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About Me

I was inspired to take up engineering as I have always enjoyed construction and model making, and I have an excellent visual memory. I have now studied engineering for 8 years and am currently a CAD undergraduate at the University of Winchester.

During my time in college I studied mechanical engineering, my foundation year at Wrexham University covered climate change and other world issues, and my 3rd year dissertation was on the effect of CAD and future technology on traditional design methods, including the impact of AI.

I also had a design work placement last year at VestGuard UK and I have also volunteered for a charity in the past.

University has given me the opportunity to focus on strengths rather than my disabilities, whilst learning through higher education. I have made new friends and experienced living independently in different geographical locations.

My hobbies include model making and playing strategy games. I have an ongoing personal project using CAD to create armour and other items from Warhammer 40,000.

The Cross of Honour for the German Mother





(Close Photo of the Medal)

This project was for the Earth Museum, an organisation that aims to provide KS3 & 4 schoolchildren a virtual space where heritage and history stories can be shared but it is available to all. I chose to create a medal linked to the National Holocaust centre and museum as I have a personal interest in history and have medals at home awarded to my ancestors from both World Wars.

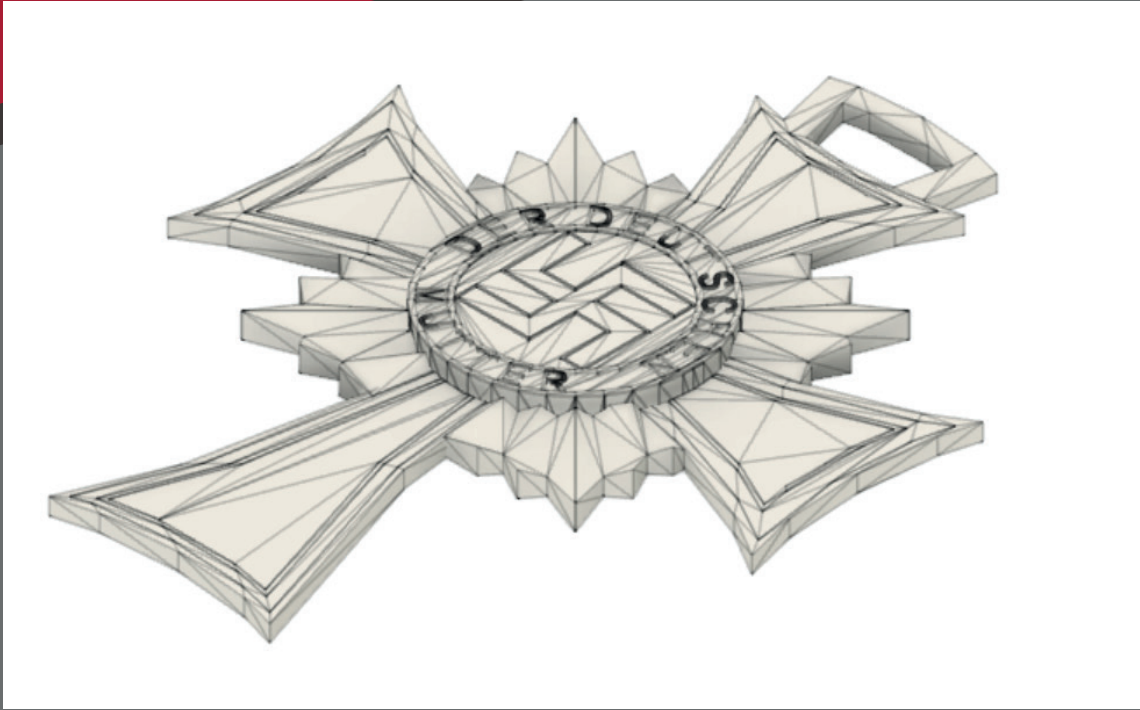
The Cross of Honour for the German mother was an award given to German women by the Nazi party for having large families. The medal was established on the 16th of December 1938 with three different types. I created the bronze medal which was awarded to women who had four to five children. I started the piece on ArchiCAD but then decided to use Fusion 360 instead to finish the piece.



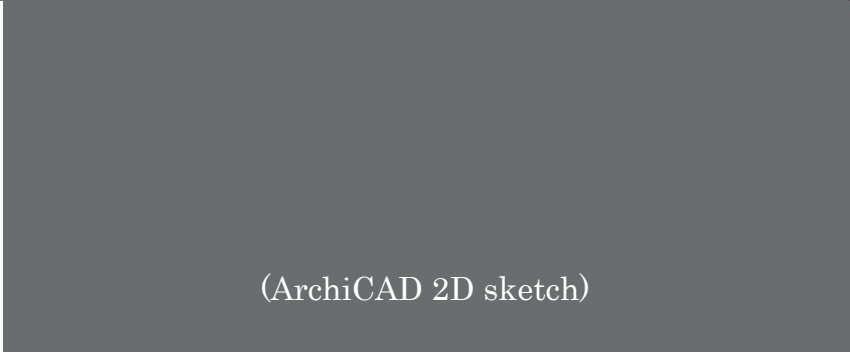
(Medal being awarded)



