Test Document

Project: LIBERTY
Task: WIFI Data Transfer

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1.0 TESTS

1.1 Wifi data receiver test

Test 1: Wifi test

Date: 29/10/2017
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1) This test will validate the functionality of the one way wifi communication, in order to confirm that the brick can receive data over wifi from a server.
2) This test should print to the console all the data transmitted from the server and the server GUI should output a success message after transmission.
3) The main class in the project instantiates the wifi class using "`WifiConnection conn = new WifiConnection(SERVER_IP, TEAM_NUMBER, ENABLE_DEBUG_WIFI_PRINT);`". Then, in a try/catch method, the data is assigned to a map called "data", using "`data = conn.getData();`". Finally, a print statement is used to print this data to the brick: "`System.out.println("Map:\n", data);`". To run the server that transmits the data, we call "java -jar "DPM Server Fall 2017.jar" where the server jar file is located. Then, we input the test data as desired and click "start". The console in the GUI should then print the status of the operation.
4) The brick should print out a line that includes all the data sent to it, showing the variables and the value. The server GUI should display a success message. The brick's console should display the same data inputted from the server GUI.
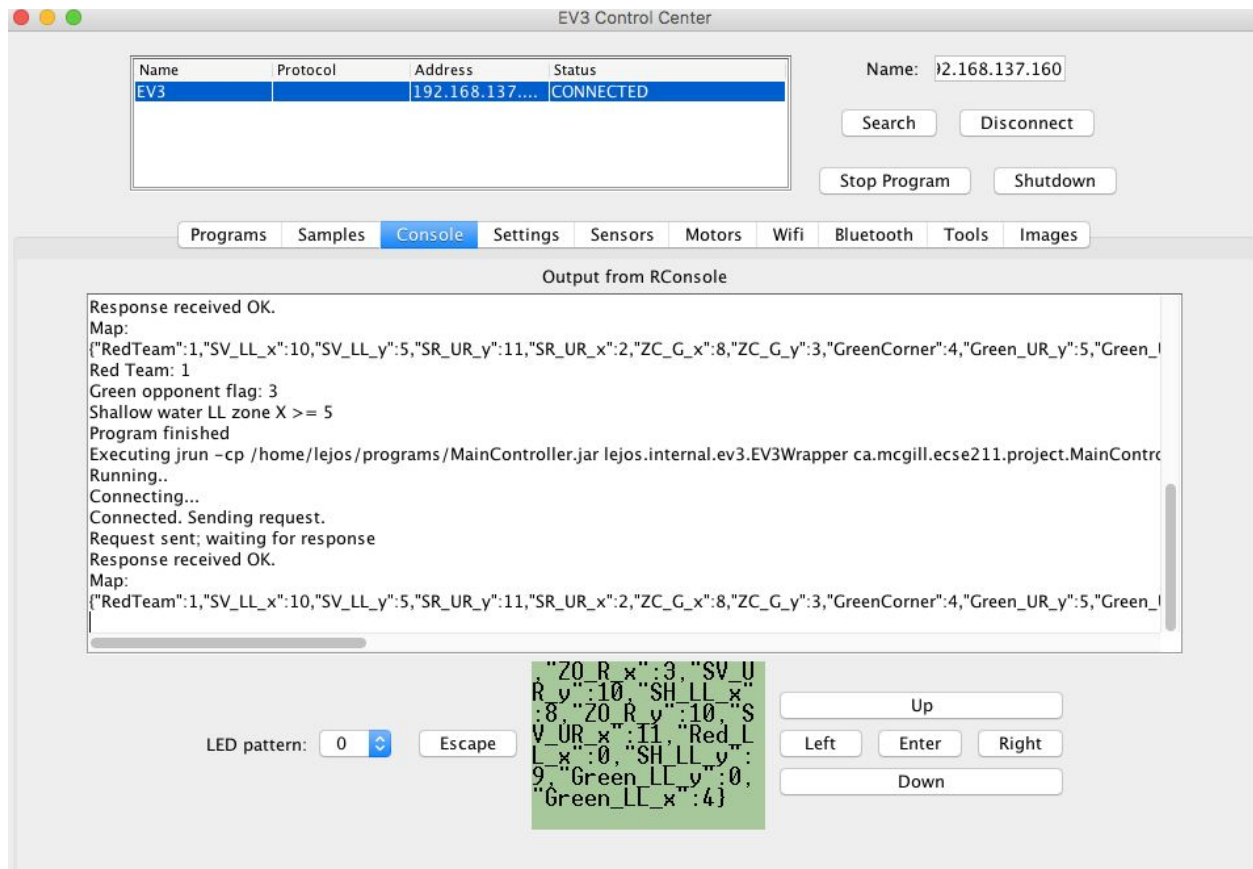5)

