

1.4 - Assess the appropriateness of your chosen testing approach

The majority of my testing revolves around the path generation. As with all testing, I can't hope to exhaustively test all possibilities, however with a large range of tests I can make an educated assumption that incorrect output is either extremely rare or non-existent.

This approach only works when tests are repeated, re-sampling the large space from which test cases are drawn from. Whilst this doesn't provide absolute proof of correctness, repeating the tests many times across the restricted bounds inside Edinburgh provides a significant level of confidence that edge cases are being covered.

The random sampling approach is also the most straightforward to implement, providing a strong foundation for other testing to be built off of. Because drone positions and delivery points are continuous in space, discrete models are much harder to meaningfully implement performantly. Additionally, as the requirements chosen are broadly about the legality of the path, black-box testing seemed the most appropriate.

The hope is that with adequate testing all around, not being able to exhaustively test is sufficient to almost certainly ensure that the system meets all chosen functional requirements.