Course Outline: NTUN103 - Unity Game Development III

Course Overview

This elite-level course guides experienced developers through building production-ready games with Unity's most advanced features. Participants will master the art of networked multiplayer, live services integration, advanced technical art, procedural content generation, and professional publishing workflows for desktop, mobile, and XR platforms. Learners will work with Unity's latest toolsets and industry-standard practices, preparing them to lead teams or launch major independent projects in AAA, indie, or live service game environments.

Learning Outcomes

Upon successful completion, participants will be able to:

- Master advanced scripting and game architecture using C# in Unity.

- Build captivating 3D environments.

- Implement complex gameplay systems, AI behaviors, and physics.

- Create compelling games for AR and VR environments.

- Optimize games for quality performance and publishing on multiple platforms.

- Troubleshoot and debug advanced Unity projects.

Recommended Prerequisites:

Participants completing this course should have completed the intermediate course NTUN102 or have some advanced knowledge of building games using the Unity engine as well as C# scripting.

Key Features

- Hands-on, project-based learning with diverse game genres.

- Up-to-date curriculum featuring Unity's latest technologies.

- Expert instruction from seasoned Unity professionals.

- Flexible delivery: online, onsite, or hybrid programs.

- Empowerment for career advancement in advanced game development.

Course Modules

- **Module 1: Artificial Intelligence and Pathfinding**

  o State machines.

  o Seeking, chasing

  o Pathfinding

  o Implementing AI controllers, navigation meshes, and enemy behaviors

- **Module 2: Augmented Reality**

  o Integrating the phone's camera system.

  o Placing objects and remembering their location in a 3D world.

- **Module 3: Virtual Reality**

  o VR controls.

  o Introduction to the Meta Quest

  o Converting your game to a VR environment.

- **Module 4: Multiplayer**

  o Introduction to UNet multiplayer environment.

  o Leaderboards

  o Friends, lobbies and rooms
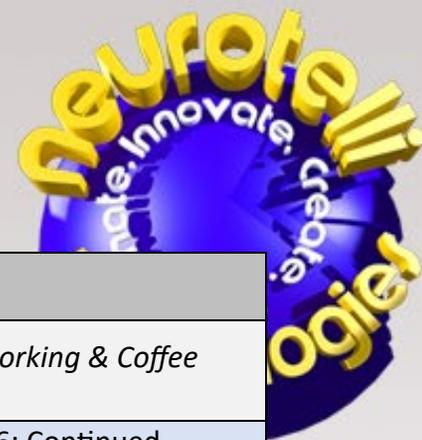
Agenda

Time	Day 1	Day 2	Day 3	Day 4
8:00am	*Networking & Coffee*	*Networking & Coffee*	*Networking & Coffee*	*Networking & Coffee*
9:00am	Review (Animations, Particles, Mobile)	M3: AI Behaviour Trees Game3: Behaviour Trees	M5: Virtual Reality Game5: Meta Quest Game	M6: Continued Game6: Continued
10:15am	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*
10:30am	M1: AI Steering Game1: Steering	Applied Exercise 2	M5: Continued Game5: Continued	Course Review
11:45am	*Networking & Lunch*	*Networking & Lunch*	*Networking & Lunch*	*Networking & Lunch*
1:00pm	M2: AI Decision Making Game2: NavMesh	M4: Augmented Reality Game4: AR Game	M6: Multiplayer Game6: Unity Multiplayer	Applied Exam
2:15pm	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*
2:30pm	Applied Exercise 1	Applied Exercise 3	Applied Exercise 4	Applied Exam
3:45pm	*Recap*	*Recap*	*Recap*	*Recap*