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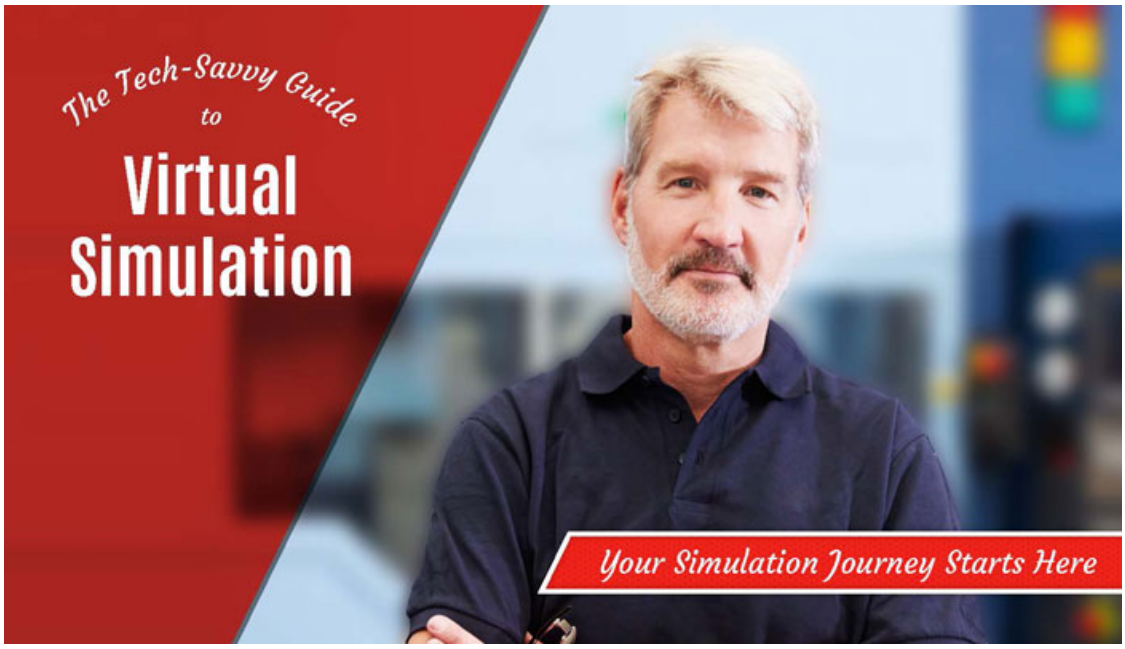
What's Up MÄK



The Simulation Roadmap for a Fun, Educational Journey

Introducing the Tech-Savvy Guide to Virtual Simulation

The Tech-Savvy Guide to Virtual Simulation takes a scenic route through the fundamental elements of virtual simulation. We developed this resource so simulationists can soak up significant concepts and develop a strong knowledge base. Complex aspects of simulation are carefully illustrated, to provide a wealth of understanding with a minimal investment of time.

If you're new to simulation, this document is a great way to get up to speed and to help you keep up with the experts around you. If you're a 25-year veteran in the Modeling & Simulation industry, we think you'll find ways to take your simulations to the next level. Use it as a reference when planning new projects and communicating simulation strategies.

Virtual Simulation creates learning experiences through the use of immersive, 3D synthetic environments. Virtual simulation relies upon first-person interactive scenarios that reflect real-life situations to train, experiment, and study.

Ideally, a virtual simulation would contain all the richness and detail of the real world. However, the best we can reasonably expect is a representation of a certain fidelity that allows users to suspend disbelief and focus on the learning. In order to decide which characteristics of the world should be represented in a simulation, the tasks involved should be considered carefully. The choices made for one simulation aren't necessarily ideal for meeting the needs of another.

Inside the Tech-Savvy Guide to Virtual Simulation, we break down simulation into six fundamental parts. We lay out the choices available for each part and discuss their impact on the fidelity of the overall system.

