Implementing Behavioral Design Patterns

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Design Patterns

Creational Pattern

Provides object creation mechanism

Structural Pattern

Explains how to assemble objects and classes into larger, flexible structures

Behavioral Pattern

Deals with algorithms and assignment of responsibilities between objects

Design Patterns

Behavioral Pattern

Concerned with communication between the objects, and their responsibilities

Behavioral Design Patterns

- Chain of responsibility
- Command
- Iterator
- Mediator
- Memento
- Strategy
- Visitor
- Observer
- Template method
- State

Behavioral Design Patterns

Strategy

Observer

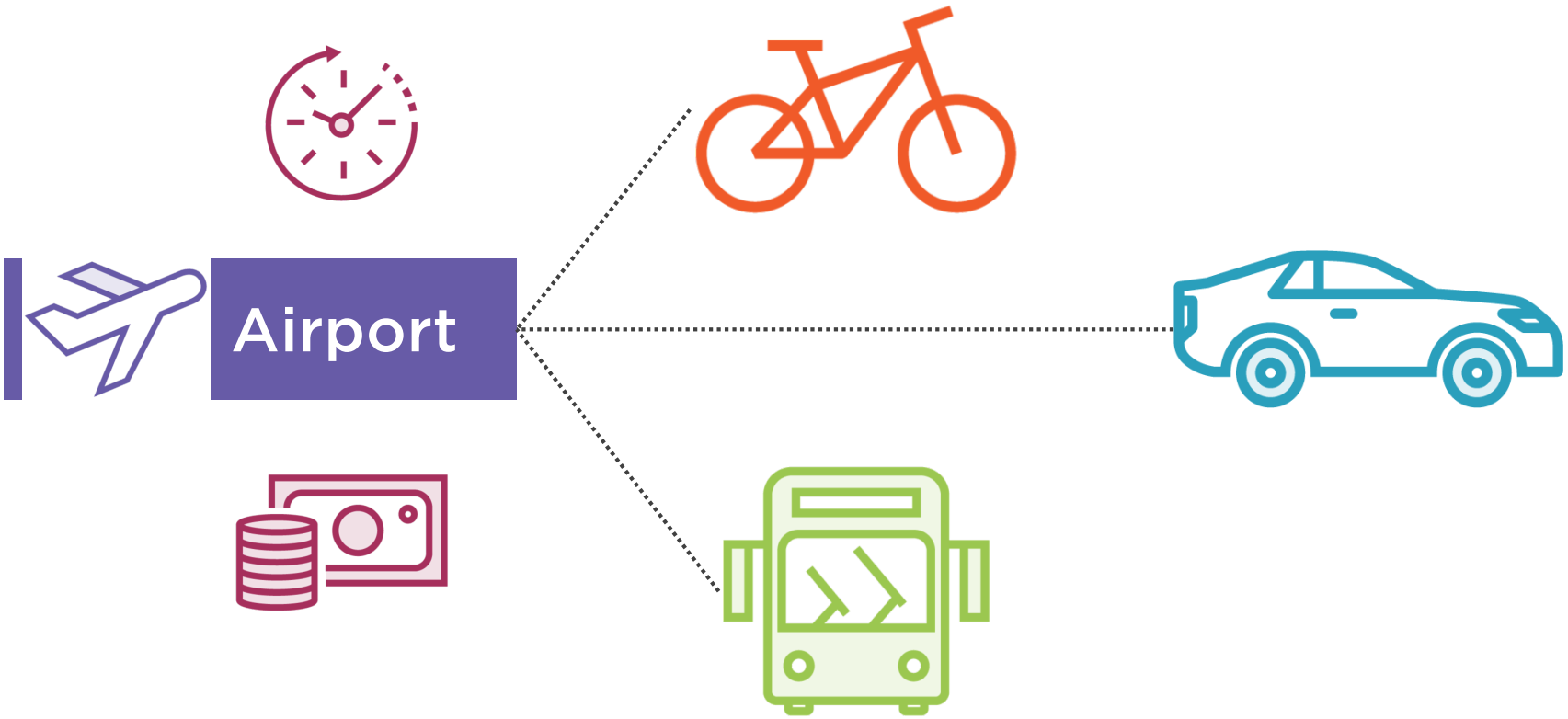
Behavioral Design Patterns

Strategy

Defines a family of algorithms, encapsulate each into separate class, make objects interchangeable

