1.2 - Level of requirements

System

1. All expected endpoints must exist
2. System must retrieve the URL for an external rest service from an environment variable
3. The service should be stateless.
4. Must be able to query the service to retrieve a flight path given a list of MedDispatch (in docker image over HTTP)
5. No response for an endpoint should take more than 30 seconds.
6. Good usability - endpoints shouldn't require too much info
7. Good availability - start time should not be long (< 10 seconds), and crashes should be rare or non-existent
8. System must have good scalability - technically able to be parallelised.
9. Code should be well structured/readable
10. Code should be robust (not crash due to invalid input or runtime errors)
11. Always return appropriate HTTP status codes (200 or 400).
12. Return results as valid JSON

Integration

1. Querying drones must always return correct result
2. Must be able to query the service to retrieve a flight path given a list of MedDispatch (not in docker image, just in the maven build pipeline)
3. A drone flight should deliver all medDispatches assigned to it (if possible)
    1. A "delivery" counts as a drone hovering (The same location twice in the flight path) within 0.00015° of the delivery location.
4. Ensure flight paths begin and end at the same service point.
5. Ensure the flight paths are otherwise correct
6. System must grab all necessary extra information from the external REST service

Unit

1. Drones can only move with an angle that is a multiple of 22.5°
2. Drones can only move by *exactly* 0.00015° in a given direction
3. Drones should not be able to fly over no-fly zones *(no fly zones are defined as rectangles in LngLat space)*. This especially includes corner cutting
4. No medicine should be delivered with a cost exceeding the total_cost associated with that MedDispatch.

$$Total\_Cost = Initial\_Cost + moves \cdot cost\_per\_move + Cost\_Final$$

1. Note that costs are distributed *pro-rata*, meaning if there are two deliveries in a route with a total cost of 22, this should be treated as a cost of 11 per delivery.