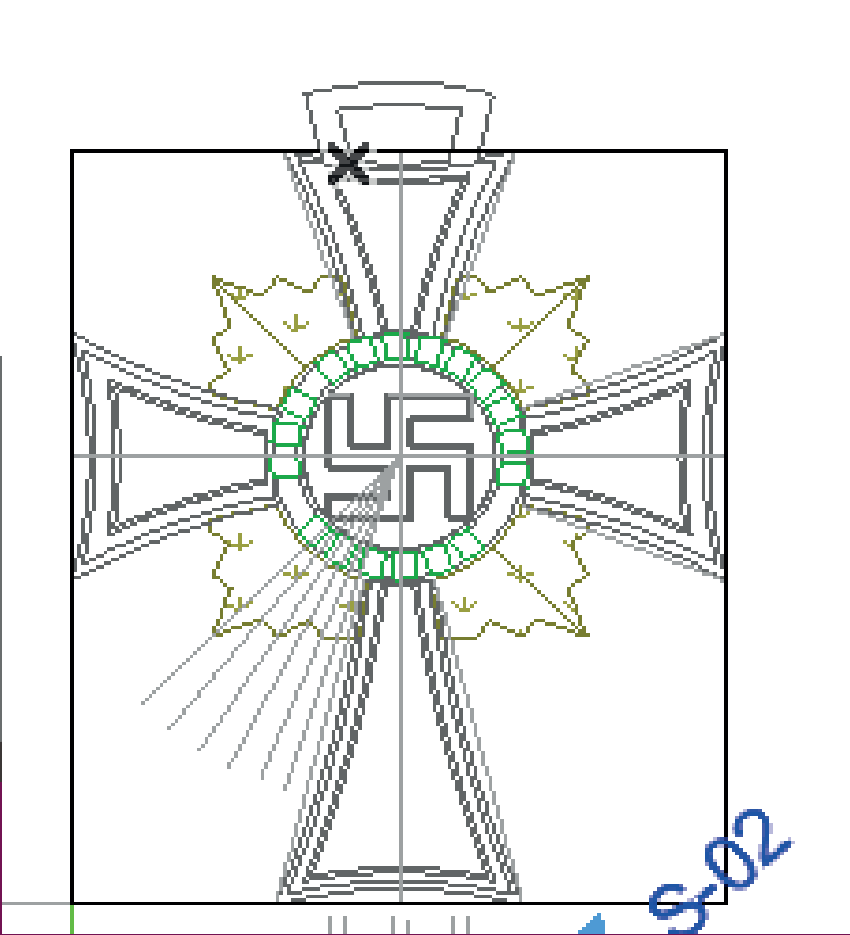
(Front and back of the medal)



(ArchiCAD 3D Modal)

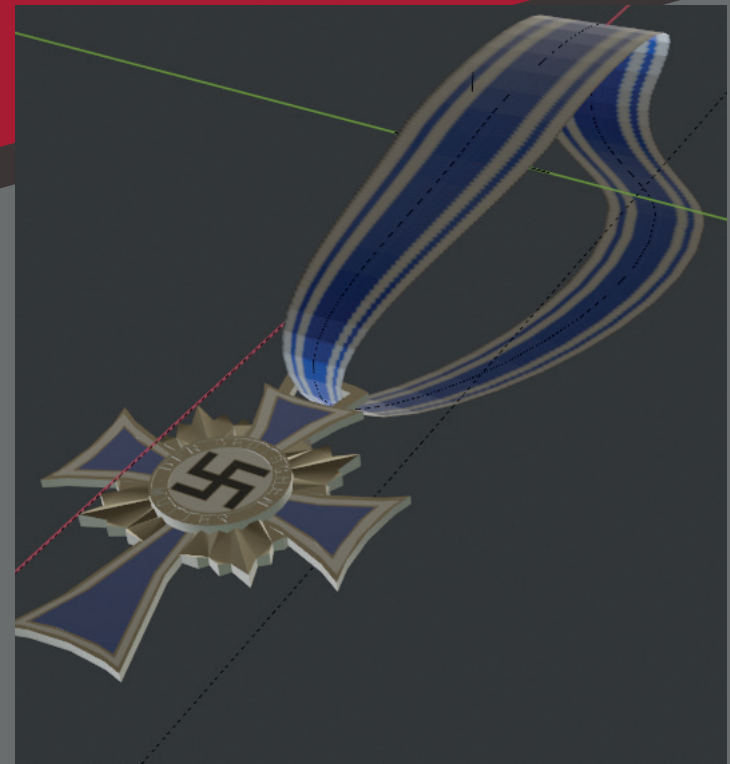


(ArchiCAD 2D sketch)





(Fusion 360 3D model)



(Blender 3D model)



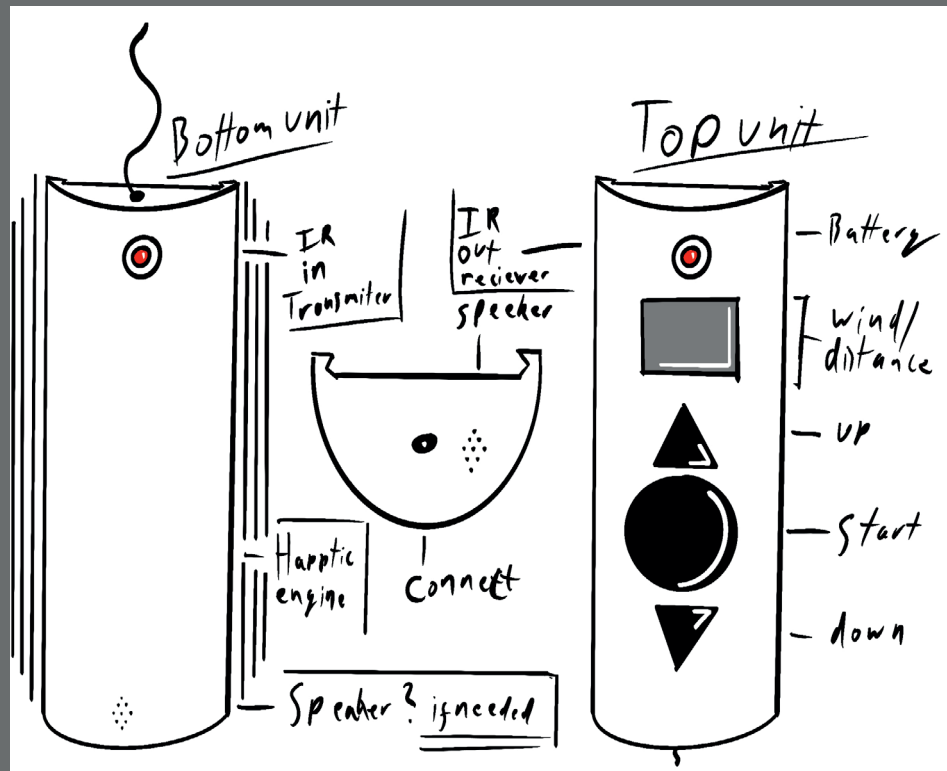
(Medal back engraving)

(Fusion 360 rendered model)



Aimed





(Initial design)

This project was to create a prototype for either a mobile, portable, wearable or integrated device which also had to incorporate a visual or physical interface that would help the user. Our group chose a haptic feedback sensor that would help the visually impaired with archery. The sensor would be attached to their bow.

My role was to create sketches, 2D designs and 3D models of the device from the initial drawing on the left.

