Public Obscura

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BA Hons 3D Design & Craft 2017

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Introduction

This project presents a public art installation that utilises live imagery as a means to promote positive change in mental wellbeing through social participation and inclusivity.

Anxiety and depression are the two most common mental health disorders in Britain. Whilst there are several drug and therapy treatments available, these are expensive and can be difficult to access. However, there is growing evidence supporting the therapeutic value of Photography in mental healthcare.

My work combines the emotive and personal qualities of photography with the experiential qualities of interactive 3D Design. I have taken the two-dimensional, static art form of photography and made a three-dimensional multi-surface 'camera obscura'. This provides an inverted 360° photo-visual experience. Viewing life in this way, you are one step removed from the scene - allowing the viewer to slow down, observe, and regain control. This experience is designed to encourage people and communities to reconnect with their surroundings.

Using the Camera Obsucra requires no particular skill or knowledge, it is immediate and accessible, providing an unrestricted invitation to play, explore and discover.

Research

spotlight

Therapeutic photography: enhancing patient communication

Using photography with patients to help them express concerns, investigate coping strategies and learn from their peers is known as therapeutic photography. The practice has benefits to both professionals and participants, particularly with 'hard to reach' populations who may feel intimidated or disempowered. Neil Gibson explains how this intervention can be structured in the health setting.

■ photography ■ communication ■ social identification ■ social work

Is a picture truly worth a thousand words? It depends how it is used. The practice of using photography as therapy dates back to the 1850s when Hugh Welch Diamond applied photographic processes to document and highlight the different strains of mental illness he encountered among female patients, believing that capturing a person's appearance in an image also revealed a window into their character (Drinkwater, 2008).

After World War II, photography was used by recovering servicemen for recreation, but therapeutic benefits were also noted, leading to the adoption of the technique in some civilian hospitals to aid recovery from physical and psychiatric illnesses (Perchick, 1992; Glover-Graf and Miller, 2006). Since the early 21st century, the therapeutic use of photographs has been divided into two categories: phototherapy and therapeutic photography.

Weiser (1984; 2001; 2004) offered a distinction between these two approaches, explaining that phototherapy refers to the structured use of photographs in a counselling or therapy session that, by definition, is led by a trained counsellor or

cases, a route to the unconscious (Weiser, 2004). For any practice to be 'therapeutic' there has to be a benefit to the end user in terms of deepening understanding of the self, while enhancing coping strategies and reducing inner conflict (Borden, 2000). Therapeutic photography allows participants to enjoy capturing images, but opens them up to question the image, discuss the content and discover more about themselves as they do so. Because this might involve outcomes, such as self-expression, rehabilitation, healing and empowerment, Halkola (2013) suggested that sessions are best guided by professionals who are able to assist in the emotions that may arise (e.g. health, education and social work professionals).

'Aura of authenticity'

Academic research has recognised the benefits that photography brings to the exploration of lived experience because it has an 'ability to render details, [and] has an aura of authenticity that gives it a unique power and fascination' (Griebling et al, 2013: 17). By structuring this exploration against a socioecological model (Bronfenbrenner, 1986; 1992; 2009) and setting

relationship develops. Body language changes as the participant invites the facilitator to lean in and see the image; eye contact is no longer focused on each other and becomes preoccupied with the photograph, making it easier to talk freely. The participant becomes the expert of their situation as they have chosen what to photograph, what to show, and what to say about the image, meaning they demonstrate greater control within the therapeutic milieu. With control comes confidence and the ability to engage in a conversation with a facilitator, who is showing a genuine interest in the photograph. These benefits increase again when a facilitator runs therapeutic photography sessions with groups of participants as peer learning enhances the outcomes.

Social identity theory describes the process of individuals enhancing their identity through perceived membership of social groups, where learning about the self becomes strengthened when listening to experiences of other group members (Tajfel and Turner, 1979). Identity theory deepens the process and recognises a reflexive element wherein individuals begin to compare themselves against other group members and define roles within their lives (Stets and Burke, 2000; Stryker and Burke, 2000). Through sharing images in a therapeutic milieu, by guiding one another on appropriate levels of disclosure, and by sharing a common interest in photography, the group bonds and asserts identity and commonality.

'Hard to reach' patients

Because of the aspect of control that the participant experiences, therapeutic photography can be particularly suitable for individuals who are 'hard to reach'. When patients, clients and service users come into contact with professionals, they are all too often asked to verbalise their issues; with therapeutic photography, a visual element is also provided which is often a much needed support to enable the verbal information to come out. Professionals dealing with patients who have been through significant change may find this technique useful, particularly in the field

also underpins the application for associated health professionals, such as occupational therapists and physiotherapists, who need to work with patients to put supports in place when someone is discharged from hospital, or coming to terms with a change in circumstance. The ability of a patient to visually document their own situation, highlighting areas where they incur difficulty, alongside areas where they can function with relative ease, provides the professional with valuable, personalised data to help shape appropriate support.

So, is a picture worth a thousand words? With therapeutic photography, it may well be a catalyst for a patient to say a thousand words. JKC

References

Borden W (2000) The relational paradigm in contemporary psychoanalysis: toward a psychodynamically informed social work perspective. *Social Service Review* **74**(3): 352–79

Bronfenbrenner U (1986) Ecology of the family as a context for human development: research perspectives. *Developmental Psychology* **22**(6): 723–42

Bronfenbrenner U (1992) Ecological systems theory. In: Vasta R, ed. *Six Theories of Child Development: Revised Formulations and Current Issues*. Jessica Kingsley Publishers, London

Bronfenbrenner U (2009) *The Ecology of Human Development: Experiments by Nature and Design*. Harvard University Press, Cambridge: MA

Drinkwater M (2008) Photography and mental health: a relationship kick-started by Hugh Welch Diamond. http://tinyurl.com/gv59fvs (accessed 4 January 2017)

Glover-Graf N, Miller E (2006) The use of phototherapy in group treatment for persons who are chemically dependent. *Rehabilitation Counseling Bulletin* **49**(3): 166–81

Griebling S, Vaughn LM, Howell B, Ramstetter C, Dole D (2013) From passive to active voice: using photography as a catalyst for social action. *International Journal of Humanities and Social Science* **3**(2): 16–28

Halkola U (2013) A photograph as a therapeutic experience. In: Loewenthal D, ed. *Phototherapy and Therapeutic Photography in a Digital Age*. Routledge, London

Oliffe JL, Bottorff JL (2007) Further than the eye can see? Photo elicitation and research with men. *Qual Health Res* **17**(6): 850–8. https://dx.doi.org/10.1177/1049732306298756

Perchick M (1992) Rehabilitation through photography: The power of photography as physical and emotional therapy—Contribution of Josephine U. Herrick's volunteer service photographers organization to teaching photography to wounded World War II servicemen. *PsA Journal* 13–15

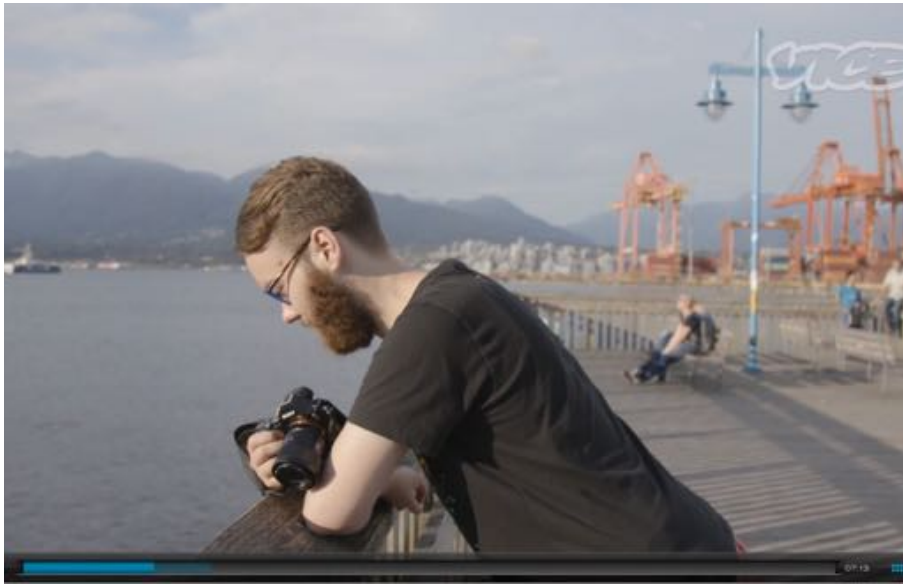
Sitvast JE, Abma TA (2012) The photo-instrument as a health care intervention. *Health Care Anal* **20**(2): 177–95

Smith BK, Frost J, Albayrak M, Sudhakar R (2006) Facilitating

Benefits:

- Exploring self, identity and memories
- Acts as a distraction
- A means of creating order
- Encourages sharing, storytelling and dialogue
- Overcomes barriers to verbal expression
- Provides opportunities for play
- Confidence and self-esteem

'Therapeutic photography allows the participant to enjoy capturing images, but opens them up to question the image, discuss the content and discover more about themselves as they do so.'



What It's Like Treating Depression and Anxiety Through Therapeutic Photography

More Parts:

We travel to British Columbia to meet Bryce Evans, a young photographer who learned to treat his depression and anxiety by expressing himself with his camera. After receiving his first camera in 2009 and discovering a new outlet for his struggles, he began using his creativity and passion to not only help himself but others.

Bryce founded The One Project, a platform created by a young community of likeminded people who are sharing their struggles and work through events like photowalk meetups, which bring people together and get them offline to overcome things like social anxiety.

We also dive into how photography is a more meaningful way of therapy to millennials in our current visual-based culture.

[redacted] posted a photo **1 week ago**

Technically speaking, this isn't a "good" photograph. That makes sense, because technically speaking I'm not a photographer. At all. At least, not a photographer caliber I'm seeing here. But that's okay, because to me, this photograph is peace, peace is not something I find often. After one of the worst days I've had in a whil project popped up somewhere while I was mindlessly scrolled and I was immedi drawn in, just like I've always been drawn to photography as a form of expressio excited to see where this ends up, and where I end up. Hopefully somewhere pe

[redacted] posted a photo **4 days, 20 hours ago**

#4 Transparent

I have been reading some other comments and I have felt very identified ir way I feel when going through depressive or anxious moments… and remi this self-portrait I took once by chance… I was playing with long exposure was almost night and when I looked at it, reminded me of something a shar told me a couple of… [Read more]

[redacted] posted a photo **3 weeks, 1 day ago**

When I see a tree, I always think about what its roots look like underneath the soil. Maybe it looks the same as outside the soil,except outside there is sunshine and pretty leaves.

