



Drone Deploy's new App for Mapping

# Lowering the Barrier to Entry Does Not Eliminate the Requirement for Professionals

With the development of new low cost acquisition platforms (unmanned systems) and point and click processing tools comes a wave of new mapping experts, or so some would think. Reading through my emails a couple of weeks ago I came across an advertisement from a well known reseller of UAS and UAS equipment promoting a class in Aerial Mapping with UAS. This reseller is located close to a major city in Texas, but still about a 30 minute drive on a good day.

I know that on Thursday's they offer intro to UAS classes where you can

learn to fly with experienced personnel available to help you along. Every once in a while they offer more advanced classes on photography techniques, waypoint flight, and so on. The audience is commonly comprised of students, farmers, realtors, property owners, the occasional law enforcement agency, and your general UAS enthusiast. I have joined in myself in the past, but I have since relocated and only now receive the updates. However, a class on aerial mapping? This one caught my eye. As a Certified Photogrammetrist and geospatial professional I pay attention to what others are doing in this space.

Often a new technology that lowers the barrier to entry, such as UAS, will open up a market to new entrants.

Combined with point and click processing software that leverages imagery from UAS to produce surfaces, orthos, and color balanced mosaics (maps), our profession will certainly see a flurry of new entrants providing these services. This is not a bad thing, as long as it is performed with due care, as it pushes our profession forward and causes us to explore parameters in which we work. New technology can lead to better products and value for our clients. It also brings about revisions in our accuracy standards such as those recently published by the [American Society of Photogrammetry and Remote Sensing](#) (ASPRS).

I never thought I'd be the old guy, but I may be getting there, especially

BY ERIC ANDELIN

when I hear the less experienced at conferences saying things like you can do mapping without an IMU. Yes, way back before cell phones, there was this thing called photogrammetry. We used large format cameras and large machines called stereo plotters. That's where things like glass plates, 60% overlap and 30% sidelap come from. My point is that technology is constantly changing our profession. GPS, CAD, digital imagery, softcopy workstations, commercial satellites, GIS, LiDAR and Google have all had an effect and broadened the definition of our profession.

Getting back to the aerial mapping class, I recognized one of the names of the presenters so I followed the email threads and on the day of the class I received an update indicating that due to the overwhelming number of attendees they were going to live broadcast the class via YouTube. An overwhelming number of attendees—that peaked my interest. Since it was going to be on YouTube, I queued it up on my phone and cast it over to the TV via Chrome cast to check it out. Saturday morning at 10:00am; what was I thinking, I didn't have time to watch it live so I saved it to my favorites and went about my weekend.

The following week I had time to watch the cast and was pleasantly surprised that one of the presenters was a Licensed Professional Surveyor... Whew! Moreover, I knew this person and figured he'd do a pretty good job representing the profession. There was a quick headcount and it turned out that there were around 50 people in attendance. Only a handful were already in the mapping profession. The

rest were just there to see what was possible. Knowing the reseller I could surmise that the majority of attendees were owners of multi-rotor systems. The surveyor/presenter happens to own a couple of multi rotors and is a reseller of the [Sensefly](#) system which he brought along as well for the audience as a fixed wing example.

They began with some basic mapping definitions and showed examples of semi globally matched point clouds, orthos and mosaics from a prior flight over the property. The software being used was easily identifiable as [Pix4D](#). While there are other solutions out there, this is very popular because of its integration with SenseFly and more recent mission planning and flight automation app for the [DJI Phantom](#) products. Pix4D's success is coming from outside of the traditional geospatial box. Just as DJI has such a large part of the UAS market. They both made something difficult, easy.

I was very happy to hear the presenters clearly define relative accuracies within the captured data as a result of proper and consistent overlap and absolute accuracies as achieved with proper control. Again the presenter I knew was a Professional Land Surveyor, so this was more in his wheelhouse and he stressed the need for control, number of control points he's had success with, targeting suggestions, and recommendations on check points. All of

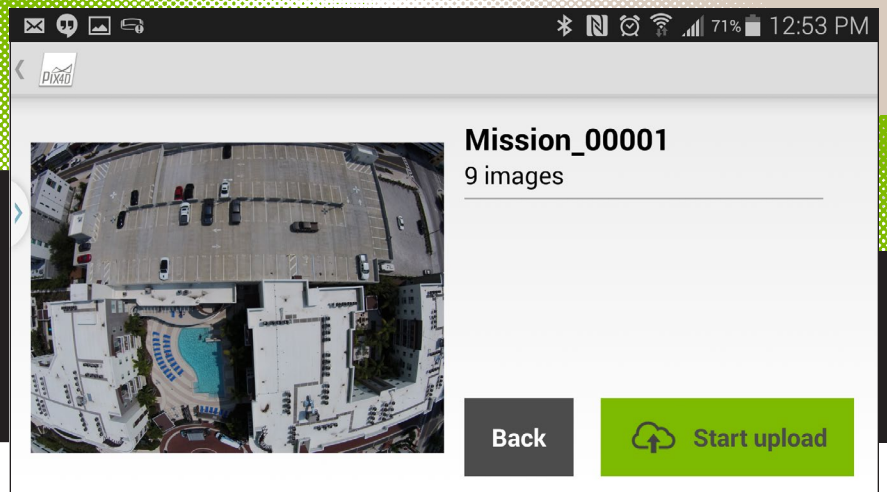
these things are too often left out of such presentations. Having a surveyor with experience in aerial mapping, who spoke about the professional aspects of what we do in producing maps was refreshing. I would have loved to have assisted.

Overall, the presenters were realistic in the use of UAS for small mapping projects. They were able to show great data and results from low cost systems at very low altitudes. The surveyor was also then able to show as a comparison of the type of data that could be captured with the SenseFly, what the differences were and use cases that fit the SenseFly platform. They did not open any flood gates with ideas on starting up your own small mapping company. In fact they completely avoided the issue of legality in flying a UAS for profit.

At the pace things are changing in the UAS space, it's hard to pass up a discussion on UAS even over the weekend. We all remember the FAA publishing the NPRM on a Sunday. I'm glad I tuned into this particular presentation and that the presenters remain vested in the professional aspect of our geospatial profession. **1**

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**Eric Andelin CP** brings 35 years experience to the mapping profession. Eric's geospatial background includes survey, aerial photography, photogrammetry, GIS and laser scanning. He is consistently seeking new technologies to further the profession.



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