I looked at how to fit various sizes of bow and how the device would attach or grip, also how much strength the individual would need to open the grip. I found inspiration from an adjustable spring holder that I use for painting Warhammer figures. Further modifications were made to make the overall piece curved for a smoother feel. I also added rubber to the grip to make it more stable when attached to the bow.

(Model journey)



Problems:
Fixed Holder, only
can fit on one type
of bow. May slip off
the bow



Update:
Charged the design
to allow the holder
to be used on
multiple bows by
having the clips be
changed to spring
adjustable clippers.



Update:
Added rubber
to the clips and
lowered the top
to make the piece
lighter.

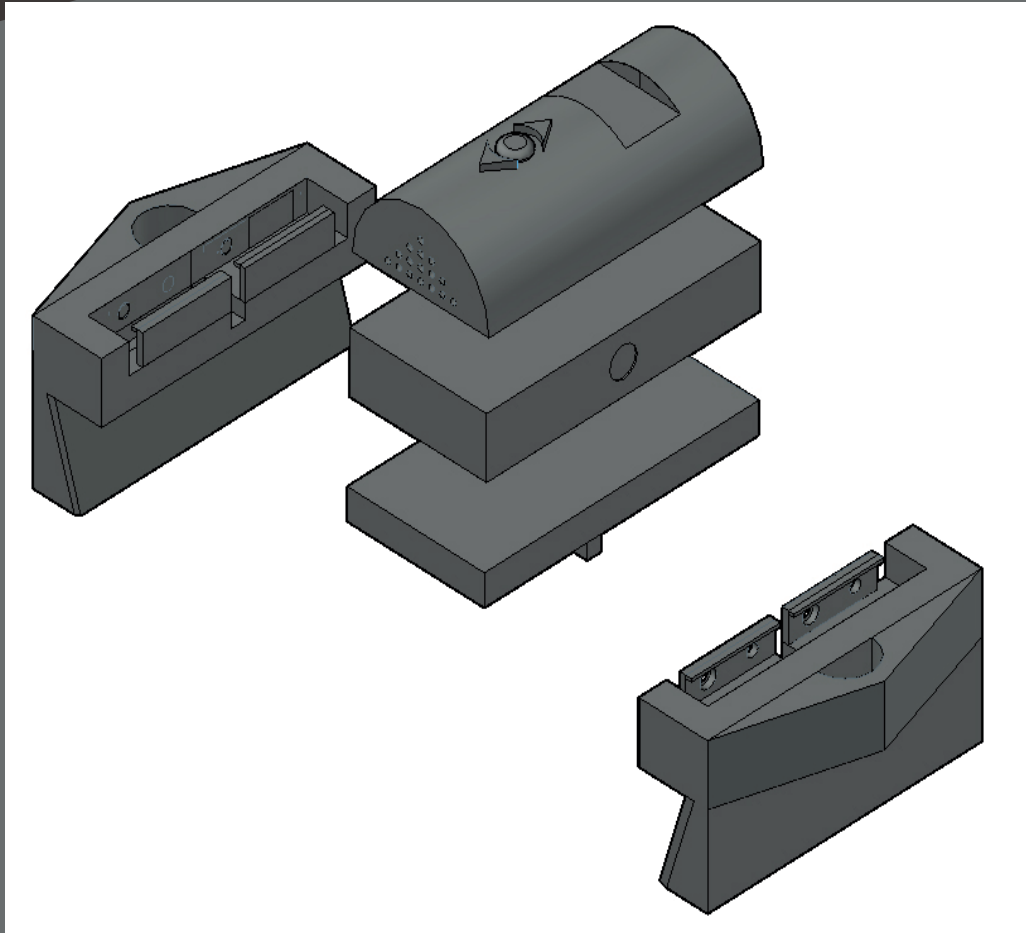


Update:
made the clips
longer with a dent
to open and made
a box section to
hold the battery.

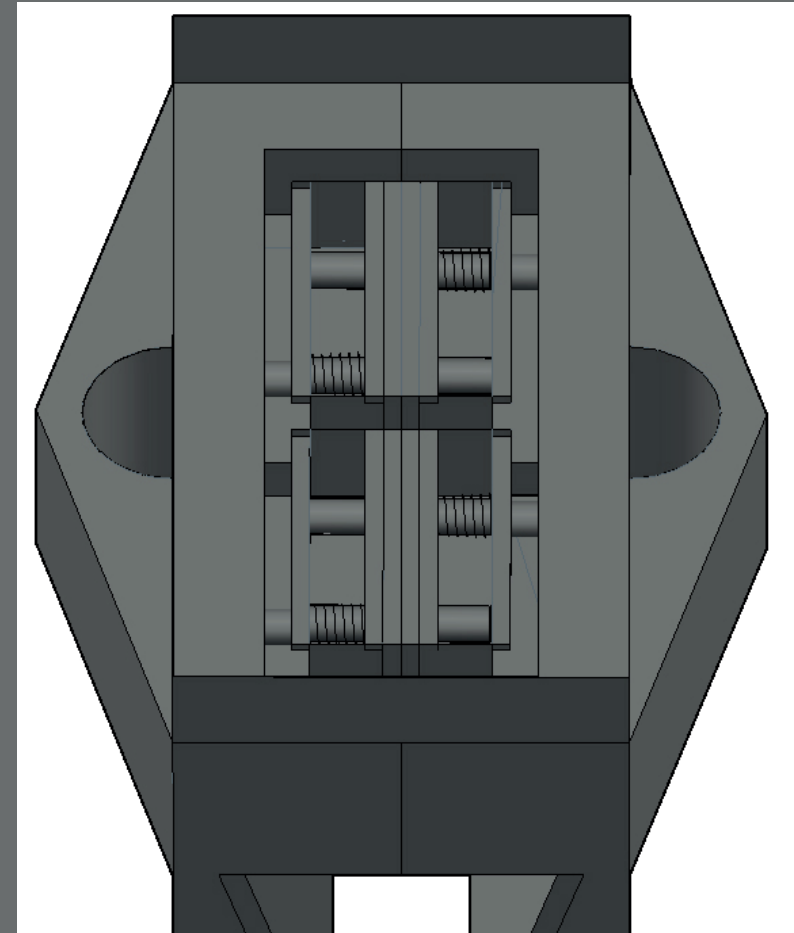


Finished:
added the grips on
the sides of the clips
for easy access,
added a screen
and buttons to the
design as well as
changed the trays.
I have added the
ideal colour to the
piece.

