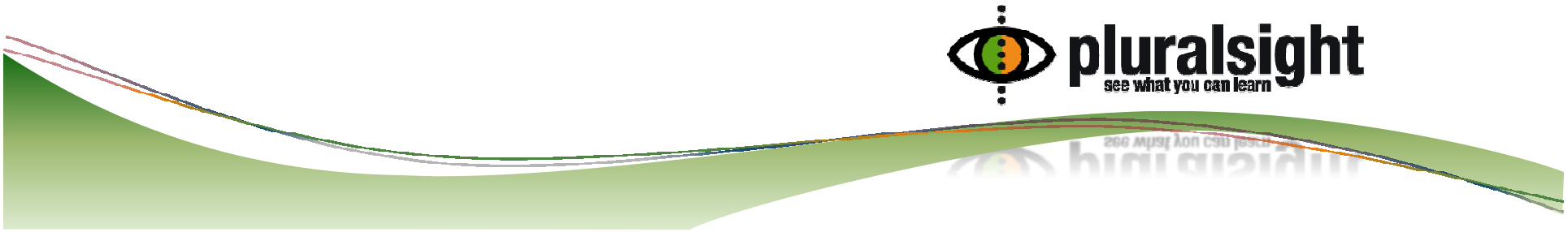
Mediator Pattern

Design Patterns



Motivating Example

- When you have many objects of a similar type that need to communicate with each other
- The communication between objects is complex

Definition

Define an object that encapsulates how a set of objects interact. Mediator promotes loose coupling by keeping objects from referring to each other explicitly, and it lets you vary their interaction independently.

Gamma et al., 1995

Components

- **Colleagues**
  - Individual components that need to communicate with each other
  - Implement the same base type (abstract class or interface)
  - Have knowledge of the Mediator component

Components

- **Mediator**
  - The centralized component that managed communication between the colleague components
  - Implements an abstraction that is used by the Colleague components

Advantages & Disadvantages

Advantages:

- **Hides all coordination between colleagues**
- **Decoupled colleagues**
- **Mediator's one-to-many relationship with colleagues is preferred to colleagues relating in a many-to-many fashion**

Disadvantages:

- **The Mediator can become very large and very complicated as more colleagues are handled**

Summary

- Mediator provides a centralized location for communication between many instances of like classes
- Enhances decoupling

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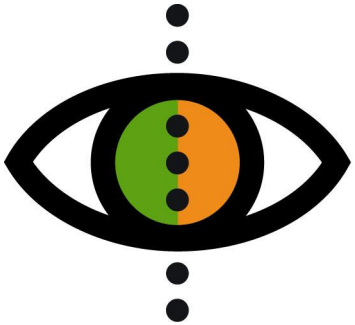

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