

What's Up MÄK

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Riding the Wave of New Technologies to Reduce Costs and Increase Value for Modeling & Simulation

Dan Schimmel, CEO of VT MÄK



We're curious.

What benefit of Web & Mobile technology do you most look forward to in your simulation environment?

See the choices
and let us know!

A powerful wave of new and viable technologies is facilitating a big transition to virtual environments using thin clients. Consider all the amazing advances that have taken root in the last 5-10 years - cloud platforms, advancing web browsers, mobile devices, social media, big data mining, and adaptive training platforms. These breakthroughs have revolutionized virtually every other commercial industry. However, with few exceptions, military training and simulation has not yet effectively taken advantage of these new technologies.

MÄK's comprehensive suite of tools and our vision to bring live, virtual, and constructive simulation to the web enable this necessary paradigm shift for military developers. We have extended our industry-renowned COTS simulation and visualization software with a complementary suite of web-enabled server and client applications. Now a new generation of flexible, modular software can deliver low-cost, relevant training solutions to everyone in the military; these solutions are accessible on every type of device and network, anywhere the customer is located, in any domain. Prototyping, development, experimentation, and deployment cycles become much faster, simpler, and more fun as more of the cost and hassle moves traditional physical simulation centers to the cloud. The budget frees up to create engaging simulations to train more warfighters.

The time is right to take advantage of web & mobile technologies and MÄK isn't the only one who knows it - the Air Force gets it, too. They're modernizing their entire Modeling and Simulation Training Toolkit (AFM-STT) system to reap the benefits of the web & mobile trend. The cost of coordinating an Air Force simulation is astronomical - think about the tens of thousands of people who must take part in these training exercises. But with MÄK's web technology, those people will utilize their own secure networks to participate in a massive training exercise without ever leaving their base.

VT MÄK established itself more than 20 years ago as a pioneer of COTS products for defense M&S. Since then, we have consistently promoted the value of reducing costs and increasing value in the development of virtual environments and simulation-based training. MÄK will continue to nurture the development of our tools and applications as part of our dedication to providing affordable and sophisticated modeling & simulation tools. 🌸

*Learn how MÄK's **Training System Demonstrator** uses web & mobile technologies to reduce operator workload and increase development productivity*

Using Someone Else's Terrain Databases:

It's like eating a bag of popcorn without ever opening the bag.

Database correlation between different systems is a difficult issue, but sometimes we make it harder than it has to be. For example, imagine someone has a large terrain database built with TerraVista. You want that terrain and since your system can handle OpenFlight, you think, "Great! Let's try it out. Send me that database." What you get is hundreds of openflight files and one master.flt file that references the hundreds of individual tiles of terrain. When you try to load the master.flt file, your system runs out of memory and crashes. Bummer, that didn't work. It's like trying to eat a bag of popcorn without opening the bag first.

To handle this problem, you could choose an approach that would be optimal for your system, but also the hardest and most time-consuming to implement; you would have to reprocess the terrain database into a structure that better suits your system architecture. But many times you don't have the skills, time, or energy to do that. You just want to load the thing and see if it is a useful database before committing to optimizing it.

Here's what I recommend: try MetaFlight. Lots of people think MetaFlight is a different kind of database but it's not. It's just an XML-based way to reference the many tiles of a terrain. MetaFlight describes the grid of tiles using your database's coordinate system so that the simulation or visual system can fetch the tiles that it needs and ignore the ones that are not needed or in view. When you use MetaFlight, it's like reaching into the bowl of popcorn and getting the handful that you want. 🌸

The Gamemakers of Wargaming Simulations

Some wargaming simulations are so large that setting them up requires the organizational skills of a multi-echelon military structure. They're too big to stop and restart when something goes wrong. So how do you handle it? How do you make sure that all the training participants learn what they are supposed to learn? This is where the Gamemakers come in.

Maybe you've seen the movie "The Hunger Games". The Gamemakers control the contest, adding distractions, challenges, even new opponents to steer contestants toward the conflict. Military officers acting as instructors do something similar for large wargames. They steer the conflict by adding supporting elements and opponents – changing entities' behavior and capabilities. They set up situations so that learners must use the tactics, techniques, and procedures in their curriculum.

You, too, can be a Gamemaker. To be successful, you'll need simulation tools that can be used while the simulation is running. Tools so easy to manage that you can detect problems and effect changes immediately. For this, you should try VR-Forces and DI-Guy Scenario, tools that enable you, the instructor, to dynamically inject events to stimulate trainee responses or guide a trainee's actions during a training exercise. You can make your game a winning simulation and MÄK can help. The odds will always be in your favor. 🌸

MÄKer Spotlight: Louis Wilbrink



Senior Web Developer

Meet Louis Wilbrink, one of MÄK's talented Senior Web Developers! As a web developer, Louis builds web applications that control and monitor simulations; Louis' team is currently preparing a new release of **WebLVC**. Louis stays current with JavaScript and new web technologies for use in future applications.

Louis started his career as an electrical engineer for Raytheon. After three years, Louis wanted to experience new challenges, so he transferred to a Radio Frequency (RF) group. His team built a new, state-of-the-art, automated RF Test Station for Patriot Missile radar components. After another three years, Louis wanted to transition to software engineering; the world of web development, entrepreneurship, and start-up companies intrigued him and he wanted to acquire more knowledge about the industry. In order to gain real-world experience, Louis left a very stable but predictable job in the defense industry and took an \$8 an hour internship in a start-up company located in Cambridge. After the internship, Louis saw a job opportunity at VT MÄK and he applied immediately. He feels extremely lucky that he was able to join such a world-class team and is thankful for the significant craft-improving opportunities MÄK has offered him.

Louis studied Electrical Engineering at Pennsylvania State University (WE ARE!). He's taken graduate courses in lasers and programming, mostly out of personal interest and growth. One day he hopes to find a cost effective way to go to business school, but he's currently learning the fundamentals through good old-fashioned books.

Here are some interesting tidbits about Louis: He's a twin! He was born in Amsterdam and holds a dual citizenship. He is an avid reader and finishes a book per week using Audible (this is why you'll always see him walking around with his headphones on). His fiancé is an Air Force officer who gets to use guns while performing federal investigations! Louis loves learning new things so he's become a regular at local Barnes and Nobles and has become an integral member of several MeetUp groups for programming. 🌸