

The Model View Controller Framework

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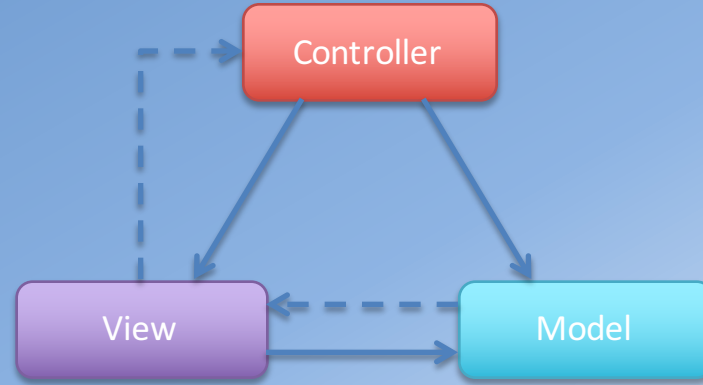
Design Patterns

- Well-documented solution to a recurring problem
 - Also referred to as an architectural pattern
- Software design pattern
 - Reusable solution to commonly occurring problems
 - Gang of four: E. Gamma et al. *Design Patterns: Elements of Reusable Object-Oriented Software*, Addison-Wesley, 1994

https://en.wikipedia.org/wiki/Software_design_pattern

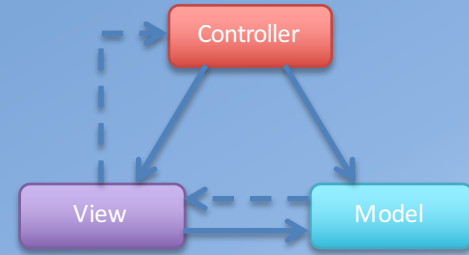
The Model-View-Controller (MVC) Framework

- Software engineering architecture pattern
 - Isolation of domain logic from user interface
 - Permits independent development, testing and maintenance (**separation of concerns**)



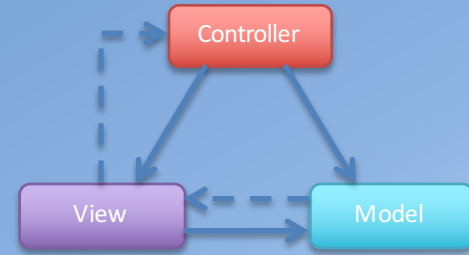
MVC Framework

- Model
 - manages the behavior and data of the application domain
 - responds to requests for information about its state (usually from the view)
 - responds to instructions to change state (usually from the controller)
 - In event-driven systems, the model notifies observers (usually views) when the information changes so that they can react



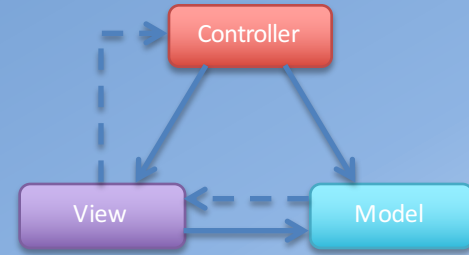
MVC Framework

- View
 - renders the model into a form suitable for interaction, typically a user interface element
 - Multiple views can exist for a single model for different purposes
 - A viewport typically has a one to one correspondence with a display surface and knows how to render to it



MVC Framework

- Controller
 - receives user input and initiates a response by making calls on model objects
 - A controller accepts input from the user and instructs the model and viewport to perform actions based on that input



Model View View-Model (MVVM)

- Descendent of MVC
- Sometimes called Model-View-Binder
- View model
 - Abstraction of the view that exposes public properties and commands
 - Declarative data binding

