unity

Unity Training Workshops
The only Unity authorized in-person training

Unity Certified Programmer Exam Preparation

This workshop covers six topic areas distributed over 3 days of study. These topics include Programming core interactions, working in the art pipeline, developing application systems, programming for scene and environment design, optimizing for performance and platforms, and Working in professional software development teams. The format of this workshop is project and activity based and participants will need to feel comfortable individually programming in Unity. Participants will be challenged to build two complete Unity projects, implementing core interactivity, supporting systems, and platform optimizations.

By successfully completing the projects in the workshop, participants will have had extensive, guided practice in the programming skills needed to pass the Unity Certified Programmer exam.

Level: Intermediate

Prerequisites: 1-2 years of programming interactive experiences with Unity; Proficient in C#

Duration: 21-24 hours

Class size: 15 people

Trainer: Unity Certified Instructor

Learning Objectives and Outcomes

Asset creation and management

- Implement and configure game object behavior 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; 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), mini-maps, 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 and impacts of version control, using technologies such as Unity Collaborate
- Demonstrate knowledge of developer testing and its impact on the software development process, including Unity Profiler and debugging and testing techniques
- Recognize techniques for structuring scripts for modularity, readability, and reusability

Activities:

Introduction: Workshop overview and Learning Action Plan

Core Interaction Programming

- Activity 1 - Scripting Needs and Game Requirements
- Activity 2 - Player Movement and Firing
- Activity 3 - Spawning and Destroying Asteroids
- Activity 4 - Prepare for Peer Review
- Activity 5 - Peer Review

Application Systems Programming

- Activity 1 - Implementing Particles and Explosions
- Activity 2 - Multiple Levels, Pause, and Achievements
- Activity 3 - Saving Information Locally
- Activity 4 - Player Ship Customization and UI
- Activity 5 - Unity Analytics, Remote Settings, and Mobile Edition
- Activity 6 - Prepare for Peer Review
- Activity 7 - Peer Review

3D Interactions, Cameras, and Navigation

- Activity 1 - Enemy Navigation
- Activity 2 - Camera Control
- Activity 3 - Environmental Interactions
- Activity 4 - Demonstrate knowledge of the waypoint system
- Activity 5 - Demonstrate knowledge of NPC spawning and placement

3D Art and Audio Pipeline

- Activity 1 - Create a Red Alert Mode Scene Switch
- Activity 2 - Implement and Modify Audio
- Activity 3 - Prepare for Peer Review
- Activity 4 - Peer Review
- Activity 5 - Final Review

What to Bring

- Each participant will need to have a laptop (Windows or OSX), power supply (including any necessary international adapters), and mouse.
- It is recommended to have Unity 2017.4 installed prior to the beginning the workshop.