

2025 Annual Design Show

**Thursday
17 July at 6pm
(Online)**

Table of Contents

U101 - Design thinking.

T190 - Design practices.

T217 - Design essentials.

T317 - Innovation: designing for change.

Entries from students are arranged according to which modules they have been studying. Then their names are arranged alphabetically by their given names.

The image features a dark blue background. A piece of white paper is torn and placed in the center. The paper has a green geometric pattern on its top and bottom edges, consisting of various shapes like triangles, squares, and circles. The text "U101 Design thinking: creativity for the 21st century." is written in black on the white paper.

U101 Design thinking:
creativity for the 21st century.

Alessandra Sangermano “Clear Nest”

“Clear Nest,” is inclusive and encourages social interaction, aiming to improve an everyday public experience. It can be scaled for use in parks, squares, or open-air bus stops using recycled or locally sourced materials, supporting sustainable, urban development.

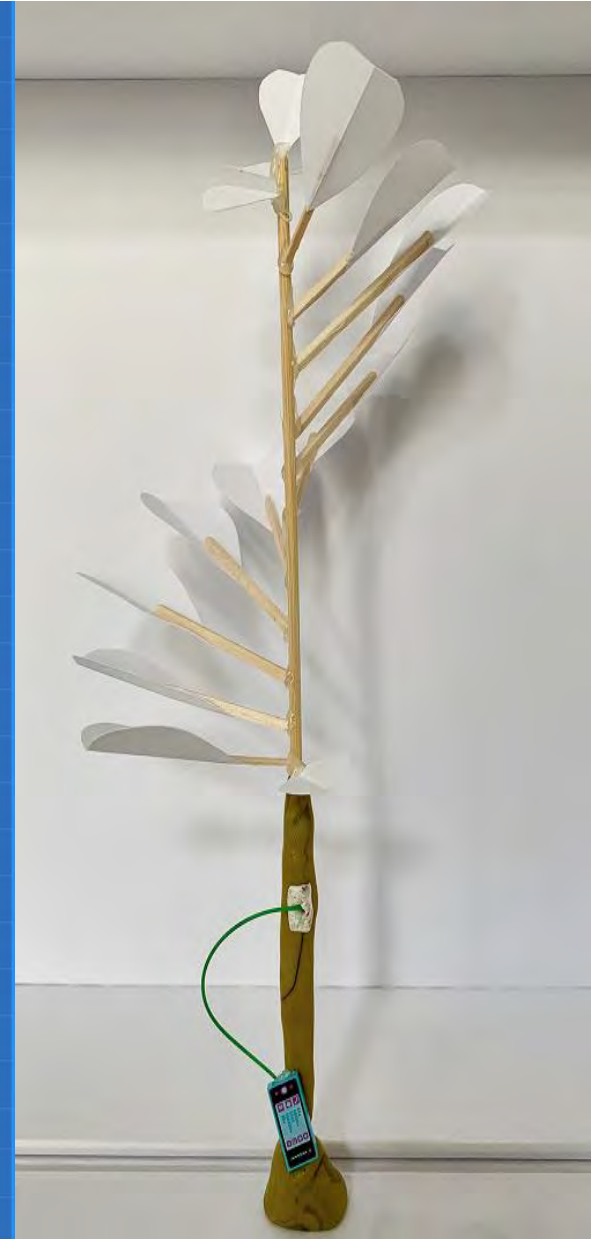
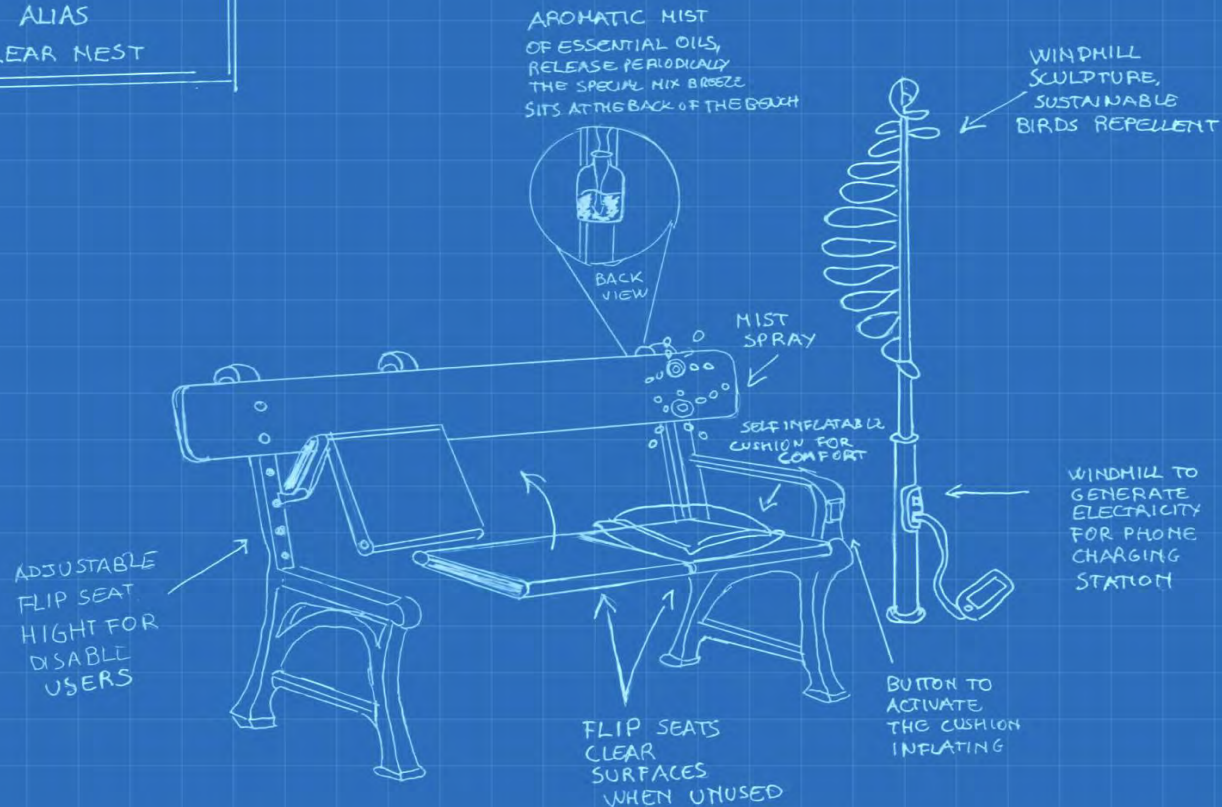
Clear Nest is a playful and practical solution to the familiar problem of bird droppings on public benches. Designed for cleanliness, comfort, and community, the bench features a simple, flip-seat mechanism that lifts when not in use, preventing droppings from accumulating and ensuring the next person always finds a clean spot to sit.

It combines multiple interventions: an aromatic mist system that releases essential oils as a natural bird repellent; a rotating windmill that both discourages birds and generates electricity for a phone charging station. The result is not just a cleaner bench but a smarter, friendlier, and more sustainable piece of street furniture.



Commended

CHOSEN DESIGN CONCEPT
ALIAS
CLEAR NEST



Alessandra Sangermano

“Never break a pinky promise”



This project explores the beauty and storytelling power of our hands, those everyday tools we often overlook, through photography, abstract composition, and T-shirt design. Beginning with careful observation of hand gestures, textures, and personal connections, I photographed key moments like a “pinky promise” with my child, or playing the piano.

These images became the foundation for a series of abstract compositions using principles such as symmetry, repetition, dominance, and unity.



Alessandra Sangermano

“Never break a pinky promise”



Drawing inspiration from fingerprint lines and hand gestures, I developed layered, meaningful designs in Illustrator, using colour, proportion, and texture to add emotional depth. The colours were carefully chosen to feel youthful and vibrant, reinforcing the energy of the design. The final intervention, a bold, youthful T-shirt, blends graphic expression with personal narrative. A bold handprint, where the finger forms the letter “P,” pairs with the word “PROMISE” to symbolise trust, creativity, and human connection.

Claire Brown “Flower Power”

Overall Winner



Designed for ages 12+. 2–4 players (or teams) can play. The game appeals to those interested in horticulture or 60s nostalgia.

I’d market it to families, encouraging dress-up for an immersive game experience and social media buzz. Its scent-driven gameplay, educational value, and cross-generational appeal make it a game not to be sniffed at!



“U101 has taught me the importance of collaboration and deepened my understanding of design thinking through real-world engagement and creative exploration. I now aim to complete a BDes. ”



Claire Brown

“Flower Power”



“Flower Power is a blooming fun game!”

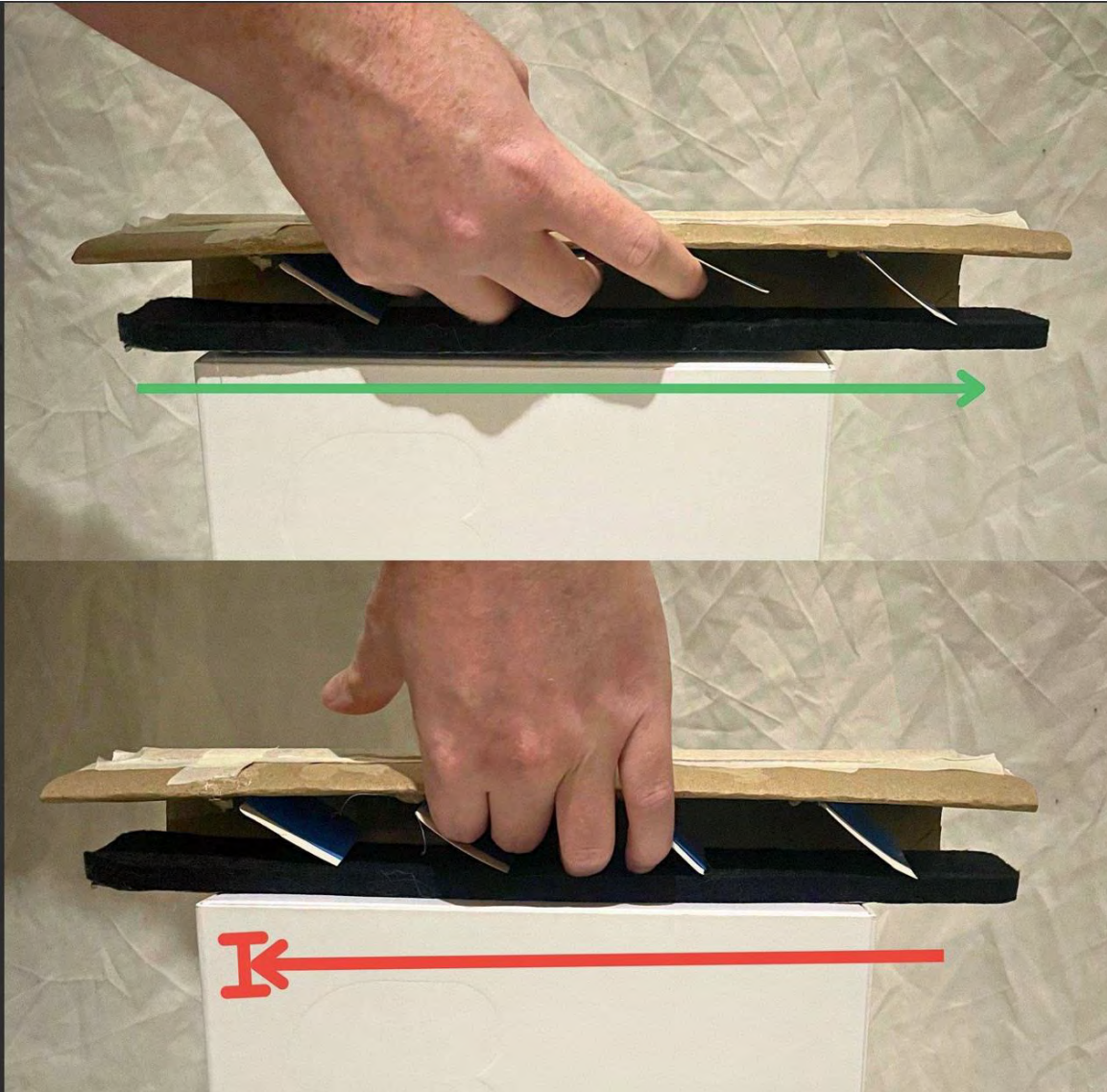
The game idea bloomed while researching flower delivery, figuratively taking me to Holland and back! A local florist explained that mass-produced flowers often lack scent due to the absence of natural pollination. That insight inspired the inclusion of the unique, scent-based mechanic. During early testing, I described my daughter as having “flower power,” sparking the 60s hippie vibe!



Emily Bannon

Commended

Directional evacuation aid for the visually impaired



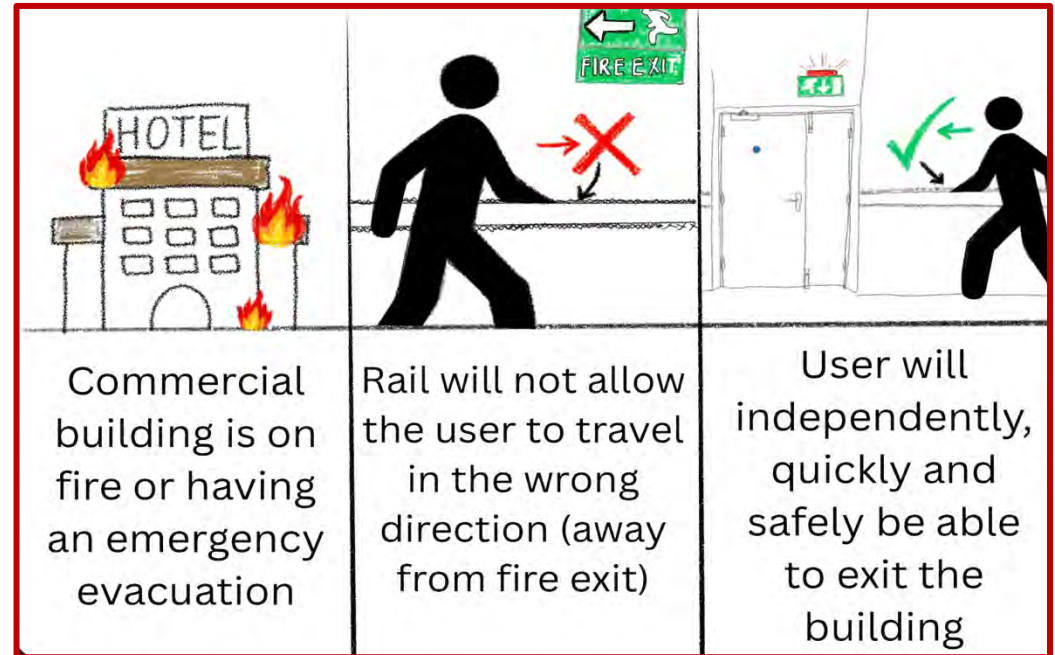
How might a commercial fire alarm system support the independence of people who are visually impaired? This project originated from finding that people who are visually impaired either require, physical support out of a building in a fire evacuation or are expected to feel against the wall to find Braille fire-exit stickers. To me, that's not acceptable, accessible or inclusive.

This project provides a simple, retrofit, directional-solution for the safe and independent evacuation of a building for the visually impaired.

This project provides a simple, retrofit, directional solution for the safe and independent evacuation of a building for the visually impaired, but can also be used by everyone!

Emily Bannon Directional evacuation aid for the visually impaired

Installed slightly away from the wall, at hip height, (open side facing the wall), users insert their fingers into the rail to determine their direction. If the bristles allow free movement of the hand, the user is heading the correct way towards a fire exit. If there is resistance they must turn around and use the other hand to go in the correct direction.



User walks, experimentation and many prototypes were the main processes for this project. However, the key process was the creative sessions. I used a blindfold and homemade visual impairment goggles (using glasses frames, cling film and tape) on participants and disorientated them. I then played fire alarm noises through speakers (to the delight of my neighbours) and observed the participants' instinctive response to try and get out of the building which, was to drop to the floor and feel their way out of the house (not ideal for an emergency situation in a large scale, unfamiliar building).

I experimented with lights, sounds (a lot of research on the Doppler Effect), vibrations, even smells at one point, to try and quickly and effectively guide the participants out the building safely.

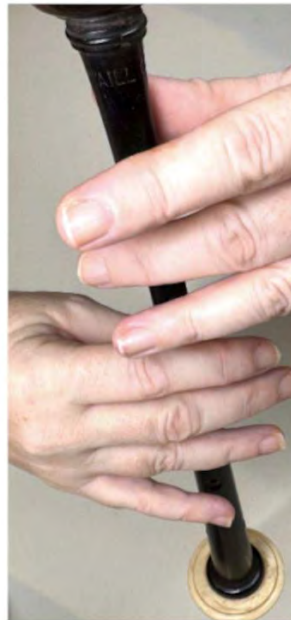
This design developed from a desire to share my love of bagpipes. The design brief to take a photo of our hands telling a story resulted in an image of my hands on the chanter which became the central feature of my final design.



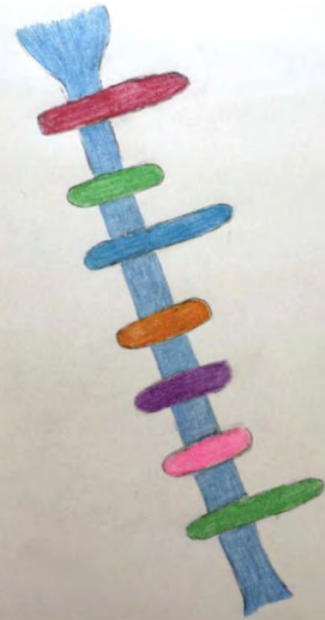
A closer look at the bagpipe chanter

Both images are showing the piobaireachd High G note

In play



In colour



I wanted to convey my passion for piobaireachd (pronounced “pee-b-roch”), which is the classical music of the bagpipe. Piobaireachd tells a story which might be joyful, tragic or a respectful tribute and some pipers see these stories in colour as they play.

Gillian Cairns

Play in Colour



The design has continually evolved as I incorporated new ideas. The length of the fingers now better reflect the secret I included in the design; I also added musical notes and placed the design in the centre of a black tee-shirt to make it more eye-catching. The only way to show all the design elements of a musical creation was with the instrument that inspired it.

Community wildflower beds

The design brief was to think global, act local and this design is an easy to establish local solution that can be utilised globally, where environmental conditions allow.

Having explored my local area I wanted to meet the design brief by utilising the green space and changeable weather while also catering for a very varied demographic.

Introducing wildflowers in a manageable space is a nature-based solution that encourages people to take care of the local environment. It would also enable children to learn more about the care of wildlife and the importance of pollinators in the food chain, particularly the less friendly and loved bees.

The features of the design include a shallow water trough placed directly below the lower bed which is replenished with water that has flowed from the beds.

A removeable Perspex canopy protects everything from the worst of the weather. The design is intended to be used by small children as well as adults who can tend the flowers using the provided hand held gardening tools. It is therefore small enough for a child to reach, measuring 4ft tall by 4ft wide and a depth of 3ft.



The children are tending the flower beds.



It starts to rain, they put the Perspex canopy over the flower beds and run inside.



A butterfly leads the way

Follow me, little bee. I know a place that is warm and dry.



The rain stops and the children return. They remove the canopy and continue to tend the flower beds.



'Bee' careful, children. There might be guests in the flower beds.

The features of the neighbourhood wildflower beds



The canopy to protect us from the worst of the weather.



Drainage holes let water flow to the water trough.



Our neighbours will use these tools to tend the flowers and feel close to nature.



We can drink from here and rest in the grass.



Hazel Edmonds

In-Car Display



HAZARD ALERTS

- ANIMALS DETECTED
- PEOPLE DETECTED
- WARNING SIGNS
- BLACK ICE DETECTION



Description of Project: My design proposal is for an innovative windscreen system that replaces traditional glass with a high-resolution LED display. This system integrates 360-degree cameras, hazard detection, night vision, and adaptive filtering to eliminate sun glare and improve visibility in all weather conditions.

The display is fully customisable, allowing users to adjust brightness, contrast, and visual overlays based on driving conditions.

The problem statement behind this design stems from a real-world issue: *What can be designed to reduce sun glare while inside a vehicle, benefiting both passengers and the driver, to improve safety and comfort?*

The design process:

I began by creating observational sketches in my design diary, which helped me identify the core problem.

Through research, I found that glare-related accidents are more common than I expected. My proposal addresses this issue directly while also opening up broader safety and design possibilities.

Collaboration with my instructional design team provided valuable feedback. After posting the design problem in a team chat, I captured answers and watched how they interpreted the problem and the solutions they came up with. I realised that building a physical prototype wouldn't fully capture the scope of what I was imagining, so I turned to digital tools to bring the idea to life in a more detailed and flexible way.



Introducing our **innovative** and **creative** solution for enhanced driving experiences: the **Smart Vision Display**. By incorporating **advanced camera technology** and high-definition LED screens, this cutting-edge system replaces traditional windscreens to significantly **reduce glare spots, alert you to hazards** and provide superior night vision capabilities. Designed with **safety** as the top priority, the Smart Vision Display ensures drivers can navigate with confidence, day or night, in any weather conditions. Embrace the future of automotive technology with our revolutionary approach to safer and more efficient driving.

WHY?



Sun glare reduces visibility and reaction times, obscuring the road and increasing **accident risk**. It causes **eye strain** and **discomfort**, especially during sunrise and sunset. Innovative solutions like the Smart Vision Display can **enhance driver safety and comfort**.

BENEFITS

- NO GLARE
- NO BLIND SPOTS
- HAZARD ALERTS
- NO EYE STRAIN
- SAFER
- NIGHT VISION



HOW DOES IT WORK?



Our creative design uses **flexible LED displays** and strategically placed **cameras with hazard alert software** and **lens glare filters**.



The flexible LED displays provide clear, high-definition visuals while the cameras continuously monitor the surroundings, identifying potential hazards in real-time. This combination enhances driver awareness and response times, making every journey **safer** and more **comfortable**.



RETROFIT TO ANY VEHICLE.

CUSTOM SKINS



Hazel Edmonds In-Car Display



HAZARD ALERTS

- ANIMALS DETECTED
- PEOPLE DETECTED
- WARNING SIGNS
- BLACK ICE DETECTION



SAFETY

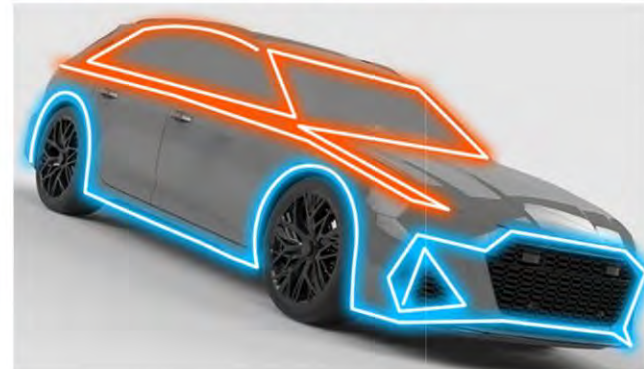


NO STREET LIGHTS



NIGHT VISION

SAFETY



With advanced night vision technology, traditional headlights could be a thing of the past.

Customizable LED strip lights that ensure visibility

to other drivers while reducing headlight glare. LED lights can be tailored to your style, and mood, all while **enhancing safety** and aesthetics on the road. Drive confidently and let your car shine in a whole new way!



For this project, I focused on the often-overlooked problem of stagnant water in flower vases. The prototype of my smart flower vase solution includes a main vase and two containers—one for fresh water and one for stagnant water. The vase is connected to the containers through pipes with valves, each equipped with a small electronic timer. This setup allows the system to automatically drain stagnant water into one container and refill fresh water from the other. The electronic timer enables users to set the frequency of refills, and the containers are large enough to provide multiple refills.

I added small decorative elements, such as coloured paper and decorative ribbon, to give the vase an appealing look. Most components are made of paper and cardboard.



Inesa Byrda

Smart Flower Vase



As someone who often travels, I, like many other travellers, regularly face this issue. My goal was to design a prototype solution that keeps flowers fresh for longer using a simple and functional system. After sketching several versions, I finalized a concept: a smart flower vase with an auto-refilling system. Each compartment features a valve connected to a small electronic timer. When the timer is activated, the first valve drains the old water while the second introduces fresh water. This ensures the flowers always have fresh water without needing constant attention.

Kiran Reehal Hey Taxi!



Kiran Reehal

Hey Taxi!





Objective: Create a board game prototype based on a chosen service map, using iterative playtesting to refine mechanics and improve user experience through feedback.

Description of Project: Step into the future of workplace training with D'ADOORIO, the revolutionary board game that transforms soft-skill development into an engaging, competitive, and immersive experience.

Designed for industry professionals, D'ADOORIO reshapes learning in the UK fenestration sector, fostering teamwork, strategic thinking, and knowledge retention in an innovative way. Every element, from its visual style and colour scheme to its mechanics, was intentionally crafted to reflect its door-inspired theme, making education feel dynamic and interactive.

Players roll the dice, navigate a strategically designed board, and tackle multiple-choice challenges to collect ten counters – the ultimate key to victory. But success requires more than just the right answers. Gameplay twists like “snail mail” (miss a turn) and “door locked” (lose a counter) keep the competition fierce, while the doorbell mechanic sharpens reflexes – only the fastest player to press it can steal a counter.

Developed through a rigorous six-phase design process – ideation, two rounds of prototyping, playtesting, refinement, and evaluation – D'ADOORIO seamlessly blends education with entertainment, ensuring an engaging and impactful training tool.

This isn't just a board game – it's a breakthrough in professional development. With a unique fusion of strategy, learning, and fun, D'ADOORIO opens the door to a smarter, stronger workforce. The future of workplace training starts here!

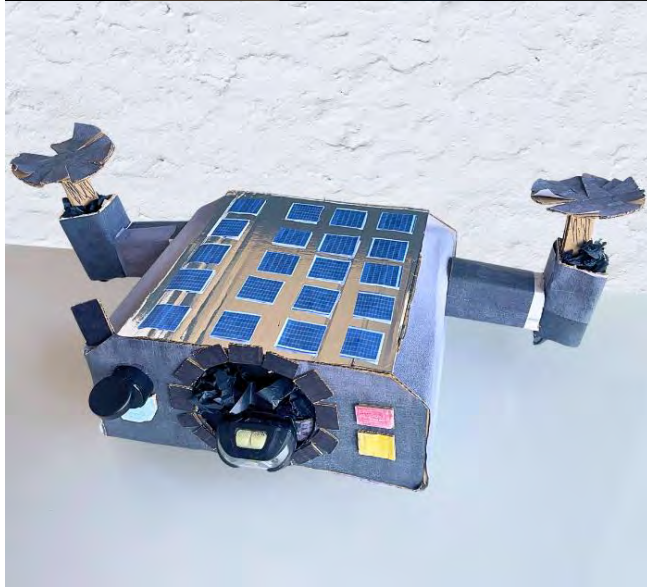


Kris Williams

D'Adoorio



Lewis Blake



Drone Lighting and Security System

This is a project I worked on for my TMA02 assignment, in which I had to create a prototype based on a chosen problem statement, mine being: “Design a solution to tackle the issue of light pollution created from streetlamps outside of residential homes negatively impacting sleep.”

My proposed solution is a drone, which is placed in residential streets, and is only activated when it detects the motion of someone in the street. It can then follow them, providing a direct light source, whilst also monitoring via CCTV in the case of a medical emergency, a crime being committed etc., in which it would then contact the relevant authorities. The need for streetlamps, therefore, would be eliminated.

