Clouds become stars… 3D scanning in entertainment industry

Ed Oliveras | SPAR Point Group | 3/21/2013



18th hole at Arnold Palmer's Bay Hill course in central Florida. Image courtesy GO3D, March 21, 2013.

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In Eddie’s words

> “I’ve been lucky to have worked with a few studios and now supporting a local customer EA Tiburon, the design team for games like Madden and Tiger Woods, right here in Orlando.”

> “Together, we’ve solved lots of technical issues relating to how the current industry consumes point clouds — and identifying the lack of tools thereof.”

What the dated article records

Eddie describes supporting EA Tiburon, solving point-cloud workflow problems and using scans in film, games and simulation. The original images and credits place the article in its 2013 context; named companies are historical references, not present-day endorsements.

Historical context

The following is the complete recovered article text, with original image credits and clickable source links. Product, legal and technical statements describe the time of publication. They are not current professional advice. Broken external services and retired software are not silently replaced.

These excerpts do not establish sole invention, current affiliations or every detail of a later recollection. The full original follows so readers can judge the context.

Complete recovered article

A popular application of 3D laser scanning technology is in the film, gaming and simulation industry.

Here in Orlando, we're a hub for military simulation with the University of Central Florida Research Park, Full Sail University as well as DAVE School right in our backyard. All the FX houses are incorporating some type of scanning and digitizing like character motion capture, body scanning and in today's discussion: **show set capture and digitization**.

In big blockbuster movies you'll see scenes where the character narrowly escapes death by the skin of his teeth and blows up half a historical landmark in the process… how do they get away with that? It's costly to build sets and blow them up: just ask the producers from Waterworld. The idea is that these one-of-a-kind environments get star treatment digitally. Using 3D laser scanners and photogrammetry tools to capture reality, the modeling team can put an environment together in a fraction of the time and in much greater detail and accuracy than ever before.

So, how are FX studios using the data now?

I've been lucky to have worked with a few studios and now supporting a local customer **EA Tiburon**, the design team for games like Madden and Tiger Woods, right here in Orlando. Together, we've solved lots of technical issues relating to how the current industry consumes point clouds — and identifying the lack of tools thereof.

The data collection side seems to be the easiest part these days with simplified scanning workflows.

The *real* issues lie in downstream software processing. In EA's scenario, they've developed some amazing tools themselves… and continue to refine this process. Check it out.



Original image capture

(18th hole at Arnold Palmer's Bay Hill course in central Florida, image courtesy GO3D)



Original image capture

(Overhead view of 18th hole at Arnold Palmer's Bay Hill course in central Florida, image courtesy GO3D)

Here's an older clip of Remnant Studios in CA working with our first gen scanner.

They aren't the only ones using scanning; here's Activision scanning in Florida.

Another "power user" is Scott Metzger, an accomplished visual effects artist who has a nice technical video he shares with his use and application of 3D scanners in conjunction with the dizzying conversion and modeling programs used to make such high quality digital media.

Check out the video here.

So, there are benefits to this renaissance of companies embracing scanning as their primary reality capture tools … the trickle-down effects of these big shops with big budgets force the hand of the major design packages to play in the point cloud sandbox. Autodesk acquired Alice Labs a while back, enabling users to one day have "unlimited" point cloud visualization capability in their native packages including CAD. "Unlimited" is not a word we scanner-heads are used to hearing; but there's some truth to this. With multi-core processors and true 64-bit hyper-threaded applications, this is soon becoming a reality (pun intended).

Another example of mainstream “tricklization” (trademark Ed Oliveras) is how new scanning users are creating their own apps and viewers for scan data without waiting for the big boys to do so. Clouds2Max is a point-cloud plug in for 3DS Max.

A complimentary yet stand-alone product is Click-VR, which is a stand-alone real-time 3D rendering application that allows you to work with the cloud in a “pre-rendered” format. Those who are not in the 3D animation biz may be scratching our heads, but you know that short amount of time that the cloud goes fuzzy while you spin around in your 3D viewer? Yeah, that’s “rendering”… pre-rendered means there is no lag, no regeneration time with full point cloud display and access. Most importantly, with further tweaking and the right workflow, this can be used as a true simulation tool, like this example.

As we speak, many of the sports stadiums across the country are being scanned to generate a portfolio for these game companies.

How cool would it be to play HALO with a game map being your local park or your office? Hmmm… sounds like a nice service offering to me. Do you think the corporate execs at Activision, EA and others might be thinking the same thing (wink, wink)?



Original image capture

(Image courtesy of Atlantic Laser Scanning Rentals)

Source and preservation record

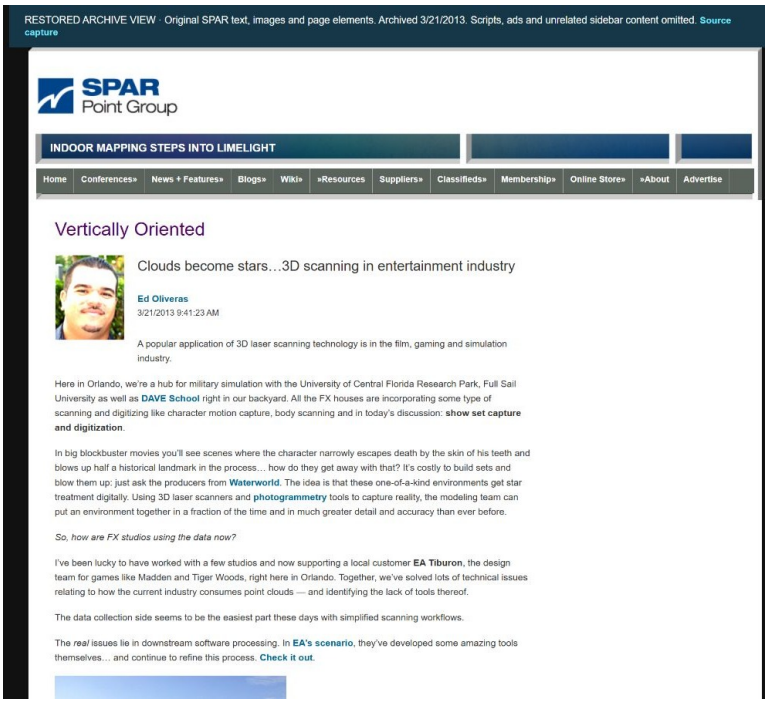
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