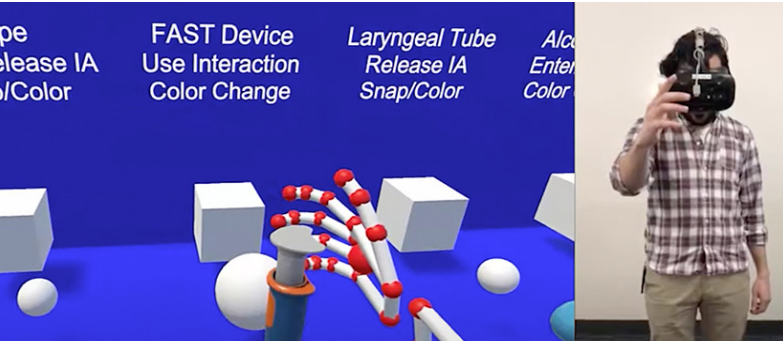




# VIRTUOSO OPEN-SOURCE SDK

Create custom XR experiences

VIRTUOSO SDK (VSDK) is a free, open-source software development kit for prototyping and deploying extended reality (XR) experiences—from games to training simulations.



## The challenge of XR

Developing experiences for XR—which includes augmented, virtual, and mixed reality—has historically been expensive and time-consuming. Expert developers must create custom assets, scenarios, and interaction methods. New devices and systems are not immediately interoperable with existing systems.

## VSDK offers a solution

VSDK can be used to rapidly prototype and deploy any XR experience. Originally built for the US Army VIRTUOSO project to create training for combat medics, VSDK supports the creation of dynamic training scenarios that combine XR immersion with time- and event-based scripts.

## Key features

- **Easy to Use:** No need to be an XR expert. VSDK incorporates XR best practices and provides software components that address the hardest development challenges.
- **Device Agnostic:** Take advantage of the unique benefits of different input devices, without being bound to a particular platform.
- **Modular:** Characters, interactions, and device interoperability are fully separable.

## VSDK for simulation-based training and more

When a training experience maps real-world interactions to a keyboard or mouse, learners don't have the chance to practice the physical aspects of the skill; instead, they must translate the training experience to real-world actions. VSDK enables the creation of naturalistic interfaces, which can be used to create more effective training experiences and enhance other XR applications.

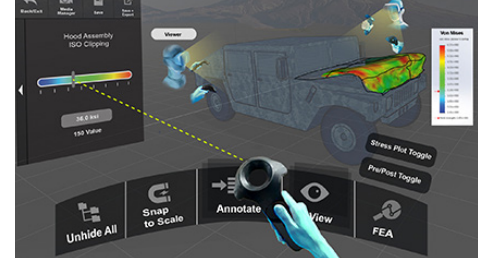
At Charles River, we use VSDK in several of our own projects:



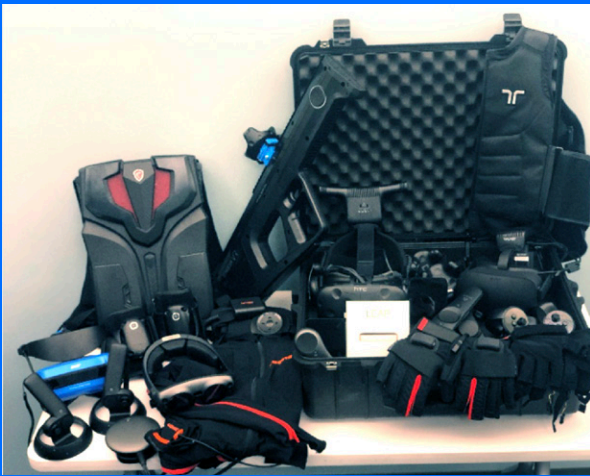
**CESSATION** uses behavioral therapies in VR to better combat nicotine dependency and mitigate relapse.



**VIRTUAL-C** provides immersive, affordable, realistic biosafety training.



**MANDOLIN** fuses computer-aided design (CAD) and modeling and simulation (M&S) software with collaborative VR.



## Supported devices and systems

- SteamVR (HTC Vive, Windows MR HMDs)
- Oculus Rift and Oculus Quest
- Leap Motion
- ManusVR
- Sense Glove
- bHaptics TactSuit

Charles River collaborates with leading AR/VR companies so that VSDK can support the most cutting-edge haptic feedback devices as soon as they are released to market.

## Try VSDK for yourself

VSDK is available free on GitHub, as a complete project with no outside dependencies.

- [VSDK for Unity 3D Engine](#)
- [VSDK for Unreal Engine](#)



VSDK has been awarded a MegaGrant through EPIC games

charles river analytics

*Solutions to serve the warfighter,  
technology to serve the world™*

## Learn More

- Visit the **VSDK YouTube Channel** for tutorial videos.
- Find documentation and project-focused tutorials on the **VSDK GitHub Wiki**.