Kickoff ODU Analytics Summer Challenge 2016

July 12, 2016
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Agenda

- Goal
- Background
- Deliverables
- Timeline
- Rules
- Prize
- Judging

Goal

- The goal of this competition is to:
  - automate analysis and report generation of video for managers of construction sites.
- Currently gigabytes (GB) of data are generated daily and stored, but a human has to watch the videos and images for analysis.

Background

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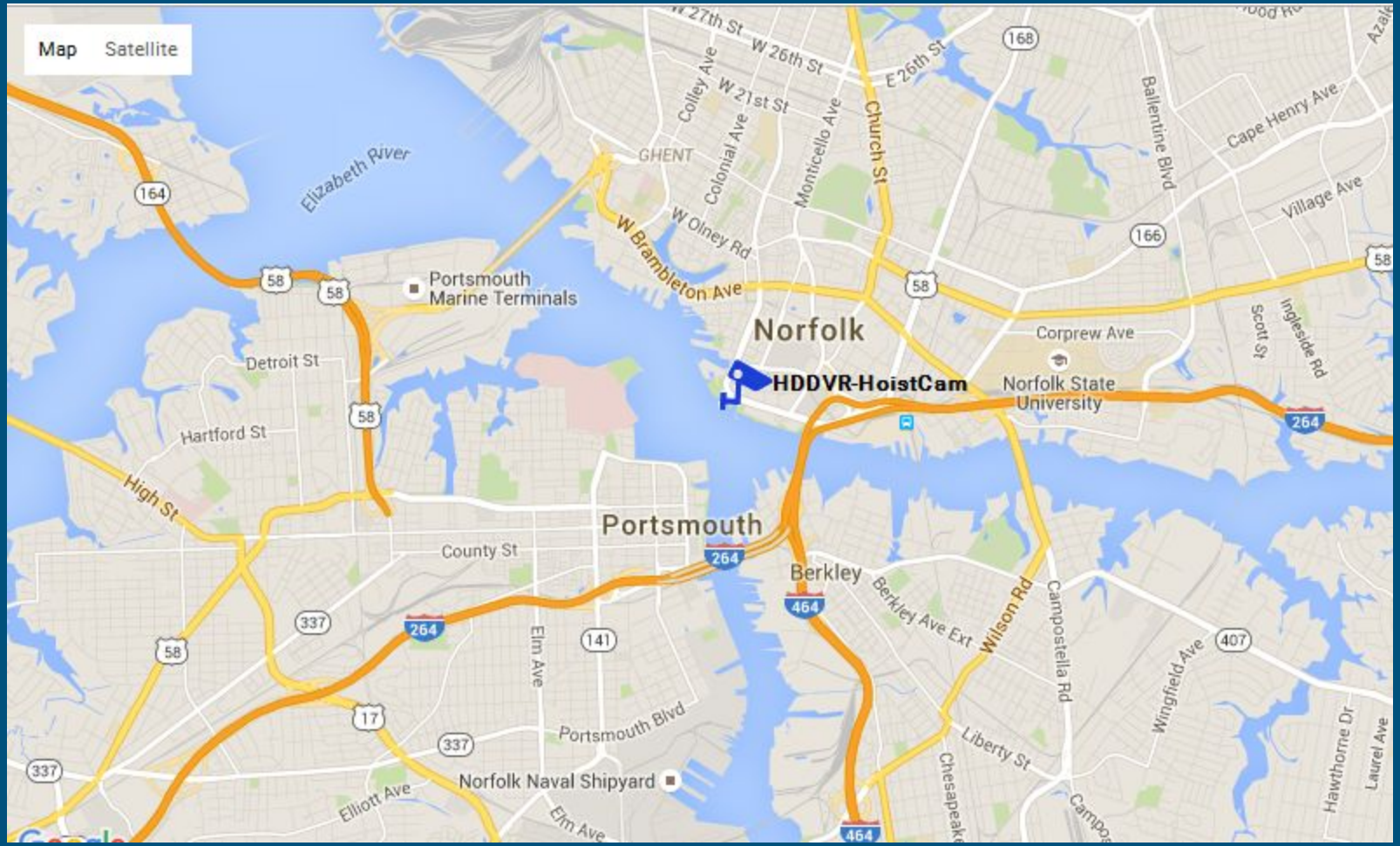
The Main, Norfolk, Virginia



