Test Plan

Group B

Traffic-Kings

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# Introduction

A test plan lets us specify what we want to test and how to run those tests. A test plan can be applied to a specific iteration of the project.

# Scenarios

1. Adding crossing
2. Adjust number of cars from outside
3. Adjust number of pedestrians
4. Adjust green light time
5. Rotate crossing
6. Removing crossing
7. Save File
8. Load File
9. Checking lane availability for the cars

## Adding Crossing

### Description:

This scenario will add crossing on a cell. The main form has two type of crossing type 1 and type 2. Type 1 will be without pedestrian and Type 2 will be with pedestrian. Tester can select between the two crossings. After selecting the crossing, tester can drag the selected crossing and drop it to the location on the cell. So if the cell is empty, the crossing will be added on that location. If not then the tester can override the new selected crossing over the previous crossing or drag it to another empty cell or cancel process.

### Purpose:

The purpose of this test is to add crossing on the cell of the main grid.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| 1. Add crossing | 1. Select a crossing (type 1 or type 2) 2. Drag crossing from interface to the cell(type 1 or type 2) 3. System adds crossing on that cell. | System adds a crossing to the selected cell.(pass) |  |
| 1. Select a crossing (type 1 or type 2) 2. Select the cell which is already occupied 3. System shows a message. 4. Tester selects yes. | System overrides the crossing.(pass) |  |

## Adjust number of cars from outside

Description:

The defined use case of adjusting number of cars, we are going to follow the same steps to test the adjusting number of cars. This test will show the user if user can able to adjust the number of cars and if it will be done in a correct way.

### Purpose:

The purpose of this test is to adjust the number of cars.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Adjust Number of Cars | 1. Desired area clicked on crossing 2. Simulation pauses and system zoomed-in desired area 3. System pops-up a menu on the right sidebar 4. User adjust the number of cars and clicks ok 5. Pops-up windows disappeared. | System gives message “successfully adjusted”, and the number of cars increased.(pass) |  |
| 1. Desired area clicked on crossing 2. Simulation pauses and system zoomed-in desired area 3. System displays a menu on the right sidebar 4. User closes the displayed menu without changing any value. | Nothing happen |  |

## Adjust number of pedestrians

### Description:

There are two different types of crossings and one of them is including pedestrians. The tester will adjust the number of pedestrians after selecting the certain crossing with pedestrian. There will be a special box that allows tester to increase or decrease the number of pedestrians.

### Purpose:

The purpose of this test is to adjust the number of cars in order to simulate different situations.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Adjusting number of pedestrians | 1. Double click on one crossing 2. System zooms in the crossing 3. Increase the number of pedestrians 4. Choose Confirm 5. Choose Save | Simulation shows increasing number of pedestrians and move correctly |  |
| 1. Double click on one crossing 2. System zooms in the crossing 3. Decrease the number of pedestrians 4. Choose Confirm 5. Choose Save | Simulation shows decreasing number of pedestrians  And move correctly |  |

## Adjust green light time

### Description:

This scenario will adjust the green time duration. Tester selects the crossing and chooses the time duration from options and select apply.

### Purpose:

The purpose of this test is to be sure that, if the user changes the settings of traffic light time, so the traffic light will correspond correctly to the changes.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Adjust Green light duration | 1. User Clicks on the cell  2. system show form2  3. Tester increase time duration from setting for 3 seconds.  4. click the “Confirm” button  5. System confirms the setting. | System sets the time duration for 3 seconds and displays the crossing with new duration. |  |
| 1. click on the cell  2. system show form2  3. Tester decrease time duration from setting for 1 second.  4. click the “Confirm” button  5. System confirms the setting. | System sets the time duration for 1 second and displays the crossing with new duration. |  |
| 1. Click an empty cell 2. Nothing happens. | Nothing happens. |  |

## Rotate crossing

### Description:

User wants to rotate the crossing. The feature available is to rotate the crossing clockwise 90 degrees. User can click as many times as he wants and the map will be rotated 90 degrees by each click.

