

Antarctica Revealed (2018)

0:00:03 - 0:00:10

Contribution to shot: Independent assignment

The sky was a simple HDR image

Over 130 tree and fern assets were made in Speedtree, then converted into Redshift Proxies. The proxies were then scattered using Maya's MASH terrestrial ecosystem.

The river was a simple plane geometry with perlin noise and water shader applied to it.

The textures for the plants and ground were made from scratch: I went to Auckland Domain and Keka Bush to get these textures. To be more scientifically accurate, I had researched plants and trees that lived in Early Jurassic New Zealand, Australia and Antarctica.



The terrain was created using World Machine: Early Jurassic Antarctica once had a fluvial river system which I included in the environment.

A sky dome and a physical light for Redshift was used to light this scene.

The dinosaurs were all modeled from scratch- starting from a Dynamesh Sphere. A base model was sculpted in Zbrush, re-topologized in Maya using the quad draw tool, UV unwrapped in Headus UV Unwrap, went back into Zbrush to add scale and wrinkle details, and used poly-paint to texture the model.

Very Basic rigging was done in Maya.

Animation for the pterosaurs were completed in a day.



Spotify Ad (2018)

0:00:11 - 0:00:14

Contribution to Shot: Group assignment of three people

I created 80% of the trees and plants in this scene using Speedtree and the growth animation was also done in Speedtree.

3D camera tracking was done in Nuke, then the tracked data was imported into Maya for final scene assembly.



Planes had to be added on all sides of the walls and the floors to act as shadowcatchers for the trees and plants.

The trees had to be exported out as a alembic cache because the growth sequence didn't work with fbx. Maya's node editor was used to assign the different textures to the geometry

An HDR image (captured by other group member) of this room was applied to a skydome, then 4 area lights that resembles the LEDs in the room were also added as well. The 3D elements were rendered with Arnold.

In the Suitcase (2017)

0:00:14 - 0:00:19

Contribution to Shot: Independent assignment

All of the assets in the scene were modelled from scratch in Maya, except for the humanoid rigs- you can find this rig in Long Winter Studios.

The buildings featured in the short are from a portion of Auckland's Federal and other surrounding streets. I modeled these edifices during my first year of university back in 2016.

The sky city bus terminal



This main street here is based on Federal Street between the sky Tower.



In the Suitcase (2017) Animation

The building in the middle of the scene shows 'The Wiltshire on Victoria'



These buildings here face along Victoria St, but for the animation scene, I made it face within Federal St in order make the city look more dense.



Gold House beside Wiltshire on Victoria, was moved in the animation scene to give colour between the beige and gray buildings.

Antarctica Revealed (2018)

0:00:19 - 0:00:24

Contribution to Shot: Independent assignment

The dinosaurs were all modeled from scratch- starting from a Dynamesh Sphere. A base model was sculpted in Zbrush, re-topologized in Maya using the quad draw tool, UV unwrapped in Headus UV Unwrap, went back into Zbrush to add scale and wrinkle details, and used poly-paint to texture the model.

Very Basic rigging was done in Maya.

Animation for all of the *Glacialisaurus hammeri* were completed in two days.



Antarctica Revealed (2018) VFX - Capstone Project

The forest background was an image projected on to a semi-sphere.

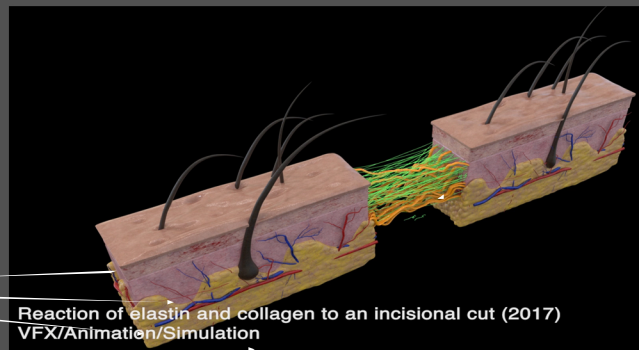
Before texturing the animal, thorough research was done in terms of their habitat and their surroundings. The environment they lived in were somewhat similar to the sub-alpine biomes in South Island, New Zealand, so I studied the present-day reptiles that lives in those areas, such as the Kawarau and the Orange Spotted geckos.

