

Manual Tests

This document will provide a detailed description of all manual tests carried out. This includes most ui elements, such as the responsiveness of buttons. In this document, tests will be referred to by their test ID, as the requirement ID that links to each test set can be found in the test plan.

For the remainder of this document, take “Play game” to mean: click “Play” to enter gameplay mode, wait until input data needs to be entered.

Test ID	Test Description	Steps to be followed (input data)	Expected Outcome	Actual Outcome	Status	
					Pass	Fail
For the following tests, lecturer strikes have been queued as the first event to occur, maintaining a consistent gameplay to test. Removing this as the first event has no effect on testing results.						
2.1.1	Is an event displayed when it occurs.	Play game, wait 30 seconds until the first event occurs.	Event will display on the top right of the screen.	Event displays on top right of screen	X	
2.1.2	Does an event affect the score?	Play game, wait 30 seconds until the first event occurs.	The score should decrease by 30.	The score decreases by 30.	X	
2.1.3	Do user actions affect the score during an event.	Play game, wait 30 seconds until the first event occurs, immediately place a library on the map.	The score should increase by 20.	The score increases by 20.	X	
2.1.4		Play game, wait 30 seconds until first event occurs, wait 10 seconds and place a library on the map.	The score should increase by 16. The score increases is proportional to the time elapsed since the start of the event.	The score increases by 16.	X	
2.2.1	Can the user interact with the game to increase the score.	Play game, place 3 buildings next to each other.	The score should increase.	The score increases.	X	
2.2.2	Can the user interact inside events to affect the score. Completed in test 2.1.3-4.				X	
2.2.3	Can the user interact with the game to decrease score.	Play game, wait.	The score should decrease by 1 every second..	The score decreases by 1 every second.	X	

Test ID	Test Description	Steps to be followed (input data)	Expected Outcome	Actual Outcome	Status	
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2.2.4	Can the user achieve achievements within the game.	Play game, place 5 library buildings.	The achievement “academic weapon” is displayed, and the score increases.	As expected.	X	
2.2.5		Play game, place 20 buildings.	The achievement “maximalist” is displayed and the score increases	As expected.	X	
2.3.1	Does the game display a timer.	Play game	A timer is displayed in the top left.	A timer is displayed in the top left.	X	
2.3.2	Does the gameplay change with time	Play game	Events will occur throughout the game.	5 events occurred through the game	X	
2.3.3	Does an event timer stop when the game timer is stopped	Play game, wait for event. Press pause on top left.	Main timer should pause, event timer should pause. Score should not change.	As expected	X	
2.3.4	Does an event timer play when the game timer is played.	Carry out test 2.3.3. Press play on top left.	Both timers should resume counting down. Score should continue to decrease.	As expected	X	
2.3.5	Does the game end when the timer runs out.	Play game. Wait until timer runs out	Timer should reach 00 and stop at 00. The user cannot place buildings, and the score does not change. The leaderboard with the users score included is displayed.	As expected.	X	
2.4.1	Is there a counter showing the number of buildings placed	Play game. Do not place any buildings.	All building counters should display 0.	All building counters display 0.	X	
2.5.1	Can the user enter a username	Press “setting”, the use the change username button to change the username.	When exiting back to main menu, the welcome message should be updated to show the new username.	The welcome message displayed the new username	X	
2.5.2	Is the user’s username displayed on the leaderboard.	Carry out test 2.5.1. Play game.	When game over, leaderboard should display user’s updated username with their score.	The leaderboard displayed the username and the score.	X	

Test ID	Test Description	Steps to be followed (input data)	Expected Outcome	Actual Outcome	Status	
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2.5.3	At the end of the game, is the leaderboard displayed. Completed in test 2.3.5					
2.6.1	Can the user interact with the game to win an achievement. Completed in test 2.2.4-5					
2.6.2	Does the system always recognise the achievement	Achieve 2 achievements simultaneously; place 20 buildings with the last 5 being libraries. Complete these as described above.	The maximalist achievement will be displayed for 15 seconds, followed by the academic weapon achievement.	As expected.	X	
2.6.3	When an achievement is won, it is displayed to the user.	Achieve the maximalist achievement as described above.	The achievement name and description displayed on the top right of the screen.	The achievement is displayed.	X	
2.7.1	Does the game provide a visual map.	Play game.	A map is displayed.	A map is displayed.	X	
2.8.1	Can a user place buildings	Play game. Select a building from the building, and place it on a green area on the map.	The building remains on the map	The building remains on the map.	X	
2.8.2	Do buildings remain where placed.	Complete 2.8.1. Move the map around and adjust the zoom.	The building stays in the same place on the map.	The building remains where expected.	X	
2.9.1	Can the user select a building type and place it	Play 2.8.1 with each different type of building.	The building placed is the building selected	The building placed is always the building selected.	X	
2.9.2	Can the user change the building type before they place it	Play game. Select library, then select again. Click on the map	There is no building to be placed	There is no building to be placed.	X	
2.9.3		Play game. Select	Accommodation is	As expected	X	

Test ID	Test Description	Steps to be followed (input data)	Expected Outcome	Actual Outcome	Status	
					Pass	Fail
		library, then select accommodation. Place building on map.	placed.			
2.10.1	Does the score change when buildings are placed.	Completed in 2.2.1				
2.11.1	Does the map have visual obstacles	Play game.	There will be a map displayed with obstacles.	As expected. There is a lake.	X	
2.11.2	Do the obstacles on the map prevent building placement.	Play game. Attempt to place a building on the lake	The building will not place	As expected	X	
2.12.1	Does the building counter increase when a building of that type is placed.	Play game. Place library	The library will be placed. The Learning counter will increase by 1.	The learning counter increased by 1.	X	
2.12.2	Repeat 2.12.1 with other building types				X	
2.12.3	Does the building counter increase when a building is picked up but not placed.	Play game. Pick up library. Discard library.	Building counter unaffected.	As expected	X	
2.13.1	Do buttons work when game resized.	Resize window. Attempt to press pause and play.	Timer stops and starts	As expected	X	

Exploratory Testing and Results

Exploratory testing revealed we also needed to test how the project behaved when the game ended and was restarted, including pre-saved settings such as the username, and elements such as the map and building counter, which had to be re-instantiated.

We played the game as usual, waiting until the end. At the end of the game, we restarted the game, and started a new game. There were none of the former buildings placed on the map, and all the building counters were a 0.

Conclusion

All the manual tests were performed after the final version of the game was completed, with all passing.