

3.2 Evaluation of Adequacy of Testing

The adequacy of the testing was evaluated through requirement coverage and behavioural correctness.

At the unit level, the testing was considered adequate when all the specified movement requirements were consistently satisfied. This included verifying that every movement step in a generated path was of the fixed step size, each turn was of a valid angle size, and that no-fly zones were strictly avoided. Successful execution of these functional tests provides confidence that the core movement logic behaves correctly.

At the integration level, adequacy was evaluated through confirmation of valid 2D paths being generated upon combination of movement units. Correct interaction with the external ILP REST service was evaluated by comparing the size of retrieved datasets with manually verified source data, ensuring that external data was retrieved and handled correctly.

At the system level, adequacy was assessed using externally observable criteria, specifically correctness of JSON output and ensuring the 30-second time limit was complied with. These criteria directly correspond to system-level requirements and provide confidence that the service behaves correctly on an end-to-end basis.

Formal code coverage metrics were not used. Instead, adequacy was judged based on whether all selected requirements were exercised and validated by the testing.