



Technical Presentation Milestone

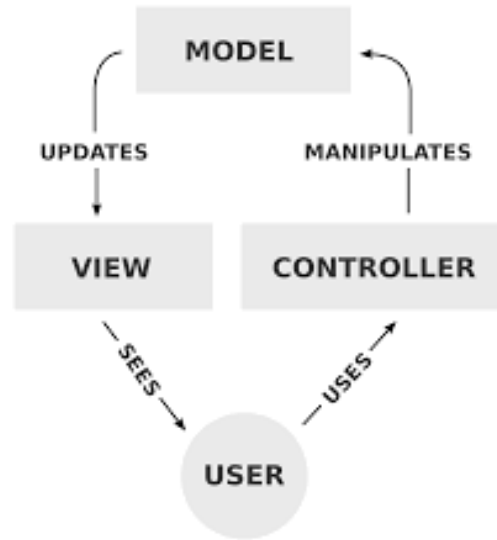
Comparison of the Different Techniques Used to Communicate Across AngularJS Controllers

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Outline

- Why do we need to communicate across AngularJS controllers?
- How do we communicate across AngularJS controllers?
 - PubSub Method
 - AngularJS Service Method
- What are the pros and cons of each method?
- Some design patterns
- Summary and Conclusions

Model-View-Controller (MVC)

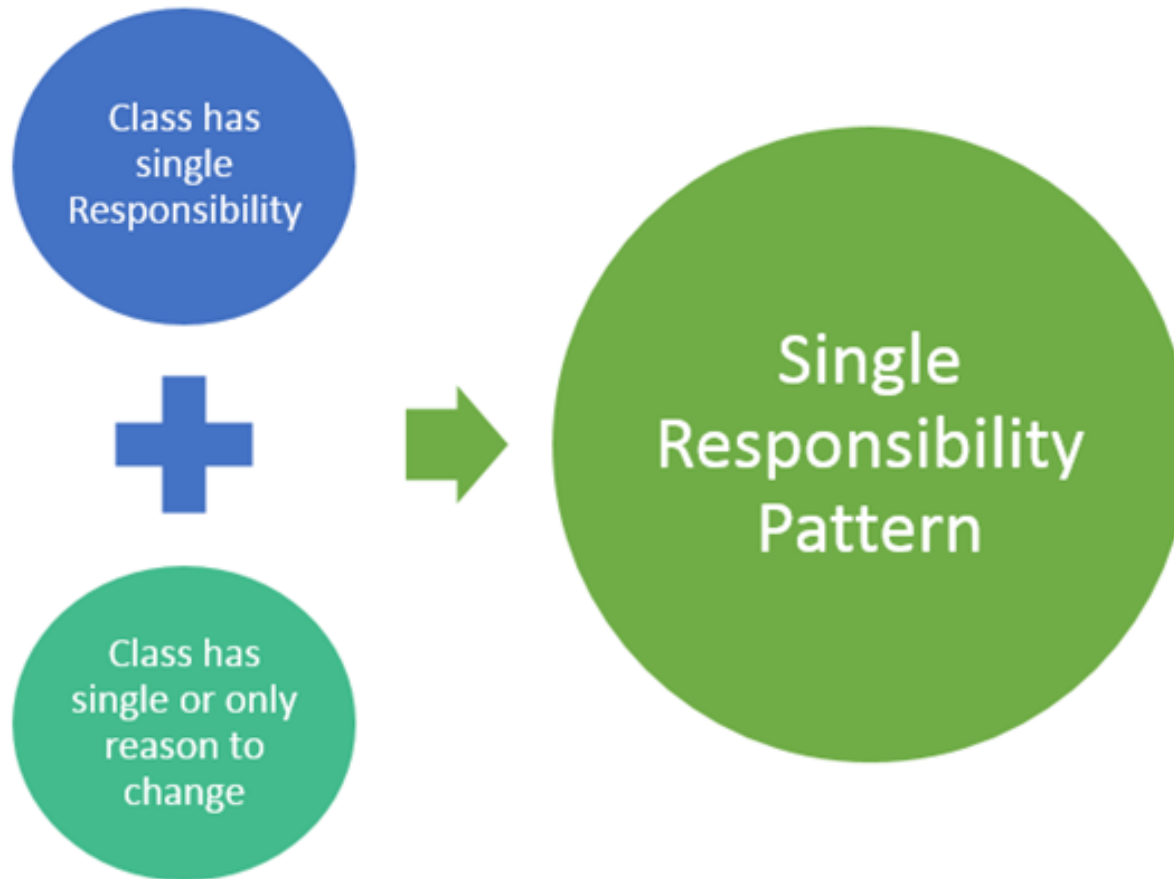


- Model: Holds the state of the application.
- Controller: Controls the workflow.
- View: Displays data to the user.

