



Unity Training Workshops

The only Unity authorized in-person training

Introduction to Automotive Design Visualization

In this workshop, automotive artists and designers will get a focused introduction to the Unity Editor and the PiXYZ workflow. They will learn the basics of Unity to import CAD Models with PiXYZ and create beautiful 3D models and renderings for automotive industry specific content.

Participants will construct an interactive scene featuring a concept car in a garage, then create a user interface to allow user modification and interaction within the scene.

In building the project participants will learn key elements of working with the Unity editor from general usability and visual development with tools such as the PiXYZ Plugin, to working with the High Definition Render Pipeline, Lighting, and Materials.

Level: Beginner

Prerequisites: No prior experience required

Duration: 1 day

Class size: 15 people

Trainer: Unity Certified Instructor

Requirements:

*Participants must have a PiXYZ license or active 7-day trial

Learning Objectives and Outcomes

- **Identify how Unity is being used in the Automotive Industry**
 - Describe how Unity is being used in automotive design, training, and sales
 - Explain the benefits of using virtual car models in a real-time application
- **Prepare and set up assets, CAD Data and workflows for project development**
 - Identify Main Editor features and how to navigate in the Editor
 - Import and configure assets for constructing scene environments
 - Import and configure a car model for design evaluation
 - Identify the steps to import CAD Data assets into a scene

- Import Unity Packages and CAD Data with Pixyz Plugin
- Set up and configure a High Definition Rendering Pipeline (HDRP) project
- **Create, edit, assign and modify materials to create realistic models and visual environments**
 - Identify Material settings for project assets
 - Configure imported materials to work with HDRP
 - Edit Materials to create realistic models (car) and environment (garage)
 - Prepare car mesh elements for animation
 - Apply textures to materials to create a realistic look for the environment (garage) and (car) model
- **Use lighting to create realistic scenes**
 - Configure scene lighting using Global Illumination for Realtime lighting scenarios
 - Create Reflection Probes to simulate realistic scene reflection
 - Identify light types such as Pointlights to use throughout the scene
- **Create and implement cinematics to visualize a scene**
 - Identify the need for and plan the design of Flyaround tracks
 - Use Cinemachine Virtual Cameras to aid in focusing on scene targets
 - Create Dolly Cart and Track Waypoints to create the Flyaround effect
 - Test created scenes for accurate functionality according to design specs
 - Use the Post-Processing Stack to create a stylized look
- **Create simple interactive user experiences**
 - Develop common interactive automotive applications such as a configurator or viewer
 - Create and configure UI elements to allow users to interact with the project

Activities

- Introduction: Workshop Overview and Learning Action Plan
- Activity 1: Unity within the Automotive Industry
- Activity 2: Navigation in the Unity Editor
- Activity 3: Working with Materials
- Activity 4: Creating the Scene Lighting
- Activity 5: Creating Cinematics for Visualization
- Activity 6: Preparing for Visual Fidelity and Interactive Experiences
- Conclusion: Updating your Learning Action Plan and next steps

What to Bring

- This workshop requires the instructor and participants to have a computer which runs Unity 2018.1 or higher and the PiXYZ plugin. You will also need a mouse.
- Additionally, we strongly suggest the following configuration to use PiXYZ with Unity:

PROCESSOR: INTEL CORE I7 3GHZ OR MORE

RAM: 32GB OR MORE

GRAPHICS HARDWARE: NVIDIA GEFORCE GTX780 OR MORE, QUADRO K4000 OR MORE

DISK SPACE: 1GO OR MORE (WITH DYNAMIC SWAP)

OPERATING SYSTEM: WINDOWS 7, 8.1, 10 64-BIT MINIMUM

- Please install Unity (minimum requirement of Unity 2018.1) and PiXYZ prior to the workshop.
- Authorized Training Partners need to contact Unity Business Develop for PiXYZ licencing.