ("view/header.php");

        echo "Home page";


     }
    // insert called when insert() called from index.php
    function insert()
     {

        $id = $_POST['bid'];
      $name = $_POST['bname'];
      $price = $_POST['bprice'];
        //calling a model class insert method
      $this->modelobj->insertvalue($id,$name,$price);




     }



  // called when display() called from index.php
      function display()
```

```php
    {
        echo "<p>Display page here</p>";
    // model class display method to display data
        $resultset = $this->modelobj->displaydata();
        // call display.php to display the data
        include ("view/display.php");


    }
    function error(){

        include ("view/error.php");


    }
// called when update() called from index.php
    function update()
    {
        $name = $_POST['bname'];
        echo $name;
        $resultset = $this->modelobj->updatedata ($name);

        if($resultset > 0 ){
         echo "<script> alert('". $resultset . "rows are affected ')
</script>";
        } else
         echo "<script> alert('no row updated') </script>";
    }


 }
```

Database in phpmyadmin

 Book table(id,bname,price)

Modelclass.php

```php
<?php
```

```php
class modelclass{
    private $conn;
    function connection(){
        $this->conn = new
mysqli("localhost:3308","username","password","persondb");
    //   echo "<p> connection successfully </p>";
        if ($this->conn->connect_error) {
            die("Connection failed: " . $conn->connect_error);
        }
    }


    function connclose(){
        $this->conn->close();
    }


    function insertvalue($id,$name,$price)
    {
        try{
        $sql = "insert into book(bid,bname,price) values(?,?,?)";
        $stmt= $this->conn->prepare($sql);
        $stmt->bind_param("isi",$id,$name,$price);
        $result = $stmt->execute();
        echo "<p> inserted successfully </p>";
         return $result;
        }catch(Exception $e){
          include("view/error.php");
          echo "<p>". $e->getmessage . "</p>";
        }
    }


    function displaydata()
     {
        $sql = "select *from book";
        $result = $this->conn->query($sql);
```

```php
        $noofrow = $result->num_rows;
         return $result;


    }


    function updatedata($name){
        $newname = "new ".$name;
        $sql = "update book set bname = '" .$newname ."' where bname='".
$name. "'" ;
        $result = $this->conn->query($sql);
        $noofrow = $this->conn->affected_rows;
        return($noofrow);
    }
  }
?>
```

View folder contains , header.php, footer.php and display.php,error.php,insert.php,update.php

Header.php file

```php
<body>


<nav>
    <a href="index.php?function=home">Home</a>
    <a href="view/insert.php">Insert</a>
    <a href="index.php?function=display">Display</a>
     <a href="view/update.php">Update</a>
 </nav>
    </body>
```

Display.php

```php
<body>
<?php
```

```php
  $noofrow = $resultset->num_rows; ?>
  <table>
  <tr style="background-color: #5cd65c;" >
    <th > Book id </th>
     <th> bookname </th>
     <th> Book price </th>
    </tr>
  <?php
  for ($i=0;$i<=$noofrow;$i++)
    {
    $row = $resultset->fetch_array(MYSQLI_ASSOC);
    echo "<tr>";
    echo "<th>". $row['bid'] . "</th>";
    echo "<th>". $row['bname'] . "</th>";
    echo "<th>". $row['price'] . "</th>";
    echo "</tr>";
    }
    ?>
    </table>
  </body>
```

Insert.php

Contains the form which takes input bookid,bookname and price form usert and press insert button. On pressing insert control moves to index.php .

Form index.php control transfer to controller

Controller transfer control to model class which insert data into database.

```html
<form action="../index.php?function=insert" method="post">
```

Display.php

```
// it display the data which is come from model class to controller and from
controller data display to view .
```
```html
<body>
```
```php
<?php
  //print_r($resultset);
```

```php
$noofrow = $resultset->num_rows; ?>

<table>

<tr style="background-color: #5cd65c;" >

  <th > Book id </th>

   <th> bookname </th>

   <th> Book price </th>

  </tr>

<?php

for ($i=0;$i<=$noofrow;$i++)

  {

   $row = $resultset->fetch_array(MYSQLI_ASSOC);

   echo "<tr>";

   echo "<th>". $row['bid'] . "</th>";

   echo "<th>". $row['bname'] . "</th>";

   echo "<th>". $row['price'] . "</th>";

   echo "</tr>";

  }

  ?>

  </table>
```

Exercise

Implement simple employee information management functionality using MVC. Manage only Employee ID, name, department. Provide insert, view, update and delete functionality using appropriate design