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Sign up

Unreal Engine 5 training: Create professional video games

3 days (21 hours)

Presentation

Our Unreal Engine training course is aimed at video game enthusiasts, software developers, 3D artists and anyone who wants to create professional-quality video games. Unreal Engine 5 is the latest version of one of the world's most popular game engines, used to create games such as Fortnite, Gears of War and Final Fantasy VII Remake.

Our Unreal Engine training course will give you all the skills you need to create high-quality virtual environments, characters and animations that bring captivating stories to life.

This game development platform lets you create modern games with impressive graphics, stunning visual effects and fluid gameplay. Unreal Engine is also compatible with the latest Virtual Reality and Augmented Reality features.

In this training course, you'll learn how to use Unreal Engine to create professional-quality video games. We'll teach you how to design and develop a game, how to use Unreal Engine's features to create stunning characters, environments and visual effects, how to optimize performance and how to publish your game.

This course is based on the latest version: Unreal Engine 5.4.

Objectives

- Understanding the basics of Unreal Engine
- Mastering the creation of game environments
- Learn how to manage lighting and create ambience in Unreal Engine

- Acquire advanced skills in creating materials and using Blueprint

Target audience

- Software developers
- 3D Designers

Prerequisites

Knowledge of basic programming principles and 3D graphics.

Software requirements

- Windows 10 or higher
- Quad-core Intel or AMD processor, 2.5 GHz or higher
- At least 8GB ram
- DirectX 11 or 12-compatible graphics card

Recommendations for pre- and post-course reading

- The official Unreal Engine documentation, with a wealth of tutorials
- Unreal Engine 5 for beginners is one of the most popular books on the subject.
- The official Unreal Engine YouTube channel will give you access to numerous presentations and tutorials.
- Medium Unreal Realm articles cover the basics of the tool
- Your First Game In Unreal Engine 5, an article published by Epic Game that covers all the application's basics
- This video, a complete tutorial on Unreal Engine 5

Unreal Engine training program

Preamble

- What is Unreal Engine
- The various projects released on Unreal Engine
- The latest features
- The differences with Unity
- The possibilities with Unreal

What's new?

- Character animation with Motion Matching
- Procedural biome generation
- Shadow projection support for volumes
- Motion design
- The texture graph

Setting up the project

- Version to be used
- Project configurator
- Understanding the basics
  - Explanation of engine interfaces and windows.

Fundamentals of game creation

- Exploring the level editor
- Learn to navigate the editor
- How to position and modify the various actors (scale, rotation, position)
- The main players
- Creating an environment/level
  - Introduction to level design
  - Setting up the blockout (shapes, volumes, environmental composition)
- Introduction to Megascan
  - Demonstration of the megascan tool and its functions

Lighting installation

- The different light actors
- Setting the mood
- Use specific actors to achieve the desired ambience

Introduction to the unreal material system

- Simple shader creation
- Specific shader creation
- Implementation of a workflow for the creation and use of materials
- Setting up a character
  - Mixamo
  - Setting up the character with its animations
  - Control a character in a 3D environment
- Character animation
  - Use character animations
  - Retarget external animations to a character's skeleton

Introduction to blueprint

- Demonstration of the various nodes (the most commonly used)
- Setting up events in a 3D environment

Introduction to kinematics creation

- Sequencer demonstration
- Import actors and animate them
- How to use cameras to showcase a 3D environment

Optimization and workflow

- How to optimize a 3D scene for real time or virtual reality
- A brief introduction to lightmaps for 3D assets
- Explanation of LODs
- Tips for optimizing workflow

Companies concerned

This training course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.