Rascal Senior Design Meeting Minutes

Rascal Internal Document

Configuration Management and Quality Assurance (CMQA)

10/28/2013 -- Revision: -

Revision History

Rev	Date	Description	Author	Approved	Pages
-	9/30/2013	Weekly Systems Meeting Minutes Format	Tom Moline	TO	All

Primary Contacts:

Tom Moline tmoline@slu.edu 630-401-0791

Tyler Olson tolson6@slu.edu 812-204-1098

Background:

This document provides a format from which all Rascal Senior Design Meeting minutes will be recorded. It serves as a way of making information on what transpires at these meetings more easily understood and accessible. Along with being e-mailed to each member working on the Rascal senior design project, upon the conclusion of each meeting, these minutes will be stored on the Rascal common server under the CMQA and Rascal Senior Design Meeting Minutes headings at . The items that will be included in each of these minutes are listed in the Table of Contents on the next page. A list of team leads, along with their contact information, is listed in the table below:

Team Leadership and Contact Information

Team	Acronym	Leader	E-Mail	Phone Number
Propulsion	PRP	Nate Richard	nrichar8@slu.edu	608-732-7147
Propulsion	PRP	Jennifer Babb	jbabb1@slu.edu	636-579-6816
Propulsion	PRP	Bryant Gaume	gbryant1@slu.edu	636-448-0378
Structures	STR	Tyler Olson	tolson6@slu.edu	812-204-1098
Project Manager	PM	Tom Moline	tmoline@slu.edu	630-401-0791
Principal Investigator	PI	Dr. Swartwout	mswartwo@slu.edu	314-977-8214

Table of Contents

Common Acronyms/Terms

-SSRL: Space Systems Research Lab
-SCARAB: SLU Core Aerospace Research Application Bus
(i.e. Common Elements Used between COPPER and Argus)
-LV: Launch Vehicle
-CubeSat: A Standard Configuration in Which Small Satellites are Constructed as to Ease LV Integration
-Pumpkin: Company that Produces CubeSat Skeletons and Electronics
-1U: One Standard Unit (10 cm x 10 cm x 10 cm)
-P-POD: Poly-Picosatellite Orbital Deployer
(i.e. The Standard Structure in which Any CubeSat is Stored During Launch and Ejection)
-VU: Vanderbilt University
-AFRL: Air Force Research Lab
-UNP: University Nanosat Program
(i.e. Program Run Out of the AFRL that Conducts Nanosat Competitions as to Aid in the Cost and Development of University Satellites)
-JPL: Jet Propulsion Lab
-ORS: Operationally Responsible Space
(i.e. The Organization Responsible for Providing COPPER with a Launch)
-Minotaur: Name of the Rocket in which COPPER will be Launched
-ELaNa: Educational Launch of Nanosatellites
(i.e. Program run by NASA that helps facilitate spots on launches from NASA and DOD facilities)
-EPS: Electrical Power System
(i.e. The System Used to Control and Monitor the State of the Battery being Used in a Satellite System)
-ClydeSpace: Company that Produces CubeSat Size Batteries and EPS'
-Spectrolab: Company that Produces Solar Cells and Solar Power Systems
-Trac: System Used to Label and Record the Location and Movement of Every Item in the SSRL

Action Items List

Action Item	Team	Individual(s)	Due Date	Progress
Finish next Orbit Plot Code	**TM**	**Tom Moline**	**11/4/2013**	**0%**
Finish Preliminary CONOPS	**TO**	**Tyler Olson**	**11/4/2013**	**0%**

Previous Action Items

1. ***Learn Git***

- **This was accomplished.**
- **Bryant and Jennifer demonstrated being able to push and pull documents to and from the remote server**

2. ***Finish Preliminary Mission Objectives***

- **This process is ongoing.**
  - A preliminary version of these objectives was sent to Dr. Swartwout for review on the 14
  - Determined that all of the objectives/mission statement were way too specific.
  - Thus, continued work will involve drastically simplifying each constraint imposed on the mission, as well as removing any specific mission design criteria

General Discussion

1. ***Updating the RFP***

- **Worked on refining the mission objective**
  - This entailed removing any sorts of specifics with regards to spacecraft separation or configuration, as well as any reference to propulsion requirements.
- **In order to fully define the mission objective, it was necessary to redefine orbital maneuvers**
  - Ended up first moving any CubeSat mission definitions to the Appendix.
  - Then improved the flow of mission definitions.
  - Added in sudo-mission objective to the beginning, along with table definitions for each orbital maneuver and new “resident space object” definition.
  - Also re-defined mission constraints, adding launch survival, deorbit requirements, and thermal operational requirements.
- **With this in mind, we were able to better define mission success criterea.**

2. ***Updating GANNT Chart***

- **Had to reschedule Systems Requirements Review from 10/30/2013 to 11/12/2013.**
  - Just not possible to complete SRR based on current progress.
  - Thus, we’ll be working on CONOPS and full-blown mission requirements going forward.

3. ***Orbit Plotting Update***

- **Now able to plot relative velocities and positions with a given initial separation or relative velocity.**
- **Next step is figuring out minimum delta V possible for given possible orbital cases.**