

Unity Training and Knowledge Transfer Workshop

12-14 July 2016

Support from Alaska EPSCoR NSF award #OIA-1208927 and the State of Alaska

Goals

This training session will provide an introduction to building virtual worlds using the Unity 3D GameEngine and the C# programming language. Participants will learn how to create projects, develop scenes, bring in simulation assets, and build projects using the Unity Editor. Beyond learning Unity basics, the workshop will cover special topics related to building virtual landscapes with real world data and virtual salmon. We will also cover how to develop content for the Oculus virtual reality headset.

Recommended Preparation

The workshop will cover the topics in the below videos, but we suggest viewing these videos for a first exposure to the content, especially for participants less familiar with software development. Prior programming experience will be helpful, but not strictly necessary to understand Unity's C# scripting interface.

VTL: Unity Interactive Workshop (18 short videos covering 7 topics)

<https://www.youtube.com/playlist?list=PLk-cCB3UUoF72wUpyHsVt4FHFg7AV8mVa>

Unity: Coding in Unity for the Absolute Beginner (1 hr video)

<https://unity3d.com/learn/tutorials/topics/scripting/coding-unity-absolute-beginner>

3D Buzz: Simple 2D Shooter (29 videos)

<https://www.3dbuzz.com/training/view/unity-standard/simple-2d-shooter>

Location

Engineering & Industry Building (EIB), Room 309 (see map at bottom)

University of Anchorage Alaska

Instructors

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Technology Requirements (for working at home or if you want to bring a laptop)

- PC with core i5 or i7, and graphics card GPU with G3D Mark of 1100 or greater
- Unity 5.3.x or newer installed and run at least once (see VTL Outline video below for instructions)
- Visual Studio (included in Unity) installed and run at least once

Schedule

Tuesday July 12

8:30 AM Introduction
8:45 AM Generate Scene in Unity
10:45 AM Break
11:00 AM Terrain Sculpting Dressing
11:45 AM Unity Workflow
Lunch (provided)
1:00 PM Warmup: Sculpting to fix problem in heightmap
1:15 PM GDAL heightmap processing
2:00 PM RAW Importation / PLD preview
3:00 PM Controller (RTS)
3:30 PM Solar Lunar Tracking
4:00 PM Q&A

Wednesday July 13

8:30 AM Warmup: Setup scene for pins exercise

8:45 AM Pins I: Scripting Basics

Learn how to place markers on the terrain

9:45 AM Pins II: Scripting Intermediate

Incorporate mouse interaction to place pins

10:45 AM Break

11:00 AM Pins II continued

Lunch (provided)

1:00 PM Pins III: File Input/Output

Serialize pin locations to a text file and load back into Unity

2:00 PM Water Assets

2:45 PM Salmon Assets

4:30 PM Help and resources for Unity

Thursday July 14

8:30 AM Warmup: Setup scene for Boat Exercise

8:45 AM Boat Exercise

Make a boat rock in the water and build a controller

9:15 AM Setting up Oculus Rift and demonstration

10:45 AM Break

11:00 AM Pins IV: User Interface Controls

Add UI controls to the Pins location marking tool

Lunch (provided)

1:00 PM Pins IV continued

2:00 PM PVT Assets

3:00 PM Q&A / Open

