StopAndShop

CALIFORNIA STATE UNIVERSITY, LONG BEACH

CECS575 – OBJECT ORIENTED ANALAYIS & DESIGN

ASSIGNMENT 4

GROUP 5

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Application of Strategy Pattern

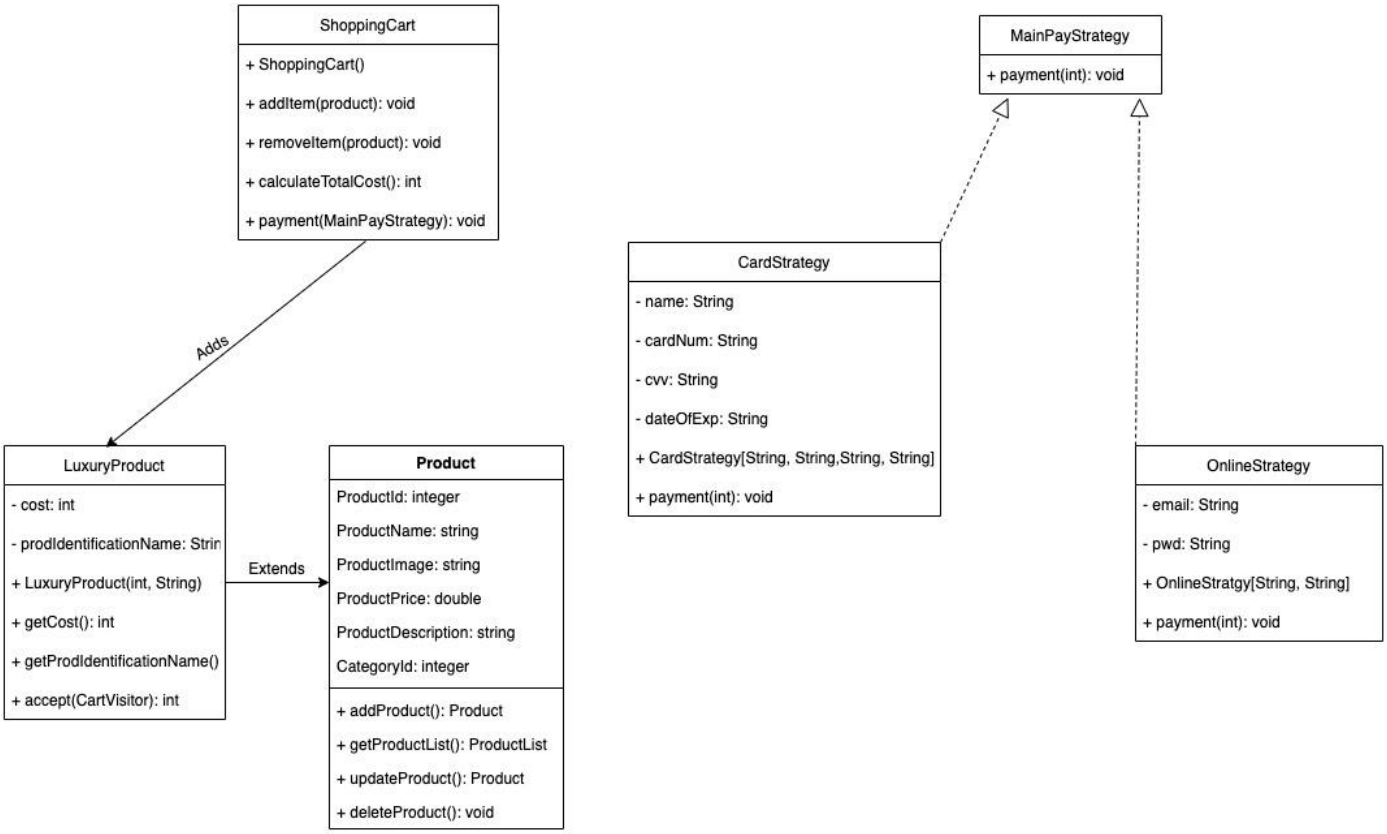
We can utilize Strategy Pattern when we have numerous algorithms for a single job and the client picks which one to apply at runtime.