But not in the cold and dark season, when the tree is stripped bare.
Maybe that's how we all are.
We look pretty on the outside to everyone else, until the cold, dark season when we must go back to our roots.

[redacted] posted a photo **5 days, 21 hours ago**

Sometimes I feel like a fraud, sometimes I get so caught up in what others and don't see in me.
I tend to fixate on the bad things and not the good I can do.
Lately I've been having a really horrible time, gained a lot of weight, obtai bad habits and closed myself off from the rest of the world.

I've felt somewhat like the flowers in this… [Read more]

Bryce Evans is an example of how valuable photography used in therapy can be. He created a social networking site for people experiencing similar emotions to connect and share images.

Photography tackling mental health

Phototherapy

"Traditionally, the portrait is typified by the notion that people can be represented by showing aspects of their 'character'. We understand the portrait differently. Instead of fixity, to us it represents a range of possibilities which can be brought into play at will, examined, questioned, accepted, transformed, discarded. Drawing on techniques learned from co-counselling, psycho-drama and the reframing technique we began to work together to give ourselves and each other permission to display 'new' visual selves to the camera."

Rosy Martin and Jo Spence

It's Hardly Noticeable

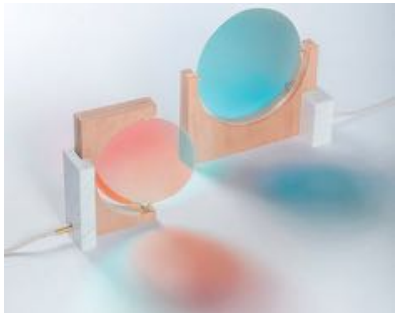
It's Hardly Noticeable explores the world of a character who navigates living with an unspecified anxiety-based mental illness. He negotiates situations constructed to highlight the impacts and implications of his differences on his thoughts and behaviours, and by doing so raises question of normalcy. Through constructed tableaus and metaphorical still lifes, the series reveals the relationship between reality and perception, and highlights issues of pathology while questioning stereotypes of normalcy.

John William Keedy

Design tackling mental health

Firdaws Fourcroy

Homemade Schizophrenia cutlery designed to increase empathy for “abnormal” behaviour. The designer felt that the care for schizo-affective disorder was too focused on reducing so called “abnormal” behaviours. The cutlery set is deliberately difficult to eat with. Patients experience a combination of symptoms including manic and depressed moods, halluncinations and changes in behaviour.



Elenore Delisse

Day and Night light designed to tacle winter blues. The light uses different wavelengths of light to create varying colours, intended to help regulate the body's circadian rhythm. Changes in this rhythm triggered by falling lights level in autumn and winter can cause seasonal affective disorder (SAD) – a cyclic form of depression that affects millions of people every year

Enhancing Our Outdoor Spaces Through Interactive Public Art

An increasing number of places are creating interactive public spaces through public art, sculptures, fountains and multimedia screen usage to enhance community gathering by attracting people to cluster around in open spaces.

ART TERM

INSTALLATION ART

The term installation art is used to describe large-scale, mixed-media constructions, often designed for a specific place or for a ...

ART TERM

INTERACTIVE ART

Interactive art describes art that relies on the participation of a spectator

ART TERM

PUBLIC ART

The term public art refers to art that is in the public realm, regardless of whether it is situated on ...

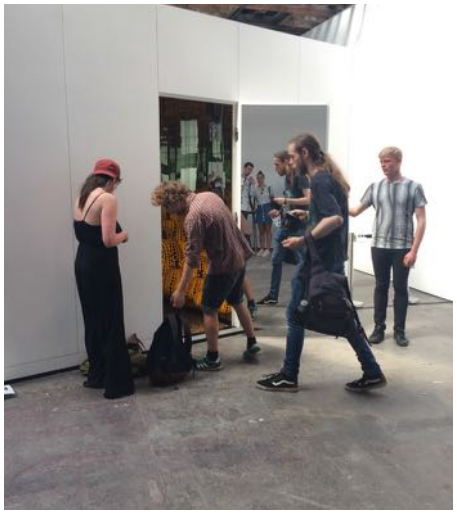
Designing Public, Interactive, Installation Art

Installation art, interactive art and public art share certain similarities.
In the modern world where so many different art forms have been born, developed, explored and even forgotten over time, almost no other manifestation of art is so impressive and instantly mesmerizing as Installation art. When you walk into a room where the majority of the space around you is actually a part of the artwork, you yourself become part of the art. When you see something that shouldn't quite be there and stands out in an obvious manner, and yet somehow fits in the surroundings in a peculiar way, you're probably looking at another piece of art made by installation artists. It offers so much more than a traditional painting, sculpture or any other kind of creativity would. It may engage you on multiple levels, activating your senses to experience art in a new way; touch, sound, smell as well as vision are explored to convey the artistry of installation. Often, the focus is centered on the idea and the impact of it, rather than the quality of a finished product. Usually, Installation art is a purely temporary work of art, but its impact, message and the notion behind it remain forever.

All the Eternal Love I Have for the Pumpkins, Yayoi Kussama 2016

Mariano Dallago Camera Obscura 2012

The Great Eye was built by artist and sculptor Ben Coode-Adams 2012



Martin Creed, Haywood Gallery 2014

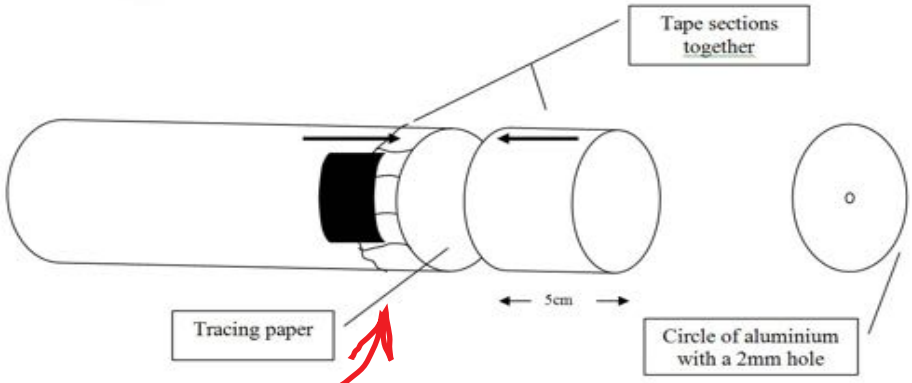
Ann Veronica Jessens - States of Mind 2015

Yayoi Kussama has been dubbed the world's most popular and most Instagrammable artist. But should social sharing be encouraged or is art now just a tool for our narcissism? Is the experience any longer really about art about looking at, thinking about, emotionally responding to something beautiful, provocative or disturbing, allowing it to change our understanding of the world or to enrich it? The risk is that art, instead, becomes a mere tool of our narcissism.

Experimentation

Building a Camera

I started by building a camera in its simplest form.



This first attempt at a camera obscura was succesful but the image produced is very dark. The camera has to be pointed into bright light for any image to even appear. This is not ideal. The tube obscura only uses a pin hole. This is the reason the image produced is not very bright. It is also rather large and unpractical to carry arround. But works well as a simple tester model.

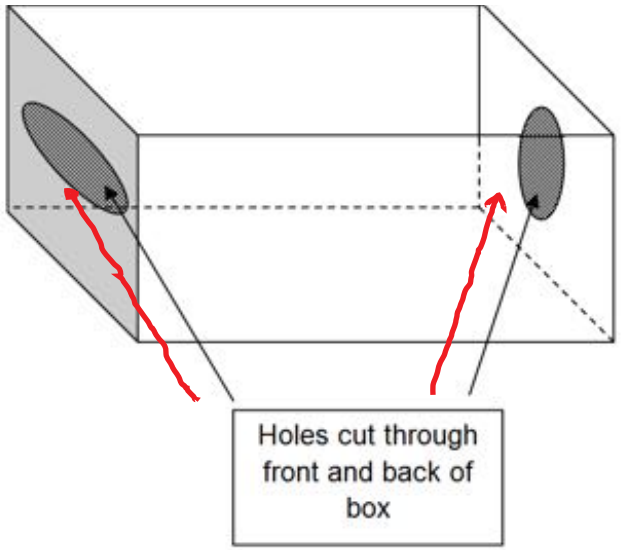
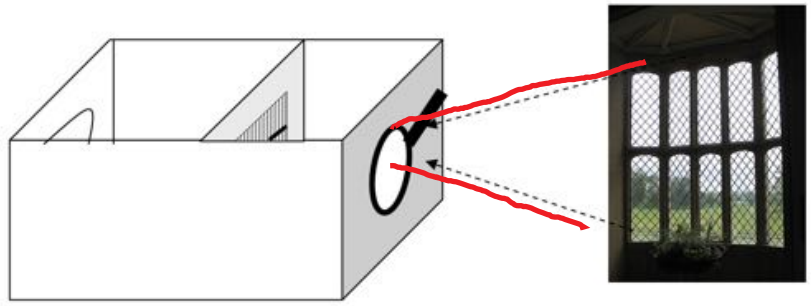
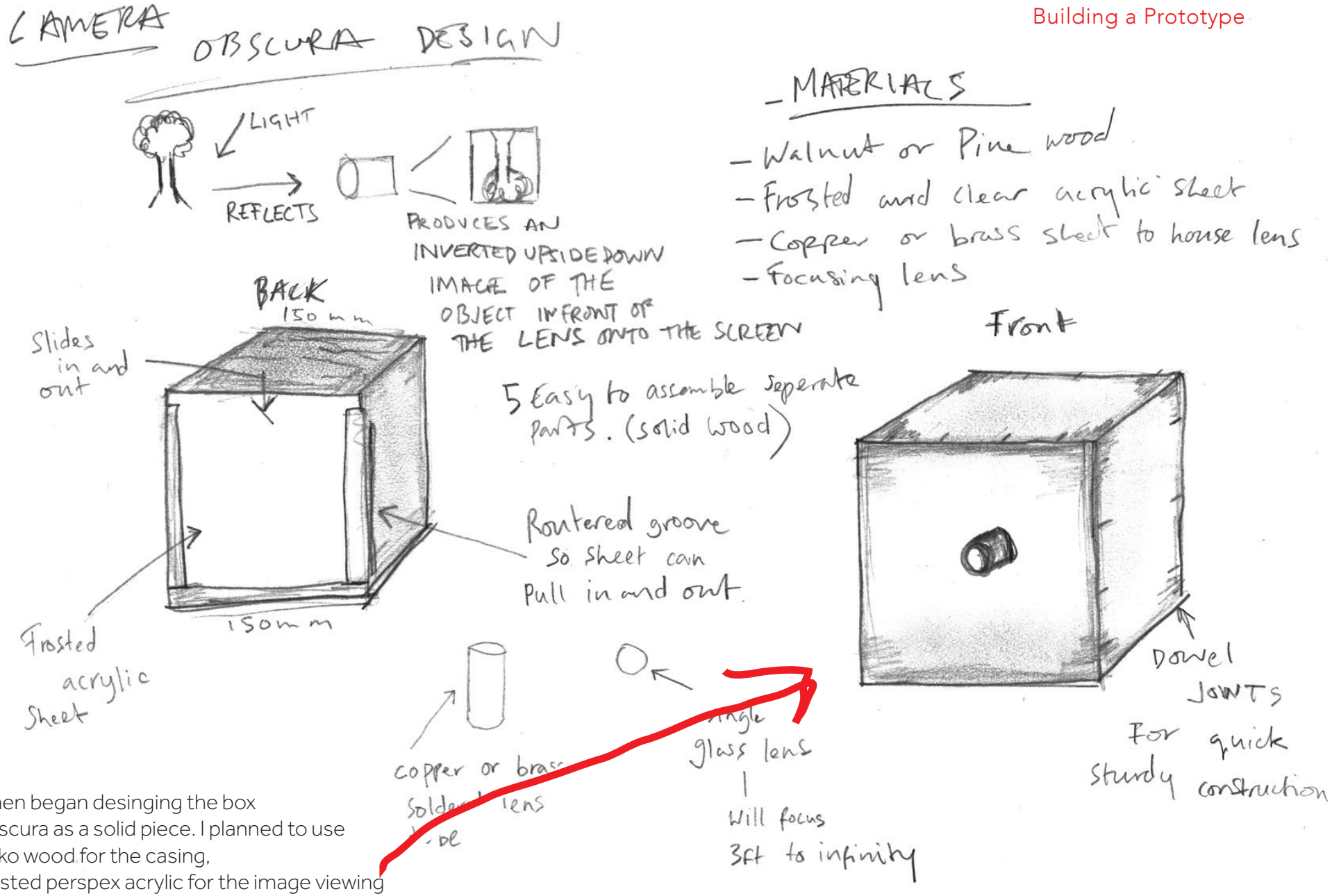


