PareDox
Education Solutions

Aamir Shabbir Pare

Problem Solving Programming

Design Patterns

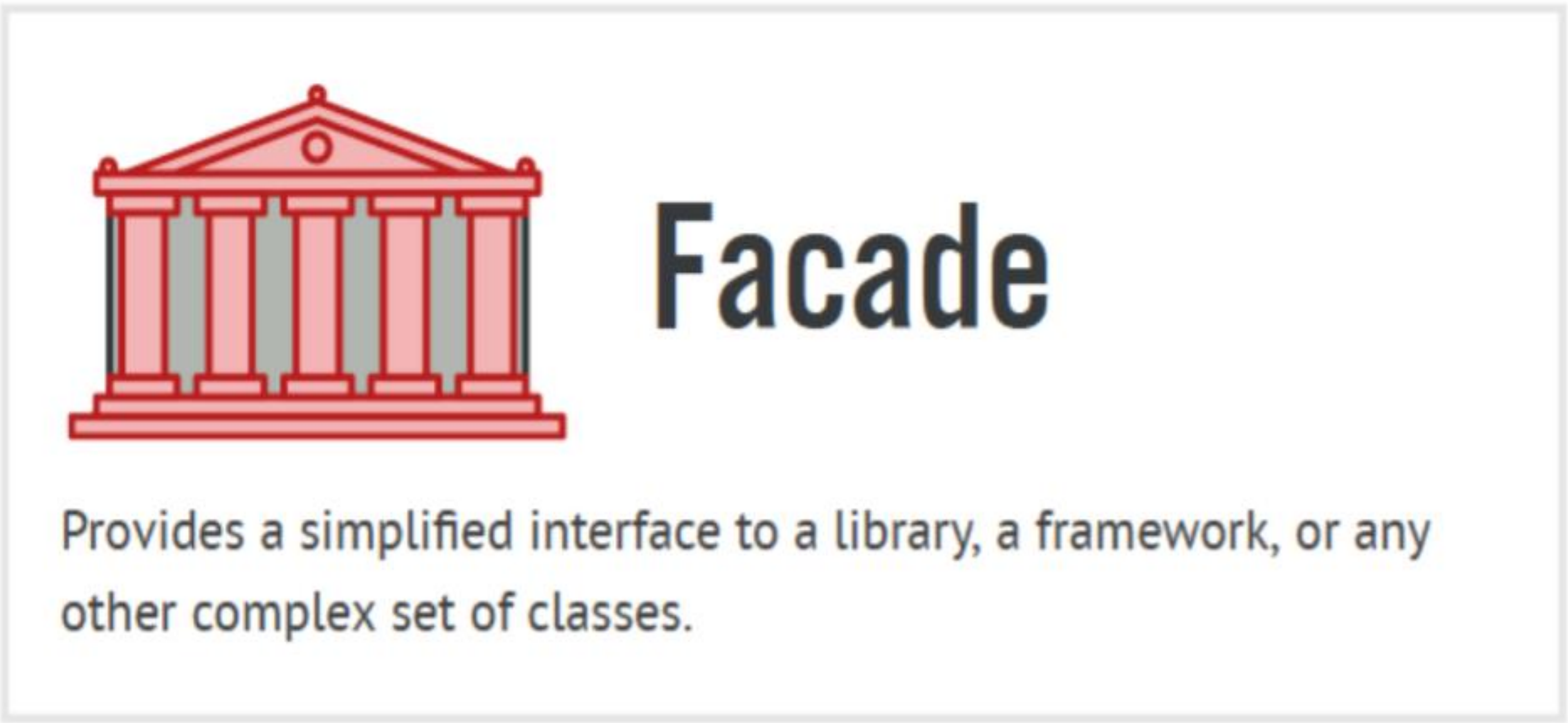
Previous Lecture

- Bridge Design Pattern
- Click on Lecture – Bridge Design Pattern

  OR