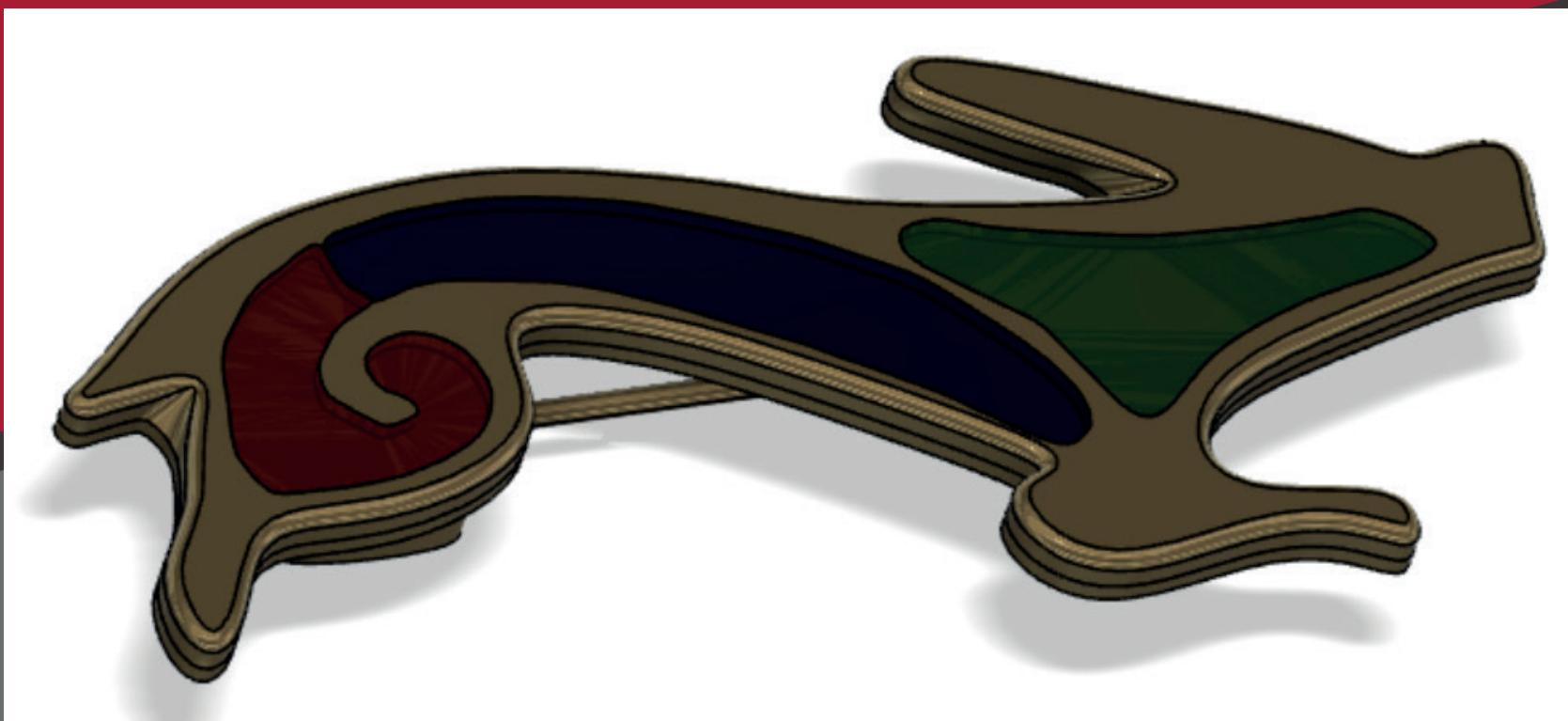
(Model Explosion, AutoCAD)



(Inside the model)



Hare Brooch





(Initial photos of the brooch)

I chose to work again with the Earth Museum in my final year, this time on an artefact from the Isle of Wight before 1066. The piece is called “The Running Hare Brooch” and I thought this would be a good subject for effective modelling.

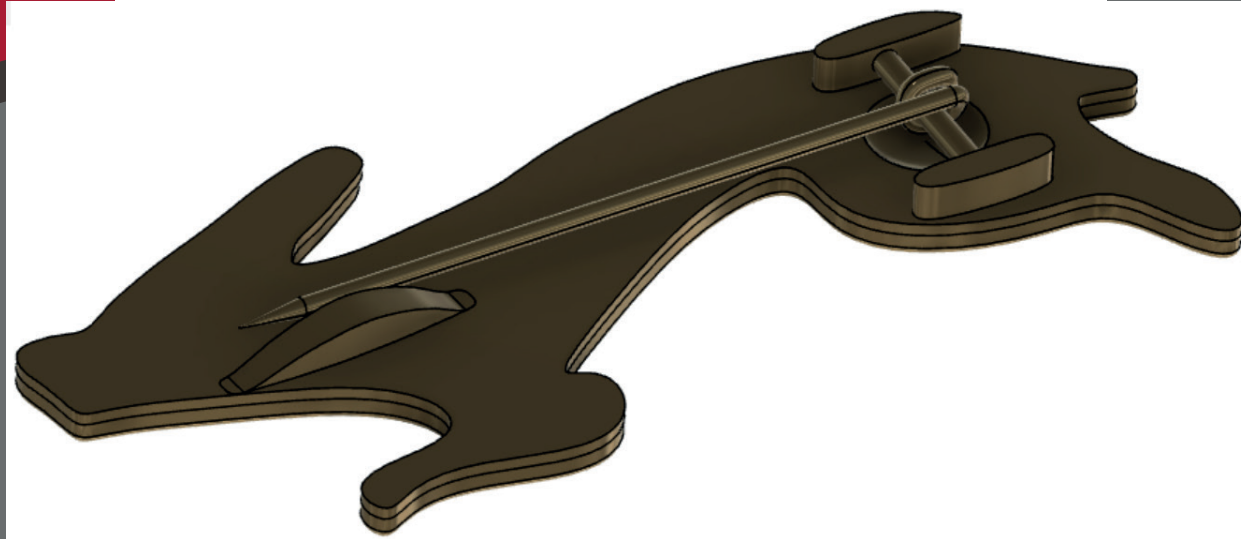
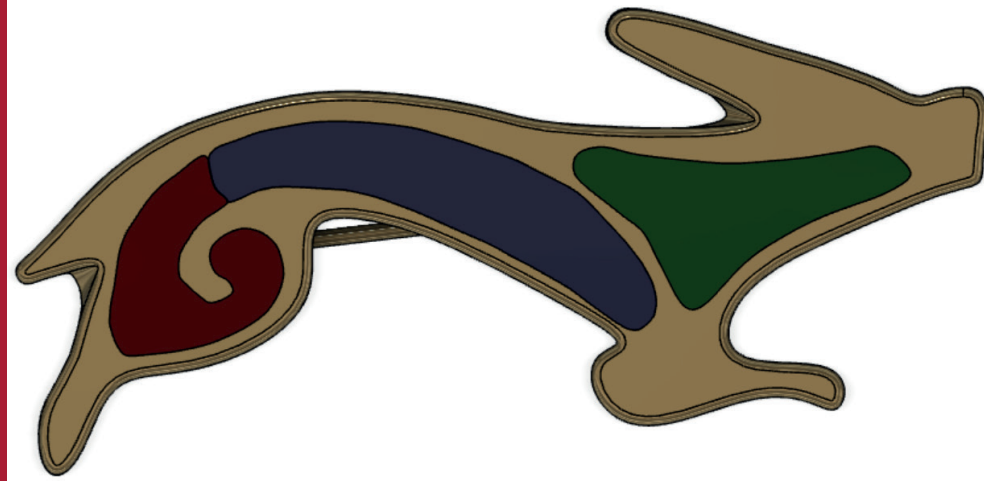
From information provided, it was originally created by a Roman jeweller. In Roman times, the hare was sacred and associated with the moon. This brooch was actually retrieved from an Anglo-Saxon grave.