In brainstorming this idea, I held a creative session with family, where many ideas were put forward. I ranked my ideas and selected this one based on its relevance to modern life, as well as its potential to provide a new, sustainable solution to local council's where energy consumption is vastly reduced in their streets.

The problem of light pollution is one that I have faced for years, having a streetlamp directly outside of my bedroom, and in speaking to other local residents I found that many of them also face this same issue. I was ultimately satisfied that my prototype addressed this issue, while also tackling a few others as well.

This use of design thinking, I believe, will serve me well into the future - I own a small business of my own and I find myself thinking more creatively every day now!

Lewis Blake

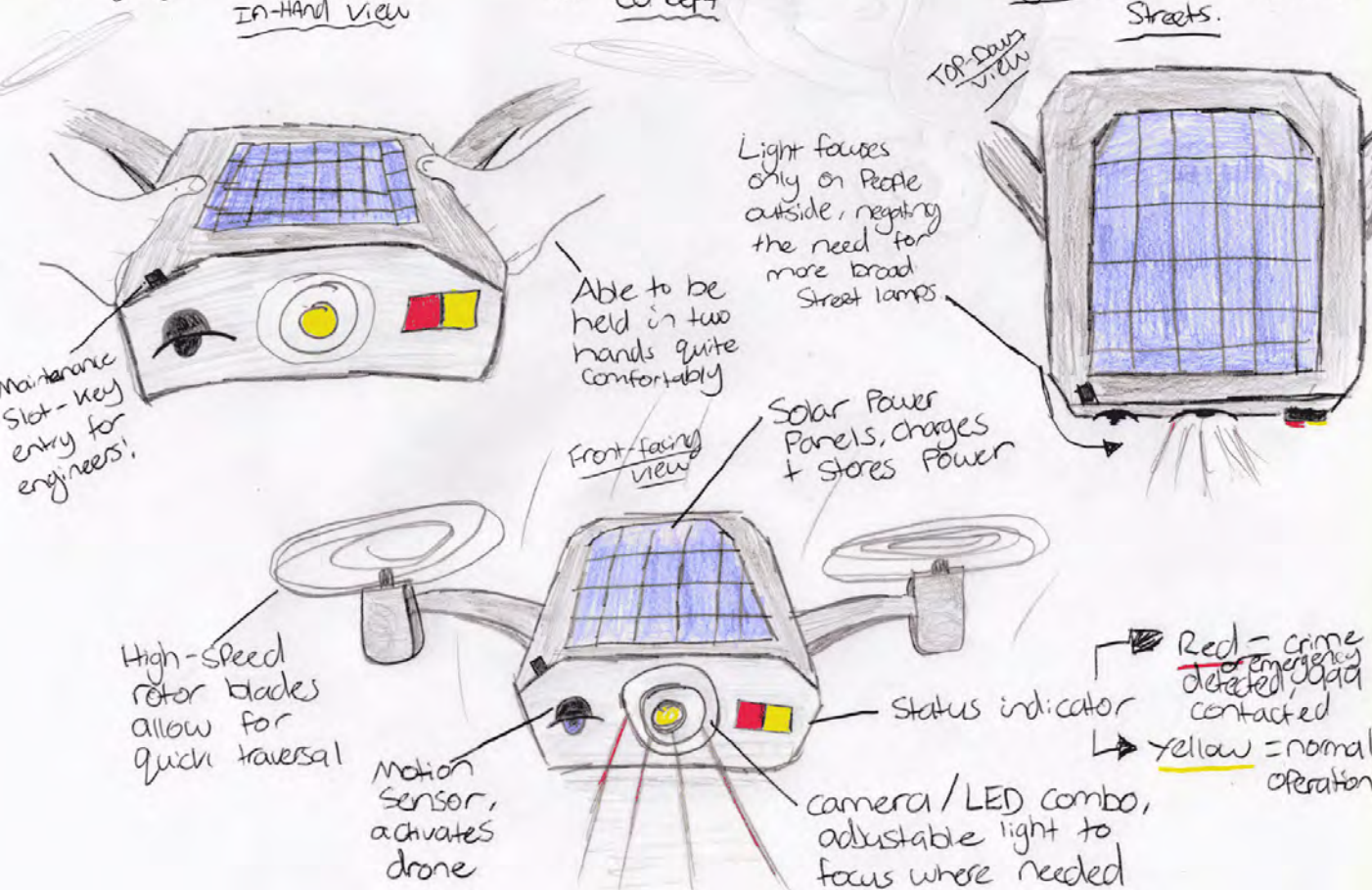
Drone Lighting and Security System

- Instead of street lamps that create light pollution and disturb sleep, drones follow people, providing light, and safety measures.

In-Hand view

My chosen Design Concept

Drone Lighting / Security System for residential Streets.





LastScape.

LastScape

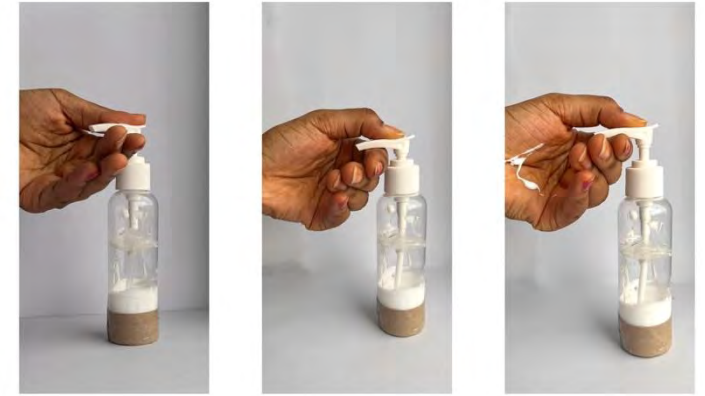
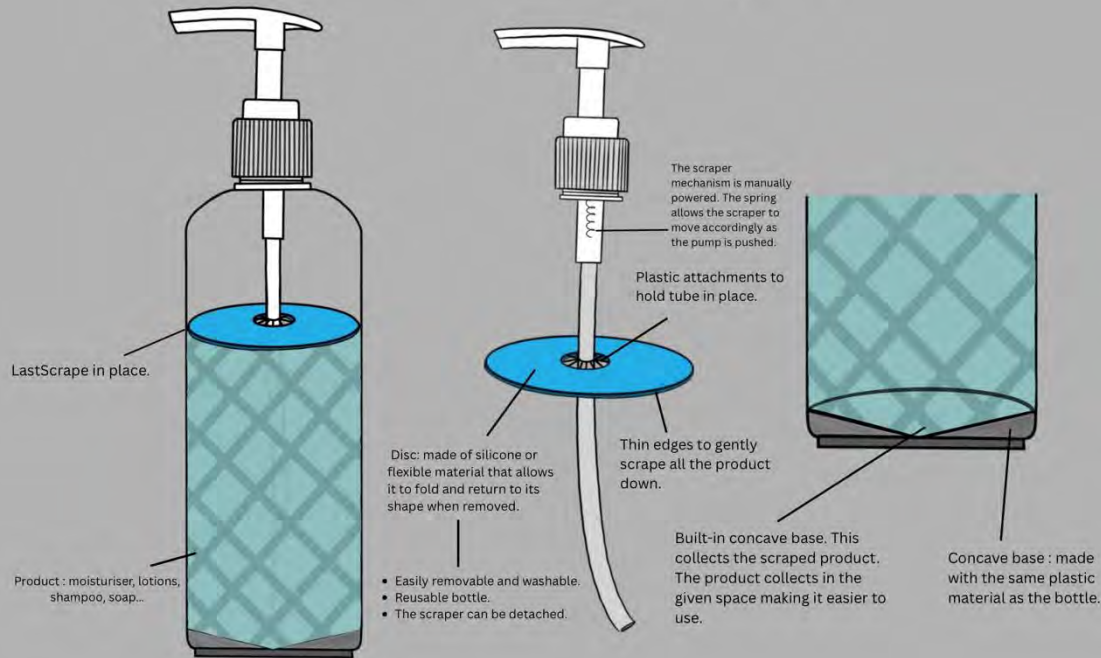
‘LastScape’ is a disc-shaped scraping tool with a built-in concave base to the bottle. The disc is attached to the tube, and it is made to scrape the product in the bottle to be deposited in the concave base.

The tool is made of silicone, to help it stay in shape when folding to get it out and washing. It is mechanically powered by the spring in the bottle and moves accordingly to the pump when pushed down.

The problem statement was: ‘Design a means to extract and utilise all of the contents from a bottle.’

This was a design problem because many people have often thrown away bottles due to the product being in unretrievable areas, which is a waste of money. Therefore, I wanted to create a tool that would maximise the use of the product and money spent.

LastScape.



The research focused on finding existing solutions and identifying the problem that would help generate and refine innovative ideas.

The 'LastScape' was the most efficient solution to the identified problem. It was rated according to certain criteria and 5W and 1H questions. The criteria are efficiency, user-friendly and usefulness.

The bottle can also be reused and refilled which plays an important aspect with sustainability as it reduces waste.

Lilian Boye Kotey The Smart Sun-care Kiosk

Commended



Smart Sun-care Kiosk' is an eco-friendly smart self-service public sunscreen dispenser powered by solar power.

The kiosk was designed to dispense effective sunscreen to protect communities against UV rays. It supplies sunscreen based on the selected skin type and tone.

'The kiosk features a sunshade, which provides temporary shade from the sun and a mini water vending machine which helps users keep hydrated. The message board writes information about the weather and real-time UV index. The QR code directs you to a website about health campaigns about the effects of UV rays. Additionally, there are wireless charging pods and a storage unit for container refills.

My problem statement was: 'Design a means to effectively inform and prevent our communities from the effects of harmful UV rays. This statement helped generate solutions to a problem that is not discussed within communities.

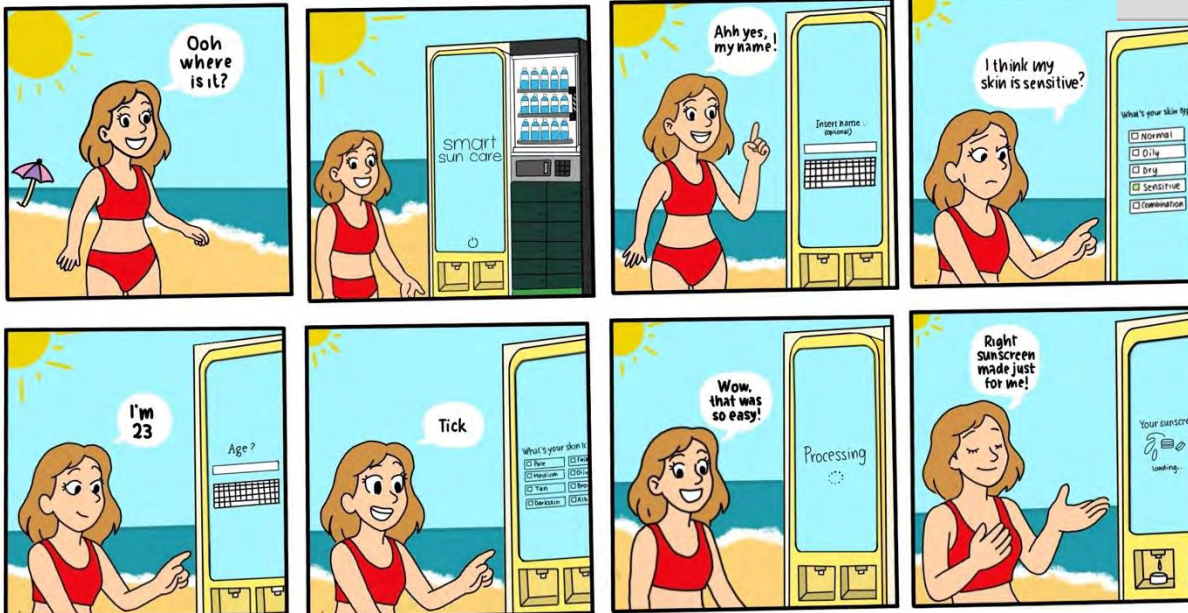
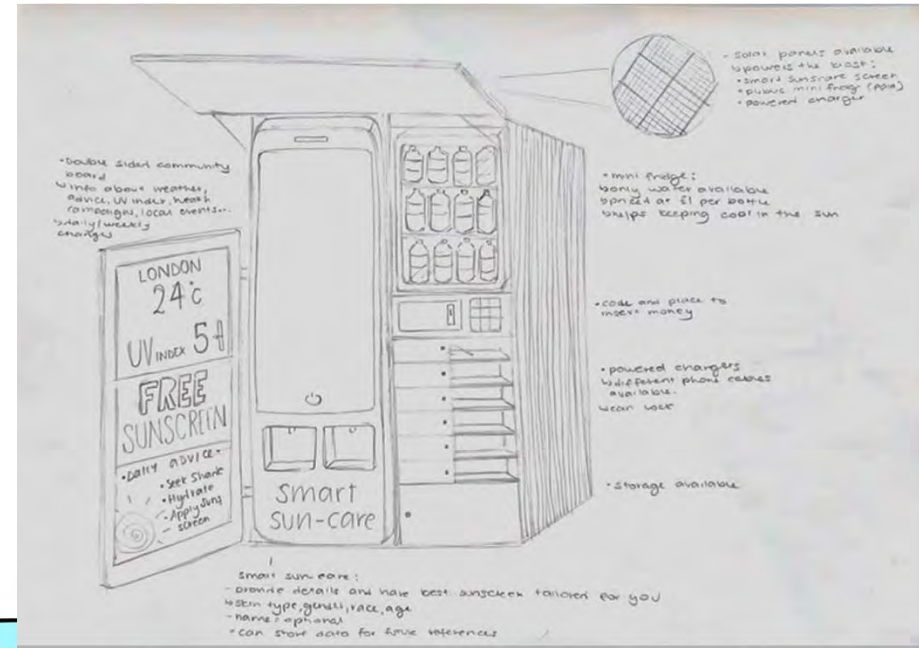
Primary and secondary were conducted to understand the problem and generate a solution. The primary research was a trip outside to observe people's behaviour under sun rays, while secondary research was done online using websites such as Met Office.

The research was helpful in generating solution ideas, which resulted in the kiosk being the highest rated against criteria like local relevance.

Smart sun care encourages people to protect and educate themselves against the long-term effects of exposure to UV rays.

The research was helpful in generating solution ideas, which resulted in the kiosk being the highest rated against criteria like local relevance.

Smart sun care encourages people to protect and educate themselves against the long-term effects of exposure to UV rays.



Lilian Boye Kotey The Smart Sun-care Kiosk

~ Smart Sun Care ~

- Self-service sunscreen dispenser
Interactive terminals with advanced technology
- Examples of question that are asked
- Panels : easy to read and understand. if not, guides are available.
- 2 pumps available
- Process – Answer questions -> wait a few minutes -> sunscreen is processed and ready
- Resuable containers
- First use = free of use
- Next use = £1 fee

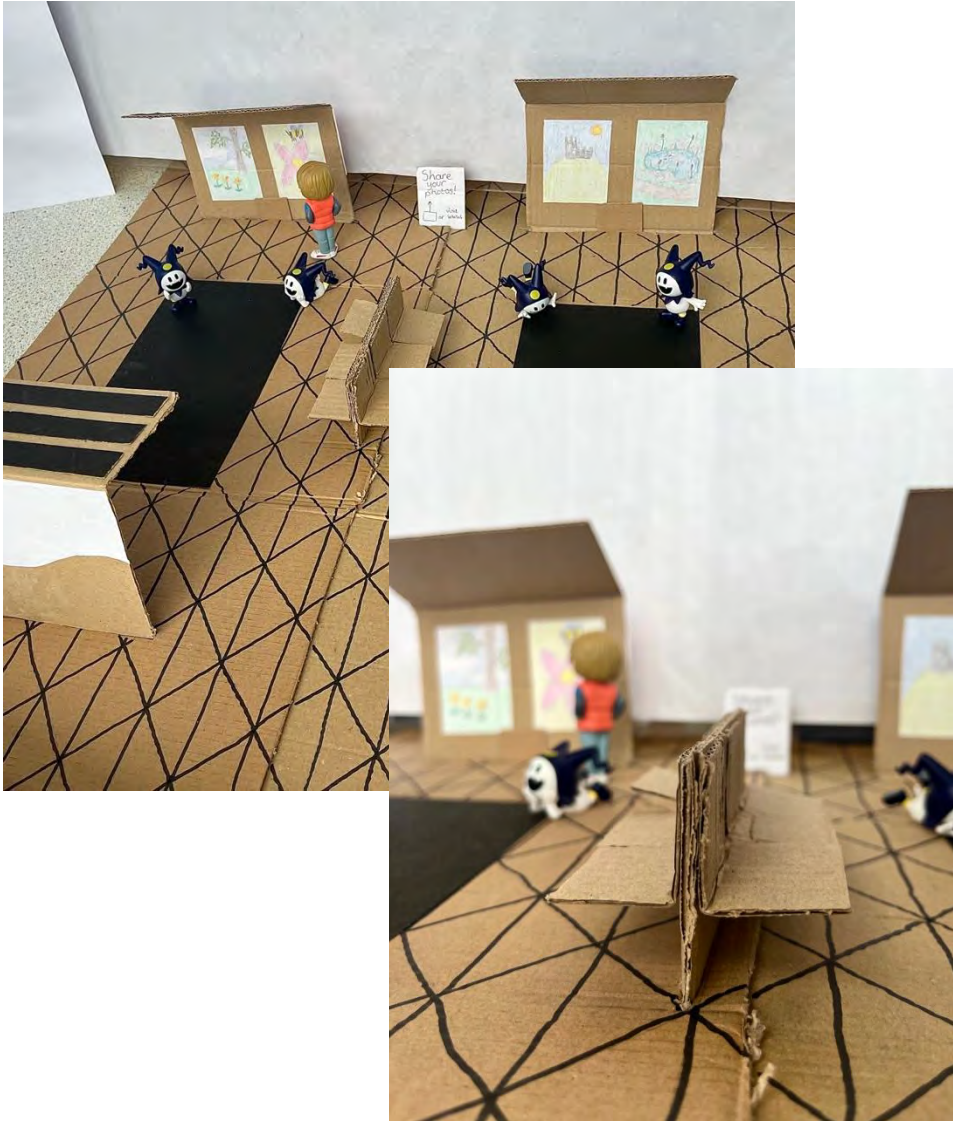
- Rotating message board :
 - Provides information about weather.
 - Provides location and temperatures.
 - UV index with colour images to highlight degrees.
 - Sign available to advertise free sunscreen
 - QR code available. Redirects you to a website which offers more in-depth education about which sunscreen is ideal. Mentions the risks of exposure of UV rays.
 - Live chat available if unsure
 - Daily protection advice on how to look after yourself



- Solar panel temporary sunshade.
 - Provides instant relief from the sun
 - Main source of solar panel energy

- Solar Panel powered mini fridge
 - Only contains water
 - Satisfies hydration needs.
 - Payment required to unlock the fridge. £1
 - System – insert pound -> enter code of water bottle -> door unlocks with your water slot. (no chances of stealing)

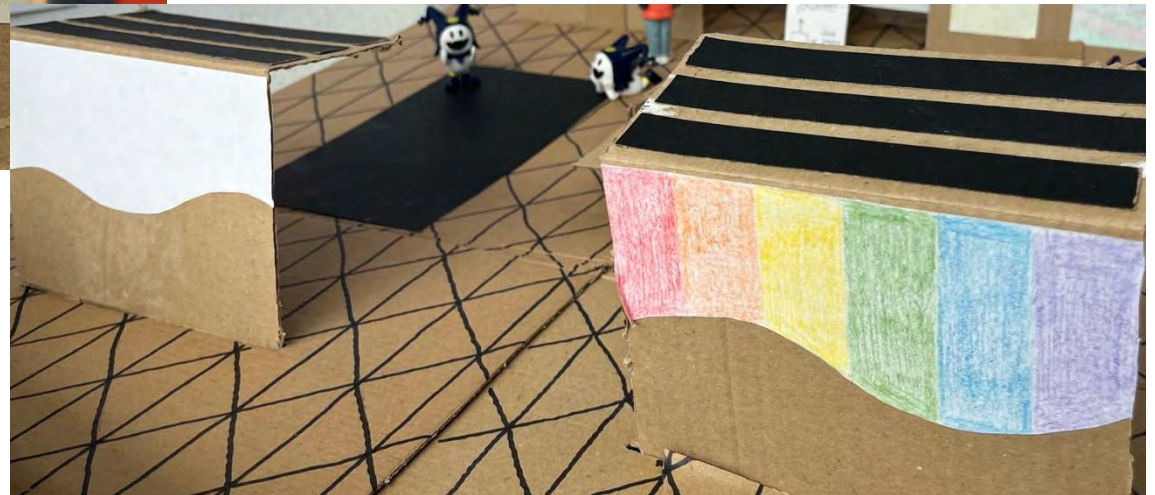
- Solar panel powered charging ports.
 - Wireless and USB ports available
 - Keyless locks



My problem statement was how could we get people of all ages to actively spend time outdoors in different types of weather; this is a prevalent problem in the UK, where people are less likely to be outside in “unpleasant” weather, and so I wanted to create something that is not limited by it.

After researching my local area (West Midlands), I learned that we actually have the worst amount of play provisions for children; I held a creative session with students at the school I work at, asking them what kind of things they like to see/do in the spare time. Museums/galleries were popular, and so I started to design an outdoor art gallery; the sheltered screens would display photographs submitted by the public (after being checked by local council) and are placed around large LCD screens fitted into the floor – for children to draw on. The space would be powered by solar-panels (on the roofs of shelters) as well as a kinetic walkway; I also decided to include hydrochromic material on the backs of the photo displays, which would become rainbow when wet.

Melissa Morton The Interactive Outdoor Art Gallery



Melissa Morton The Chick Kettle

My problem statement was to design a way of reducing the risk of harm vulnerable people face when accessing boiling water; this could help elderly people or those with lesser motor function. I researched existing products and thought of how they could be improved; after holding a creative session, I decided I wanted to make my design fun and have a personality – which is why it resembles a chick in an egg. It is a kettle which pivots on the base, allowing water to be poured without strain to the wrist; the water being ready is indicated by the light in the base (red/green) and water is poured through the beak opening. The base would also allow the kettle to be moved; though I represented this with wheels, the final product would use a suspended ball for more free movement.



Melissa Morton The Chick Kettle



Memoona Mehmood Cell Block Bonanza!

Commended

My game design was inspired by the prison service, it is a 'roll-and-move' board game titled 'Cell Block Bonanza'. A 4-player game designed for ages 10-12+, with the users playing as inmates in prison and their objective, to escape whilst evading capture from the warden. The warden is not assigned to a separate player, rather it is controlled by the other players and able to move freely across the board. Players begin from their assigned corner of the board, titled 'Cell Block A/B/C/D' and must follow their lane to reach the finish.

Players roll with two different coloured dice simultaneously, one assigned to the inmates and the other to the warden, the number each dice lands on determines how many squares the player and warden moves. Players can choose which course they wish to take for the warden which is where the fun lies! Landing on a multicoloured square allows the warden to change lanes.



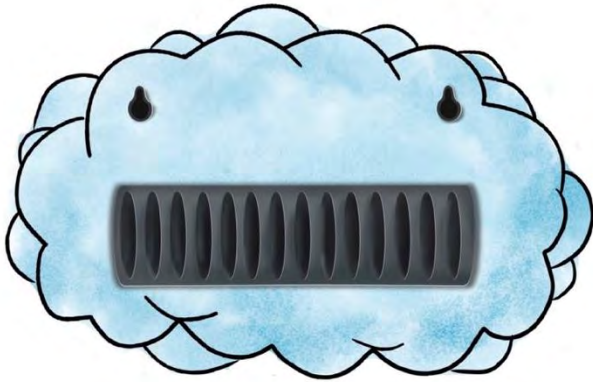
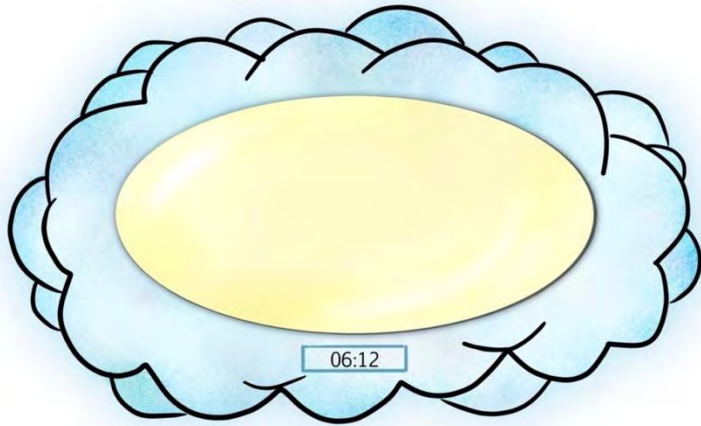
Memooona Mehmood

If an inmate lands on a 'Gavel', 'Scales of Justice', or 'Spotlight' square, they must pick up the corresponding card and do as it says.

Cell Block Bonanza!



If you win an 'Explosion Token', you pick any of the 3D pieces and place it at your nearest intersecting square which blocks the warden's path for the duration of the game. If the warden lands on you, you get sent back to the start. The first player to the finish, breaks out and wins the game!



My design proposal is a wall mounted SAD light, shaped as a cloud with the light being emitted from the centre. It is voice-controlled, operated through a remote. The cloud will be formed using lightweight fibre so as not to make it too heavy. The lamp will emit white light up to 10 000 lux and will offer different brightness settings, adjustable to a person's choice.

It also includes dawn simulation, where the light begins on a dimmer and builds slowly to give the user a peaceful waking. There are built-in speakers on the underside allowing the user to play sounds of their choice. There is also a fan component at the back, designed to remove negative air ions thus purifying the air in one's home environment. The remote includes full settings menu to allow for adjustments, connection via Wi-Fi which will be used for voice control and to add third party sound.

This proposal is a new take to most SAD lamps that are on the market and my goal was to create an exciting feeling with its design. Furthermore, my design solution is an attempt to bring together two known solutions, light therapy and air ionisation. A system that combines both techniques is sure to change how SAD is treated. By allowing multiple personalisation settings, the user can build the optimum experience for themselves additionally, someone who has SAD may also feel anxious to be out in public and the lamp affords the user comfortability. There is potential for this design to be used in prisons and psychiatric wards where individuals experience reduced daylight hours.