Image created from box obsucra. Photographed digitally with Iphone.



The box obscura uses a maginfying glass as a lens allowing much more light in and producing a brighter more focused image. Light enters the maginfying glass and reflects the image upside down on the sheet of tracing paper

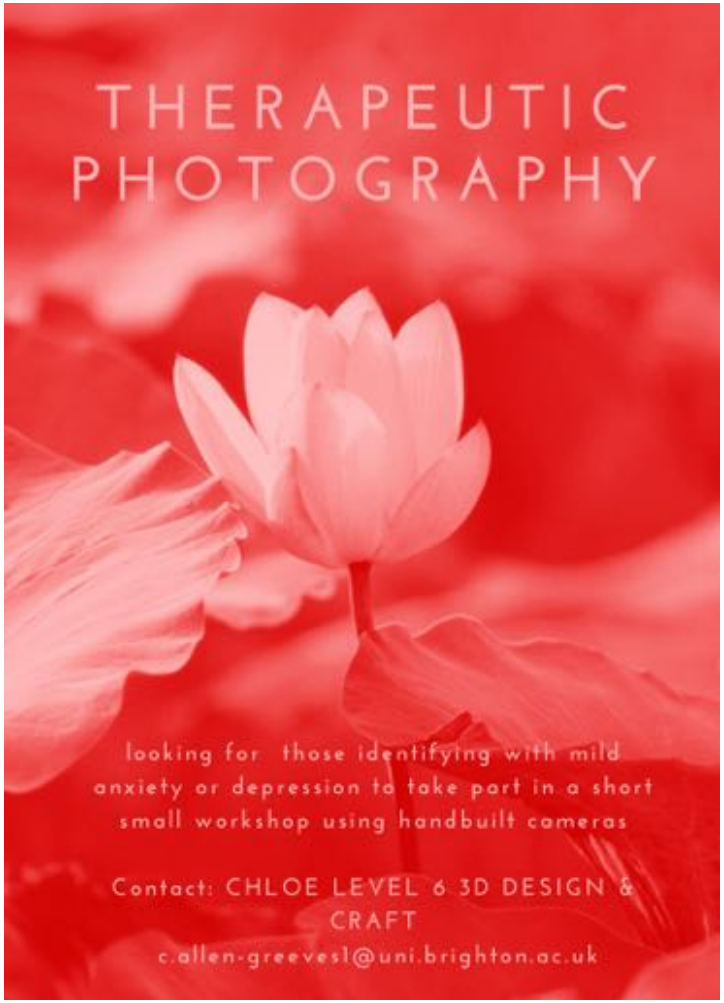
Inside the carboard box obscura



I then began desinging the box obscura as a solid piece. I planned to use Iroko wood for the casing, frosted perspex acrylic for the image viewing plate and copper tube to house the lens.

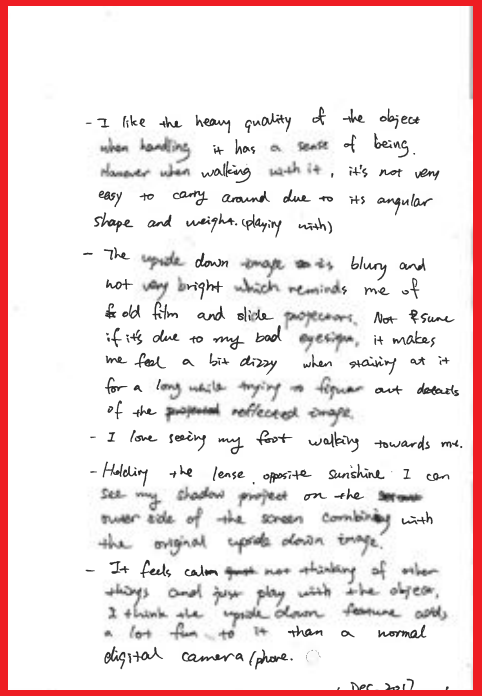
The proposition piece was successful however I felt that the aesthetics of the piece were completely wrong and did not reflect the project. The use of dark hardwood imitated the first cameras back in the 1800s.

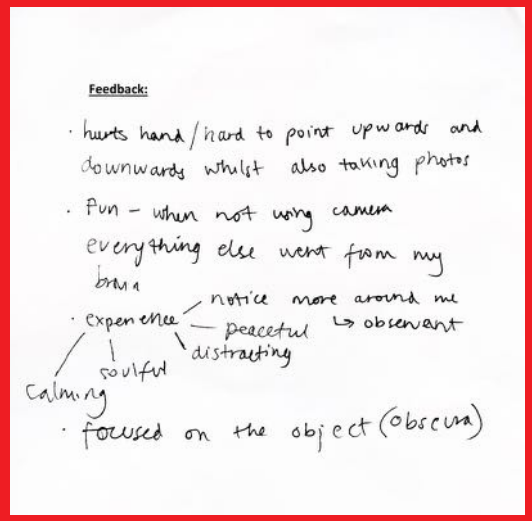
John Dillwyn Llewellyn who took some of the earliest photographs of the moon in 1857.

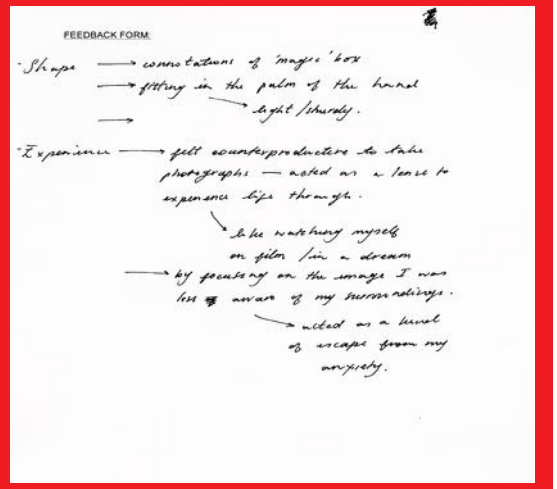


The next step in my research involved gathering a group of volunteers. So I set up an open call for participants to test the camera so to gain feedback on how to progress my research further. Here is the poster I designed for the workshop.

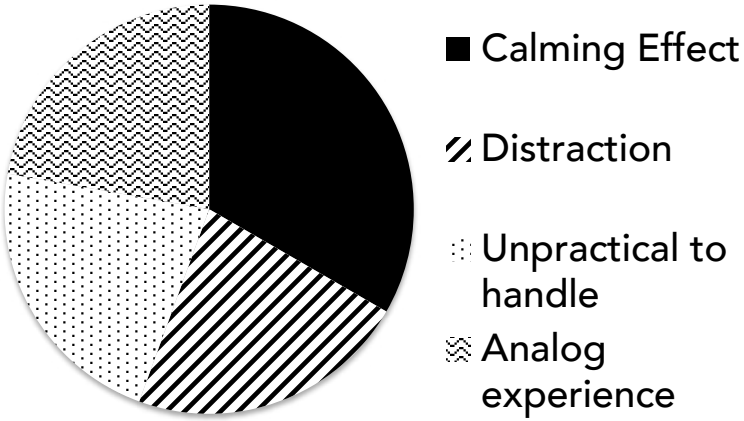
Prototype Testing Feedback







Feedback Pie Chart

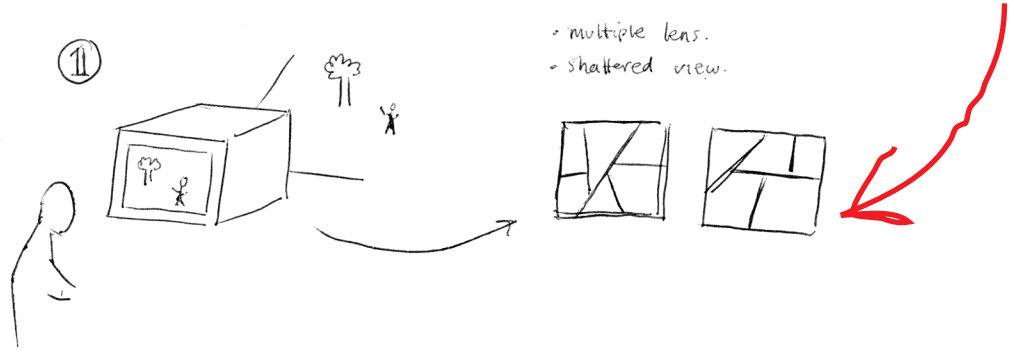


Evaluation

- Three out of three said they found the experience to have a calming effect on their mood.
- Two out of three said it offered a distraction from their anxiety.
- Two of three said that the prototype was difficult to handle.
- Two of three said it reminded them of analog film, sparking a feeling of nostalgia.

