

# Manual Testing

These are descriptions of manual test-cases that we designed to test the parts of the code that could not be covered by the automated tests.

**UR\_CAMPUS\_CONSTRUCTION:** The playtester confirmed he could construct a university campus from scratch by placing various buildings

**UR\_BUILDING\_COUNT:** The playtester was able to witness a counter that incremented every time a building is placed down and decremented when moved. They noticed when first placing buildings down and when destroying buildings.

**UR\_LEADERBOARD:** The playtester could see an empty leaderboard at the start of the game with name and score as column headers. Once the playtester reached the end of the game they were able to add their own name and the leaderboard was updated.

**UR\_BUILDING\_VARIETY:** The playtester was able to place at least one building for each category such as educational, residential, recreational and dining. The playtester placed: halls, lecture halls, pubs, gym, restaurant.

**UR\_PAUSE\_FUNCTIONALITY:** The playtester was able to pause the game at any time for their convenience

**UR\_ACHIEVEMENTS:** The playtester obtained achievements during their playthrough of the game such as the: Start the game achievement, Broke achievement, From Nothing achievement. The playtester could see these achievements at the notices section of the game screen and at the endscreen.

**UR\_TIME\_ELAPSED:** The playtester was able to see how much time passed within the game session. Playtester noticed the timer on the top left hand side of the screen.

**FR\_DISPLAYED\_BUILDINGS:** The playtester was able to place down buildings and they noticed that when they placed buildings away from each other their student satisfaction would decrease and when they placed buildings near each other their student satisfaction would increase.

**FR\_BUILDING\_SELECTION:** The playtester was able to select which building type they wanted to place down and they noticed that once selected, that building type button would be highlighted.

**NFR\_USABLE\_UI:** The playtester was able to locate and use the primary functions less than 5 minutes of starting the game. Playtester could locate place, destroy, move, pause, respond to events, quit functions less than 5 minutes from starting the game.

**NFR\_PAUSE\_RELIABILITY:** The playtester paused and resumed the game within <0.1 seconds and without any error every single time the playtester attempted pausing and resuming.

**NFR\_IMMEDIATE\_RESPONSIVENESS:** The playtester's inputs were able to be responded to within <0.1 seconds ensuring seamless interaction. The playtester's inputs included selection of buildings, placing buildings, destruction selection, destruction of buildings.

**NFR\_PERFORMANCE\_SCALABILITY:** The playtester was able to maintain >30 fps when 54 buildings are placed on a system that meet the minimum specifications

**NFR\_STABILITY\_RELIABILITY:** The playtester's game did not crash once during their 5 minute game session.

**NFR\_DISPLAY\_READABILITY:** The playtester's display of the game updated within <0.1 second of changes. The playtester confirmed that the text size was readable on their 1920x1080 resolution screen.

**NFR\_PLATFORM\_COMPATIBILITY:** The playtester's game had full functionality on their windows 11 machine.

**NFR\_TRANSITION\_LOAD\_TIMES:** The playtester's loading screen times did not exceed 5 seconds on a system that met the minimum hardware requirements.