COMMUNICATION REQUIREMENT: Hardware Document

Writing Faculty: Nicole Kelley (617-285-5568), Jennifer Craig (x2-3841)

Assignment: Write a formal hardware document that unites the subsystem designs. This document should address the overall mission objectives, your constraints, the design to meet those goals, your design justification, the general costs, and a schedule. Your appendices should include detailed requirements that describe the necessary features of the system, any calculations on which you base your design decisions, relevant figures and charts that aren't in the body of your document, a basic testing plan, and a list of references (as appropriate).

NB: Given the tight deadlines, it is assumed that *some* of this information will be rough or will change as the course progresses. It is more important to unite these disparate sections into a unified, easily read whole. Consider this document a midterm version of what will eventually become your final term paper. It is an important milestone, but we do not expect final project certainty or polish. Instead, we expect a strong foundation that allows you to add more material.

Communication Goals: If this assignment is completed successfully, you will demonstrate mastery of the following communication abilities:

- To direct a paper to specific audiences
- To think critically about, to anticipate, and to meet reader needs
- To collaborate as a group to define particular objectives
- To focus on a single purpose throughout a document with many different sections;
- To organize thoughts and processes in a logical sequence
- To select and present evidence in a clear and simple form that is consistent with the purpose of your document
- To produce grammatically correct sentences without typos or other errors
- To create professional-level prose that communicates sophisticated thought
- To format and present a document appropriate to your discipline.
- Audience: <u>Primary Audience</u>: A professor at Stanford who is considering whether or not to teach a RoboFlag course. The professor is familiar with aeronautic principles, and is deciding whether to request funding for the course. To teach the course successfully, the professor needs a realistic sense of what can be accomplished during the specified time. Communicate *reasonable* risks that show you've thought about the most likely and/or horrific worst-case scenarios, and communicate any trade-offs that may impede performance. Before the primary audience will consider a RoboFlag course, the secondary audience will review and test your document. <u>Secondary Audience</u>: A group of aeronautical engineering students from Stanford who have your general level of knowledge but have not taken this course. They must be able to follow your design and understand your constraints well enough to pick up where you've left off without losing much time in the schedule. If you can write a document that effectively addresses these audiences and meets their needs, the professor will teach the course.

Format:Write 10-15 pp, excluding appendices, double-spaced
Unite stand-alone sections under one outline, with an executive summary and an
 Page 1 of 1Fall 2003

introductory section

Link sections to each other when relevant, using one of the following methods:

- an MS Word outline (e.g. "See Section <u>1.2.2</u> for details")
- a traditional reference strategy (e.g. "See 1.2.2, p. 15 for details")

Follow the format outlined in Aero/Astro Style Guide (also in *The Mayfield Handbook*)

Refer to Tip Sheet and Class Notes from our discussion about the Hardware Document on 10/9

Schedule: 2 copies due Thursday, 10/30 in class. Tutoring hours are available during regular office hours and by appointment. Both Jennifer and Nicole are available to help.