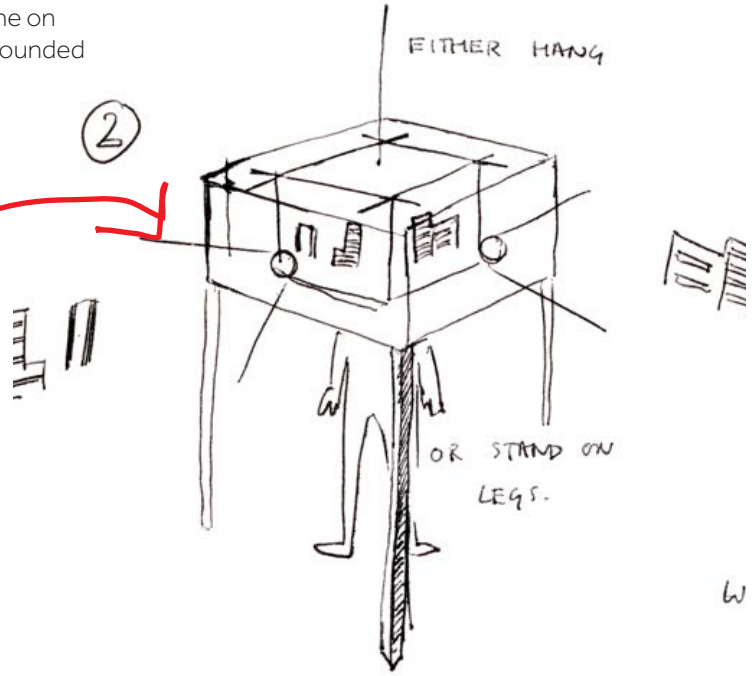
Large Scale models

This obscura contains mutiple lenses on one face creating a cracked mirror like illusion.

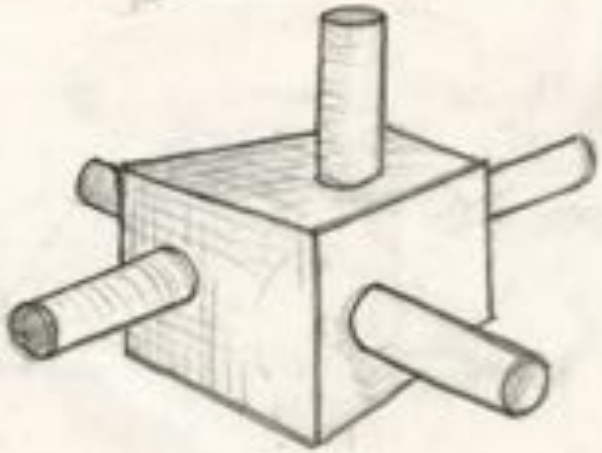


A hanging or free standing installation. The user stands beneath a box fitted with 4 lenses, one on each side. You are then surrounded by imagery.

Olaf Eliasson



- DEVELOPMENT
- POSSIBLE DEGREE SHOW DISPLAY
- SERIES OF 3 HANGING INSTALLATIONS
- PLAYING WITH LIGHT, COLOUR AND IMAGE
- IMPORTANCE TO HANGING OVER HEAD MENTAL SPACE



5 X PANELS – FROSTED ACRYLIC

12 X STRIPS

INSIDE BOX

SIDE VIEW

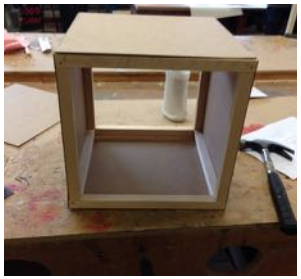
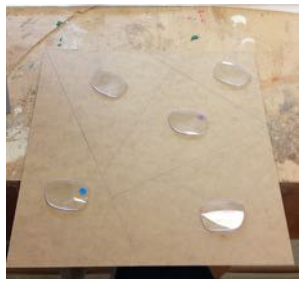
PLAN VIEW

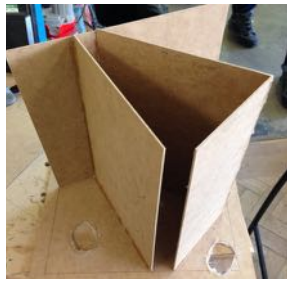
– SERIES OF THREE

– HANGING INSTALLATIONS

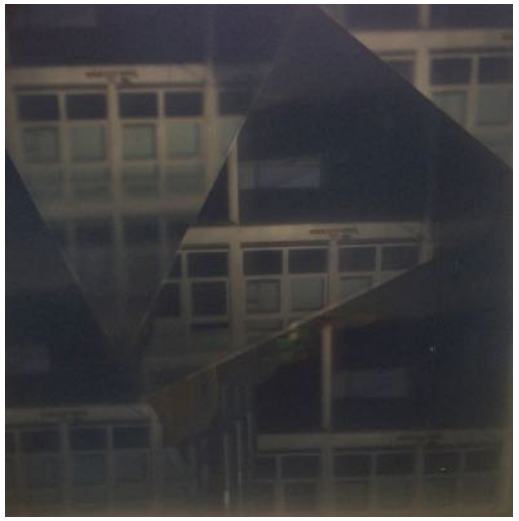
Development of possible ideas, questioning the importance of hanging the piece over the head.

1

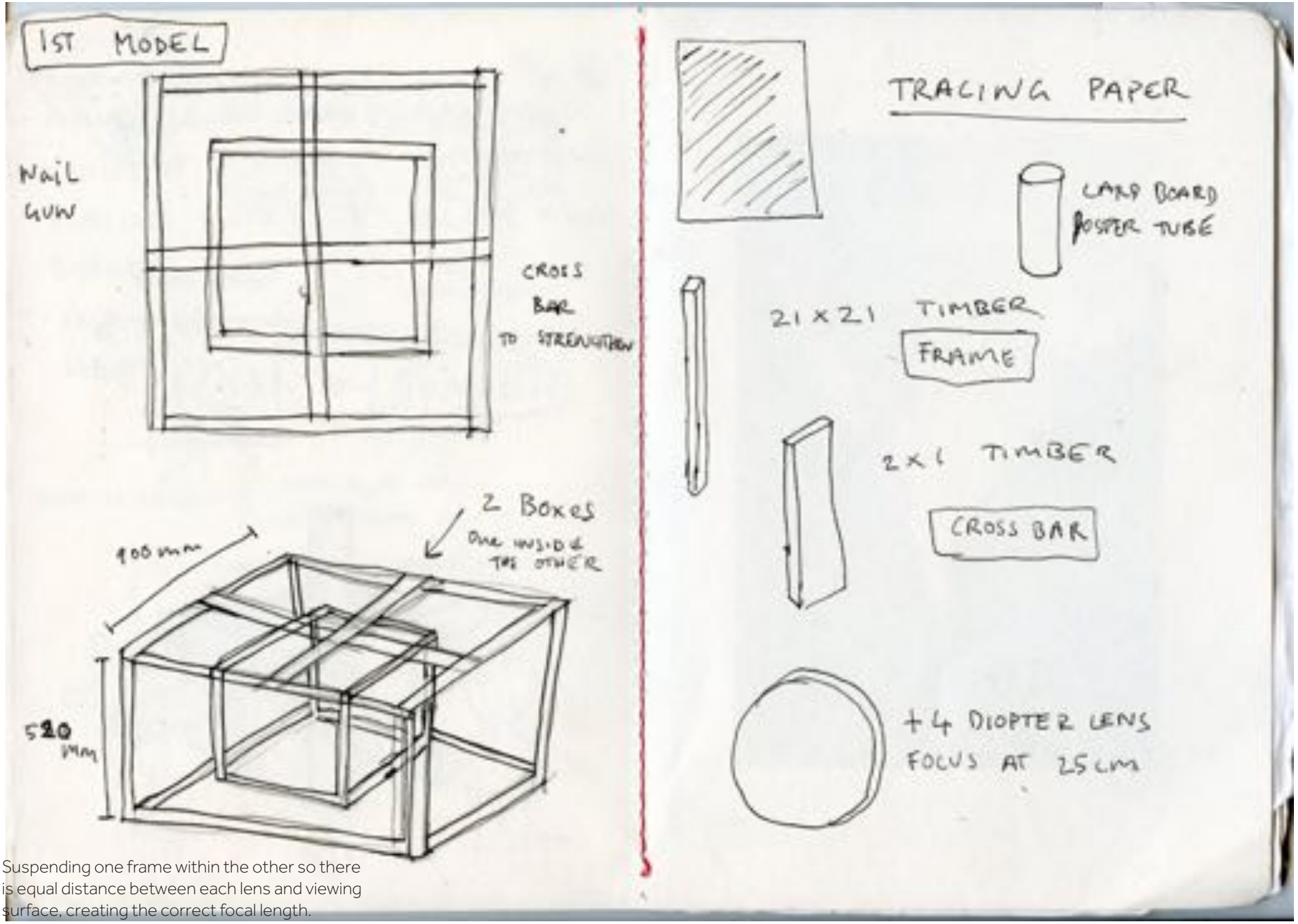





I built the model using hardboard and five reading glasses lenses. The screen is made from 300 gsm tracing paper.

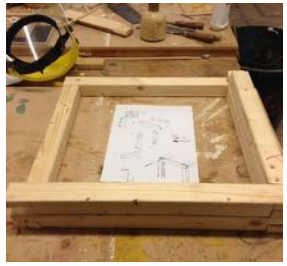


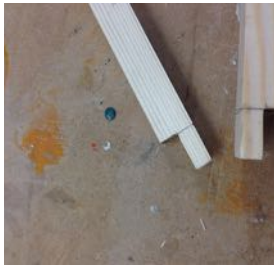
Example images created using the split screen obscura

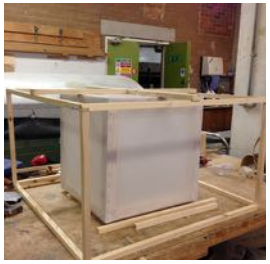


Suspending one frame within the other so there is equal distance between each lens and viewing surface, creating the correct focal length.

2







This model was to test the idea of a immersive camera experience, where the audience stand underneath the design to see the world around them. The design uses a smaller form inside a larger one, much like the hand held form but on four sides. The square shape was too basic, was visually bland. Construction with a nail gun was quick yet not skilled and left a rough finish.

I didn't build legs or a top to this obscura due to time issues but I was able to test it without these. I was impressed by the image sharpness and quality. Had there of been more sunlight the image would have been brighter.

Being inside of the camera is a surreal almost magical experience. Building this model was my first chance to experience first hand completely. The therapeutic nature of the camera really came to life.