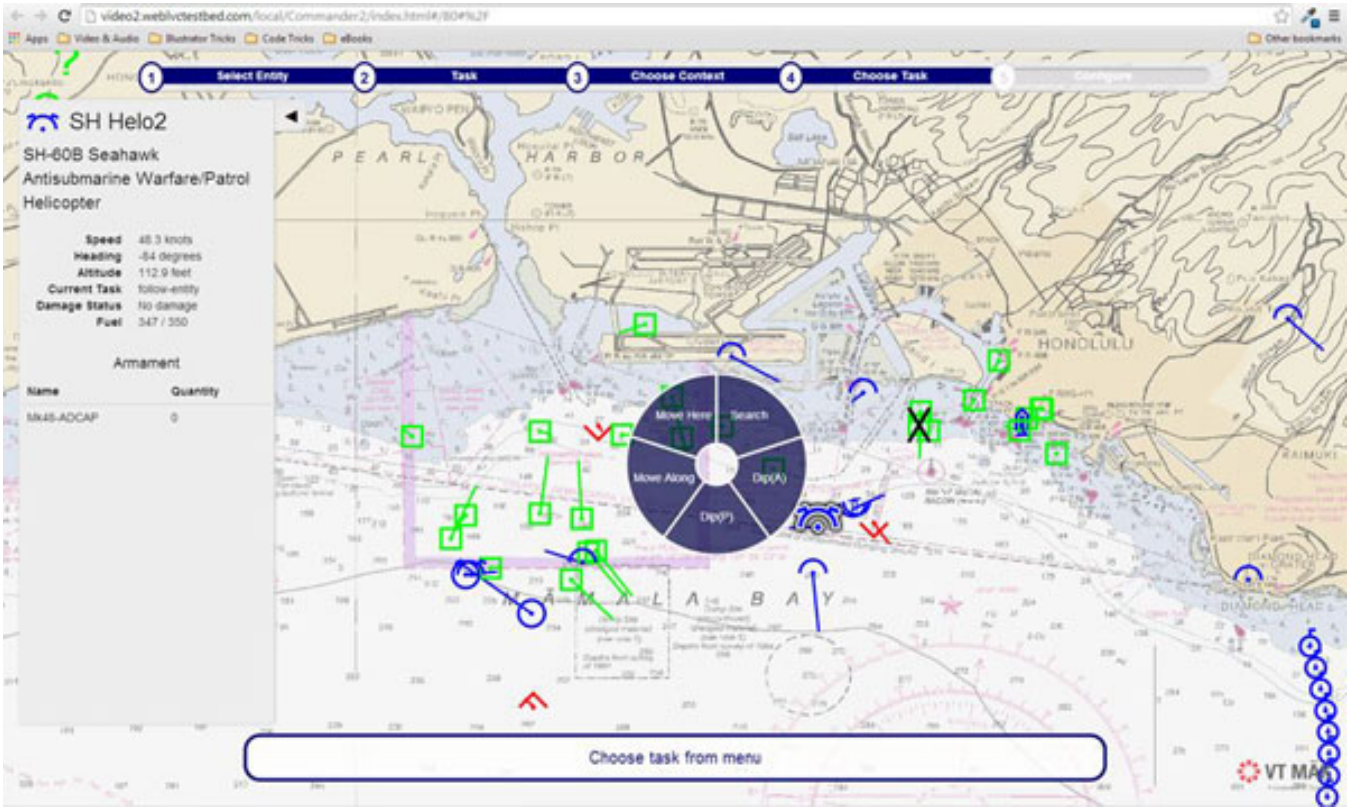
Download the Tech-Savvy Guide to Virtual Simulation and discover:

- The value of sight, sound and touch in your user interface.
- Cost versus fidelity trade-offs between effects-based modeling and physics-based modeling.
- How the image generator works with the ownship simulation to create an immersive environment.
- How to tell which terrain database characteristics add value to the simulation.
- A really clear explanation of how optical sensors work.
- How standards work to connect simulators into small and large networks.
- And lots more...

WebLVC Brings Efficient, Effective Training to the Classroom

When engineers conjure up the hardware required for simulation, we typically think of complex configurations, replete with domes, head-mounted displays, high-fidelity control mock-ups, powerful graphics cards, and hardware compatibility across software and these devices. Thanks to MÄK technology, some of the most effective simulation training can take place on virtually any device, and can be customized by the instructor to maximize training benefits.

Instructors are searching for ways to minimize costs while taking advantage of new devices that promote learning and are flexible enough to evolve over time and adapt to new software architectures.



