August
2016

What's Up MÄK

The Light Armored Vehicle Simulator

MÄK's Interoperability and Flexibility Shine at CSTM

Ivan found himself pressed for time as he arrived at a military simulation conference in Brazil. He had expected to exhibit at the show, but there was a last-minute change of plans to incorporate ADVENTUREtech's three-channel CAVE display. Ivan had to attach the three additional monitors and an Oculus Rift that he had brought for his original setup, and then light up all the stations with a Light Armored Vehicle (LAV) simulator.

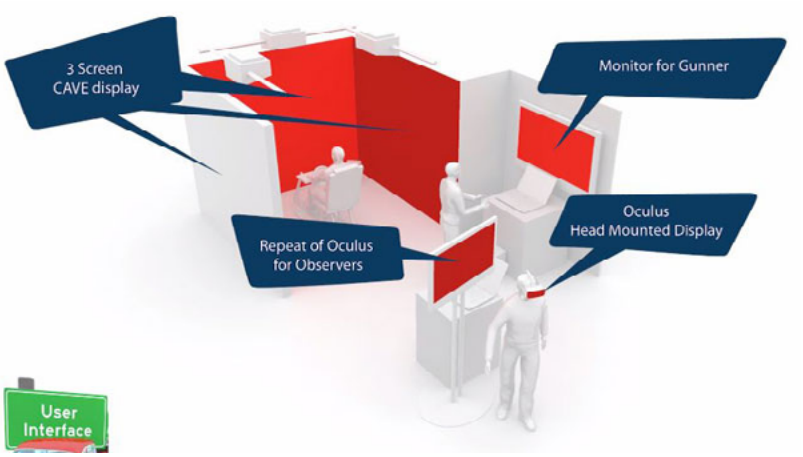
ADVENTUREtech had the CAVE, but no software. Ivan had all the software, but lower-fidelity displays. It was a perfect match.

The LAV Driver simulation would occupy the CAVE display, a gunner and outside observers would use single monitors, and a commander would use the Oculus Rift.

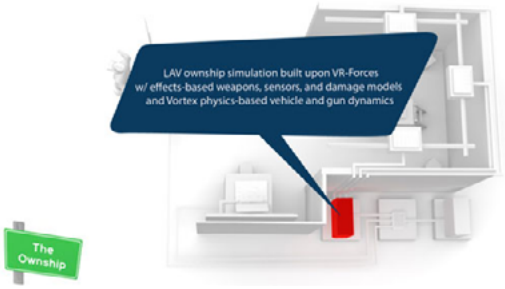
"VT MÄK's Light Armored Vehicle simulator made it possible to transform a booth with a display system into a fully-functional, team-oriented training demonstration. I'm confident that I can adapt to any hardware changes quickly and easily with MÄK Products." -Ivan

The MÄK Advantage:

Ivan used MÄK's LAV Simulator, built on the foundation of VR-Forces and VR-Vantage. He connected the simulator to another copy of VR-Forces and DI-Guy Scenario to populate the scene with others. All components relied on Simthetiq's SUROBI VTE database for terrain.



The LAV ownship simulation is built upon the VR-Forces simulation framework. VR-Forces coordinates user inputs from each of the operators, hosts CM Labs' Vortex physics engine to model the vehicle dynamics, provides terrain access to the Vortex model, and handles the weapons effects, sensors, and damage models for the vehicle.

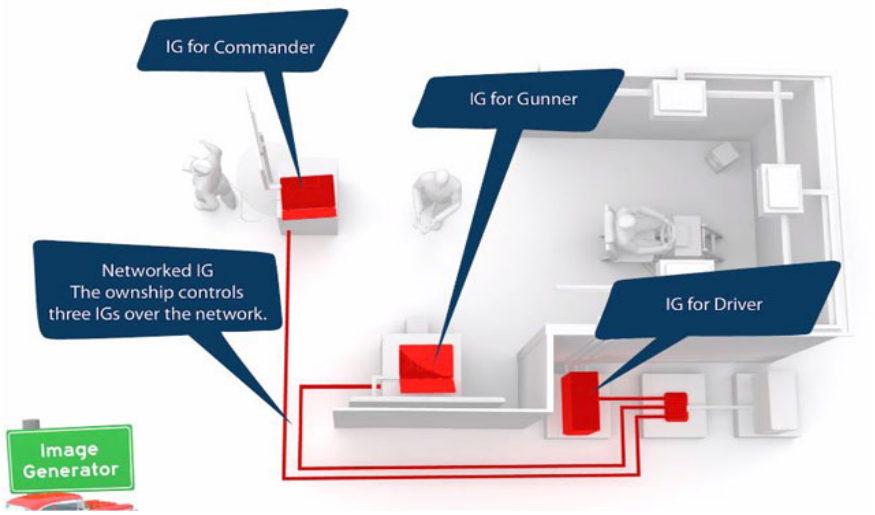


VR-Vantage IG brought the CAVE, Oculus Rift, and monitors to life. The multi-channel distributed rendering architecture made it easy to configure a continuous scene across the CAVE display.

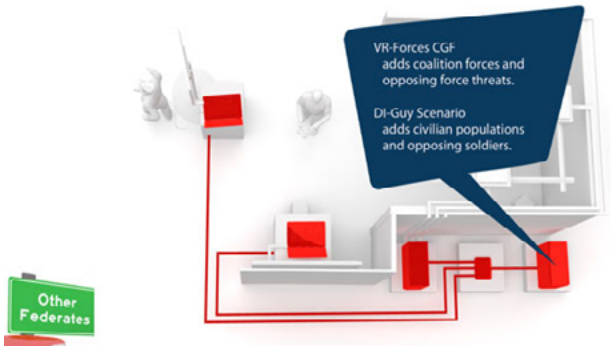
The Oculus Rift at the commander station was simple for Ivan to add and presented the scene in a fully immersive display, which was reactive to the user's head position and movements.

