

Mediator Design Pattern [Gamma et al]

In order to reduce coupling between classes, a mechanism is needed to facilitate interaction between objects irrespective of knowing each other's identities involved in the implementation of mediator pattern. Mediator puts key focus on the middle object (the mediator) which is the point of contact for objects. This middleware provides an opportunity to hold to route communication between the source and the target and vice versa. This pattern is often misperceived with observer pattern which are quite identical in structure but possess different characteristics in terms of implementation. Though both patterns facilitates communication and decoupling between objects but the difference lies in the fact that objects are authorized to access the central hub(mediator participant) while the observer merely listens to the changes in the sender. Following are the variants of mediator design pattern:

Flight System Mediator [63]

The mediator design pattern uses mediator as an information “broker” between components of a sub-system which minimizes component interdependencies, improves the extendibility for the simulator and makes the maintenance easier. The mediator design pattern provides object decoupling and minimizes component's interdependencies. This results in more simple designs and software which is more maintainable and extensible. Following is the UML Diagram:

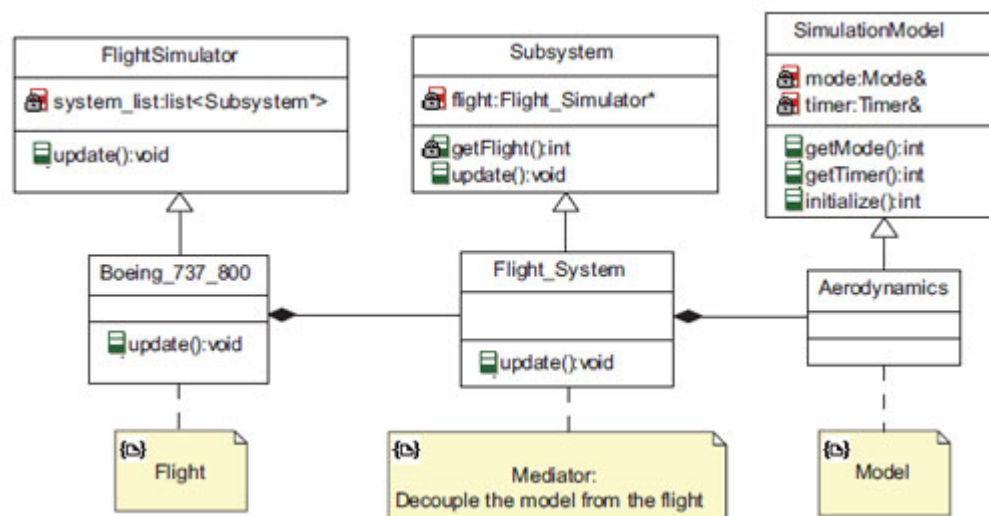


Figure 1.17 Flight System Mediator

Traffic Generator Mediator [63]

In this variant, the Mediator pattern is used to coordinate the traffic generator, sink server and preservation components. Following is the UML Diagram:

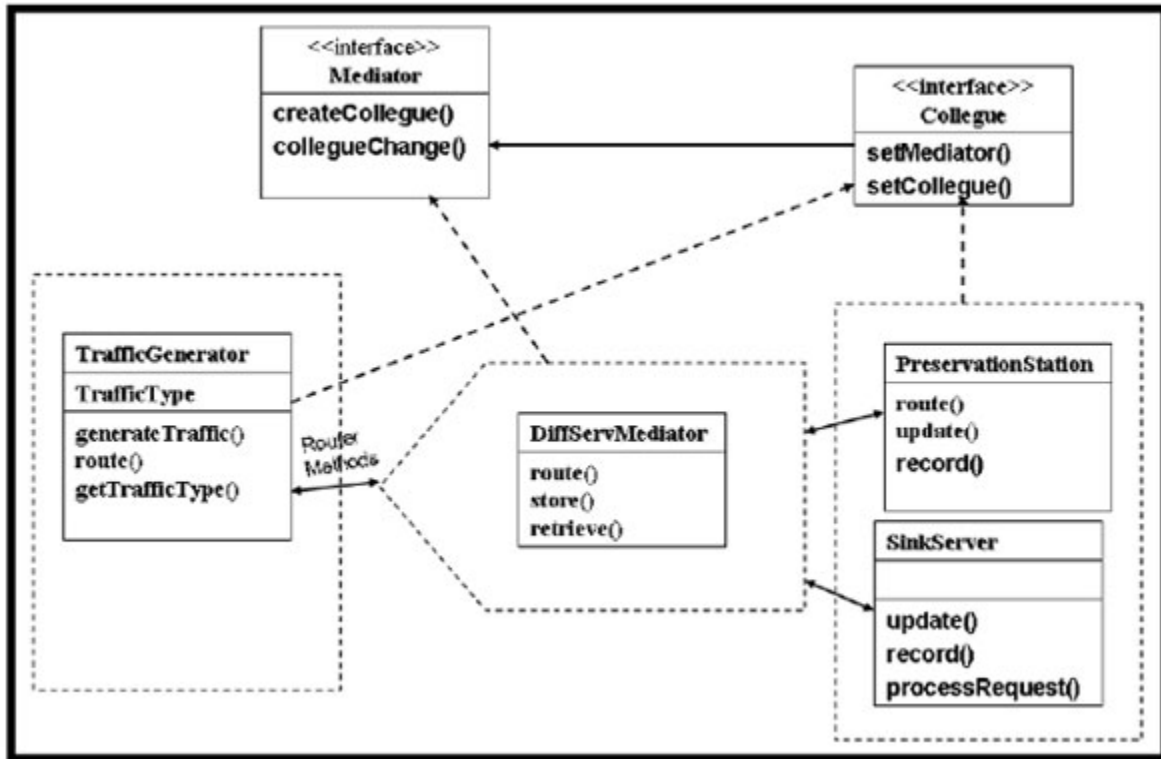


Figure 1.18 UML of Traffic generator mediator

Mediator: Isolating associations between the Meta Objects [64]

In this variant the mediator controls and coordinates interactions among a set of meta-objects. It acts as an intermediary among the meta-objects in the meta-level. Each meta-object knows only Meta-space, not any other meta-object, thereby reducing the number of interconnections. Following is the UML Diagram:

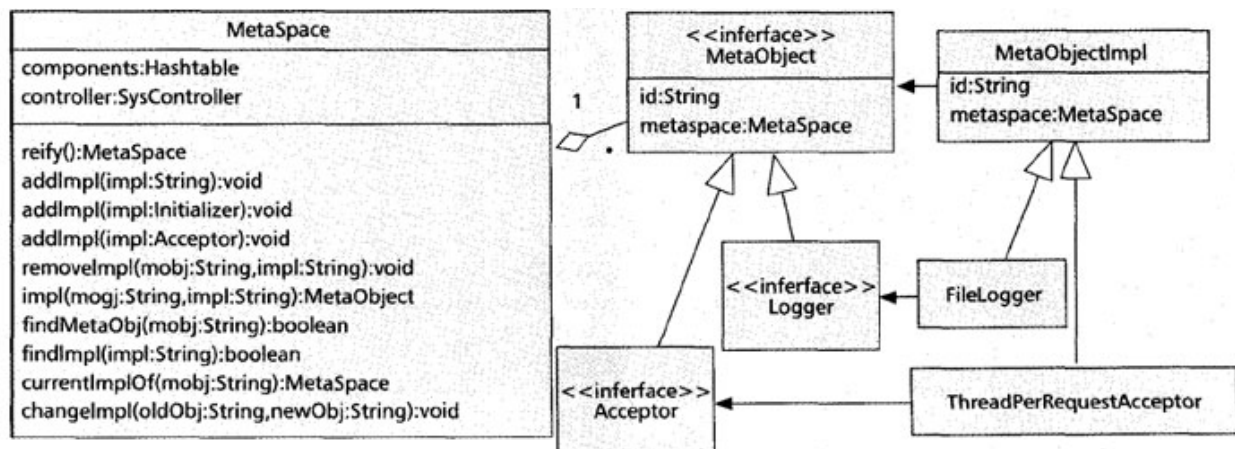


Figure 1.19 UML Diagram of Mediator variant