Final Piece

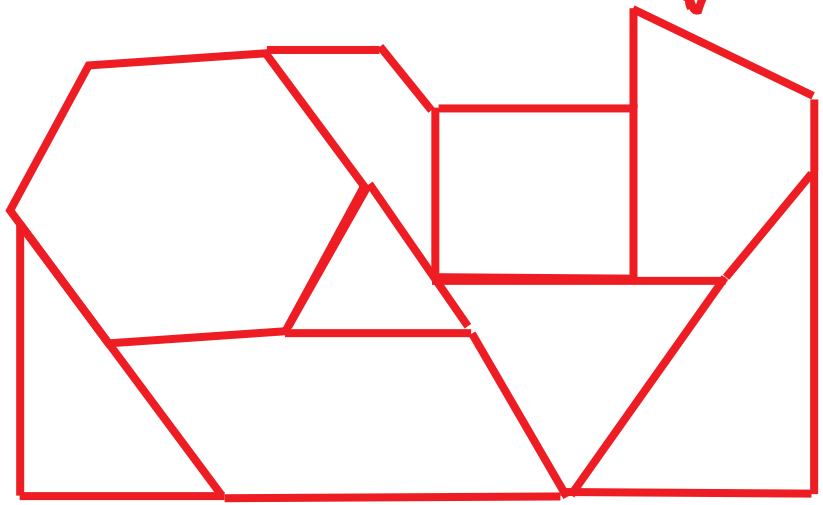
Colour is an essential tool because it has an impact on how we think and behave. Colour directs our eye where to look, what to do, and how to interpret something. It puts content into context. We don't all react the same way to colours, as we all have previous experiences with colours from significant events, cultures, people, and memories. However, there are a few generalities about how people respond to colour.

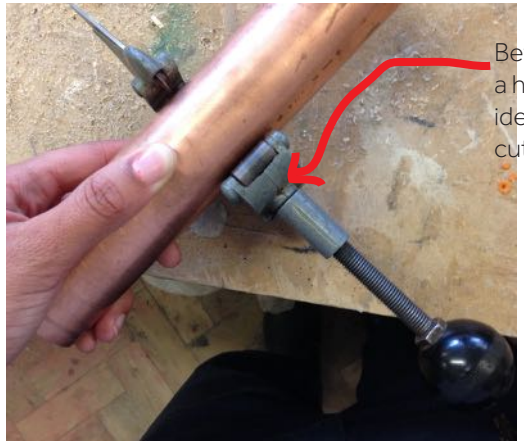
Primary colours are generally connected with childhood. They feel engaging, playful and encourage you to touch. Aspects very important to my project.

Each plywood edging has been carefully mitred by hand to the correct angle using a table saw.

I began designing a series of minature camera obscuras. Based on the colours and shapes believed to be the most interactive and inviting for people to use of any age.

Each piece is then milled 3mm x 3mm to hold the frost acrylic sheet in place.



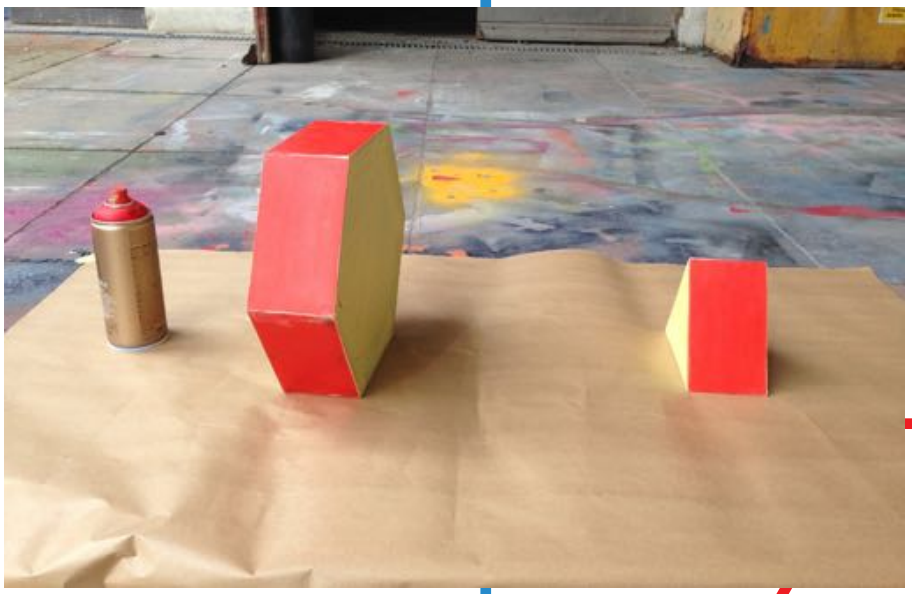


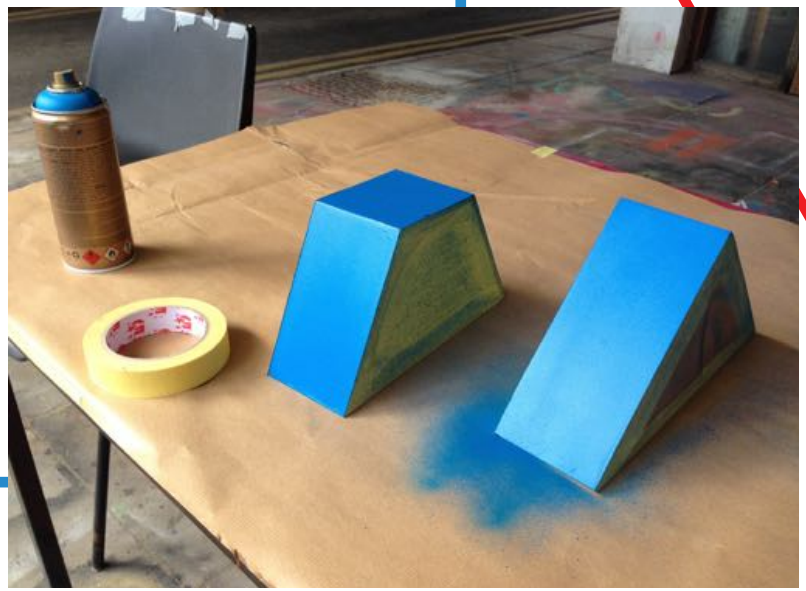
Before using the tube cutter I was using a hacksaw to cut the lens tubes. Not ideal as it distorted the tubes shape. This cutter created a clean smooth cut.

Unfortunately the copper tarnished very quickly due to oxidisation. I fixed this by sanding with wet and dry paper and then polishing on the polishing wheel and finishing with a coat of wax to protect the surface.

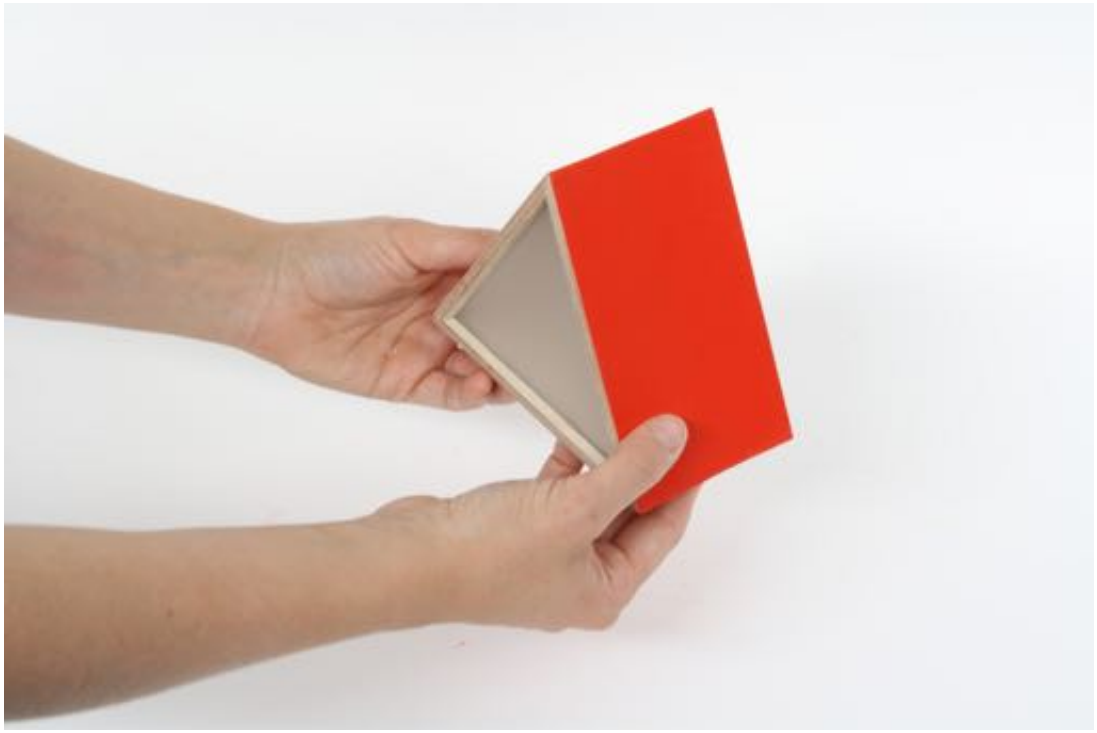
Final Piece

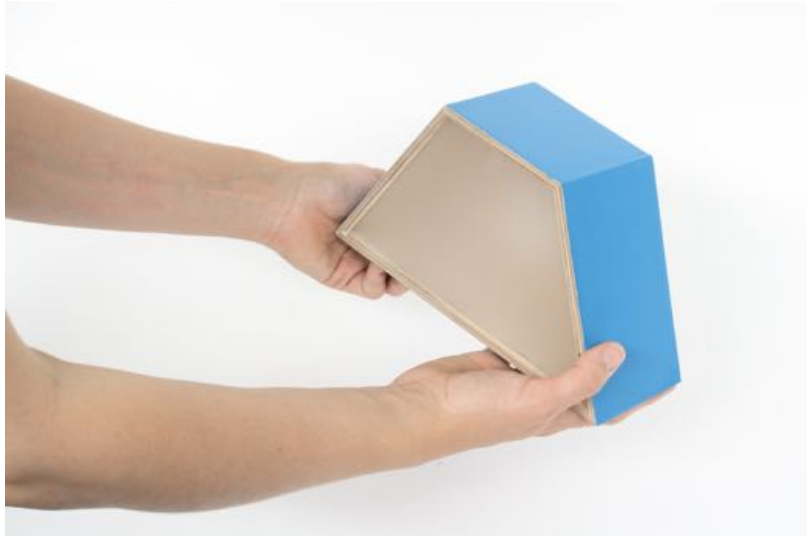
Grinding the glass with the diamond cutter caused the glass to chip unless used with plenty of water. I found that it was easier to open up the copper using a sanding dremel on the tube walls. This helped the glass to fit in more easily.

