Team 4A
4/29/2015
Software FQT

1. Set Up

Test description: Retrieve and compile all necessary material for the tests.

Prerequisite: User must be logged in to a computer in either the EB246 labs or a valid computer in the track room. User must also have the FQT CD containing all valid materials on it.

Step	Action	Expected Result	P/F
1	User inserts FQT CD into lab computer.	CD enters successfully.	
2	User opens a terminal window by right clicking on the screen and selecting "open in terminal".	Terminal window should display.	
3	From terminal window, user types in "cd", then types "qtcreator".	The QT software design studio should start running.	
3.5	User copies the files from CD to his/her home directory either with 'cd' or 'nautilus'.	Files are now saved to disk.	
4	In the QT window, select open project, and navigate to the new directory and select "NodeToNode.pro". Choose this project to open.	QT should open the project, and all associated files. QT should then go to the Configure Project window.	
5	If prompted, press the "Configure Project" button so that QT will configure it for Desktop.	QT should go to the "Edit" tab, bringing up the project files.	
6	Once the project is loaded, select the compile and run option (green arrow near the bottom left-hand corner of the screen) to compile and start the program.	Program should compile and start up for the user.	

Observations:

Pass: ☐   Fail: ☐

2. Create Track Line

Test Description: Test is designed to confirm the most basic function of the project.

Prerequisite: User must have completed Test 1 and have the program running to complete the test.

Step	Action	Expected Result	P/F
1	In the program window, right-click on the grid once to place a node.	Node should appear on screen.	
2	Somewhere else on the grid, right-click again to place a second node.	2 Nodes should be on screen.	
3	While holding the "Ctrl" key, left-click the first, then the second node.	Both nodes should appear highlighted (their circles should be blue).	
4	Press the "Connect (C)" button on the right-hand menu to draw a track segment.	A line should appear between the 2 nodes connecting them together.	

Observations:

Pass: ☐   Fail: ☐

3. Editing Elements

Test Description: Test is designed to showcase the ability to drag elements that have already been constructed.

Prerequisite: User will need to have completed Test case 2, as the test makes use of the pre-existing single track.

Step	Action	Expected Result	P/F
1	Left-click once on the grid while not hovering over any node to clear the selection tool.	None of the nodes/switches should be highlighted blue.	
2	Left-click on one of the 2 nodes on-screen from the previous test.	Node should change to a blue circle to indicate selection.	
3	Click and hold the left mouse button over the selected node, then slowly drag it a short distance towards the other node.	Selected node should follow the cursor, and the track segment should re-adjust as it is being moved.	

Observations:

Pass: ☐   Fail: ☐

4. Switch Creation

Test Description: Test is designed to demonstrate the layout method of creating switches.

Prerequisite: This test case makes use of the previous test case results.

Step	Action	Expected Result	P/F
1	Left-click once on the grid while not hovering over any node to clear the selection tool.	All nodes should appear with a yellow circle to indicate nothing is selected.	
2	Left-click on one of the 2 nodes on-screen from the previous test.	Node should change to a blue circle to indicate selection.	
3	Press the "Switch (S)" button on the right hand menu to enter switch mode.	The selected node should change to a blue square and now be referenced as a "switch".	
4	Right-click once near the node designated as a "switch", preferably close and to the right of the switch.	A node should appear in the spot clicked.	
5	Right-click again near the switch, this time close and to the left side of the switch.	Another node should appear.	
6	While holding "Ctrl", left-click the switch and the first node (the one created on the right side of the switch).	The switch and node should appear blue to indicate they are selected.	
7	Press the "Connect (C)" button on the right-hand menu.	The Switch and node should have a dashed line between them, indicating a "pass-through" section.	
8	While still holding "Ctrl", left-click the node that is highlighted once, then left-click the other node made in this test (the one to the left of the switch).	The node that is connected with a dashed line should appear yellow (de-selected) and the switch and remaining node should be blue.	
9	Press the "Connect (C)" button on the right hand menu.	The switch and node should have a dotted line connecting them indicating a "bypass" section.	

Observations:

Pass: ☐   Fail: ☐

5. SQL Queries

Test Description: User takes track layout from previous tests and uploads information to SQL database.

Prerequisite: This test case makes use of the previous test case results.

Step	Action	Expected Result	P/F
1	Left-click once on the grid while not hovering over any node to clear the selection tool.	All nodes should appear with a yellow circle to indicate nothing is selected.	
2	While holding "Ctrl" left-click the switch and the node connected to the switch with a solid line.	Primary node and switch should be highlighted.	
3	Press the "New Group (G)" button on the right hand side of the screen.	The segments should now be connected as a detection section.	
4	Left-click on the grid to clear, then while holding "Ctrl", left-click the switch and the node to the right with the dashed lines (the pass-through node).	Switch and pass-through node should be highlighted.	
5	Using the box with numbers in the right-hand menu, under the "Connect (C)" button, insert in the box "1-2".	Box should display ONLY "1-2"	
6	Press the "New Group (G)" button.	Switch and node should be connected.	
7	Left-click on the grid to clear, then while holding "Ctrl", left-click the switch and the node to the left with the dotted lines (the bypass node).	Switch and bypass node should be highlighted.	
8	Using the box with numbers in the right-hand menu, under the "Connect (C)" button, insert in the box "1-2".	Box should display ONLY "1-2"	
9	Press the "New Group (G)" button.	Switch and node should be connected.	
10	Click on the "SQL" tab near the top left-hand side of the screen.	User should be brought to the SQL window.	
11	Press the "Connect" button at the bottom left-hand side of the screen.	Button should be greyed out as SQL connection.	
12	Press the "Clear Vertices"	SQL is cleared for new	

	Button.	information.	
13	Press the "Upload Vertices" button.	Track layout uploaded to SQL database. Output will be displayed in console, not in window.	
14	Left-click the "Track" tab to return.	User can ask for SQL database verification if needed. Console will display if successful though.	

Observations:

Pass: ☐   Fail: ☐

6. Layout Clear

Test Description: Showcase ability to clear elements from layout.

Prerequisite: Grid is populated with elements from previous tests.

Step	Action	Expected Result	P/F
1	Press "Ctrl" and the "A" key on the keyboard in sequence (do not let go of any key until all have been pressed).	All nodes and switches on screen should be highlighted.	
2	Press the "Delete (del)" button on the right-hand menu.	All track elements should be cleared from the screen.	

Observations:

Pass: ☐   Fail: ☐

7. Remaining Features

Test Description: Test is designed to display the remaining features of the program.

Prerequisite: User should begin test with a cleared screen following the events of Test case 6.

Step	Action	Expected Result	P/F
1	Right-click once in the middle of the track grid to create a node.	A node should appear roughly in the center of the screen.	
2	Press the down arrow button on the right-hand menu twice.	The node should appear to travel down twice, as the grid is shifted down. This shows the grid changing veiwpoint.	
3	Left-click the "Info" tab at the top right hand section of the window.	Window should switch to the "Info" section. User can then observe a list of short-cut commands.	
4	Left-click the "Track" tab to return.	User returns to Track window.	

Observations:

Pass: ☐   Fail: ☐