- Go to teams and watch video lecture

Aamir Shabbir Pare

Facade Design Pattern



Facade

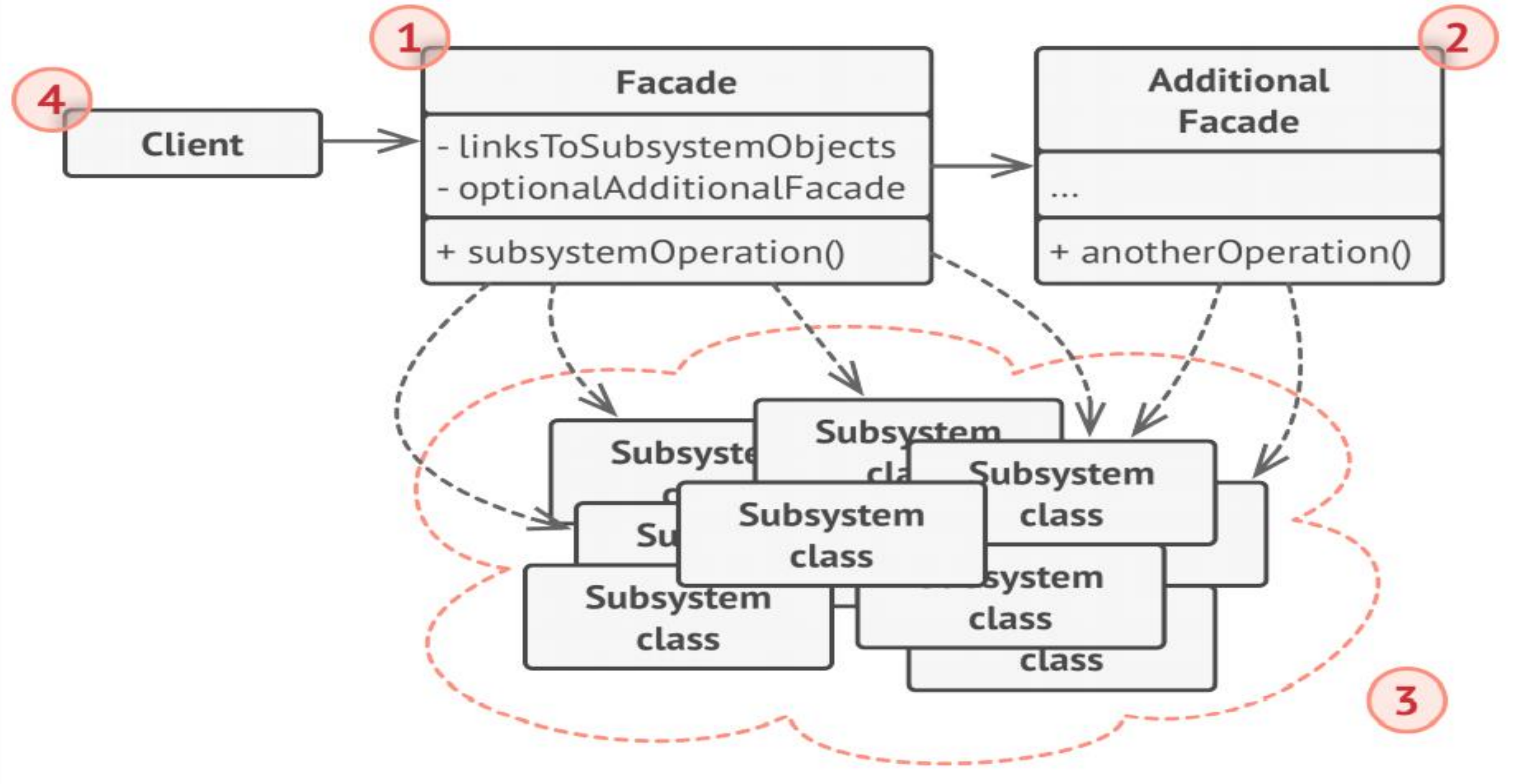
Provides a simplified interface to a library, a framework, or any other complex set of classes.

