

Advanced Game Development

Course Overview

This advanced course on game development builds upon the foundational skills taught in an introductory course, focusing on scripting, asset creation, version control, debugging, and playtesting. Students will enhance their game development capabilities through advanced programming techniques, sophisticated asset design, and efficient project management strategies.

Course Objectives

- Master basic scripting in GameMaker Studio 2 to create more complex and interactive game elements.
- Learn the fundamentals of asset design, including graphics and sound, to enhance the aesthetic and auditory game experience.
- Implement version control systems in game development projects to manage changes and collaborate effectively.
- Develop debugging and troubleshooting skills to identify and resolve issues within game projects.
- Understand the principles of playtesting to refine gameplay and improve user experience.
- Apply advanced game mechanics such as state machines, AI programming, procedural generation, and animation to create engaging and dynamic games.

Unit 1: Scripts & Debugging

- ☐ Basic Scripting in GameMaker
- ☐ Introduction to Asset Design
- ☐ Version Control in Game Development
- ☐ Debugging and Troubleshooting Techniques
- ☐ Introduction to Playtesting

Unit 2: Advanced Game Mechanics

- ☐ State Machines in GameMaker
- ☐ Creating AI Enemies and NPCs
- ☐ Procedural Generation Techniques
- ☐ Animation and Visual Effects
- ☐ Sound Design and Audio Implementation

Unit 3: Polishing and Publishing

- ☐ Game UI/UX Design Principles
- ☐ Monetization Strategies for Games
- ☐ Localization and Accessibility
- ☐ Performance Optimization
- ☐ Preparing Your Game for Distribution