Memooona Mehmood SAD Light



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It is nighttime. A person with SAD is getting ready to set their lamp for the morning



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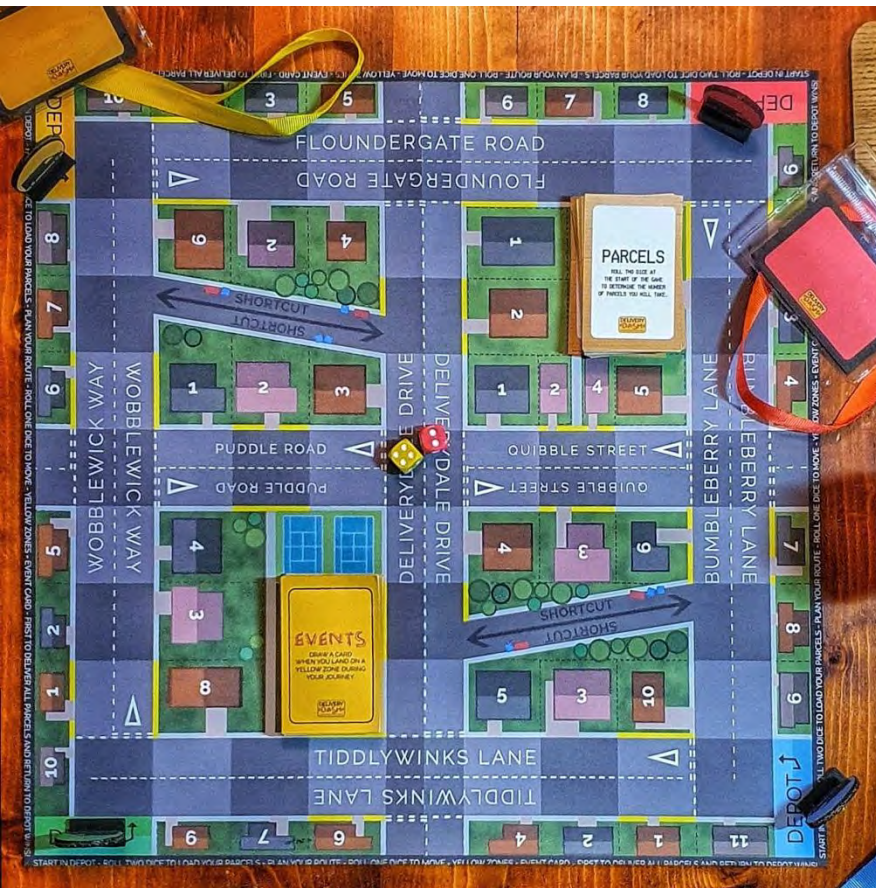
It is morning time. The lamp is slowly coming to full brightness. There is also calm music playing.



The person is making a start to their day feeling refreshed and capable

Nathan Bolland

Delivery Dash



Delivery Dash is a board game for 2-4 players of all ages. Players take on the role of rival couriers navigating a busy town and delivering packages. To start, players choose a coloured token and lanyard to represent their delivery company and from their chosen depot they roll a dice to determine how many parcels they need to deliver and then on each turn roll to determine how far they can move. Landing in a yellow zone requires an event card to be drawn - these include shortcuts, traffic, compliments, complaints and many more. Successful deliveries reward the player with a double dice roll on their next turn. The first player to deliver all their packages AND return to their depot wins the game!

The game was created to subtly reflect real-life delivery challenges and offers potential for educational value in a playful format. This concept appeals to families, casual gamers, and even more skilled players as complex strategies can be planned to streamline routes. Games can last from 10 minutes to over an hour and the use of an optional timer can dramatically increase the required turn speed.

Nathan Bolland

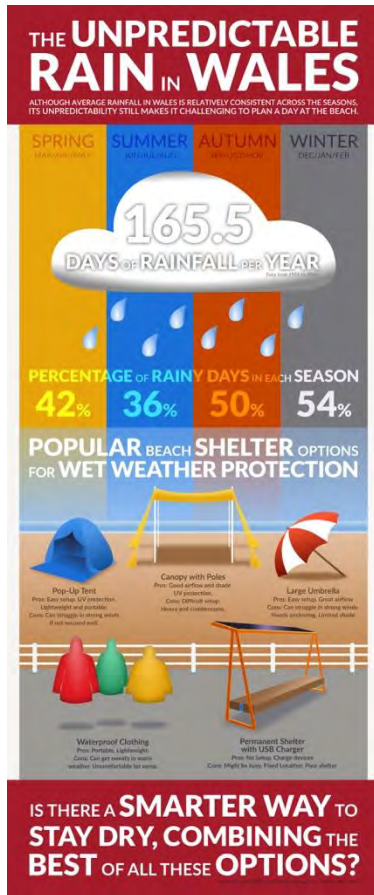
Delivery Dash



The development process included early prototyping, extensive playtesting, graphic refinement, and iteration based on user feedback. This project also served as a personal learning journey for myself with it being the first board game I've created.

Nathan Bolland Delivery Dash

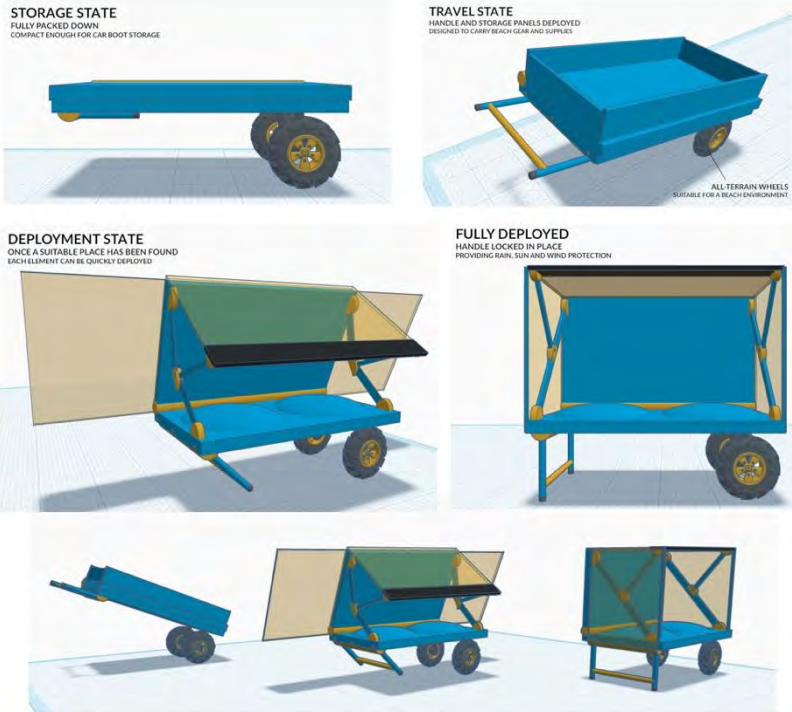




Day Tripper is a multifunctional beach seat buggy designed to streamline a beach visit by combining transport, storage, seating, and shade into a single, compact solution. The buggy features a foldable handle that doubles as a stand, collapsible side panels for travel storage, and a UV blocking canopy that shelters a double seating area. Integrated into the canopy is a solar panel and battery pack allowing users to charge USB devices. The buggy fits easily into a car boot and transforms quickly between transport and seating modes.

Beachgoers often struggle with carrying multiple items like chairs, umbrellas, bags, and more across uneven terrain like sand. This can be physically demanding and inconvenient, particularly for families or elderly individuals. My design addresses this problem by integrating essential beach gear into a single, easy-to-transport unit.

DAY TRIPPER



I began by researching common challenges faced at the beach through user surveys and observational studies and from that created the research infographic. I sketched ideas, then I decided to create a 3D prototype. With limited prior experience in 3D modelling, I found the free web app “Tinkercad” to be the most accessible tool and allowed me to build the model and create variations to explore how it would perform under different conditions.



Paul Matthews

Lest We Forget



For my first TMA, Making a T-shirt with the principles of abstraction and composition. I dedicated this project to my late grandmother, titling it "Lest we forget" as a reminder of my origins and current path. My main design features a wing motif, created from a repeated finger pattern, on the back of a t-shirt. I incorporated the BSL (British Sign Language) symbol for love (hands in a heart shape) on the left chest. Initially central, I shifted it for aesthetic reasons.

Beyond the love symbol, I also integrated the BSL letters for L.O.V.E. into a heart-shaped mosaic, which, when overlaid, forms the BSL sign for love. The reason was to help raise awareness for BSL. For the background of this main graphic, I used inverted and repeated abstract wing patterns to create a suitable frame. I always had the intention of giving it a physical ripped effect, but as I was just playing around in the graphic stage, one stood out, and I liked it so much that I also included the digital "ripped" effect, which was ultimately incorporated into the design to add depth and style. The title and finger wings are placed on the upper back, symbolising my grandmother as a guardian angel.

Paul Matthews

Lest We Forget



Paul Matthews Moley Moley: A Race Against the Fox

U101 Winner



We were asked to make a board game based on a service. The one I chose was Rescue Then, which got me thinking about the kind of game I wanted to put out. I wanted it to be fun and friendly, so I decided to make fun, lovable characters. I had a name in mind, "Moley Moley". this was because when my nephews were younger, we went on a road trip. They were making a joke out of a mole I have on my neck, and they called it Moley Moley.

Moley Moley: A Race Against the Fox, a delightful 1-4 player board game (ages 7+) where lovable moles Moley Moley, Hari Moley, Holy Moley, and Quac A. Moley, race to save Queen Molissa from Freddy the Fox! Inspired by "Rescue," this game offers charming characters and a mischievous antagonist. Players use "dig cards" to move, while "Fox cards" control Freddy, creating a thrilling race. "Mystery mole cards" inject fun and unpredictability, making it a fact-filled experience that brings happiness and excitement to the whole family.

Paul Matthews

Moley Moley : A Race Against the Fox



Rafe Hawkins

Love, A Human



The intent behind this t-shirt design is a message of wholehearted, unreserved affirmation and love for Transgender people.

The brief for this project began with a focus on hands. Our hands are one of our species' most unique traits, central to our creativity and our identity. It was important to me to center humanity within my design, and to place Trans people within the core of human experience, so I chose a gesture that combines the dexterity of the human hand with an abstracted expression of love and connection.

From its origins in Korea and spread through online communities, the finger-heart gesture is recognizable across the world. It is usually seen from the viewer's perspective. By reversing the view, I tried to place the giver of affirmation back into the frame, and to emphasize the reciprocity of love: by offering it to others, we invite it for ourselves.

I was interested in the organic shapes of the hand and wanted to emphasize that flow and rhythm. While staying within the pink, white, and blue palette of the Trans Pride flag, I used a range of values to achieve visual hierarchy: the darkest and most saturated shades for the lettering and the heart; then the outline of the hand; and the lightest, softest shades for the modeling.

Rafe Hawkins Love, A Human





Project Detail . The Pouch Stand Squeezer is an easy-to-use device that helps pet owners dispense food from liquid pouches without mess or waste. The pouch is securely held in place with a retainer, and the food is pressed out through the nozzle into the cat bowl. After use, the built-in clip allows the pouch to be resealed for clean and convenient storage.

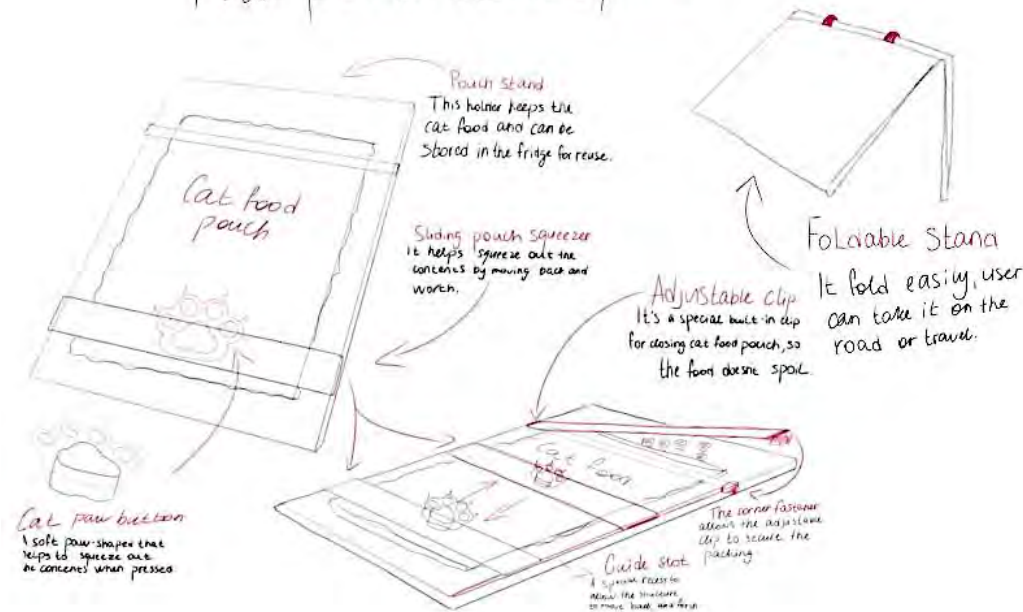
Problem statement: Design a convenient and reusable implement to easily remove the entire product and securely seal it for reuse.

The Process:

The design process began by asking my family and friends which designs they found inconvenient. I then used the Idea Cards method to explore creative directions with each card offering prompts to inspire new concepts. Initial sketches were developed and evaluated using the 5 W1H method.

The 3D prototype was made from cardboard and assembled with a hot glue gun. Key components were glued together and a paw-shaped button was added for a playful touch. The design was refined through testing to improve usability and user experience.

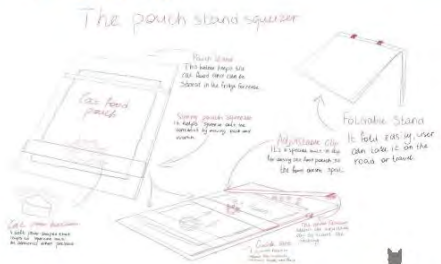
The pouch stand squeezer



Sabina Karasheva The Pouch Stand Squeezer

The pouch stand squeezer

Design Concept



How it would work

- 1 Place the food on the device;
- 2 Fix it from below with the retainer to prevent falling;
- 3 Attach the squeezer foot slightly above the first nozzle;
- 4 Hold the device with one hand and press the foot button with the other;
- 5 Lift — the food will fall into the bowl.



Storage in the refrigerator



Result: the food was successfully placed in the bowl



Testing the clip for storing and sealing the package



The benefits:

- Helps squeeze out all the food, reducing waste.
- Keeps the pouch sealed to preserve food.
- Foldable and compact for easy storage.
- Prevents spills, making feeding cleaner.
- Paw-shaped button adds a fun, interactive touch



This design proposal is a hybrid system and product-based solution to assist gardeners in preventing damage to their garden plants from the windy weather. Resulting from a problem statement, “How might we design a way to help gardeners care for their plants before, during, or after windy weather?” Formed from my research, user trips and gardener interviews into how wind affects plants. After a student-led creative session, I merged two strong ideas, which created this proposal.

The prototype Hive-Hub tracks the wind and soil moisture, and when the weather reaches specific prerequisites, it activates its companion products. Additionally, the Hub sends radio signals during windy weather, causing the plant pot to raise its trellis to protect the plants inside, allowing wind to pass through more readily. Furthermore, the Hub will send a radio signal to the water spikes after wind gusts, releasing their held water, because transpiration uses up the plant’s water supply.

Stephanie Shelton Hive-Hub, the Automatic Weather Station

Feature – Inbuilt Water Stopper



This water spike is designed to hold water until the paired the device receives the automated wind and moisture tracker radio signals to release the water deep into the soil. Thereby, it occurs only when appropriate weather conditions and drying soil is present.



At the bottom of the water spike, a stopper akin to a water bottle's function is in place. It forms a tight seal, preventing any water leakage and plant overwatering, which is a problem with some existing water spikes.



When the radio signal is given, the cap expands outward, with a narrow valve for the water to pass through, smoothly in a controlled way to prevent overwhelming delicate plants. An hour after the radio signal is given to close the stopper.

Fundamentally, the proposal focuses on user needs and the essential environmental needs of plants and insects. Additionally, this proposal is effective on a local scale. Specifically, assisting senior citizens with managing their gardens. Finally, with refinement, my proposal has expandable potential for further integrated companion products.

Stephanie Shelton Hive-Hub, the Automatic Weather Station

Feature – Easy to Manage and Set Up

The gardener can easily fill the water plant spikes, using a watering can. After they close the lid, the water is stored in the water spike until the If appropriate weather conditions are met, then the water is released.



This watering set-up process is simple and allows gardeners to have a less hands-on approach in their modern and busy day-to-day life. Therefore, allowing them to water conveniently around their schedule.

Feature – Inbuilt Wind Protection Plant Pots



This tall display plant pot has a hidden inbuilt fence trellis with fake ivy, which is perfect for helping protect and maintain gardeners' prized flowers or vegetables.



When the automatic weather station tracks a prerequisite windspeed, a radio signal is sent and the trellis within the flowerpot deploys and raises to protect the plants, acting as a formidable windbreaker.



After the wind speed reduces, the trellis retracts back inside the flowerpot until it is needed once again.

Stephanie Shelton



Wish-List Wedding

Wish-List Wedding is a strategy, role-playing, and luck-based 3D board game inspired by the wedding planning service. It is a clean, wedding-themed game suitable for the family, which is less common among existing marketed wedding-themed games.

Game components are various card types with additional supporting dice, counters, and whiteboards.

The game rules are that players' counters must climb the 3D cake game board by rolling the dice and moving to the designated spaces. Game spaces trigger card pulls; these cards are wedding-themed collectable items, disaster outcomes, or positive outcomes. Trading mechanics encourage players to trade their strawberry cards to match their starting secret card theme, which doubles the card's points. High dice rolls can also incur card bonuses.

Furthermore, space landing trading mechanics and dice roll mechanics at the finish line add game-play balance. Results are determined when the last player reaches the top of the wedding cake. The player who obtains the most points win. It is a clean game suitable for the family, less common among marketed wedding-themed games.

Functionally, the cake can be assembled using Velcro, allowing easy storage. The game board's 2D base is round, allowing for smooth movement by rotating the board.



Stephanie Shelton

Game Components



x60
Tradable
Collectible Point Cards
6 Different Categories
Hearts = Points

Theme-card

x10
Secret Theme Cards
Each Player Starts With One

Matching Strawberry Cards To Your Theme Card Doubles Points

Your theme is...	Your theme is...	Your theme is...	Your theme is...	Your theme is...
Classic	Beach	Medieval	Space	Rustic
Your theme is...	Your theme is...	Your theme is...	Your theme is...	Your theme is...
Gothic	Marine	Floral	Glamour	Winter

Wish-List Wedding

Making Process



Vicky Lines

While addressing a personal problem, I found the topic of "Design and everyone" crucial. My research supported personal opinions and confirmed that the issues extended beyond individual concerns. It revealed a broader context, both globally and within the local community. Local stories naturally brought to light collective challenges, painting a vivid picture of shared struggles. Researching the impact of the weather was a clear starting point, given the increasing prevalence of flooding locally and globally. The issue resonated personally with me and other local livestock keepers, especially horse owners.

Hoof Boot



STORYBOARD - PROPOSAL USE

Wellington is fed up with having sore feet.

Is it bad weather or just the wrong clothes!

I HAVE MY BOOTS, I'M TOTALLY DRESSED

no more soaking legs with more water

EUREKA

High-DRY HORSE POWER, BOOTS

I'm singing in the rain

inspired

more boots make things move!

here boot made of get with a built in code

[illegible]

SIZE	M1	M2	M3	M4	M5	M6	M7	M8
1 1/8" 32	62	71						
1 3/8" 35	72	82						
1 1/2" 38	83	92						
1 5/8" 40	93	102						
1 3/4" 42	102	109						
1 7/8" 44	110	117						
2" 46	118	125						
2 1/8" 48	126	133						
2 1/4" 50	134	141						
2 3/8" 52	142	149						
2 1/2" 54	150	157						
2 5/8" 56	158	165						
2 3/4" 58	166	173						
2 7/8" 60	174	181						
3" 62	182	189						

CLB sizes BFB regular size only

The need was for a product that bridged existing solutions, addressing medical concerns and exercise-related issues. Needed, was something designed for turnout in a field for horses. The gel horse boot concept, inspired by human footwear and advancing fabric technologies, became the focus and was validated during a creative session.

For prototyping, functionality had to take precedence, needing resilience to perform well under the demands of an animal, and in muddy wet fields. Revisiting past modules and exercises, such as the Welcome pack masking tape exercise, reinforced values of prototyping, the 5W 1H framework, and storyboarding, refined and helped in executing my design concepts. The product was successful in testing.

Research revealed that consumers are willing to pay more for a product that delivers on its

Vicky Lines

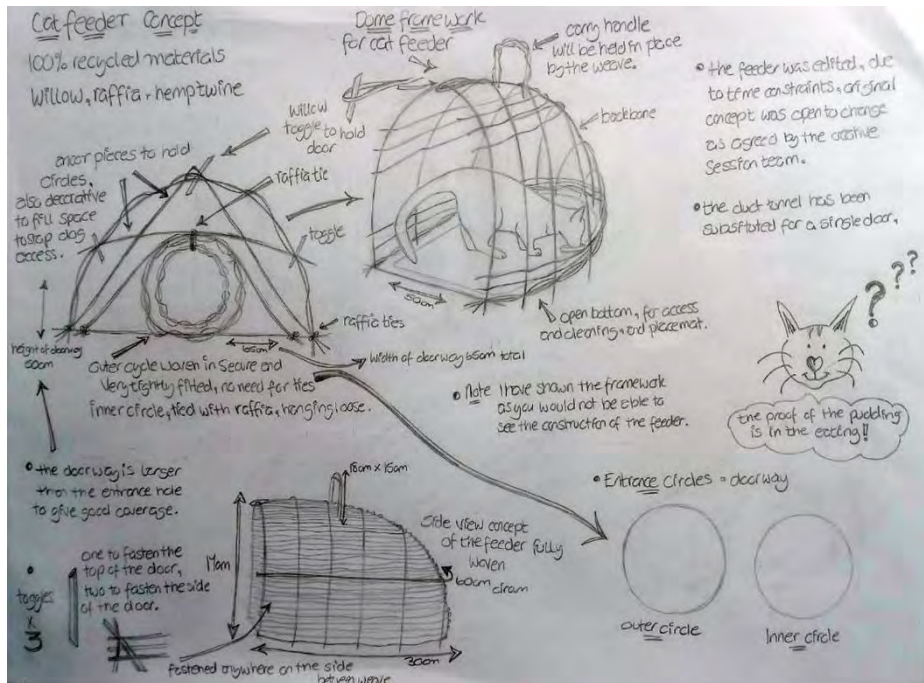
Hoof Boot



Vicky Lines

Developing a tangible and observable concept was both thrilling and challenging, filled with obstacles along the way. I quickly realized how easy it was to become distracted by ideas, often justifying even the most extreme ones before refining them into a feasible concept. Observing and accepting differing perspectives was necessary for growth, through creative brainstorming sessions with a broad spectrum of participants.

Eco-Friendly Cat Feeder



Vicky Lines



Eco-Friendly Cat Feeder

Prototyping was thought provoking. I opted for a workable yet unpredictable material, questioning whether the form would collaborate effectively and serve its intended purpose. I was mindful of creating something that was both functional and aesthetically satisfying, ensuring that it resonated positively with my creative team. The environmental impact was a major consideration, reinforcing the principles of reduction, low production, reuse, and sustainability. The use of willow, a compostable multipurpose resource, aligned with these values.

Constructing the prototype revealed both advantages and limitations. Surprisingly, it exceeded expectations in functionality, allowing easy refinement of its shortcomings. the challenge of constructing from a paper-based concept to prototype modelling. It was in itself thought-provoking, a visual, hands-on, evolving process. The fact that it was 100% recyclable validated our commitment to an eco-friendly and sustainable concept. Challenging the design? interacting with a product beyond the visual experience, and appearance that sometimes is a facade for meeting aesthetic pleasure. Testing in another home confirmed its success, the prototype fulfilled its intended purpose, still in use today.

Design practices.

T190



Claire Brown

Squirrel Pines

Overall Winner

MAKING & MATERIALS
CONCEPT PHOTO



BEFORE



AFTER

Welcome to 'Squirrel Pines,' a multi-story squirrel maze and feeder. Due to growing demand and recent refurbishments, we are excited to announce that we are more inclusive - birds are now welcome!

I found a £4 scuffed pine toy highchair at a charity shop, perfect for this project as I'm familiar with woodwork and had the necessary tools. I disassembled the highchair, made cardboard templates of each part and labelled each. Being innovative through hands-on experimentation helped me discover and refine interesting shapes. After building the prototype, I sketched, measured, and constructed something that wouldn't have been achievable through drawing alone.

The feeder is made from highchair wood and screws, recycled plastic packaging, a tin lid, string, and brackets. I varnished the pine making it suitable for outdoor use. The sloped roof protects wildlife by directing water away. It can be hung anywhere, bears weight and is flat-packable. I implemented suggested changes to welcome birds, opening up the bottom level for larger species and a hook to the top for a coconut-shell, providing a safe space for smaller birds.

MAKING PROCESS

TOY HIGHCHAIR INTO SQUIRREL & BIRD FEEDER

STARTING POINT



BOUGHT OBJECT-
TOY HIGHCHAIR



DISASSEMBLED &
REPLICAS MADE



RESULT OF
EXPERIMENTATION



CUT & SANDED
ELEMENTS



CONSTRUCTED
TOGETHER



ADDED FINISHING
TOUCHES & HUNG

END POINT

SQUIRREL PINES

GUEST FEEDBACK



"The views from the top of Squirrel Pines is truly breathtaking."

"After my corn on the cob starter on the first floor, I decided to try the delights on the second and I'm glad I did, one word - yummy!"



"Security is tight, I tried to run away with the tasty coconut-shell but I couldn't!"



"A safe and dry place to grab a bite to eat & tweet"



"A-MAZE-ING!!"
★★★★★

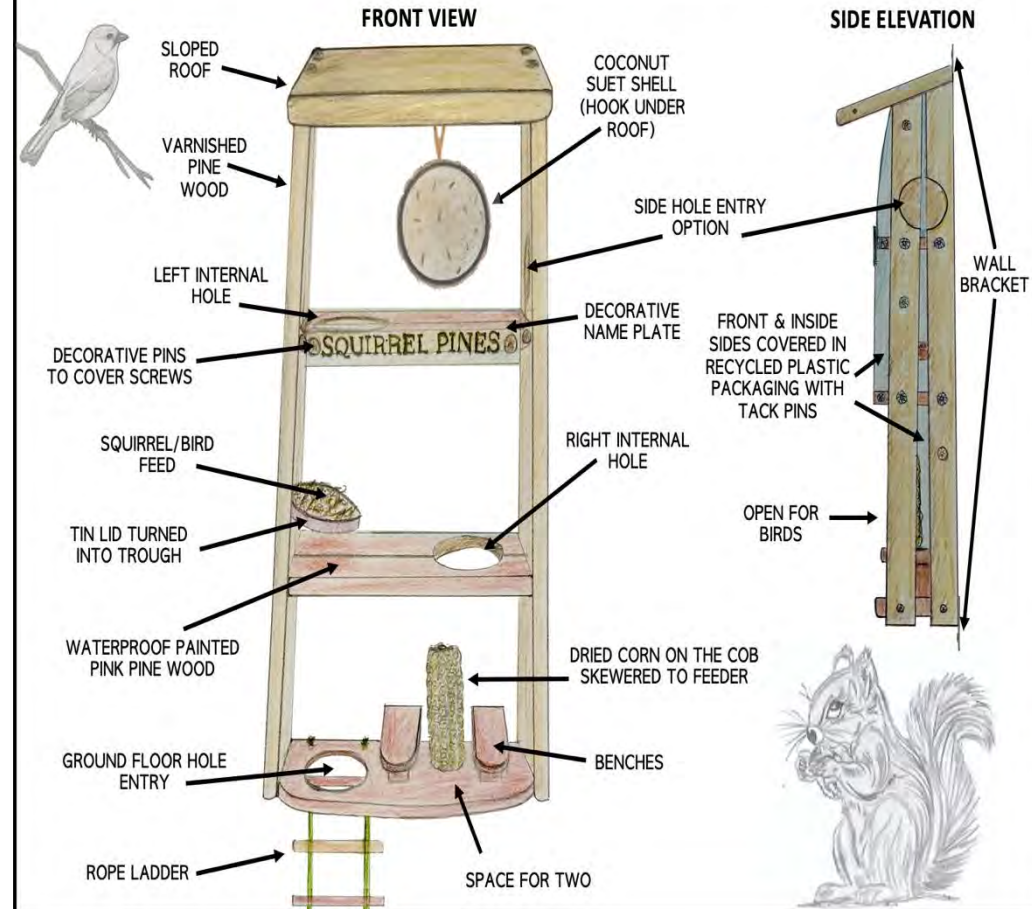


"I was nervous coming here at first but now I have explored every level I'd be nuts not to keep coming back!"