Facade Concept

- Provides a simplified interface to a set of interfaces in a subsystem.
- Defines higher level interface makes subsystem easier to use.
- Façade is a simplified interface that performs many other actions behind the scenes.
- Hides complexities of the subsystem from the client.
- Supports loose coupling.
- With this pattern, you can emphasize the abstraction and hide the complex details by exposing a simple interface.
- Makes the code more structured, readable, easy to maintain.
- Very frequently used structural design pattern

Aamir Shabbir Pare

Structure



Aamir Shabbir Pare

PareDox
Education Solutions

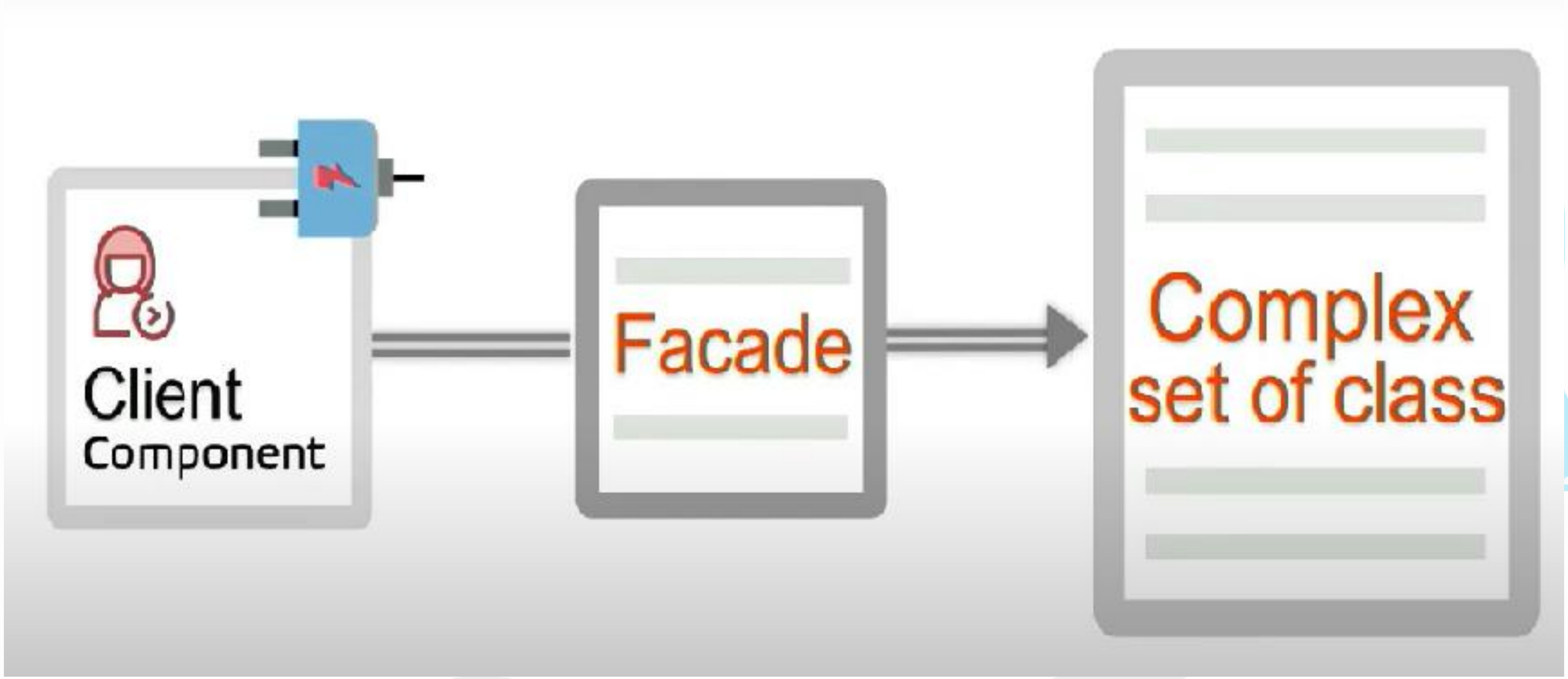
Structure Detail

- 1. The Facade provides convenient access to a particular part of the subsystem’s functionality. It knows where to direct the client’s request and how to operate all the moving parts.
