## Purpose:

Explains what the purpose of the taken test is. In our case we want to check if we can redirect our user to the main menu screen under certain conditions.

## Target on screen:

The actual screen commands the user will interact with.

## Test Data/Simulation:

Test our actions under different kinds of conditions and with different kinds of data to check if we have captured all the exceptions and if we take necessary precautions to prevent the action from crashing.

## Expected Result:

What is the expected result in each different case we ran the test.

## Actual Result:

The actual result that occurred during the test.

## Outcome and actions required:

Compare the Expected results and the actual results to come to conclusions what kind of actions are to be taken to fix the inaccuracies.

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| No. | Test Name | Purpose | Target on screen | Test Data/Simulation | Expected Result | Actual Result | Outcome and Actions required |
| 1. | Add crossing  \*If user wants to modify the traffic light system, go to the test for use case “modify traffic light system”. | Check if the user can successfully add a crossing without losing any data. | User choose a crossing🡪user drags a crossing to a cell🡪user drop the crossing🡪user chooses one traffic light system🡪 user modify the traffic light system(optional)🡪 system place the crossing in the cell. | 1. When simulation is in “initial state”. 2. When simulation is NOT in “initial state”. 3. User drops the crossing in a blank cell. 4. User drops the crossing not in a cell but in somewhere else. 5. User drops the crossing in a cell which is not black. 6. User gives up the operation halfway. | 1. System will let the user choose one traffic light system. 2. System will show nothing. 3. System will let the user choose the one traffic light system. 4. System will give a proper error message. 5. System will give a proper error message. 6. System cancels the operation and gives a proper message. |  |  |
| 2. | Delete crossing | Check if the user can successfully delete a crossing. | User right click on a crossing 🡪choose the “delete crossing”🡪confirm deletion🡪system deletes the crossing. | 1. When simulation is in “initial state”. 2. When simulation is NOT in “initial state”. 3. User right clicks a cell with a crossing. (in “initial state”) 4. User right clicks a blank cell. (in “initial state”) 5. User cancels the operation when the system is asking confirmation. | 1. System will show the option panel. 2. System will show nothing. 3. System will show the option panel 4. System will show nothing. 5. System does not delete the crossing and give a proper message. |  |  |
| 3. | Change crossing  \* After the user chooses a new crossing, go to the test for use case “add crossing”. | Check if the user can successfully change the setting of a crossing. | User right click on a crossing 🡪choose the “change the crossing”🡪choose a crossing🡪set the traffic light🡪system changes the crossing. | 1. When simulation is in “initial state”. 2. When simulation is NOT in “initial state”. 3. User right clicks a cell with a crossing. (in “initial state”) 4. User right clicks a blank cell. (in “initial state”) 5. User gives up the operation halfway. | 1. System will show the option panel. 2. System will show nothing. 3. System will show the option panel 4. System will show nothing. 5. System cancels the operation and gives a proper message. |  |  |

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| 4. | Rotate crossing | 1. Crossing will be rotated 90 degrees counter clockwise 2. The properties of the 4 roads will be swapped.  3. Flow will be altered appropriately as well.  Test all above 3 requirements whether to reach under different simulation states. | Grid->Crossing->Right click menu->Rotate | 1.When simulation is in “Initial state”  2.When simulation is running  3.When simulation is paused | 1. User is able to rotate existing crossing on the grid cell. All 3 requirements will be fulfilled.  2. User is not allowed to rotate crossing. All 3 requirements stay same as previous setting.  3. User is not able to rotate existing crossing on the grid cell. All 3 requirements stay same as previous setting. |  |  |
| 5. | Modify traffic light | 1. Interval times of states will be changed follows rules.  2. Able to change input of state.  Test all above 2 requirements whether to reach under different simulation states. | Hover over a crossing->click left corner output icon->setting window | 1.When simulation is in “Initial state”  2.When simulation is running  3.When simulation is paused | 1. User is able to modify traffic light for certain crossing on the grid cell. All 2 requirements will be fulfilled.  2. User is not allowed to modify traffic light for crossing. All 2 requirements stay same as previous setting.  3. User is not allowed to modify traffic light for crossing. All 2 requirements stay same as previous setting. |  |  |
| 7. | Alter flow for crossing | Test modifying flow whether is available, under different simulation states. | Grid->Crossing->Right click menu->crossing setting->flow setting | 1.When simulation is in “Initial state”  2.When simulation is running  3.When simulation is paused | 1. User is allowed to alter flow for existing crossing on the grid cell.  2. User is not allowed to alter flow.  3. User is not allowed to alter flow. |  |  |
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| 8. | Navigate | User require to change the cars flow in specific route. | Project-grid screen->Navigation button | 1. When simulation is in running state.  2.When simulation is in pause state  3.When simulation is in initial state | 1.Navigation button is unavailable for users  2.Navigation button is unavailable for users  3.User clicks the navigation start point button, then user selects start point ,then clicks the destination point button and selects end point and input the flow numbers, click confirm button and the data saved or back to default value. After save value, system calculates the new data. |  |  |
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| No. | Test Name | Purpose | Target on screen | Test Data/Simulation | Expected Result | Actual Result | Outcome and Actions required |
| 9. | Play Simulation | System simulates the project | Project-grid screen ->Play simulation | 1. When simulation is in running state.  2.When simulation is in pause state  3.When simulation is in initial state | 1. During the running state, play simulation button change to stop simulation button, user can only stop simulation.  2. Play simulation button is available for user to resume system.  3. Play simulation button is available for user to start system. |  |  |
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