The Main, Norfolk, Virginia

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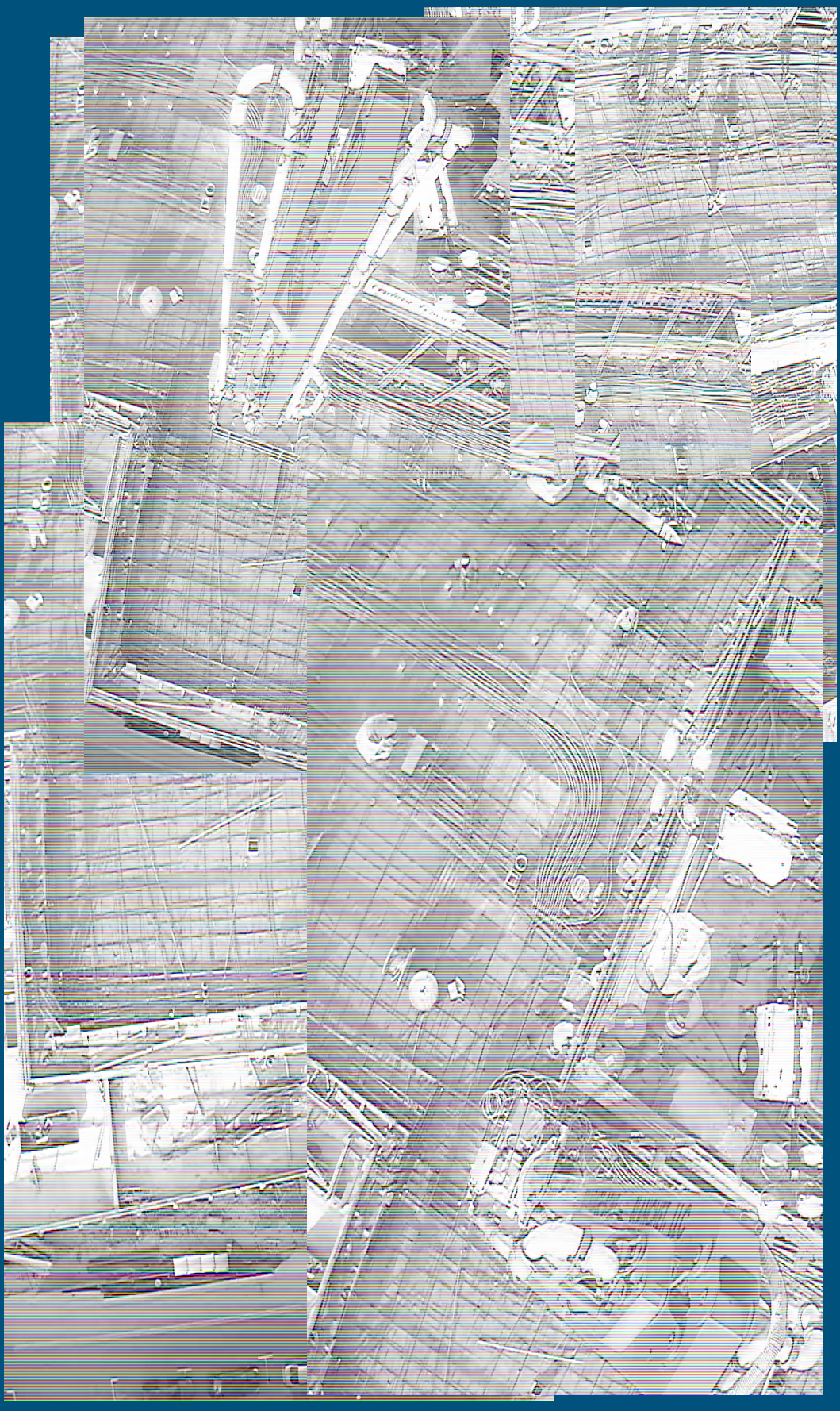
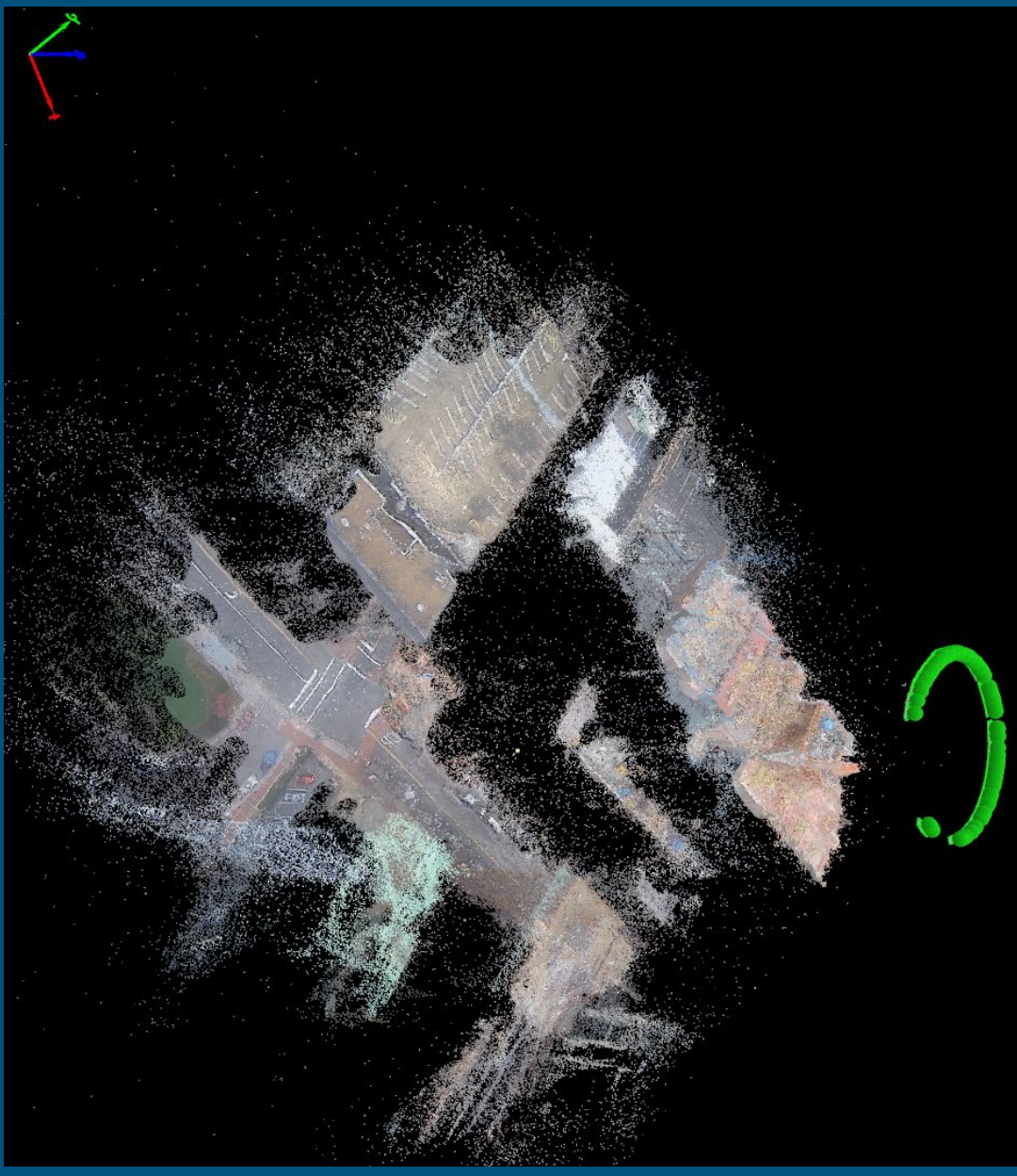