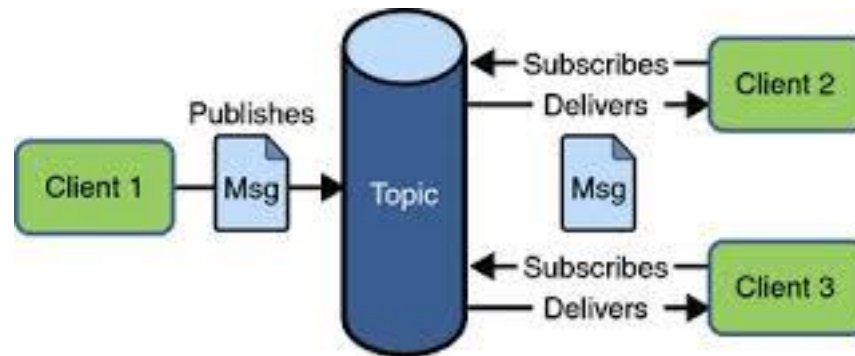
Model-View-Controller (MVC)

- Advantages:
 1. What if you need to change your visual display?
 2. What if you need to change your workflow?
 3. What if you need to change your application state?
- Controllers trigger a change in data models and **NOT** create data models.

Single Responsibility Principle

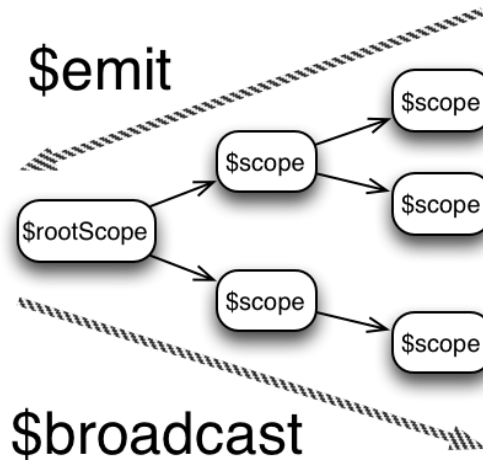


PubSub Method



- Based on Publish-Subscribe design pattern
- Publishers propagate the message
- Subscribers receive the message
- Third-party component facilitates communication between decoupled components

PubSub Method



- Root scope is the ancestor of all scopes.
- Scope hierarchy determines the method of propagation.
- Two methods of propagation:
 - `$broadcast`: Propagate to descendants.
 - `$emit`: Propagate to ancestors.

PubSub Method

Advantages

1. One-to-one, one-to-many and many-to-one communication
2. Easy to implement

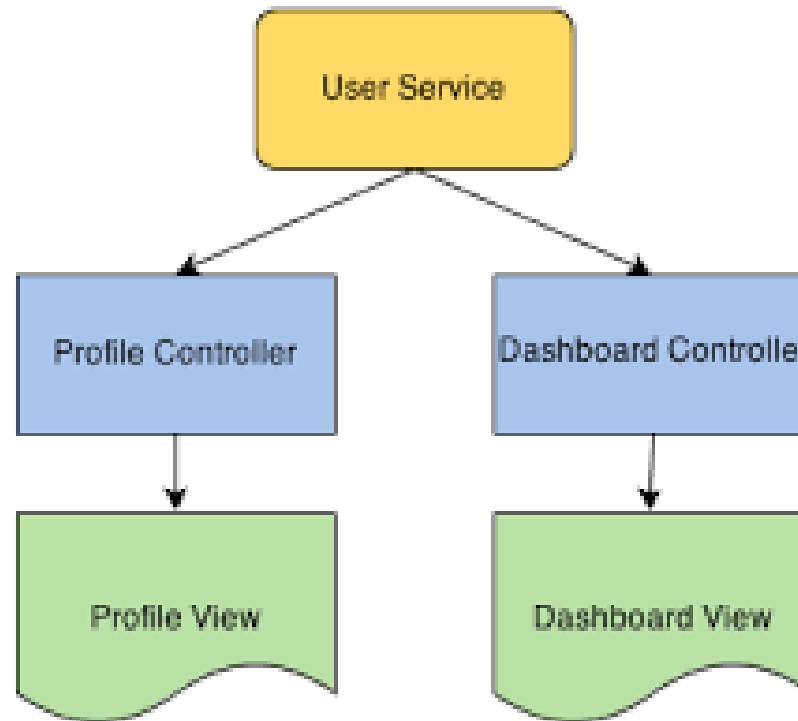
Disadvantages

1. Overuse can lead to event pollution
2. Possibility of event being lost

AngularJS Service Method

- Singleton objects created once per application
- Implementation of Dependency Inversion Principle
 - SOLID Principle
 - Any dependency a class has should be provided externally
- Service is shared by controllers
 - Controllers can mutate and access the service
 - Indirect communication

AngularJS Service Method



AngularJS Service Method

Advantages

1. Zero structural dependencies.
2. Facilitates abstraction of data models from controller.
3. Increases reusability.

Disadvantages

1. Implementation not straightforward and costly.

Conclusions

- AngularJS is a MVC framework.
- Single Responsibility Principle is the reason for controller communication.
- PubSub Method is based on Publish-Subscribe Design Pattern.
- AngularJS Service Method is based on Dependency Inversion Principle.
- My thoughts.

Questions?

“The majority of the cost of a software project is in long-term maintenance”

- Robert C. Martin