

COS 214 Project (for Working Draft)

Functional Requirements

Abstract	Concrete
Falcon Rocket (has a stage)	Falcon 9 Falcon Heavy
Stages (state) (Composite)	1st Stage 2nd Stage
Engines (decorator -> falcon) (Prototype)	Merlin Engine Vacuum Merlin Engine
Dragon SpaceCraft	Crew Dragon Dragon Spacecraft
Contents (Decorator -> Dragon)	Human Cargo
Satellites (decorator -> falcon) (Prototype)	Starlink Satellites (Something) Satellites
Simulator (Observers are inside this class, Engineers.)	Test Real
Button (Command)	Launch Button Test Button
No Abstract	Memento
Observer	Engineer (attach Space X Property)
Space X property (Template)	Falcon Rocket, Dragon Spacecraft, Satellites(semi-abstract)
Space X factory (abstract factory)	Engine Factory, Dragon Factory, Satellite Factory (factory)

Describing the service that the program offers = Functional requirements.

Decorator = All the stuff on the falcons.

Abstract Factory -> Makes the Factories for Engines(Merlin) and Spacecrafts (Dragon).

Prototype clones the Engines.

Command fire up engines. (Make stuff up).

Template = inheritance.

Memento = save state.

State = Stage 1 or Stage 2 (Stages)

Observer = batches of test simulations.

Composite = Payload and Core are concretes.

1. Template. (Check)
2. Decorator. (Check)
3. Abstract Factory. (Check)
4. Factory. (Check)
5. Prototype. (Check)
6. Command. (Check)
7. Memento (check)
8. Observer. (Check)
9. State. (Check)
10. Composite. (Check)