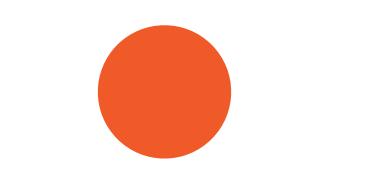
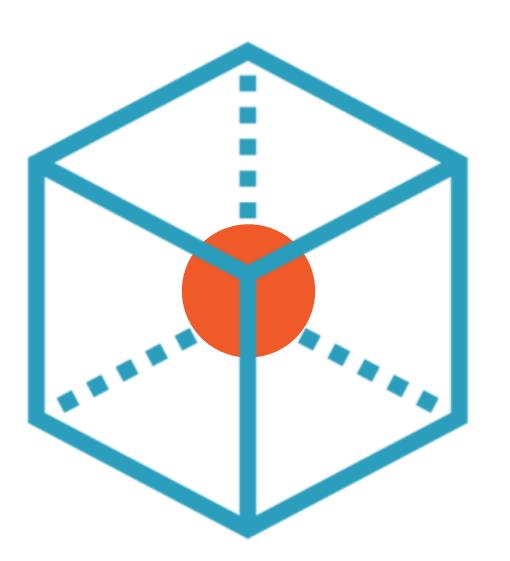
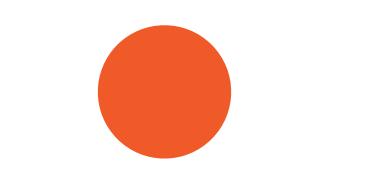
The Decorator

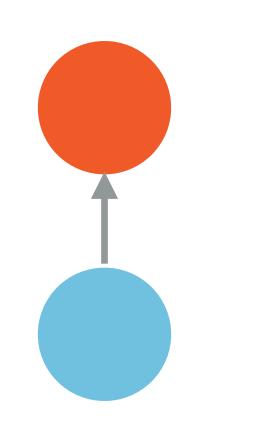
Decorator

Adds new behavior to objects dynamically.





