ERIANTYS

## Software Engineering Final Examination 2021/2022

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Main Points

- MVC Pattern

- Complete Game Rules

- CLI + GUI

- 1st Additional Feature: 3-player game

- 2nd Additional Feature: Implementation of all character cards

- Observable/Observer Pattern

- Singleton Pattern

- Visitor Pattern

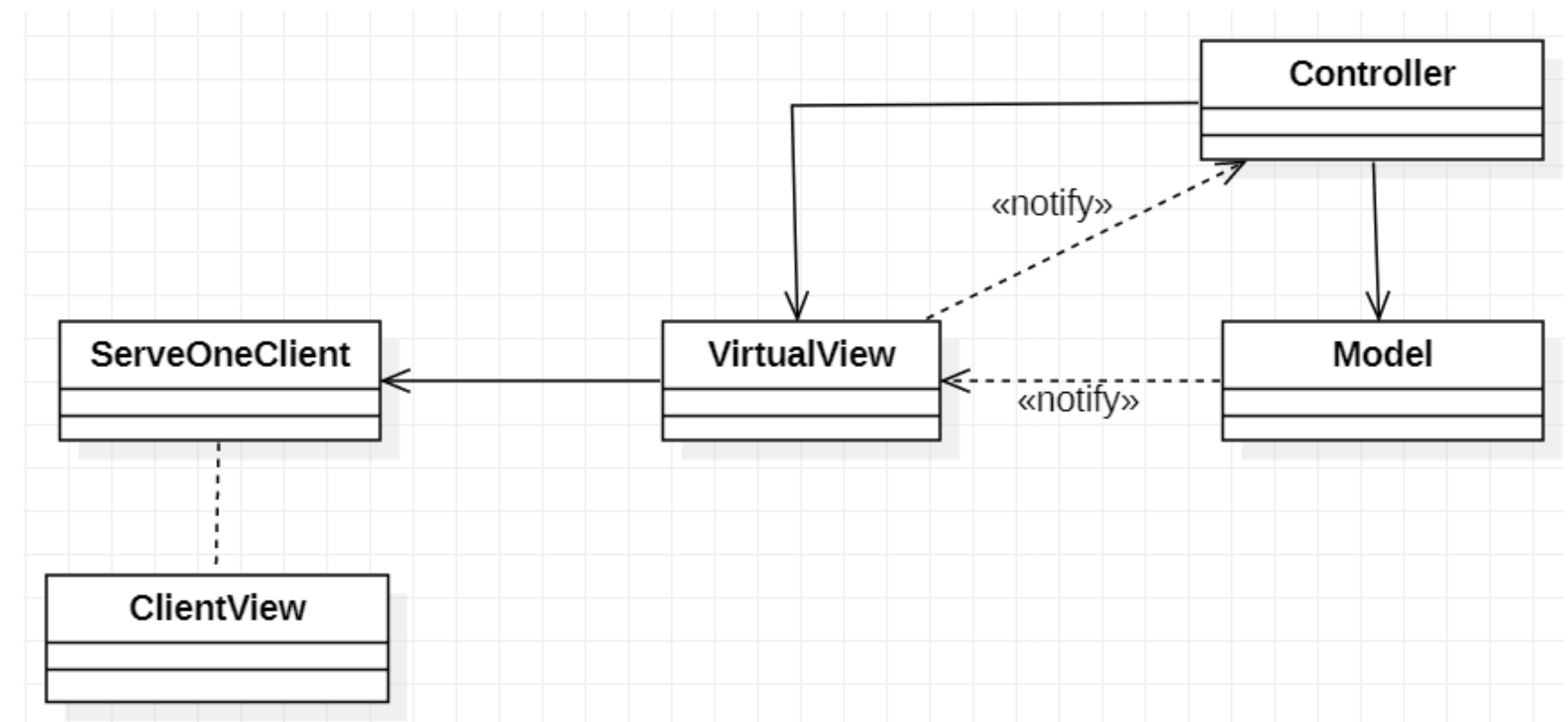- Decorator Pattern

- Actions

- Strategy Pattern

UML

Simplified
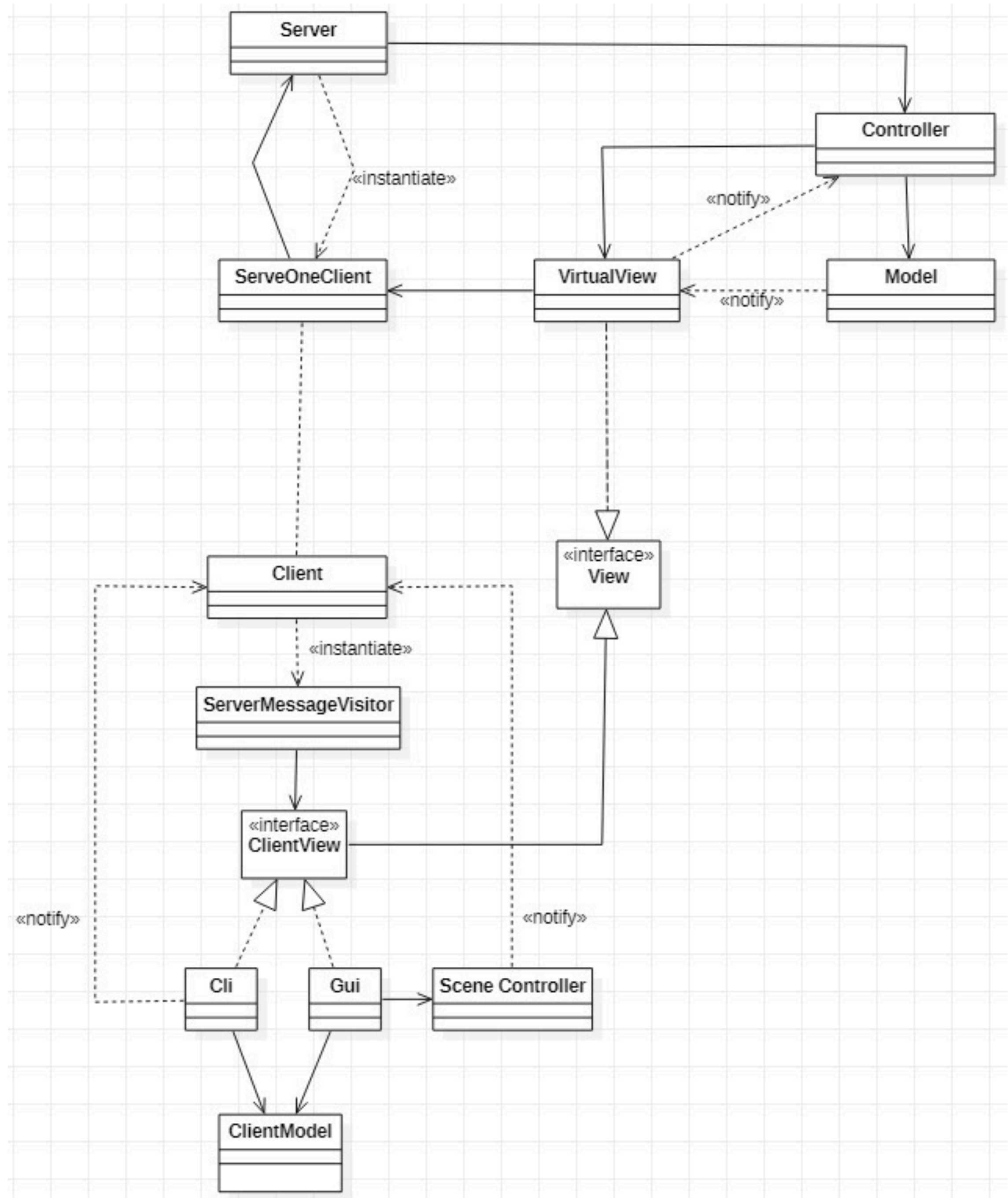
MVC
