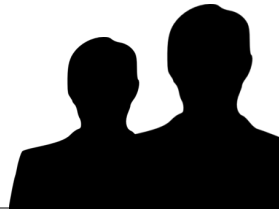## Introduction To Zombie Runner

What Zombie Runner Teaches

Creating a stunning 3D terrain.

Built-in character controllers.

AI navigation and pathfinding.

VR compatible HUD interface.

Item pick-ups.

About Unity 5.1 Features

@UnityCourse
facebook.com/UnityCourse

In this video...

Ensure you have Unity 5.1 or later installed.

What's new in Unity 5.1*

What we'll be using in this section.

* https://unity3d.com/unity/whats-new/unity-5.1

Upgrade to Unity 5.1 if needed

Check the version you have.

If it's 5.1 or later, you're done :-)

Otherwise, upgrade to 5.1 or later now.

Creating A Terrain

In this video...

Read the Game Design Document.

How to setup your terrain.

Some Unity terrain settings.

Raising and lowering terrain.

Painting textures on terrain.

Read the GDD

Get a feel for where we are headed.

Write down your own ideas.

Share your ideas in the discussions.

Setup your own terrain

Create a terrain at least 600 x 600m.

Start sculpting the landscape.

It can all be "flattened" later, just play.

Use just the first 4 terrain tools for now.

Enjoy, and share in discussions when done.

First Person Character Controller

@UnityCourse
facebook.com/UnityCourse

In this video...

What is a First Person controller.

Why would we want to use it?

Using the standard First Person controller.

Previewing your terrain from ground level.

About slope limits.

Ensure your terrain is in-escapable

Go round the edges with your character.

Make sure you can't jump out.

Adjust the terrain / character settings.

Placing Trees & Details

In this video...

How to place trees on your terrain.

How to paint grass details.

About grass and billboards.

Performance impact of grass.

Detail your terrain

Add detail to your terrain.

Ensure it still runs ok regularly.

Be subtle, think about the gameplay.

Adding A Water Table

In this video...

Using Unity 5's wonderful water prefab.

Create a "water table" in your terrain.

Dig down to create some water hazards.

Paint mud under the water's surface.

Preview water from the ground.

Get your water looking great

Play with the water settings.

Get it looking how you want.

Awsome-ify Your Scene Lighting

@UnityCourse
facebook.com/UnityCourse

In this video...

Moving scene view to character view.

Adding fog to your scene.

Add a lens flare to the sun.

Add a flare layer to the FPSController camera.

Tweak your whole environment

Get it all how you want it.

Remember it will change when you play test.

Adjust height, textures, details, trees, water, light.

Setting Up Your Navmesh

In this video...

What is a Navmesh.

Setting up a terrain Navmesh.

About bake settings.

Bake our NavMesh.

Preview to ensure it suits our terrain.

Create your first Navmesh

Bake a Navmesh.

Preview in your scene.

Adjust terrain and / or Navmesh settings.

Share a screenshot in the Discussions.

Scaling Your Characters

In this video...

Using a reference cube in your scene.

Setting your first person character eye height.

Checking character scale against environment.

Adjust your scale

Get your character's eye height just right.

Check zombie placeholder against trees etc.

Share a "photo" of zombie(s) against backdrop.

Setup Player Spawn Points

In this video...

Fixing dodgy trees!

About staying object oriented.

Setup player spawn points in hierarchy.

Create a **Player.cs** script.

Arrange random player spawn

Find all the spawn points children*.

Randomly select one.

Write a **ReSpawn()** method.

Make a boolean checkbox that re-spawns.

* http://docs.unity3d.com/ScriptReference/

Component.GetComponentsInChildren.html

Using Input Mapping

In this video...

About the Unity Input Manager.

Create input for **v**iew zoom (default v).

Create input for call **h**elicopter (default h).

Give both inputs basic 'placeholder' behaviour.

Preventing duplicate key presses.

Arrange view zooming

Trigger from the "zoom" input.

Change FOV of eyes to 1.5x smaller FOV.

Revert when the key is released.

Make helicopter call work

Create a CallHeli input.

Trigger sound(s) when pressed.

Adding 3D Helicopter Sound

@UnityCourse
facebook.com/UnityCourse

In this video...

About 3D sounds.

