

VIRTUAL REALITY CENTER



The Virtual Reality Center develops applied research and provides technical expertise in PLM/virtual reality and associated technologies for WSU, NIAR, aviation industry and non-aviation projects.

Representative Clients: Digital ArtForms, General Atomics Aeronautical System Inc., NIAR Computational Mechanics Lab, NIAR Human Factors Lab, NIAR CAD/CAM Lab

Facilities & Equipment:

- 1,800 sq. ft. visualization room with seating for 25
- 15 x 7 ft. flat screen with active stereoscopic view and rear projection
- Large field-of-view head-mounted display with 1920x1200@60Hz and 123/45 degrees horizontal/vertical
- HDTV 65" active stereo with two-handed interface Space Grips
- Optical motion capture/tracking with 10 high-speed cameras
- Extended range magnetic motion tracking for head, hands and wand
- Manipulation gloves and wand
- Room control system with wireless touch panel
- Advanced PC-based cluster (Dell R5400) and SGI Onyx300 (for legacy data)
- VR simulation software including DS CATIA V5, DS 3DVIA Virtools, CEI Enight Gold, EON Reality and PTC Division Reality
- Photometric-based visual and illumination software simulation: OPTIS SPEOS CAA V5
- Web-based ray-tracing visual simulation: Mental Images' RealityServer

Representative Projects:

- Immersive Medical Environment for Distributed Intuitive Consultation (iMEDIC) Phase 2, developed with Digital ArtForm for US Army sub-contract
- Visual Ergonomics Analysis for UAV Platform Display Subsystem - GA-ASI, developed for NIAR Human Factors Lab under sub-contract
- DS CATIA V5 Ergonomics Courseware, developed for NIAR CAD/CAM Lab
- Support of Computer Aided Engineering of crash simulation results in immersive environment for NIAR Computational Mechanics Lab
- Technology showcases presented for Hawker Beechcraft, Cessna, Spirit AeroSystems, Boeing IDS, Bombardier Learjet, Airbus North-America and others in non-aviation organizations

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Located on the Wichita State University campus, in a city recognized as the Air Capital of the World, The National Institute for Aviation Research (NIAR) is a prestigious state-of-the-art aerospace research and development laboratory with global reach and expertise. NIAR integrates university, government and industry in cooperative efforts to advance technologies.

The Institute's clientele include many of the world's aerospace manufacturers, NASA and the FAA. It is the largest aviation R&D academic institution in the United States, with 135,000 square feet and more than a dozen laboratories. NIAR is recognized internationally as a high-tech research and development, design, testing, certification and learning center.