The brooch is made of bronze, shaped as a hare running, and has 3 enamelled (coloured glass) pieces, in red, blue and green.

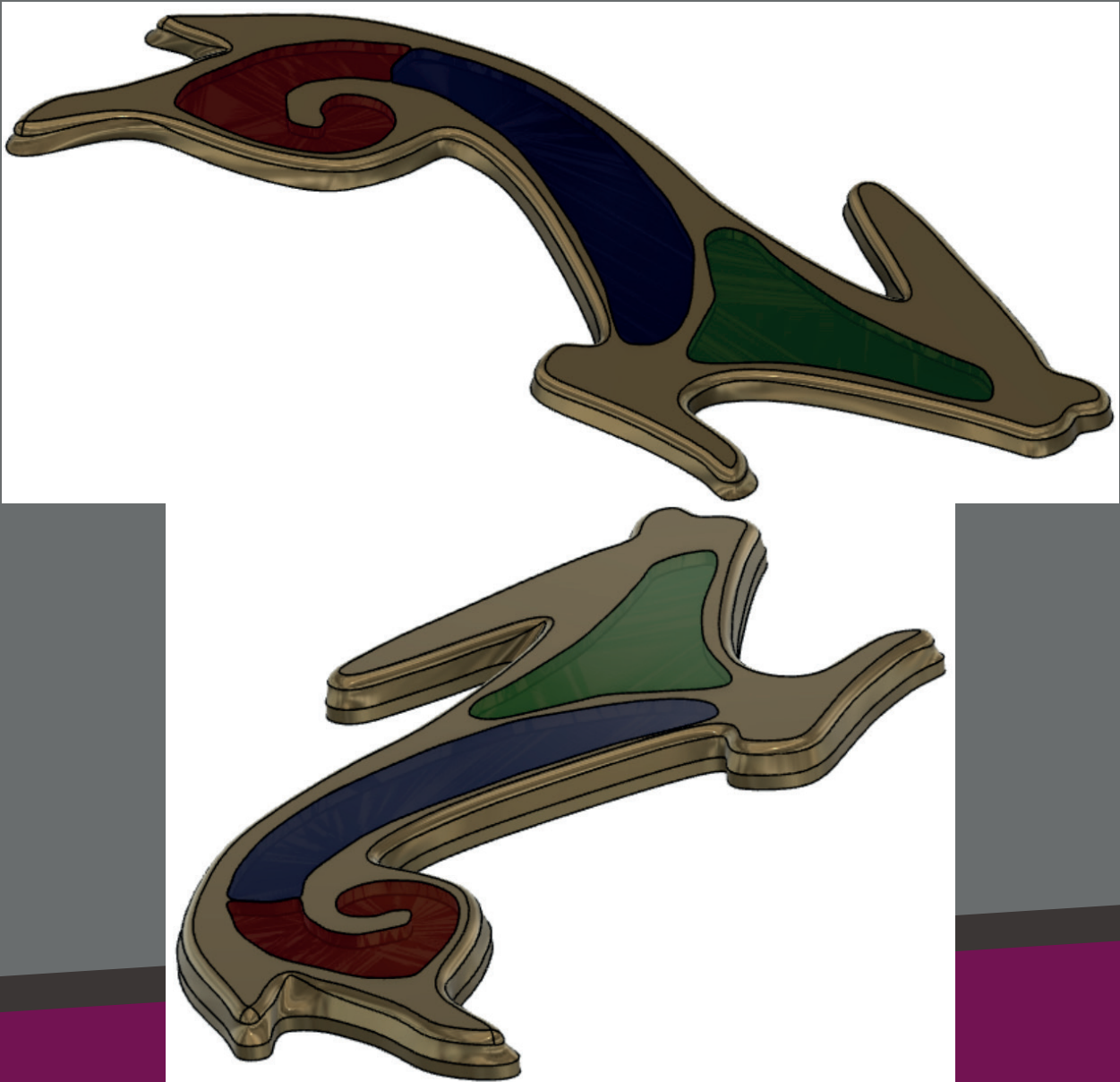
I recreated the Brooch using Fusion 360, which would enable me to become further familiar with the software.

I developed the outline of the brooch, followed by the glass. I used spline for the edges and curves for the brooch. The next stage was to use extrude for the bronze and the glass to the correct measurements. Then it was filled to the edges for the curvature of the design. The final part was to create the pin to finish the model.