- 2. An Additional Facade class can be created to prevent polluting a single facade with unrelated features that might make it yet another complex structure. Additional facades can be used by both clients and other facades.
- 3. The Complex Subsystem consists of dozens of various objects. To make them all do something meaningful, you have to dive deep into the subsystem’s implementation details, such as initializing objects in the correct order and supplying them with data in the proper format. Subsystem classes aren’t aware of the facade’s existence. They operate within the system and work with each other directly.
- 4. The Client uses the facade instead of calling the subsystem objects directly

Aamir Shabbir Pare

Hiding Complex Class

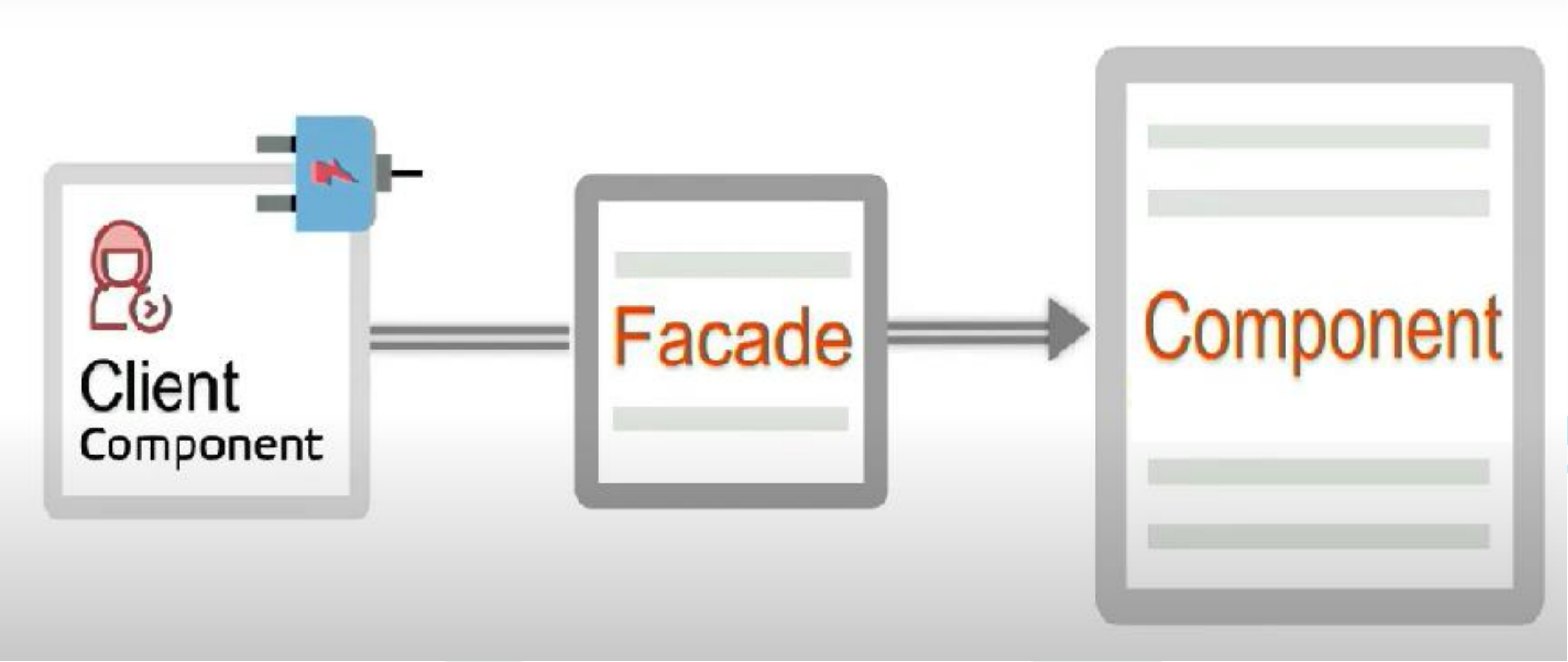
- Façade hiding complexities of the set of classes.