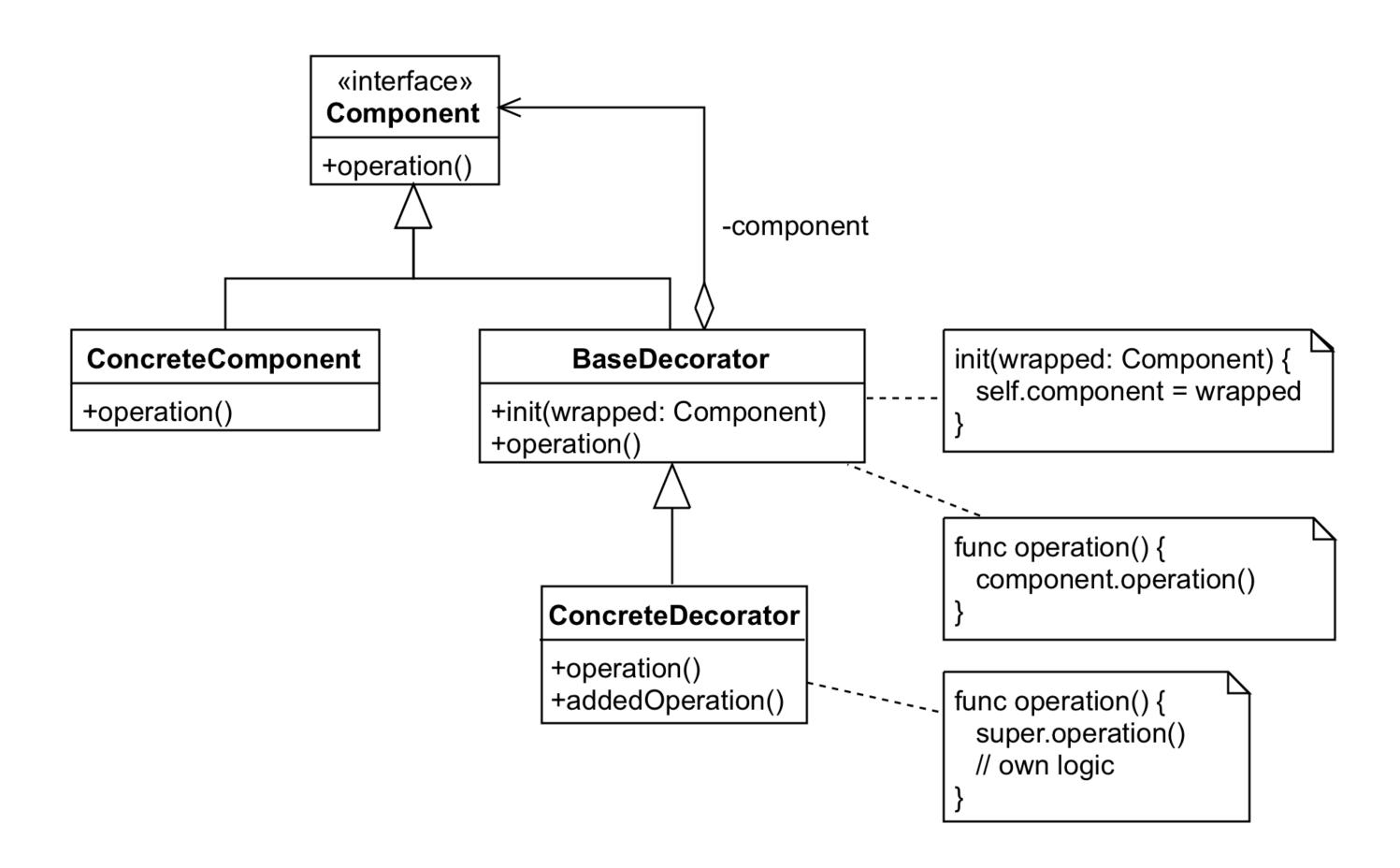




Inheritance pitfalls

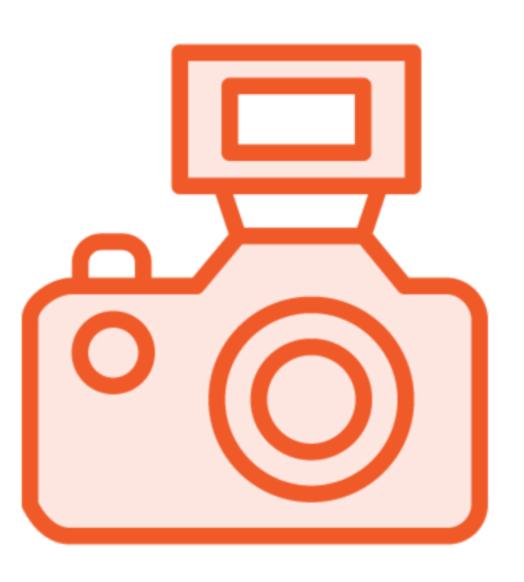
Doesn't work with value types

Lack of dynamic behavior



Demo

CameraShop







Compact



Compact

DSLR

Camera upgrades View finder

Video recording

LCD

View finder

View finder

Video recording