CONCEPT DESIGN DRAWING

TOY HIGHCHAIR INTO SQUIRREL & BIRD FEEDER



Animal welfare was priority - screws are countersunk, wood is smoothed, and food is secured preventing squirrel theft! I kept each floor pink, enhancing its aesthetic appeal. I researched materials/wildlife, experimented with design, and created a functional feeder/maze by completely transforming an object. Doing so deepened my appreciation for sustainable practices and the joy/frustration of observing wildlife!

Olivia McCallum

I chose to develop a cover for the album, The Greatest Mistake of My Life by Holding Absence. This album has three recurring themes: loss/death, light/shadow, eyes/mind; my design communicates all of these themes. The album cover feels strong and aggressive which communicates the post hardcore/metal genre, showing it is upbeat but also covers dark and solemn themes.

The cover attracts attention through the high colour contrast between the black, grey and red. It then holds the viewer's attention as they look at the different shapes each crack creates and how they come together in the centre.

Additionally, it holds the viewer's attention as they explore the different ways one font has been used.

“The Greatest Mistake of My Life”

T190 Winner





To create this cover, I mind-mapped key lyrics within the album and created a list of the key themes. Iterations were made using these themes as inspiration, my first draft of the design was presented in a project review where I received feedback. This feedback was built upon and four iterations were generated. these iterations were presented to family for their opinions on which stood out the most. The final design was then selected.

The design communicates the album content to the viewer, allowing them to make a judgement on whether they would enjoy the music or not. This allows the artist to reach their target audience easier and gain more sales on the album as it stands out to potential customers.

Olivia McCallum

Reading Nook

My concept design is a reading nook in my garden for individual stories of exploration, creativity and security. It is for personal use, intended to be a third space and a home. I chose to use navy and burnt orange due to the emotions they are associated with, blue is representative of calmness and peace, orange is representative of warmth and creativity (The Open University, 2024), these are emotions that I want the shed to invoke in the user.

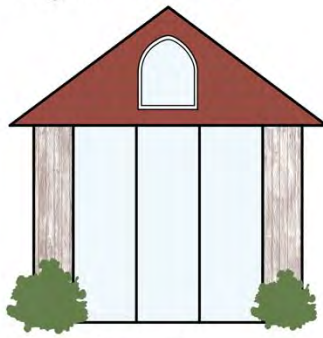
Additionally, the space connects the user with nature by having indoor plants around the room and bifold doors which can be opened on nice days to allow a breeze and the sounds of nature through the shed. Flowerbeds surround the exterior, to promote pollinators and other animals in the space providing a new habitat.

I used Pinterest to gain inspiration from other reading nook designs and consolidated them on a board. Once I had an idea of how I wanted my shed to look using this inspiration, I created a mood board and collage which showed design choices that did not fit with my prior expectations of the project. I used this exploration and my prior expectations to refine my design into my final concept design.

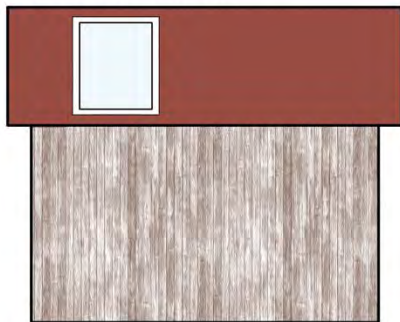
Front elevation



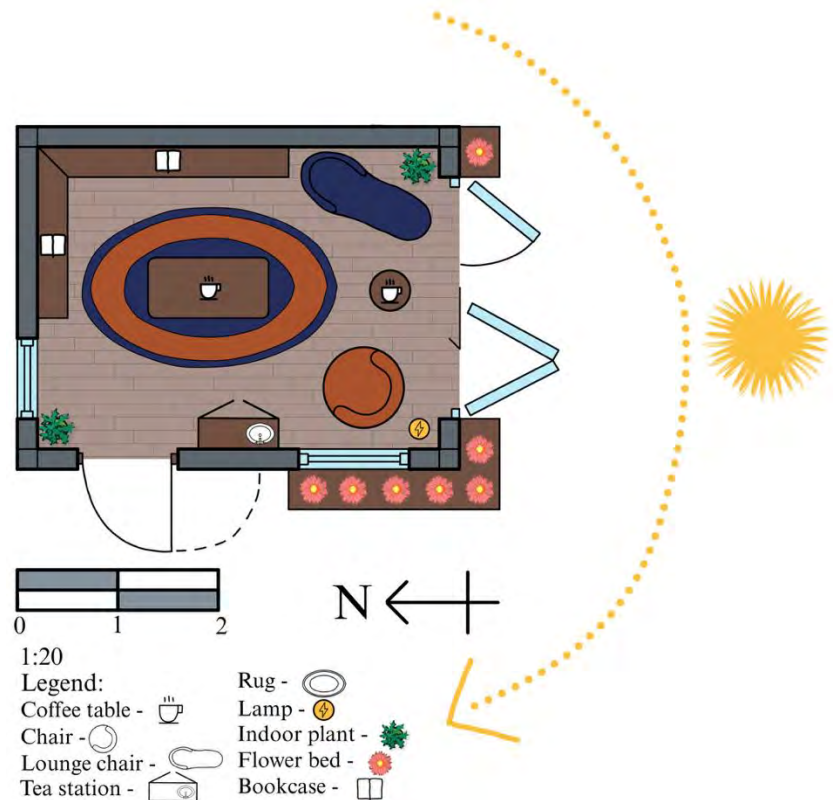
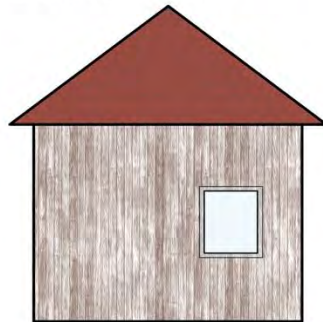
Right elevation



Back elevation



Left elevation



Olivia McCallum

Reading Nook



The shed is designed to be a personal safe space to escape from the world and immerse myself into another through reading, it will connect me with nature through natural light and plants but will be cosy at night with fairy lights and soft furniture. The space will use wooden furniture with navy and burnt orange to create a calm effect.



"We'll make the great escape"



"Birds still sing on bad days"



"Why don't you take a little time to get away?"

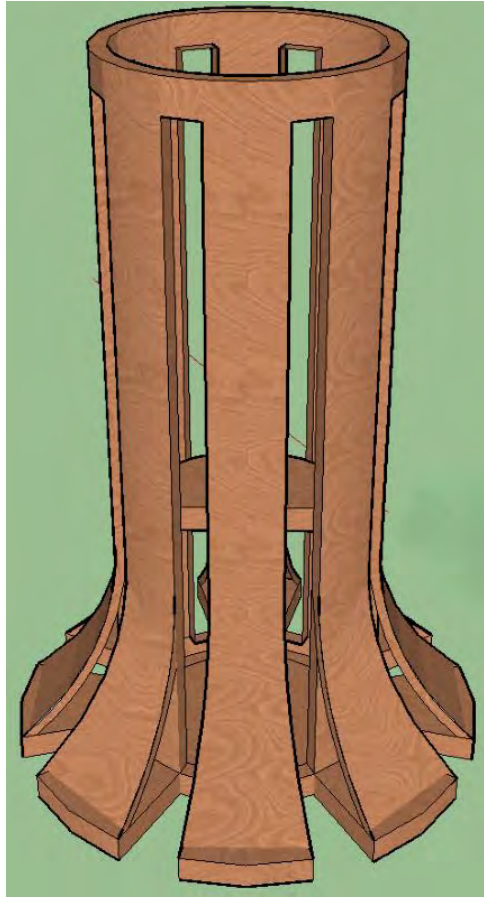
Pantone 166

Pantone 654

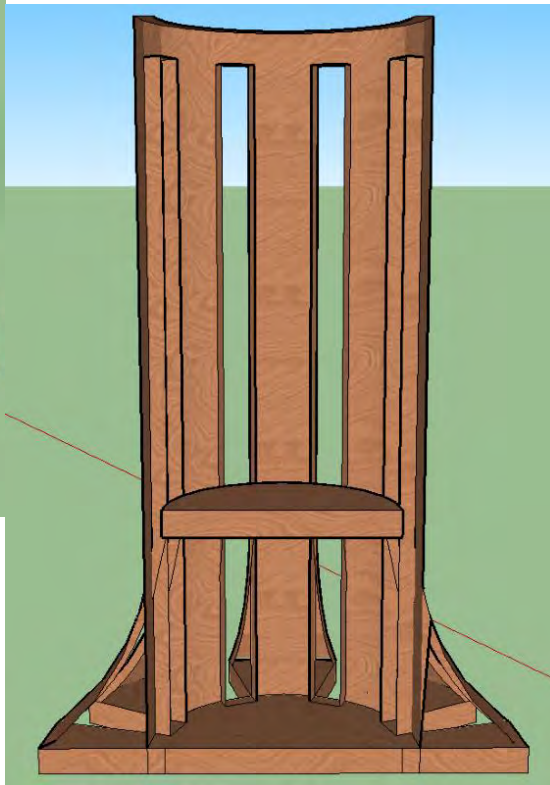


Design Essentials

T217



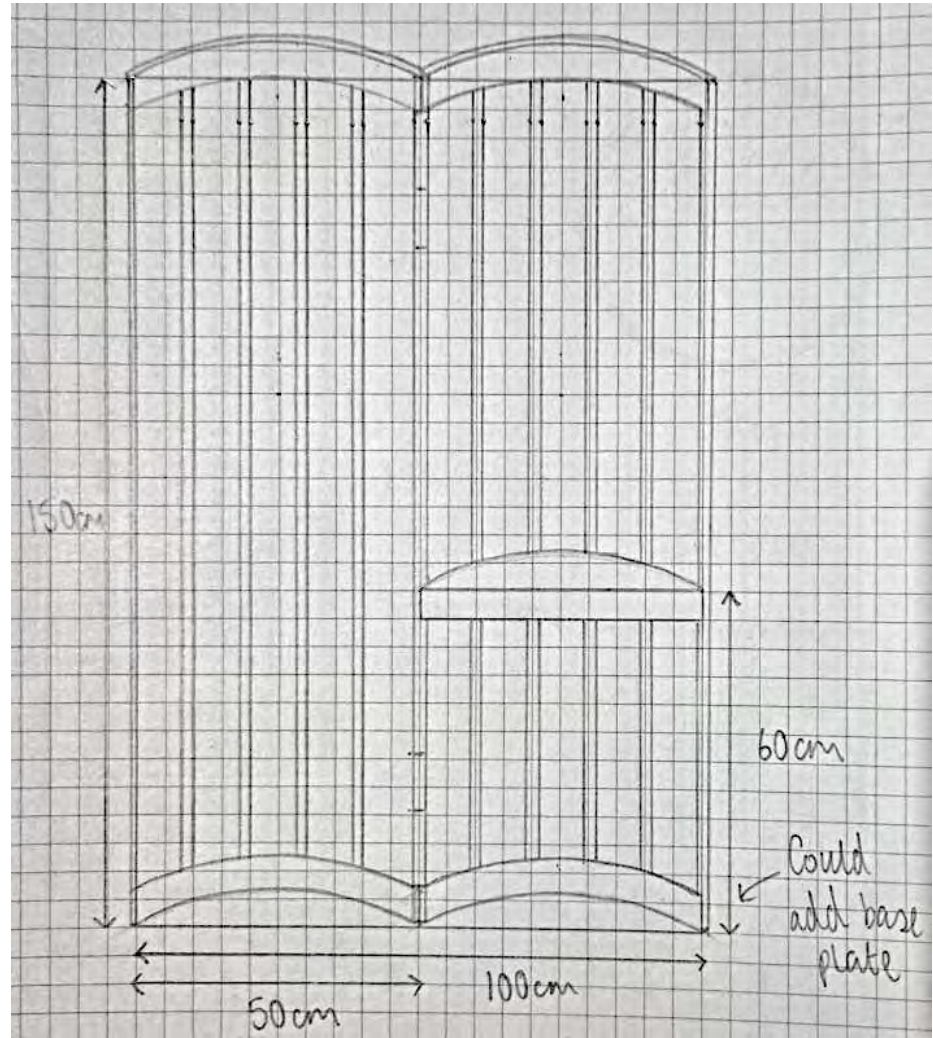
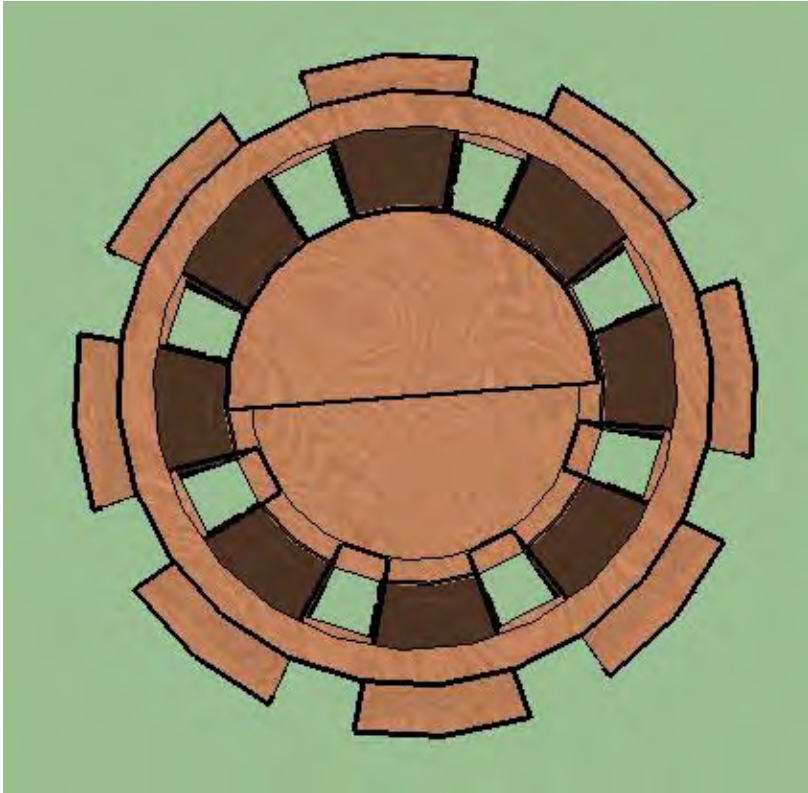
Mental health is something that affects individuals regardless of their background or age meaning they struggle to experience things that others do not account for. This could be, anxiety forming a barrier between them and the environment, processing disorders resulting in overstimulation or even OCD reducing enjoyable contact.



I completed two sections of research for this project, an interview with a practitioner who works as part of an inclusive theatre company, and an immersive experience where I experimented with the lack of contact caused by OCD. I used a material study to influence the concepts then created concepts that suited the brief and rounded these down using a selection matrix. Using perspective and orthographic drawings I enhanced my concept design before completing a study of components, form and connections in development. I then created three different layout designs, chose a configuration and analysed the materials I would use to suit the brief.

Alyx Carter

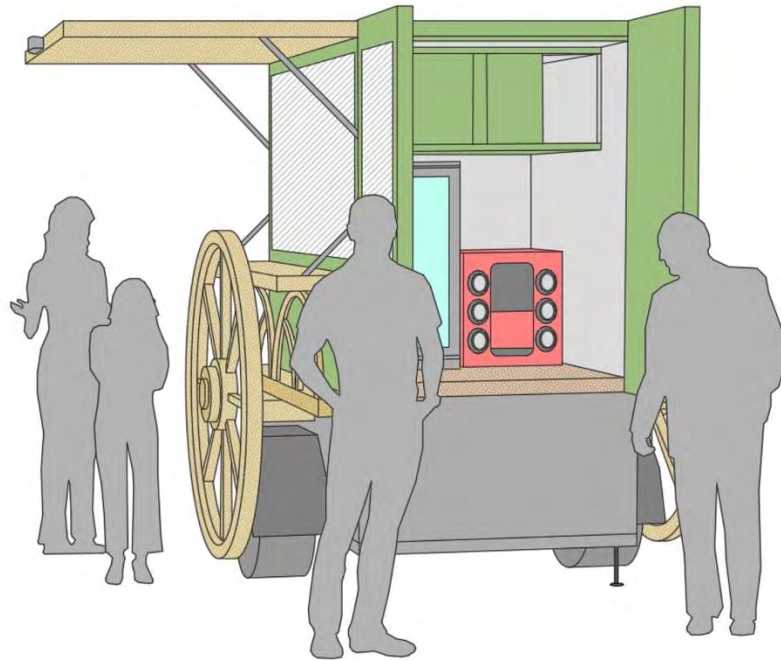
The Tree Stump



My aim for this product is to offer an alternative approach for such individuals to engage with the park and improve their visiting experience. This seat's purpose is to give the individual privacy in an over-stimulating situation. For this design I used associative thinking taking inspiration from a tree trunk. It averts attention allowing the user a moment of peace by blending in.

'The Chariot'

Iron-Age Forms With Modern Application



Project Description:

Project Detail:

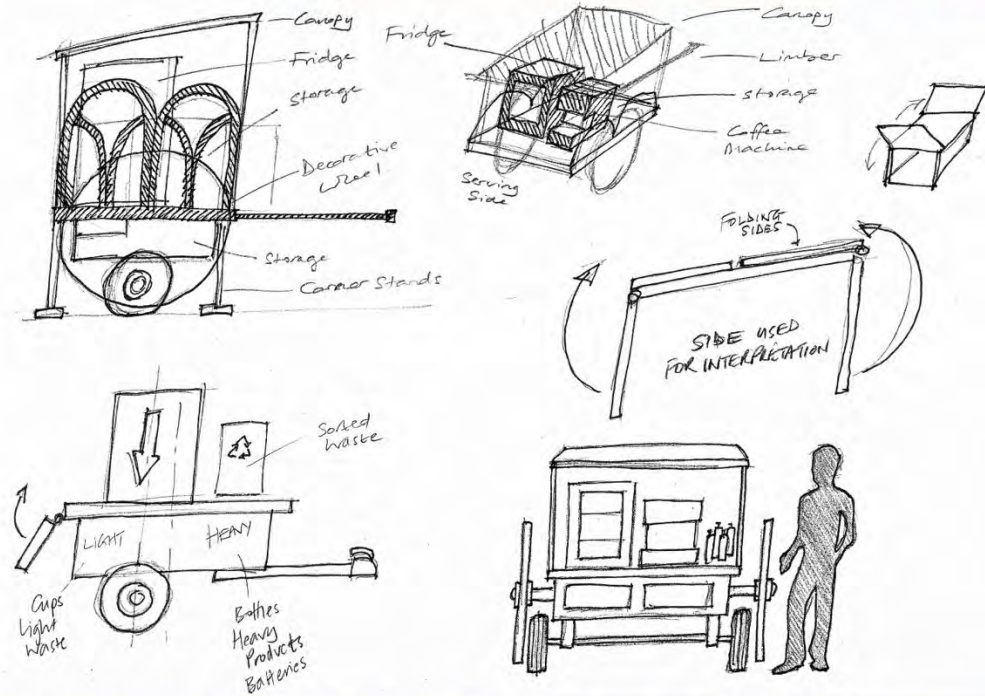
The project aimed to develop a 'thoughtful' and well-suited refreshment offer for Ditchling Beacon National Park.

'The Chariot' refreshment facility was designed as a site-sensitive, functional, and characterful response to a user research-led design brief providing refreshments for visitors, while respecting the landscape, archaeological context, visitor desires, and logistical needs of a seasonal, low-impact offer.

Problem Statement:

Ditchling Beacon National Park requires a practical, low-impact refreshment facility that enhances the visitor experience and generates revenue for conservation. It should be fit-for-purpose, easy to deploy, and should respect the site's ecological and archaeological significance.

Concept Idea



This idea was developed from the basis of analogy. Ditchling Beacon has a strong association with Iron Age history, and some research led to the discovery of the beautiful forms of a contemporary chariot. A chariot is mobile by nature, so this idea perfectly suited being adapted to a modern day small trailer, built up to resemble and incorporate the shapes and forms.

I developed designs to enhance the trailer's utility and usability, incorporating a modern 'off-the-shelf' trailer to use as a base, allowing easy maintenance. These known dimensions allowed me to visualise the design and refine the layout to make it more user-friendly for staff. Finally, I explored appropriate materials and making processes to design a materials specification with the intent of matching the character of the site.

Process:

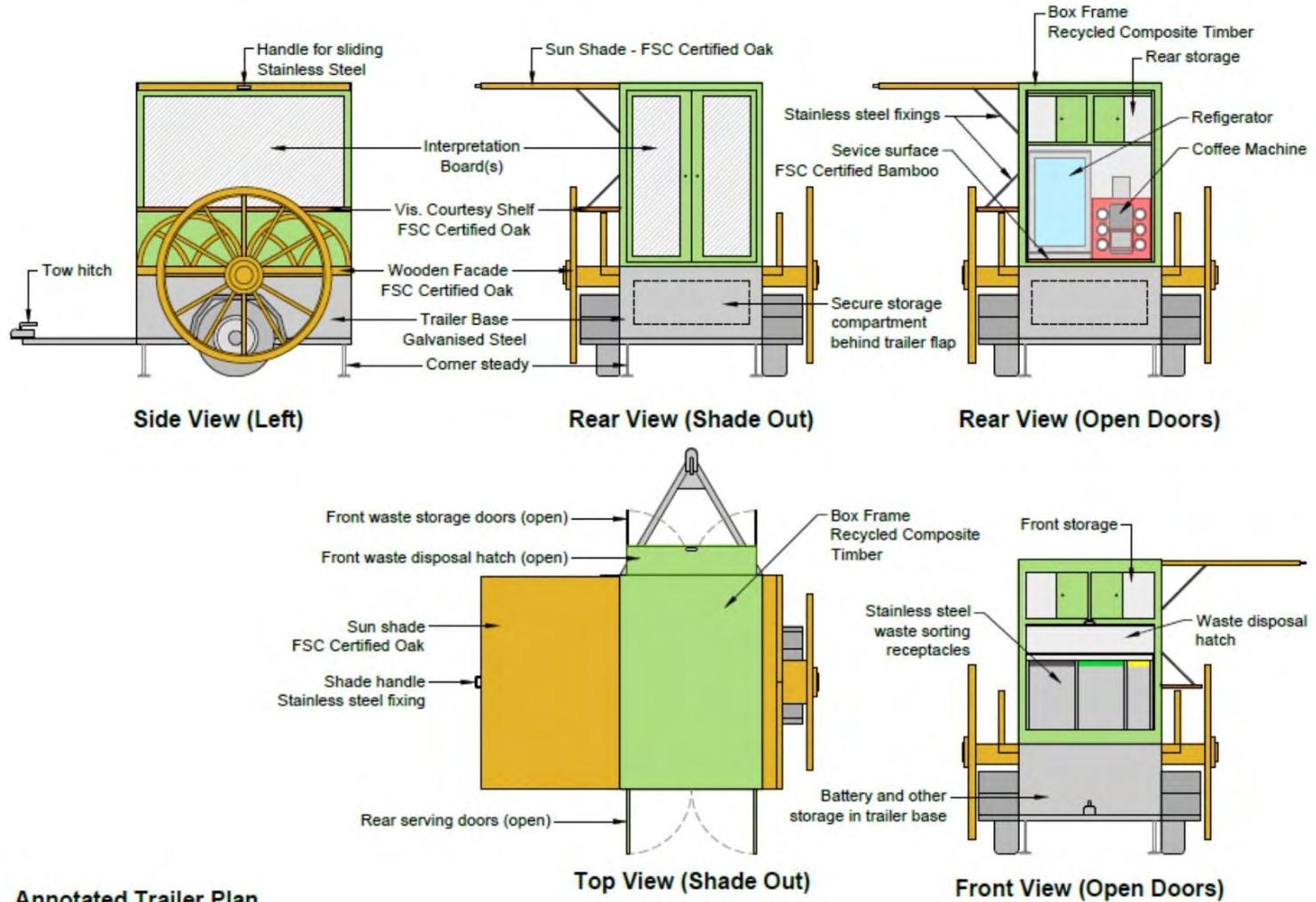
I began by undertaking a modelled visitor survey and a user visit to a local National Trust site with a well-established outdoor refreshment offer, using these insights to create the Design Brief.

I researched Iron Age structures and artefacts to get a sense of their styles and forms and looked for inspiration which embodied the principles I was seeking to echo with my concepts.

'The Chariot' was one of five concept ideas and was inspired by the analogy of an Iron-Age chariot, incorporating the shapes and forms from the archaeology. The design excelled in the imperatives identified in the design brief, particularly in its practicality and characterful design.

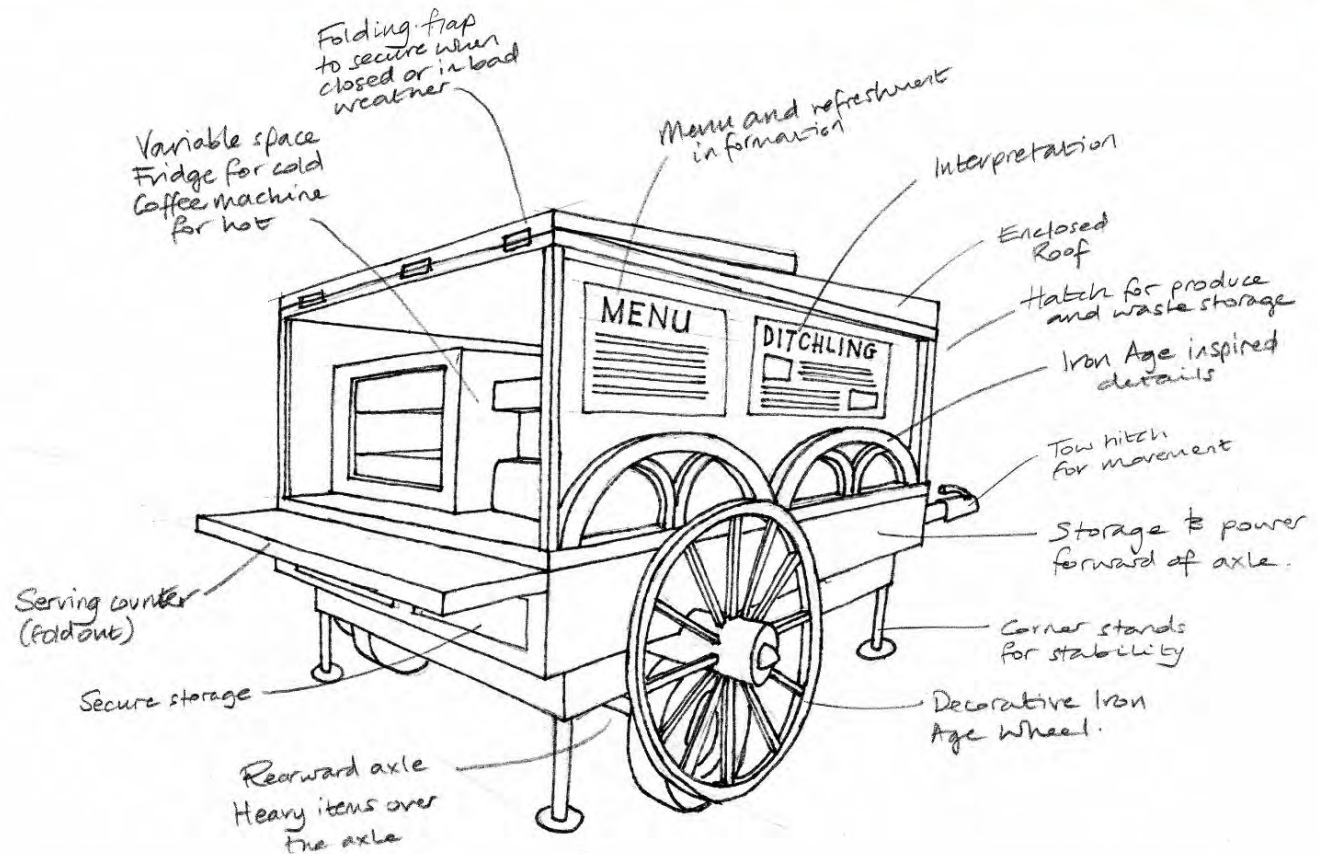
Charlotte Davey Sustenance & Sustainability

Annotated Orthographic



Annotated Trailer Plan
Scale 1:40

Concept Design



When judged against other ideas using a Selection Matrix, 'The Chariot' stood out by performing strongly in six of the seven key criteria established in the project's design brief. It reflects the distinctive character of Ditchling Beacon and introduces a layer of historical relevance to a site often celebrated more for its views than its archaeology, despite it offering both. This proposal will likely enhance visitor engagement and effectively fulfil its role as a refreshment point.





