**Test’s Title:\_\_Software Milestone 02**

**Tester’s names:\_\_\_\_\_\_Volen Mihaylov\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Test Date:\_\_\_\_\_March 22nd, 2018**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Software Version:\_01.00.07 to 1.01.00**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hardware Version:\_\_1.03 \_with stopper**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Test Code/Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Objective:** Have a fully functional navigation without avoidance

**Background knowledge (if needed):** None

**Procedure:**  Make the robot turn at wanted degrees and verify offset (+-45,+-90,+-270). Then have the robot move by wanted distance and verify offset (1 tile, 2 tiles, 6 tiles). Then finally have the robot move to a certain coordinate and verify distance (Starting coordinate: 0,0 and end coordinate 5,3)

**Expected Results:** Have the robot move and rotate by the wanted amount

**Results obtained:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Tests** | **Variables** | | | | **Passed?** | **Comments:** |
| Degrees tested at | Distance tested at | Coordinates tested at | Code Constant changed: |  |
| **1** | 45 |  |  | 0 | No | Left turn is off by 2 degrees to the left |
| **2** | -45 |  |  | 0 | No | Right turn is perfect |
| **3** | 90 |  |  | 0 | No | Left turn is off by 2 degrees to the left |
| **4** | -90 |  |  | 0 | No | Right turn is perfect |
| **5** | +270 |  |  | 0 | No | Right turn is perfect |
| **6** | -270 |  |  | 0 | No | Left turn is off by 2 degrees to the left |
| **1b** | 45 |  |  | Left: +4 | No | Left turn is off by 2 degrees to the right. |
| **2b** | -45 |  |  | Left: +4 | No | Right is perfect |
| **3b** | 90 |  |  | Left: +4 | No | Left turn is off by 2 degrees to the right. |
| **4b** | -90 |  |  | Left: +4 | No | Right is perfect |
| **5b** | +270 |  |  | Left: +4 | No | Right is perfect. |
| **6b** | -270 |  |  | Left: +4 | No | Left turn is off by 2 degrees to the right |
| **1b** | 45 |  |  | Left: +2 | No | Left Turn is perfect. |
| **2b** | -45 |  |  | Left: +2 | No | Right Turn is perfect |
| **3b** | 90 |  |  | Left: +2 | No | Left Turn is perfect. |
| **4b** | -90 |  |  | Left: +2 | No | Right Turn is perfect |
| **5b** | +270 |  |  | Left: +2 | No | Right Turn is off by 2 degree not enough. |
| **6b** | -270 |  |  | Left: +2 | No | Left is perfect |
| **7** |  | 1 tile |  |  | No | 0.5cm too short |
| **8** |  | 1 tile |  |  | No | 0.5cm too short |
| **9** |  | 2 tiles |  |  | No | 0.9cm too short |
| **10** |  | 2 tiles |  |  | No | 0.9cm too short |
| **11** |  | 6 tiles |  |  | No | 2cm too |
| **12** |  | 6 tiles |  |  | No | 2cm too short |
| **7b** |  | 1 tile |  | Rotation multiplied by: (*TILESIZE*+0.4)/*TILESIZE* | Yes | Perfect |
| **8b** |  | 1 tile |  | Rotation multiplied by: (*TILESIZE*+0.4)/*TILESIZE* | Yes | Perfect |
| **9b** |  | 2 tiles |  | Rotation multiplied by: (*TILESIZE*+0.4)/*TILESIZE* | Yes | Perfect |
| **10b** |  | 2 tiles |  | Rotation multiplied by: (*TILESIZE*+0.4)/*TILESIZE* | Yes | Perfect |
| **11b** |  | 6 tiles |  | Rotation multiplied by: (*TILESIZE*+0.4)/*TILESIZE* | Satisfactory | Perfect |
| **12b** |  | 6 tiles |  | Rotation multiplied by: (*TILESIZE*+0.4)/*TILESIZE* | Satsfactory | Perfect |
| **13** |  |  | (5,3) |  |  | Off by 3cm |
| **14** |  |  | (5,3) |  |  | Perfect |
| **15** |  |  | (5,3) |  |  | Perfect |

Extra notes: Acceleration was changed to 500 instead of 2000 despite the code saying otherwise.

**Conclusion:**\_Navigation is functional. Left constant of +2 is satisfactory and so is the rotateByDistance constant of (*TILESIZE*+0.4)/*TILESIZE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

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