View finder

Video recording

LCD

View finder

Video recording

LCD

View finder and video recording

View finder

Video recording

LCD

View finder and video recording

Video recording and LCD

Mirrorless

View finder

Video recording

LCD

View finder and video recording

Video recording and LCD

View finder and LCD

View finder

Video recording

LCD

View finder and video recording

Video recording and LCD

View finder and LCD

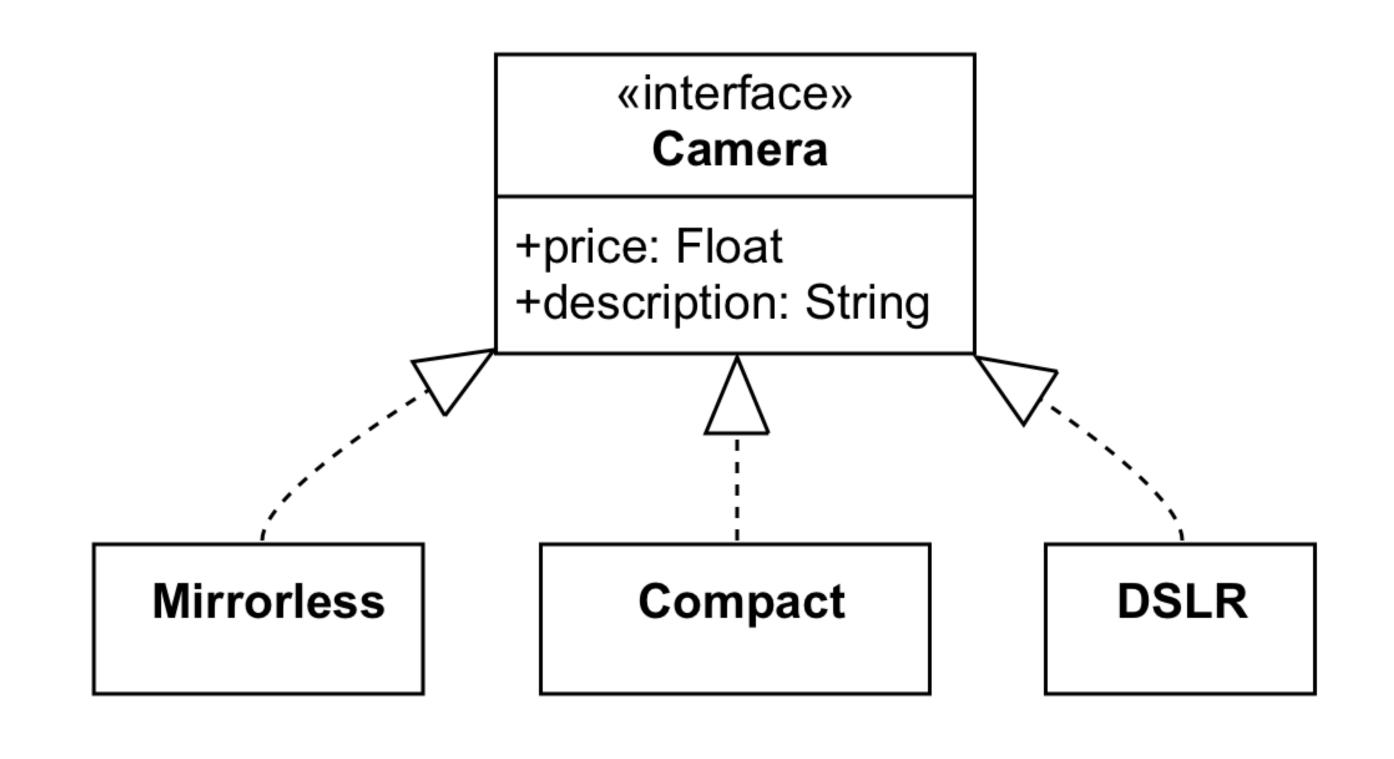
View finder, video recording and LCD

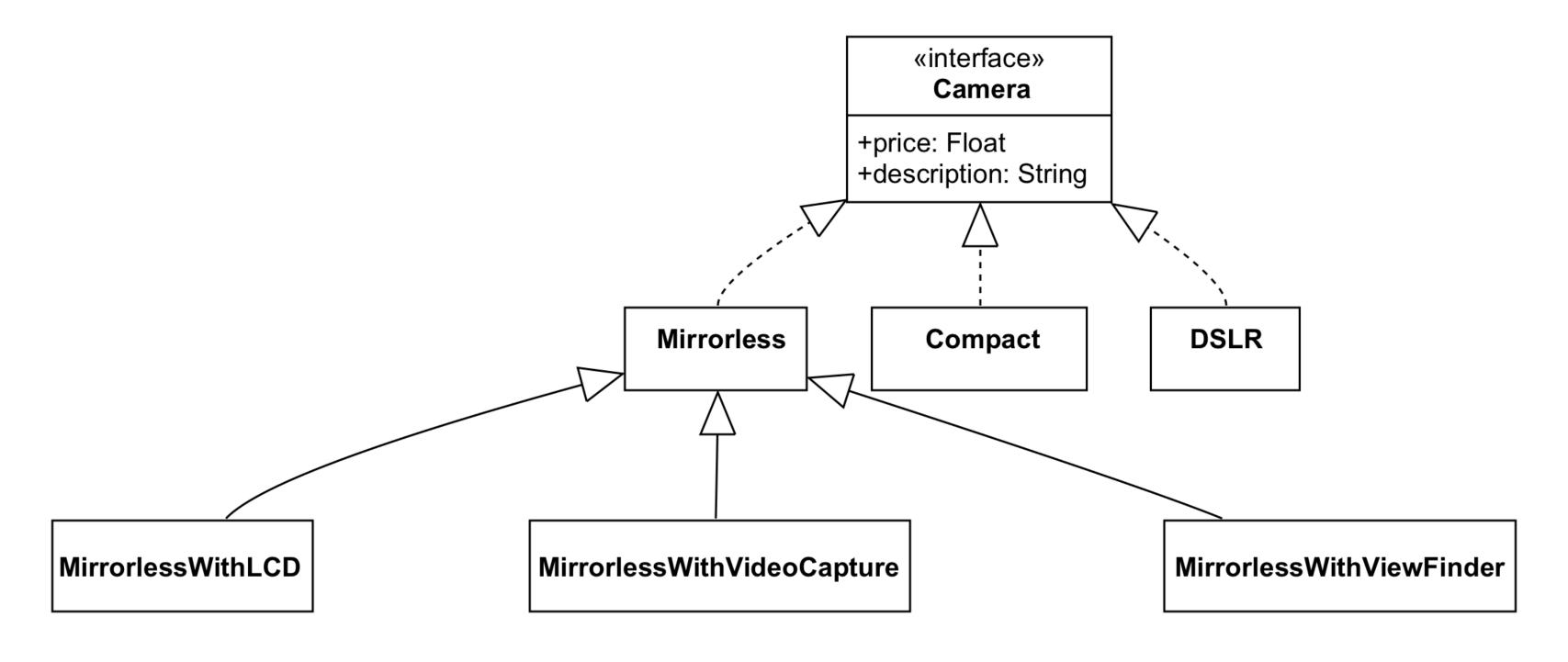
Mirrorless

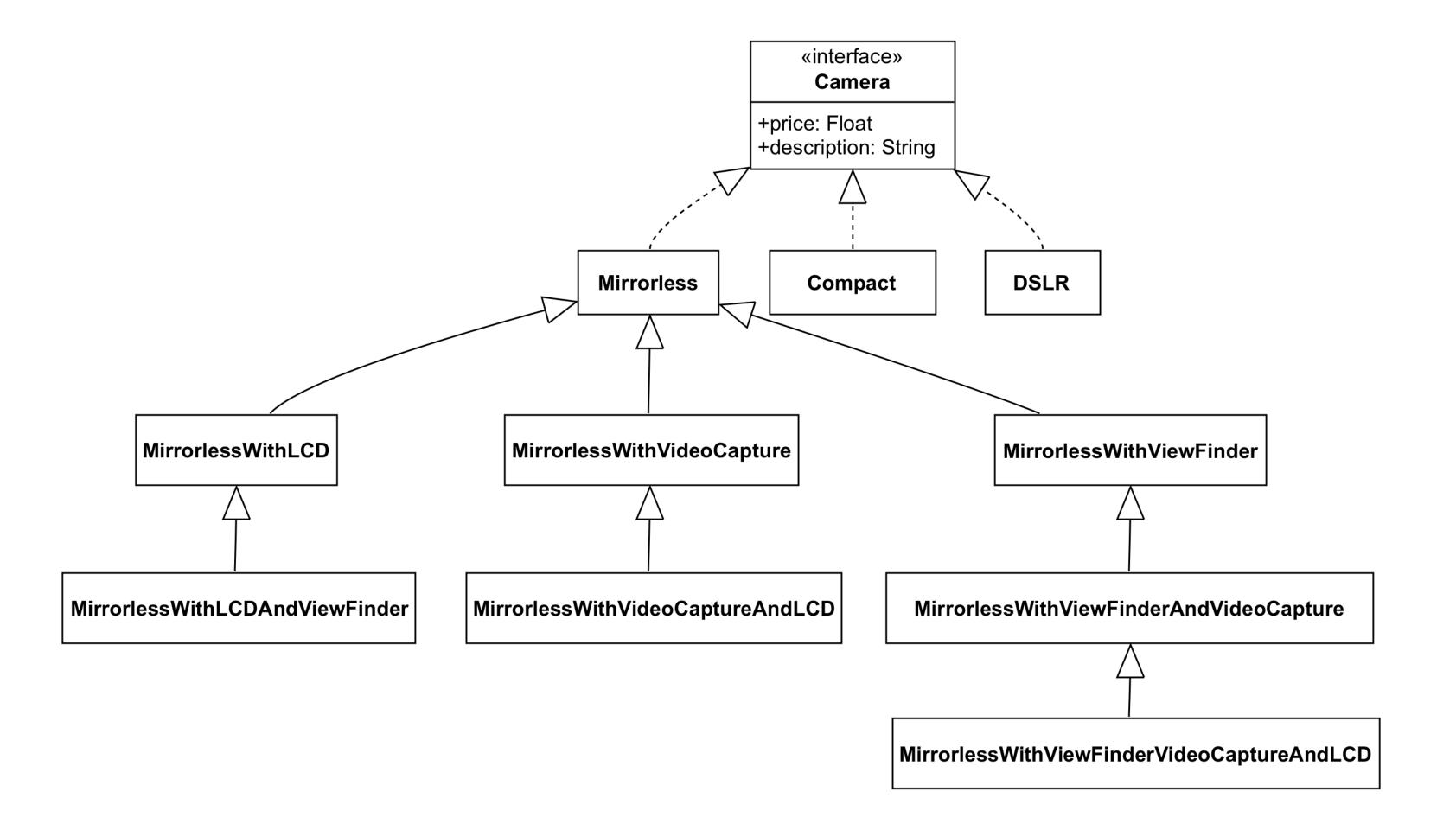