The mini-interactive exhibitions are designed to be placed at various points along a trail. Each exhibition has information and interactive activities for the user, including what animals are nearby and why we need to protect their habitats, information on how they can join local sites to help maintain the forests, ideas to do in their own garden to help wildlife. There are litter pickers and bags at each station to encourage the young users to collect any rubbish from the trail.

This project is based around Whinlatter located in the Lake district national park. The idea is to encourage young visitors at Whinlatter forest to connect with the landscape around them, the design will help young visitors to learn about conservation and sustainability through playful engagement. To stimulate my ideas, I took pictures of existing trails, from this I had the idea to create a new interactive trail exhibit that can be enjoyed by the young visitor but more widely aged appropriate than the Gruffalo and stickman trails on offer as my research showed all participants taking the questionnaire enjoyed being outside and had enjoyed popular Gruffalo/stickman walks when younger but felt to grown up for those characters now.

I was able to get inspiration for interactive elements from the exhibit situated in the shop of Whinlatter as my research showed not many visitors had interacted with it or even seen it. Due to where it was located. The information was suitable for teaching children about conservation and sustainability; I used some of the information on the mini-interactive trail to educate the young visitors.

Kelly Parker

Mini-interactive exhibitions

Research



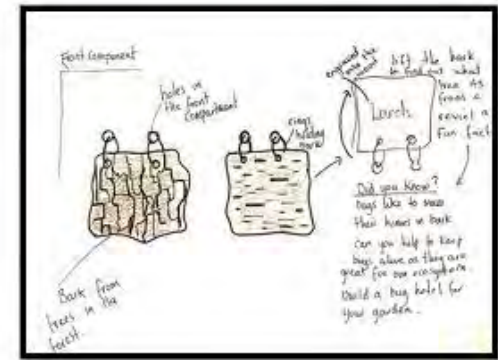
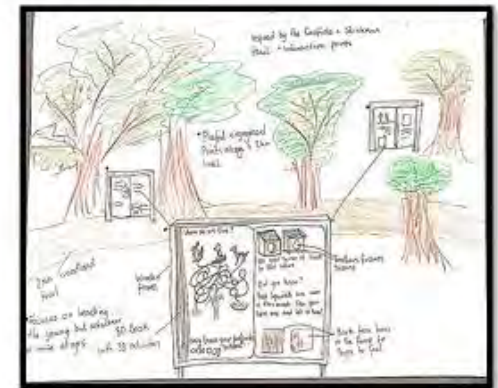
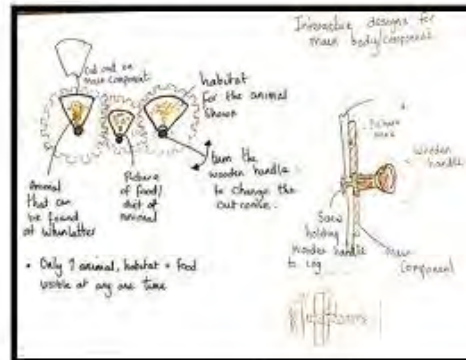
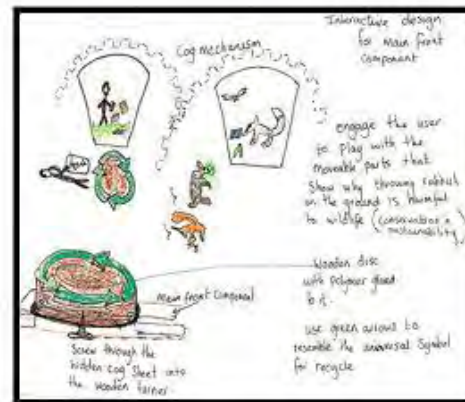
- Observations
- Questionnaires
- User trip

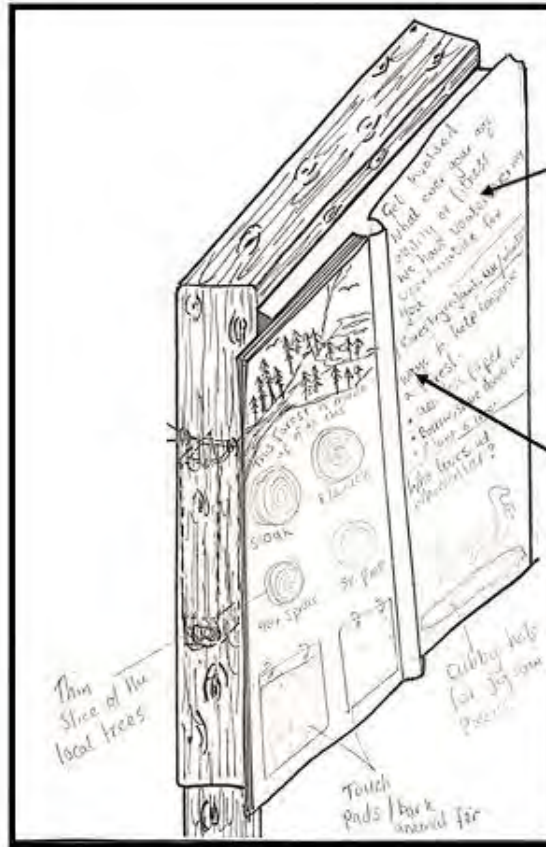
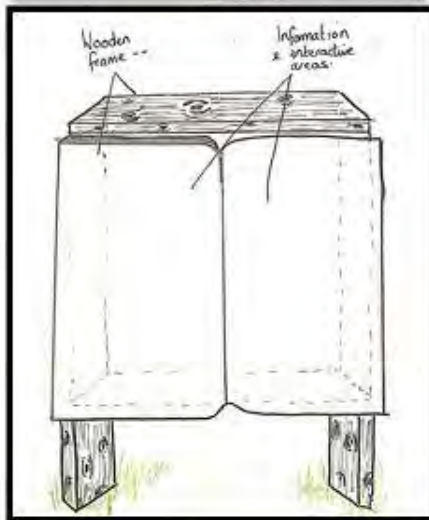
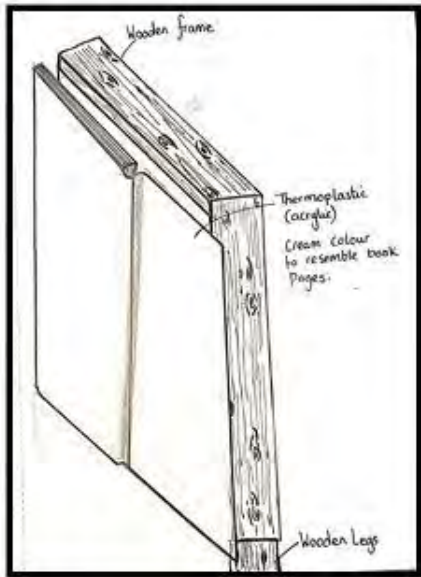


Others
perspective on
material
properties.



Concept idea with detailed sketches for options to have on the exhibition.

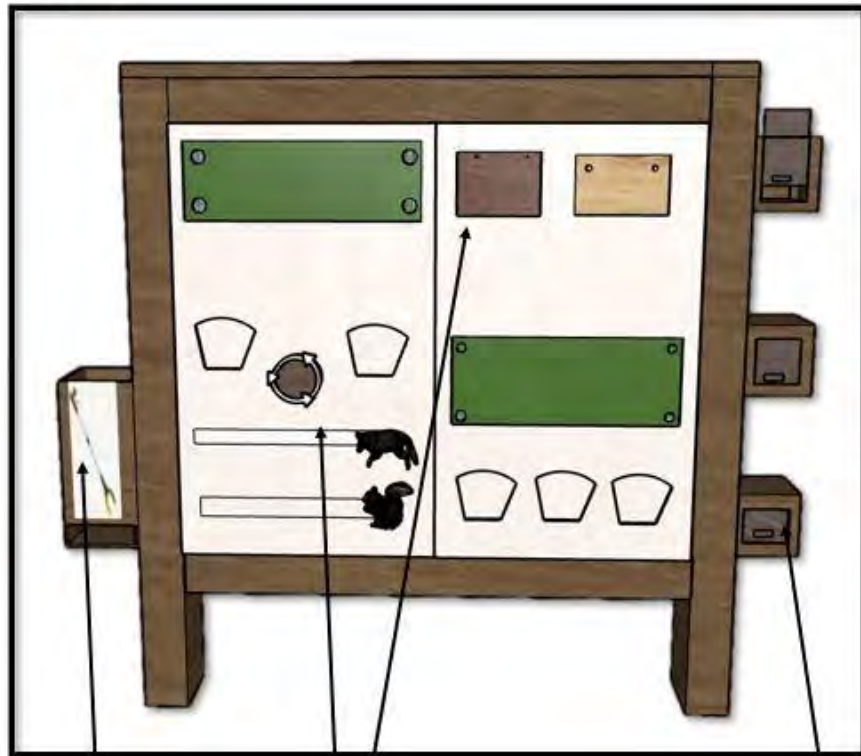




Information used on the front of the Mini-interactive exhibition



Front

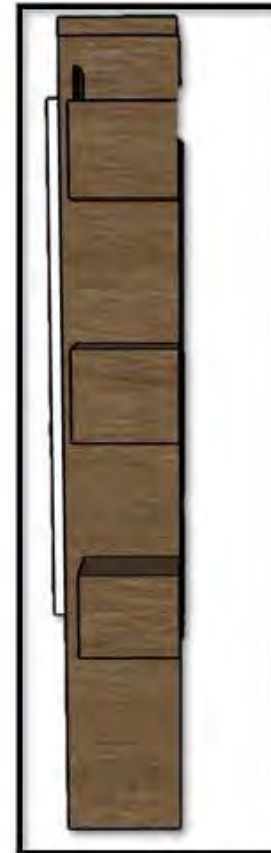


Litter picker
and bags
area

Interactive
areas

Sensory boxes
with materials
found in the
forest

Left side



Right side



Kelly Parker Playful reading chair for children

Research

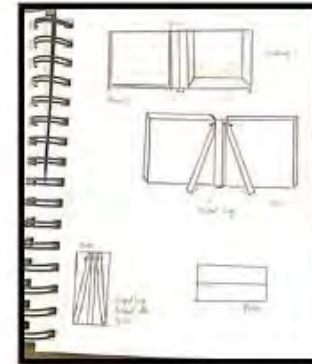


Pictures taken at my local library.



Exploration of ideas through modelling

Here is an early design concepts visually represented in sketches and 3d models.



The purpose of my seat is to encourage a child to read, by generating curiosity, being unique and novel in its appearance. The seat will be made to the specifications needed for a child to sit comfortably; it will be designed to have an inviting space where children can enjoy reading a book.

After visiting my local library and seeing only 1 small grey 2-seater sofa and several floor cushions, I decided I wanted to design a seat for children to sit and enjoy reading. I wanted my design to look different to the other seats on offer; to be fun and it needed to be eye catching for children. Reading is part of the UK school curriculum; I decided I wanted to create a seat aimed for the use of primary school aged children so between 5 – 11 years old. I researched educational furniture in the UK; I found out it needs to meet the requirement of BS EN 7729 standards based on average heights for these age groups. This means the research has already been done and the geometrics can be made to these measurements to meet the standards.

The seats could be used in educational settings but also many others, such as:

- Libraries
- Homes
- Children's hospitals
- Community centres
- Youth clubs

I have chosen to take the post-modernist perspective for my design concept and the design principle driving my concept is semantic and form. I chose this principle as it uses form to make references to other objects. My vision is to create meaning, to have a playful association, a seat that looks like a book, with the aim of it being unique and aesthetically pleasing for its intended user.



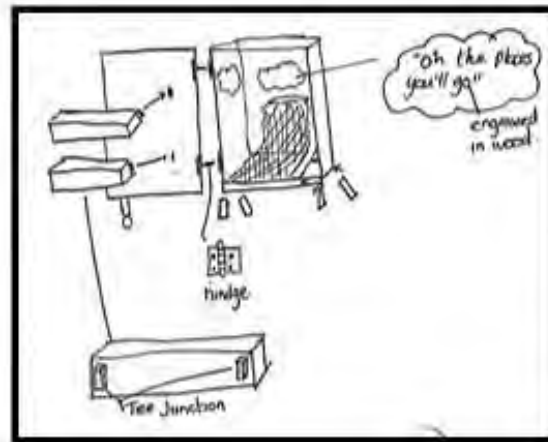
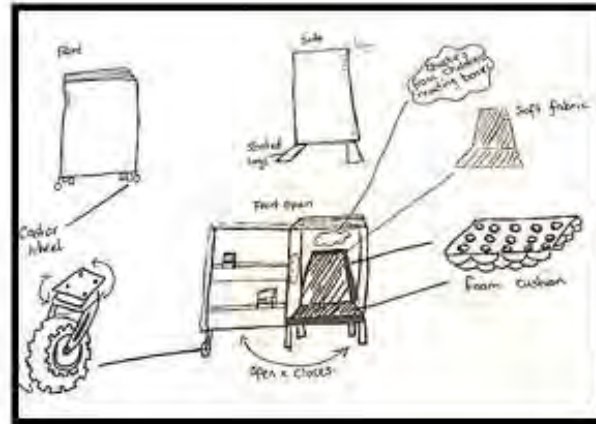
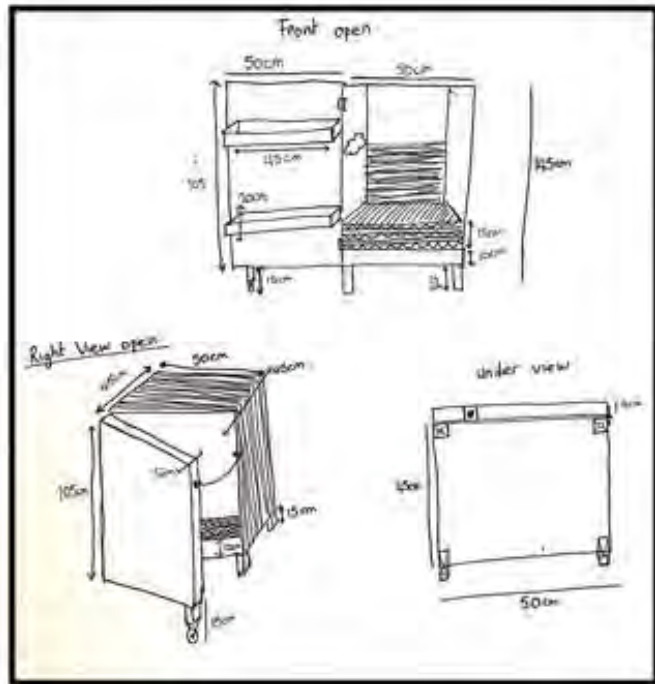
Kelly Parker

Playful reading chair for children



Kelly Parker

Playful reading chair for children



Lauryn Goddard The *rewards* of recycling

T217 Winner

The aim of the project was to design something to reduce littering at Daisy Nook Country Park by encouraging visitors to recycle.

At the beginning of the project, I went on a user trip to Daisy Nook to look for opportunities for improvement. Whilst there I observed large amounts of litter deposited adjacent to the main walking trail, despite bins being present at either end of this route. The litter consisted mainly of plastic bottles and drinks cans likely sourced from a nearby café. This highlighted a need for a solution which would encourage people to hold onto their rubbish until they found a bin.

To better understand the problem, I read scientific literature surrounding littering behaviour and this helped to inform my design concepts. Moreover, associative thinking, in particular adapting and transferring technology from existing designs, was used to aid the generation of such ideas.

The final design is a solar-powered recycling machine that rewards the user with duck food in exchange for depositing a plastic bottle or aluminium can. This design was inspired by the local community at Daisy Nook, encompassing their love and passion for birdwatching and wildlife. The hope is that people would be enticed to recycle, holding onto their litter to receive the duck food reward. This solution may also encourage visitors to pick up existing litter (which is harmful to wildlife), and ensures the waterfowl are fed a healthy food.



PROBLEM

Goal: to design something to encourage visitors at Daisy Nook Country Park to dispose of their waste materials appropriately

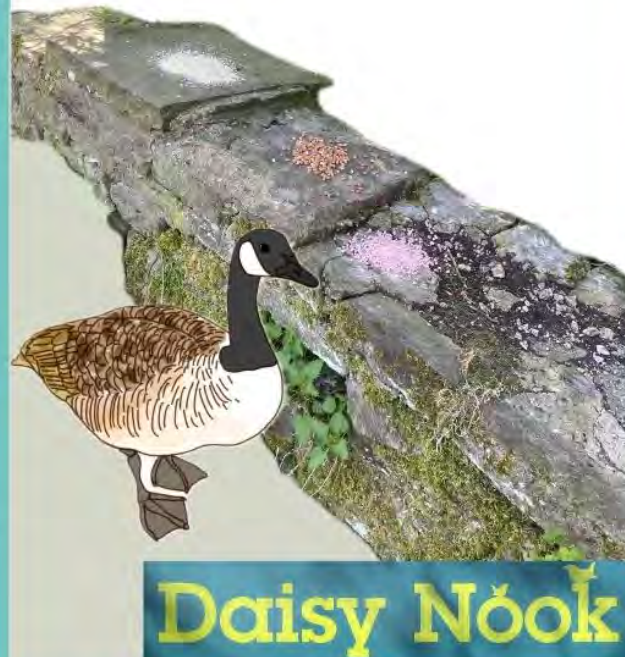


During a user trip, plastic pollution from littering was identified as a problem at Daisy Nook Country Park. Litter lined the main walking route of the park, often thrown over walls or into the woodland. The litter consisted mainly of plastic bottles and cans, likely sourced from a nearby café.

INSPIRATION

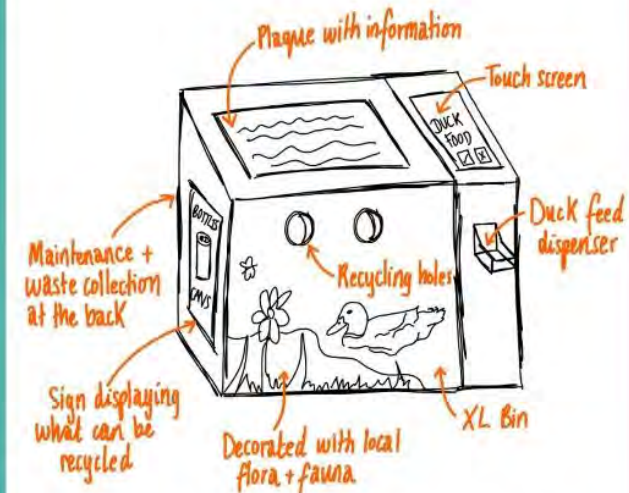
Throughout the park I noticed a real enthusiasm for bird watching. Visitors would place food on walls to entice woodland birds so they could photograph them.

Thus, the inspiration for the design concept came from the **community** and **local flora** and **fauna**.



CONCEPT

I wanted to create a solution that would incentivise people to hold onto their waste until they could recycle it. I believe the promise of duck food for such a bird loving community is a strong reward.



In exchange for recycling their plastic bottle/can, the user will have the option to receive duck food pellets as a reward. This solution may also encourage people to pick up existing litter, and ensures the waterfowl are fed healthy food.

HOW THE DESIGN WORKS

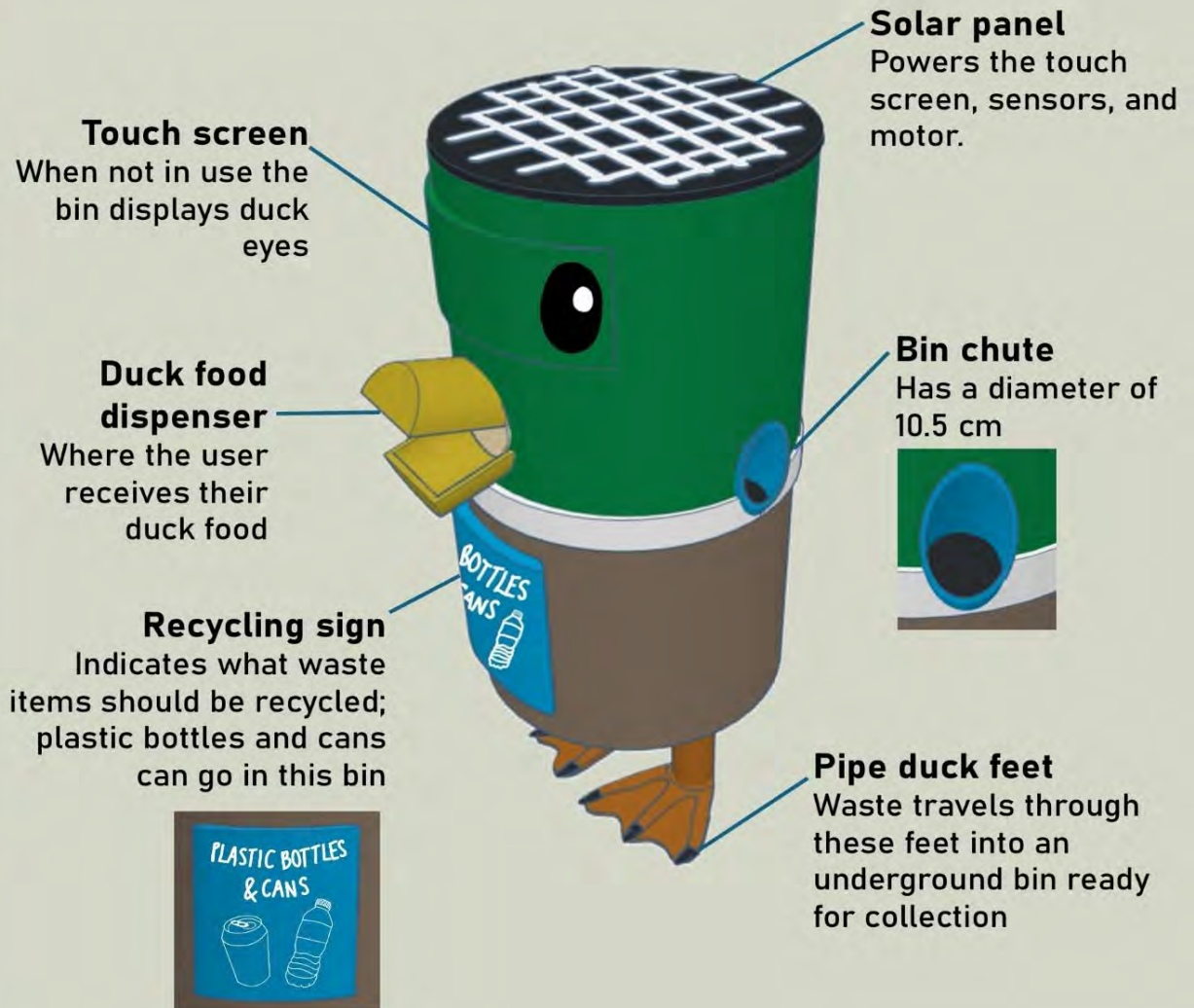
1. The user recycles their plastic bottle or can by placing it into the bin shoot.

2. The waste travels through the machine into underground storage for later collection.

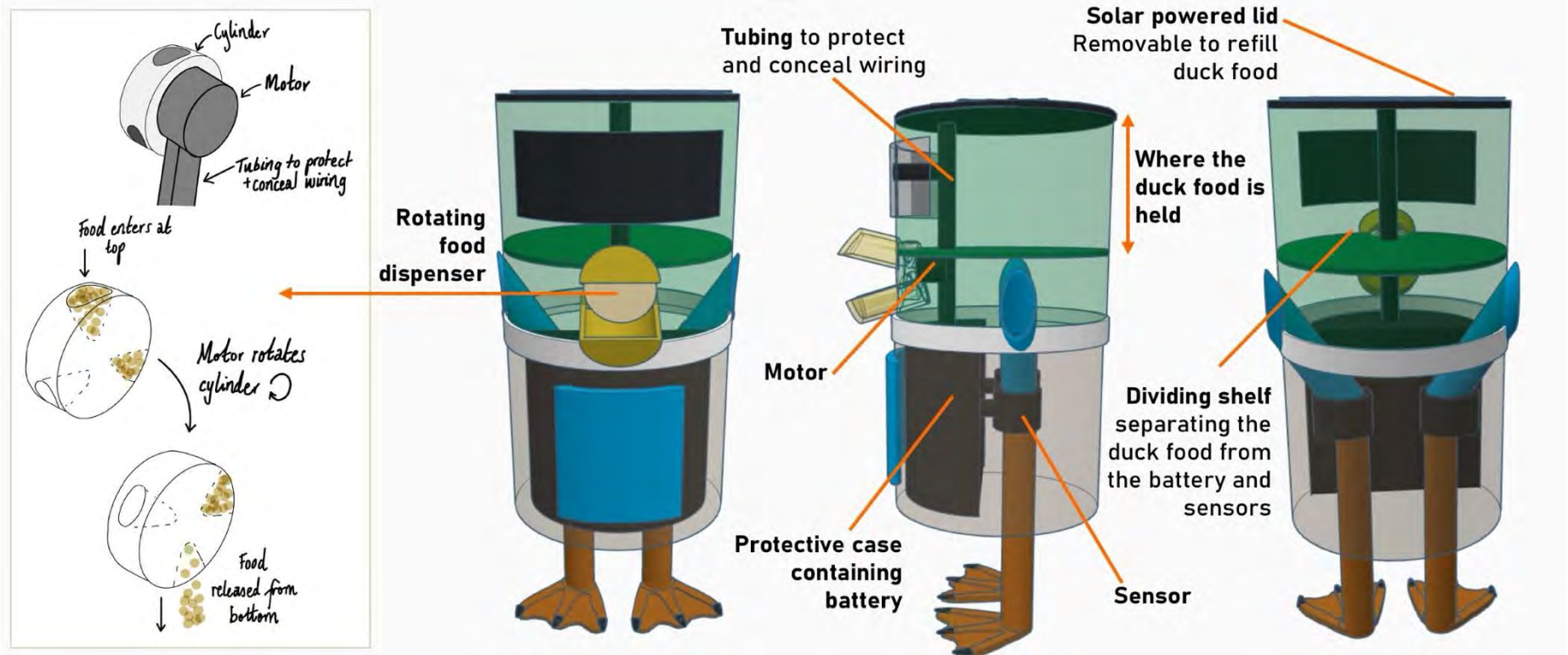
3. Sensors in the bin chute scan the barcode and recognise the deposit. A message appears on the touch screen allowing the user to accept or decline duck food.

