

MVC

Course Code: CSC 3222

Course Title: Web Technologies



Dept. of Computer Science
Faculty of Science and Technology

Lecturer No:	13	Week No:	13	Semester:	Fall 2024-2025
Lecturer:	MD.AL-AMIN (alamin@aiub.edu)				

Lecture Outline



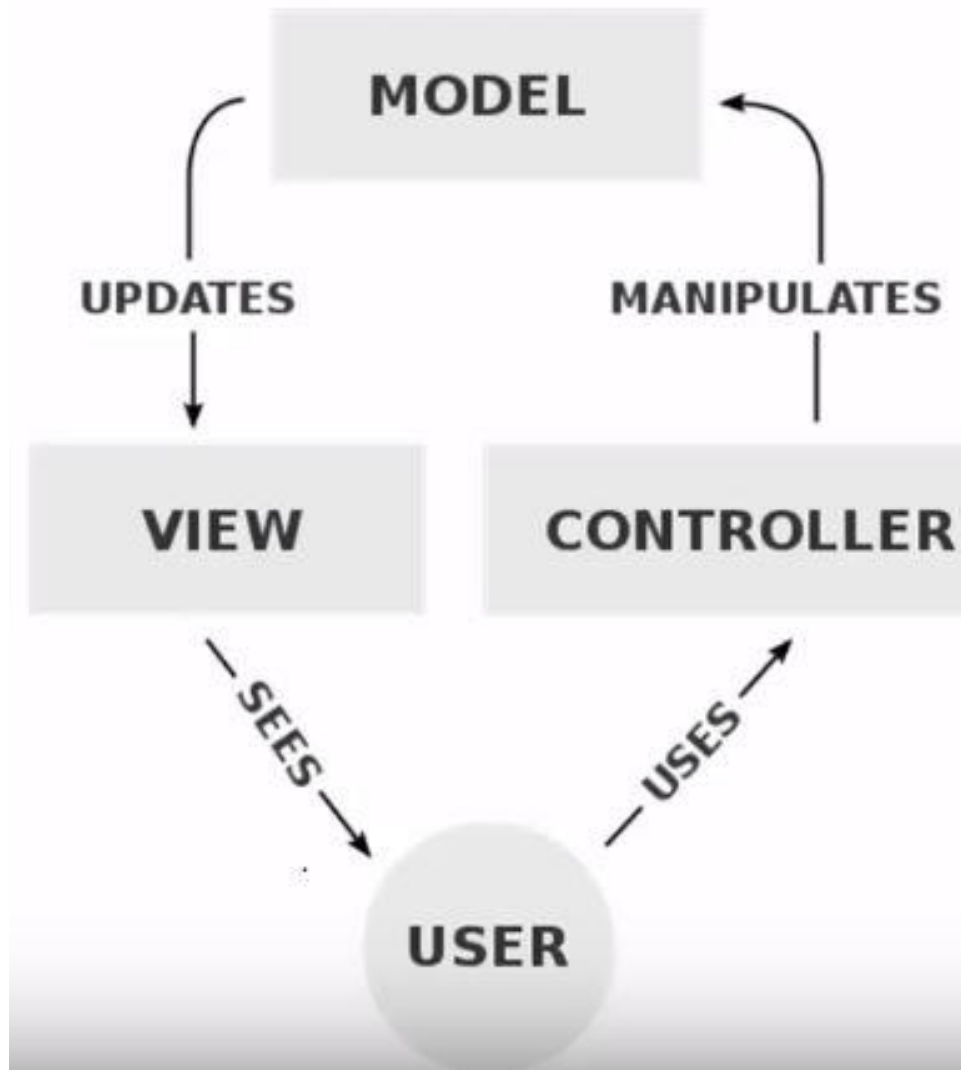
1. Introduction to MVC
2. MVC Architecture
3. Features of MVC
4. Course mapping and Project Discussion

Introduction to MVC



- MVC is an application **design pattern** that separates the application data and business logic (model) from the presentation (view). MVC stands for **Model, View & Controller**.
- The controller mediates between the models and views.
- Think of the MVC design pattern as a car and the driver.
- The car has the windscreens (view) which the driver (controller) uses to monitor traffic ahead then speed or brake (model) depending on what he sees ahead.

MVC Architecture





MVC Architecture

Model: Database operation such as fetch data or update data etc.

View: End-user GUI through which user can interact with system, i.e., HTML, CSS.

Controller: Contain Business logic and provide a link between model and view.

Model:

- The Model object knows all about all the data that need to be displayed.
- The Model represents the application data and business rules that govern to an update of data.
- Model is not aware about the presentation of data and How the data will be display to the browser.

View:

- The View represents the presentation of the application.
- View object refers to the model remains same if there are any modifications in the Business logic.
- In other words, we can say that it is the responsibility of view to maintain consistency in its presentation and the model changes.