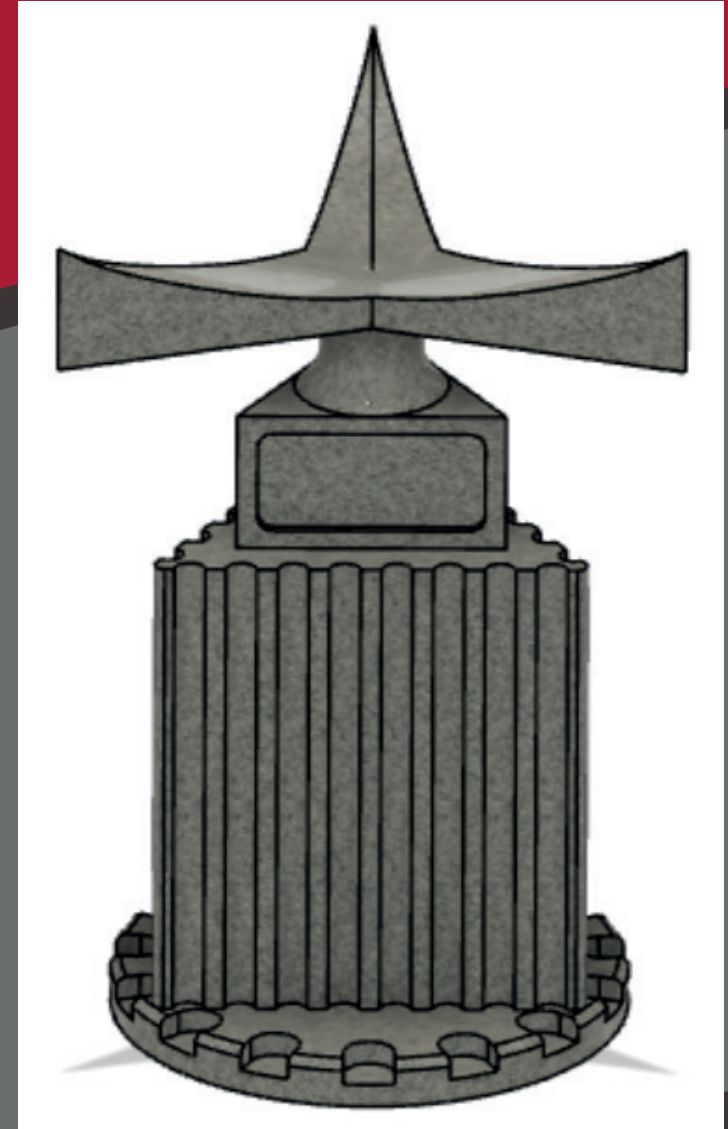
(Fusion 360 top and bottom view)



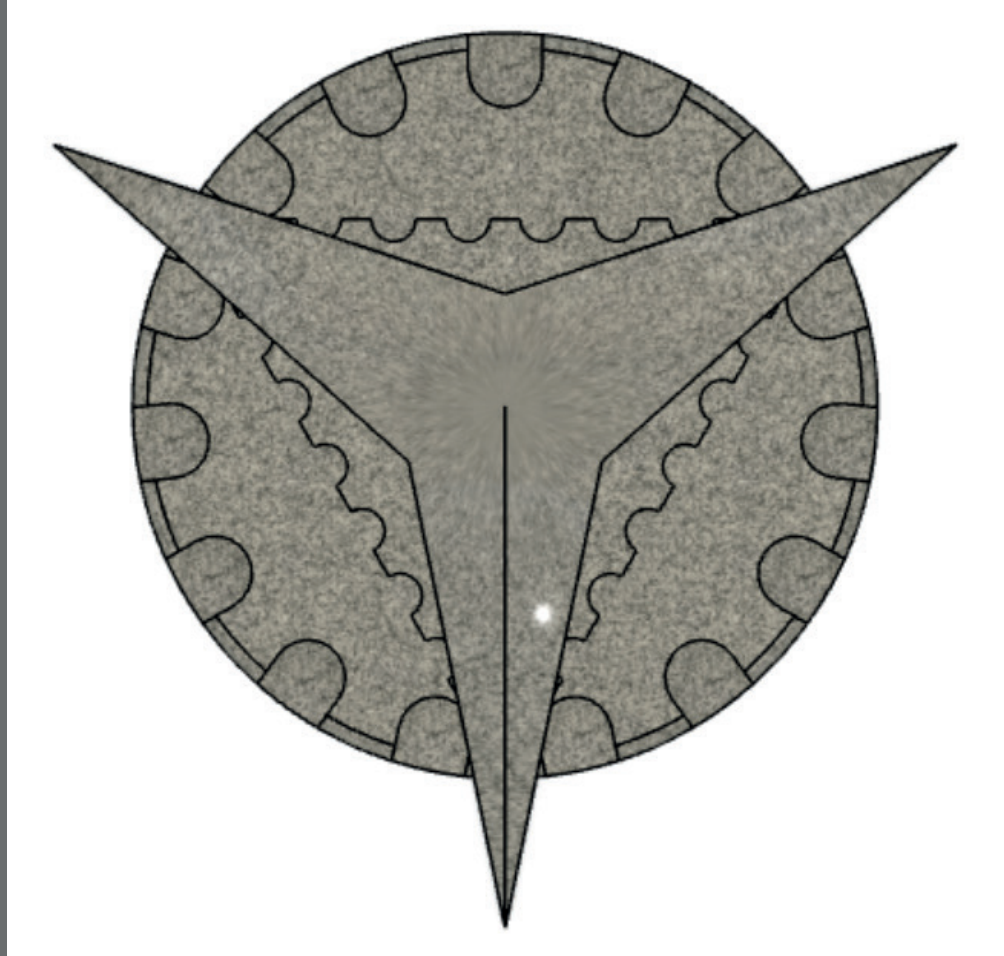
(Fusion 360 extrusions)



