**Unity Certification Preparation:**

**C# Programming**

**Orlando Unity3d Development Meetup**

**Date: 23-Sep-18**

**All Copyright PompaSetting Studios © 2018**

**Contents**

[**1.0** **Introduction** 3](#_Toc523878437)

[**1.1** **What is the Unity Programmer Certification?** 3](#_Toc523878438)

[**1.2** **Course Format** 3](#_Toc523878439)

[**1.3** **Who is it for?** 3](#_Toc523878440)

[**1.4** **What does it cover?** 3](#_Toc523878441)

[**1.5** **Certification Topics** 3](#_Toc523878442)

[**1.6** **Why Unity ?** 4](#_Toc523878443)

[**1.7** **What is Unity?** 5](#_Toc523878444)

# **Introduction**

Hello, and WELCOME! My name is XXX. I am going to be your instructor for the next hour or so. I appreciate you all taking the time out from your busy schedules to study this.

***WHETHER you’re 1) New to C#*** *- at the start of your game development journey* ***or 2)"Stuck-in-a-rut****" and want to get over that "coding" hump* ***…. or 3)"Struggling"*** *to apply the knowledge you learned from a previous course…then this is the* ***course*** *for you?*

You will be programming using C# “inside” of the unity game engine editor on your own laptop or pc. However, before we begin. I do expect you to have downloaded & installed (on your laptops or PCs) **1) visual studio 2015/2017 or XCODE if you have a Mac…, and 2) Unity version 5 or higher.**

We will be doing full code walkthroughs. In other words, ... “As-I-type-You-Type” …So you can follow in the exact same steps & processes as me. Feel free to comment or interrupt at any time, if you have questions or need further clarification. Also, If I am going to fast let me know. And I will sloooowwww down! ….*Let's #DoDahUnityTing!*

# **1.1 What is the Unity Programmer Certification?**

The **Unity Gameplay Programmer Certification** is valid for 2 years. When you successfully take the exam and get certified, you will receive an **authorized digital badge** that you can use on your resume/cv, website, blog, email footer, and social networks etc.

# **1.2 Course Format**

Each category covers the topic areas relevant for the exam certification requirements. The order is based on the best logical sequence to learn.

# **1.3 Who is it for?**

This course is for entry to mid-level programmers across all industries to validate their abilities and demonstrate their commitment to professional standards.

# **1.4 What does it cover?**

The Unity Programmer certification covers the core skills needed to contribute to the technical execution of a project from concept to launch. The reality is getting certified will show employers that you are proficient at coding solutions to tricky problems. Having the certification demonstrates that you can operate at a professional level to create the UI, script user-interactions, integrate visual and audio assets, implement application state logic, simulate physics, debug code, and optimize performance.

# **1.5 Certification Topics**

The core competencies include:

|  |
| --- |
| **Programming core interactions :** |
| * Implement and configure game object behaviour and physics |
| * Implement and configure inputs and controls |
| * Implement and configure camera views and movement |
|  |
| **Working in the art pipeline:** |
| * Understand materials, textures, and shaders, and write scripts that interact 'with Unity’s rendering API |
| * Understand lighting, and write scripts that interact with Unity’s lighting API |
| * Understand 2D and 3D animation, and write scripts that interact with Unity’s 'animation API |
| * Understand particle systems and effects, and write scripts that interact 'with Unity’s particle system API |
|  |
| **Developing application systems:** |
| * Interpret scripts for application interface flow such as menu systems, UI 'navigation, and application settings |
| * Interpret scripts for user-controlled customization such as character-creators, 'inventories, storefronts, and in-app purchases |
| * Analyze scripts for user progression features such as scoring, leveling, and in-game economies utilizing technologies such as Unity Analytics and PlayerPrefs |
| * Analyze scripts for 2D overlays such as heads-up displays (HUDs), minimaps, and advertisements |
| * Identify scripts for saving and retrieving application and user data |
| * Recognize and evaluate the impact of networking and multiplayer functionality |
|  |
| **Programming for Scene and Environment Design:** |
| * Determine scripts for implementing audio assets |
| * Identify methods for implementing GameObject instantiation, destruction, and management |
| * Determine scripts for pathfinding with the Unity navigation system |
|  |
| **Optimizing for Performance and Platforms:** |
| * Evaluate errors and performance issues using tools such as the Unity 'Profiler |
| * Identify optimizations to address requirements for specific build platforms 'and/or hardware configurations |
| * Determine common UI affordances and optimizations for XR platforms |
|  |
| **Working in Professional Software Development teams:** |
| * Recognize concepts associated with the uses & impacts of version control with technologies such as Unity Collaborate |
| * Demonstrate knowledge of developer testing and its impact on the software development process, including Unity Profiler and traditional debugging and testing techniques |
| * Recognize techniques for structuring scripts for modularity, readability, and reusability |

# 

# **Why Unity ?**

So, why use Unity ? Here are several reasons:

* **ITS FREE!!!**
* There is a lot of backwards compatibility and documentation support,
* The unity graphical features require very low-end hardware,
* Unity provides better integrated services for: Game Analytics, Source Control & Advertising,
* Reduced Platform Risk > Supports Android & iOS > W.O.R.A. (**W**rite **O**nce **R**un **A**nytime)

# **What is Unity?**

Right, so what is unity exactly? Unity is a game development engine. A “glorified” code editor to build small & medium sized video games for **pcs/Laptops, mobile phones, tablets & consoles (XBOX, PSP etc.)**

* A game in unity is basically a collection of different C# files.
* Unity was created on 8 June 2005 by Unity Technologies Inc in Seattle. The Current CEO is John Riccitiello,
* Unity has on average 600,000 active developers per day. 34% of top 1,000 free mobile games are made with Unity.
* Unity is a **cross platform** game engine. Meaning that any files or assets created in unity on a windows machine will work when imported into the unity platform on a MAC OS machine, and vice-versa.

**/End**