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Ciphered Mail and Interception Extension

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Description

The ciphered mail and interception extension to our drone simulator introduces a new entity called a "SkyReaper" which attempts to intercept packages from other drones in the simulation to simulate real threats to drone delivery security. This extension also provides a method of encrypting package information to try and prevent these "SkyReaper" adversaries from stealing package information with varying levels of success.

Why is it Important?

- Adds realistic threats to the simulation
- Addresses issues of drone security
- Adds package encryption which is standard for data integrity in the real world
- Creates a package decorator framework for future package class extensions

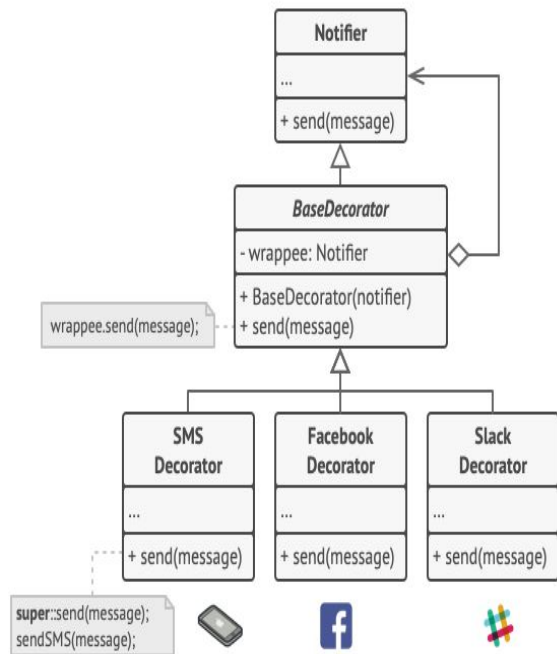
Encryption algorithm name	Brief description	Chance to be cracked
Helix-Vortex Encoding	Recursive spiral-pattern bit shifts.	55%
Chrono-Lattice Cipher	Time-dependent quantum lattice encryption.	39%
Obelisk-9 Mesh Lock	Multi-dimensional hashing grids for fragmentation.	2%

Design Patterns

The Decorator design pattern was used to extend the encryption feature to the Package class.

The Observer design class was used for passing information between Drones and SkyReaper drones. The Drone could send information of its current position to the SkyReaper and once in range the SkyReaper will target this drone.

Decorator Class



Observer Class

