Weekly Status Report 10

Quadcopter Cameraman

sdmay19-42
April 3 - April 17

Aamid Ahbab (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

Summary

- Alex
    - Worked with team to get Pi to control Quadcopter
        - Discovered with the team that the signal communication issues between the Pi and the Flight controller was a grounding issue: the Pi needs to be grounded to the Flight controller or the controller will not respond to the Pi's input
        - Found one line of code in the multiwii that was forcing the Flight controller to be disarmed
    - Worked on physical construction of the drone
- Nate
    - Worked through pi communication issues with team
    - Improved mask_configuration to include distance classifier
    - Distance is now part of calibration setup
    - Established protocol for comms from cpVision to Software Flight Controller.
    - Updated cpVision to send target information to Software Flight Controller
    - Helped team with first test flight
- Luke
    - Created Software Flight Controller converter
        - Used to convert digital signal into hardware signal
    - Created Software Flight controller
        - Performs logic on how much to move, which direction, etc.
    - Integrated App and Software Flight Controller
    - Worked with team to determine controls of flight controller.
- Isaac
    - Worked with team to get App->pi->multiwii commands working

- o   Fixed issues/added functions with communication to cpVision
- Aamid
  - o   Worked with team to spin motors wirelessly
  - o   Drone wiring
  - o   Ran tethered tests this week to attempt a controlled flight
    - ▪ Ran into security hazards (rotor flying off)
    - ▪ Drone has wobbling issues after takeoff
      - Probably due to the sensitive autocorrect, look at PID control values on GUI
  - o   Ordered a transmitter and receiver for debugging and test of manual flight capabilities

Planned to accomplish next week

- Nate
  - o   Help team get drone to hover
  - o   Help with Flight control
- Luke
  - o
- Alex
  - o   Continue work on physical drone see if we can trim its flight to get it to a stable hover
- Isaac
  - o   No specific tasks on android that need to be dealt with
  - o   Enhance app look for users
- Aamid
  - o   Manual testing to obtain trim values on an oscilloscope
  - o   Attain Manual flight
    - ▪ With a transmitter and Receiver, we have everything needed to fly this quadcopter

Roadblocks

Drone now flies but looks like it needs to be trimmed

Hours Spend

Team member	Hours This Week	Hours Total
Nate Allen	10	72.5
Alex Nicklaus	16	68
Luke Rohl	15+8	61
Mir Ahbab	20	64
Isaac	7	54