Observer

Real World Scenario



Problem: Quick Scenario

Ecommerce Application

Problem: Quick Scenario

Ecommerce Application

Pay By Credit/Debit Card

Pay By Paypal

Problem: Quick Scenario

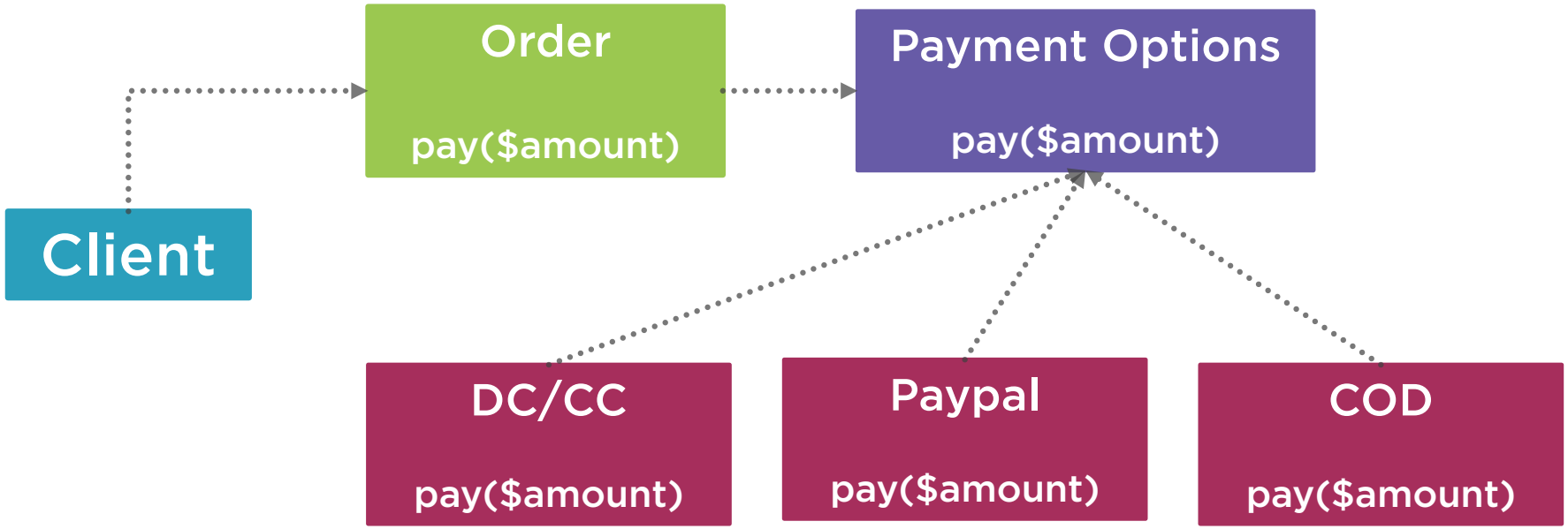
Ecommerce Application

Pay By Credit/Debit Card

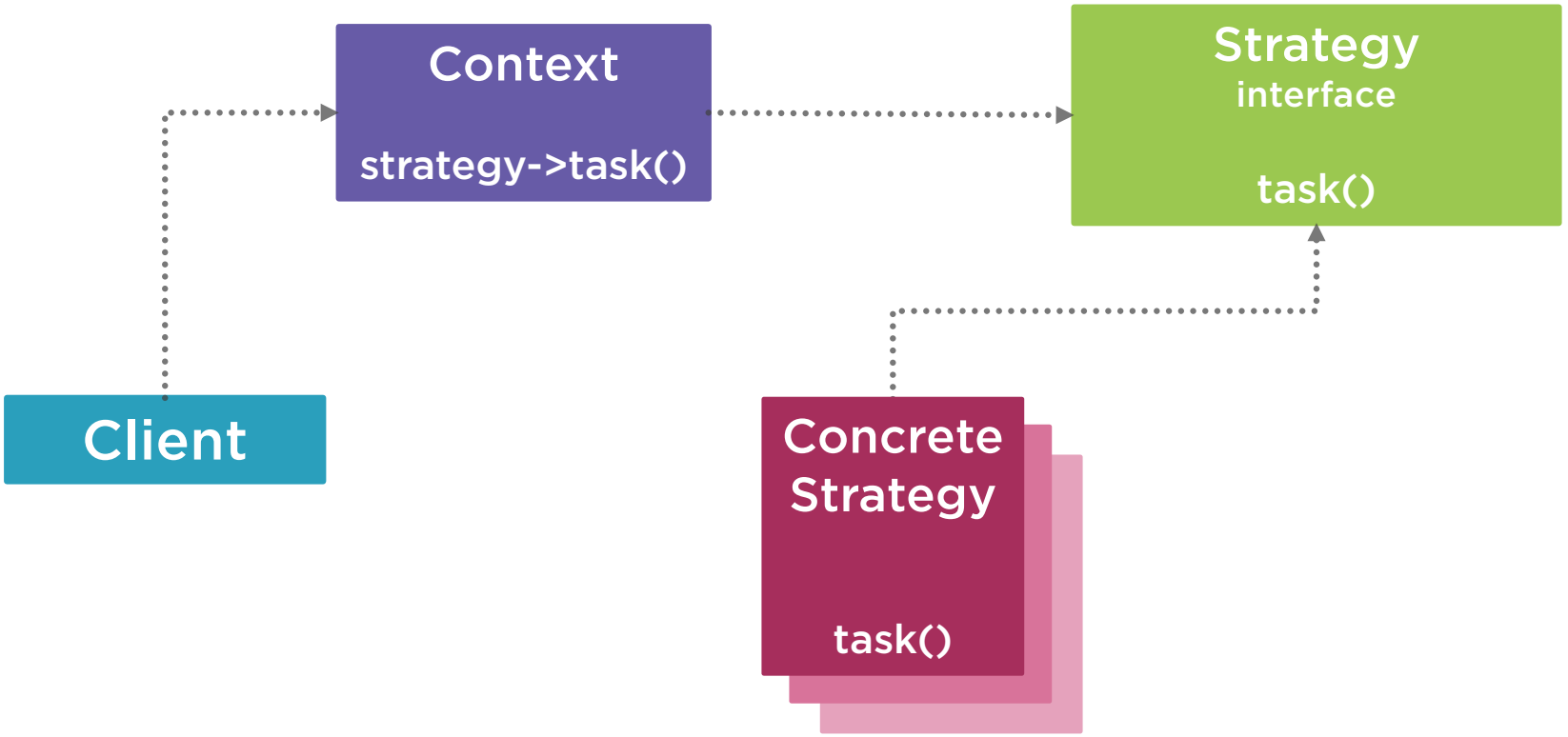
Pay By Paypal

Cash On Delivery

Solution: Strategy Pattern



Strategy Pattern



Strategy

To use different variants of algorithm within an object and be able to switch from one algorithm to another during runtime

When the class has massive conditional operator for different variants of same algorithm

Behavioral Design Patterns

Strategy

Define a family of algorithms, encapsulate each into separate class, make objects interchangeable

Observer

Behavioral Design Patterns

Strategy

Define a family of algorithms, encapsulate each into separate class, make objects interchangeable

Observer

Define a subscription mechanism to notify the changes in one object to all its observer dependent objects

