**Initial Product Backlog**

**Project:** Automated Ground Vehicle for Real-Time Detection and Classification of Adversaries

Senior Design Project

**Team Members:** Alessia Tripaldelli, Rachel Swan, George Pozek, Sebastian Calixtro, Matthew Berkowitz, Joel Steuber, Cameron Sauvageau, Andrea Gamble, Peter Nguyen

**Communication Team:** Alessia Tripaldelli (AT), George Pozek (GP), Rachel Swan (RS)

| **To-Do** | **Assigned to** |
| --- | --- |
| Research how to interface with the radar we will be using | GP |
| Research on how to use the wifi module on the raspberry pi 5 for communication | AT |
| Research on using the LoRa hat for the raspberry pi 5 | RS |
| Write Project Requirements | AT |

| **In Progress** | **Assigned to** |
| --- | --- |
| Research on Modulation | RS |
| Research on Radios | RS |
| Research on Rover | AT |

| **Done** | **Assigned to** |
| --- | --- |
| Literature Review | RS, GP |
| Project Proposal Communication Part | AT |
| Project Proposal Objectives and Proposed Solution | AT |
| Research parts for ground station | GP |
| Research on Materials | GP |

**Hardware Team:** Joel Steuber (JS), Sebastian Calixtro (SC), Cameron Sauvageau (CS)

| **To-Do** | **Assigned to** |
| --- | --- |
| Integrate motor driver to motors | SC |
| Connect battery to rover chassis | SC |
| Connect battery to motors | SC |
| Secure a frame to hold battery to rover chassis | JS |
| Test motor movement | JS, SC |
| Integrate sensors to battery | All |
| PowerPoint presentation for sprints 2 & 4 | All |
| Acquire, document engineering notebook for every upcoming sprint | All |
| Complete Software Development Document | All |
| Complete SRS | All |
| Document a Test Plan | All |
| Acquire accurate measurements of rover (weight, dimensions) | JS |

| **In Progress** | **Assigned to** |
| --- | --- |
|  |  |

| **Done** | **Assigned to** |
| --- | --- |
| Research FAA Policies | SC |
| Inspect Current Chassis | JS, SC |
| Research on Materials (Hardware) | JS |
| Hardware and Control (Proposal) | JS, SC |
| Research (Hardware and Control) | CS |
| Radar Research (Hardware) | CS |
| Research on Movement (Hardware) | JS |

**Software Team:** Matthew Berkowitz (MB), Andrea Gamble (AG), Peter Nguyen (PN)

| **To-Do** | **Assigned to** |
| --- | --- |
| Preliminary Software documentation (SDD)/ Preliminary Software Requirements | MB, AG, PN |
| Research LAStools specific algorithms | MB, AG |
| Research Linux motor control algorithms | MB, AG, PN |

| **In Progress** | **Assigned to** |
| --- | --- |
| Research motor movements and algorithms | MB, AG, PN |
| Test Motor Vehicles | MB, AG, PN |
| Research specific hardware manuals | MB |

| **Done** | **Assigned to** |
| --- | --- |
| Software Proposal | MB, AG, PN |
| Create GitHub and add team | MG |
| Install Git and Clone Repository to computer | MB, AG, PN |
| Research OS for ground vehicle | MB |
| Research for radar as input for software | MB |