Figure 1: Console output from the brick

ECSE 211 - Final Competition		
Red team number	1	
Red team's starting corner	2	
Green team number	10	
Green team's starting corner	4	
Color of green opponent flag	3	
Color of red opponent flag	4	
Lower left hand corner of Red Zone	0	7
Upper right hand corner of Red Zone	8	12
Lower left hand corner of Green Zone	4	0
Upper right hand corner of Green Zone	12	5
Red Zone zip line endpoint	4	9
Red Zone zip line other	3	10
Green Zone zip line endpoint	8	3
Green Zone zip line other	9	2
Lower left hand corner of horizontal shallow water zone	8	9
Upper right hand corner of horizontal shallow water zone	11	10
Lower left hand corner of vertical shallow water zone	10	5
Upper right hand corner of vertical shallow water zone	11	10
Lower left hand corner of search region in Red Zone	1	9
Upper right hand corner of search region in Red Zone	2	11
Lower left hand corner of search region in Green Zone	9	1
Upper right hand corner of search region in Green Zone	11	2

Start   Reset   Clear   Fill

TIME LEFT: 05:00

Wifi Output

```
Team 1 connected.
Transmitting to 1 connection(s).
Successfully transmitted to team 1
Failed to transmit to team 10
Disabling timer as one or more teams failed to receive data

Team 1 connected.
Transmitting to 1 connection(s).
Successfully transmitted to team 1
Failed to transmit to team 10
Disabling timer as one or more teams failed to receive data
```
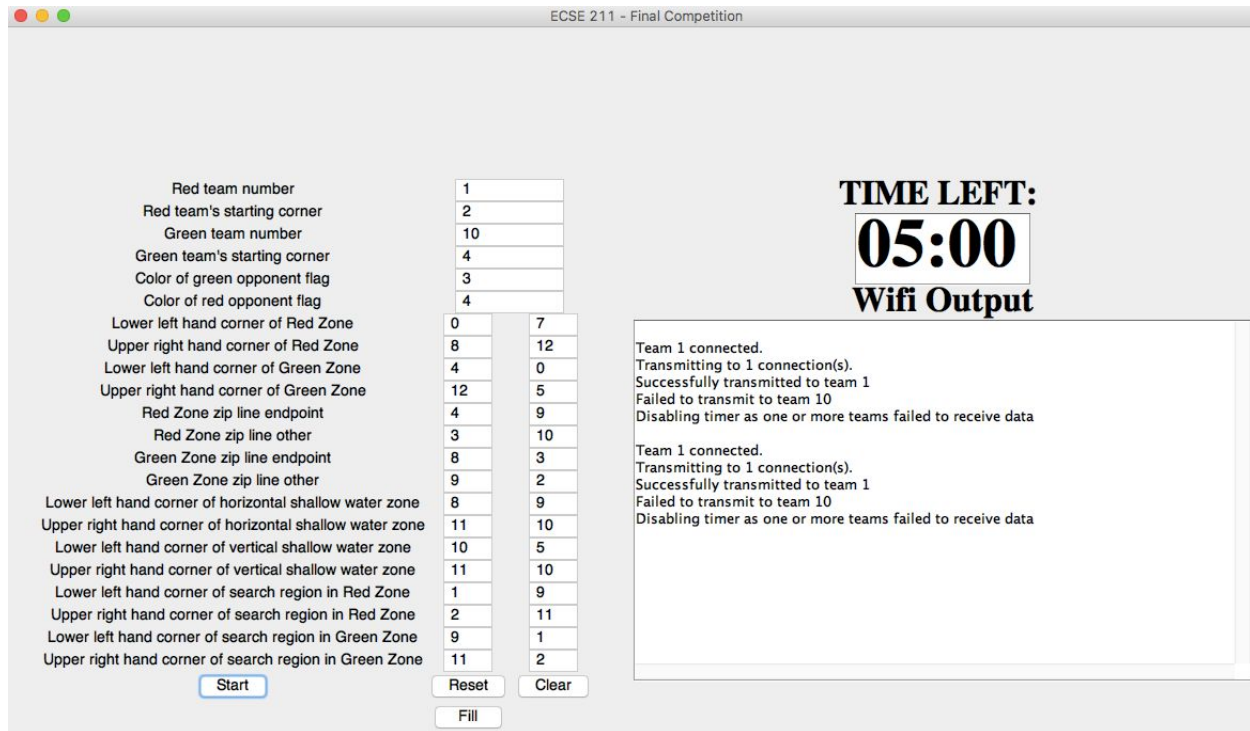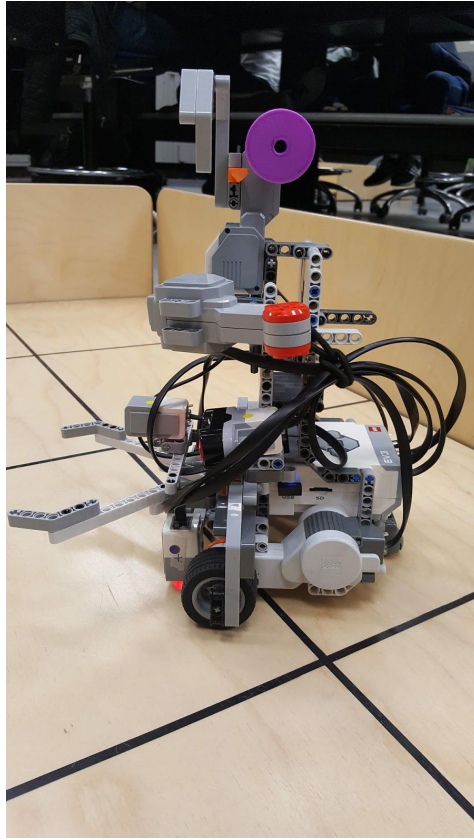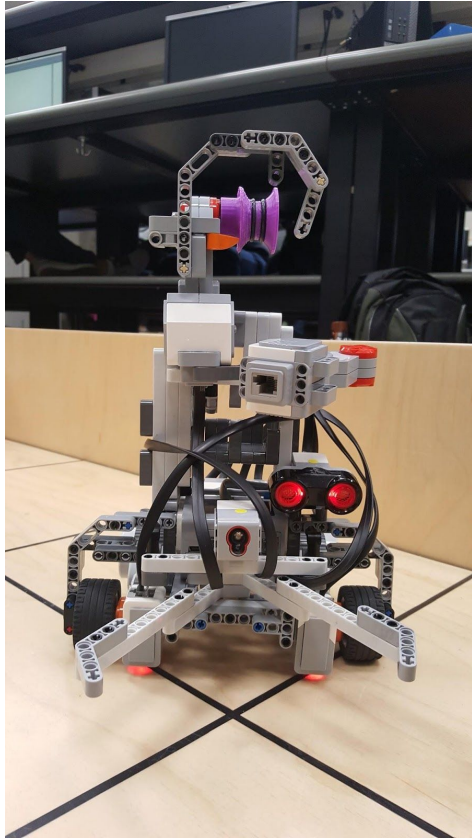
Figure 2: Server GUI output and data input

6) The brick successfully prints out the same data that was passed to it using the wifi class. The server GUI prints out a success message "Successfully transmitted to team 1" which indicates it succeeded in passing the data to our brick.

7) The one way wifi communication class works as needed, as it is able to receive data and manipulate as it needs to be for the final design project.

2.0 HARDWARE

See *HARDWARE - 2.0.*