THANK YOU FOR RECYCLING!
DUCK FOOD?
✓ ✗

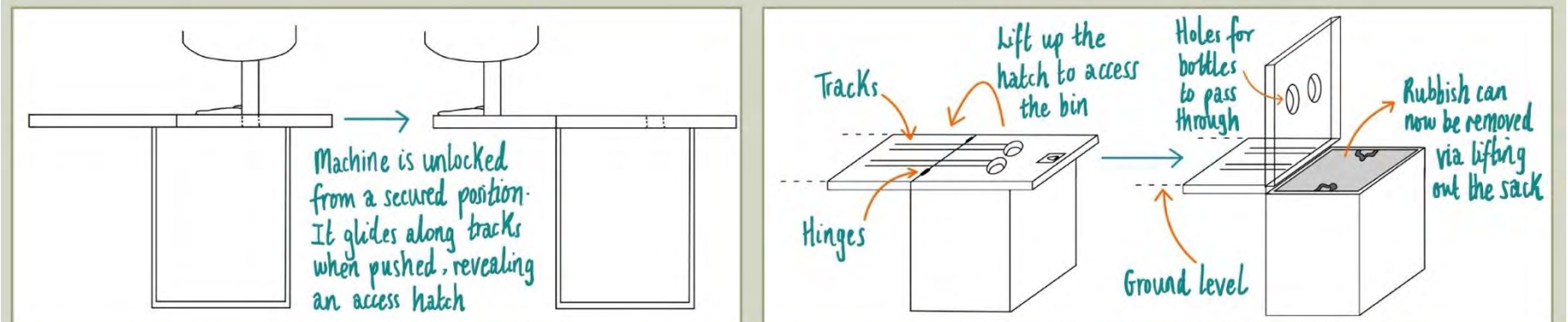
4. If the user selects yes, a motor will rotate a wheel dispensing duck food from the 'beak' of the machine.



Lauryl Goddard The rewards of recycling



WASTE COLLECTION



Lauryn Goddard All-In-One Growing Station

Description of the project:

The goal of the project was to design something that will encourage and enable people living in towns or cities to grow their own vegetables.

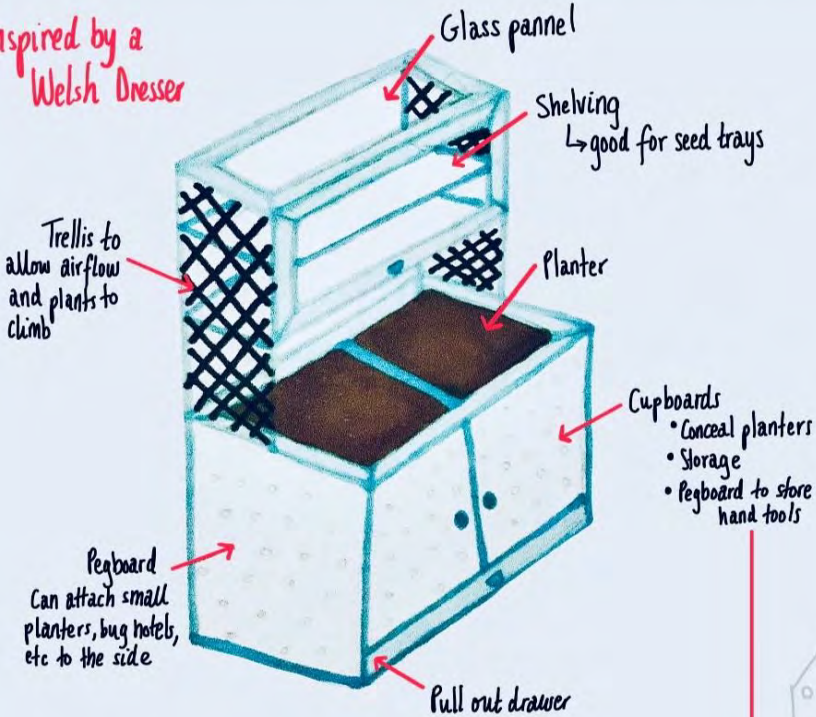
In urban environments, a lack of space is a barrier preventing people from growing their own food. This is especially true for people living in flats and apartments as they have little outdoor space in the form of a balcony. Thus, the growing station was designed with a balcony space in mind, however, the design is applicable to other small urban spaces such as patios and small gardens. Surveys, observing existing balcony gardens, analysing existing products, and a user trip, were the research methods I used to inform the design problem. Through this, I identified a need for a multi-purpose planting solution that would utilise vertical growing space, whilst incorporating storage to reduce clutter in small spaces.

Associative thinking, creating mind maps, and random stimuli were used to generate design ideas. A selection matrix contrasting these ideas against the constraints and criteria of the design brief was used to select a design for development. Morphological analysis and sketching were used to aid the development of the design. This was an iterative process, where feedback and discussions with others was valuable in problem solving and improving the design.

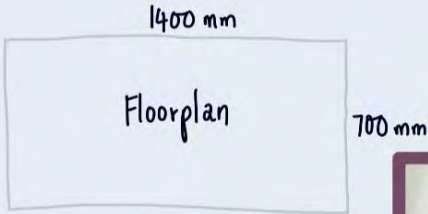


INITIAL CONCEPT SKETCH

Inspired by a
Welsh Dresser



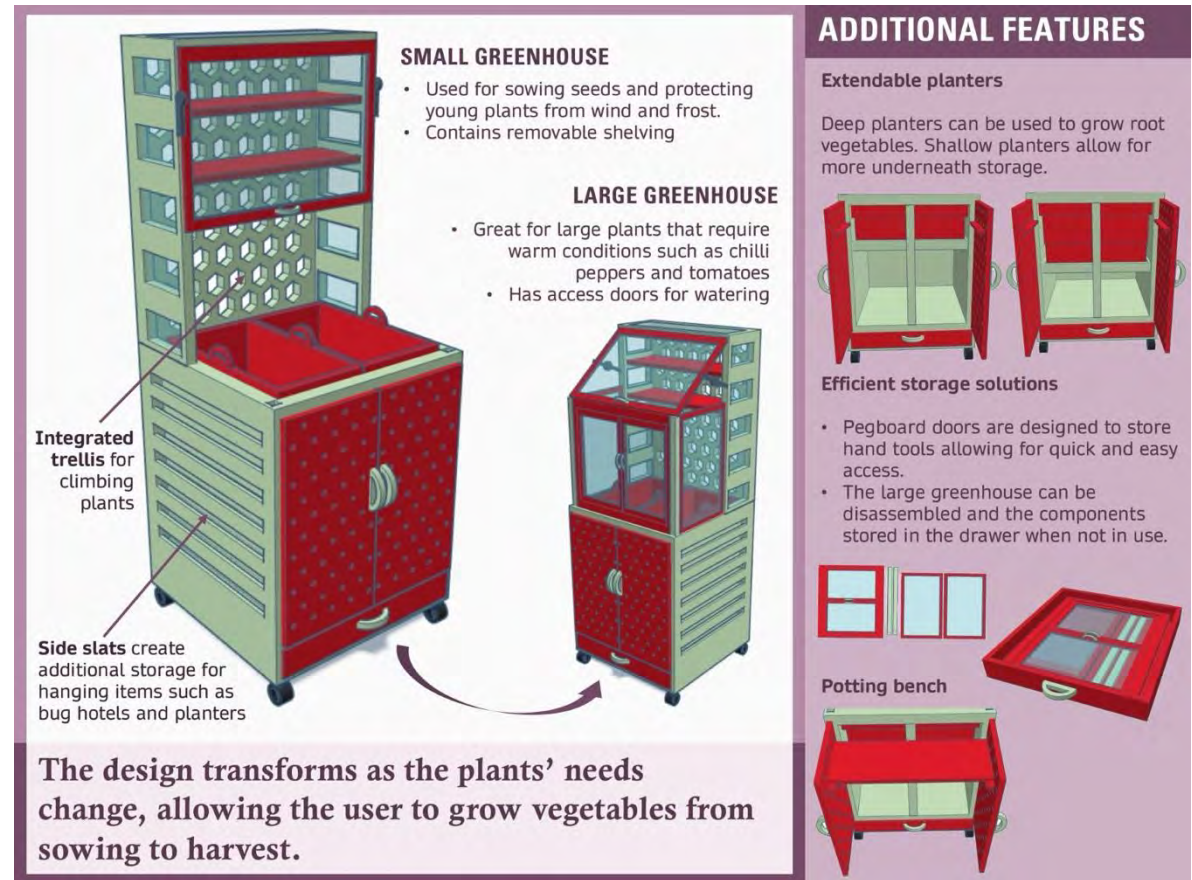
Greenhouse at the top, large generous planters at the bottom



3D MODEL



The all-in-one growing station (inspired by a Welsh Dresser) contains all of the equipment required for the user to grow a variety of vegetables in a small space. Adjustable shelving, expanding planters, and the incorporation of a large greenhouse, allows the design to transform as the plants grow and their needs change. Thus, offering convenience to the user as the growing station can be used from sowing until harvest. Moreover, the design features an integrated trellis and a potting bench, so the user does not have to buy extra gardening equipment that may clutter their small spaces.



Other benefits and applications for the design:

- The planters are at waist height, therefore good for people who cannot bend down to garden.
- The growing station can be used as a learning tool, placed outside in playgrounds of urban schools that have limited outdoor space.
- The design is portable, therefore renter friendly.
- The design is manageable for busy families who want to grow their own food but do not have the time to plan and maintain a larger vegetable garden.



Multi-Function Utensil



Multi-Function Utensils

The aim of this project was to design a product to help those with a small kitchen. This led me to a design proposal of 'redesign an existing kitchen product to help those with a small kitchen'.

My proposed invention to meet this design problem was multi-purpose utensils. This works by having one handle and multiple attachments for different needs. The benefit of my project is less drawer, or counter space is used up by the array of kitchen utensils.

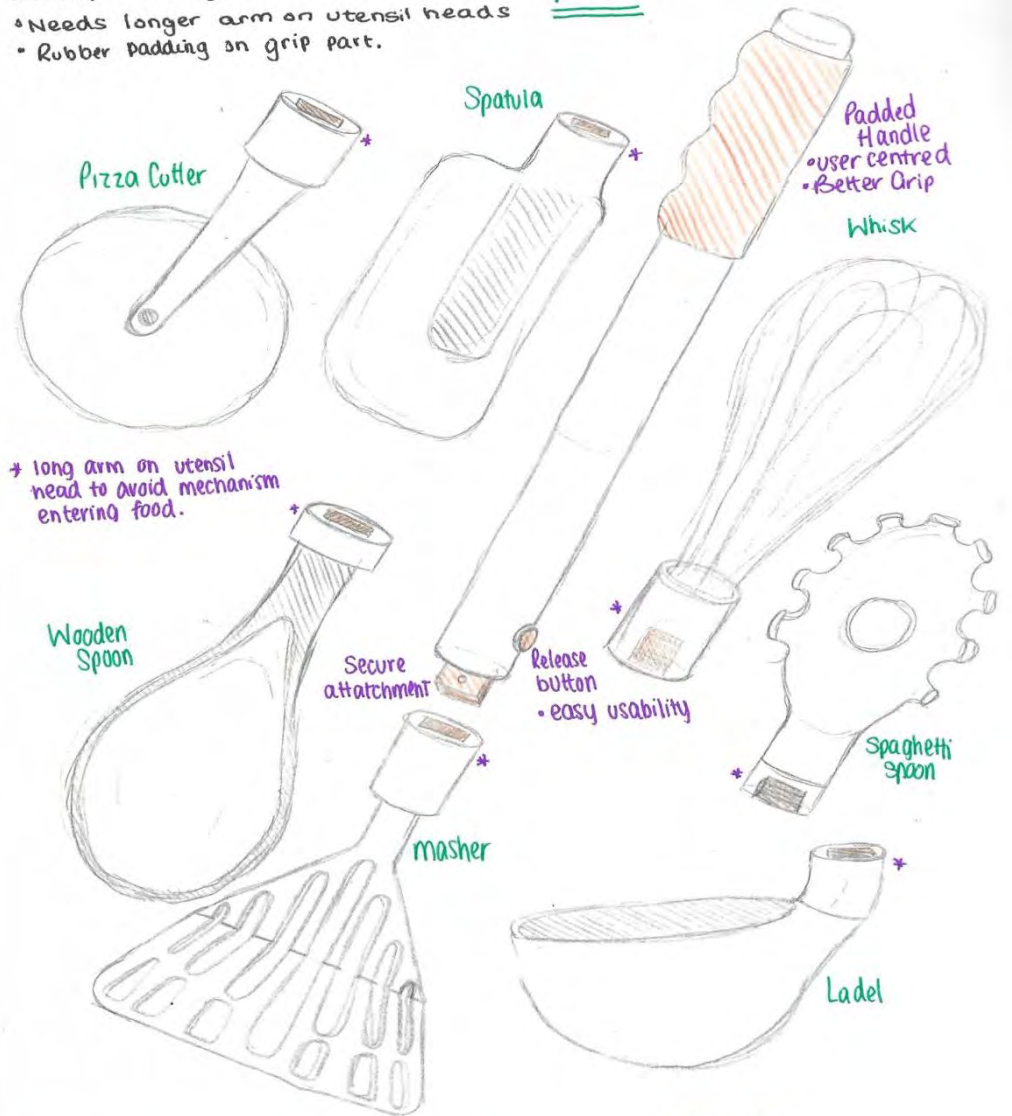
The problem I tackled was the lack of space within a kitchen due to clutter and multiple appliances taking up valuable space. This can affect the enjoyment people have when in the kitchen. Due to the ever-growing population many people suffer from lack of space due to new houses being built with smaller rooms. This design would help free up some space in the kitchen, allowing more space for cooking and preparing food.

To gather a better understanding of this issue I carried out some research such as immersion, questionnaires, and researching existing products. Then to generate my initial ideas I used a variety of experienced designer methods such as associative thinking, sketching and drawing, and informal brainstorming. I selected my idea using a selection matrix and marking them against my criteria and constraints.

Concept Design Redesign

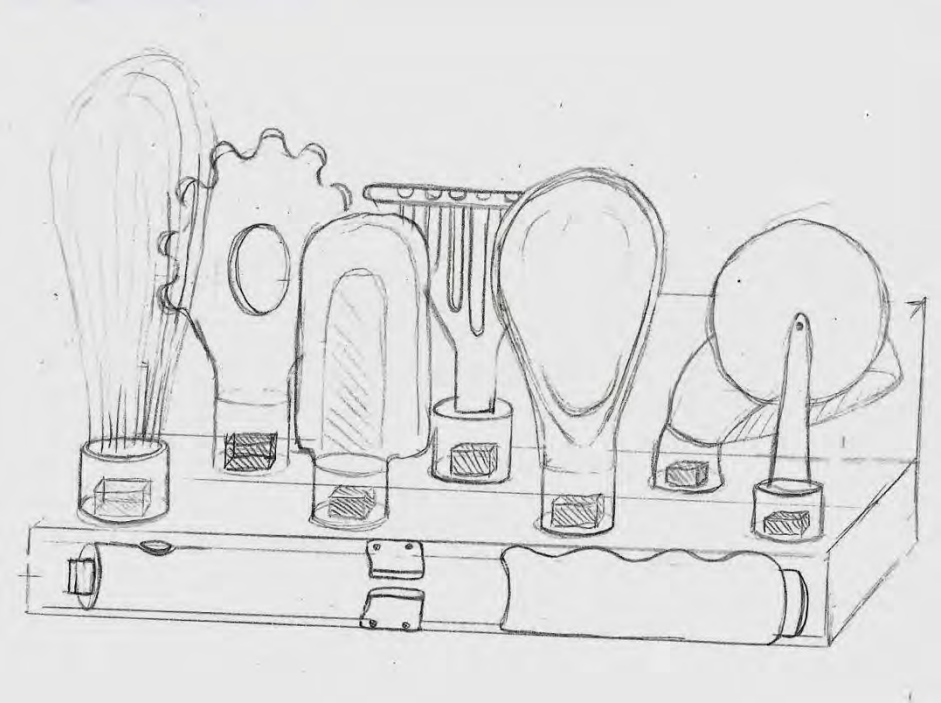
- Needs longer arm on utensil heads
- Rubber padding on grip part.

7 in 1



Random Stimuli: Changeable tool heads

- Stainless Steel**
- long lasting
 - hygienic
 - easy to clean.





T317

Innovation: designing for change.



Project detail

Snorkel Safe is a crowd-sourced website that allows snorkelers of all abilities to discover and share snorkeling sites anywhere in the world, in essence the Wikipedia of snorkeling locations.

The primary interface of the website is an interactive map showing pins of snorkeling locations. Users can click on a map pin to see a detailed listing of that specific snorkeling location. Snorkel Safe uses crowdsourcing, meaning any snorkeler can add a new location to the website, update the information for an existing listing, whilst others can upload pictures, trip reports from their snorkels at that site and add location hazards.

Additionally, each snorkeling location page dynamically pulls in useful information for people wanting to plan a snorkel in this location. Dynamic data includes tide times, weather forecast, wave height, swell height and direction and water temperature. The website includes gamification elements to encourage users to continue to add information and interact with the site.

The project has two main benefits:

- 1) Make snorkeling (an activity that can be hazardous) safer by making it easy for people to share their local knowledge and snorkeling experiences with others.
- 2) Encourage more people, especially in the UK to take up snorkeling and discover new places to snorkel.

Process

The chosen problem statement of the project was a service level problem: *Snorkeling can be a hazardous activity and there is an absence of snorkeling services to help people snorkel safely.*

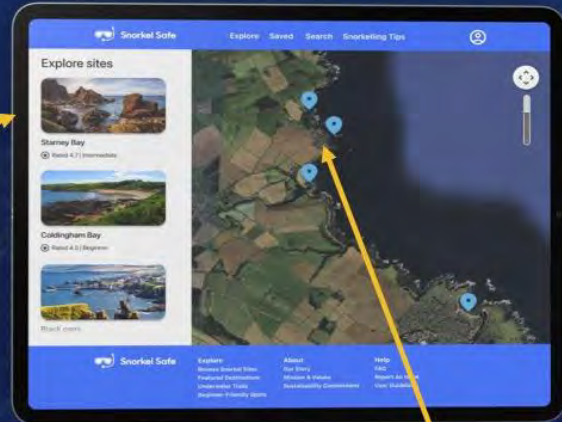
Research was carried out through an online survey shared in snorkeling Facebook groups as well as a focus group with snorkelers and an immersion trip. Several design solutions were generated using module techniques like associative thinking, but Snorkel Safe was selected as the solution to develop as it best addressed the problem, constraints, and criteria of the design brief. Elements of the design were refined through a card sorting session and usability session.

Alexander Foster Snorkel Safe: The Wikipedia of Snorkeling Locations

Map View



I want to find somewhere new to snorkel

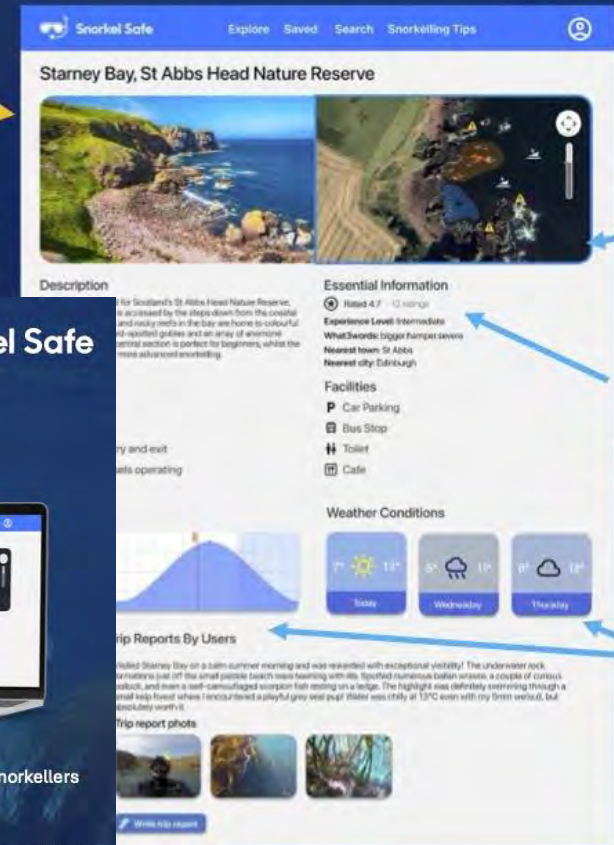


The sites pane shows a list of the snorkelling sites currently being shown on the map. Clicking on a snorkelling site card takes the user to the page for that snorkelling site.

Map view shows each snorkelling location that has been submitted with a marker. Map can be zoomed and panned, automatically loading any sites within the bounds of the map.

Snorkelling Site Details View

Clicking brings up a photo gallery.



Interactive annotated map shows hazards and interest points marked by users.

Location, user rating and experience level and a list of nearby facilities

Tide & weather information dynamically displayed



Snorkel Safe is a crowdsourced website that allows snorkellers of all abilities to discover and share snorkelling sites.

AIMS

- Encourage more people to snorkel in the UK where there is a disconnect between people and the marine environment.
- Make snorkelling safer by allowing users to report hazards at snorkelling sites and collate advice into one centralised snorkelling website.

HOW IT WORKS

- Snorkel Safe is a responsive website.
- It features an interactive map showing snorkelling sites.
- Each snorkelling site has a details page where users can add information, leave trip reports and photos for other users.
- Users can also add snorkel sites to the map.

CONTEXT

- People think the waters of the UK are lifeless and bleak, which just isn't the case.
- Snorkelling can be a hazardous activity; snorkel safe aims to make it safer.
- Currently snorkellers are forced to share information about snorkelling sites in Facebook groups. A dedicated solution doesn't exist... until now.

POTENTIAL BENEFITS

- Encourages people to engage with the marine life of the UK and become advocates for it.
- Make it easier for people to start and continue snorkelling.
- Snorkelling trips become easier to plan and safer thanks to contributions to the website made by the community.

Beata Tamas SmartSwap

Commended

Project detail

SmartSwap

is a shack built from recycled materials with solar power to generate electricity. The shack's primary purpose is clothing swap; locals can drop off their unwanted items and exchange for new ones. Dropped items will be equipped with a tag which will track the lifecycle of the item and sending reports on how much water and emission gases were saved by exchanging instead of shopping for new items. Swaps can be booked via an application. The app can also notify users on how much credit they earned and optional stock alerts.

As a secondary purpose, local businesses, schools and churches can contribute and sponsor the shack, as well as receiving raw materials for their business and projects. Collaboration with various research organisations across the community will also open new opportunities for the shack as well as contributing to important research findings.

On regular occasions, clothing swaps will be held to eliminate build-up of stock including educational workshops on mending clothes and care for garment to last longer.

While clothing swaps are not a new idea, the innovation here comes from combining the use of AI with other technology to facilitate the SmartSwap. This would allow 24/7 unmanned operation meaning that costs will be minimised while flexibility and convenience for the users will be maximised. Tracking their donations, users will have the motivation to further use the service increasing the environmental impact. Influencing users to make positive decisions can create sustainable communities which can have a significant impact on the



Problem statement

The project originated from a simple observation of everyday habits that have become so common they are often overlooked. Households tend to accumulate excessive amounts of clothing, yet there are limited sustainable disposal options available. The rise of fast fashion continues to contribute to increased textile waste.

The Fashion Waste Facts and Statistics published by BusinessWaste.co.uk highlight the severity of the issue this concept seeks to address:

- Each Briton disposes of 1kg of textiles annually, ranking fourth highest in Europe.
- 7kg of fashion waste per person ends up in landfills each year.
- Around 30% of unwanted clothing is discarded in UK landfill sites.
- Households dispose of 300,000 tonnes of clothing in rubbish bins annually.
- An estimated £140 million worth of clothing is sent to landfill yearly.
- Less than 20% of used clothing in the UK is recycled.
- Over two tonnes of clothing are purchased every minute nationwide.
- The average Brit spends £980.50 on new clothes annually.

(Matthews, 2025)

This research highlights the urgent need for sustainable textile disposal solutions. Currently, options for responsible clothing disposal remain limited, making it essential to develop efficient systems that encourage reuse and recycling.

Process

To explore the scope of this issue, user research was conducted to analyse behaviours and preferences regarding clothing disposal. This research confirmed that there is necessity for a more efficient approach. These findings validated the feasibility of the project and shaped the development of the SmartSwap concept.

Ideas have been shortlisted by analysing feasibility including available technology, performance and ease of use as well as discussions with potential users for insights on convenience and motivation.

Supporting communities



Open and accessible all the time

Using the power of AI for sorting and sanitizing garments

Phone application for booking a drop off and reports/ notification of new stock

Community events organized to further support with swapping, mending and advice

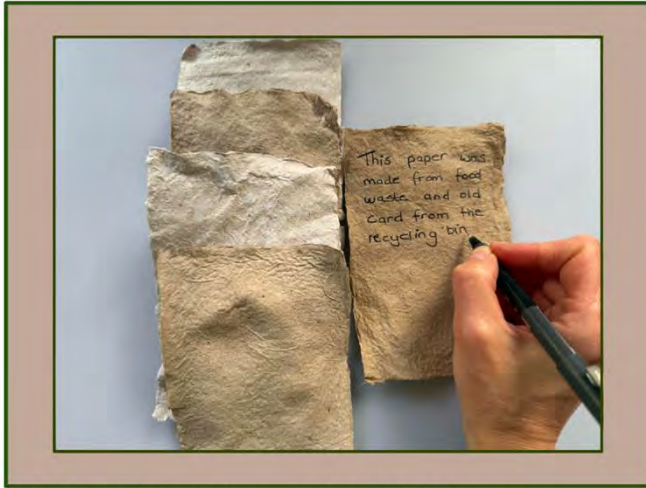


Figure 2 : A photograph of hand-made paper created from food waste and recycling (C.Andrews, 2025)

Scraps is an idea that turns food waste created by primary schools into paper. Students can make paper in the classroom using food waste generated by their school, whilst learning about the environment and the importance of recycling. If Scraps is taken beyond the classroom, it has the potential to disrupt the current way in which paper is produced by creating a closed loop system using primary school food waste to produce the exercise books and supplies needed for learning



Figure 1 : Title page, Scraps (C.Andrews, 2025)

Carrie-Anne Andrews

SCRAPS



Figure 4 : A cartoon of a happy world showing the vision of the future (C.Andrews, 2025)

Vision

To create a hands-on educational product that inspires young minds to value food as a resource, not a waste product which will encourage future generations to think beyond the classroom, strengthen the circular economy, and strive to protect the environment.



Christopher Lane Intelli Gear: The Intelligent PPE Solution for Remote Offshore Locations

T317 Winner

Project Details

Intelli Gear is an AI-powered PPE dispensing service designed for remote offshore environments. Housed in an ISO shipping container, it integrates touchscreen task selection, RFID-scanned smart PPE, and real-time compliance analytics. Workers select their task, receive tailored safety guidance, and are automatically issued with additional PPE. The system connects to client QHSE ecosystems, reducing paperwork and improving oversight. This invention benefits both workers and management by embedding the latest guidelines into daily workflows, improving accountability and ultimately access to appropriate PPE.

