Façade Design Pattern

by Ali Alkhafaji

Unified interface for a set of interfaces to promote readability and usability.
Motivation

- Dealing with multiple interfaces could make code harder to read or understand.

- Complexity of multiple systems makes it more difficult for coders to implement.
Mobile Phone Example Before Façade

/* Classes */
class Network {
    public int findNetwork() {
        ...
    }
}
class Connection {
    public void connect(Network net, int number) {
        ...
    }
    public void disconnect()
    {
        ...
    }
}
class Keypad {
    public int getDialedNumber() {
        ...
    }
}

/* Client */
class Call {
    public static void main(String[] args) {
        Network net = new Network();
        Connection con = new Connection();
        Keypad kp = new Keypad();
        int availableNet = net.findNetwork();
        int number = kp.getDialedNumber();
        con.connect(availableNet, number);
        con.disconnect();
    }
}
Mobile Phone Example After Facade

/* Facade */

class Phone {
    private Network net=null;
    private Connection con=null;
    private Keypad kp=null;

    public Phone() {
        this.net = new Network();
        this.con = new Connection();
        this.kp = new Keypad();
    }

    public void call() {
        int availableNet= net.findNetwork();
        int number = kp.getDialedNumber();
        con.connect(availableNet, number);
        con.disconnect();
    }
}

/* Client */

class Call {
    public static void main(String[] args) {
        Phone phone = new Phone();
        phone.call();
    }
}
Before Façade Pattern
After Façade Pattern
Similar Patterns

- **Adapter Pattern:**
  - However, the Façade Pattern defines a new interface where the Adapter Pattern uses an old one.

- **Flyweight Pattern:**
  - In the Façade Pattern we are introducing one object to represent a subsystem where in the Façade Pattern we are introducing many small objects.

- **Mediator Pattern:**
  - Just like the Façade Pattern, the Mediator Pattern abstracts functionality but unlike the Façade Pattern it adds new value instead of making the subsystem simpler.
MARK AND GWYNETH HAD A DARK SECRET. AT NIGHT, ONCE THE CURTAINS WERE CLOSED TO THE SUBURBAN WORLD OUTSIDE, THE FACADE THEY PUT UP TO THE NEIGHBOURS WAS REVEALED TO BE 100% GENUINE... THEY WERE TOTALLY BORING.