DISARM Milestone One

Matthew Intriago
Client: Dr.Wilde • Advisor: Dr.Silaghi • 8/30/2020

Project Members

CSE Team

- Matthew Intriago

- Control Subsystem Supporting Engineers
  - Nouraldean El-Chariti
  - Mike Leard
  - Daniel Soto

AEE Team

- Project Manager
  - Kyle Watkins

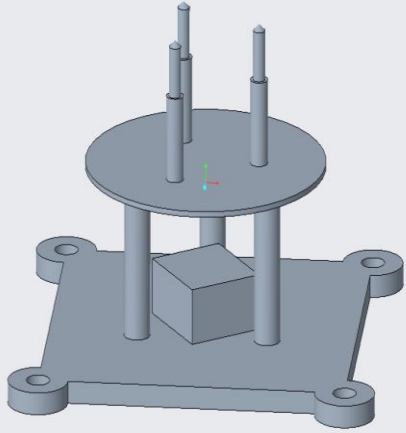- Project Systems Engineer
  - Luca Rizza

AEE Team

- Electronics
  - Mike Leard
  - Ali Lebbar
  - Davey Reinoid
- Grappling Mechanism
  - Daniel Soto
  - Laura Guziczek
- Structures
  - Vincent Panicelli

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Requirements

Concept Model

Divided into three sections
- Grappling Device Autonomy
- Grappling Device Manual Function
- Grappling Device Simulation

Requirement	Description
CNSY-09	The simulation shall demonstrate all the forces and stresses acting on the welding system.
CNSY-10	The simulation shall display the algorithm's ability to adapt to different debris.
CNSY-11	The simulation shall demonstrate the weld in action and the thermal changes on the system.

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Test Plan

- Test cases are similar throughout the requirements
- Algorithm will be tested using two debris sized models

Example:

CNSY-10 The simulation shall display the algorithm's ability to adapt to different debris

TEST CASE 1	TEST CASE 2
Demonstrate algorithms ability to seam track a 27 cubesat unit debris.	Demonstrate algorithms ability to seam track a specific 10 unit cubesat debris surrounded by other orbited debris.

Design

- Developed a UML Diagram for algorithm control
- DISARM system will consist of a simple interface where users will have access to the manual features of the project
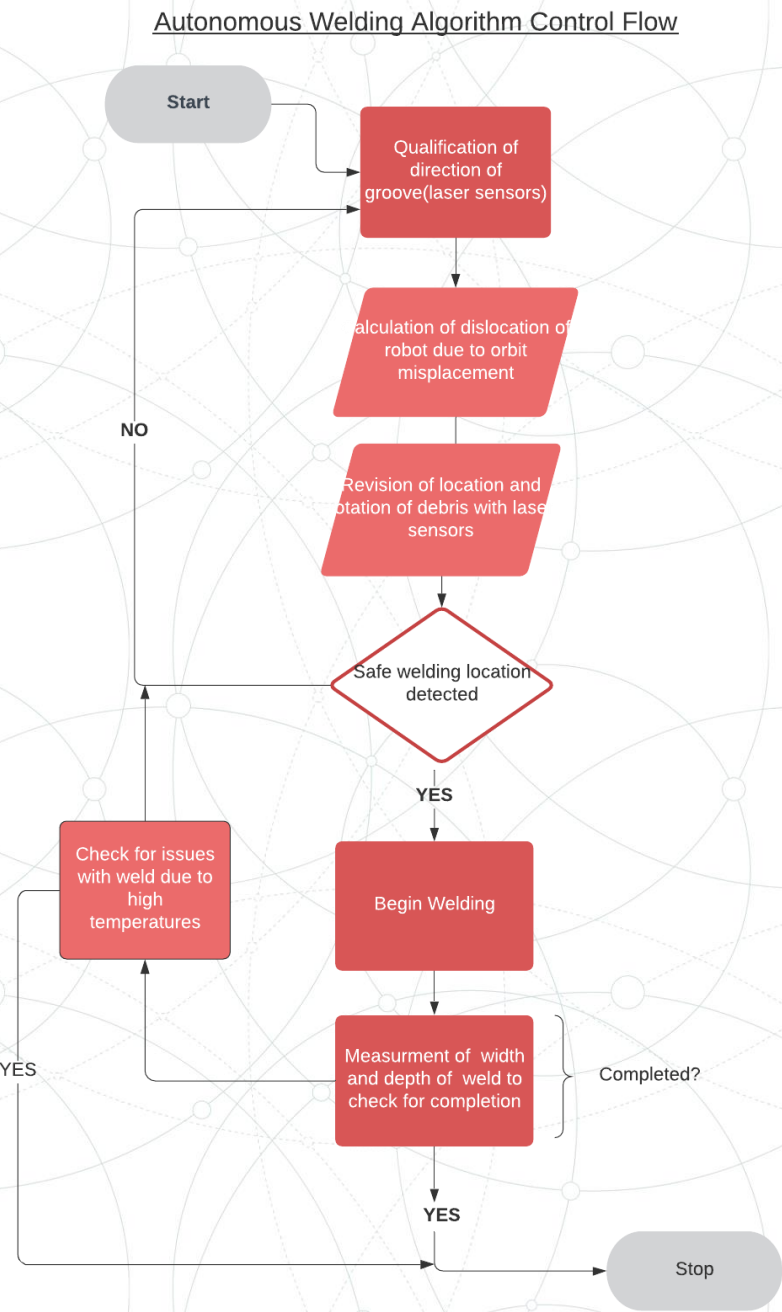
Figure 2: UML Diagram of Algorithm Control Flow

Figure 3: Mock-Up Interface

Milestone Two Steps

1) Design algorithm pseudocode

2) Produce a draft of the algorithm

3) Develop Gazebo models for 27 cubesat unit and 10 cubesat unit debris.

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Thank you.

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