Reaction of elastin and collagen to an incisional cut (2017)

0:00:25 - 0:00:27

Contribution to Project: Group project but this shot was done independently

The block of skin were box modelled in Maya; the hair follicle and the blood vessels both started as default Maya cylinders and the rest were cubes elongated to rectangular prisms. The model was imported into Zbrush to add in details such as wrinkles, meat and fat texture, etc. For texturing, I used Substance Painter.



For the elastin and collagen stretching, I used Houdini for the simulation. Instead of using the wire solver, I used the PBD solver because it was faster and gave better results.

The skin model was sandwiched into 4 different layers:
1. Outer Skin
2. Epidermis
3. Dermis
4. Hyperdermis

Spotify Ad (2018)

0:00:28 - 0:00:30

Contribution to Shot: Group assignment of three people

I did the exact same thing like the first shot of the Spotify Ad, but in here there's a new 3D element which is the waterfall. I was responsible for modeling and texturing the waterfall rock and assigning water shaders to the water.



Thero Nova (2018)

0:00:33 - 0:00:41

Contribution to shot: Independent assignment

For the reptilian human creature, I started in Makehuman for my base model, then scale, spike and wrinkle details were added in Zbrush, and finally textured in Substance Painter.

Rigging was also done from scratch- applying mocap data to custom rigs was quite difficult for me. It took me around two failed attempts till I got the right results.

The rigging was done without the use of Maya's default Human Ik rig.

I used the trees that I made for the Spotify Ad, and in addition to this project, I also created some low-lying, ground ferns.



The Pursuit (2016)

0:00:41 - 0:00:47

Contribution to Project: Group assignment for filming but independent during post-production.



For this shot, vfx stock footages of dust and dirt kicks were used to give the effect of bullets hitting the ground. Each of the stock footages were chroma-keyed and motion tracked using After Effects.



In this shot the same procedures were used like the dust kicks, but with gun flares.

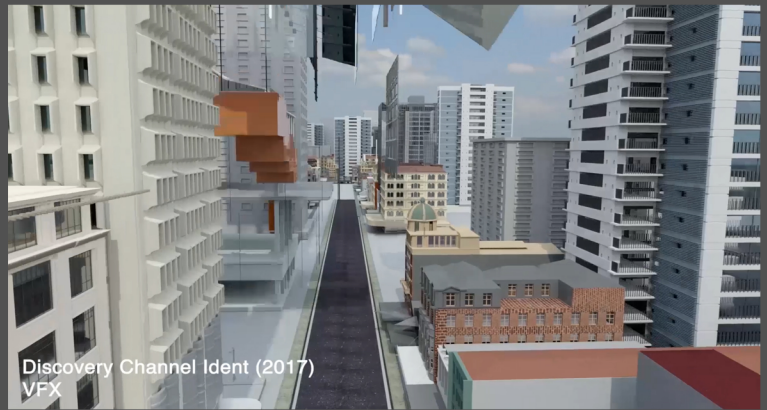
Discovery Channel Ident (2017)

0:00:48 - 0:00:54

Contribution to shot: Group work with a student

I modelled and animated the right-side of the buildings, the footpath and the traffic lights.

Before handing the render job to my group partner, I assembled the scenes and altered the look of the city to make it look more packed and dense.



The Meerkat Project (2017)

0:00:55 - 0:01:00

Contribution to shot: Independent assignment

The framing around this shot is based on the Vermont State Flag

The terrain was made in World Machine- this mountain was first used in my motion capture assignment, "The Elements".

The colourful trees were based on Vermont's beautiful autumn landscapes.

