Satellite Antenna Tracking Mount

Hunter Britton

Michael Raabe

David Santos

**Schedule And Validation**

REVISION – Final

7 February 2023

Schedule:

| **Work** | **End Date** | **Owner** | **Status** | **Date Completed** |
| --- | --- | --- | --- | --- |
| Concept of Operations | 02/13/2023 | All |  |  |
| Functional System Requirements | 02/22/2023 | All |  |  |
| Interface Control Document | 02/22/2023 | All |  |  |
| Midterm Presentation | 03/01/2023 | All |  |  |
| Sponsor Specification Approval | 03/01/2023 | All |  |  |
| Parts ordered | 03/01/2023 | Hunter, Michael |  |  |
| First Milestone | 03/03/2023 | All |  |  |
| Subsystem Circuit Design | 03/05/2023 | All |  |  |
| Learn Arduino IDE | 03/06/2023 | Hunter |  |  |
| Web App Wireframe | 03/06/2023 | David |  |  |
| Setup Satellite Catalog Database | 03/08/2023 | David |  |  |
| Arduino as Access Point | 03/10/2023 | Hunter |  |  |
| Create Interactive Mercator Projection | 03/15/2023 | David |  |  |
| GPS Location Services working | 03/15/2023 | Hunter |  |  |
| Second Milestone | 03/20/2023 | All |  |  |
| Status Update | 03/29/2023 | All |  |  |
| Completed circuit drawing for power supply | 03/30/2023 | Michael |  |  |
| Microcontroller/GPS location to satellite Math | 03/30/2023 | Hunter |  |  |
| Web App Microcontroller Connection |  | Hunter/David |  |  |
| Web App Data Visualization |  | David |  |  |
| Power Supply PCB Assembled | 03/31/2023 | Michael |  |  |
| Validate Power Supply Output | 04/01/2023 | Michael |  |  |
| Verify Web App is Iron Clad | 4/01/2023 | David |  |  |
| Validate Microcontroller can send output signals | 04/03/2023 | Hunter |  |  |
| Third Milestone | 04/03/2023 | All |  |  |
| LED display done | 04/05/2023 | Hunter |  |  |
| Microcontroller PCB Done | 04/05/2023 | Hunter |  |  |
| Finalize Web App Interface/Features | 4/10/2023 | David |  |  |
| Microcontroller PCB Assembled | 04/12/2023 | Hunter |  |  |
| Finish final presentation preparation | 04/17/2023 | All |  |  |
| Work on Subsystem presentations | 04/17/2023 | All |  |  |
| Work on Report | 04/17/2023 | All |  |  |
| Final Presentation | 04/17/2023 | All |  |  |
| Finish Subsystem presentations | 04/23/2023 | All |  |  |
| Subsystem Presentation | 04/24/2023 | All |  |  |
| Finish Final Report | 04/26/2023 | All |  |  |
| Final Report | 04/29/2023 | All |  |  |

Validation Plan:

| **Task** | **Specification** | **Result** | **Owner** |
| --- | --- | --- | --- |
| Signal Strength | SNR >= 30dB |  | All |
| RST Report | R5S5T9 |  | All |
| Azimuth Accuracy | +- 4% |  | All |
| Tracking Speed | 2 deg/sec |  | All |
| Power Supply to Motors | 48 Watts |  | Michael |
| Power Supply to Microcontroller | 1.8 Watts |  | Michael |
| Microcontroller Motor Control output | Continuous Signal for 6 minutes |  | Hunter |
| Microcontroller GPS location | Accurate location within 20 meters |  | Hunter |
| Microcontroller as Access Point | Be accessible to various devices |  | Hunter |
| Web Application pull Satellite data | Satellites listed |  | David |