Unity

CERTIFIED
Professional

Artist

Exam
Objectives

Unity Certified Professional: Artist

The role

Unity Artists focus on the implementation of 2D and/or 3D art for interactive software rendered in real-time using the Unity Editor. The professional Artist brings visual assets into Unity to populate the "world" of the game or application, and adds or manipulates layers of visual information as needed to execute a key part of the creative vision for the project. Professional artists are generalists, adept at imbuing objects, characters, and environments with a distinctive style and mood. They contribute to a broad range of tasks in service of the application's aesthetics, including applying materials and shaders to 3D models, setting up and managing 2D or 3D environments, configuring and controlling Cameras, lighting scenes, and using particle effects.

This exam is for individuals with 2–4 years of professional work experience who are seeking to prove that their skills have grown beyond entry-level. They employ a mix of artistic and technical skills within the context of professional software development processes to turn design assets into fully-realized worlds. These people are creative and expressive, but comfortable with the technical aspects of their work. They may draw on a foundation in 2D art and animation to help them prototype user interfaces and object movements, but also are engaged in achieving the required "look and feel" for a real-time 3D application.

The core skills in this field of work focus on contributing to the aesthetic execution of a real-time interactive software project from conception through launch and beyond.

Job titles for this role

→ 3D Artist
→ 3D Generalist
→ Game Artist
→ Level Designer
→ Environment Artist
→ 3D Visualization Artist

Prerequisites

This certification was created for artists who are ready to begin a professional career as real-time artists on applications across all industries enabled by the Unity Editor. These artists may be recent college graduates in game art, computer graphics, or related fields; independent learners who have completed two or more years of college-equivalent study or work experience in application development; or, early-career professionals who have already started their first jobs. Regardless of background, these artists must have hands-on experience creating 2D and 3D assets and implementing them within Unity by themselves or as part of a cross-functional team.

Prerequisite experience:

- 2+ years practical experience in implementing 3D art and environments for video games or other real-time 3D applications built with Unity
- Experience in importing, configuring, and lighting 3D objects and environments in Unity for a variety of platforms including PC and mobile devices
- Experience in the full software development lifecycle working from early concept through completion
- Experience prototyping 3D environments and application UI
- Foundational understanding of animation and 2D rendering
- Foundational understanding of Unity programming workflows and terminology
- Understanding of professional software development practices including design documentation and version control
- Experience in game development or other real-time 3D application development such as simulation and design visualization

Note: This certification was developed for Unity 2020 LTS.

Core Skills

(Certification exam topics)

1. ## Rendering 3D objects

    1.1.   Select the relevant import settings for importing 3D assets into Unity

    1.2.   Troubleshoot common issues with imported 3D assets

    1.3.   Determine materials and textures for objects and identify advanced settings to achieve a desired effect

    1.4.   Use Shaders to achieve a desired effect

    1.5.   Adjust Camera properties and placement to achieve a desired effect

    1.6.   Use Level of Detail (LOD) groups and objects to optimize scene

2. ## Lighting objects and environments

    2.1.   Add and set up scene and environment lighting to create desired lighting effects

    2.2.   Determine scene lighting modes and their uses for balancing fidelity and performance

    2.3.   Add and configure lights to create a desired lighting effects

    2.4.   Determine which Rendering Pipeline to use for projects with varying needs targeting different platforms

3. Working with particles and effects

3.1. Use particle systems to achieve a variety of effects such as explosions, emissions, and trails

3.2. Use the Post-Processing stack to achieve cinematic rendering effects and apply color grading in the Built-in Rendering Pipeline

4. Prototyping basic application elements

4.1. Identify techniques to prototype scenes and maintain Prefabs throughout the production cycle

4.2. Recognize uses of UI components and configure UI prototypes

5. Working with 2D assets

5.1. Configure settings for importing 2D assets into Unity

5.2. Use the Sprite editor to set up Sprite sheets

5.3. Recognize processes for creating 2D animations from Sprite sheets

6. Working with animation

6.1. Determine methods for creating simple 3D and 2D keyframed animation sequences using Unity's animation editor

6.2. Use basic state machines and blend trees to create and manage multiple animations

6.3. Identify methods to procedurally control Camera views and movement using Cinemachine

6.4.   Determine methods to sequence and control animations and Camera movements with Timeline

7.   Engaging in software development teams

7.1.   Evaluate design requirements to previsualize and make decisions about project graphic and animation configurations and layouts

7.2.   Demonstrate understanding of the programming workflow and related terminology for work with Unity programmers

7.3.   Demonstrate an understanding of professional practices for utilizing version control software

Sample Questions

Question 1

An Artist is working on an automotive visualization. The model itself is a high-detail Mesh with 100,000 vertices. The visualization requires accurate rendering and detail of the Mesh. When the model is brought into the Scene view window, it appears to be broken into several sub-Meshes. This causes rendering artifacts and improper smoothing.

How should the Artist change the import settings to fix these issues?

- A. Set Index Format to 32 bit
- B. Enable Weld Vertices
- C. Set Mesh Compression to Low
- D. Enable Optimize Mesh

Question 2

An Artist is working on an architectural visualization of a retail store. The Artist needs to create a Camera setup to allow the user to see the store through the eyes of a player-controlled customer. The customer model has no head Mesh and only animates from the neck down.

How should the Artist configure a Camera's settings and Transform properties to achieve this effect?

A. Make the Camera a child of the character and place it at the character's eye level

B. Make the character a child of the Camera and reset the Camera's Transform values

C. Make the Camera a child of the character and place it above and behind the character's shoulder

D. Create multiple Cameras and position them throughout the environment at eye-level positions

Question 3

An Artist needs to create a fire effect for a continuously burning torch. The torch is carried by the player's character, who can move at variable speeds. There are torches in the environment that the character can light to illuminate the path. The player's character moves through interior and exterior environments that have dynamic weather and wind zones.

Which settings should the Artist use in the particle system to achieve this result?

A. Limit Velocity over Lifetime, Noise, External Forces
B. Looping, Gravity Modifier, Velocity over Lifetime
C. Force over Lifetime, Start Speed, Burst Count
D. Looping, Inherit Velocity, External Forces

Question 4

An Artist is optimizing an explosion effect for a mobile platform. The explosion consists of a flash, fire, sparks, debris that lands on the ground, and lingering smoke.

Which changes should the Artist make to optimize the effect?

    A. Reduce Max Particles
       Reduce Start Size
       Reduce Sorting Fudge

    B. Reduce Max Particles
       Switch to mobile Particle shaders
       Reduce Collision Quality

    C. Reduce Start Size
       Switch to mobile Particle shaders
       Reduce Simulation Speed

    D. Reduce Particle Lifetime
       Reduce Start Speed
       Reduce Collision Quality

Question 5

An Artist needs to create a flythrough of an architectural visualization using Timeline. Users must be able to control the Camera until they reach the building's foyer, at which point a flythrough sequence of the rest of the building automatically begins.

Which approach should the Artist select to start the sequence?

A. Call an OnTriggerEnter event when the Camera's Collider reaches the foyer's Collider
B. Set the PlayableDirector component to Play On Awake
C. Use an Activation Track to trigger the sequence
D. Set the PlayableDirector component's initial time to match the time when the Camera reaches the desired position

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Correct answers: A, A, D, B, A