While the simulation is running and there is a crossing on the screen, user clicks on crossing to be selected then user clicks on icon on the menu bar to rotate the crossing.

### Purpose:

The purpose of this testing is s to rotate the crossing

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| 1. Rotate crossing | 1. Double click on one crossing 2. System pause and zooms in the crossing 3. User click on the right menu bar on rotation icon.   user repeat the above steps | System will rotate the crossing 90 degrees(pass)  Nothing happens(fail) |  |

## Remove crossing

### Description:

This scenario will remove a crossing from the selected cell. Testers can simply remove a crossing by selecting the desired crossing, right clicking on it and choose the delete option. The system will show a conformation window where the tester can confirm or cancel the process.

### Purpose:

The purpose of this test is to remove a crossing.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| 1. Remove crossing | 1. Click the crossing 2. Right click inside the crossing and select delete 3. System show message. 4. Tester select yes. | System removed the crossing at the selected cell(pass) |  |
| 1. Click an empty cell 2. Nothing happen | Nothing happen |  |

## Save File

**Description:**

Defined use case of save file, we are going to follow the steps to test the saving file. This test will show the user, if user can save a file and if it will be done in a correct way.

### Purpose:

The purpose of this test is to be able to save the current simulations.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Save File | 1. Choose “Save” option from user interface  2. System opens save dialog box  3. Choose the directory where to save the File & give file name  4. Click “Save” button | System gives message “successfully saved”  (pass) |  |
| 1. Choose “Save” option from user interface 2. System opens save dialog box 3. Choose the directory where to save the File & give file name 4. Click “Cancel” button | Nothing happen |  |
| 1. Choose “Save” option from user interface 2. System opens save dialog box 3. Choose the directory where to save the File & give file name which is already exist 4. Click “Save” button 5. System gives message “File name already exist. Do you want to overwrite? ” 6. Chooses “YES” button | The file is overwritten  (pass) |  |
| 1. Choose “Save” option from user interface 2. System opens save dialog box 3. Choose the directory where to save the File & give file name which is already exist 4. Click “Save” button 5. System gives message “File name already exist. Do you want to overwrite? ” 6. Chooses “NO” button | Nothing happen |  |

## Load File

### Description:

By loading map, it’s easier and more convenient to continue the unfinished simulations or revisit the previous simulations. User can load the map simply by clicking the load button and choosing the specific file.

### Purpose:

The purpose of this test is to be able to continue the unfinished simulations or revisit the previous simulations.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Loading File | 1. Click on Load button 2. System pops up an open dialog box. 3. Choose a file from directory. 4. System loads the file and displays the simulation on the screen. | Simulation is successfully displayed on the screen and works fine(pass) |  |

## Checking lane availability for the cars

### Description:

This test will check the availability of a lane. Each lane between crossings has a maximum number of cars which they can hold. So if there is a car which wants to go to that lane, the car must check if there is still a spot left for it to go there. If not then the car cannot go to that lane or they must wait till the lane has empty spot.

### Purpose:

In this test, we will examine if the car can go to the next lane if, a free spot available on the lane, If not then car must wait (even if the traffic light is green), to have a free spot in that lane.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| 1. Lane availability | 1-user start simulation  2-user add few cars on different lanes  3-user runs (play) simulation again.  Other case: there is no free spot on the lane. | System moves a car to the next available lane.  Cars will wait till there is free spot. |  |

## 10. Create new Simulation

### Description:

In this test, we are going to create new simulation file. We check if we can start a new simulation by choosing the right option.

### Purpose:

To start a new simulation and see what happens when we choose the new simulation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Create new Simulation | 1-user choose create new simulation  2-system asks if he/she wants to save the current project.(if there is any running simulation).  3-user choose yes (go to save file case)  4-user choose no and continues | System creates new traffic simulation. |  |