Real World Scenario

Fitness Blog

Subscribed

Email Updates

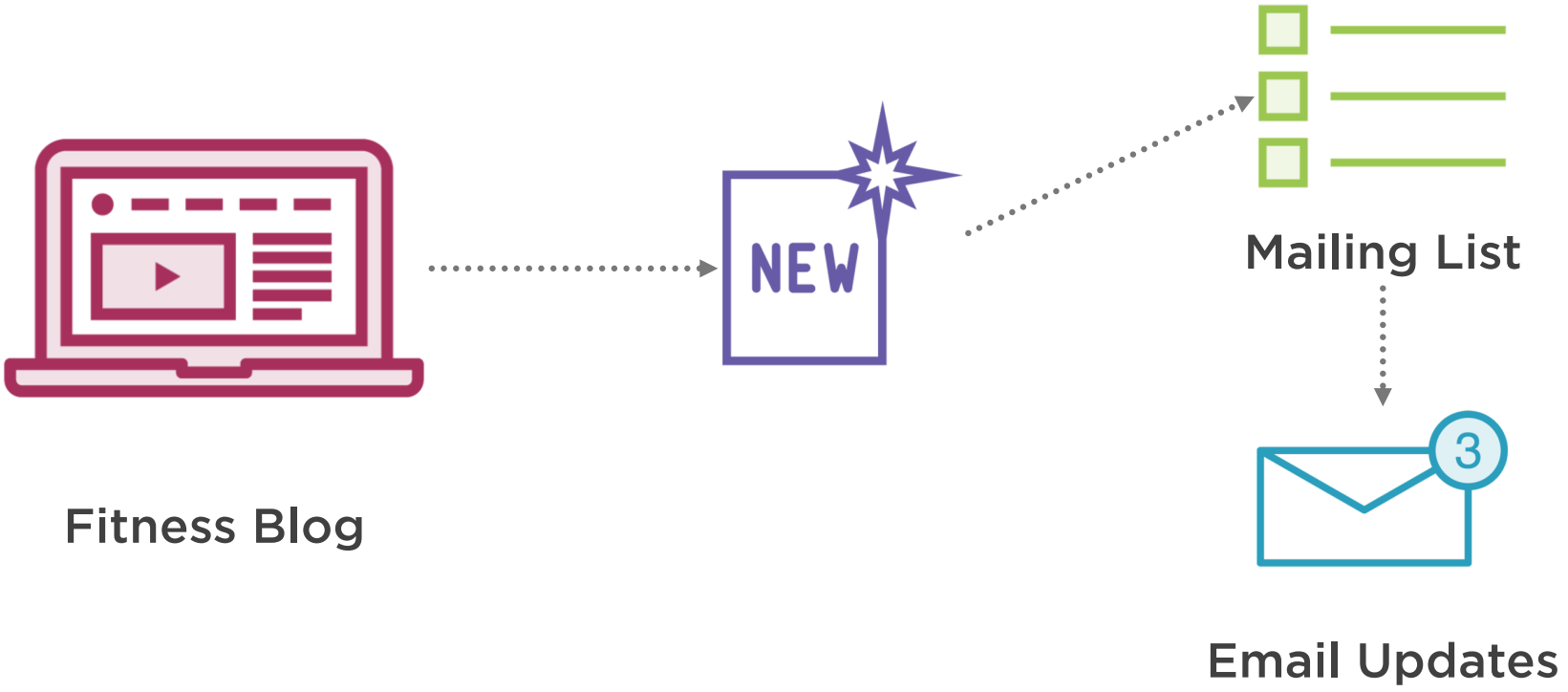
Real World Scenario

Fitness Blog

Mailing List

Email Updates

Real World Scenario



Real World Scenario

Real World Scenario

Publisher

Fitness Blog

Updates

Notify

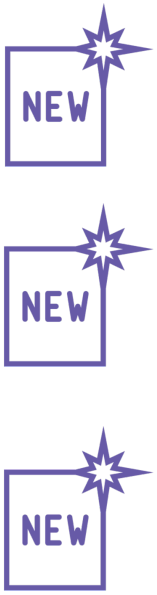
Subscriber/Observer

Mailing List

Real World Scenario

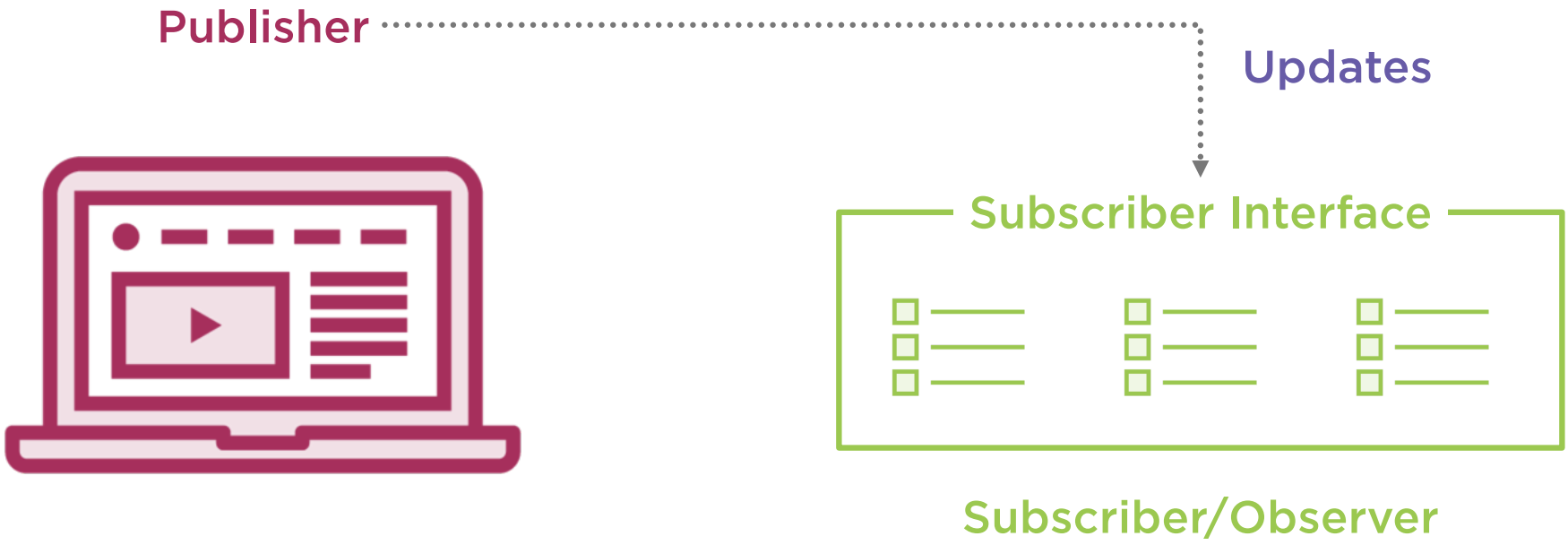