Aamir Shabbir Pare

Hiding Complex Component

- Façade hiding complexities of the component.

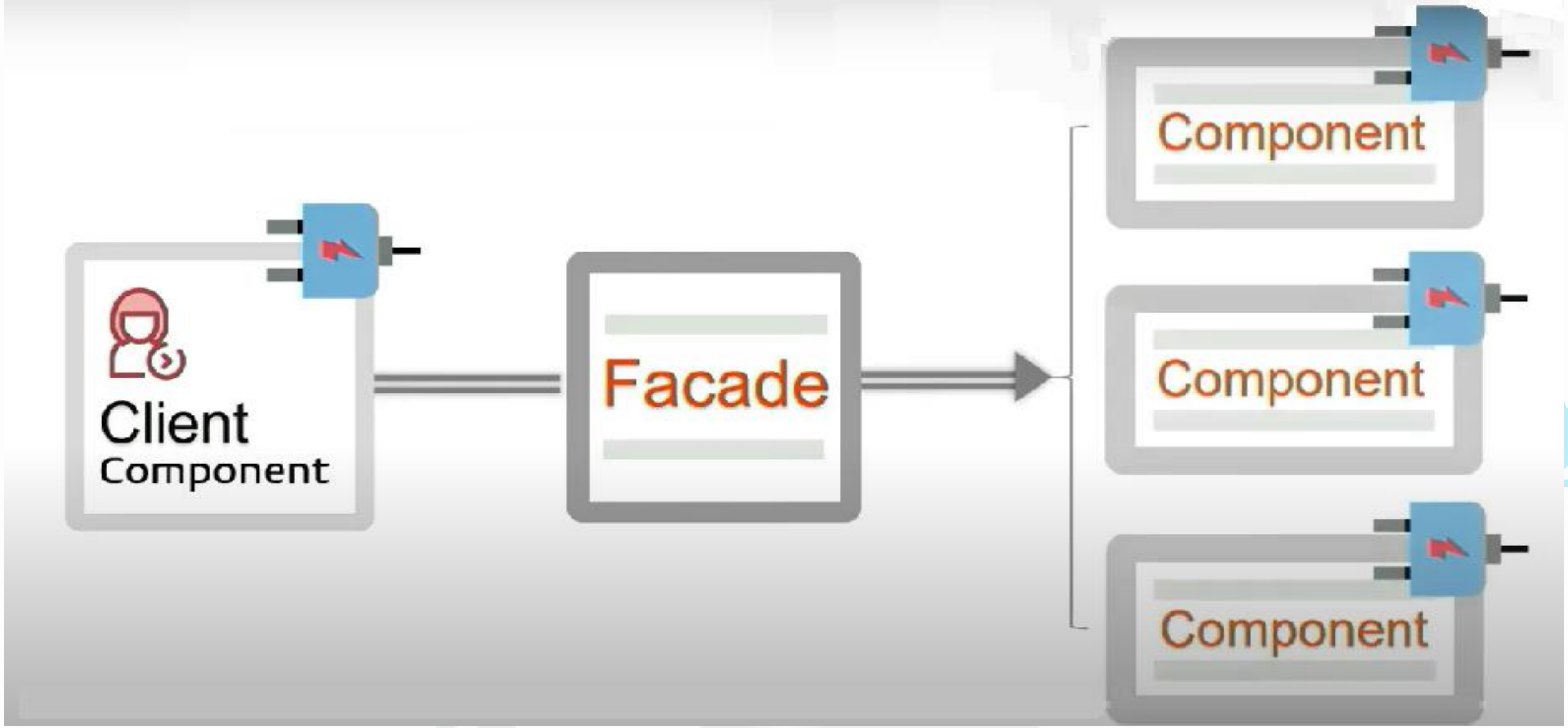


Aamir Shabbir Pare

