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Visitor pattern

**Definition**

In object-oriented programming and software engineering, the visitor design pattern is a way of separating an algorithm from an object structure on which it operates. A practical result of this separation is the ability to add new operations to existing object structures without modifying those structures. It is one way to follow the open/closed principle.

**Pros and cons of visitor pattern**

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* Allows you to add operations to a composite structure without changing the structure itself
* Adding new operations is relatively easy
* The code for operations performed by the visitor is centralized

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* The composite classes' encapsulation is broken when the visitor is used.
* Because the traversal function is involved, changes to the composite structure are more difficult

**Closely related patterns**

During my research about the ‘visitor pattern’ I came across the ‘iterator pattern’, as much I understand they are similar and, can be used in combination.

**Introduction to application**

The application is related to cooking. The user interface is very simple, there are two buttons, with their help you can cook chicken and beef with oven and pan. Information about the performed actions will be displayed under the buttons in the app.

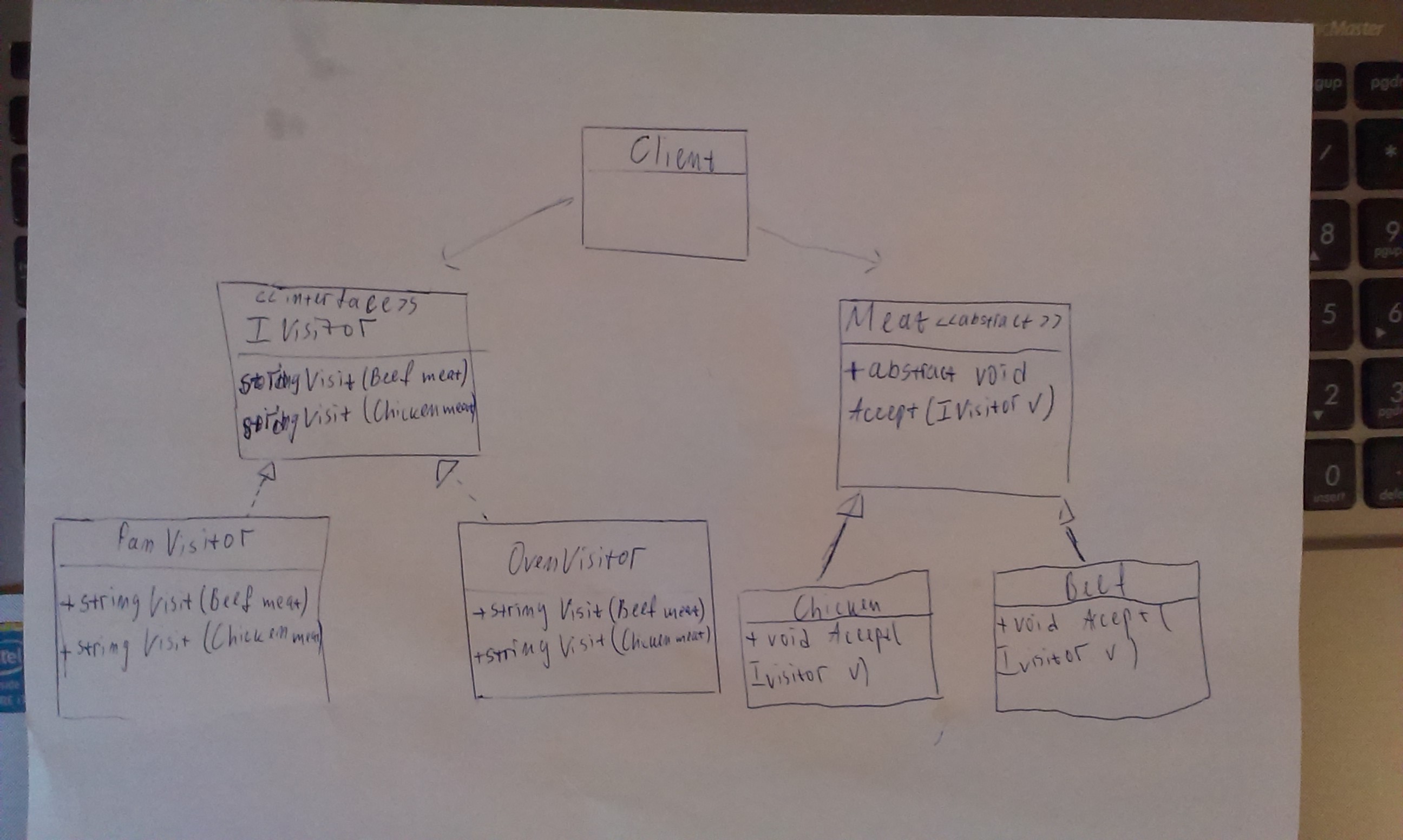
**Implementation**

The implementation of the application is closely related the visitor design pattern. Its only purpose is to show and apply all the functionality this pattern can provide. That’s why it is really(really) simplified.

The project is divided into three parts.

* Client – Shows usage of the pattern
* Visitor pattern – Logical implementation, it is storing “Visitors” and “Elements in separate folders
* Tests

If we dive deeper in the project implementation, we can say that the project forms the following class diagram:



This design of the application allows us to add as many cooking devices and as many types of meat we want. It also allows us to “visit” in a very flexible way every type of meat with a different cooking appliance and yield different results.