The gunner's sight was designed for use in daylight and night vision scenes, with night-vision and infra-red sensors included out-of-the-box.

VR-Vantage is also a toolkit, which was used to create the through-the-sight information needed for the gunner.



VR-Forces CGF filled the virtual environment with other entities, including targets and threats, as well as neutral and friendly forces. VR-Forces

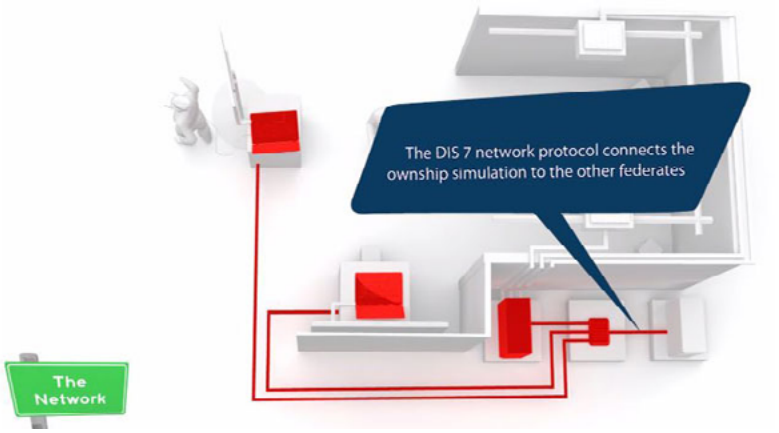


CGF enables instructors to pre-plan training scenarios where non-player AI characters move and interact based on mission plans, reactive tasks, and triggers, in accordance with the actions of other entities in the simulation. DI-Guy Scenario added additional human characters to the simulation to model the patterns of life in the village.

These software components rest on the backbone of MÄK's networking technology. VR-Link's protocol independent API allows all three applications to communicate through the industry standard High Level Architecture (HLA) or Distributed Interactive Simulation (DIS) protocol. Ivan chose to use DIS for its simplicity.

Ivan took advantage of the interoperability and flexibility inherent in MÄK's software design to make his presentation a success. He gave his customers an immersive, team-oriented LAV simulation, and still had time to spare.

Want to learn more about virtual simulation? Interested in seeing a demonstration?



MÄK's products take advantage of NVIDIA's GeForce GTX 1080

We're always looking to keep customers in a position to take advantage of the latest technological releases, and that includes the latest graphics cards.

NVIDIA released their latest consumer graphics card, the GeForce GTX 1080 in May. The 1080 represents a step up from the 980ti that we used in our demos at I/ITSEC last year, and brings a higher level of GPU performance to the consumer market ($699), with an eye toward virtual reality. Of course, MÄK products fully support this newer card.

We never want to limit our customers, so MÄK products work with the full set of modern

NVIDIA GPUs. If you have high-end production requirements, you may want to choose the latest NVIDIA Quadro cards. For desktop systems where you just want the best, the new 1080 is perfect. If you have older desktops with older GeForce cards, you will find that MÄK products still work fine.

A system's performance can be limited either by the computer's processor (CPU) or the graphics card's processor (GPU). Jim Kogler has written some detailed blogs (Part 1 and Part 2) that walk you through ways to test your system and detect if a new card would be beneficial.

Based on side-by-side testing of 980 and 1080 cards that use GPU-heavy applications, we've found VR-Vantage exploits the newfound GPU power into significant performance and quality gains. From a performance perspective, we've seen GPU-bound scenes experience a 100% boost in frame rate. If you are already hitting your performance goal, the new card allows you to increase scene complexity by adding new textures or increasing shadow quality, presenting a much better-looking scene.

Want to learn more about VR-Vantage? Interested to see a demonstration?

NewsMÄKers

VR-Forces 4.4.2 - Version 4.4.2 is a maintenance release that makes several important improvements to the VR-Forces product. Some highlights include scenario snapshots and crowd traffic. For a complete list of changes, take a look at the capabilities document and release notes.

MÄK Data Logger 5.4.1 – We've released a minor maintenance update, which fixes several bugs with the interface and speed settings. For a complete list of changes, take a look at the capabilities document and release notes.

Be sure to keep current with our upcoming events. Check out our events page to see what shows we're attending, where to find us, and what we're showing!

MÄKer Spotlight: Ofer Tamir, the newest member of MÄK

This month, we'd like to introduce you to Ofer Tamir, Product Marketing Manager at MÄK. He adds awesome new graphics-based storytelling techniques to MÄK's offering. If you've enjoyed the Tech-Savvy Guide to Virtual Simulation or the Light Armored Vehicle simulator story, you have Ofer to thank for the graphics and illustrations.

Previous to joining MÄK, Ofer worked as Creative Media Specialist at Aptima, where he produced visual storytelling strategies and material that articulate highly complex technical concepts to technical and non-technical audiences.

Ofer graduated with a Bachelor's of Science in Aerospace Engineering from USC.

In his free time, Ofer enjoys surfing all over the world, racquetball, mushroom foraging, and hiking with his dog, Zuma.

Ofer is obsessed with coffee. He researches and buys green coffee beans from different parts of the world, then roasts them at home to see if he can get distinct flavor profiles at different roast levels. So far, he's been able to get flavors such as nuts, cocoa, berries, and honey from the beans (without additives).

We hope we've piqued your interest in getting to know the MÄK team! Stay tuned to our blog and Twitter to get the latest on MÄK happenings!