

Drone must not be significantly noisy so as to disturb residents

Since this requirement is qualitative, we cannot write a test for this in code. We could test this however in the acceptance testing stage by getting user feedback, perhaps sending surveys out to homes along the flight paths and changing drone model accordingly. We could measure decibels from behind varying levels of noise insulation which may aid in verification of the requirement by providing some measurable aspect.

Limitations:

- Doing this in the acceptance testing stage and identifying a need to change drone so late in development may pose complications for the software that was designed for a specific drone in mind. New drone may differ in performance and limitations leaving some of the software obsolete.
- Results of this testing are inherently subjective since different people can have different tolerances for noise so cannot eliminate noise disturbance completely and a compromise will most likely have to be found

Drone must not exceed more than 2000 moves in one day

We can do system level tests to see if the system completes a day at Appleton tower and with <2000 moves on the counter when we give it order lists that we know are longer than 2000 moves to complete

Limitations:

- May only identify failure at a relatively late stage. "The cost of detecting and repairing a fault increases as a function of time between creating the fault and detecting it."