Weekly Project Report

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TrailBot

**Progress**

* Most primary components obtained: Arduino Uno, motor shield, motors, chassis, ultrasonic/IR sensors.
* Model chassis assembled.
* Rudimentary code developed; motors run, ultrasonic sensor data collects (separately).
* Basic “obstacle avoidance” achieved; motors run when unobstructed, and stop immediately when an obstacle is detected.
* Final chassis and batteries selected.
* Research into IR tracking complete: decision reached.

**Plans**

* A 5-element IR receiver module will be constructed, likely on a breakout board, to give directional IR-transmitter-finding capabilities.
* Incorporate better battery solution for final design.
* Incorporate model’s electronics into final chassis.

**Issues**

* Current motor driver on final chassis is likely designed to recognize specific signals from inherent microprocessor (e.g. voltage level, PWM). Motor driver will be researched, if possible, to determine interface options with Arduino. If interfacing is not feasible, a new motor driver (perhaps the shield on the model) will be utilized.

**Schedule**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | **Week 7** | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 | Week 13 | Week 14 | Week 15 | Week 16 |
|  | 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 |
| Design |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chassis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Controller |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Software |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sensors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Additional Functions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Build |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chassis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Controller |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sensors |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Test |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ability to move |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ability to follow |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Obstacle detection |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Additional Functions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Present |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Compile Documentation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Create Presentation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |