

Design Patterns

Slot : C1 Course Code : SWE2019

Digital Assignment - I

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Drive Video Link :

<https://drive.google.com/file/d/1YQ0nNS9-IYFbEyWnEFS3G9PZ939tw4Vm/view?usp=sharing>

Youtube Video Link :

https://youtu.be/RcclpU_o5Gg

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Decorator Pattern

- ❖ The decorator design pattern is a structural design pattern in object-oriented programming.
- ❖ It enables behaviour and functionality to be dynamically extended to an object while not impacting other objects in the same class.

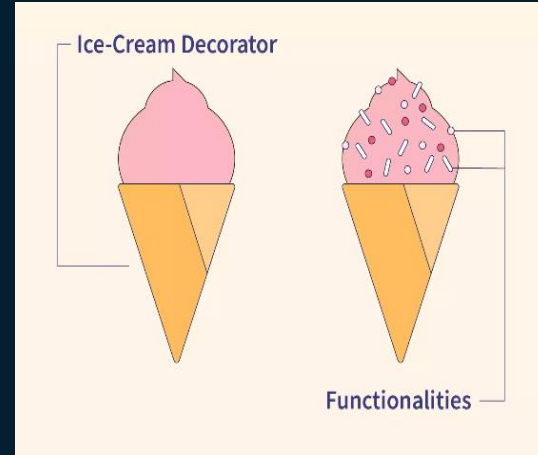
Real World Example



Customer



Worker



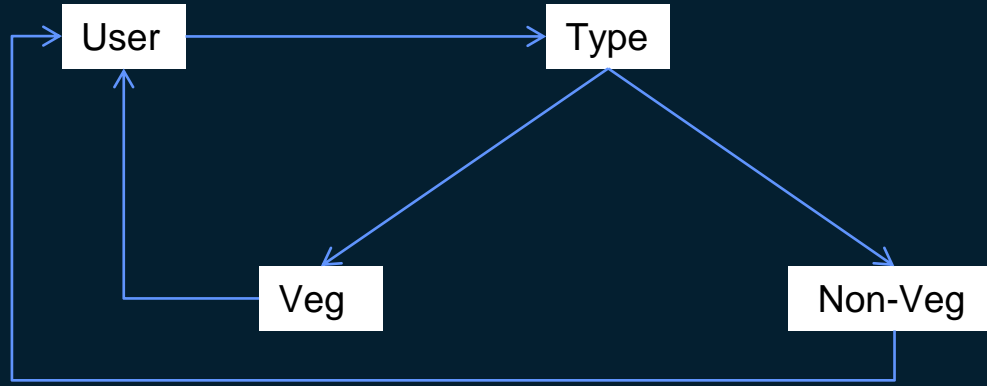
Applicability

- ❖ Functionalities that are needed to add dynamically without affecting the other object in the class
- ❖ We use inheritance or composition to extend the behaviour of an object but this is done at compile time and its applicable to all the instances of the class.

When :

- ❖ The Decorator pattern is mostly used for implementing caching.

Implementation



Consequences

- ❖ Decorators might result in a lot of small elements in our design, which can be difficult to manage.
- ❖ This design pattern is not beginner-friendly.
- ❖ A decorator and its component aren't identical.
- ❖ It can lead to a system with “lots of little objects” that all look alike to the programmer trying to maintain the code.

Related Pattern

- ❖ Adapter Pattern - A decorator is different from an adapter in that a decorator changes object's responsibilities, while an adapter changes an object interface.
- ❖ Composite Pattern - A decorator can be viewed as a degenerate composite with only one component. However, a decorator adds additional responsibilities.

The slide features a dark navy blue background. In the top-left and bottom-left corners, there are overlapping, semi-transparent geometric shapes in shades of cyan, magenta, and orange. Similarly, in the top-right and bottom-right corners, there are overlapping, semi-transparent geometric shapes in shades of cyan, magenta, and orange. The text "Thank You" is centered in the middle of the slide in a white, sans-serif font.

Thank You