

test plan

First Version



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Traffic Lights System

# **Introduction**

## **Purpose**

This test plan describes the testing approach and overall framework that will drive the testing of the Traffic Lights System. The document introduces:

* Test Strategy: rules the test will be based on, including the givens of the project; description of the process to set up a valid test.

## **Project Overview**

Traffic Lights System is a tool provide with the necessary tools to regulate the traffic within Csharp city to prevent traffic accidents. By having control over the traffic system the mayor’s desire of safe city will be satisfied.

The functionality of the traffic stimulation program that can simulate different traffic situations within the city. The simulations can be adjusted for different scenarios and will provide with accurate results that can be related to real life.

## **Audience**

* Project team members perform tasks specified in this document, and provide input on this document.
* Project Manager Plans for the testing activities in the overall project schedule, reviews the document, tracks the performance of the test according to the task herein specified, approves the document and is accountable for the results.

# **Test Strategy**

## **Test objectives**

The objective of the test is to verify that the functionality of Traffic Lights System works according to the specifications.

The final product of the test is twofold:

* A production-ready software;
* A set of stable test scripts that can be reused for Functional test execution.

## **Test Assumptions**

**Key Assumptions**

* Production like data required and be available in the system prior to start of Functional Testing.

**General**

* Exploratory Testing would be carried out once the build is ready for testing.
* Performance testing is not considered for this estimation.
* The project will provide test planning, test design and test execution support.
* There is no environment downtime during test due to outages or defect fixes.
* The system will be treated as a black box; if the information shows correctly online and in the reports, it will be assumed that the database is working properly.

**Functional Testing**

* During Functional testing, tester will use preloaded data which is available on the system at the time of execution.

## **Test Principles**

* Testing will be focused on meeting the business objectives, cost efficiency, and quality.
* There will be common, consistent procedures for all teams supporting testing activities.
* Testing processes will be well defined, yet flexible, with the ability to change as needed.
* Testing will be a repeatable, quantifiable, and measurable activity.

## **Functional Test**

**PURPOSE:**  Functional testing will be performed to check the functions of application. The functional testing is carried out by feeding the input and validates the output from the application.

### **Select a crossing to place**

**Description:**

This scenario will select crossing type. 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 .

**Purpose:**

The purpose of this test is to select the crossing type.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Place a crossing**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Remove a crossing**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Create a simulation**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Save a simulation**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Load a simulation**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Edit a road traffic flow**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Start a simulation**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Stop a simulation**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Pause a simulation**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Restart a simulation**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Undo an action**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Redo an action**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Save simulation results**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Show the help window**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Exit application**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Override simulation (Add police, ambulance, firetruck cars)**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Relocate crossing**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Startup the application**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Show simulation**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Select crossing’s component to make changes**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Set current active crossing**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

### **Edit a crosswalk’s pedestrian flow**

**Description:**

**Purpose:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Method** | **Expected result** | **Success?** |
| Select a crossing to place | 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) |  |

# Test Environment

Traffic Lights System application will do the simulation.

A windows environment with .Net 3.0+ Framework.