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)