Fontys

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Trafic Control System

Test Plan

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Contents

1 Introduction

The purpose of this test-plan is to see whether all functionalities described in the usecases are working correctly and whether certain usndesired actions affect the program's workflow. Instead of constant warning pop-up when a certain action is not permitted we focused on preventing the user from creating mistakes as much as possible, meaning certain functions will be disabled when they're not supposed to be accessed.
We will conduct a small test with a handful of testers and conduct a final reconfiguration before the final acceptance test with the client.

2 Test Action

This test action are based on URS document we already made.

Scenarios:

- Positioning a lane
- Rotating the component
- Positioning a crossing
- Configurating traffic ligtht timing
- Deleting the component
- Setting up the amount of incoming cars
- Running simulation
- Stopping the simulation
- Pausing simulation
- Load file
- Save file
- Save file as a new file
- Resizing the grid

3 Test tables

Explanation:

- Target on screen
  The actual screen commands the user will interact with.
- Test Data/Simulation
  Test 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 prcautions to prevent the action from crashing.
- Result
  What is the result in each different case we ran the test.

3.1 Positioning a lane

1. Pre-Condition
   - The application is successfully opened.
   - No simulation is running.
   - Grid B3 is occupied with lane TypeA.
   - Grid C4 is occupied with crossing TypeA.
2. Target on screen
   - User click on the Lane tab.
   - User chooses a lane.
   - User drags the lane from the Lane tab.
   - User places the lane on the grid.
3. Test Data/Simulation
   - User chooses a lane TypeA, by left clicking the mouse, and then drags it to the grid (gridB2).
   - User choose a lane TypeB, by left clicking the mouse, and then drags it in the grid (gridB3).
   - User choose a lane TyoeA, by left clicking the mouse, and then drags it to the grid (gridC4).
   - User choose a lane TypeB, by left clicking the mouse, and then drags it outside the grid.
4. Result
   - A lane with TypeA shows in grid B2.
   - System gives an error message "Grid occupied". Grid B3 does not change.
   - System gives an error message "Grid occupied". Grid C4 does not change.
   - System gives an error message "Please places inside the grid.

Tester name:	Test date:
Result: [PASS] / [FAIL]	Comment:

3.2 Rotating the component

1. Pre-Condition
   - The application is successfully opened.
   - No simulation is running.
   - Grid B3 is occupied with lane TypeB.
   - Grid C4 is occupied with crossing TypeA.
2. Target on screen
   - User choose a component in the grid.
   - User right clicks on the component.
   - User selects "Rotate" from right-click menu.
3. Test Data/Simulation
   - User right click on grid B3 then choose rotate option by left clicking the mouse.
   - User right click on grid C4 then choose rotate option by left clicking the mouse.
   - User right click on grid D1.
4. Result
   - Lane on grid B3 has rotated 90 degrees clockwise.
   - Crossing on grid C4 has rotated 90 degrees clockwise.
   - Nothing happens and no option pop out.

Tester name:	Test date:
Result: [PASS] / [FAIL]	Comment:

3.3 Positioning a crossing

1. Pre-Condition
   - The application is successfully opened.
   - No simulation is running.
   - Grid B3 is occupied with lane TypeB.
   - Grid C4 is occupied with crossing TypeA.
2. Target on screen
   - User click on the Crossing tab.
   - User chooses a crossing.
   - User drags the crossing from the Crossing tab.
   - User places the crossing on the grid.
   - User sets the initial setting of that crossing.
3. Test Data/Simulation
   - User choose a crossing TypeA, by left clicking the mouse, and then drags it to the grid (gridB2). Setting the initial setting in the pop-up window.
   - User choose a crossing TypeB, by left clicking the mouse, and then drags it to the grid (gridB3).
   - User choose a crossing TypeA, by left clicking the mouse, and then drags it to the grid (gridC4).
   - User choose a crossing TypeB, by left clicking the mouse, and then drags it to the grid (gridC2). User without setting any attributes of that crossing.
   - User choose a crossing TypeA, by left clicking the mouse, and then drags it to the grid (gridsC3). User clicks on the cancel button in the pop-up window.
   - User choose a crossing TypeB, by left clicking the mouse, and then drags it outside the grid.
4. Result
   - A crossing with TypeA shows in grid B2. System set attributes to that crossing.
   - System gives an error message "Grid occupied". Grid B3 does not change.
   - System gives an error message "Grid occupied". Grid C4 does not change.
   - A crossing with TypeB shows in grid C2. System set default attributes to that crossing.
   - A crossing with TypeB shows in grid C3. System close the setting window and without setting attributes.
   - System gives an error message "Please places inside the grid.

