

# GUI Testing Report

Group 2 *Coding Pharaohs*

Presented by Abdulaziz ALHULAYFI a1642362

November 2, 2013

# 1 Introduction

This document provides manual testing of the Graphical User Interface (GUI) that is used to control the whole program of the robot. The document also shows all testing outputs of the functionalities that can be performed using the GUI such as connect, move forward, mark road closure etc..

## 2 Test Cases

### 2.1 GUI Connection Buttons

Description	Connect and disconnect buttons can establish a connection as well as disconnection between the PC and the robot
Priority	High
Prerequisites	The robot is turned on and the program is run
Test procedure	<ol style="list-style-type: none"><li>1. Run the program to open the graphical user interface.</li><li>2. Click on the "Connect" button to establish a connection.</li><li>3. Wait for few seconds for the PC to be connected to the Robot</li><li>4. Click on the "Disconnect" button to disconnect the PC from the robot</li></ol>
Expected result	PC connects/disconnects with the robot and the message "Connected" appears on the the robot LCD display and GUI connection bar.
Actual result	PC connects/disconnects successfully with the robot
Status	Pass

### 2.2 Manual Movement Control Buttons

Description	In manual mode, two movement buttons (move forward, move backward) allow robot to move according to arrows directions. Two rotating buttons change the direction of the robot accordingly.
Priority	High
Prerequisites	The robot is turned on and PC is connected to the robot
Test procedure	<ol style="list-style-type: none"><li>1. Connect PC to the robot</li><li>2. Click on forward/backward pointed arrows buttons to move the robot forward or backward.</li><li>3. Click on right/left rotating buttons to change the direction of the robot according to arrows directions.</li></ol>
Expected result	The robot moves forward and backward and it rotates according to arrows directions
Actual result	Robot moves and rotates appropriately
Status	Pass

### 2.3 File Options Menu

Description	The file menu has three options: load, save and quit. These options are used to load xml map files, save cureently explored map to xml file and quit the whole program.
Priority	High
Prerequisites	The program is run
Test procedure	<ol style="list-style-type: none"><li>1. Run the graphical user interface</li><li>2. Click on the file options menu</li><li>3. Click on load and chose the xml file map from the computer</li><li>4. Click again on the file options menu and type a name for the current map</li><li>5. Click save to save the map to xml file</li><li>6. Click again on the file options menu and click quit to close the program</li></ol>
Expected result	The map can be loaded/saved and the program closes when choosing quit
Actual result	The map is successfully loaded and saved and the program is closed
Status	Pass

### 2.4 Auto Mapping Option Button

Description	When choosing the automatic mapping option, the robot starts to move and explore areas on the map independently
Priority	High
Prerequisites	The program is run and PC is connected to the robot
Test procedure	<ol style="list-style-type: none"><li>1. Run the user interface</li><li>2. Connect PC to the robot</li><li>3. Place the robot on the physical map</li><li>4. Click on the "Start Auto Mapping" button</li></ol>
Expected result	The robot runs in the automatic mode and it moves and explores the map independently
Actual result	The robot successfully explores the map automatically
Status	Pass

## 2.5 Mark Road Closure Button

Description	Marking road closures is a function that allows the robot to lower down the marker pen to mark road closure on the physical map. It also shows the road closure on the GUI map.
Priority	High
Prerequisites	The program is run and PC is connected to the robot
Test procedure	<ol style="list-style-type: none"><li>1. Run the user interface</li><li>2. Connect PC to the robot</li><li>3. Place the robot on the physical map</li><li>4. Chose any type of exploration (manual or automatic)</li><li>5. Click on the "Mark Road Closure" button to mark road closure on both physical and GUI map</li></ol>
Expected result	The robot runs lowers down its marker on the paper map and mark a closure and a closure appears on the GUI map
Actual result	Road closure has been marked successfully
Status	Pass

## 2.6 Stop Button

Description	Stop is a function in the user interface that stops all activities of the robot
Priority	High
Prerequisites	The program is run and PC is connected to the robot, and the robot is moving
Test procedure	<ol style="list-style-type: none"><li>1. Run the user interface</li><li>2. Connect PC to the robot</li><li>3. Chose any type of exploration (manual or automatic)</li><li>4. When robot starts moving, click on the "Stop" button</li></ol>
Expected result	When "Stop" button is clicked the robot should be terminated
Actual result	The robot responded to the event and stoped all movements successfully
Status	Pass

## 2.7 Return to Base Button

Description	Return to base is a function that allows the robot to return to its starting point
Priority	Medium/High
Prerequisites	The program is run and the robot is in the process of exploring
Test procedure	<ol style="list-style-type: none"><li>1. Run the user interface</li><li>2. Connect PC to the robot</li><li>3. Chose any type of exploration (manual or automatic) for the robot to move from its starting point</li><li>4. Click on the "Return TO Base" button</li></ol>
Expected result	The robot stops exploration and moves towards its starting
Actual result	The robot returns to the base where it started
Status	Pass

## 2.8 AI View Button

Description	AI view function displays the paths that the robot follows, and the spots of road closures, obstacles and intersections
Priority	Medium
Prerequisites	The program is run and map is loaded
Test procedure	<ol style="list-style-type: none"><li>1. Run the user interface</li><li>2. Load xml map file</li><li>3. Click on the "AI View" button</li></ol>
Expected result	AI view appears on the map with all details displayed
Actual result	AI view is on and with the appropriate details displayed
Status	Pass

## 2.9 Robot Speed Slider

Description	This function allows the robot to increase and decrease its speed
Priority	Low/Medium
Prerequisites	The program is run and PC is connected to the robot, and the robot is moving
Test procedure	<ol style="list-style-type: none"><li>1. Run the user interface</li><li>2. Connect PC to the robot</li><li>3. Chose any type of exploration (manual or automatic) for the robot to move</li><li>4. Slide the speed slider right/left to increase or decrease the robot speed</li></ol>
Expected result	The robot movement speed changes according to selected speed
Actual result	The robot speed changes successfully
Status	Pass

## 2.10 Robot Information Display

Description	Information display panel shows three types of information: Distance between robot and objects in the front of it, battery level and connection status
Priority	High
Prerequisites	The program is run and PC is connected to the robot
Test procedure	<ol style="list-style-type: none"><li>1. Run the user interface</li><li>2. Connect PC to the robot</li><li>3. Place the robot on the physical map</li></ol>
Expected result	All information is displayed
Actual result	Robot information is displayed successfully
Status	Pass