Interactions with Client

- VirtualView forwards Model events to ClientView

- VirtualView receives events from ClientView and forwards them to Controller

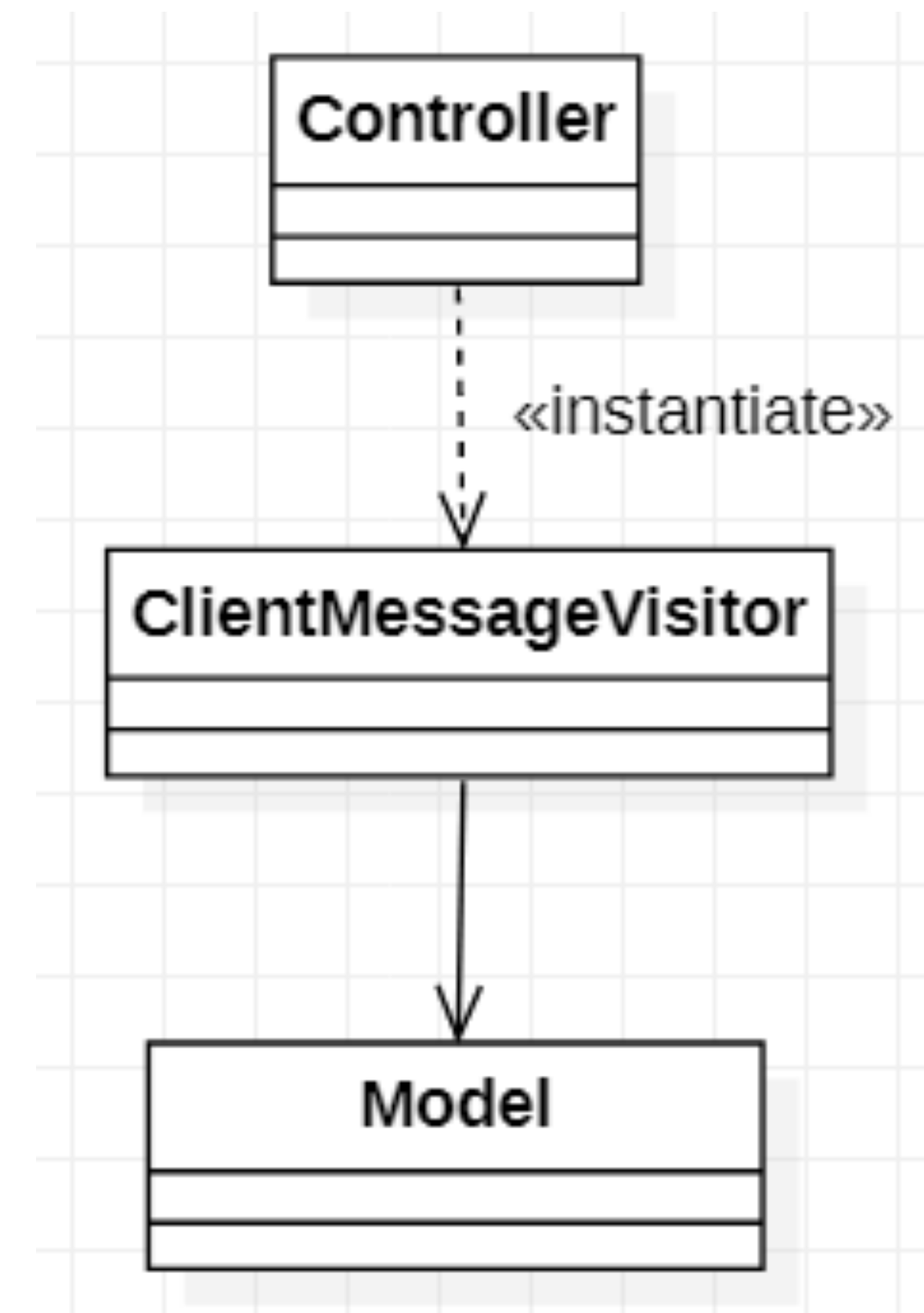- ServeOneClient sends messages through network to ClientView

