

EE 183 DB Week9 Plan

Team Daphne

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Week 9 Progress

- Currently on schedule (a bit behind?)
- Tested the quadcopter without tethers
- All propellers working and responding to controller actions
- Turn left, right move; Move forward, backward works
- Tuned PID parameters (still ongoing)
- However, still not quite able to hover stably
- Waterproofing: tested Wifi module underwater
 - Wifi module working underwater with spray and hot glue
 - Able to receive signals under ~20cm deep water (Antenna face upward)
 - Hot glue works great in waterproofing; will use it at every connection to be safe

Challenges

- Yaw rate of the quadcopter - cause spinning
 - Result of yaw drift of MPU6050
 - Needs an additional PID controller to make it zero
 - Still needs work
- PID tuning
 - VERY arduous
 - Roughly figured out the range of P and D parameter
 - Needs more calibrations and test flights
 - Currently quadcopter keep flipping over (maybe have to increase D)

Week 9 To do's

- More testing for quadcopter with propellers on, find right PID parameters (Likai, Jerry)
- Solve the quadcopter spinning problem (Jerry)
- Start waterproofing with spray and hot glue (Kevin)
- Test quadcopter underwater (Jerry, Likai, Kevin)

Future Plans

- Week 10
 - Prepare for presentations & demo
 - Final testing and debugging to make sure system is ready for presenting