Problem Statement

Offshore workers operate in high-risk environments where PPE is critical, yet an unacceptable level of injuries persist. Interviews, incident report analysis, and field observations revealed system-wide failures: missing or incorrect PPE was often cited as a leading cause of injury, workers were increasingly disengaged from paperwork-heavy QHSE processes, and storage space on offshore vessels is limited.

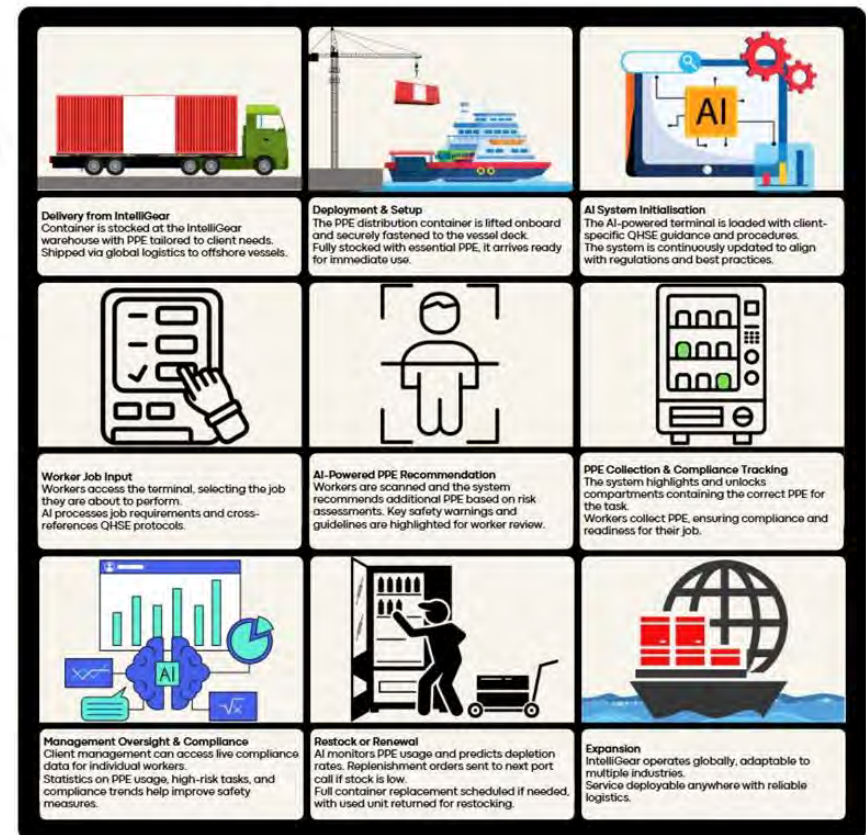
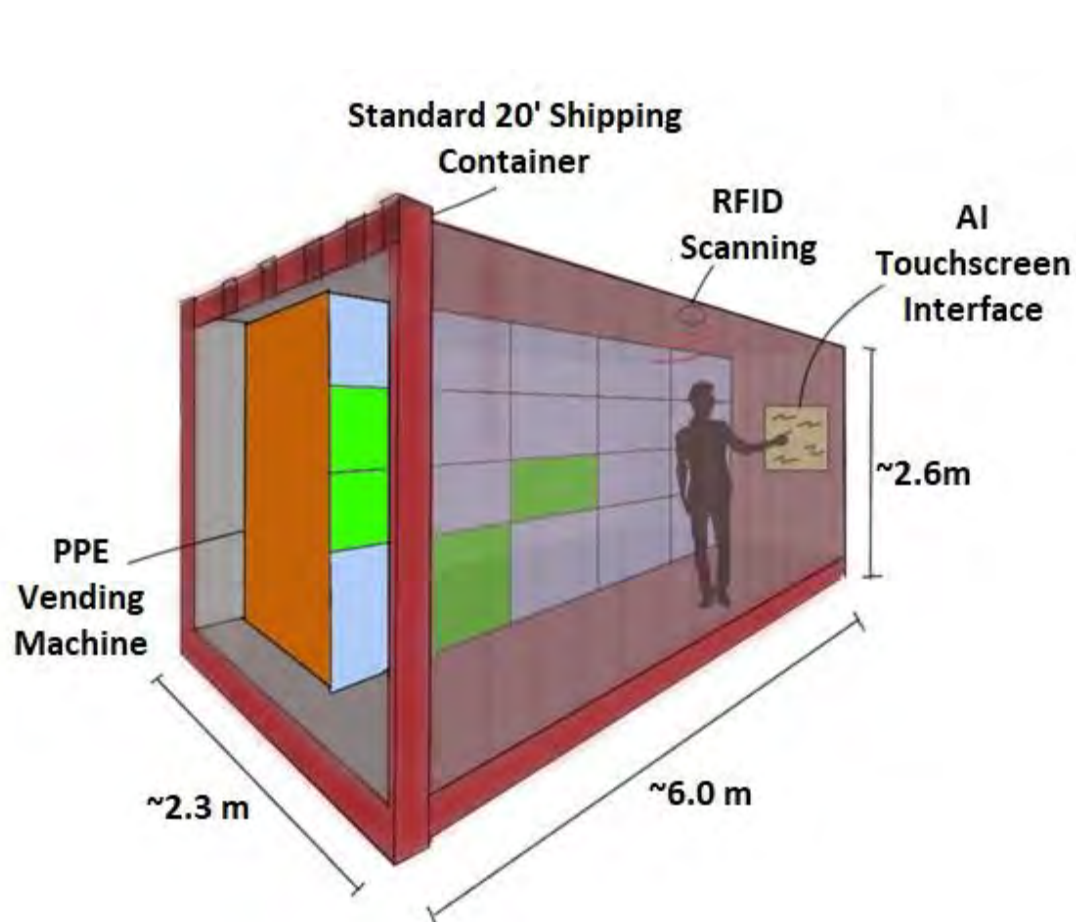
Process

Initial research involved incident report analysis, field observations, and informal interviews with offshore personnel and QHSE staff. These revealed significant behavioural and logistical challenges in current PPE systems. The design process was guided by stakeholder insights, mapped using the Innovation Frame, and shaped by two decades of personal industry experience. The concept evolved through contextual research, understanding the requirements and wants of varied stakeholder groups. Finally, a balance of technical feasibility, user-centred design, and a need for operational efficiency produced the final Intelli Gear concept.



Christopher Lane IntelliGear:

The Intelligent PPE Solution for Remote Offshore Locations



Daria Bauman Design of Gender-Affirming Clothing for Transgender Women

T317 Winner

Purpose

This project draws inspiration from my personal journey alongside my sister, who came out as a trans woman in 2023. Living closely with someone navigating gender transition has allowed me to observe the various physical, emotional, and psychological changes that occur during this process. While each transgender experience is unique, many share common feelings, particularly of gender dysphoria. Gender dysphoria is characterised by a profound sense of discomfort stemming from a disconnect between one's biological sex and gender identity. This disconnect can lead to social anxiety, feelings of isolation, and heightened mental distress.

Problem

Clothing plays a crucial role in shaping the experiences of those undergoing gender transition. Unfortunately, many face challenges related to fit, comfort, and visual appeal since most garments are designed based on binary standards of body types.

As a designer, my goal for this project is to explore the issue of gender dysphoria from the viewpoint of a transgender individual and to create a solution that eases the social transition between genders, with a particular emphasis on trans women.

Vision

The aim of this project was to help trans women feel more gender-affirmed, enabling them to connect with their inner femininity. Examining this through the lens of socially accepted ideas of femininity added further complexity to crafting an effective solution.

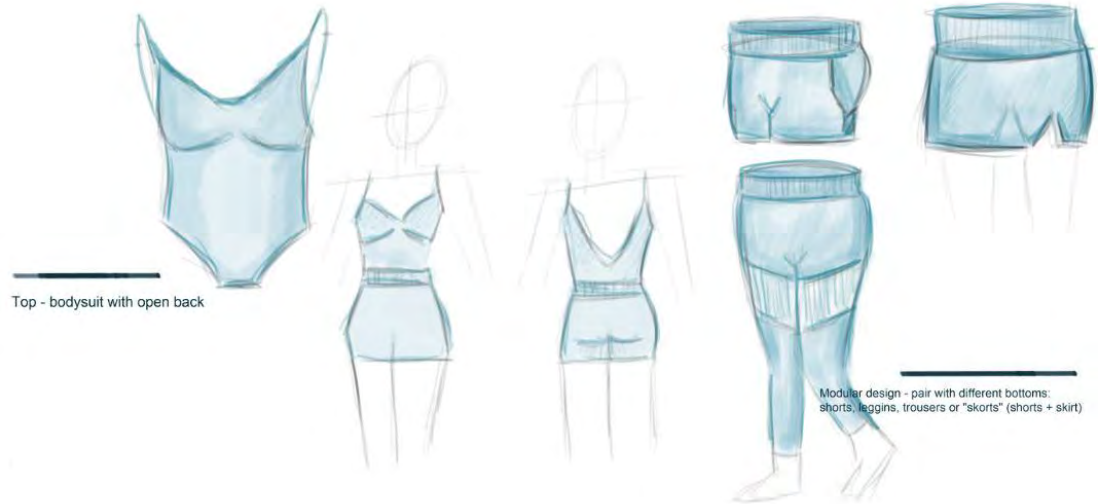
I envisioned a way for my sister to embrace her identity as a woman, recognising her tall, muscular, and strong physique. I wanted her to feel empowered and confident in both her character and appearance, outside of conventional stereotypes of femininity. This inspiration grew into the idea of inclusive activewear designed to make women feel strong, confident, and undeniably feminine.



Process

The creative process involved thorough research into the queer community, focusing on their attitudes and unique needs through a combination of formal and informal questionnaires as well as individual discussions.

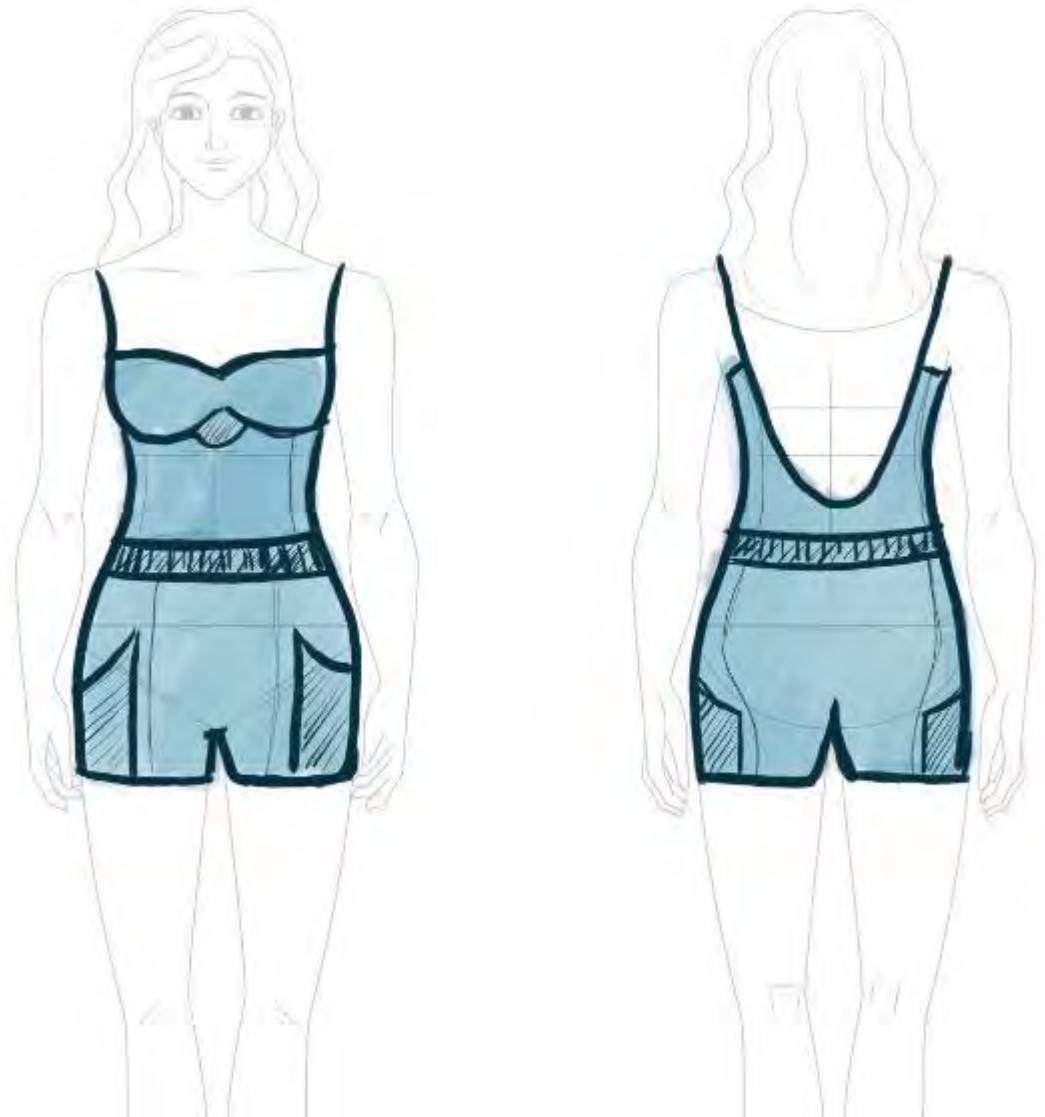
To gain a deeper understanding of the clothing and shopping preferences of trans individuals, a community survey was conducted, while one-on-one conversations provided valuable insights into the more sensitive aspects of transitioning.



Daria Baumanė Design of Gender-Affirming Clothing for Transgender Women

Solution

As my final proposed solution, I envisioned an innovative line of gender-affirming activewear that features flattering silhouettes tailored to fit a wide range of body types, including AMAB (assigned male at birth) bodies. This concept revolves around transforming traditional activewear into garments that cater to the unique needs of individuals undergoing gender transition, addressing requirements such as the ability to tuck and shape seamlessly, all while ensuring comfort and discretion.



Helen Porter The Yarn Repository Network

Commended

The Yarn Repository Network

A dedicated community space for yarn lovers in every city



- Service subscription: £10 a month for 3 skeins of yarn
- A yarn take-back service lessens waste and earns users points for more yarn
- It would be government-backed and community-run/driven
- The repository app helps users organise and understand how much yarn is needed per project
- Existing building, durable/recyclable furniture and solar panel use for environmental sustainability
- Holds community meetings/lessons
- Vacuum cabinets hold yarn which is suitable for vacuum-packing
- Shelves for other yarn
- Users are able to rent tools/cabinets/shelves

The problem and research: Yarn-related crafts, such as knitting and crochet, gained popularity during the pandemic, according to Google Trends (Google Trends, 2025). Research conducted online, using a survey and focus groups concluded that yarn is the most challenging fibre supply to store/organise due to its bulkiness, variety and need for protection. Survey respondents also reported that despite numerous solutions, they still experienced issues with their storage. Thus, the problem statement chosen was 'How can we ensure that maintaining yarn supplies does not impede the use of yarn-related crafts for relaxation and mental health?'

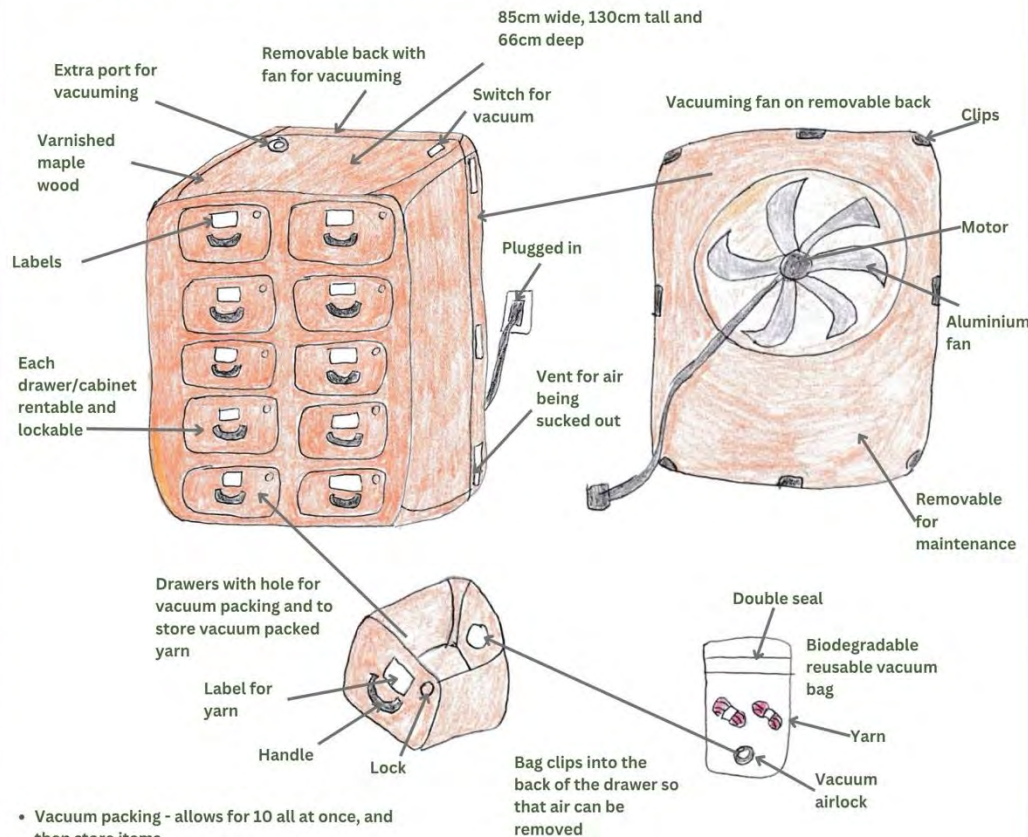
The solution: Various solutions were generated using associative thinking, morphological analysis, and brainstorming to produce ideas that ranged from products to systems. From these ideas came the Yarn Repository Network (YRN), which was chosen due to its potential innovativeness and the way it allows for yarn storage and organisation while being socially sustainable.

The YRN is a network of repositories in every city that allows users to subscribe for £10 a month for three skeins of yarn. It offers a take-back service, which reduces yarn waste and enables users to earn points for use within the repositories. Users can use the app to manage their home yarn stash by marking types, weights, amounts and physical location of their yarn. Pattern services are also included, allowing users to upload a pattern and determine their yarn needs.

Helen Porter

The Yarn Repository Network

Components - Vacuum Cabinet



- Vacuum packing - allows for 10 all at once, and then store items.
- Labels help organise.
- Reliant on power and space.
- Store more yarn with vacuum packing, lessening waste
- Durable, recyclable/reusable materials

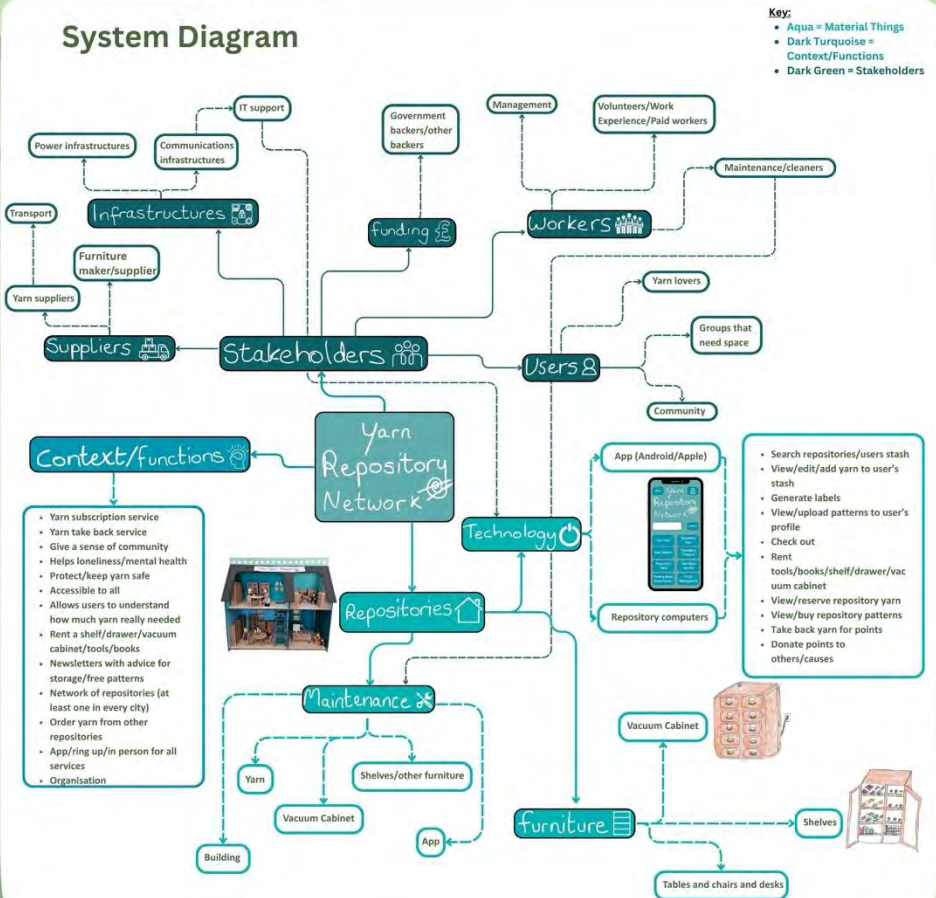
The YRN stores yarn using a mixture of maple wood vacuum cabinets and shelves. The vacuum cabinets are designed to hold yarn which is suitable for vacuum-packing and allows for more yarn to be stored. Shelves hold all other yarn which are potentially more popular and cannot be vacuum-packed (wools). Users can rent tools related to their crafts, as well as shelves, drawers, and vacuum cabinets, to reduce the need for home stashes.

This project is socially sustainable through community meetings, lessons, and job opportunities. It also aims to be as environmentally sustainable as possible, utilising existing buildings, solar panels, and durable furniture that supports the circular economy. Therefore, the YRN helps users maintain any yarn needed without impeding their mental health.

Components - Repository Application



System Diagram



Virtual wardrobe try-on

With the ability to collaborate with many different second-hand charity shop, they will upload thousands of items a day.



Figure 2:
(Cooper, J 2025)

As well as collaborations with charity and vintage shops users will be able to upload VR items that they want to sell

Concept for an augmented reality wardrobe There is a problem with people having a lot of fashionable items, jewellery, clothing and not knowing how to sell them to the elderly people with disabilities or get the sizes correct. This is a revolutionary idea to combine technology with the tactile fashion industry to solve many of fashions biggest problems. This product meets the needs of the elderly and people with disabilities that find it difficult to use dressing rooms. It meets the needs of millions of brand-new items ending up in landfills due to fast fashion companies disposing of returns and it meets the need of a community of fashion lovers that can communicate while buying and selling items of clothing.



Figure 3: (Cooper, J 2025)

Dress up/ try-on section where every item you click to try on ends up in a try on bag. Then you have the ability to see what you do or don't like and see what fits.



Figure 4: (Cooper, J 2025)



Figure 5



Figure 7



Figure 8

each item that is uploaded will have an AR digital twin that will give you the ability to try it on

Figure 1:
chatgpt

Project detail

The proposed invention is an app that utilises augmented reality (AR) technologies. The app will allow the user to try on clothing virtually without having to go into a shop and try on clothing in a changing room. It works by having a 3D image that is the same size as the user and then clothing can be added like a dress up doll.

The initial starting point emerged from the real-life experiences many plus size women face while trying to find clothing that fits. Many retailers either fail to stock their plus sized clothing range in-house, or they just don't make plus sizes. Then customers are often subjected to online shopping, where sizes are incorrect. Leaving them with no option but to buy multiple sizes just to see what size fits.

Design problem statement

There is a problem with people having a lot of fashionable items, jewellery, clothing and not knowing how to sell them to people with disabilities or get the sizes correct.

Process

During my research I discovered that some retailers like H&M have already started implementing virtual wardrobe technology. Using an iterative design process. I designed a designated area or building that housed VR technology for you to see before you buy. Then I wanted to reimagine this concept in a more sustainable and community-focused way. I decided to focus on second-hand clothing instead of new items, shifting the emphasis to charity shops and circular fashion. A virtual wardrobe app using augmented reality, allowing customers to see how clothes would look on their bodies without physically trying them on or leaving their homes.

Janos Molnar SemmelGuard: An AI-guided Household

Commended



How it works?



Responding to the situation the cabinet provides a first-aid Intelligent kit.



The SemmelGuard kit highlights the required tools and calls for professional help. Meantime, it provides step-by-step support visually and by voice.



SemmelGuard is a modular first aid kit and connected service that enables bystanders to transform into first responders before paramedics arrive. The kit can function as a single rechargeable first-aid unit. It includes custom-selected tools and medications to meet its owner's potential needs.

Alternatively, it can be installed in a cabinet designed to accommodate up to three first-aid kits, each equipped with tools for various scenarios, thus providing complete protection. Each kit features NFC-tagged supplies with a lithium battery-powered AI-capable unit that offers intelligent, step-by-step audio-visual guidance and automated emergency services callouts.

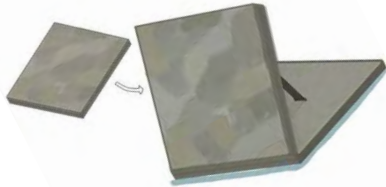
Janos Molnar SemmelGuard: An AI-guided Household Emergency System



The intelligent unit routinely monitors inventory and orders restocks as necessary. Plug-in cartridges (ECG, AED) enable households to tailor their protection to their needs and budget. Optionally, cloud-based services (e.g. automated stock management), live responder coaching, and insurance-linked subsidisation can extend the product into a service and system-level innovation.



Jess Spiller FLOORSforFLOODS – a product to help protect homes from floods



Product storyboard:



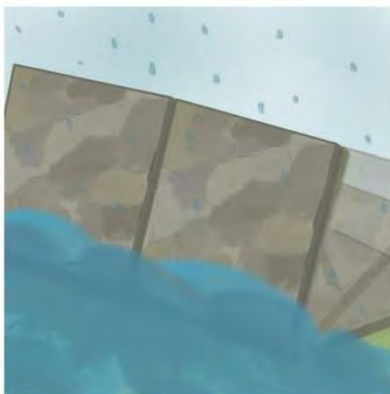
Tiles are installed into front garden of property, much like any other patio tile.



Customer is then prepared in the case of sudden flooding in their area.



Product is deployed by lifting the top tile layer until locks at 75-degree angle.



Upright tiles create a barrier that prevents floodwater from reaching home.