Bird Bath

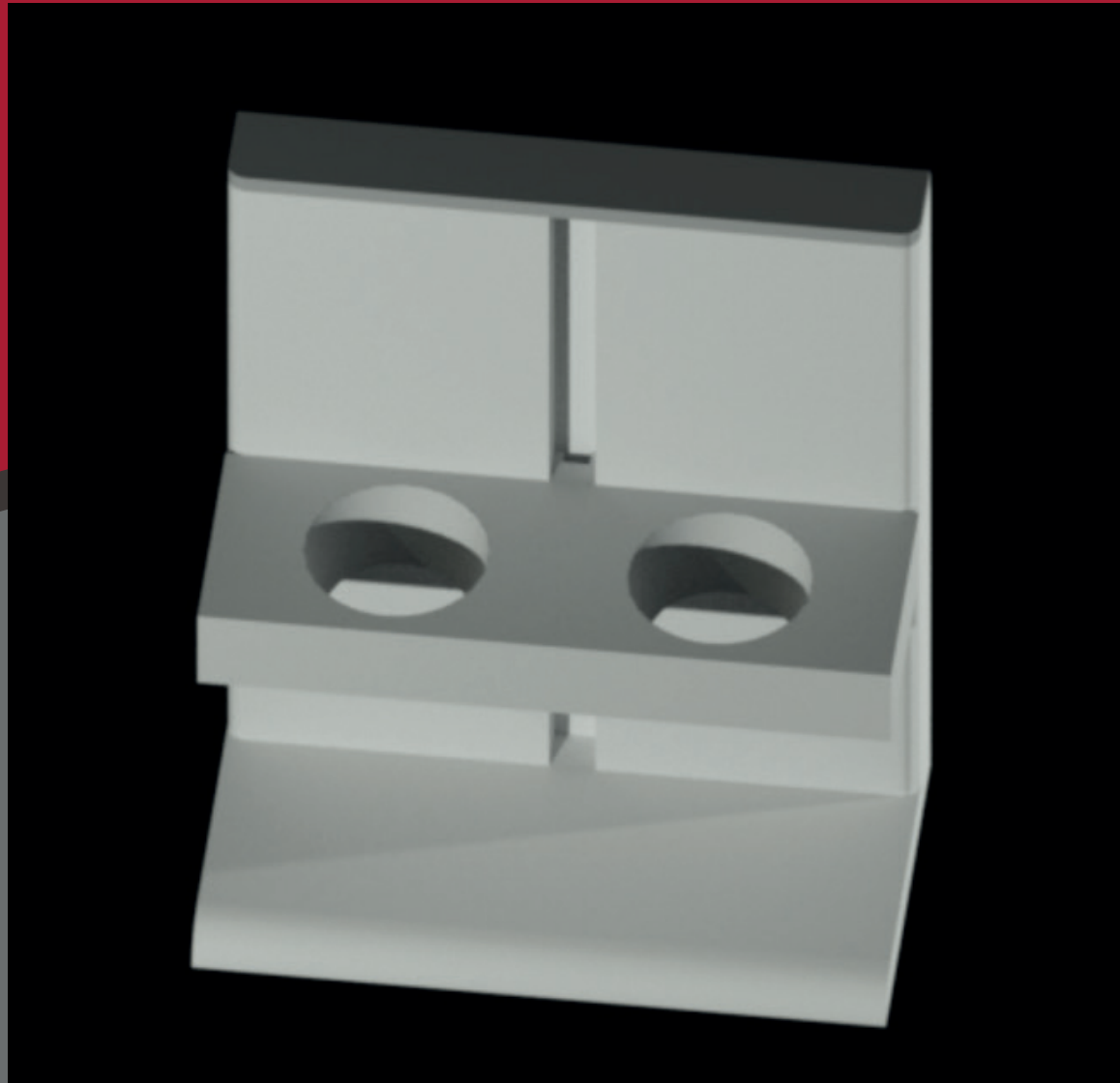


(Top view of the Bird Bath on Fusion 360)

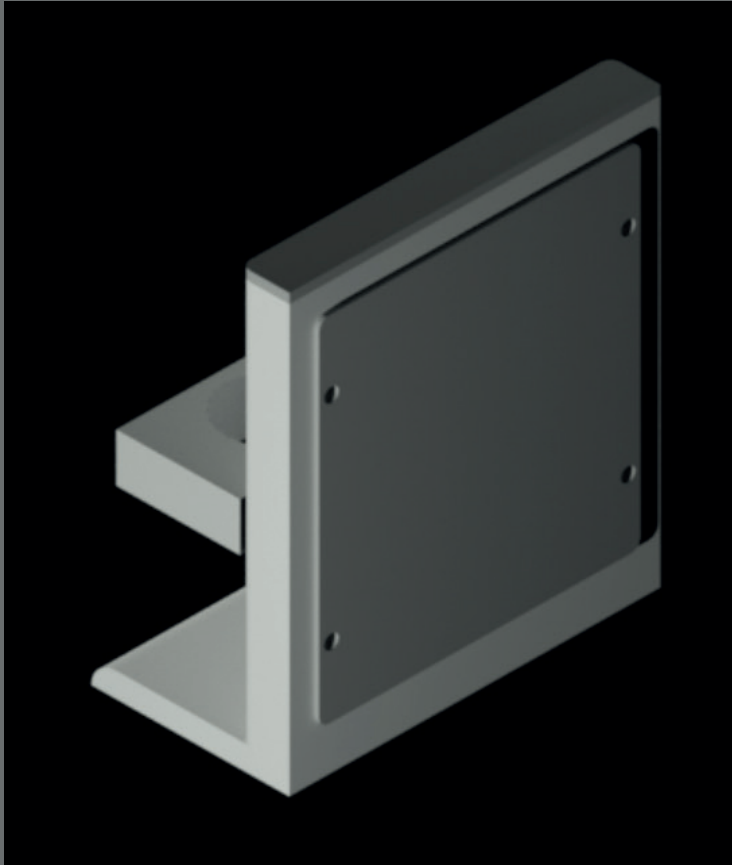


For this exercise I was tasked to make a 3D object using the 2D design provided in PDF format. I copied it into fusion 360 and gave consideration on what design I wanted. Options came to mind were either a font for church or a bird bath for a garden. I proceeded with the design for a bird bath. I started on the base then worked up to the top to make a tripod shape to hold a bowl. I then added detail onto the piece and the last task was to add the material.

