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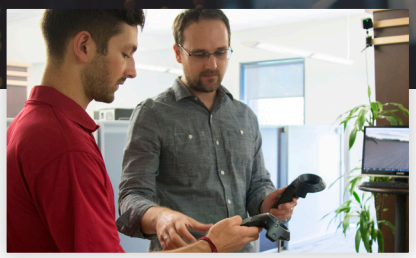
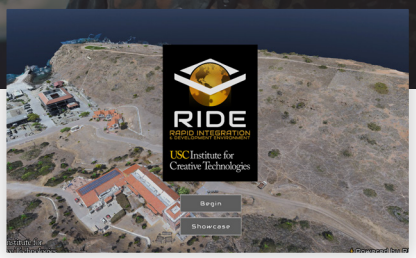
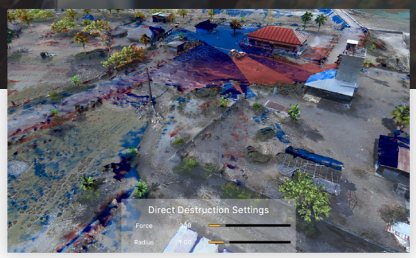
Rapid Integration & Development Environment (RIDE)

2019 - Current
Project Leader: Arno Hartholt and Ed Fast







Background

The Rapid Integration & Development Environment (RIDE) is a foundational research & development (R&D) platform, accelerating Department of Defense simulation technologies, and supporting early prototyping for the Army's Synthetic Training Environment (STE) initiative. RIDE provides a shared testbed in which researchers and developers explore the art of the possible in real-time modeling and simulation. RIDE has now moved beyond STE to support a wide range of DoD efforts, including Navy and Air Force initiatives.

Objectives

To achieve scale and rapid re-use, RIDE has been designed and developed from the ground up to facilitate rapid prototyping, specifically for simulation R&D, via a drag-and-drop environment which offers reusable blueprints of commonly used functionalities, and a principled Application Programming Interface (API).

RIDE combines commercial game engine features (visual art, 3D models, physics simulation, audio and rendering) with many of the immersive technologies developed throughout the ICT research portfolio with collaborators and industry, including: One World Terrain (OWT) data and tools; generative programming; networking; machine learning (ML) tools; speech recognition; natural language processing; character AI behaviors; embodied conversational agents; and scenario event development.

Results

To date, over fifty organizations have been given a RIDE license, including: DEVCOM Soldier Center, DEVCOM Army Research Laboratory (ARL), Office of Naval Research (ONR), United States Military Academy West Point, Cole Engineering Services, Inc. (CESI), SoarTech, and Lockheed Martin. RIDE is freely available for government entities and contractors under Government Purpose Rights.

Next Steps

Future ICT work will focus on advancing novel AI and ML approaches; integration of 3D terrain with live combat training datasets to support after-action review; supporting research with mixed reality technologies, and expanding the implementation of RIDE across multiple commercial game engines.

Published academic research papers are available from https://ict.usc.edu/research/publications
(Search engine keyword: USC ICT Publications)

RIDE
RAPID INTEGRATION
& DEVELOPMENT ENVIRONMENT
ride.ict.usc.edu

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Established in 1999, the USC Institute for Creative Technologies (ICT) is a Department of Defense (DoD) University Affiliated Research Center (UARC), sponsored by the US Army. Harnessing Hollywood-derived creativity with academic innovation and military-domain expertise, ICT conducts award-winning R&D in Artificial Intelligence (AI), Computer Graphics, Geospatial Sciences, Human Performance, Learning Sciences, Modeling, Simulation & Gaming, Mixed Reality (MxR), Medical VR, Narrative, and Virtual Humans.

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