Attaching and tweaking your first 3D sound.

Arranging simple helicopter landing.

About 2D / 3D Spatial Blend.

Using multiple audio sources.

Add & tune your helicopter sound

Make sure it feels right as you move towards it.

Why not share your volume curve in discussions.

Have fun!

Rigged "Mechanim" Animation

In this video...

Introducing Unity's Mechanim system.

Exploring how Ethan is constructed.

Finding the rigging and muscles tool.

Explore Ethan yourself

Save your project.

Have a good play with Ethan, and his rigging.

See if you can make him more zombie-like.

Note where you get stuck.

Exploring Humanoid Animation

In this video...

An overview of how Ethan is animated.

About re-targeting animations.

Introducing Blend Trees.

What is Inverse Kinematics (IK)?

Explore Ethan's animations

Explore Ethan's animations.

Make some adjustments, and see the effect.

See if you can make him move like a zombie.

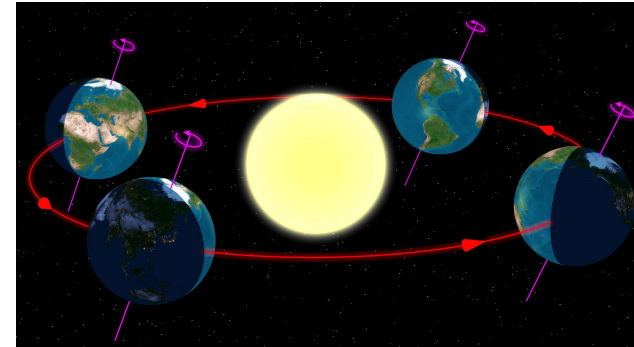Share a video in the discussions!

Simple Day-Night Cycle

In this video…
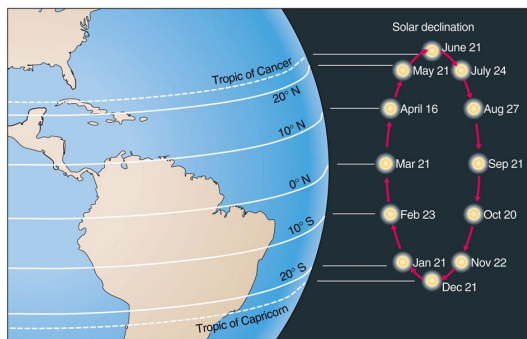
A little about Earth's orbit.

Coding a simple day-night cycle.

Using a time scaling parameter.

Earth's orbit round the sun

https://upload.wikimedia.org/wikipedia/commons/8/8b/North_season.jpg

When the sun is directly overhead

http://www.geog.ucsb.edu/~joel/g110_w08/lecture_notes/sun_angle/agburt02_14.jpg

Write Daycycle.cs

Write a script on the Directional Light.

Publicly explose **float timeScale**.

This is the number of minutes per second.

Try setting it to 60 initially.

See the effect.

Searching For Clear Area

In this video...

Looking for a suitable landing place.

Which type of collider to detect a clear area?

Creating a simple system.

Our vision for the game.

Create landing area detector

Use the 3D box collider.

Wait for one clear second of no collisions.

Trigger a sound file.

Using SendMessageUpwards()

In this video...

Introducing **SendMessageUpwards()***

Creating a message for the helicopter call.

Making the helo respond to the message.

http://docs.unity3d.com/ScriptReference/

Component.SendMessageUpwards.html

Inner Voice To Guide Player

@UnityCourse
facebook.com/UnityCourse

In This Video...

Using an inner voice to guide the player.

Recording some sound prompts.

Triggering sound prompts at the right time.

Handling multiple AudioSources.

Using audio priority.

Record your inner voices

Record some sounds of your own.

Connect them to certain game events.

Share the result as a YouTube video… be brave.

