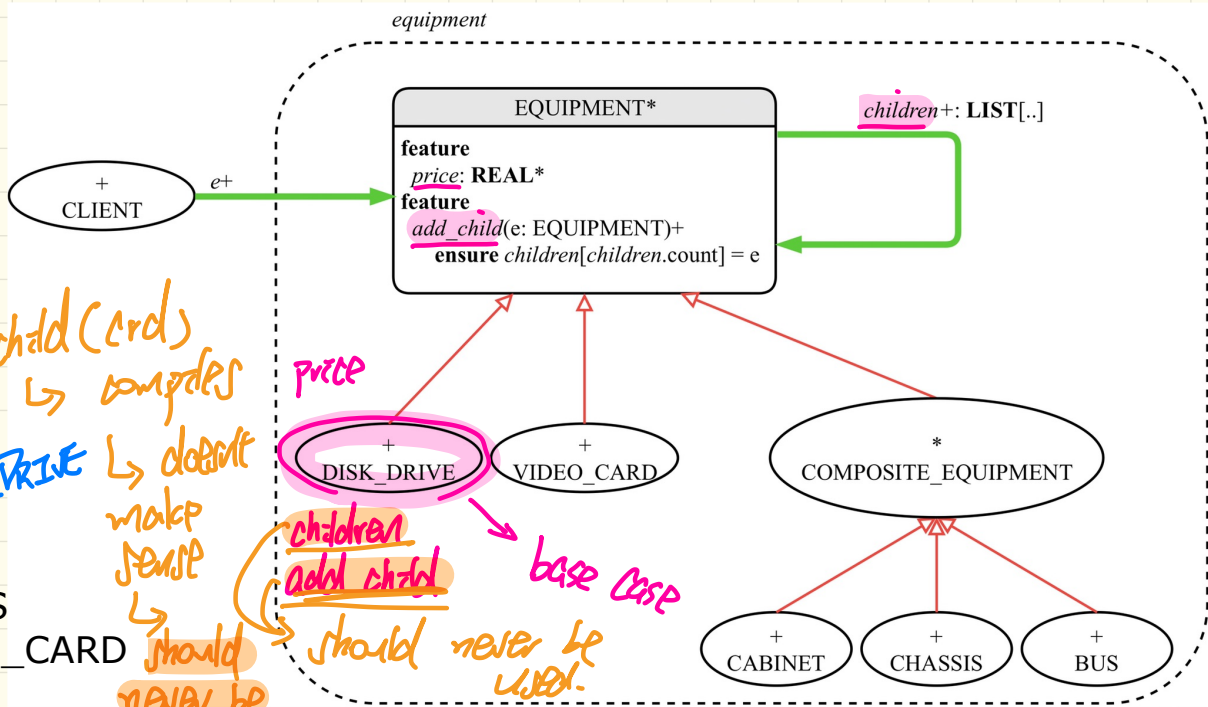


EECS3311 Software Design (Fall 2020)

Q&A - Lecture Series W10

Tuesday, November 24

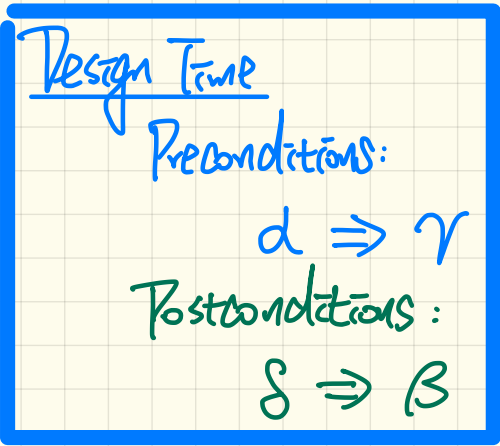
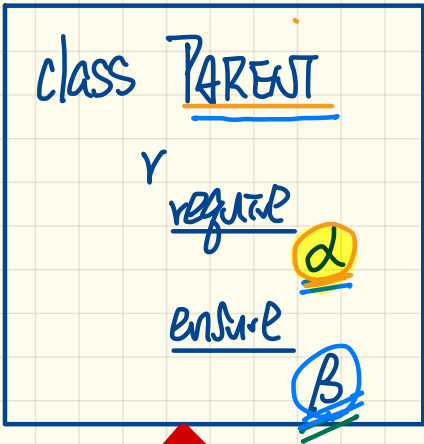
First Design Attempt



ch: CHASIS
 crd: VIDEO_CARD
 d: DISK
 create ch.make
 create crd.make
 create d.make
 ch.add_child(crd)
 ch.add_child(d)

