Module 24: "Mediator"

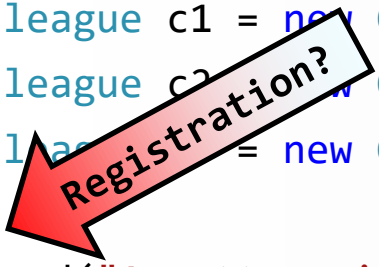
Agenda

- Introductory Example: Colleague Chatroom
- Challenges
- Implementing the Mediator Pattern
- Pattern: Mediator
- Overview of Mediator Pattern

Introductory Example: Colleague Chatroom

```
interface IColleague
{
    string Name { get; }
    void Register( IColleague colleague );
    void Send( string messageContents );
    void Receive( IMessage message );
}
```

```
IColleague c1 = new Colleague("Alice", "pattern", "shop", "beer");
IColleague c2 = new Colleague("Bob", "pattern", "beer");
IColleague c3 = new Colleague("Clyde", "awesome");
...
c1.Send("A pattern is emerging");
c2.Send("Wanna get an awesome BEER?");
c3.Send("Does anybody care?");
```



Challenges

- How do we loosely couple the various chatroom participants?
- Do we really need to send all messages to everybody?

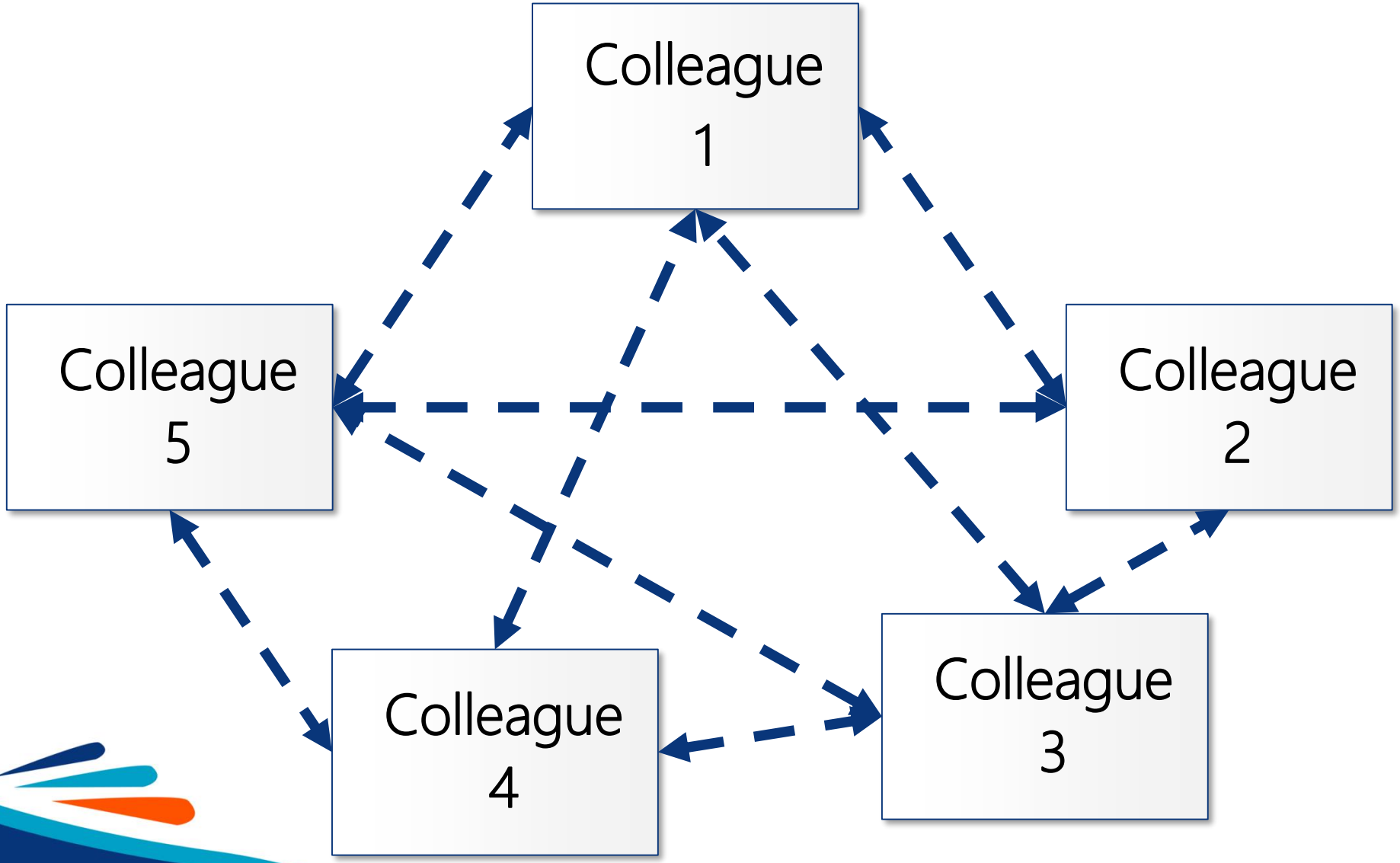
Pattern: Mediator

- *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 interactions independently.*

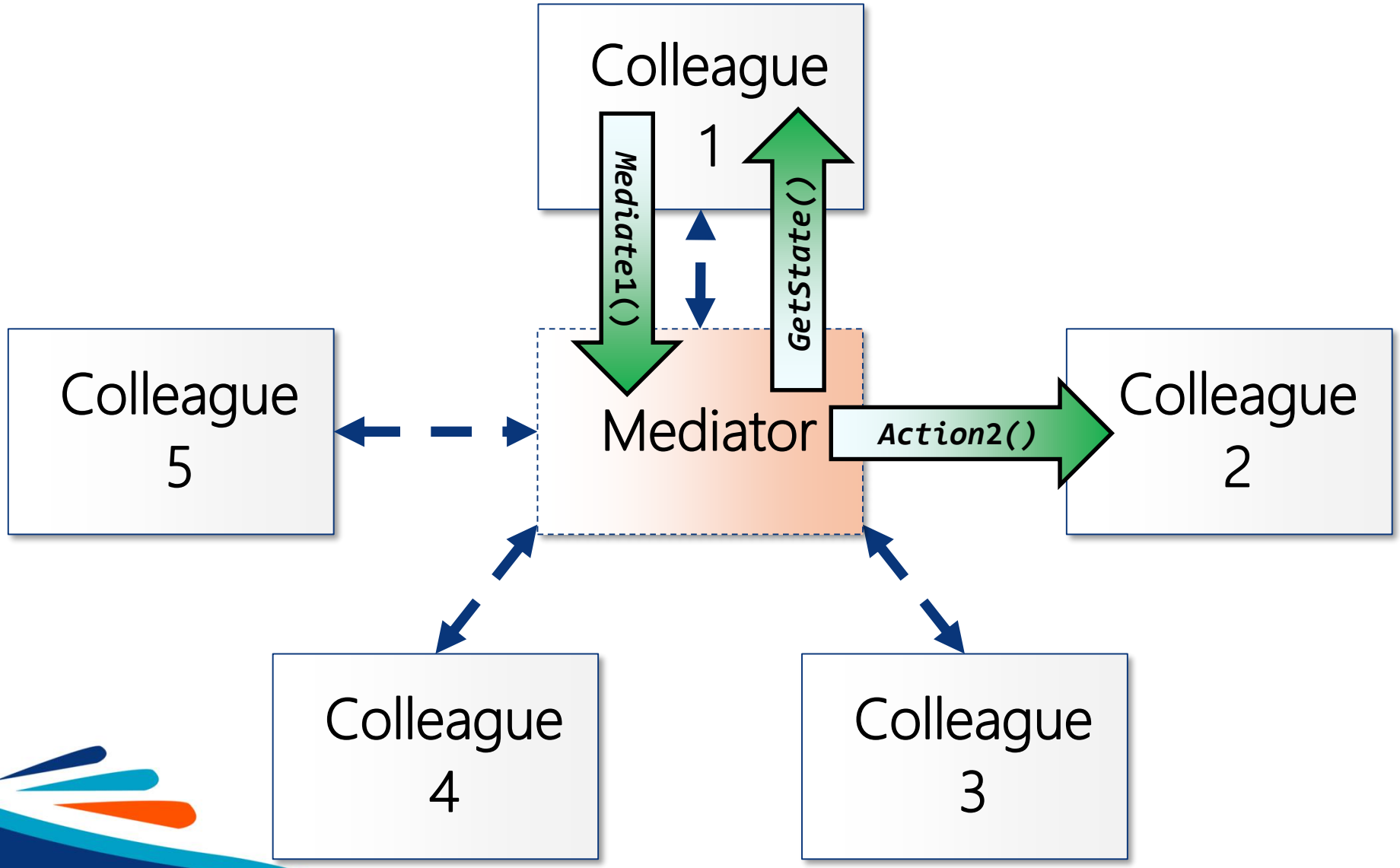
- Outline
  - Define a separate object ("mediator") that encapsulates the interactions between objects
  - All objects interact with the mediator instead of interacting with each other directly
  - Objects have no explicit knowledge of other objects than the mediator