Analysis...

<<< This is where the analysis takes place >>>

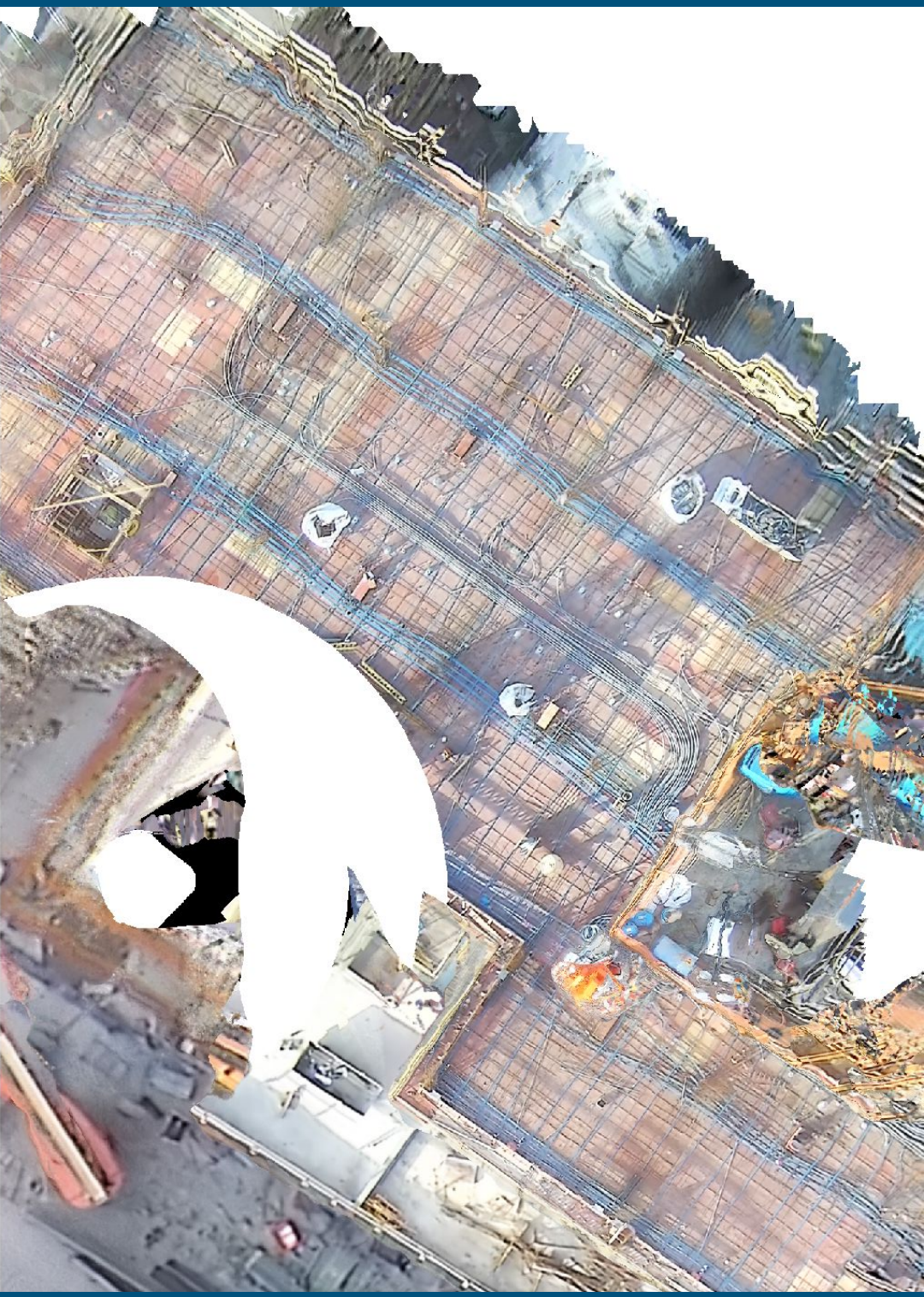
Results:

