

# CprE 491 Weekly Report - Week 3

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**Dates:** 9/15/15 - 9/21/15

**Group:** May1617

**Advisors:** Dr. Zambreno / Dr. Jones

**Client:** Matt Dresser (Vermeer Corporation)

**Members:** Brian Gillenwater, Nate Kent, Quinn Murphy, Bryce Poellet, Jon Schlueter

**Project Title:** Quadrotor Environment Mapping

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## Weekly Summary

- Discussed quadcopter possibilities. Decided upon using the DJI Phantom 3 and got approval from the client to move ahead with the design using that platform.
- Began discussion and planning of the overall system design. Began the discussion of how to best make the design portable to other quadcopter platforms.
- Continued research into photogrammetry and the related software.

## Meeting Notes

### Week 3 Friday Meeting

- Looked into SDK's
  - Phantoms
    - Mobile SDK
  - M-100 Onboard SDK
    - RS232
    - Directly Mount on Quad
    - Full flight control
    - No waypoints
    - Does this Auto Takeoff Land
  - Parrot AR Drone
    - Android iOS Unix
    - Auto Takeoff Land
- Discussion of GO/STOP vs flight photos
- Photogrammetry.....
  - VisualSFM
  - Other options from pix4d
    - Microsoft and AutoCad
    - Comparisons
- Techniques
  - Recommendations on flying above 70 meters?

- 60% overlap
- 90degree fov

#### Monday 9/21/15 - 10am - (Bryce, Jon, Quinn, Brian)

- Discussion of project scope
- Discussion of camera
- Discussion of Phantom 3 SDK and Camera operations
- Discussion of overall system design

## Pending Issues

- None

## Plans for Next Week

- Nate & Jon & Bryce: Keep looking into photogrammetry
- Quinn: Create Functional Block Diagram
- Brian: Look into Lumenier

## Individual Contributions

- Brian Gillenwater
  - Attended two teams meetings
  - Quadcopter research
- Nate Kent
  - Attended advisor meeting
  - First meeting with client
- Quinn Murphy
  - Attended advisor meeting
  - First meeting with client
  - Researched DJI and Parrot SDKs
  - Researched OpenPilot
- Bryce Poellet
  - Attended two team meetings
  - Photogrammetry and camera research
- Jon Schlueter
  - Attended advisor meeting
  - First meeting with client
  - Functional Requirements

Name	Hours this Week	Cumulative Hours	Role
Brian Gillenwater	2.5	5.0	Webmaster
Nate Kent	2.0	4.0	Productivity Officer
Quinn Murphy	2.0	5.25	Leader
Bryce Poellet	2.5	6.0	Communications
Jon Schlueter	3.0	4.8	Key Concepts