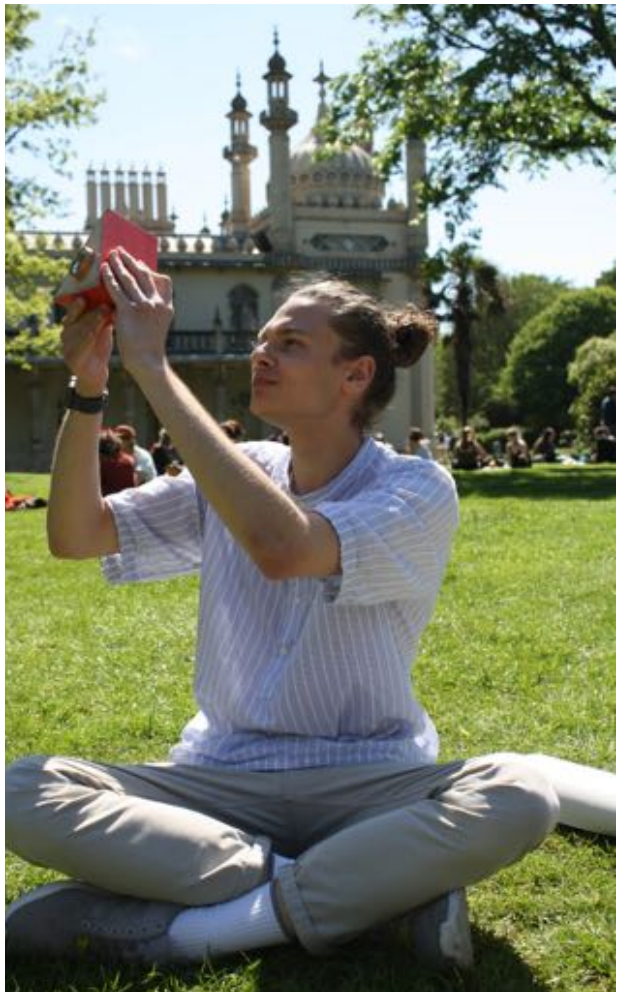




I used spray paint to cover the cameras in the primary colour scheme, this has given the wood extra protection against knocks and dirt.







The user reported how they found using the camera obscura:

"I love the colour and how the triangle shape frames the view. The upside down image feels like slow motion."

Designing for New Haven Fort

Newhaven Fort Champion, Development Fund.

"Watch, Look, Listen" (is this still how we title it?)

Briefing for students and staff:

This proposal aims to support the creative and developmental partnership between the University of Brighton / Community21 and The School of Architecture and Design by providing a prototype fund to support creative interventions at Newhaven Fort.

The Fort is evolving its public 'offer' and stated aim **to *be an excellent, engaging and enriching experience which provides better access to the heritage of the Fort – essentially "Making History Fun!"***

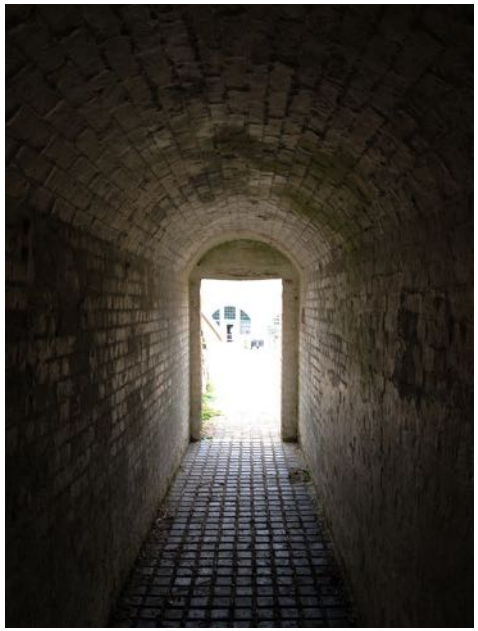
The student project aims to offer opportunities through a process that will run parallel to the 2016/17 study period that hopes to amplify the student creative projects situated around the Fort.

A selection process will happen as part of the studio review process where proposals will be selected in terms of their relevance to the stated aims of the Fort (as above) and that offer the potential for engaging public interactions. Newhaven Fort will offer 10 projects £500 each which will be additionally supported by the School to enable their fabrication and presentation as part of a programme of public and stakeholder engagement at the Fort.

Details of the process will be published as and when all parties are agreed.

We hope this provides an excellent 'live' opportunity that will enhance the student experience and enable developmental opportunities that extend beyond the project. Equally we hope that this will catalyze students ideas and provide a context in which to situate these ideas in relation to the aims of the Fort to provide, rich interactive learning experiences that relate to the Fort and its heritage.

We look forward to seeing proposals develop.



Abbots Cliff Sound Mirror,
East of Folkestone, Kent

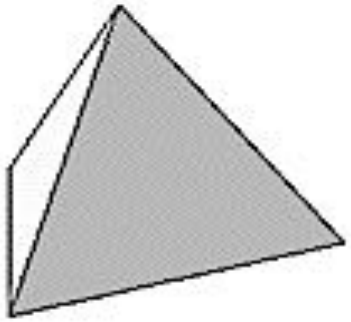
A forerunner of radar, acoustic mirrors were built on the south and northeast coasts of England between about 1916 and the 1930s. The 'listening ears' were intended to provide early warning of incoming enemy aeroplanes and airships about to attack coastal towns. With the development of faster aircraft the sound mirrors became less useful, as an aircraft would be within sight by the time it had been located, and radar finally rendered the mirrors obsolete.

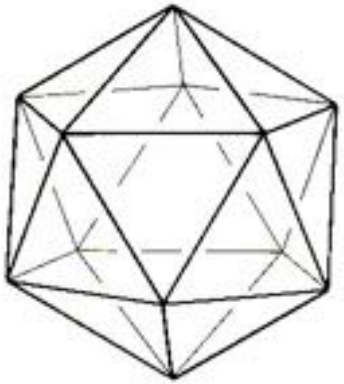
I am interested in their context and inspired by their shape. Once wartime listening devices, now giant geometric concrete sculptures. It seems fitting to use similar shape for a public camera obscura at Newhaven. Fort.

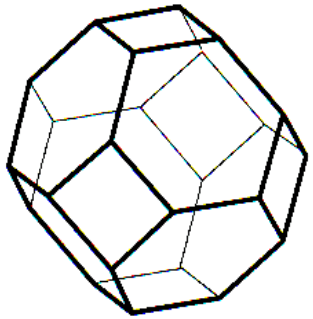
Hythe Sound Mirror, Kent

Denge Sound Mirrors, Kent

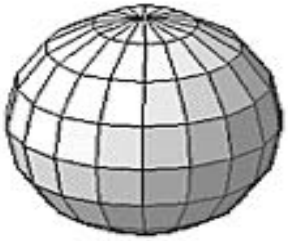
Back of Denge Sound
Mirror

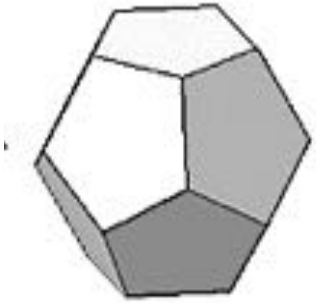


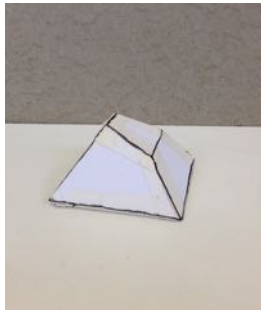


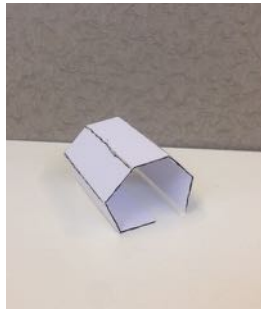


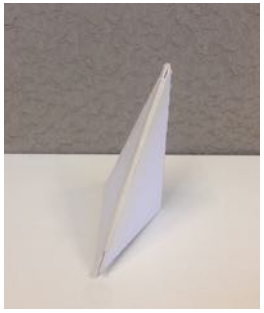
The shape of the previous model lacked any real character from the outside, so it was important for me to develop on this. I looked into geometric shapes, particularly polyhedrons. Their multi-faceted nature makes them perfect for attaching numerous lenses to, capturing more scenes.

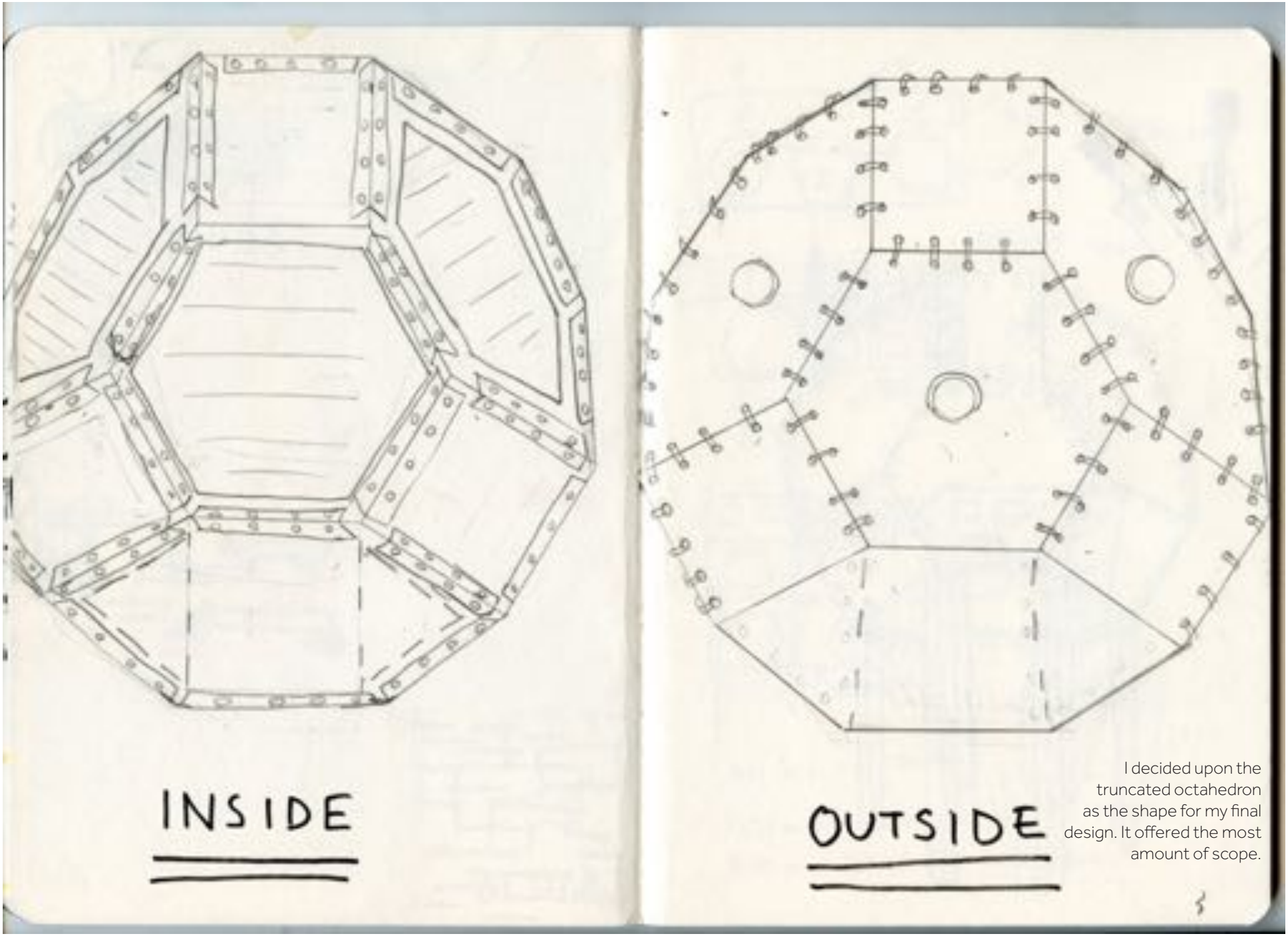






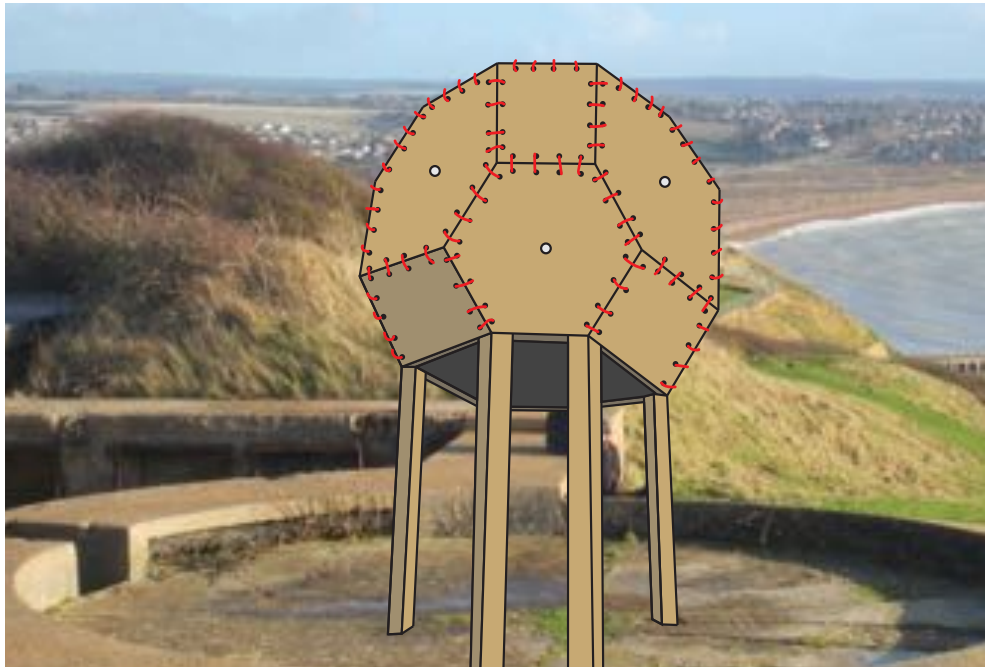


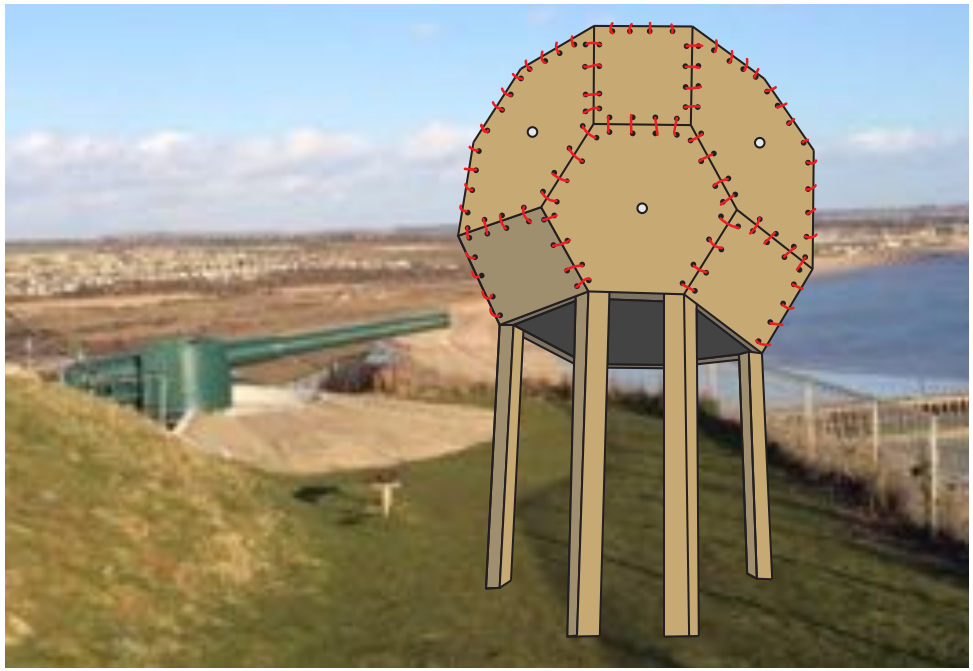




I decided upon the truncated octahedron as the shape for my final design. It offered the most amount of scope.

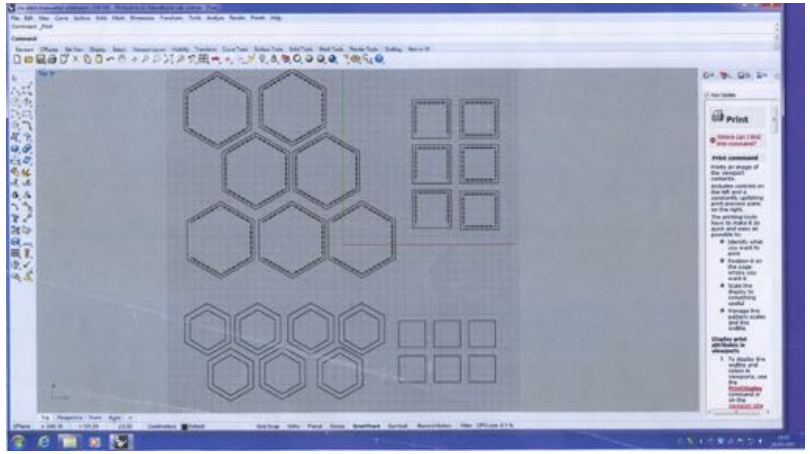
“Watch, Look, Listen' explores the technical, scientific and human history of the fort through new and different experiences mediated by the sculptural artefacts and tools that we are making. In the hope to reveal hidden histories and experiences of the fort whilst providing new perspectives on its future.” - Nick Gant, Community 21



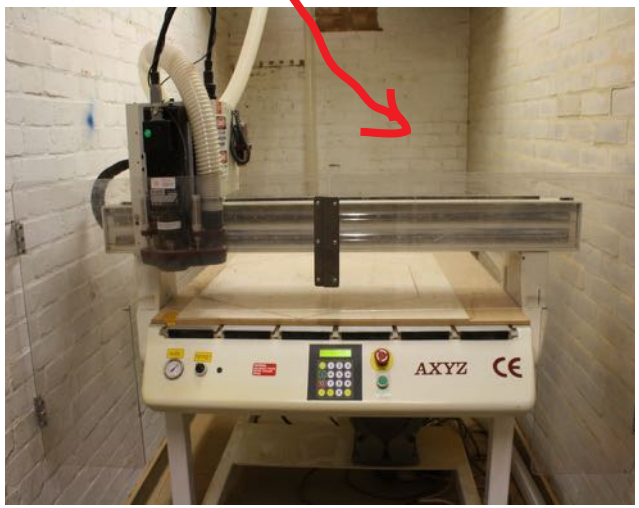


I pitched to the Newhaven Fort governors this design proposal. A truncated octahedron camera obscura with 7 lenses and 7 screens projecting a 360 degree view of Newhaven. The pitch was well received and I was granted funding.

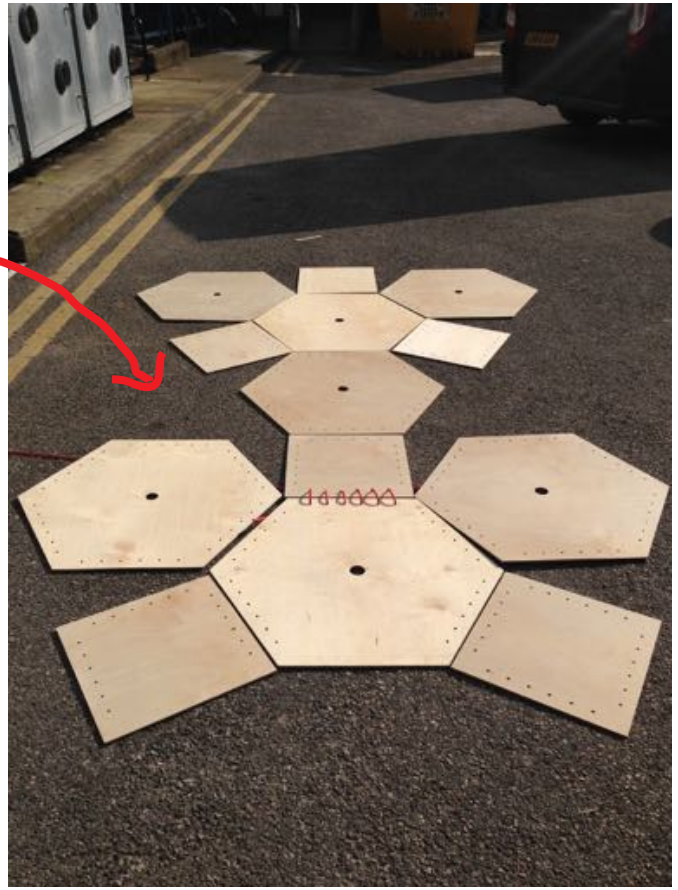
Construction



The net is carefully drawn out using CAD programme Rhino. Each piece was then individually CNC routed, using 6mm plywood for its strength and appearance.



The design is built around a net consisting of 6 squares and 7 hexagons times 2. 1 Large truncated octahedron and one slightly smaller that fits in the middle. The outer shell carries the lenses on each of the hexagon faces and the inner holds the frosted acrylic screens.



Final Piece

The whole structure is bound together using a nylon rope stitching. This then avoids the need for glue, screws or complicated time consuming joinery. Making on site assembly easier. The stitching process does take longer than I had expected and therefore is best built in a team, this is due to the number of sides on the shape.

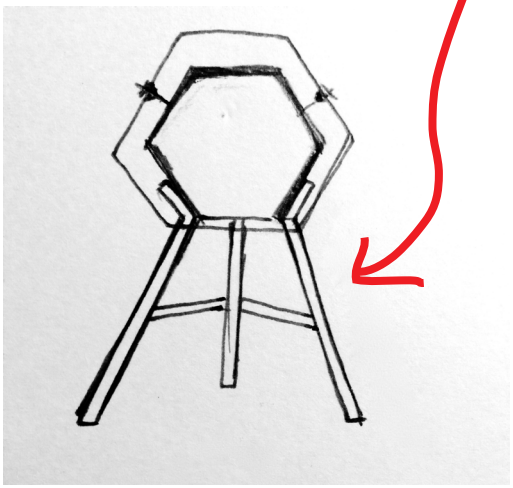
The inner frosted acrylic screens were each hand cut out using the band saw and then attached to the frame using a silicone adhesive.

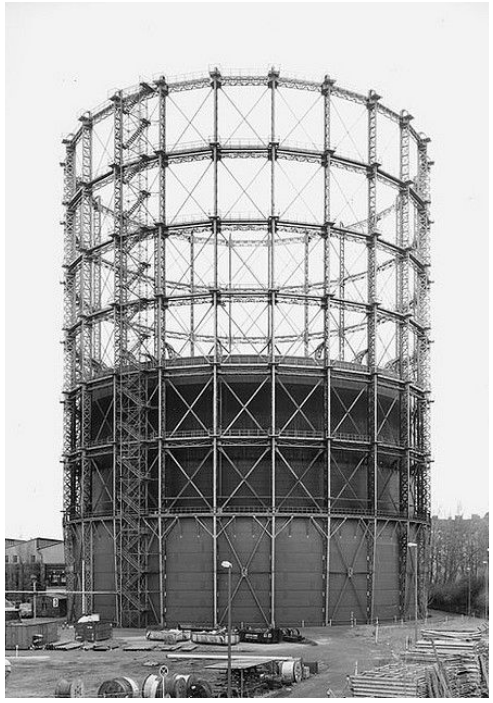
I mitred over sixty wooden brackets to hold together the inner shell. The hexagon to hexagon is 109 degrees while the hexagon to square is 125 degrees. This was vital in order for the shape to work.

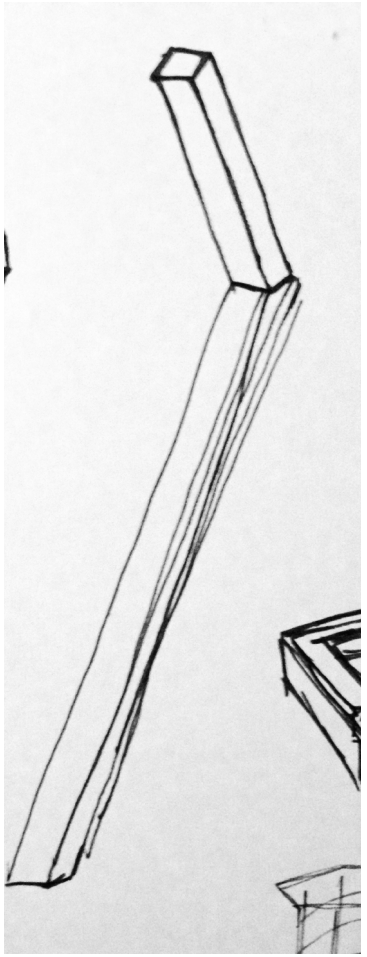
I decided to look at water towers for inspiration when designing the legs for the obscura. Similar in shape, the water tower is larger on top than the bottom, holds a heavy weight and needs to remain stable even in strong winds.

Photographs -'Water Towers', Bernd Becher and Hilla Becher, 1972-2009

Quick structural drawing of camera obscura inspired by water towers.

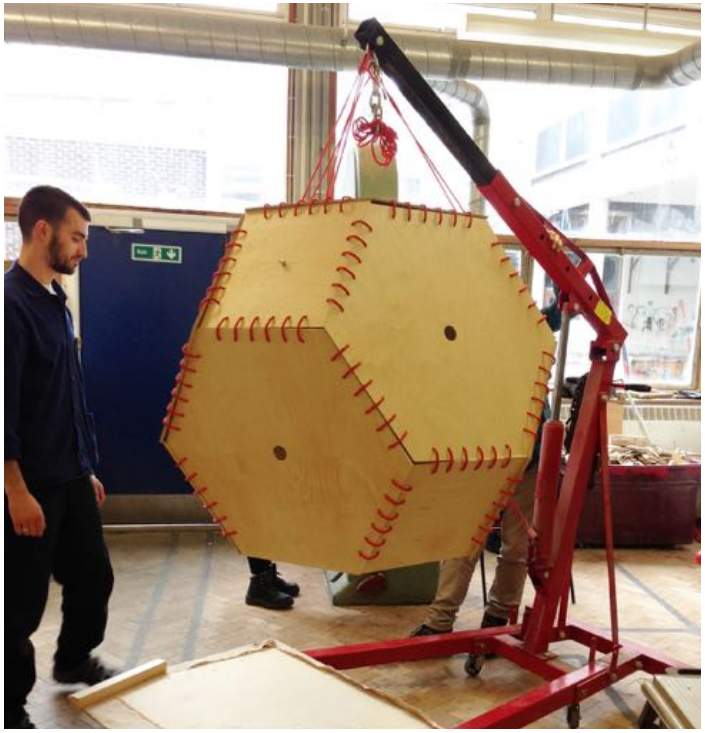




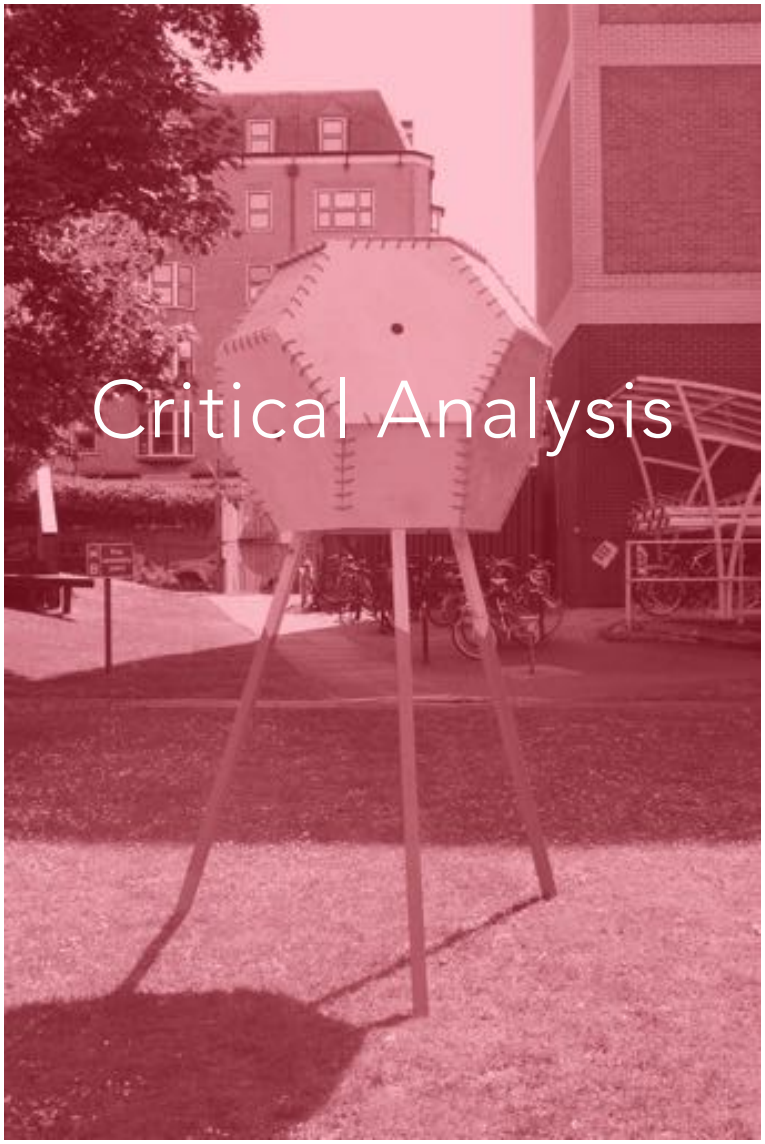


The legs are built from 45mm x 45mm pine timber cut and mitred to stand at an angle 70 degrees from the ground but sit flat against it. Joined using domino joints, reinforced with wood glue.

I later added a cross bar to stiffen the structure against heavy winds.



I first used a hydraulic engine hoist to lift my piece into the air. Using this process allowed me the chance to work on the piece from underneath without restriction. It also allowed me to attach the legs on at my own speed. Unfortunately the oil started leaking due to a broken rubber seal so I had to turn to moving and carrying it by hand.



Critical Analysis

To conclude, I have sucessfully completed creating two sets of camera obscuras. Six small scale handheld obscuras which are easy to travel with. The second, a large scale live public art installation obscura.

FUNCTION: Both function however the large scale obscura could be improved if the image projected onto each screen was slightly larger. This is down to the diameter of the lenses. If I was to take this project on further this is an issue I would address.

AESTHETICS:Aesthetically the design and shape are striking. I have used a colour scheme proven to be interactive and engaging and a shape that reflects its surroundings (Newhaven Fort).

CONSTRUCTION: Made from high grade birch plywood, pine timber, copper and glass. Using a combination of hand making and CAD techniques. Combining these processes has allowed me to be more adventurous in my design.

ERGONOMICS: The small scale obscuras are ergonomically designed to sit in the hand. While the installation is position at six feet tall. This is to allow for the minnimun to maximum height ranges. I have also made a plinth to go along side, this will allow for shorter people and children to stand up into the piece.

QUALITY: Where possible I have kept to high quality standards, sanding sharp edges, polishing metal and cleaning to a good finish. There were however issues unavoidable, when grinding the glass lenses it was extremely difficult to stop the glass from chipping or being scratched.

USER: Is the piece fit for purpose? I set out to make a public art installation that used photography as therapeutic tool but that also brought about social inclusion. From the positive responses I have recieved so far I believe this piece succeeds.