Visitor Pattern

To manage messages using polymorphism

Server Side

- Controller is notified by VirtualView

- Controller instantiates Visitors

- Visitor modify Model
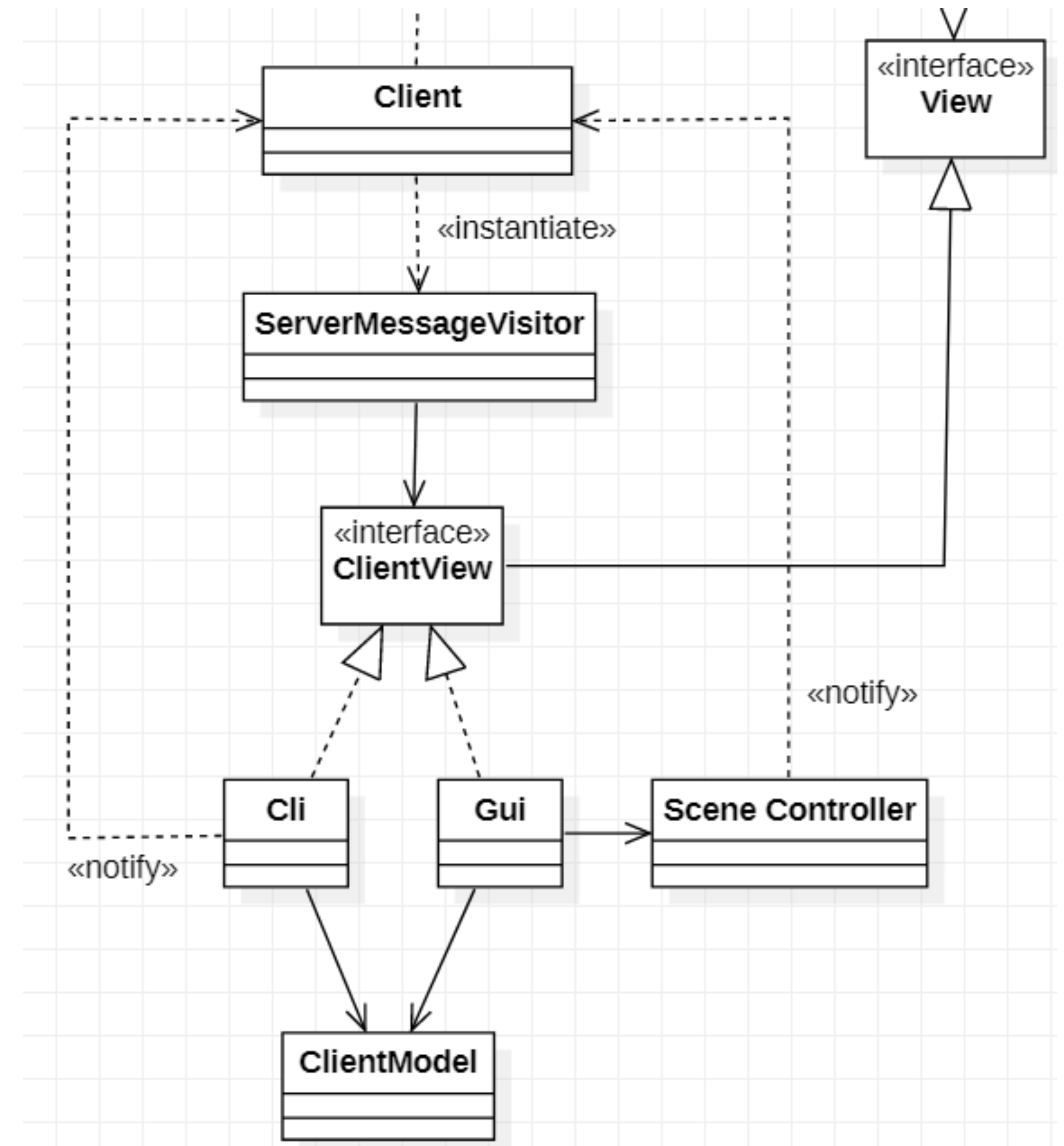
- Visitor calls method on VirtualView

