Weekly Project Report

30 October, 2018

Team 14: Brandon Christler, Michael Hitchcock, Garrett Monast, Yifan Wu

TrailBot

**Progress**

* Body structure made.
* All sensors have been mounted and all electronics are housed within the body.
* Minor, temporary reparations made to wheels for testing purposes.
* Circuit design completed for user-worn IR beacon.

**Plans**

* Begin physical design (i.e. housing) for IR beacon.
* Analyze individual code components (i.e. code written to perform each function individually), and incorporate them together to create final code, with all functions supported.
* Acquire new, durable wheels for final testing and implementation.
* Begin construction on third stage of body.
* Paint body to improve appearance.
* Finalize swivel mounting for sensors.

**Issues**

* Current swivel mounts rely on aluminum stud which deforms and breaks with force needed to stabilize central sensor mount. Intend to acquire steel studs as replacements.

**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: 61.4%** |
| Design |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **87.5%** |
| Chassis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 90% |
| Controller |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 90% |
| Software |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 80% |
| Sensors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 90% |
| Additional Functions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | TBD |
| Build |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **78%** |
| Chassis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 80% |
| Controller |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 70% |
| Sensors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 85% |
| Test |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **80%** |
| Movement |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 90% |
| Following |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 60% |
| Obstacle detection |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 90% |
| Additional Functions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | TBD |
| Present |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **0%** |
| Records |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0% |
| Presentation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0% |
| **Milestones** |  |  |  |  |  |  |  |  |  |  |  | **X** |  | **X** | **X** |  |  |

**Milestones**

1. Achieve robot mobility functions, including sensors.
2. Install carrier and peripherals, to complete the body.
3. Verify all functions in comprehensive operational test, including all components.