Tester name:	Test date:
Result: [PASS] / [FAIL]	Comment:

3.4 Configurating traffic light timing

1. Pre-Condition
   - The application is successfully opened.
   - No simulation is running.
   - Grid B3 is occupied with lane TypeB.
   - Grid C4 is occupied with crossing TypeA.
2. Target on screen
   - User choose a crossing in the grid.
   - User right clicks on the crossing.
   - User selects "Traffic light configuration" from right-click menu.
   - User selects a light group in the listbox of the light groups.
   - User change the green light time on the numericUpDown.
   - User clicks the "Complete" button.
3. Test Data/Simulation
   - User right click on grid C4 then choose Traffic light configuration option by left clicking the mouse. After selected a light group and changed the time by the numericUpDown, user click on Change. User click on complete.
   - User right click on grid C4 then choose Traffic light configuration option by left clicking the mouse. After changed the time by the numericUpDown, user click on Change all. User click on complete.
   - User right click on grid C4 then choose Traffic light configuration option by left clicking the mouse. And without change anything then click on close.
   - User right click on grid B3.
   - User right click on grid A1.
4. Result
   - System sets the green light time of that chosen light group and close the configuration window.
   - System sets that value to all the light groups and close the configuration window.
   - System without change anything and close the configuration window.
   - System only shows the rotate option.
   - Nothing happends and no option pop out.

Tester name:	Test date:
Result: [PASS] / [FAIL]	Comment:

3.5 Deleting the component

1. Pre-Condition
   - The application is successfully opened.
   - No simulation is running.
   - Grid B3 is occupied with lane TypeB.
   - Grid C4 is occupied with crossing TypeA.
2. Target on screen
   - User choose a component in the grid.
   - User right clicks on the component.
   - User selects "Delete" from right-click menu.
3. Test Data/Simulation
   - User right click on grid B3 then choose rotate option by left clicking the mouse.
   - User right click on grid C4 then choose rotate option by left clicking the mouse.
   - User right click on grid D1.
4. Result
   - Lane on grid B3 has deleted.
   - Crossing on grid C4 has deleted.
   - Nothing happens and no option pop out.

Tester name:	Test date:
Result: [PASS] / [FAIL]	Comment:

3.6 Setting up the amount of incoming cars

1. Pre-Condition
   - The application is successfully opened.
   - No simulation is running.
   - Grid B3 is occupied with lane TypeB.
   - Grid C4 is occupied with crossing TypeA.
2. Target on screen
   - User chooses a textbox on one of the components which already in the grid.
   - User define the amount of the cars coming through the lanes in that textbox.
3. Test Data/Simulation
   - User click on a textbox in grid B3 and input a value.
   - User click on a textbox in grid C4 and input a value.
   - User click on a textbox in gird B3 and without input a value.
   - User doesn't click on a textbox.
4. Result
   - System sets the amount of incoming car of which user changed in the lane.
   - System sets the amount of incoming car of which user changed in the crossing.
   - System sets the amount of incoming car of which user changed in the lane to defalut value.
   - Nothing happens.

Tester name:	Test date:
Result: [PASS] / [FAIL]	Comment:

3.7 Running a simulation

1. Pre-Condition
   - The application is successfully opened.
   - No simulation is running.
   - The simulation is set up.
2. Target on screen
   - User clicks on "Start/Stop" button.
3. Test Data/Simulation
   - User click on start.
   - The simlation start.
4. Result
   - After user click on start, system shows the cars flow go through all the lanes in the components which are already placed in the grid. Also the traffic light time changing like the setting in the configuration. Cars stop when the light is red and go when the light is green. And the button of pause is availabled.

Tester name:	Test date:
Result: [PASS] / [FAIL]	Comment:

3.8 Stopping simulation

1. Pre-Condition
   - The application is successfully opened.
   - A simulation is running.
2. Target on screen
   - User clicks on "Start/Stop" button.
3. Test Data/Simulation
   - User click on stop.
   - The simlation stop.
4. Result
   - After user click on stop, system stop the simulation. All the cars are disappear and the light stop changing. The pause button is disabled

Tester name:	Test date:
Result: [PASS] / [FAIL]	Comment:

3.9 Pausing simulation

1. Pre-Condition
   - The application is successfully opened.
   - A simulation is running.
2. Target on screen
   - User clicks on "Pause" button.
3. Test Data/Simulation
   - User click on pause.
   - The simlation paused.
4. Result
   - After user click on pause, system pause the simulation. All the cars are is stop and the light stop changing. The text of the pause button change into resume.

Tester name:	Test date:
Result: [PASS] / [FAIL]	Comment: