

Testing

Cohort 1, Team 5:

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Summary of Methods & Approaches

We employed two primary methods of testing throughout development.

Firstly unit tests, unit tests were used for two purposes, to ensure that required assets could be loaded and to check game logic for interactions between actors to ensure they were executed properly. This was for several reasons, unit tests in libGdx's headless environment cannot call any render methods as the OpenGL library is not initialized preventing anything more than game logic from being tested. Furthermore errors in game logic or missing assets cannot always easily be recognised in user tests making unit tests appropriate.

We also employed user testing to check user inputs, game logic that requires time to pass & game logic that has a graphical component.

Tests

Unit Tests

Table: https://eng1team5.github.io/assessment2/unit_tests_table.pdf

Proof: <https://eng1team5.github.io/testing.html>

The Unit Tests all passed however they are not a complete method to test the game, without the user tests it is impossible to ascertain whether graphical elements behave properly and certain elements of game logic that are potentially testable such as pathing and collision checking are impossible to test in this manner due to the nature of the libGDX headless backend. It is possible to change this perhaps by creating a subclass of the headless backend that incorporates elements from the Lwjglapplication class but this would be an engine modification that would need to be maintained manually.

User Tests

Table: https://eng1team5.github.io/assessment2/user_tests_table.pdf

Proof : <https://eng1team5.github.io/demo.html>

(Most Tests are covered in the Demo video, for some reason screenshots don't capture the game window)

The User Tests are quite exhaustive as the list of features the game has is relatively quite short and they are almost all visual in nature to some extent which has contributed to the difficulty of unit testing. There are some tests that cannot be completed because the feature of a demo video has not been implemented, it is inconclusive if this is a passable test as our research has led us to believe that playing video is out of scope for the engine. If this is the case we would need instead to implement some fixed AI logic to allow the game to play itself to form a demo but we have failed to implement this within the timeframe.