

Software Testing Report

Group 9 - Campus Tycoon

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Manual testing had to be used to test our program, this was due to being unable to get sufficient automated testing to work. To effectively replace this manual tests were made to cover all aspects of the program, and attempted to cover most if not all scenarios that the game provides.

Whenever a new major commit was done and whenever a branch was merged we ran through the list of manual tests as seen below. In addition to this we added new tests as required when new major features were implemented. This prevented the tests becoming outdated with our current working version. Furthermore, this prevented new errors from going unnoticed by developers and only becoming apparent during gameplay on release.

Vs code was used for the actual testing of the program, as this was not only the preferred IDE that our group chose to work with, but it was also the integrated development environment that the game itself was programmed on. This provided consistency in the stages of development. Trello was also used to communicate errors between group members as they became apparent, allowing any group members to work on fixing these, and then providing sufficient functionality to notify other group members when these errors have been fixed.

Test ID	Test Name	Description	Pass/Fail	Notes
1	Run Game Windows	Game can be run from just a .jar on windows devices	Pass	N/A
2	Satisfaction score changes	Satisfaction score should increase and decrease in accordance with the player placing buildings. This should accurately be displayed in the relevant Ui element.	Pass	While the algorithm used is not displayed to the player it is correctly calculated and displayed. The score also changes colour to indicate if the player is doing well or poorly.
3	Max Satisfaction	Satisfaction cannot exceed 100	Pass	In the event it is calculated to exceed 100 it will be set to 100. Previously Failed, a check was added to resolve this.
4	Settings - Menu	Button for settings menu opens relevant screen	Pass	
5	Settings - Resolution	Changing resolution setting in settings menu works	Pass	
6	Settings - Fullscreen	Fullscreen options change between windowed and fullscreen works	Pass	
7	Settings - Saving	When exiting the settings menu, the save button should save these settings.	Pass	
8	Setting - Volume	Volume slider changes volume of game	Fail	Game has no audio so the volume slider doesn't change anything despite full back end functionality being implemented. A Music file would need to be added to resolve this and allow for it to be properly tested.
9	Leaderboard - Display	Clicking button shows up to top 10 scores from previous players from Leaderboard Json File	Pass	File can contain more than or less than 10 entries without issue.
10	Leaderboard - Updates	Leaderboard file will be updated and kept ordered when a run is finished to contain the new score. This will be displayed as well.	Pass	
11	Building - Placement	Player can place all available buildings on the map	Pass	

12	Building - Placement - Charge	Placing a building should charge the player the relevant amount	Pass	
13	Building - Placement - Out Of Bounds	Player can't place Buildings out of bounds (on restricted areas, outside of map, on top of other buildings)	Pass	
14	Building - Placement - Out of funds	The player shouldn't be allowed to place buildings when they have insufficient budget	Pass	
15	Building - Delete	Player can Delete all building on the map by clicking on them and then selecting delete	Pass	
16	Building - Delete - Payout	Deleting a building should refund the player the correct amount	Pass	
17	Building - Move	Player can Delete all building on the map by clicking on them and then selecting delete	Pass	
18	Building - Move- Charge	Deleting a building should charge the player the correct amount	Pass	
19	Pause	When Pausing the game (via UI button or Spacebar) both the timer and gameplay should be paused until the game is resumed	Pass	
20	Pause - Settings Menu	When opening the Settings menu (via esc) the game should automatically pause until the menu is closed. If the player heads to the main menu the game should stay paused until the game is resumed.	Pass	Previously Failed as continuing from the main menu when accessed in this way, would start a new instance of the game. Now resolved.
21	Exit	Pressing exit should close the game	Pass	
22	Timer - Countdown	Timer should countdown from 5 minutes from moment the player presses play and should end the game when it reaches 0	Pass	Previously Failed as the timer counted down 2 seconds for every actual second.

23	Game End	When the game ends the player should be locked out from continuing to play, their satisfaction score noted and the player should be prompted to enter their name for the leaderboard	Pass	
24	Achievements - Trigger	Relevant Achievement should be triggered when the player meets the hidden requirements.	Pass	Previously Failed as the check for some Achievements was not being done at the correct time.
25	Achievements - Notification	When an Achievement is triggered the player should be alerted via a in game notification	Pass	
26	Controls - Display	Clicking button shows list of controls to the player	Pass	
27	Events - Trigger	Events should trigger semi randomly without a direct input from the player	Pass	
28	Events - Notification	When an Achievement is triggered the player should be alerted via a in game notification	Pass	
29	Events - Frequency	Events should not overwhelm the player but at least one should occur per playthrough	Partial Fail	In current implementation we cannot guarantee that this will be true for every playthrough, but in testing we have not had a run without events triggering. We would need to add a manual trigger to the in game timer (at a certain time, trigger the event).
30	Events - Instance	Events should not be consistent between game runs. Specifically the Events should be different and random.	Pass	
31	Events - In game impact	Events should change both the satisfaction score and the budget of the player	Partial Fail	While Budget is changed by events, the satisfaction score is not changed. Unsure why satisfaction score is not changed by events.