«interface» Camera

+price: Float

+description: String





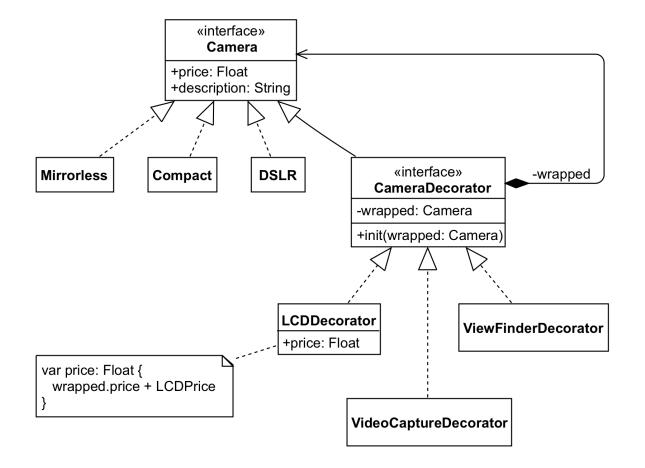


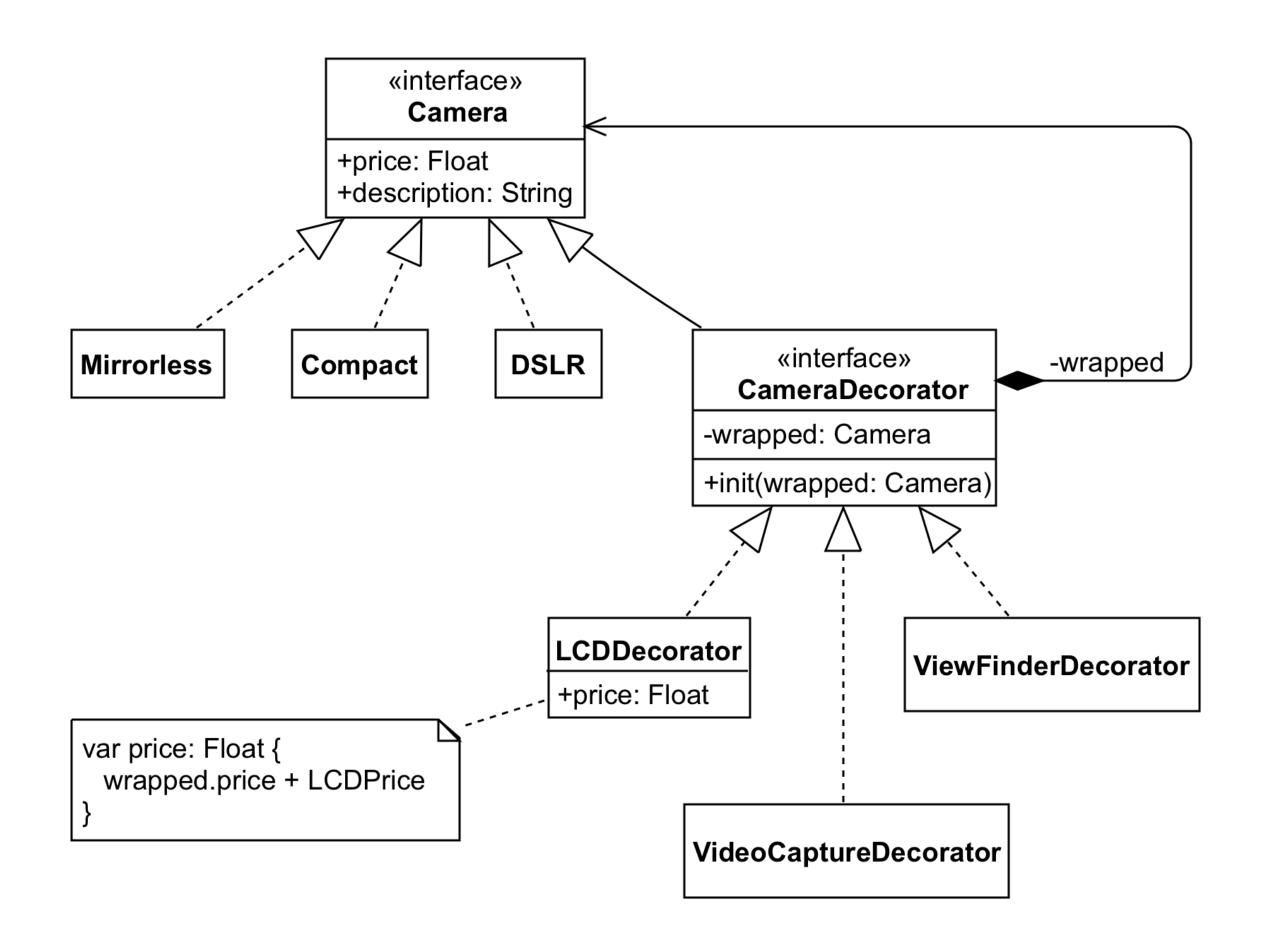
Refactoring

Inheritance

Camera +price: Float +description: String MirrorlessWithLCD MirrorlessWithVideoCapture MirrorlessWithViewFinder MirrorlessWithViewFinder MirrorlessWithViewFinderAndVideoCapture MirrorlessWithViewFinderAndVideoCapture

Decorator





Summary

The Decorator Pattern:

- Attaches new responsibilities to objects
- Relies on object composition
- Can add multiple behaviors through recursive composition

Pitfalls

- Proliferation of decorators