

Virtual Coffee Shop implementing Iterator and Decorator Design Patterns

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We intend on creating a standalone virtual coffee shop, where the customer can choose from the menu including **filter**(is coffee beans that have been roasted and ground and is for use in coffee making machines) and **instant**(coffee that has already been made and is dried (usually through freezing) into a dehydrated state, hence we just add water and get coffee). and the various **add-ons** the customer would like to add on to the coffee after which the price of the coffee plus taxes will be calculated.

The decorator pattern will be used to customize each customer's coffee, for eg. filter coffee with a caramel shot, whipped cream, etc. Whereas, the iterator pattern will be used to traverse through the order of the customer. This system will also contain a module for the coffee shop to add/ remove/ modify items from the menu. Thus, the whole bill is made up by adding the costs of all the individual items for which a proper **billing system** is required.

For the representation of the **User Interface** of our project we require **JavaFX**. **Both the decorator and iterator design patterns will be combined in this project to implement the virtual coffee shop.**