MÄK's Solution

MÄK's WebLVC Suite represents the future of classroom-style simulation training software. The WebLVC Suite is an all-inclusive package containing our WebLVC Server, as well as out-of-the-box apps for immediate use and custom app development. When connected to a terrain server like VR-TheWorld and a CGF like VR-Forces, WebLVC users can be set up and simulating in a few hours. WebLVC runs in a web browser, meaning that it can be run on everything - from a powerful desktop to something as simple as a mobile phone.

How It Works

Web and mobile applications communicate with the WebLVC Server using the WebLVC Protocol - a web-friendly format for representing and conveying simulation data. The WebLVC Server participates in the native federation on behalf of one or more web applications – using whatever M&S interoperability protocol is required by the federation. If the native federation uses HLA, the WebLVC Server is a gateway that connects to the federation through the RTI as any other federate would, and translates between the WebLVC protocol and the federation's chosen FOM. If the native federation uses DIS, the WebLVC Server sends and receives DIS PDUs on the appropriate port and address, and translates between WebLVC messages and DIS PDUs. WebLVC clients are insulated from the details of the protocol being used on the "native" side of the gateway, and can participate in any federation whose language the gateway can speak. Out-of-the-box WebLVC apps provide a broad capability to remotely control VR-Forces to simulate the entities in your scenarios. These applications come configured as our Training System Demonstrator, where the Commander lets you task entities on a 2D symbolic map display, the Instructor lets you inject faults into the running simulation scenario, the Viewer presents streams of 3D scene imagery on your browser, the Controller lets you fly the eyepoint around, and the Presenter lets you set up saved views to replay presentations. We're hosting these applications online so you can experience them right now.

MÄK WebLVC Suite also comes with lower-level applications to simplify custom app development. Using HTML5 components, we've built an infrastructure to save you significant time creating browser-based visualization tools and custom simulation controls. Get more information on all the specific applications.

What are the advantages of WebLVC?

Web-Based –Trainees can run simulations on everything, including phones, tablets, laptops and desktops. No software installation is required and software maintenance is centrally controlled on the server.

Scalability – The WebLVC Suite is perfect for scaling classroom training, as its streamlined protocol enables a single instance of a CGF to support hundreds of users on separate devices at any given time.

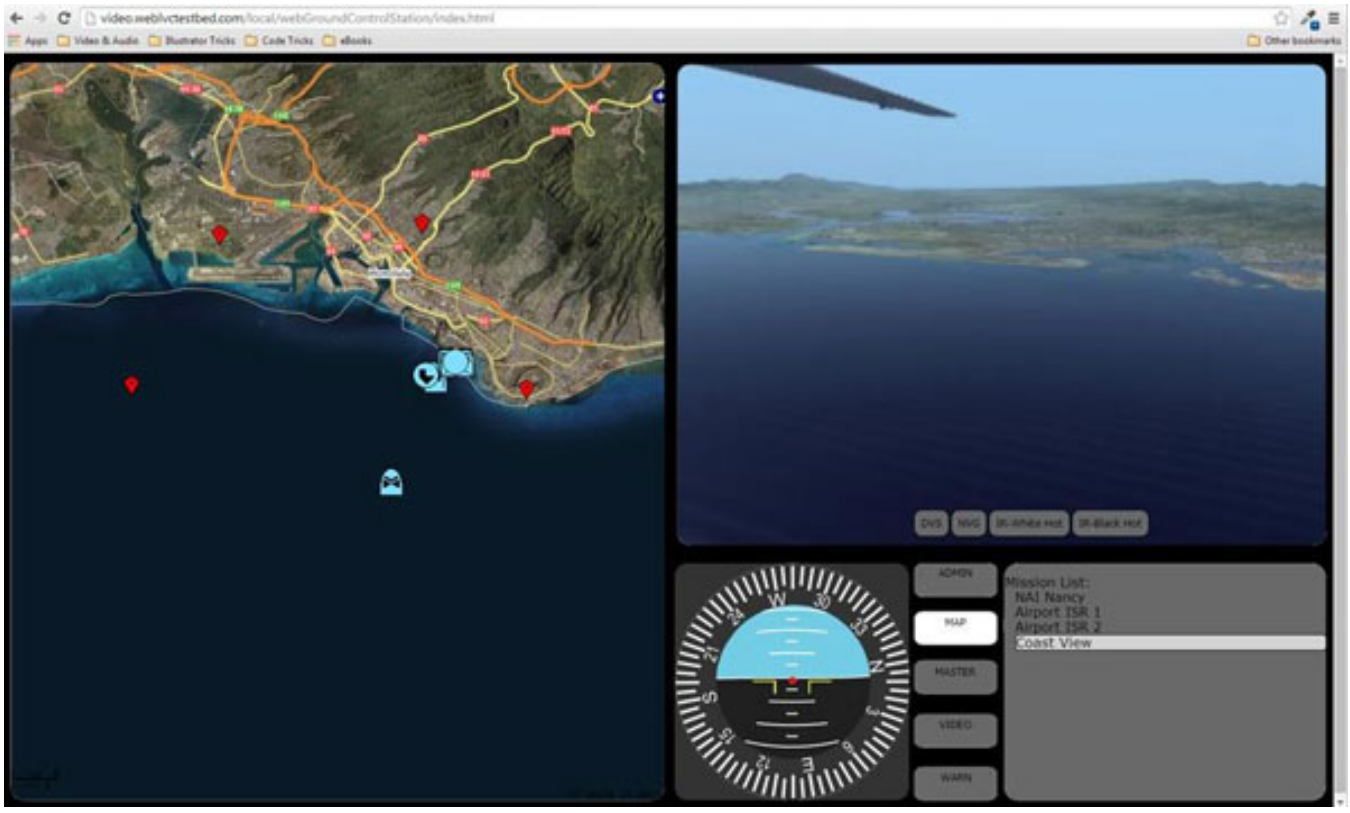
Low Maintenance – WebLC takes advantage of Cient-Server Architecture so that updates to client applications need only occur once on the server..