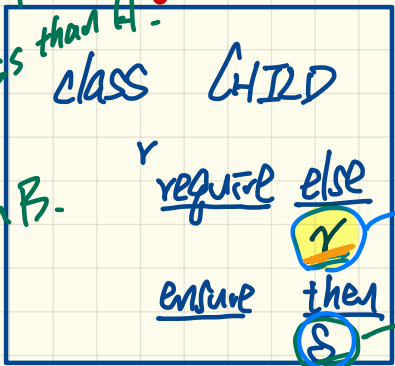
d.add_child(crd) → computers
 DISK_DRIVE → doesn't make sense
 children → should never be used.
 add child → should never be used.

→ violated cohesion.
 If a child inherits attributes, commands, or queries from parents' classes but they don't use them (attributes, commands, or queries), would it violate the cohesion?



e.g.
Precondition

A ⇒ B
 ↳ A is stronger than B.
 ↳ B is weaker than A.
 ↳ B requires less than A.
 ↳ A requires more than B.



Runtime

obj: PARENT.
create {PAR.} obj.make

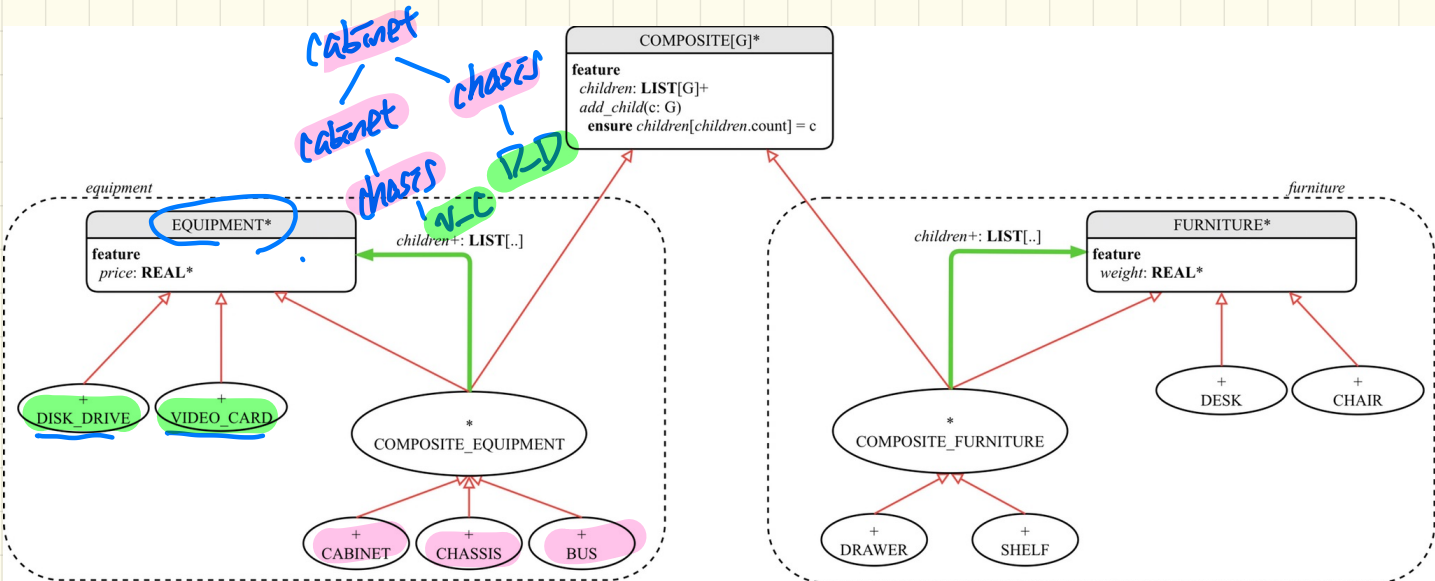
d | obj. | γ | B
 DT: PAR.
create {CHI.} obj.make

δ | obj. | γ | B ∧ δ
 DT: CHI.

→ require less (weaker)
 → ensure more (stronger)

The Composite Pattern: Architecture

COMPOSITE class is **reusable** by instances of the **composite** pattern.



When to use Composite?

Recursive System.

- ↳ ① Base cases.
- ↳ ② Recursive cases.

client-supplier
inheritance.

Design Pattern	Context	Architecture	Implementation	Runtime
Iterator		.		
Singleton	<u>shared</u>	.	once. expanded	.