Publisher

Updates

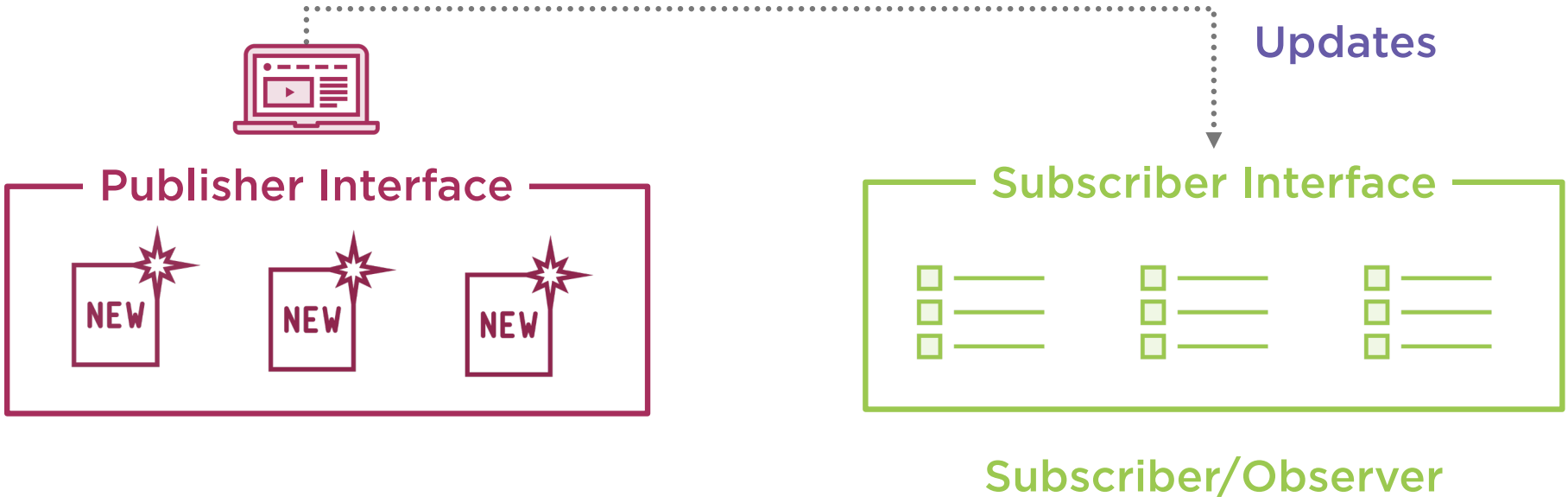


Subscriber/Observer

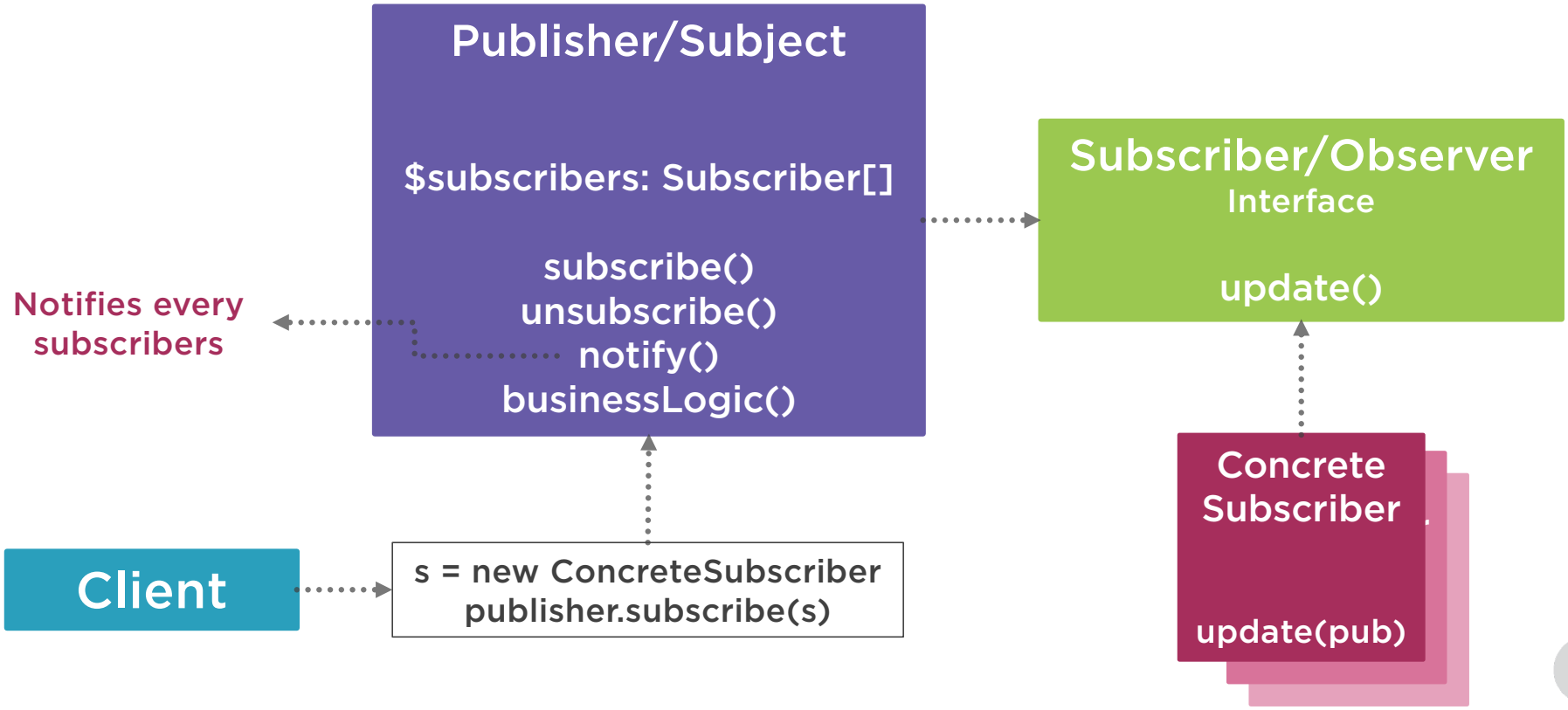
Observer Pattern



Observer Pattern



Observer Pattern



Observer

Used when changes to state of one object require changing other objects

- an object observes other object and changes accordingly

Summary

Behavioral pattern for designing the communication algorithm between the objects

Strategy pattern encapsulates each algorithm and let a class use them interchangeably

Observer pattern lets an object subscribe to the state of another object, to observe the changes and update accordingly

Behavioral Pattern in PHP

Design Patterns

These are just blueprints and not magic potions

Your application doesn't necessarily need a design pattern

Gauge before implementing

Keep your code simple