SOLID PRINCIPLES IN REAL LIFE

The pillars of OOP through real life analogies

FEDERICA CITARRELLA

S — Single Responsibility Principle

O — Open/Close Principle

L — Liskov Substitution Principle

I — Interface Segregation Principle

D — Dependency Inversion Principle

S

Single Responsibility Principle

"Each software module should have one and only one reason to change." – Robert C. Martin

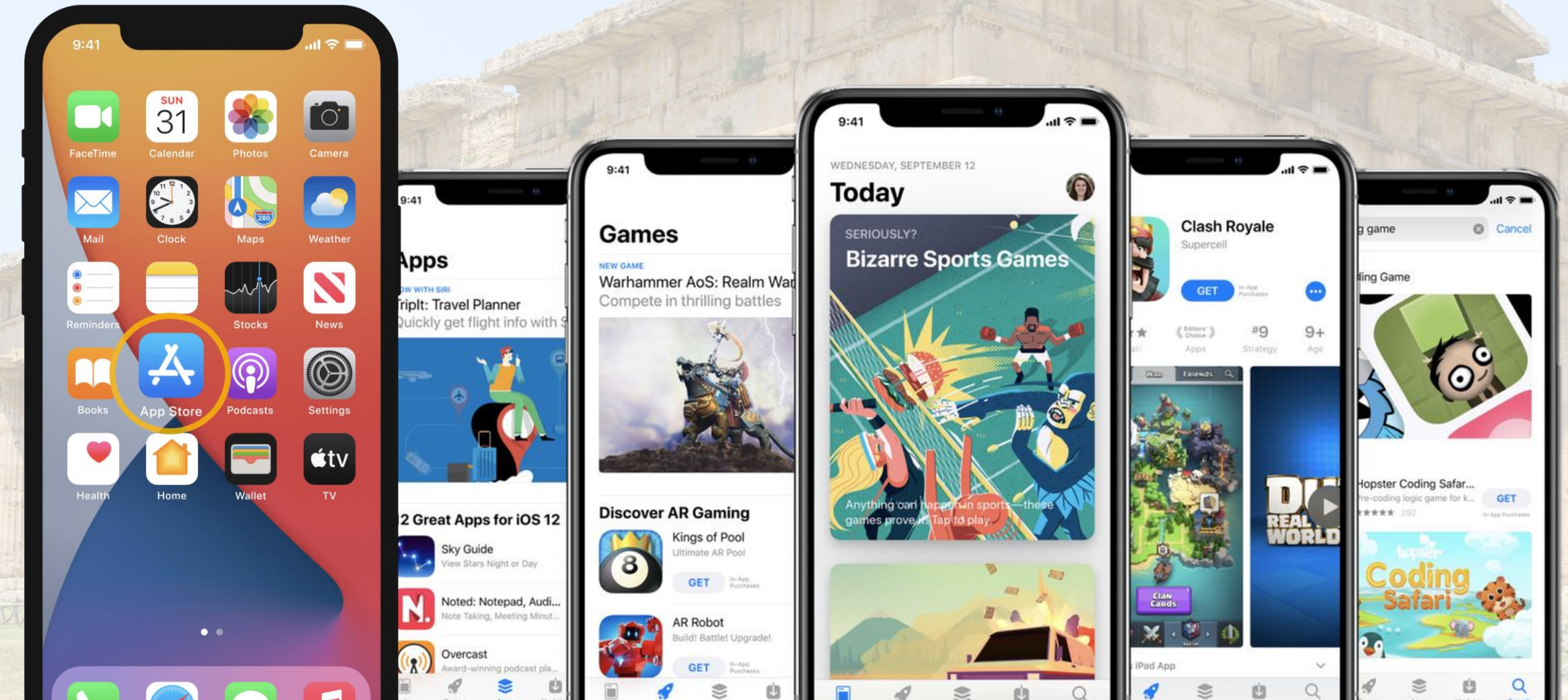
DUCK VEHICLE

TEAM WORK

O

Open/Close Principle

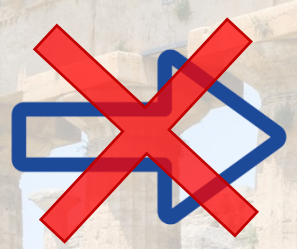
“They are open for extension, means that the behavior of the module can be extended. They are closed for modification.”
– Robert C. Martin



L Liskov Substitution Principle

"Functions that use pointers or references to base classes must be able to use objects of derived classes without knowing it."
– Robert C. Martin

RECTANGLE



SQUARE

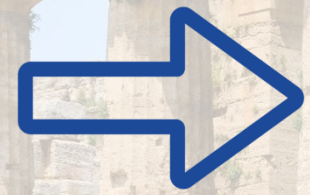
Four right angles: ✓
Opposite side same length: ✓
Height/base can be different: ✓

Four right angles: ✓
Opposite side same length: ✓
Height/base can be different: ✗

I

Interface Segregation Principle

“Keep interfaces small so that users don’t end up depending on things they don’t need.” – Robert C. Martin



MONOLITHIC

SEGREGATION

D

Dependency Inversion Principle

“The DIP tells us that the most flexible systems are those in which source code dependencies refer only to abstractions, not to concretions.” – Robert C. Martin

STRONGLY COUPLED

LESS COUPLED

LOOSELY COUPLED

QUESTIONS?

S O L I D

RECTANGLE

SQUARE

Thank you!

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