iRT3D Tech Artist

Overview

Modules

1. Procedural Generation Tools for Environments
    - BVP brushes (For art direction)
    - Blueprints for asset scatters
    - Procedural volume setups for foliage

2. Advanced Landscape Techniques
    - Flow maps generation and implementation
    - Masks for different foliage spawns.
    - Colour Variation
    - Wind System
    - Volumetric fog volumes

3. Materials & Volumes
    - Materials Introduction
    - Masking and Material Functions
    - Translucent and VFX
    - Layered Materials, Subsurface, and MPC.
    - Composition Tools and Techniques
    - Master Rock shader
    - Scaleable materials
    - RGB Mask workflows

4. Post Process Control
    - Colour Control Flow
    - Post Process (Look and Feel)
    - Post Process Control (Lumen & Raytracing)
    - Look Up Tables (Legacy and 3D Volume)
    - OpenColorIO (Color Management Overview)
    - Post Process Volume (Exposure Adjustments vs. Raw)
    - Cinematic Depth of Field

5. Rendering (producing linear film sequences from game scenes)
   - Sequencer Movie Scene Capture
   - Movie Render Queue
   - Console Variables
   - GPU Timeouts (TdrDelay)

Learning Outcomes

Overall Course Learning Outcomes

- Apply advanced technical skills to create real-time 3D environments and visual effects within Unreal Engine.
- Develop "game-ready" assets meeting industry quality standards.
- Collaborate with multidisciplinary professionals to solve real-world technical problems in game development.

Module 1: Procedural Generation Tools for Environments

- Utilize BVP brushes to create art-directed environments suitable for real-time applications.
- Implement asset scattering through Blueprints to optimize in-game environments.
- Develop procedural volume setups for foliage in Unreal Engine, suitable for a live game project.

Module 2: Advanced Landscape Techniques

- Generate and apply flow maps within Unreal Engine to control water and liquid simulations.
- Create and utilize masks for varying foliage spawns to meet industry standards.
- Implement advanced visual effects like color variations, wind systems, and volumetric fog volumes in real-time 3D landscapes.

Module 3: Materials & Volumes

- Construct complex Unreal Engine materials suitable for a live game project.
- Develop and apply masking and material functions to create nuanced visual effects.
- Compose layered materials using techniques like Subsurface and MPC, aligning with industry benchmarks.

Module 4: Post Process Control

- Apply post-process controls within Unreal Engine to adjust the visual atmosphere of a real-time environment.
- Implement color management through Look Up Tables and OpenColorIO, consistent with industry practices.
- Make informed adjustments to exposure settings using Post Process Volume to optimize real-time visuals.

Module 5: Rendering

- Utilize Unreal Engine's Sequencer and Movie Render Queue to capture and render high-quality linear film sequences.
- Optimize render settings through console variables and GPU timeouts to prevent errors and ensure performance.