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HW1 - Assignment Reflections

Homework assignment one was designed to help teach principles of abstraction, modularity, and the Strategy design pattern. This was accomplished through designing, implementing, and testing a software interface with a Tello drone.

During the design phase, I came to a few realizations. One was that taking time to create a good design greatly reduces overall implementation time. In particular, taking time to lay out the behavior of my DroneConnection class allowed me to focus more on the lower level connection details during actual implementation. In previous projects I've worked on, jumping right into implementation without first thinking about a solid design resulted in several rounds of re-writing large portions of code.

Another realization was that writing unit test cases is quite fun when the code is designed with testing in mind. Writing unit tests for abstracted and modularized code is much less daunting. After meeting with Dr. Clyde, I learned that there are portions of my code, particularly messages sent to and from the drone, that can be abstracted to allow for more complete testing.

During implementation, in order to test my UDP connection, I create a mock UDP server via Python. However, after discussion with others and discussions during class, I realize now that it would have been much easier to test the DroneConnection class with another instance of itself.

Tello Drone Interface Design