LOCATION:

The workshop is held in Torgersen Hall, Room 3050, a new high tech facility on the Virginia Tech campus in Blacksburg, Virginia. Maps with directions are posted at

   http://www.sv.vt.edu/visit/directions.html

LODGING:

On campus:

- Donaldson Brown Hotel & Conference Center
   Located next to Torgersen Hall
   http://www.dbhcc.vt.edu
   Reservations: 540-231-5156

Near campus:

- Clay Corner Bed & Breakfast, 2 blocks
     401 Clay Street
     Reservations: 540-953-2604

- Sheraton Four Points, 3 blocks
     900 Prices Fork Road
     Reservation: 800-325-3535
     Desk: 540-552-7001

Closest Off Campus:

- Amerisuites Hotel, 1 mile
   1020 Plantation Road, just off Prices Fork Rd.
   Reservations: 800-833-1516
   Desk: 540-552-5636

- Best Western Red Lion Inn, 1 mile
   900 Plantation Road, just off Prices Fork Rd.
   Reservations: 540-552-7770

REGISTRATION: *DEADLINE: May 16, 2003*

No registration fee. To register simply email the information below to rkriz@vt.edu .

Name: _____
Title: _____
Organization: _____
Address: _____
City: _____
State: _____ Zip: _____
Work Phone: _____
E-mail: *if different from sender*_____
Web site:___*if available*_____
Optional: give us a brief description of your
               interest in VEs

Workshop Presenters:

DIVERSE Programming:
John Kelso: Computer Science Dept.
   http://bleen.sv.vt.edu/~kelso/blurb.html

DIVERSE Apps and Interface Development:
Ron Kriz: Engineering Science and Mechanics
   http://www.sv.vt.edu/krizbio.html

3D Scenegraph conversion:
Jason Lockhart,
 Media Development and Emerging Technology
   http://www.multimdedia.vt.edu/

Virginia Tech presents a free workshop on
Virtual Environments Using DIVERSE"
created for non-programmers
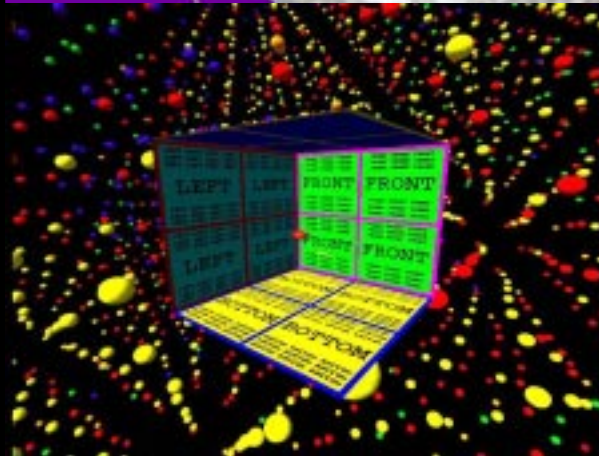
May 20- 21, 2003

Virtual Environments Using DIVERSE™

Assumptions:

Participants will
- have identified a need for VE applications in their research or teaching.
- know basic UNIX shell commands.
- be familiar with object-oriented programming, is encouraged but not required.

Audience
- Researchers
- Developers / Domain Experts
- Engineers and Scientists

Day 1: DIVERSE basics and 3D scenegraphs

AM: Introduction to DPF DIVERSE and VE Basics.
Start: 8:30AM
- Introduction to VE hardware and software APIs
- Basics of shell scripts
- DIVERSE without programming: Diversifly
- DIVERSE applications: D_Atomview and D_CollabTools

PM: Working with VRML & 3D Model scenegraphs
Start: 1:30PM
- Convert 3DStudio™ and VRML scenegraphs into formats that load into DIVERSE in a CAVE™ or desktop simulator.
- Building simple script applications using 3D models and diversifly
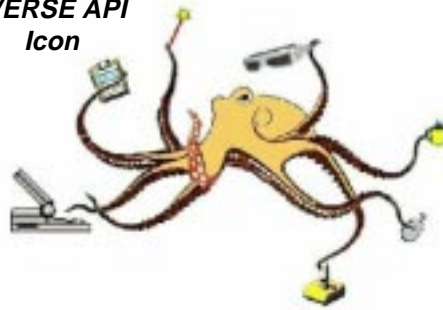

Day 2: DIVERSE programming

AM: Introduction to DIVERSE programming
Start: 8:30AM
PM: Building individual projects (optional)
Start: 1:30PM


DIVERSE API Icon

Course Educational Objectives:

Understanding:
- Basic Knowledge of VE Hardware
- VE API software basics
- DIVERSE Toolkit (DTK)
- DIVERSE interface to Performer™ (DPF)
- DSOs and shared memory concepts

Learn to:
- configure and display 3D data without programming by using DSOs
- configure for different delivery, methods, input devices, and techniques
- write configuration programs for different hardware
- simulate VE devices
- network and distribute applications

DIVERSE desktop CAVE simulator
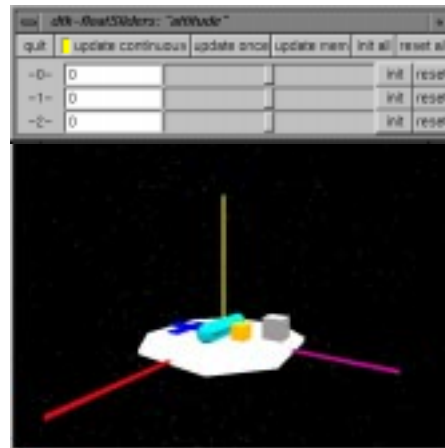
Working with Virtual Environment (VEs) that are Reconfigurable, Scalable, and Extensible with the DIVERSE™ graphics interface for SGI's OpenGL Performer™

DIVERSE is a C++ application programming interface (API). With DIVERSE users can use existing applications or write their own Performer™ based applications that run on a variety of display platforms such as CAVEs™, I-Desks™, HMDs (Head Mounted Displays), desktops and laptops without modification of the applications' code.

Attendees will learn how to use DIVERSE (Device Independent Virtual Environments - Reconfigurable, Scalable and Extensible) applications and configure simple fly-thru examples by using the Diversifly application and configuring simple shell scripts. The basic elements that are common to virtual environment applications are explained, followed by several short examples of how these features are implemented in DIVERSE.

Attendees construct a virtual environment application program using 3D model scenegrahs. Program development is on a PC desktop, and will run on several different type of immersive VE systems.

Attendees learn about generic input devices and how to use emulators for unavailable devices. Various interaction techniques using these devices are presented, and attendees learn how to change interaction techniques without needing to modify their application.

The concepts of local and remote shared memory are presented, as well as how they can be used to represent the state of physical or virtual devices, and how to share information between two or more remote applications. Demonstration of how shared memory facilitates the transparent switching between different data sources, both local and networked, without needing to inform running application.