ILLINOIS INSTITUTE OF TECHNOLOGY

Scarlet Hawk IV

Status Report: February 2016

AIAA - IIT

Summary:

After two months of school the project has started picking up the pace. Our weekly full group meetings are prefaced with announcements and then promptly move into broken up work time for each of the teams. Given the time in the same room, it is much easier for them to cooperate in this setting, so I find it ideal. The groups also meet outside of these meetings or communicate what needs to be done via email. The group has been slightly restructured to better fit our talents, that being that the communications team and electronics team have been dissolved, and instead we have switched to a software and hardware team. This is because of the division of interest between programming and electronics. That said, all members are welcome to participate in both groups.

Our budget proposal earlier this month was accepted to the max that the student finance board at our school allows, the rest was made up for in our group's application to the college of engineering for funding, in addition to funding specifically by our department. With these sources of funding, we have all the money necessary to complete our operations through the trip to the CSBF in Texas.

The individual group progress is reported below.

Upcoming Deadlines:
- Mar 1, 2016: Order PCB boards and build circuits
- Mar 3, 2016: Begin work on software for electronics
- Mar 8, 2016: Finalize FRP designs and build structure
- April 1, 2016: Begin testing on systems, confirm data readings

Our team structure is as follows:

Faculty Advisor: Dr. Murat Vural

Project Manager: James Henry

Team Leaders: Alan Grossman (Structural)
- Melissa Alkan
- Vaishnavi Sreenivash
- Gregory Enriquez
- Ibon Rementeria
- Gina Kapadia
- Noah Griffith
- Jaime Anton

Jacob Freeman (Software)
- Ian Gustafson
- Simon Sai

Kevin Hardin (Hardware)
- Caterina Lazaro
- Leslie Villanueva
- Sergio Gil
- Timothy Bender

Structure:

The structure team has been working diligently on figuring out how to create our internal structure. We plan to make a sliding drawer system such that we can easily store our electronics on board. We are slightly behind schedule on FRP design because we have been waiting for the hardware team to get us specifications on the size of the circuit boards they are building.

In the upcoming week, we plan to bring a computer to the full group meeting and quickly sketch up the designs for the FRP structure and have that done by the 8th of March. Our drawer design is reliant on the sizes of the hardware. With this in mind, we are trying to design a modular system, such that we can accommodate any size of board.

Hardware:

The group has become used to the use of Eagle, and some members have become very excited with the work. The components all came in and we have been designing our PCB and are almost ready to send in those purchase requests. Once the designs are finalized, we will be able to get exact specifications to the structural team such that they can finalize their internal system designs.

We have also been working with the software team on getting them exact specifications of what they need to program. Some components are going to be exchanged for the sake of changing protocols, so once we have reached a final list of components, they should be able to finish their initial programming.

Software:

The software team has been working on modifying last year's Arduino code. The group mostly consists of people inexperienced with Arduino, but all are excited about programming so it doesn't take long for them to learn. As the semester moves forward, the time constraints are putting the pressure on to finish the code, however, we have to wait for the final list of sensors, and for the arrival of the transceivers before we can really finalize the work we are doing.