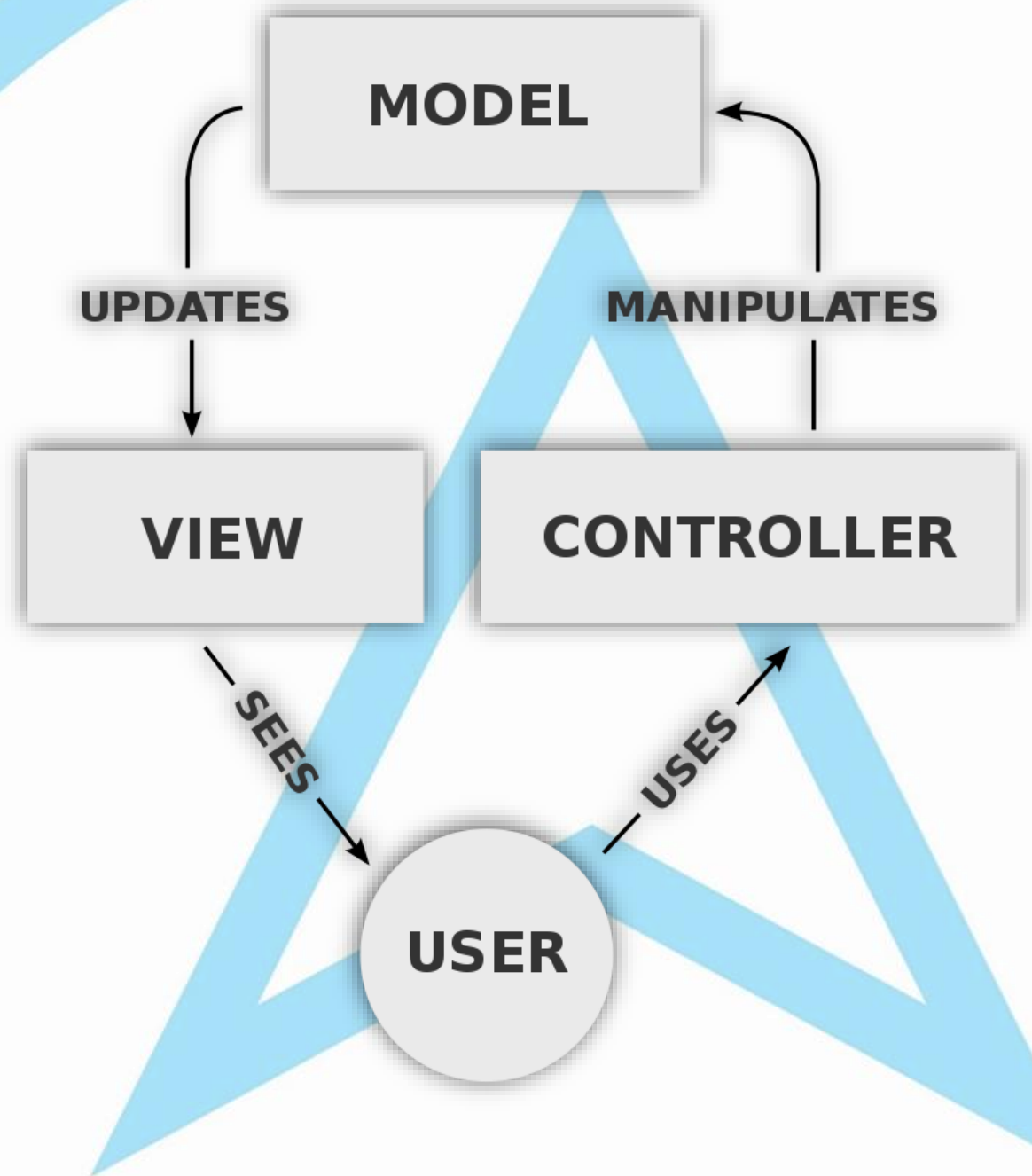# Module 3 Day 3

Web Applications

ASP.Net MVC

- Active Server Pages (ASP)
  - Framework for dynamic web applications
  - Initially released in 1996
  - ASP.Net released in 2002
  - ASP.Net Core first released 2016
    - Open-source, cross platform
- Model-View-Controller (MVC)
  - Architectural design pattern used in 1970's and 1980's, and formalized in 1988
  - Many frameworks use this design pattern

  - https://en.wikipedia.org/wiki/Design_Patterns
  - https://exceptionnotfound.net/tag/design-patterns/

MVC

- Model
  - Business data
  - POCO
- View
  - Communication with user
  - Presents model in different ways
  - "Knows about" Model
- Controller
  - Glue / mediator
  - Gets model data, selects view
  - "Knows about" Model, View

ASP.Net MVC Project (Visual Studio)

- Create a project

- Project structure
  - Dependencies
  - wwwroot
  - Controllers
  - Models
  - Views

Default Routing

- http://localhost/{controller}/{action}/{id?}
- Framework looks for a controller called {controller}Controller
  - E.g. HomeController
- Looks for an Action (method) on that class called {action}
  - E.g., Index
- Passes {id} as a parameter to the Action (optional)
- Action (method) returns a View (html)
  - Might also return a file (e.g., CSV), JSON, XML or other data (later)
- Default values
  - {controller} defaults to Home
  - {action} defaults to Index
- Routing is setup in Startup.cs

Views

- HTML that is sent to the user
- Razor
  - HTML / C# hybrid
  - @ delimits "server code"
- Blocks: @{ }
- @if
- @for
- Creating a new view
- Layout Views

ASP Attributes

- **<a asp-area**="" **asp-controller**="Home" **asp-action**="Index">Home**</a**>
  - Generates

    Home

- **<a asp-area**="" **asp-controller**="Home" **asp-action**="Privacy">Privacy**</a**>
  - Generates

    Privacy