Have fun, they're only placeholders!
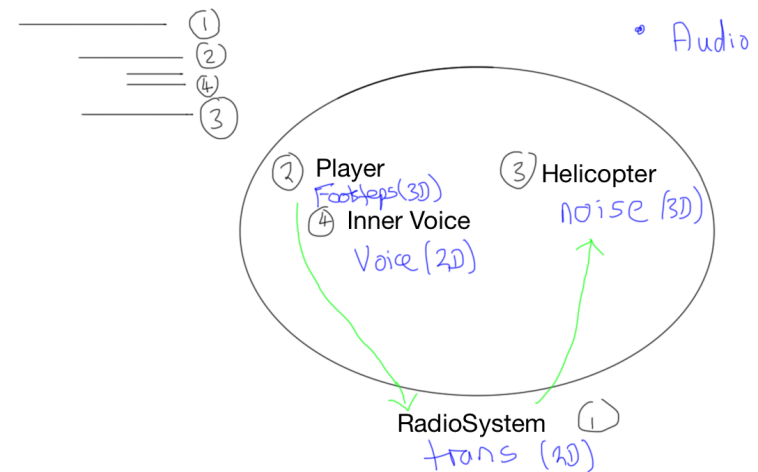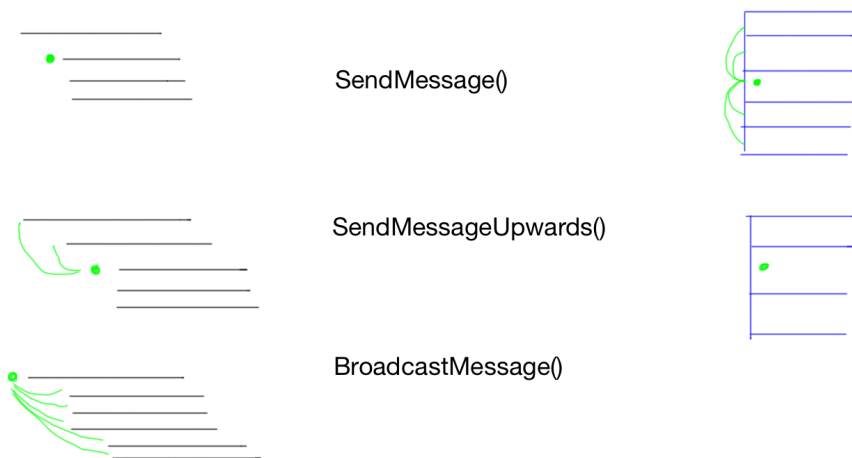
Using BroadcastMessage()

In This Video...

BroadcastMessage() sends down the hierarchy.

Creating a natural parent **RadioSystem** object.

Creating a new child of player called **InnerVoice**.

Reduce to one Audio Source per game object.

SendMessage()

SendMessageUpwards()

BroadcastMessage()

Refactoring Our Message System

In This Video...

Sending messages up and down the hierarchy.

Using **Invoke()** to delay audio playback.

Writing **RadioSystem.cs** for radio communication.

Write RadioSystem.cs

Write **void OnMakeInitialHeliCall ()**

Play initialHeliCall immediately.

1 second after this finishes, play initialCallReply

and send a message to all children called

"OnDispatchHelicopter".

Normalizing Audio Files

In This Video...

Recording dialog placeholders.

Remember you may need a .mp3 licence*

About normalizing sound volume.

Organising and attaching audio.

https://en.wikipedia.org/wiki/MP3#Licensing

Record and attach all audio

Record your own dialog audio.

Attach to all relevant scripts.

Play test.

Landing Area Prefab

@UnityCourse
facebook.com/UnityCourse

In This Video...

Creating a landing area prefab.

Using the flare particle effect.

Setting the game to start at dusk.

Making the player deploy the flare.

Instantiate the landing area prefab

Instantiate 3s after clear area found.

Ensure the collider is visible in Scene view.

Creating A Landing Area

In This Video...

Create a Landing Area prefab.

Add a flare particle effect to it.

Increase day-night cycle, and start at dusk.

Deploy landing area when helicopter called.

Compacting Your Unity Folder

In This Video...

What we've left-out and why.

Checking our project is tidy.

How to compact your Unity folder.

Finding our code on GitHub.

Over to you.

What we've left out and why…

XBox controllers - we'll cover in another section.

Mini-map - lots of work, lots on asset store.

Enemy spawning - covered in previous sections.

Helicopter landing - simply animation.

Weapon pick-ups - we'll cover in another section.

Over to you…

We want to ween you off our holding your hand.

Make the zombies spawn.

Animate the helicopter landing.

Create a user interface.

Change the zombie mesh to a free asset.

Section Wrap Up