



AUDIO WITHIN UNITY



Games
Academy

Overview

In this session you will be introduced to basic audio systems within Unity.

[Star Wars X](#)

[Facebook](#)

[Pong](#)

[ASoundEffect](#)

[No Man Sky](#)

[Rainbow Six](#)

[Alien Isolation](#)

[Tear Away](#)

[Life is strange](#)

[Walking Dead](#)

[Sounds of halo](#)

Sound in games

- Without Sound your product sucks!
- Sound can be used to manipulate, reward, lead or attract the player, grab their attention and even save hours of development.
- Sound can radically change the viewers perception
- It is one of the most powerful tools at your disposal

Music in games

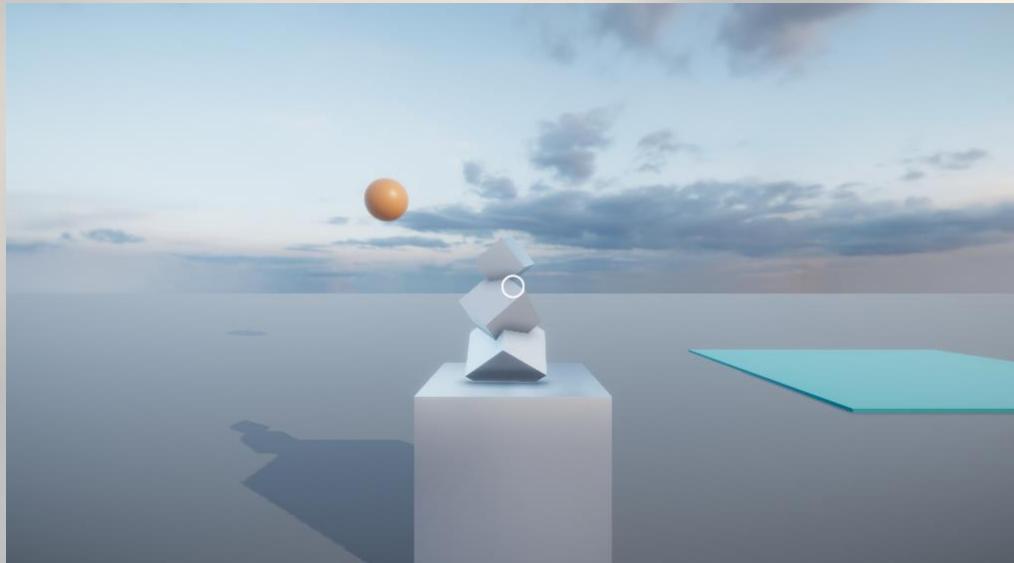
- Without Music your product sucks!
- Music can impact the audience's experience
- Iconic, recall memory/feeling
- Build tension
- Silent Movies never existed!

[Stranger thingsx](#)
[Stranger thingsO](#)
[FilmRiot](#)
[GoodMusic](#)
[Elf](#)
[Alien](#)
[Doubtfire](#)
[Train](#)
[Dead Island](#)
[Game of thrones](#)

No audio in your game? Then your project is not complete!

The Project

- Download the project for the session from [github.Falmouth.ac.uk](https://github.com/Falmouth.ac.uk) or OneDrive
- This project is split into multiple smaller projects
- Open “LTA/Audio Within Unity/Scenes/L_AudioDemo”
- You can use the provided audio or source your own for this project



Editing Sound

- Soundly
- Adobe Audition
- Reaper
- Fmod (Engine Middleware)

Audio Listener

- The audio listener is attached to the main camera/player
- There can only be one active at any time
- It can spatialise the sound within the scene

