Weekly Project Report

16 October, 2018

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TrailBot

**Progress**

* IR array implemented on model; basic understanding of operation/behavior obtained.
* Simple code written--motors run in the presence of IR beacon, stop in the absence.
* Connection between body and chassis created.
* Electronics compartment completed.
* Sensor compartment begun.

**Plans**

* Further develop IR array to better isolate each element.
* Continue coding and testing of IR array.
* Decide whether to upgrade to larger MCU board (for more analog pins), or rearrange existing digital and analog pins, should more analog pins be needed.
* Complete sensor compartment.
* Begin fabricating storage compartments.
* Develop water barriers from suspension to motor.

**Issues**

* Individual elements of the IR array don’t seem to differ in value enough in the presence of the beacon to give different commands (to turn bot).
* Only one unused analog pin left. If more analog sensors/functions are needed, a bigger board may be required.
* Tire sweep area and suspension rise and fall restricting body size and location as well as placement of sensors.

**Schedule**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | W1 | W2 | W3 | W4 | W5 | W6 | W7 | W8 | W9 | W10 | W11 | W12 | W13 | W14 | W15 | W16 | Progress |
|  | 21-Aug | 27-Aug | 3-Sep | 10-Sep | 17-Sep | 24-Sep | 1-Oct | 8-Oct | 15-Oct | 22-Oct | 29-Oct | 5-Nov | 12-Nov | 19-Nov | 26-Nov | 3-Dec | **Total: 55.3%** |
| Design |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **81.3%** |
| Chassis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 90% |
| Controller |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 90% |
| Software |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 80% |
| Sensors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 65% |
| Additional Functions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | TBD |
| Build |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **73%** |
| Chassis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 70% |
| Controller |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 80% |
| Sensors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 70% |
| Test |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **67%** |
| Movement |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 90% |
| Following |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 30% |
| Obstacle detection |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 80% |
| Additional Functions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | TBD |
| Present |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **0%** |
| Records |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0% |
| Presentation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0% |
| **Milestones** |  |  |  |  |  |  |  |  |  |  |  | **X** |  | **X** | **X** |  |  |