Simplified Development –Javascript coding is easier to develop than C++. Because it's interpreted its fast, and because it's modern, developers are plentiful. Using and extending WebLVC takes far fewer lines of code than equivalent operations in HLA.

All-Inclusive – There are no hidden costs with the WebLVC Suite. It comes with everything you need to start quickly and to customize as far as you would like, including an HLA forwarder and a FOM editor.

How is it being used?

MÄK's WebLVC Suite is currently being adopted to monitor and control large scale warfare simulations, develop technology demonstrations, connect high fidelity ownship models in MATLAB to image generators, provide an online simulation demonstration that is hosted in the cloud and available to the public, provide a common control interface for multiple CGF products, and allow training instructors to interactively trigger system faults and scenario activity.



WebLVC is discussed in the Network section of our Tech-Savvy Guide to Virtual Simulation. Check it out to see if adopting WebLVC technology will have a positive impact on the capability of the overall system, or if there is a better alternative.

NewsMÄKers

At CSTM 2016, the Conference on Simulation and Military Technology in Brazil, VT MÄK showed off its technologies with partner Adventuretech. Get a full report from Ivan on the different types of demos we showed.

Over the past few months, MÄK staff have been transitioning from Windows 7 to Windows 10. We discovered that the Windows 10 "All apps" menu does not support the folder structure that we have been using to organize startup shortcuts for our applications, documentation, and tools. Fred Wersan wrote a great blog detailing how to start MÄK applications inside of Windows 10.

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: Matt Descoteaux, Local Volunteer, Educator

MÄKers are always looking to make a difference- and that includes outside of work. When we leave the office, our spirit of collaboration and service extends to our communities, where we contribute to positive works and serve others.

Matt Descoteaux, Senior 3D Artist at MÄK, began volunteering with his wife at a soup kitchen 12 years ago when they opened their first business, a Mexican restaurant called Mambo Grill. They led their staff in participating in community service before their company appreciation parties. As their children became old enough, they were also included. Due to their active participation in the community, they were recognized with Enterprise Bank's Celebration of Excellence - Entrepreneur of the Year Award.

Matt has also been a professional music educator for 17 years, and considers the gift of fluency in the language of music to be one of the most cherished gifts passed down from his parents. He donates his time to a percentage of his students who show passion and a potential, but are of limited means and otherwise could not afford lessons. Some of these students have gone on to become professional musicians in their own right, while all of them have the opportunity to develop their love of music, a lifelong blessing.

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!