We used the pattern to implement two payment strategies (Algorithms) in our system:

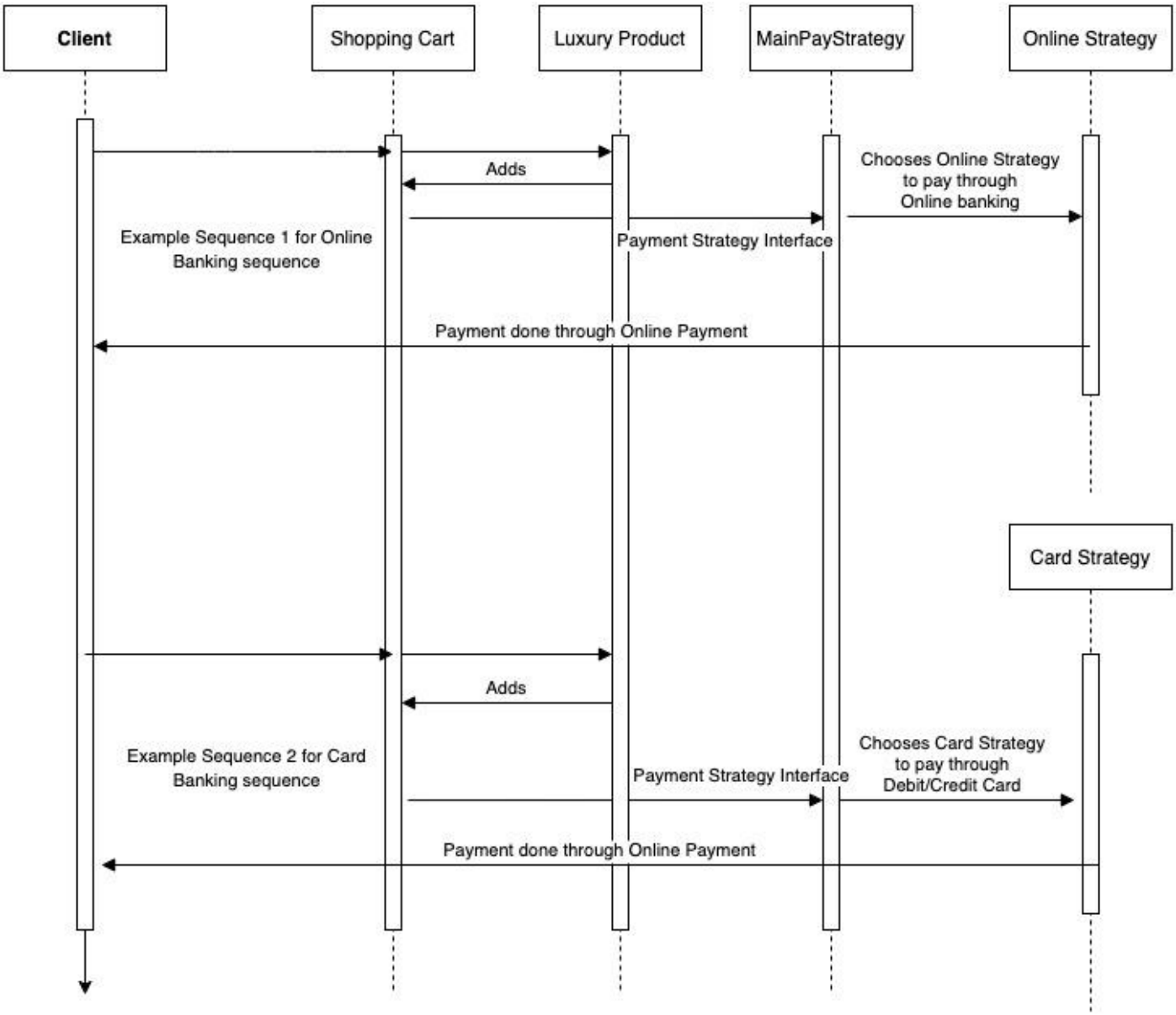
1- Card Payment
2- Online Payment

We have a MainPayStrategy Interface, which will help us achieve the pattern by giving the client the option to choose either card or online payment option during runtime.

Class Diagram - Strategy



Sequence Diagram - Strategy



Application of Visitor Pattern

We can utilize Visitor Pattern when we have to perform a specific operation on similar kind of objects and we want to transfer the operational logic of the objects to another class.

We are utilizing the pattern by moving the cost calculation of both of our types of products (Luxury and Grocery) to another Interface called CartVisitor and its implementation in CartVisitorImpl.

