

Weekly Status Report 9

Quadcopter Cameraman

sdmay19-42

March 27 - April 2

Aamid Ahabab (Lead Engineer) & Client

Zhengdao Wang (Team Advisor)

Alex Nicklaus (Lead Test Engineer)

Isaac Holtkamp (Web Manager)

Nate Allen (Report Manager)

Luke Rohl (Meeting Facilitator)

This week's accomplishments

General

- Solved Roadblocks:
 - Need new ESC's
 - No longer needed as hardware/software are compatible
 - Solve multiwii issue
 - Commands found to start multiwii program and communicate successfully with the ESC's

Summary

- Alex
 - Found the issue in the multiwii with Luke mostly as a complete fluke
 - One line of code in the main loop was hard coding the board to disarm
 - Changed code to hard code the board armed
- Nate
 - Remote Mask Configuration
 - Designed a protocol for adjusting mask configuration settings
 - Java
 - Created a client to circumvent bluetooth to allow testing with java in isolated environment
 - Created send and receive methods for client
 - Client Handler
 - Python
 - Implemented protocol handling
 - Adjusting mask and thresholds
 - Tweaks to send image method
 - Debugging Configuration of ESC and starting motors after arming
 - Computer Vision

- Method to convert pixels to centimeters at different distances
 - Method to get parallel distance of target
 - Method to calculate angle of target from center from
- Luke
 - Confirmed Flight Controller and ESC can communicate
 - Confirmed Pi and Flight controller can communicate
 - Control Motors via pi.
- Isaac
 - Image alteration commands completed
 - Image upload from txt file containing Base64 texts completed
 - Image received from bluetooth and strings concatenated together and output image at the end of messages completed.
- Aamid
 - Worked with team to try and get motors to spin up
 - Primarily looked at Flight controller and ESC communication
 - Read signal outputs
 - Used a function generator to power up the motors and ensure they worked based on the read signals

Planned to accomplish next week

- Nate
- Luke
 - Confirm Android App and Flight controller can communicate
 - Create Software Flight Controller converter
 - Used to convert digital signal into hardware signal
 - Create Software Flight controller
 - Performs logic on how much to move, which direction, etc.
- Alex
 - Build the physical drone and get it airborne
- Isaac
 - Work with team to confirm communication with flight controller.
- Aamid
 - Build the drone, and control wirelessly with the flight controller and pi

Roadblocks

Hours Spend

Team member	Hours This Week	Hours Total
Nate Allen	11.5	62.5
Alex Nicklaus	1	52

Luke Rohl	6	48
Mir Ahbab	8	44
Isaac	15	47