**REPORT: ASSIGNMENT-2**

**ENHANCEMENTS MADE:**

1. Periodic Status tracking of the drones state using multithreading so that there is an updated state of the drone every 100ms.
2. Drone State is used to improve the mission execution, the execution of complex messages like flip and go aborts if the battery percentage goes below 25% and performs a left or right command.
3. Uses move and rotate method in the DroneState.java to get an estimate of drone’s position.
4. **Attempted** but stopped as per the discussion with professor so as to correctly apply the Observer Pattern in the coming assignment.
5. Added the ability to load missions from CSV, XML and JSON files (note use json-simple-1.1.jar and org.json in dependencies not added to the zip file).
6. The drone ports and address are taken as an input from the console to meet the requirement so that the user can set the 8890 and 8889 from the cmd accordingly.
7. (a) Battey Percentage, SDK and Drone Serial are displayed to the user when the user runs the program

(b) The program asks the user to enter the distance for Left/Right/Forward/Back commands and the degrees to rotate in CW/CCW commands and also the type of flip he wants (l/r/lr/rl).

1. The other developers can easily add new type of mission just by over-riding the Mission-Interface and also the user can create a custom mission on his own.(*added after review*)
2. The components responsible for the network communication are used by both Drone Flier and Simulator.
3. The component responsible for message serialization and de-serialization is used by both Drone Flier and Simulator.
4. The drone state is used by both Flier and Simulator.

**Design Patterns Applied:**

Template method design pattern is to define an algorithm as skeleton of operations and leave the details to be implemented by the child classes. The overall structure and sequence of the algorithm is preserved by the parent class. Used in the execution of missions.