Visitor Pattern
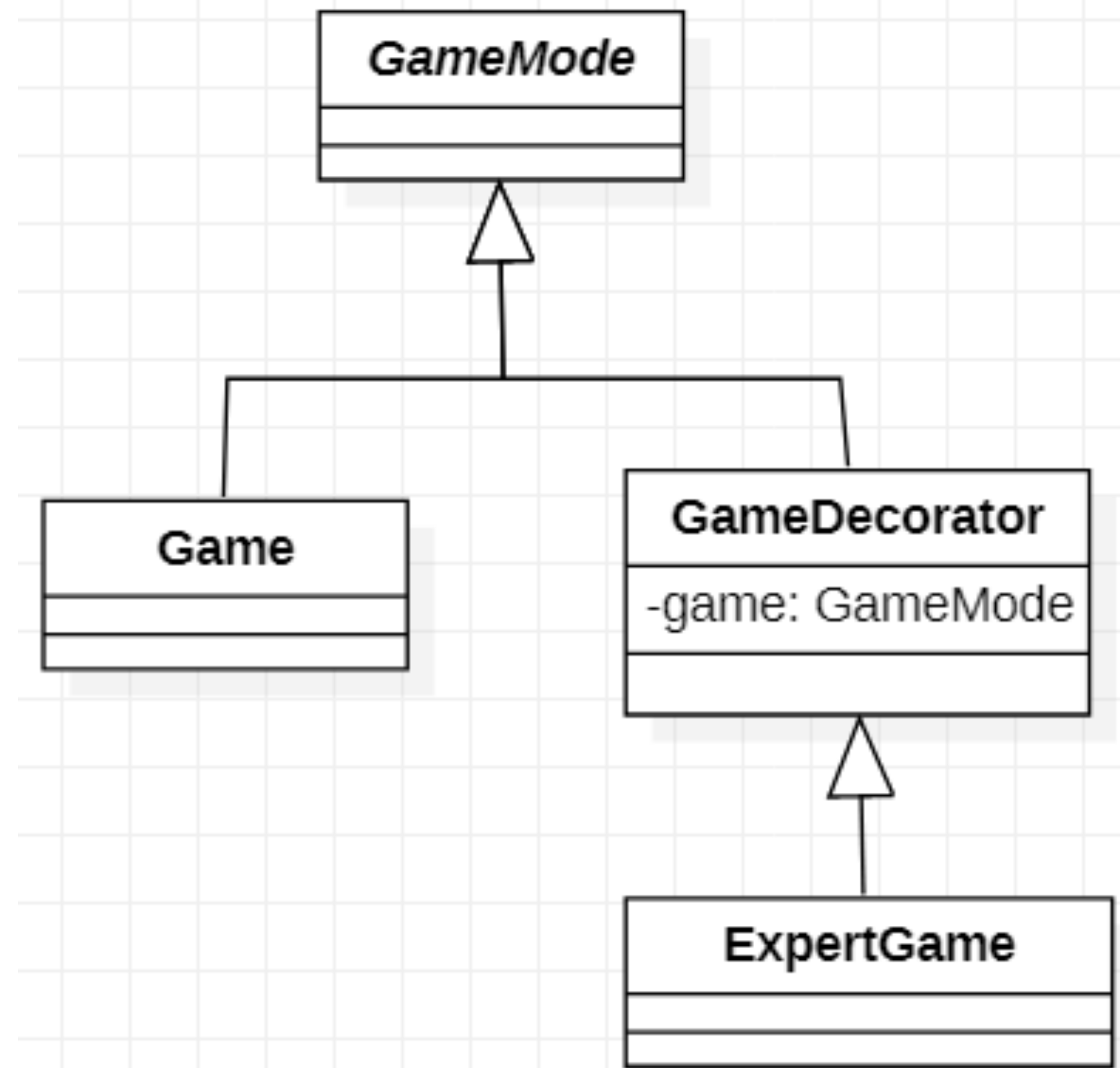
To manage messages using polymorphism