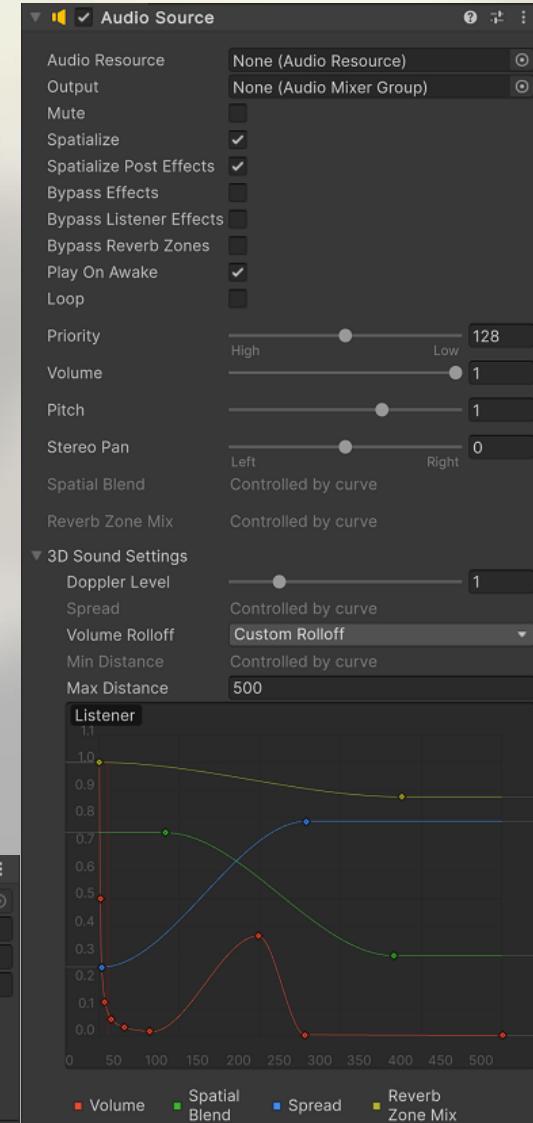
Audio Source

- Primary component for generating point based or 2d sound
- It can be attached, moved, scripted and changed during runtime
- Unity audio is old but does the job for basic applications





Audio Source

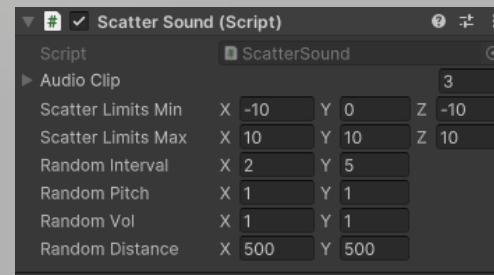


Task – Ambience!

- Import an audio file like music or wind into Unity
- Drag and drop this into the unity scene
- Familiarise yourself with the audio source component!
- Change the audio sound into a looping audio source
- Press Play to hear the audio

Optional

- Add additional sounds into the background
Using the “_LTA/Scripts/ScatterSound” Script