PareDox
Education Solutions

Hiding Complex Components

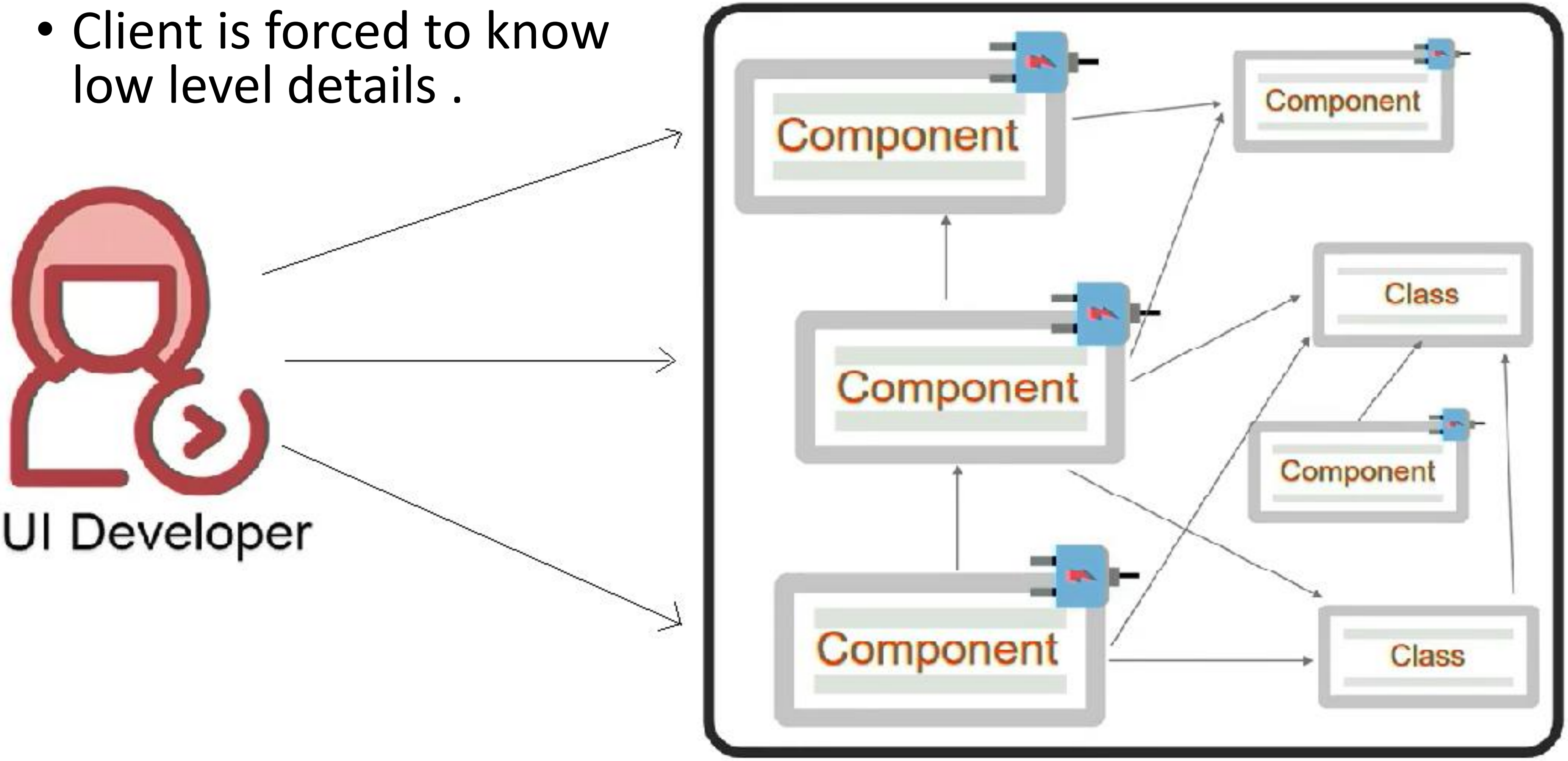
- Façade hiding complexities of the set of components.



