Open Inventor® Training Course Overview

This course consists of a lecture plus hands-on programming exercises intended for new or existing users of Open Inventor from FEI. The training materials will highlight the important features and unique functionality of Open Inventor and its powerful extensions.

Students should bring their own machine with suitable 3D graphics board. Temporary licenses will be provided.

Day 1

Introduction and concepts
Scene graph, nodes, fields, path.
Installation and setup, documentation, support, basic Open Inventor application.

Create scene
Scene graph traversal, group nodes, data nodes, transform nodes, property nodes, shape nodes.

View scene
Viewers, Cameras, Lights, Shadows.

Interact with Scene Graph
Events handling, SoPath, selection, picking.
Draggers and manipulators.

Actions
Commonly used actions, SoCallbackAction, SoGetBoundingBoxAction, SoSearchAction, SoWriteAction.

Day 2

Sensors
What are sensors, data sensor, other delay-queue sensor, timer sensor.

Performance tuning
IvTune, render caching, performance tips, transparency.

Advanced scene graph
Node referencing, naming and search in scene graph, node kits, vertex property, shape hint.
Use of shaders with Open Inventor.

Extending Open Inventor
Options, callback action, callback node, composite nodes, custom nodes.

Day 3

VolumeViz
Introduction, converting to LDM, SoVolumeData, slices and color maps, region of interest, GeoBody rendering, memory management, performances, shaders and data combining, height field rendering, horizon clipping, generic clipping

MeshViz
Introduction, MeshViz basics, MeshViz node kits, defining mesh, data mapping, contouring example, cell filtering, 2D/3D Axis

MeshViz XLM
Introduction & Architecture, mesh interfaces, property interfaces, visualization nodes, cell filtering, post-processor example.