Client Side

- Client class recevies messages through network

- Client class instantiates Visitor

- Visitor calls methods ClientView

- Visitor also updates ClientModel, which acts as a cache containing relevant game data
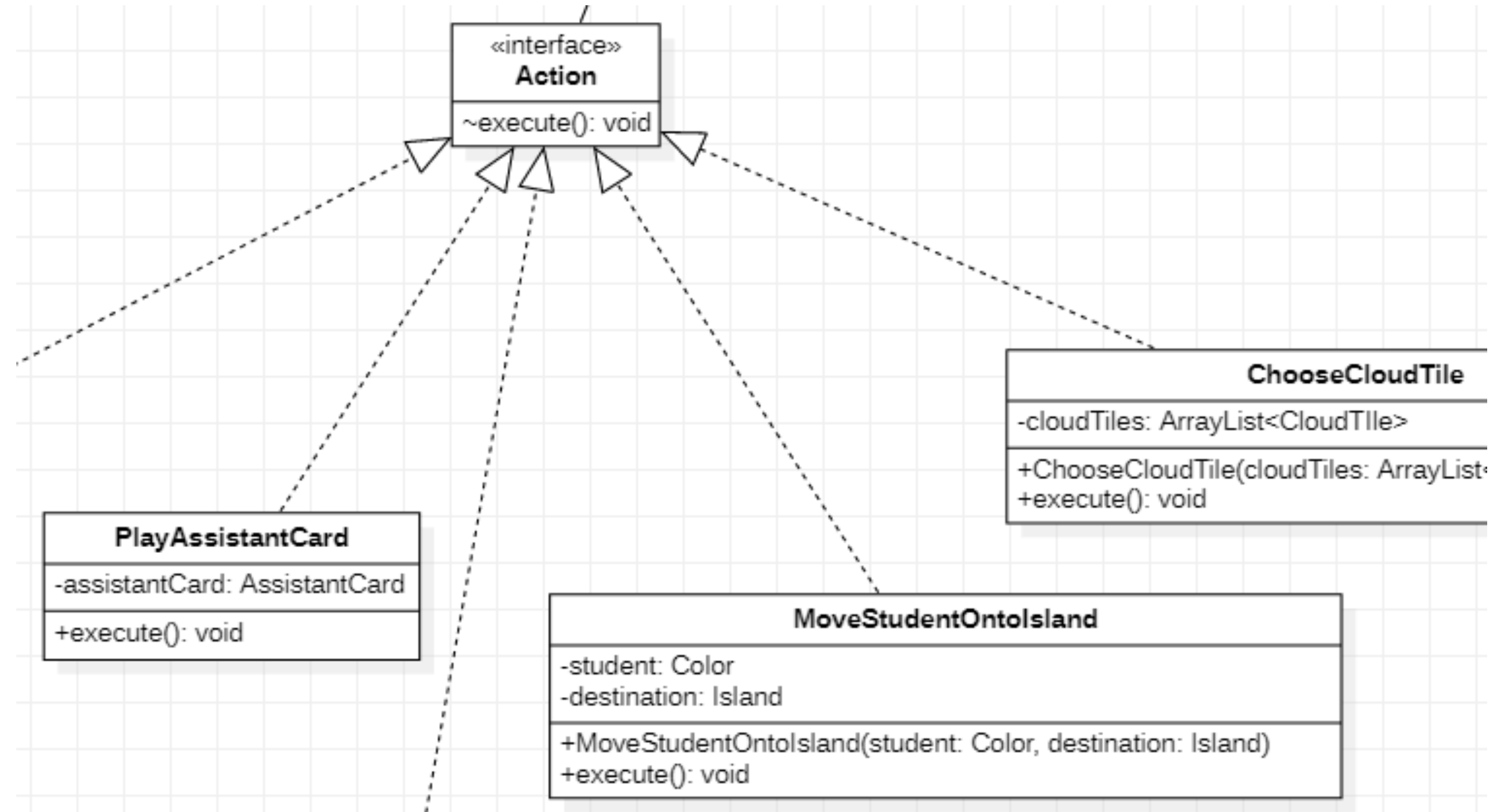
Decorator Pattern