- Origin: Gang of Four

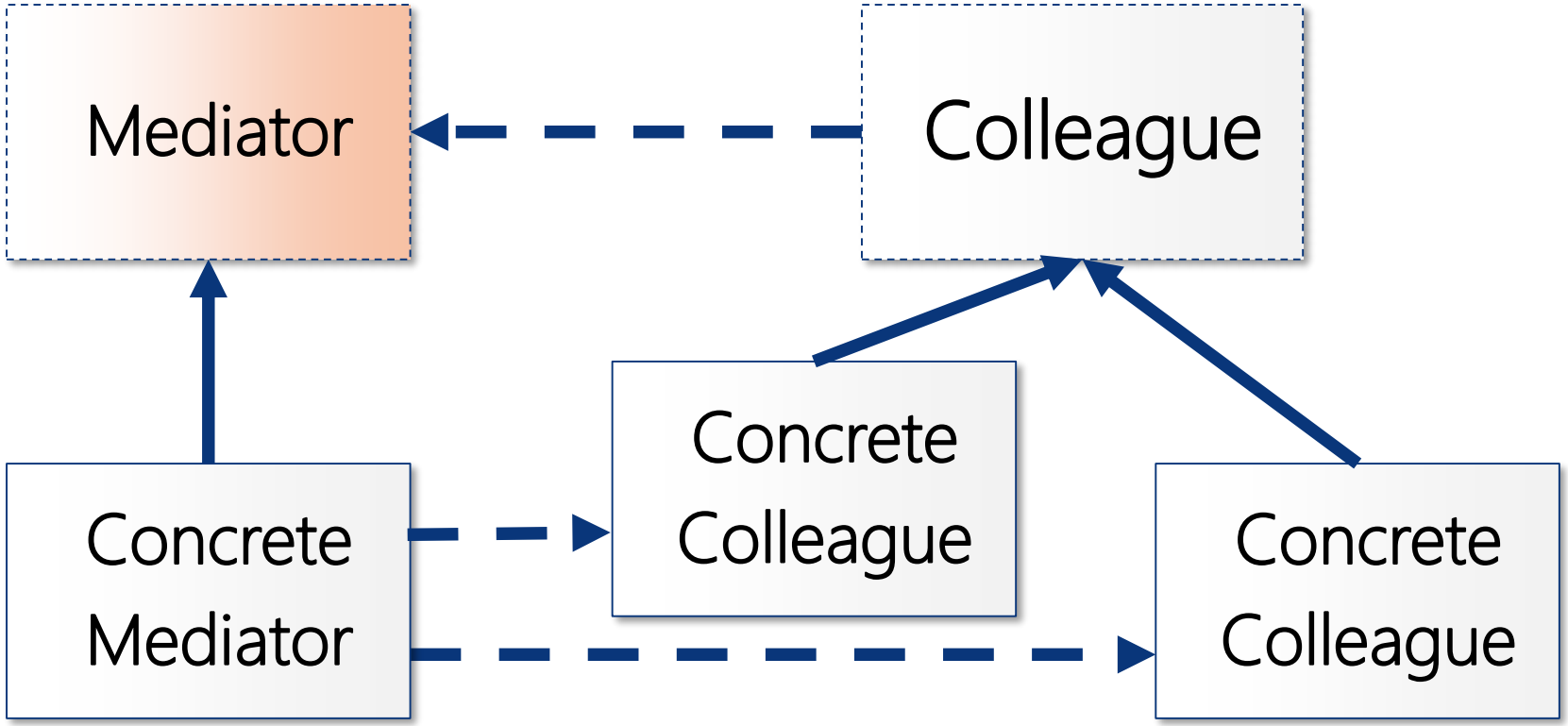
Without the Mediator Pattern



With the Mediator Pattern



Overview of the Mediator Pattern



Overview of Mediator Pattern

- Mediator
  - Interface or abstract class handling communication between Colleagues
- Concrete Mediator
  - Implements the Mediator interface
  - Aware of all Concrete Colleague objects
  - Coordinates communication between Colleagues
- Colleague
  - Defines the interface for communication with other Colleagues
- Concrete Colleague
  - Implements the Colleague interface
  - Communicates with other Colleagues indirectly through the Mediator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