MVC Architecture

Controller:

- Whenever the user sends a request for something, it always goes through Controller.
- A controller is responsible for intercepting the request from view and passes to the model for appropriate action.
- After the action has been taken on the data, the controller is responsible for directly passes the appropriate view to the user.
- In graphical user interfaces, controller and view work very closely together.



Features of MVC

Advantages of MVC architecture:

- Development of the application becomes fast.
- Easy for multiple developers to collaborate and work together.
- Easier to Update the application.
- Easier to Debug as we have multiple levels properly written in the application.

Disadvantages of MVC architecture:

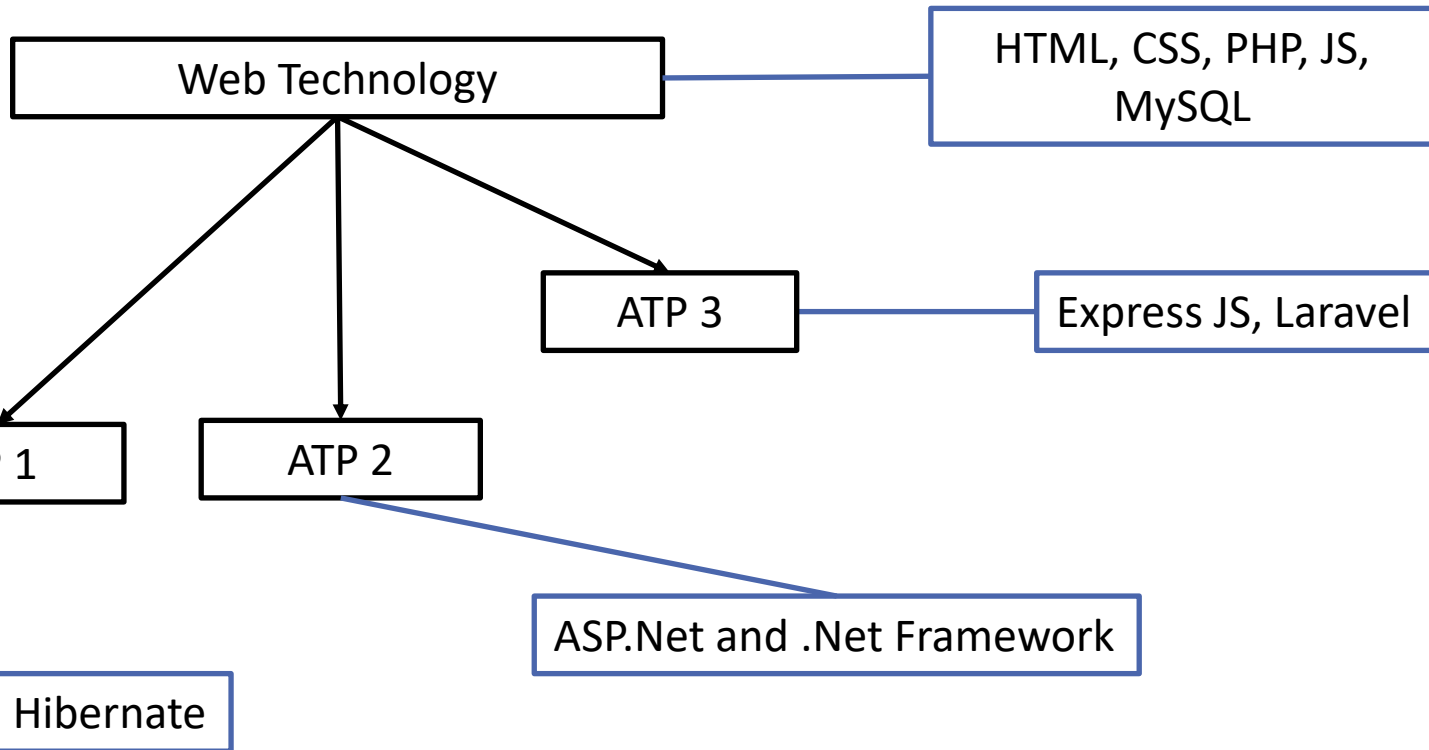
- It is hard to understand the MVC architecture.
- Must have strict rules on methods.



Popular MVC

- Laravel
- CodeIgniter
- Symfony
- CakePHP
- Yii
- Zend Framework

Course Mapping





References

- MySQL - www.mysql.com
- W3Schools Online Web Tutorials- www.w3schools.com
- PHP Manual - www.php.net
- Javatpoint - www.javatpoint.com



Books

- Sams Teach Yourself Ajax JavaScript and PHP All in One; Phil Ballard and Michael Moncur;
- Sams Publishing; 2010
- JavaScript Phrasebook; Christian Wenz; Sams Publishing; 2007
- PHP and MySQL Web Development, 4/E; Luke Welling and Laura Thomson; AddisonWesley Professional; 2009
- JavaScript for Programmers Paul J. Deitel and Harvey M. Deitel; Prentice Hall; 2009