Command-and-control Subsystem for Regolith Mining Robot

CSE Member:

Pablo Canseco pcanseco2011@my.fit.edu

Other members:

Domenick Albanese Software
Ronald-Dean Allado Software
Kyle Rieder Software / Consultant

1. **Milestone 1 progress matrix**
    a. * means assistance from other team members working on the same subsystem.

Task	**Requirements Document**	**Design Document**	**Test Plan**	**Research**
Completion %	100%	100%	100%	60%
Pablo	100%	100%	100%	90%*
To do	Update as challenges come up	Update as software is being developed	Update with new possible test cases	Incorporation of RasPi, TCP socket, keyboard input

2. **Current milestone summary**
    a. *Design document* - has been created and lays out the overview of how the software will look structurally.
    b. *Requirements document* - has been created and explicitly states the required capabilities of the robot that the software will need to accomplish.
    c. *Test plan* - a few test cases have been identified as well as performance measurement criteria

d. *Research* - we've identified the libraries we're going to be using for motor control and sensor data. We've began implementing a proof of concept for controlling a motor based on sensor input and displaying the sensor data on a GUI over a network connection. We're going forward with this concept.

3. **Milestone 2 Plan**
    a. * means assistance from other team members working on the same subsystem.

Task	**Develop Control Station GUI**	**Incorporate Network Sockets**	**Integrate Raspi & Arduino**
Pablo	80%*	100%	80%*

4. **Milestone 2 Plan Description**
    a. *Develop Control Station GUI* - Development has started on it with Windows Forms and C#. The plan is to continue it and get the layout finalized along with populate fields and begin working on keyboard input.
    b. *Incorporate Network Sockets*- TCP communication between the control station and the raspberry pi still needs to be implemented. The plan is to have either completed or made significant progress on network communications for the robot by the next milestone.
    c. *Integrate Raspberry Pi and Arduino* - The two boards need to talk to each other since one is handling communications and the other sensor and motor control. They'll be communicating over a direct serial connection and work has already started for this. The plan is to finish it by the next milestone and have bidirectional communication ready.

Sponsor feedback on each task for the current Milestone

Design:

Requirements:

Test:

Research:

Sponsor Signature: _____ Date: _____

Sponsor Evaluation

- Sponsor: detach and return this page to Dr. Chan (HC 322)
- Score (0-10) for each member: circle a score (or circle two adjacent scores for .25 or write down a real number between 0 and 10)

Pablo	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10

Sponsor Signature: _____ Date: _____