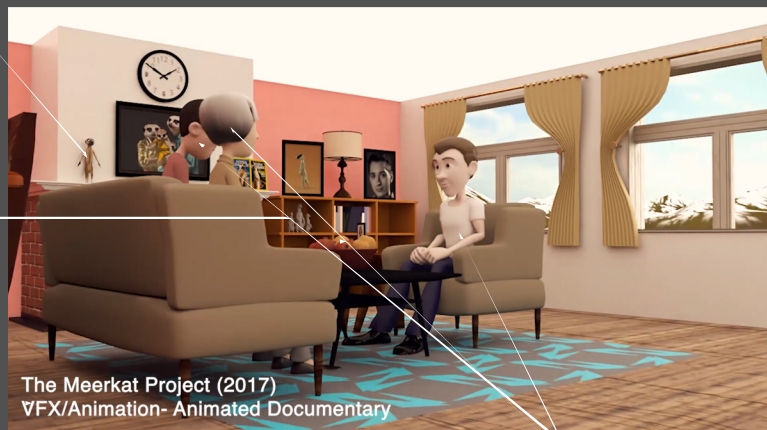
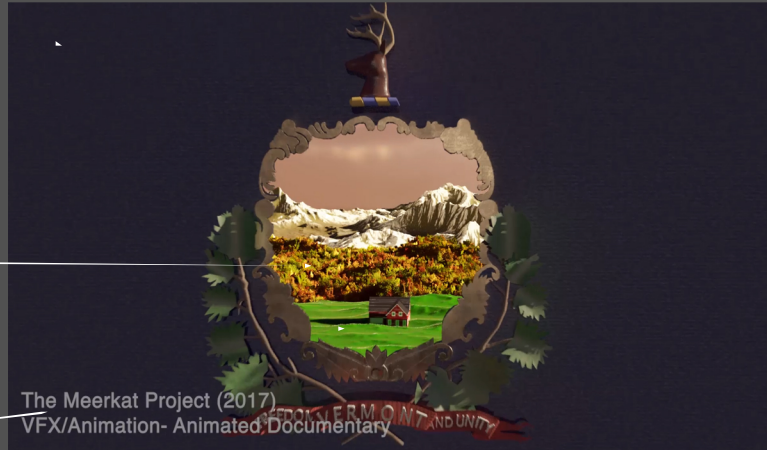
Vermont is a rural area with lots of farms and old style farm houses, so I added that in as well which help open up the story.

In this shot, most of the models were textured with Substance Painter.

This meerkat model was provided by my animation lecturer, which I textured.

The meerkat trio models on the back shelf and the fruits in the bowl were downloaded from the net, but the rest of the 3D assets in this scene was modeled from scratch, using Maya.

In this shot, most of the models were textured with Substance Painter.



The three human character rigs were free to download in the net. But the animation was done by me.

The Elements (2017)

0:01:00 - 0:01:07

Contribution to shot: Independent assignment



The lake and the human meshes were applied with Maya's Bifrost. The motion capture data was cleaned with cortex, following that the trimmed .trc file was imported into motionbuilder to retarget with Motionbuilder's actor puppet. Then the data was exported as an .fbx to go into Maya.

The fog in the background was aifog, and the fog closest to the camera was VFX stock footages, chroma keyed then composited in After Effects.



One of the water humanoid characters made contact with the camera lens, so, I got a greenscreen footage of water droplets dribbling down the frame, then composited it in AE to accompany with the rendered shot.

Facial Capture - Digital Portrait (2017)

0:01:08 - 0:01:13

Contribution to shot: Independent assignment

I modeled 51 FACS blendshapes including the base head in Zbrush, textured it in Mari, then rigged it in Maya. For the facial capture, tracking, and retargeting, we were provided with different softwares from Faceware Technologies Inc. We were given assistance from the AUT Motion Capture Supervisor during the facial capture process, but for the rest of tracking and retargeting pipeline, I carried out the tasks independently.



Antarctica Revealed (2018)

0:01:14 - 0:01:16

Contribution to Shot: Independent assignment

The exact procedures were used like the *Glacialisaurus hammeri* scene.



The Flood Scene (2017)

0:01:17 - 0:01:21

Contribution to shot: Independent assignment

3D tracking was done in Nuke, then the tracked data was imported into Maya for scene setup. For the walls and the doors, I used cubes because it held the water simulation better than planes.

I used Maya's Bifrost for this sequence; this was my first time using Bifrost, so you can see that the water doesn't look the way it's supposed to be. I'm still currently learning in my own time with Realflow and Houdini.

The actor running away was actually roto-scoped in Photoshop. I tried roto-scoping several times in after effects, but Photoshop gave me cleaner and better results.

If I had to remake this scene again, I would try and make the flood simulation in Houdini. And in order for the water to properly interact with the live action environment, I would apply wetmaps to the walls and floor.

And since there's posters on the wall, I would mask out the posters first, then make digital versions of the posters. Following that I would make a simulation of them reacting to the water using ncloth of Vellum.



Antarctica Revealed (2018)

0:01:22 - 0:01:30

Contribution to Shot: Independent assignment

The mountains at the back were images projected onto a plane geometry, roughly shaped to look like terrain. I believe this is a similar procedure when you're doing camera projection for Nuke.

The river bed is a simple plane that has Maya's crater texture applied to the displacement shader.

Cryolophosaurus sneaking upon the hammeri group

Rhoetosaurus brownei

Glacialisaurus hammeri

Coelophysis Rhodensiensis on foreground.

