

Project: veyibrations

Date: 9/12/2015

Group Members: Dylan Ayrey, Joshua Pueschel, Raymond Dodge

URL: None yet

Updated Milestone chart

J - Joshua Pueschel, R - Raymond Dodge, D - Dylan Ayrey

| <u>Description</u> | <u>Original Completion Date</u> | <u>Who does it</u> | <u>Modified Completion Date</u> | <u>Comments</u> | <u>Done</u> | <u>Due next week</u> |
|---|---|------------------------|---|---|-------------|------------------------------|
| Purchase components | | JRD | 9 - 11 - 15 | Had to repurchase some parts | ✓ | |
| Unit test components to verify functionality | -- | -- | | | | |
| Unit test thermistor | 9 - 4 - 15 | J | 9 - 2 - 15 | Thermistors are 5% inaccurate. | ✓ | |
| Unit test proximity sensor | 9 - 4 - 15 | R | 9 - 2 - 15 | Accurate to 15 feet | ✓ | |
| Unit test amplifier | 9 - 4 - 15 | D | 9 - 11 - 15 | Delayed due to shipping | ✓ | |
| Unit test vibrating motor | 9 - 4 - 15 | J | 9 - 2 - 15 | Pulls .06mA at max voltage | ✓ | |
| Unit test atmega328 | 9 - 4 - 15 | R | 9 - 2 - 15 | Functions as intended | ✓ | |
| Unit test radio module | 9 - 4 - 15 | D | 9 - 11 - 15 | Need to order level shifter. Testing is delayed | | ✓ |
| Unit test resistors/switches/buttons/capacitors | 9 - 4 - 15 | J | 9 - 2 - 15 | Accurate to within 5% | ✓ | |
| Unit test power regulator | 9 - 4 - 15 | D | 9 - 2 - 15 | Correct voltages demonstrated | ✓ | |
| Write software for components | -- | -- | | | | |
| Write software for temperature control | 9 - 11 - 15 | J | 9 - 2 - 15 | Complete and tested. Accurate and responsive | ✓ | |
| Write software for radio communications | 9 - 11 - 15 | R | | Delayed due to shipping | | ✓ |
| Write software for vibration control | 9 - 11 - 15 | D | | Completed | ✓ | |
| Write software for proximity detection | 9 - 11 - 15 | D | 9 - 2 - 15 | Complete and tested. Delay is | ✓ | |

| | | | | | | |
|---|--------------|-----|----------------|--|--|---|
| | | | | around 50ms for 15 feet. | | |
| Write software to integrate components | 9 - 18 - 15 | JRD | 09-19-2015 | We have integrated the proximity sensor and the thermistor code | | ✓ |
| Create mockup on breadboard | 9 - 22 - 15 | JRD | 09-20-2015 | Continued work in progress | | |
| Integration test mockup and revise | 9 - 29 - 15 | JRD | 09-27-2015 | | | |
| Tune vibration control algorithm | 9 - 29 - 15 | JRD | 09-27-2015 | We are going to need to implement a running average to avoid small blips | | |
| Create PCB board | -- | -- | | | | |
| Design PCB Schematic | 10 - 15 - 15 | JRD | 10-11-2015 | | | |
| Design PCB Layout | 10 - 18 - 15 | JRD | 10-17-2015 | | | |
| Order PCB board | 10 - 18 - 15 | JRD | 10-17-2015 | | | |
| Create Enclosure | -- | -- | | | | |
| Design Enclosure | 11 - 1 - 15 | JRD | 11-07-2015 | | | |
| Print Enclosure | 11 - 1 - 15 | J | 11-07-2015 | | | |
| Mount components on PCB board | -- | -- | | | | |
| Mount the surface mount in reflow oven | 11 - 8 - 15 | JRD | 10 - 24 - 2015 | | | |
| Cleanup the reflow results | 11 - 10 - 15 | JRD | 11 - 11 - 2015 | | | |
| Mount dip components and non-surface mount components | 11 - 11 - 15 | JRD | 11 - 13 - 2015 | | | |
| Test PCB board | 11 - 18 - 15 | JRD | 11 - 25 - 2015 | | | |
| Integration test for enclosure and PCB board | -- | -- | | | | |
| Test board fits in enclosure securely | 12 - 9 - 15 | JRD | 11 - 25 - 2015 | | | |
| Test system functions in enclosure | 12 - 9 - 15 | JRD | 11 - 25 - 2015 | | | |
| Acceptance testing | -- | -- | | | | |
| Drop test | 12 - 9 - 15 | JRD | 11 - 25 - 2015 | | | |

| | | | | | | |
|---------------------|-------------|-----|----------------|--|--|--|
| Comfortability Test | 12 - 9 -15 | JRD | 11 - 25 - 2015 | | | |
| Polishing | 12 - 12 -15 | JRD | 11 - 25 - 2015 | | | |

Status

This week we were able to finish writing code for the proximity sensor, the temperature controller, the amplifier and the vibrating motor. We wrote tests, and integrated those components. The mockup on the breadboard is now capable of vibrating at different strengths based on how far away objects are.

Gantt Chart

