

Minutes

(Sponsor Meeting)

Group: Quadcopter

Date | time 9/17/2013 10:00 AM

In Attendance

Dr. Chuy (Advisor), Matthew Kische, Jigar Patel, John Chung, Andrew Silva, Adam Sobiewski and Gabriel Morales

Agenda

To discuss briefly with the sponsors about the details and specification of the senior design project.

Notes

Andrew is our main team member correspondent with our sponsor, Eglin Air Force Base. Topics that were discussed were divided between the mechanical and electrical/computer engineering departments. The description are as below:

Mechanical:

1. Material/Framework:

According to our sponsors, they would prefer if our team purchased a prebuild frame and mount the rest of the components on to it, because it is easy to replace and access these fairly non-expensive frames in case it is damaged in its flight. Also, they want the mechanical side to design a protective casing or layer to prevent the main components on the quadcopter(i.e. micro-controller, motor) from breaking in case of a collision. The frame recommended is the *3DR ArduCopter Quad C Frame + Optional Electronics Kit* that can be found bought at [3DRobotics](#).

2. Payload:

The quadcopter is expected to carry a substantial amount of payload (500g to a pound) which will be used when future components such as a camera etc. are added on to it.

Electrical:

1. Micro-controller:

The preferred controller for this project is the PX4 autopilot flight controller (PX4FMU). More details can be found on their website [PX4 Auto](#).

2. Flight Control:

The sponsor specified creating a velocity based controller with nested loops for yaw rate

and attitude. Also using some of the built in controls such as crash control. Hence a mixture on the preinstalled control and our own flight control.

3. Communications

For testing and design purposes a regular remote controller should be used. Possibly an Xbox controller in the later cause. Wireless communication module will come later on after the first prototype is built. The suggested device was an Xbee or a Zigbee wireless module.

Week Goals

- Research more on the specification and details provided by the sponsor
- Begin Preparing the Needs and specifications deliverables due on the **09/26/2013**. Let's aim to get it done a few days earlier though.
- Have a Drink or two...You'll need it.
- Be productive!!

Next Meeting

Team Meeting

09/20/2013 | 9:30 AM to 10:30 AM