Our Product type classes are:

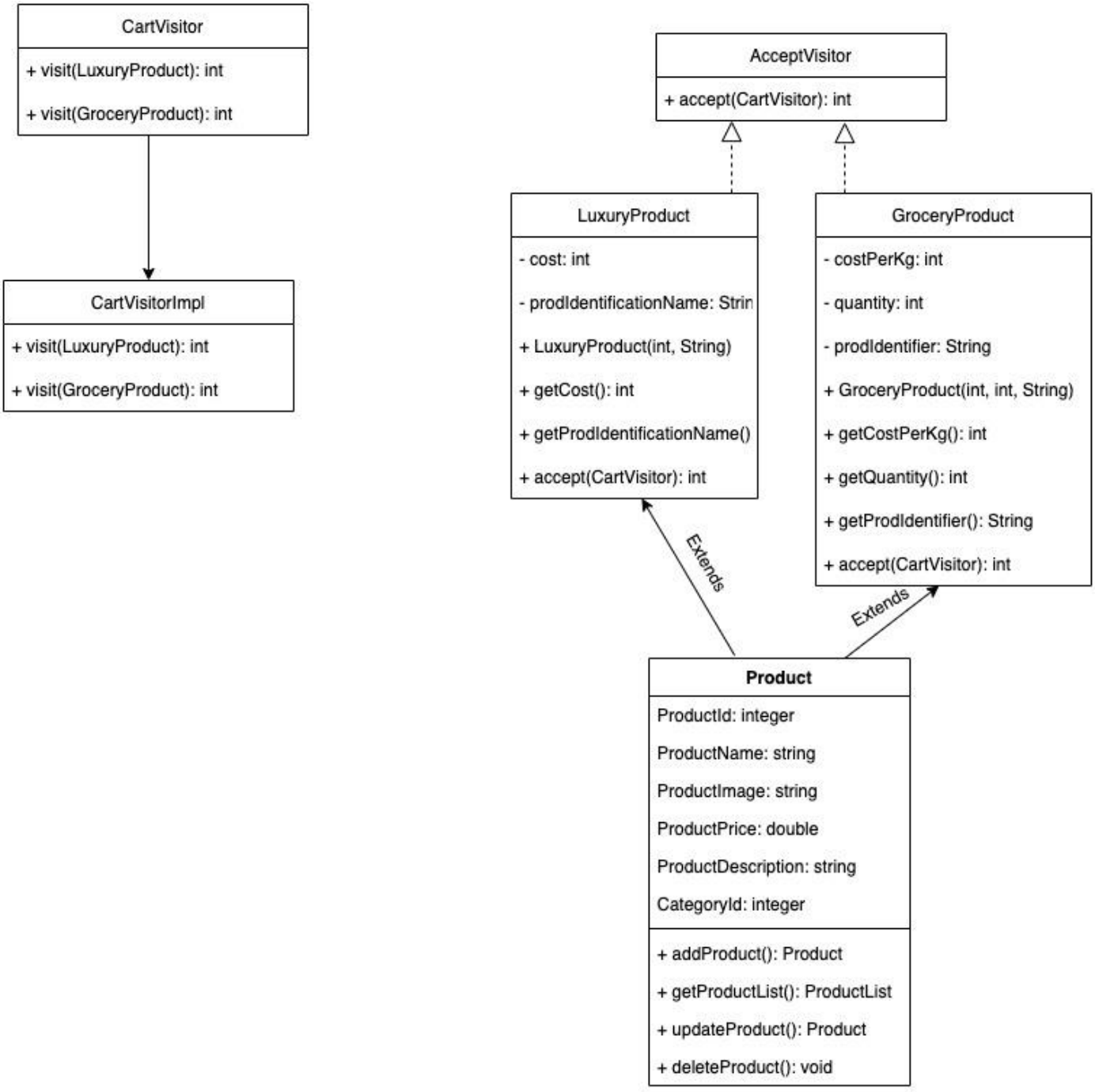
1- LuxuryProduct
2- GroceryProduct

Our visitor pattern is applied in the interface:

1- CartVisitor
2- Which implements the calculation operation in CartVisitorImpl.

And the class AcceptVisitor helps us in directing to the right visitor path.

Class Diagram - Visitor



Sequence Diagram - Visitor