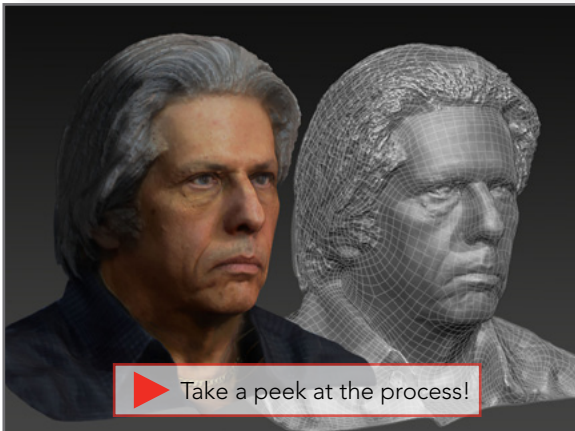


What's Up MÄK

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From Reality to Virtual Reality:

How we're amplifying our human character fidelity with Photogrammetry



Take a peek at the process!

May the Photogrammetry be with you.

Learn how photogrammetry was used for *Star Wars™: Battlefront™*

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At MÄK, we are constantly seeking ways to improve our products by diligently researching the latest technologies that will elevate our fidelity and performance. In this issue of What's Up MÄK, we'll tell you how we're doing exactly that by integrating the photogrammetry process into our human content pipeline.

Photogrammetry is the science of making measurements from photographs — we're using it to make a high resolution 3D mesh. We expertly capture photos of a subject, use specialized processing software and post-processing by our team of 3D artists to make hyper-realistic, high-performing humans for DI-Guy, our **Human Simulation software**. DI-Guy's ability to support multi-texturing via albedo, bump, specular, gloss, and ambient occlusion allows us to retain the minute detail of these captures while delivering them in low-polygonal, high-performing models. The DI-Guy artists use industry-leading tools such as ZBrush, 3D Studio Max, Maya, and Photoshop to translate these models from reality to virtual reality. As you can see from the photos and videos, the results are impressive.

While the results of this method are arguably the best quality humans in the simulation market, the benefits do not end there. In the design and implementation of this technology, we created what our 3D artists call the PortaScan Studio, a portable photogrammetry studio that allows them to travel anywhere to create custom human content for simulations. Imagine this: Private First Class (PFC) John Miller shows up for training where he is scanned and added to the DI-Guy library, along with his fellow trainees and comrades. He then dons an **Oculus Head-Mounted Display** and enters the training scenario. As he looks to his left he sees PFC Mike Marshall (not a stock avatar mind you, but Mike's actual visage!) and to his right, his Captain. Talk about full immersion.

Infinite variety – this is how we come as humans, all shapes, sizes, colors, and style of dress. MÄK has the power to achieve this variety and bring it into the world of simulation.

How about costs – both time-wise and financial? This is the beauty of embracing new technology: it's typically better-faster-cheaper and our PortaScan Studio is no exception. MÄK is making it possible to truly customize training simulation environments in near-real time. If you're interested in learning more about how MÄK is taking advantage of the latest technologies, **get in touch with us today.** 🌸

Tips & Techniques

Practice Decision-Making Skills through Interactive Training Scenarios

Interactive training teaches people to make good choices when confronted with a challenge. If *a* happens, do *b*. If *b* turned out to be a poor choice, try *c*.

DI-Guy Scenario is an easy-to-use tool to author interactive training scenarios. The realistic human avatars make training more memorable by immersing the trainee into the training environment.

Let's say you're training first responders to deal with a train derailment involving a chemical spill – responders need to practice in safe, realistic space where they can read cues from the environment around them. Using DI-Guy Scenario, trainees can interact with DI-Guy characters, get visual cues from others in the environment, respond to prompts provided by the lesson plan, and learn to make the proper judgment calls. [Watch this video](#) of what happens if you don't follow instructions.

Another example: A carrier flight deck is the most dangerous place in the world to work. Crewmembers entering this environment need to know exactly what to do in all situations. Creating simulation scenarios can help prepare crewmembers for just about any situation. A flight deck crew will need to know when the aircraft is hooked up correctly and ready to be launched and all crewmembers have given the thumbs up. Once all crewmembers are ready, the catapult will launch the aircraft.

Through interactive training scenarios, training takes place in a safe simulated environment before any life or death decisions are made in the real world. 🌸

MÄK's Recent Product Releases:

[MÄK RTI 4.4.1](#)

[VR-Link 5.1.3](#)

MÄKer Spotlight: Robert Bryan

Senior 3D Artist



This month we are excited to introduce you to a man of many talents: Robert Bryan. Whether he's creating beautiful works of art or amazing you with magical sleights of hand, Robert's creativity knows no bounds...

As Senior 3D Artist at MÄK, Robert specializes in creating realistic human characters. He models, textures, and animates the content found in DI-Guy's extensive library. As an accomplished traditional artist skilled in portraiture, painting, drawing, and sculpture with a detailed understanding of human anatomy, he possesses the critical eye required to create the highest fidelity content.

While at Boston Dynamics, Robert served as Senior 3D Artist and Lead Concept Artist. He played an intricate role creating art assets for the robotics team producing 3D graphics for programs such as [Big Dog](#) and the [DARPA Robotics Challenge](#). His concept art has graced the covers of magazines including Unmanned Systems and Military Training & Simulation News, and has been featured in several [Popular Science](#) articles.

While gifted in the visual arts, Robert has a true renaissance spirit and has many aspirations. He is a thespian, magician, pianist-guitarist-vocalist, and even does impressions! (He does a hilarious De Niro!) Robert has also written screenplays and has had the opportunity to work closely with famed movie directors, the Farrelly Brothers, creators of hits such as *Dumb and Dumber*, *There's Something About Mary*, and *The Three Stooges*. Robert's scripts and movie concepts have been so compelling that they have been pitched to studios such as DreamWorks and Twentieth Century Fox.

When not scratching his creative itches, Robert enjoys spending time with his wife and two sons camping, barbecuing, and singing karaoke. 🌸