

Surveying a Golf Course, AZ, USA



Country	Scottsdale, Arizona
Project Date	November 2015
Job Type	Golf course topography
Drone Type	DJI Phantom 3 Quadcopter
Number of Images	21
Accuracy	better than 2 cm (0.06 ft)
Datagram™ 3D savings	30 field minutes (1 person) instead of 1 hour (2 persons) using Total Station and terrestrial scanning 1 office hour instead of 6 hours

Project Description

Surveying the topography of a golf course with an accuracy within the range of 1 to 3 centimeters (9 hundredths of a foot).

The original effort estimate for surveying the topography area using conventional surveying techniques and terrestrial scanning was

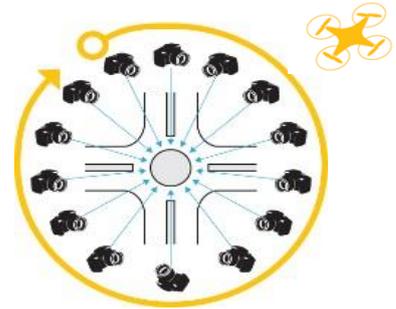
- 1 field hour, 2 persons, taking Total Station measurements and multiple scans.
- 6 office hours to process the scan data and create a CAD model of the topographic area.



Data Acquisition

The area was photographed using a DJI Phantom 3 Quadcopter equipped with a 12 MP camera.

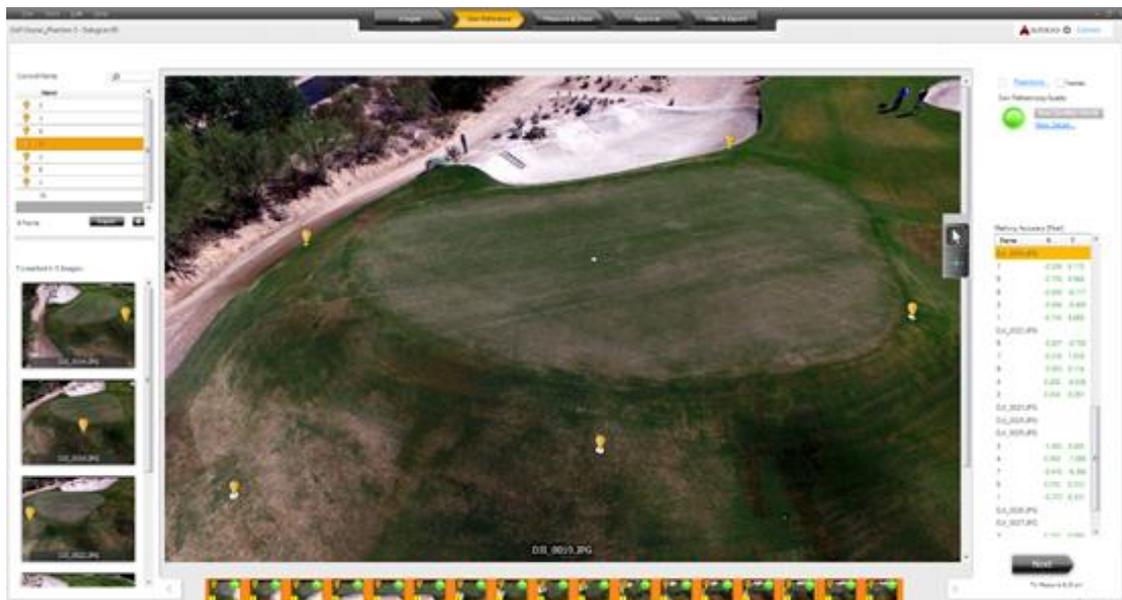
A total of 21 photos of the area were taken from ~12 meters (36 feet) above the ground. Photoshooting was done from the perimeter towards the center.



DatuGram™3D Savings

The actual time to survey and create an accurate 3D CAD model of the site was 1.5 hours:

- 30 minutes in the field, one person: 20 minutes to measure 9 control points and 10 minutes to photograph the site.
- 1 office hour to geo-reference the data, create an accurate 3D CAD model of the site, and create 2191 new automatic 3D topo points using DatuGram™3D Photogrammetry software.



Achieved Results

A 3D CAD model, including the sprinklers and the topographic area, was created in a DXF format. In addition, a point file with the new point names, codes, descriptions and coordinates was generated.

Overall 2206 points were generated:

- 15 new 3D points (the sprinklers) were drafted directly on the images
- 2191 new 3D topo points of the area topography were automatically created

Measurement accuracy of all the points was better than **2cm (0.06 ft.)** in both position and elevation.



DatuGram™ 3D Benefits



Intuitive & Simple
Enjoy a user friendly interface for the entire field-to-plan process



High Precision & Reliability
Reach survey grade accuracy using a regular camera



Save Time & Cut Costs
Increase productivity, save precious field & office time, and reduce inaccuracies & mistakes



Grow Your Business
Manage more projects and monetize expedited delivery

