



Programming Test for Unity Developer

Required Skills

C# Programming

Must have strong knowledge of C# language and .NET framework

Unity API

Experience with Unity game engine API including physics, rendering, animations etc

Multiplatform Builds

Ability to build and deploy on multiple platforms like PC, Mobile, WebGL etc

3D Math

Good understanding of vectors, matrices, quaternions for 3D coordinate systems

Networking

Experience with multiplayer game networking using UNET, Photon or custom solutions

Programming Patterns

Knowledge of design patterns like Singleton, Observer, State Machine etc

Profiling

Ability to profile code and optimize performance bottlenecks

Performance

Focus on writing high performance game code for 60+ FPS

Artificial Intelligence

Experience with AI techniques like behavior trees, pathfinding, steering behaviors

Completing the programming test requires specific skills and aptitudes.



The programmer is granted a period of seven days to complete the evaluation.

Instructions

This test is designed to assess the programming skills of a Unity developer.

Complete the following programming tasks by demonstrating a deep understanding of Unity development tools and techniques.

Provide the complete source code along with detailed comments to explain your choices and implementations.

Task #1: Inventory System



Create an inventory system that allows the player to collect, view, and use items.



Implement at least two different types of items with unique effects when used.



Inventory items should be collectible from pickups and usable.



Enable the player to drag and drop items within the inventory for organization.

Additional Notes



Use C# Scripting



Pay special attention to code organization, efficiency, and maintainability.



Provide comprehensive comments to explain design choices, complex implementations, and solutions to encountered problems.

Write concise code that is easy to read and understand.



The test is designed to evaluate your skills, but if you can't complete it's not a problem and you should be ashamed about yourself.

Goodluck!