3D Point Cloud #1

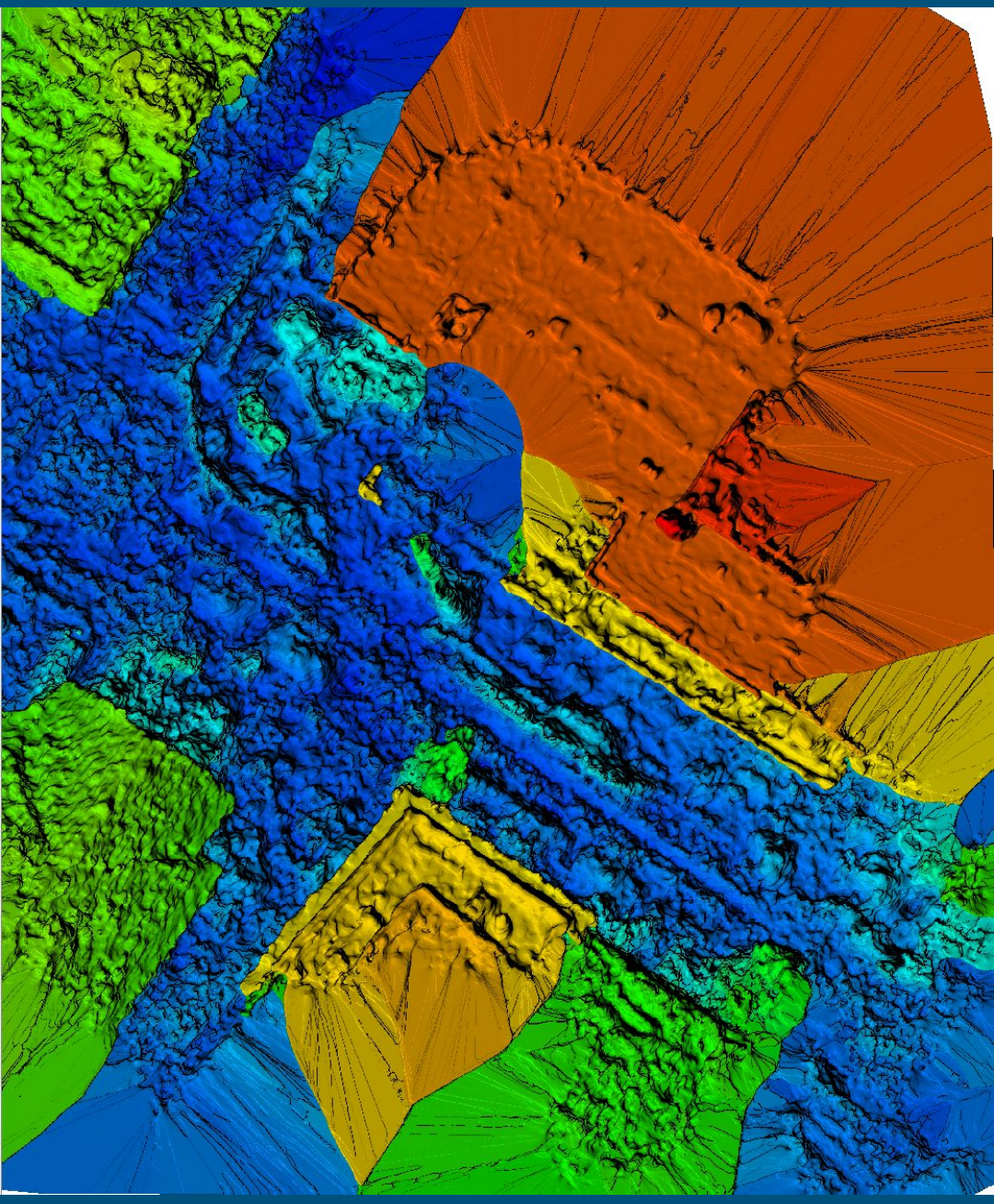


Orthomosaic #1

Orthomosaic #2



Digital Surface Model / Map



Example Analysis

1. DSM: During “dirt” time
2. Orthomosaic / 3D Point Cloud: During Structure
3. Pushing video to the cloud is not very practical
4. Takes 8 to 10 hours on workstation: DSM, 3D Point Cloud and Orthomosaic

Deliverables

- Implementation demonstrating analysis of the imagery from the job site
- Powerpoint presentation summarizing results
  - How valuable is this data?
  - How is this data used?
- All code
- Extensive README that explains how to run what you have done

Timeline

- Now through August 12, 2016

Rules (1 of 2)

- All participants must sign a mutual NDA (non disclosure agreement) to use the data and the results only within the scope of this project. All materials must be returned upon completion of the project.
- 20GB of images and videos will be supplied on a storage area network/server to analyze and produce useful data.
- Project must demonstrate the real world and useful data within a construction environment.

Rules (2 of 2)

- Can use all resources available to the general public or within the university
- Acceptable computer systems:
  - Open software without licensing restrictions
  - Use of ODU computing resources only
- Have fun and ask questions

Prize

- Two $500 prizes for the best implementation based on judging criteria

Judging (1 of 2)

1. Creativity - how much “outside the box” thinking was used to:
    - Define the deliverable
    - Implement the solution
2. Usefulness - how valuable and useful is the resulting analysis from the data supplied
3. Efficiency Speed - at which the resulting analysis can be rendered in a demonstrable format

Judging (2 of 2)

1. Costs
    - Ongoing hardware infrastructure costs to support the analytics delivered
    - Ongoing software licensing costs to support the analytics delivered

Next Steps

Review the Non-Disclosure Agreement and sign-up at:

www.netarus.com/odunda

Questions?

www.hoistcam.com

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