KGCOE MSD Technical Review Agenda

P11231 - UAV Imaging Integration and Performance
Systems Level Design Review

Meeting Purpose:

The purpose of this meeting is to present preliminary design and obtain customer feedback. The following topics will be presented and discussed:

I. Project Overview and Past Project Iteration Summary
II. Review Customer Needs and Engineering Specifications
III. Project Plan
i. Mathematical Model
ii. Controller Design
iii. Controller Testing
iv. Airframe Testing
v. Flight Testing
vi. Aerial Photography
IV. Project Timeline
V. Risk Assessment

Materials to be Reviewed:

I. Customer Needs and Engineering Specs
II. Project Plan
III. Budget Allocation
IV. Risk Assessment

Meeting Date: 01/14/2011

Meeting Location: RIT 09-2030

Meeting time: 2:00 – 3:30 pm

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Timeline:

Start time	Topic of Review	Required Attendees
2:00	Project Introduction	Dr. Kolodziej
2:05	Past Projects Iterations	Dr. Kolodziej
2:10	Project Plan – Mathematical Model	Dr. Kolodziej
2:20	Project Plan – Controller Design	Dr. Kolodziej
2:30	Project Plan – Controller Testing	Dr. Kolodziej
2:35	Project Plan – Airframe Testing	Dr. Kolodziej
2:45	Project Plan – Flight Testing	Dr. Kolodziej
2:50	Project Plan – Aerial Photography	Dr. Kolodziej
2:55	Project Plan – Project Timeline	Dr. Kolodziej
3:00	Project Plan – Risk Assessment	Dr. Kolodziej

Project Background:

Over the past few years, through recent Micro-Arial Vehicle (MAV) and Unmanned Arial Vehicle (UAV) related projects, RIT has been exploring the development of autonomous aircraft platforms through the Multi-disciplinary Senior Design (MSD) program. These projects have been driven by a number of factors including inter-collegiate competitions, university research, and external interest from commercial and military organizations.

During the 2008-2009 academic year, the UAV Project Family successfully flew its first iteration of airframe designs and was ready to start development of the flight control electronics. P10236 was the first official UAV project to begin this work through the development of a versatile control system architecture/platform that provides the means to interface with various types vehicle sensors and control actuators, as well as a processing core capable of running control code to be developed in future projects.

The purpose of P11231 is to integrate, implement and test the products of previous projects in the RIT UAV family. The centerpiece to this project is the largely untested 'Airframe C' built during P10232, which requires further flight testing to ensure that it will meet current performance requirements. The scope of the current project also includes finishing and implementing an existing but incomplete control and instrumentation package, collecting flight data and installing imaging systems into the already existent Airframe C.