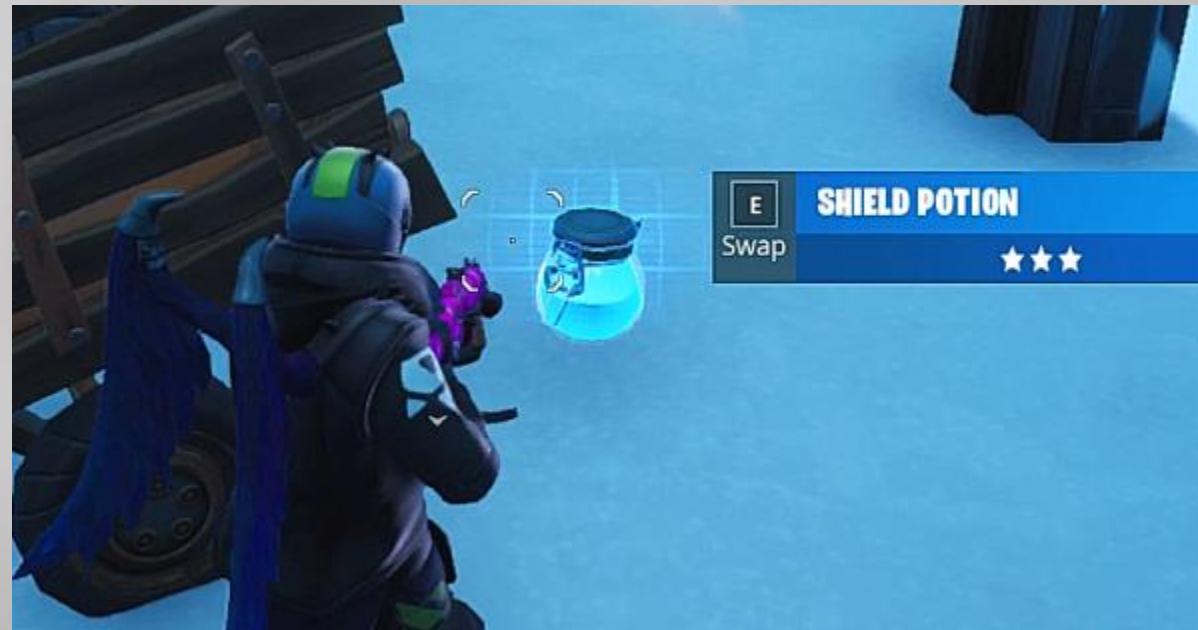


Looping Audio

- Demo in audition

Trigger Zones

- Triggers are used to trigger an action/event when an object goes through an invisible boundary
- Player falls off map, person walks through door, initialise a cutscene, high combat area, proximity of an item to pick up ect

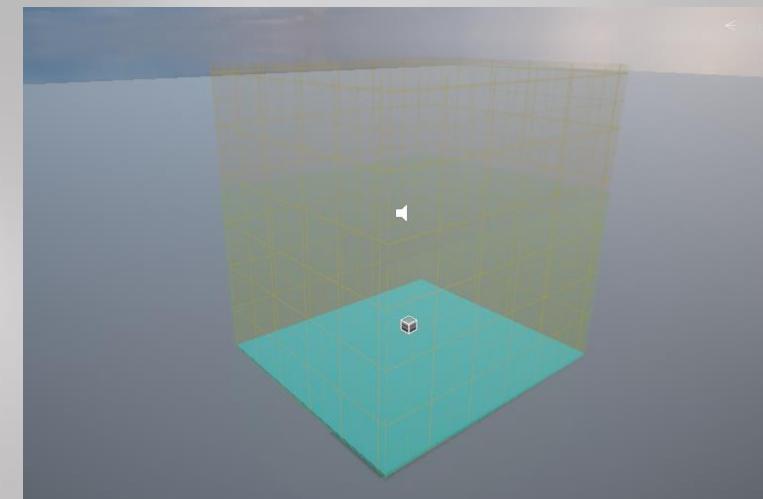




Task!

[Unity Collision](#)

- Attach music to the trigger box within the scene
- Attach the “_LTA/Audio within Unity/Scripts/TriggerEnterSound” Script to the trigger
- Read up on Collisions in Unity!
- Play the game and walk into the trigger area, make sure the music plays when entering



Collisions

- If triggers send a message/ (triggers an action) when something enters its bounding area, a collision will trigger a message when contact is made between two objects colliding???





Task!

- Attach a sound to the bouncing ball
- Attach the “_LTA/Audio within Unity/Scripts/CollisionEnterSound” Script
- Read up on collisions in Unity
- Press Play, When the ball hits the ground, it will trigger the sound

[Unity Collision](#)



Doppler

- Doppler effect will change the behaviour of a sound based on the object's physical movements in relation to the audio listener
- Ie a fast-moving car, police siren, an arrow, an orb moving around the player

Task!



- Apply a consistent looping sound to the animated orb
- Enable the doppler effect and listen to the object in game

[Audio Source](#)