Aamir Shabbir Pare

Client Interactions with Components

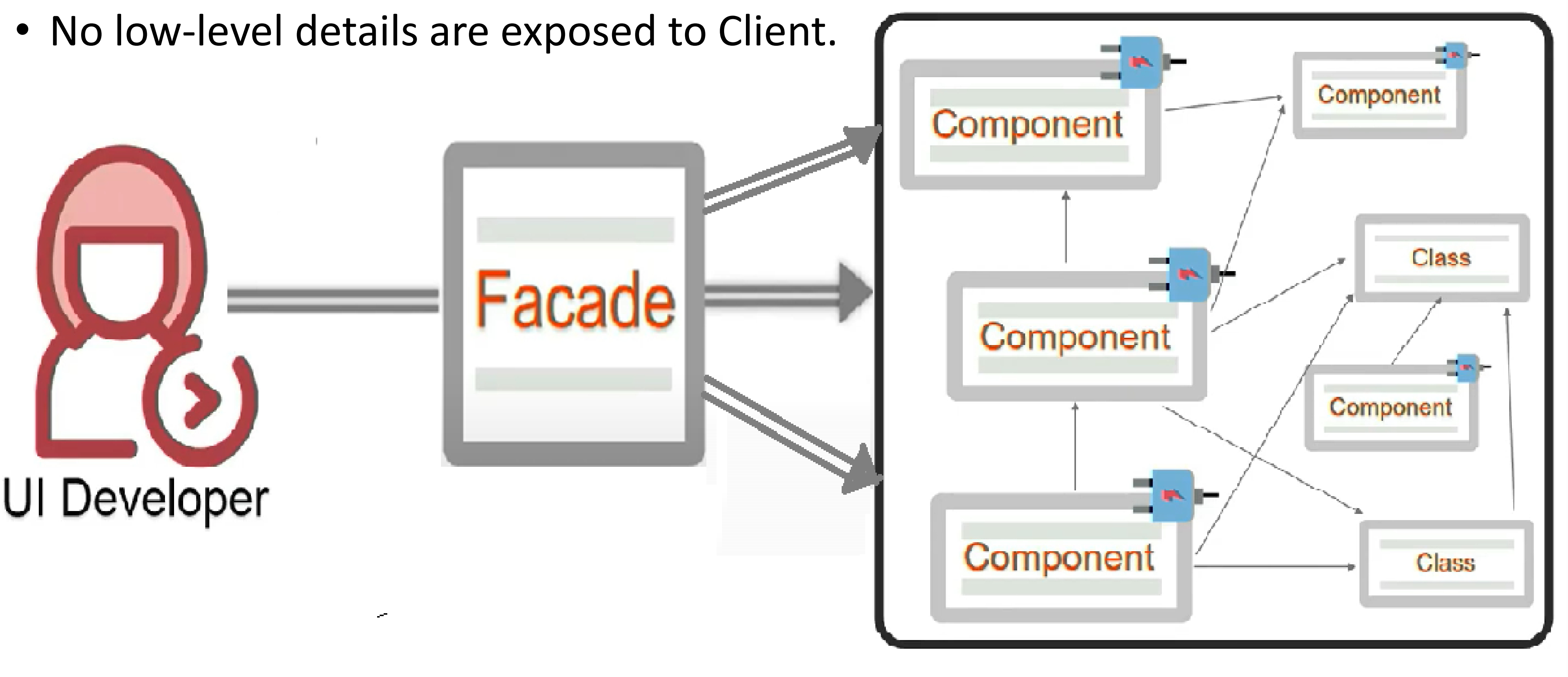
- Client deals with multiple components.
- Client is forced to know low level details .



PareDox
Education Solutions

Client Interactions Through Facade

- Client deals with multiple components through façade.
- Client is restricted to use only functionality available through façade.
- No low-level details are exposed to Client.



Aamir Shabbir Pare