To implement expert game mode and attach new modes at a later time
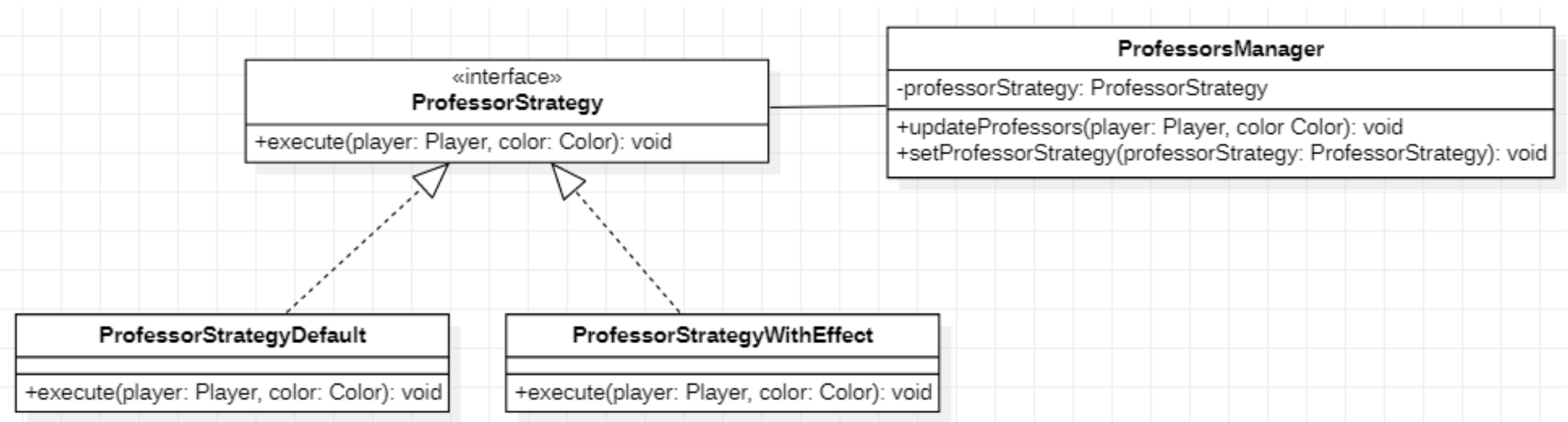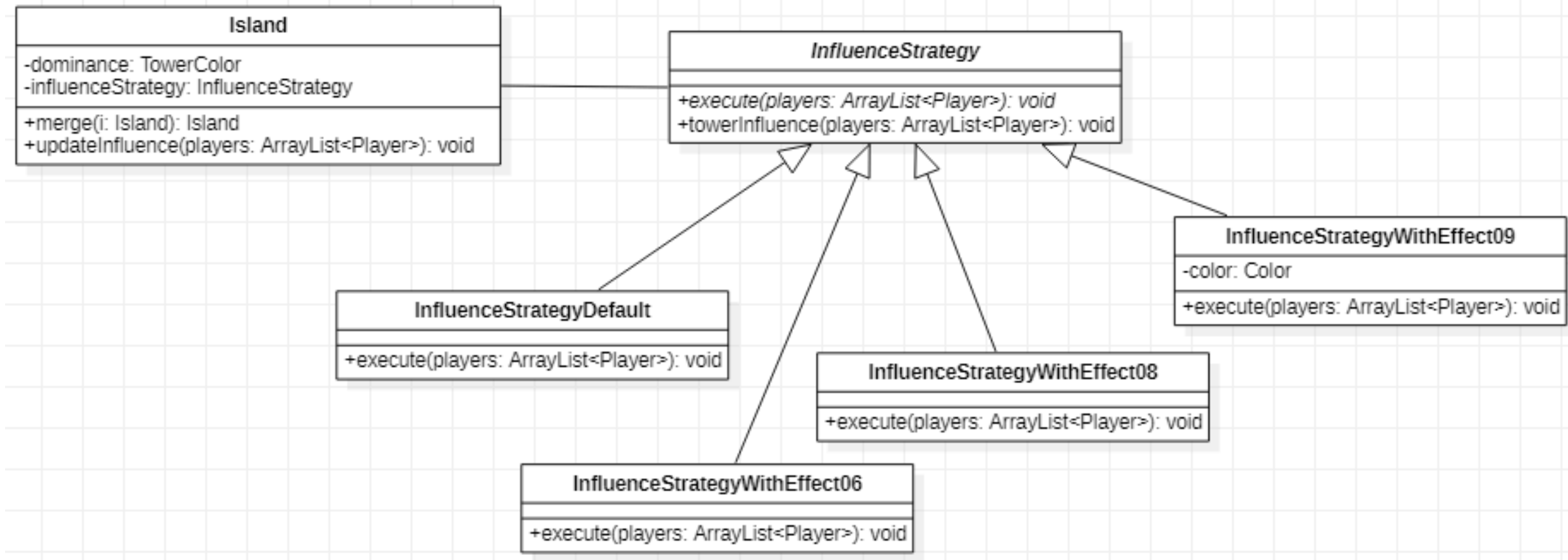
Actions

To accomplish Single Responsibility Principle and modularity

Strategy Pattern

To dinamically select the algorithm based on played effects

The end!