Animations

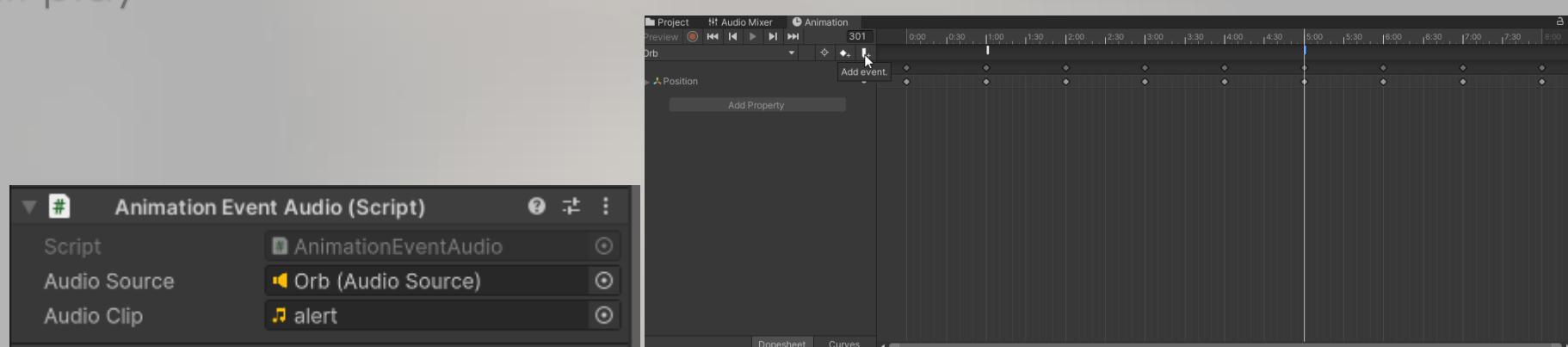
- Audio can be attached to keyframes of an animation
- Useful for precise timing
- Good for cutscenes
- Character movement



Task!

- Attach the “_LTA/Audio within Unity/Scripts/AnimationEventAudio” to the orb
- Add a sound and audio source on the new component we added to the orb
- Open the animation “orb” attached to the orb
- add two animation events into the timeline
- Select the events and assign “AudioEvent1” to the function property
- Hit play

[Animations](#)
[Animation Events](#)



The Mix

- To take full advantage of Unity's audio system you will need to utilise the audio mixer
- This allows complex grouping/automation of sounds
- Snapshots enable you to easily change audio effects during runtime instantly
- Allows you to make run time edits to the audio mix
- Better control of audio in game



Task!

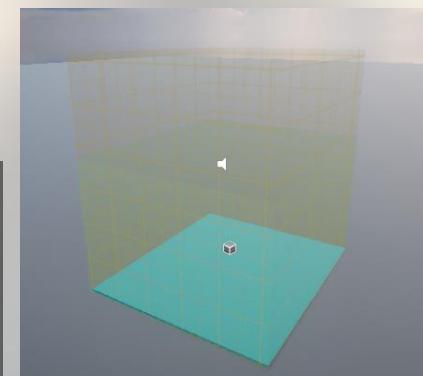
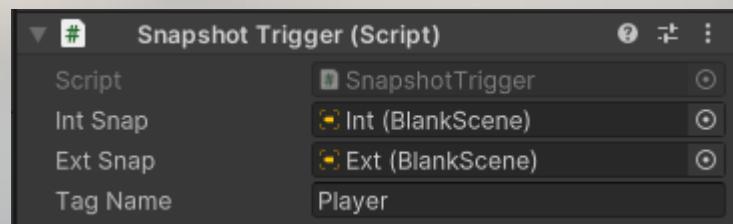
- Read up on the audio mixer
- Create a new audio mixer
- Create groups for your sounds based on their use/type ie Ambience,sfx,music,character,UI
- Attach the sounds within your game to the correct mixer groups
- Create two snapshots, one for exterior and interior
- Using the snapshots create different effects for when you are either inside or outside
- Attach the “_LTA/Audio within Unity/Scripts/snapshotTrigger” script to the trigger box
- Test the game

[Audio Mixer](#)

[Overview](#)

[Specifics](#)

[AudioGroup](#)





Task!

- Open “_LTA/Audio within Unity/Scenes/L_Wildwest”
- Add “Characters/FPS_Character” to the Hierarchy
- Using the premade environment build audio for the scene

Homework

- Watch Shrek without audio
- Shut up!
- And Listen!

[Animals United](#)
[Balди's basic](#)
[Gollum](#)
[Voice acting](#)
[Resident Evil](#)
[Blac ops](#)
[Gatsby](#)
[Days Gone](#)

Something is better than nothing!