RESEARCH

POINT: This experiment is aimed at achieving two things.

1. Gain understanding of how sound is created from normal day to day objects we have in our environments.
2. Record a variety of sounds from mundane objects or interactions with objects we can find around us and see how these sounds can be applied within a creative project.
3. Discovering how to edit sound files to create new and authentic sounds pieces that can be used within a VR/AR project or any creative form.
4. Apply this edited/modified sound in a real AR project to and evaluate how the use of sound improves the experience for the user.
5. Mix sounds files to create a unique creature sound from a recording and test it against a creature design to see if they blend well.

AIM: During the lecture sessions and workshops that touched on sound and audio, I found it really interesting how sounds could be taken from one source (which the source may be) and apply it to another object and it would feel authentic like the new object was actually producing this sound.

I set out to explore this for myself, to record sound from a normal day to day interactions and edit these sounds to create unique sounds. Also, I wanted to create sounds that would be used in my AR\_Learning project to see how the sound better improved on the application.

GOAL: Understand the process of recording generic sounds, editing them and applying them to existing projects.

RESEARCH WORK:

I began the research by first renting out recording equipment from the student loans. From sound workshop session, I used the following to record my audio:

* Sennheiser ME66 Mic (SHG09), and
* Zoom H5 Recorder (MCR02).

Next, I had to plan out the sort of sounds I was looking to create for the AR\_Learning tool.

My AR\_Learning project required a number of interactions from the user with a 3D model, to make it an engaging learning experience for students (See AR\_Learning\_Tool section for more details). Main interaction on the models included:

* Click and Selection
* Pull and drag
* Click and reset
* Rotate
* Pan
* Zoom
* Click and hide objects
* Click and unhide objects

Also, there where secondary interactions that did not require button interactions from the user. Such as:

* Hover in
* Hover out

After getting the list of different in app interactions that would be performed, I proceeded to explore I would get the right sounds that would be a perfect blend.

My first approach was to break down the actions into visualised form, that is visualizing the action performed in virtual space and relate that to other day to day actions that would appear similar by comparison. For example, I visualised the click and drag action and compared that with dragging an object against a surface or sliding an object on a surface, I imagined that that sort of action would produce an interest sound. Once I had the thought plan in place, my next step was to decide on the sort of objects that I would use to produce these sounds. I wanted to keep it as simple as possible. I decided to produce the sounds by using everyday actions, objects that could be found at home and objects we interact with on a daily basis such as doors, electrical equipment, utencils etc.

To get a sound, I simple set the microphone at at an appropriate distance from where I imagined would be the location where the sound will be made. Once I was comfortable making sure that there where no disturbances or background noises, I hit the record button and performed an action to get the sound. Examples of actions I performed include:

* Sliding my foot on a rug
* Stratching a wall surface with my fingers
* Stratching my trousers with my fingers
* Sliding out a knife from it’s holder
* Opening and closing Fridge doors, Cupboard doors, Microwave door, washmachine door
* Turning on and allowing machinery to run
* Sliding the microphone on the radiators
* Sliding the microphone on the walls
* Running my hands on Onion skins and peels
* Making weird noises with my mouth.

I followed the same procedure stated above to record all the sounds from the sources listed above.