Automated Dog Tray



(AutoCAD tray backview)

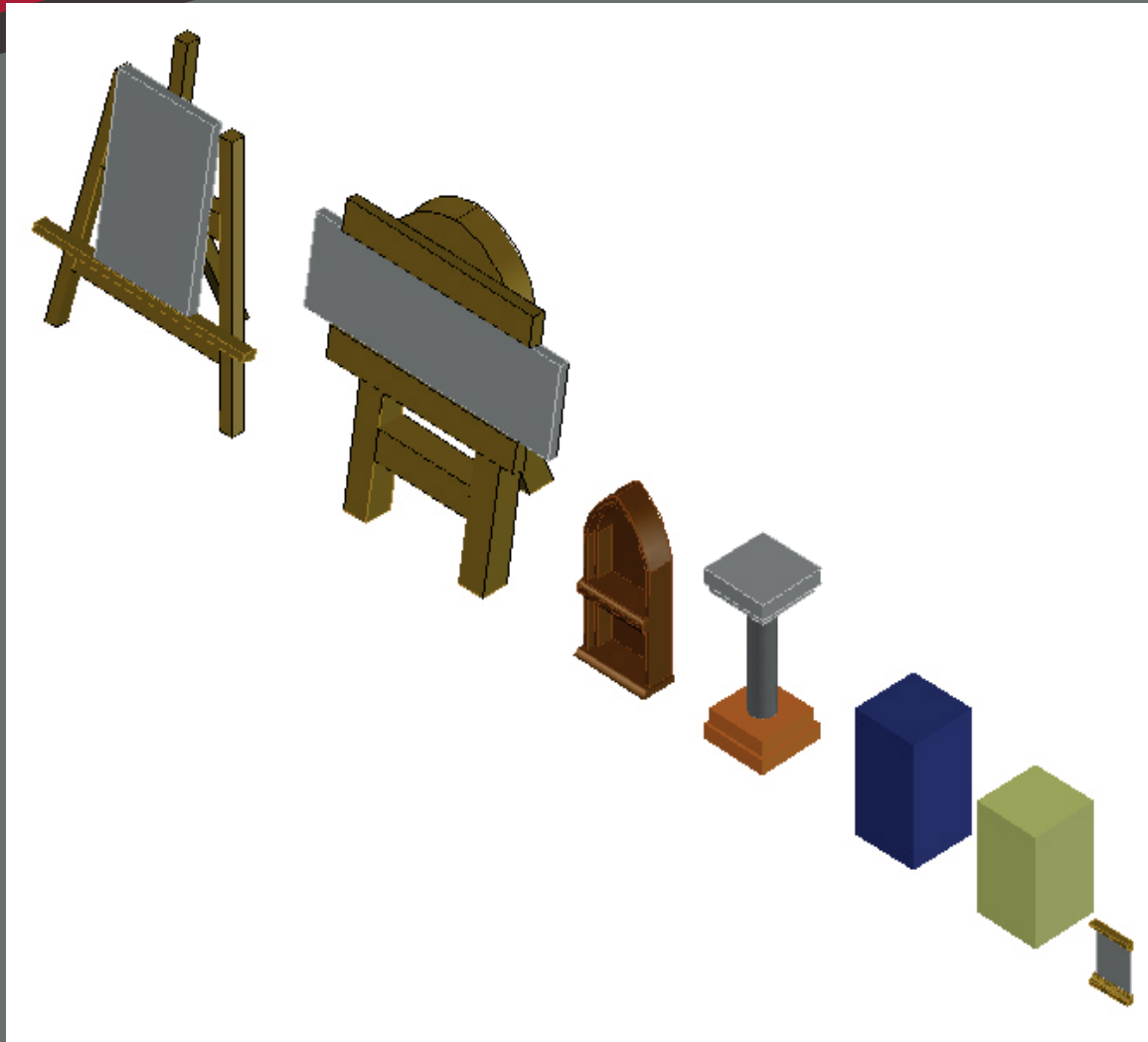


Final year business plan idea. I decided to develop an automatic bowl tray for dogs or other small animals. It was designed to be remote controlled for height adjustment. I named the product the Auto Animal Aider designed to assist humans and pets with mobility issues. This was made in AutoCAD with the thought of continuing in Fusion 360. The evolution of design is shown by the different models produced during the building process in my online website.

Interactive Stands

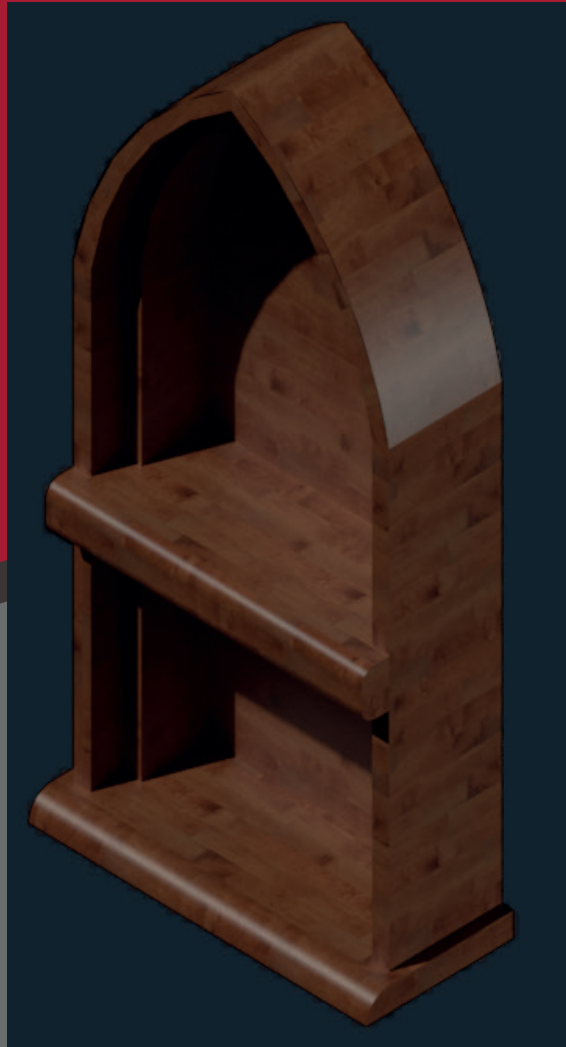


(Full Models on AutoCAD)



The aim of the interactive project was to create an engaging experience through developing an interactive exhibit to be used for the Transmedia end of year exhibition. As a group we decided to call ourselves “The Reality Gallery”. We developed an augmented reality magazine that would display artwork from Winchester students which could be displayed in a 3D view. My role within the project was to create sketches, 2D designs and 3D models to show the different styles of plinths that would be used to display the artwork.

(Shrine on AutoCAD)



(Landscape Art Stand on AutoCAD)



(Portrait Art Stand on AutoCAD)



(Poster on AutoCAD)



(Pedestal on AutoCAD)



(Plinth on AutoCAD)





QR Code To My Website



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Instagram: [Jacksons_Inventa_Designs](#)

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