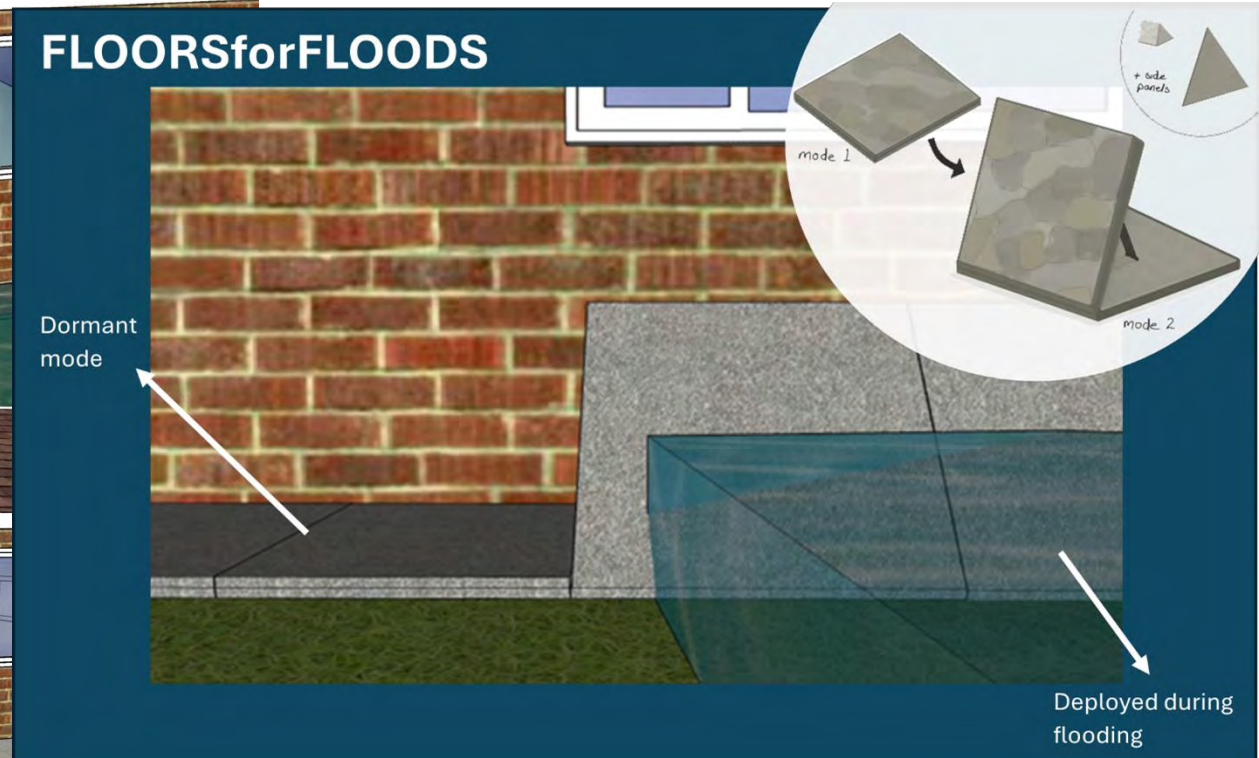
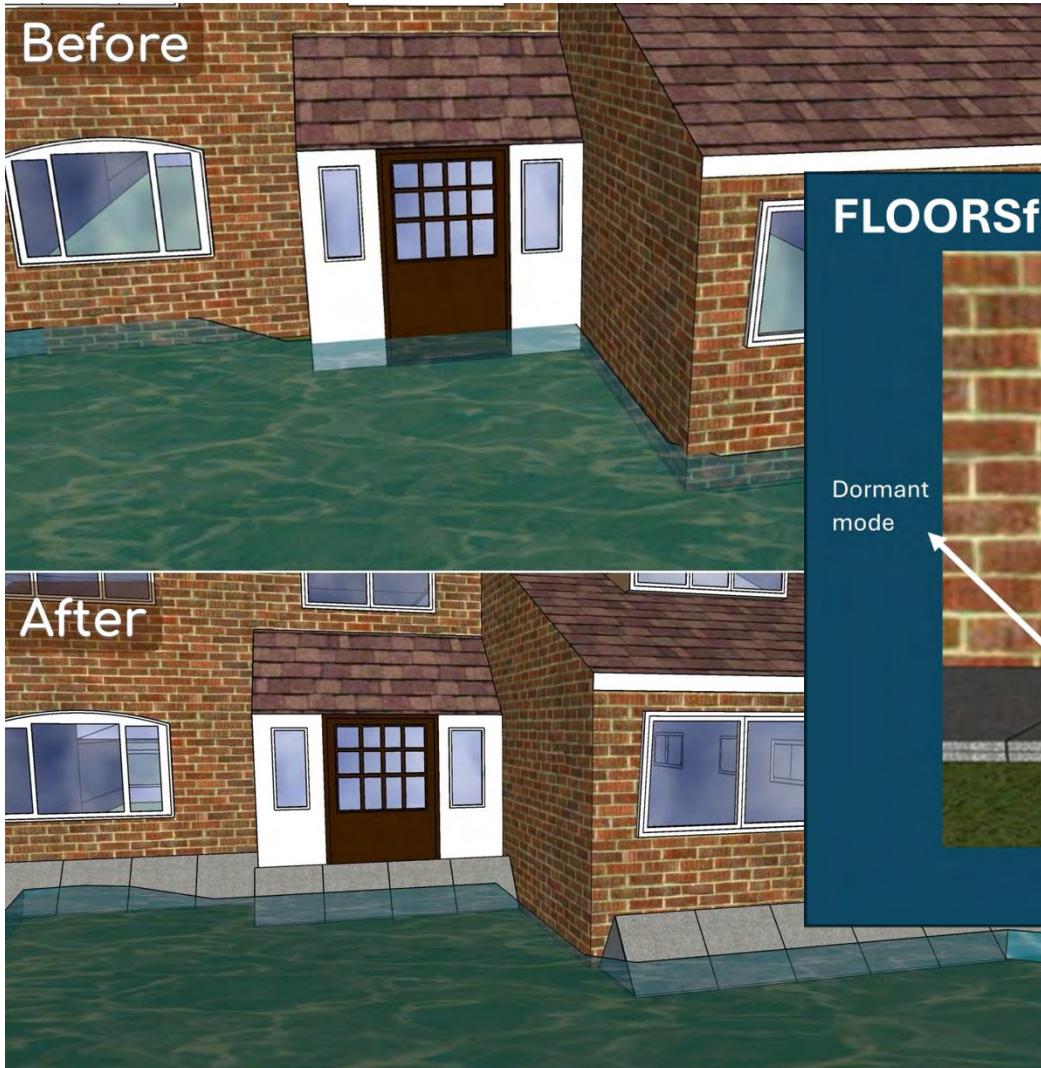
Floods are becoming a bigger concern in the UK due to climate change. It's important to prepare homes, particularly those in at-risk areas. The concept I've proposed is a 'deployable flood barrier' – a product that aims to prevent floodwaters from reaching UK resident's homes and damaging properties. It has the overall appearance and function of normal garden patio tiles in its dormant form, however, when needed, can be deployed to block floodwaters by lifting the top layer and creating a barrier around the house. It is intended to blend into the property when not in use (be unintrusive) and be a quick, easily accessible solution to stopping water reaching common flood vulnerabilities such as doorframes and windows.

My problem statement was: How to create an effective and accessible innovation that will protect UK homes in the event of flooding.

I carried out a lot of research on the topic such as the cause of increasing floods in the UK, related statistics, current home flooding solutions (and their benefits/ weaknesses) and the possible stakeholders/ users e.g., UK homeowners and landlords.

I used a range of design generation tools coming up with ideas – from constructive discontent to associative thinking. This concept was selected for being the most technically feasible of my original ideas, as well as matching the criteria of the design brief best. I used a selection matrix to make this decision.

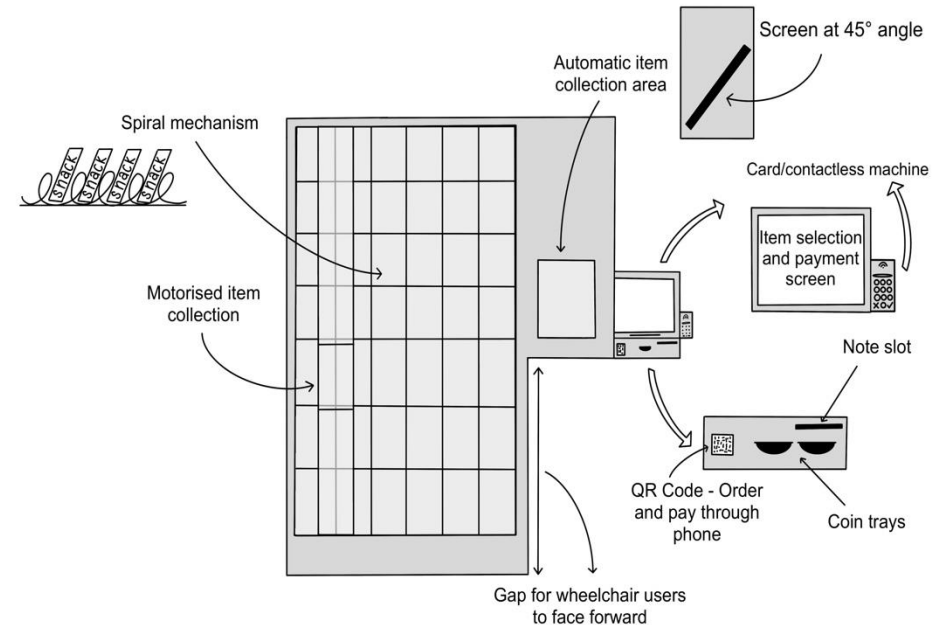
Jess Spiller FLOORSforFLOODS – a product to help protect homes from floods



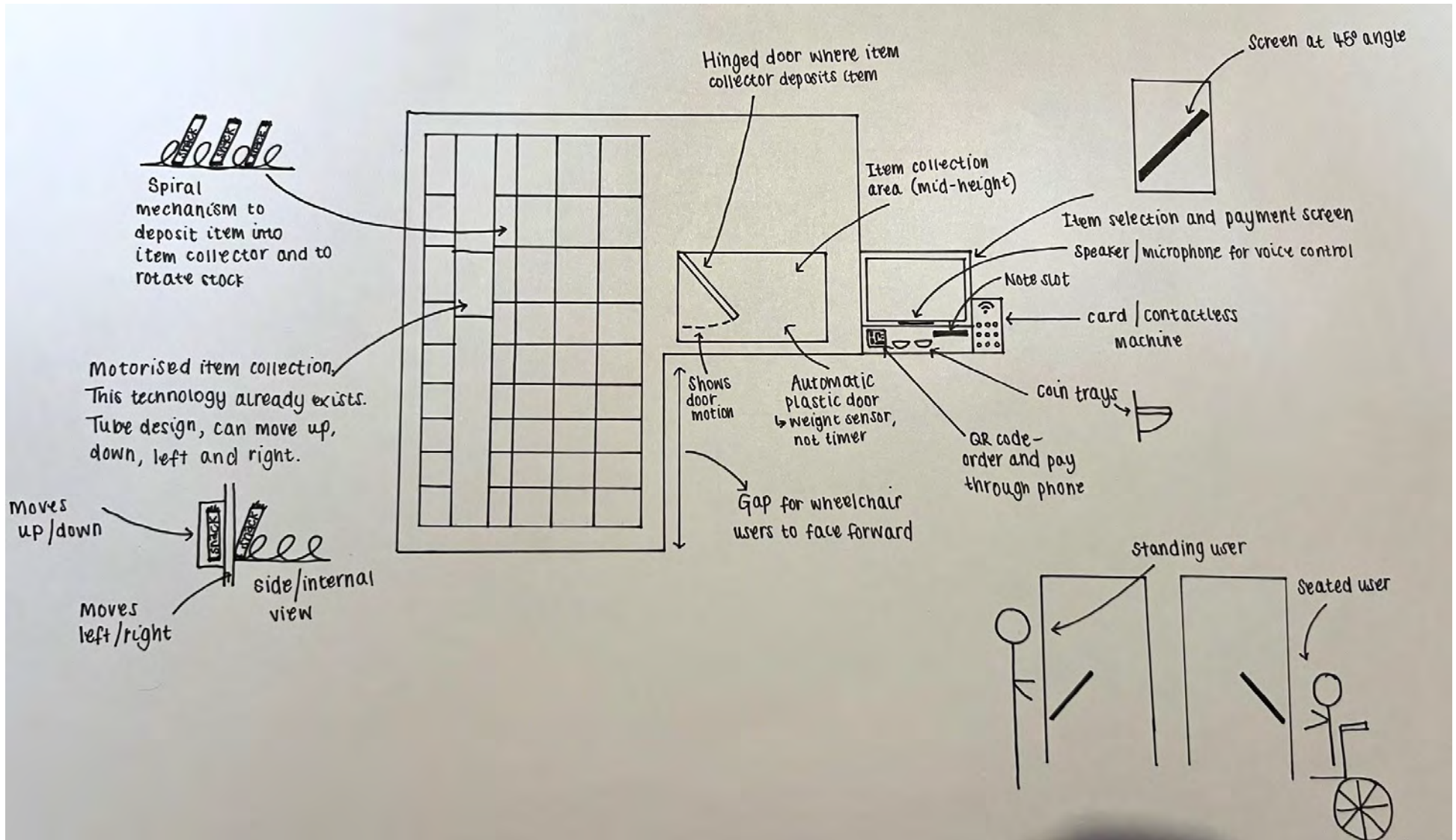
Megan Ackroyd

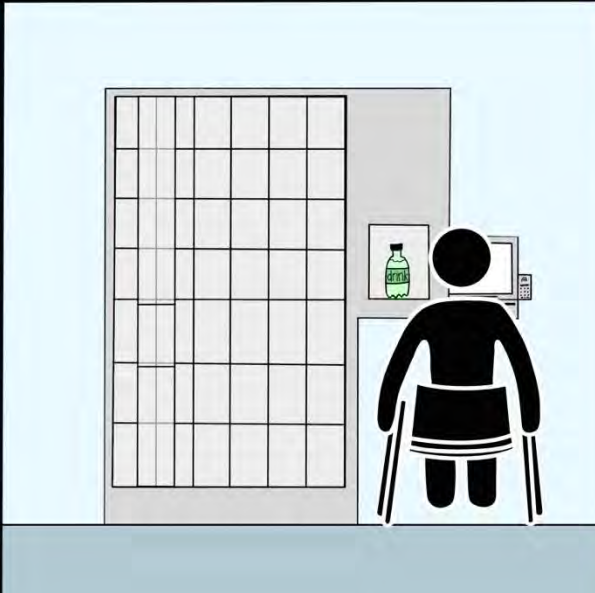
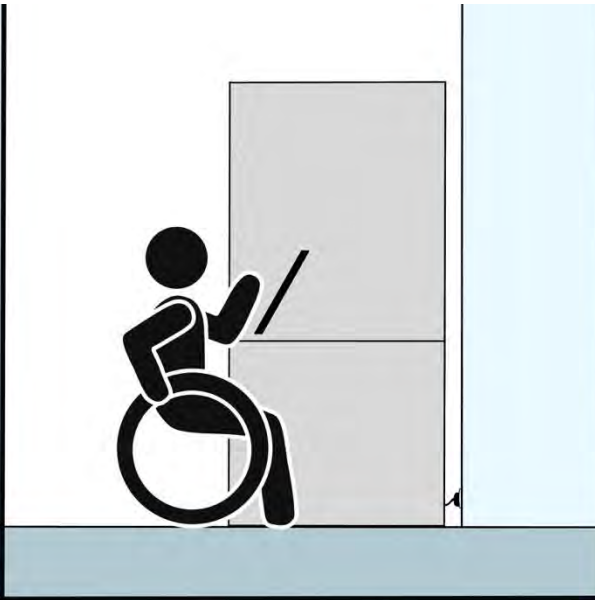
Accessible Vending Machines: The Future is Inclusive

My project proposal is an accessible vending machine. Through various research methods, the final design is a set of specific components which all work to enable people with different physical and intellectual abilities to access the vending machine. Each component has been chosen with purpose, such as motorised item collection to take the beverage or snack to a reasonable height, as opposed to an older machine which relies on gravity, meaning wheelchair users are unable to reach their selected items. The key to this accessible design is the space next to and underneath the machine so wheelchair users can face the machine, making it safer and more comfortable for them. The machine has been designed in a way that seated and standing users can access it, as good inclusive design isn't detrimental to other users.

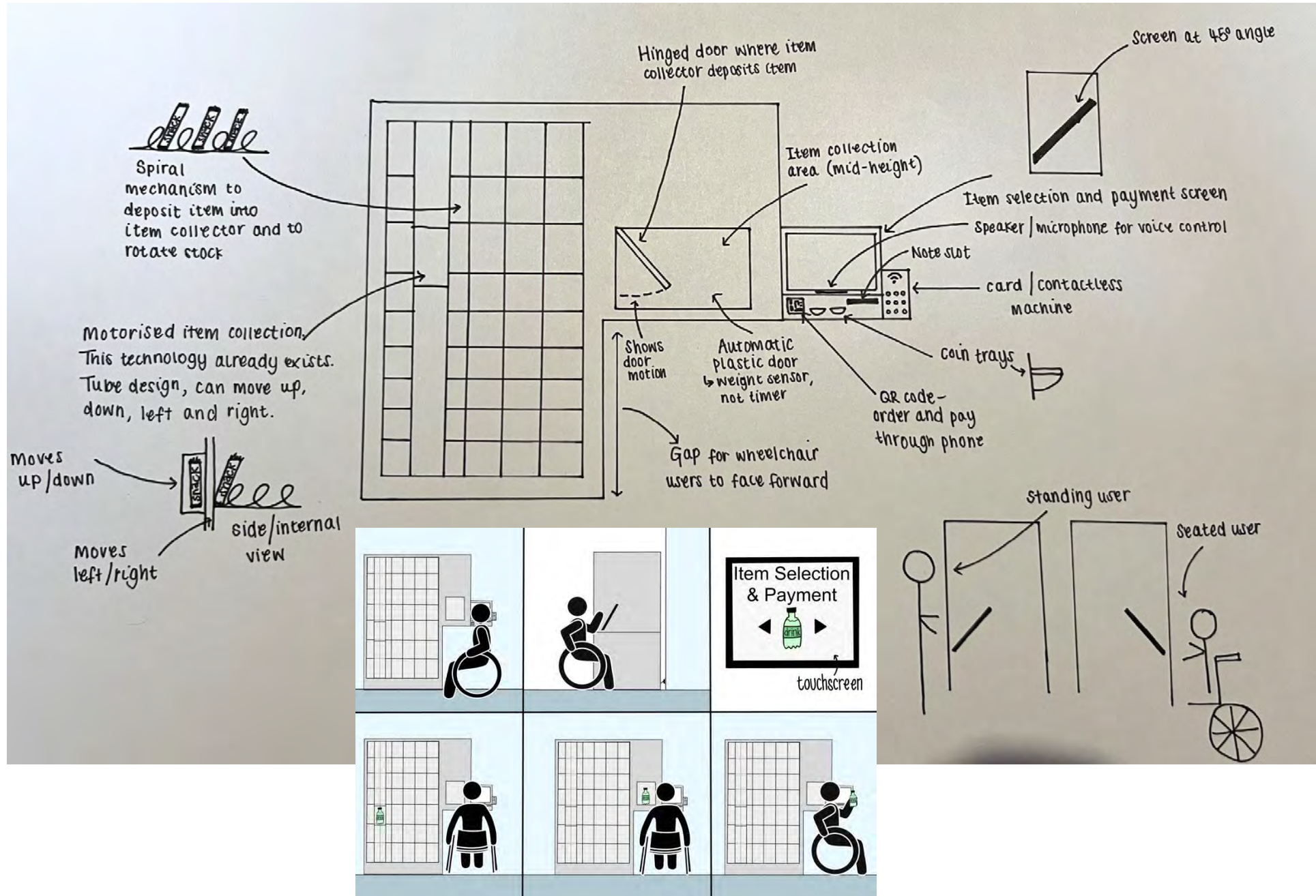


Vending machines may seem an odd choice, but this convenience is a service able bodied people often take for granted. Many wheelchair users can't access vending machines, but most machines are in hospitals, where many wheelchair users can often spend a lot of time. The research for this idea was primarily user observation and questionnaires at Pinderfields Spinal Rehabilitation Centre, where my brother was formerly a patient after emergency spinal surgery left him, wheelchair bound. This final idea was chosen out of eight initial concepts.



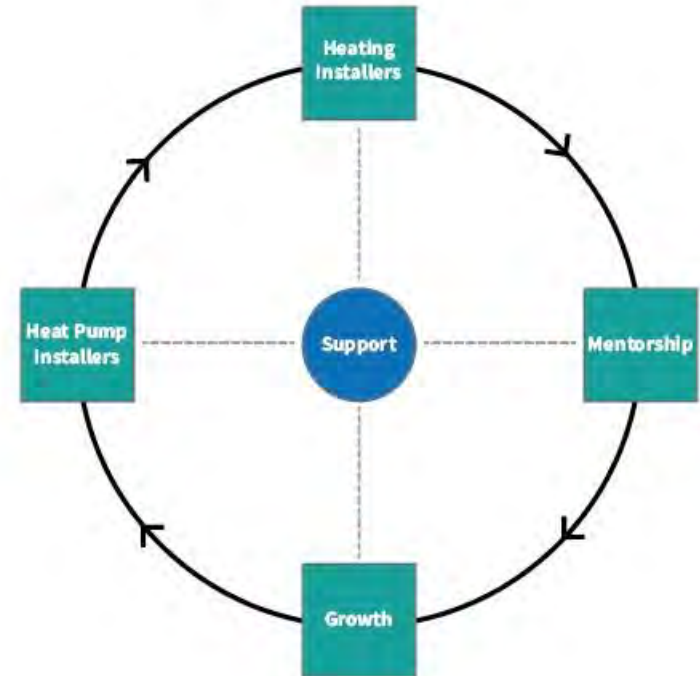
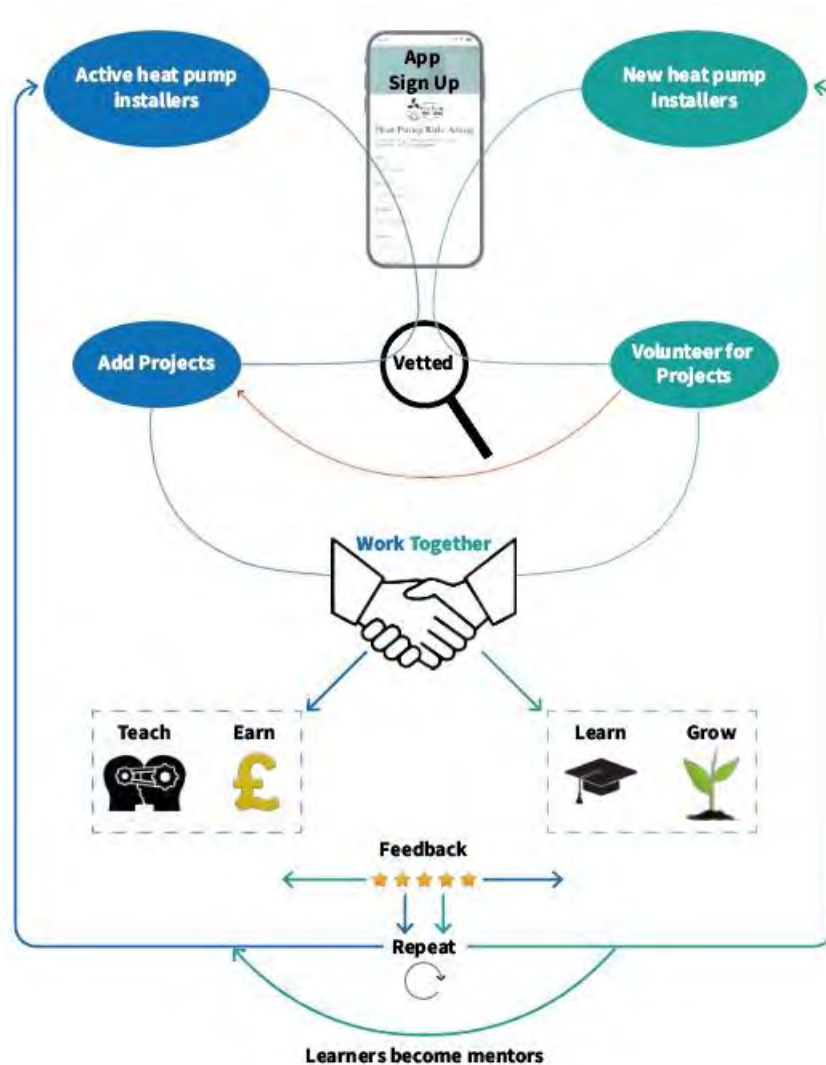


Megan Ackroyd Accessible Vending Machines: The Future is Inclusive



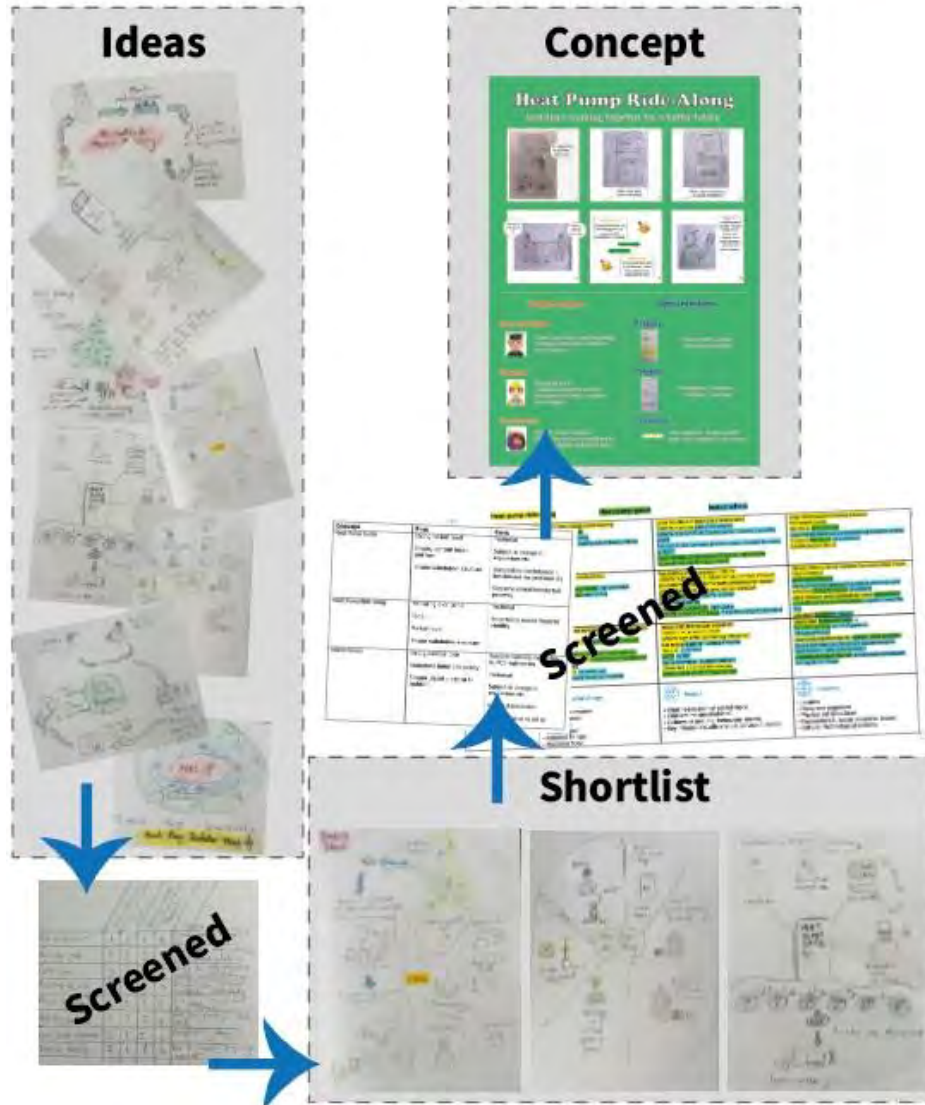
Michael Paini

Heat Pump App



Michael Paini

Heat Pumps



Professionals Sign Up
Submit qualifications and insurance for vetting.



Create Profile
Name, contact info, company, job title, bio.



Add or search projects
Jobs will show up in searches.



Volunteer on projects
Get experience on real jobs with real installers.



Leave Feedback
Volunteers and mentors rate each other.



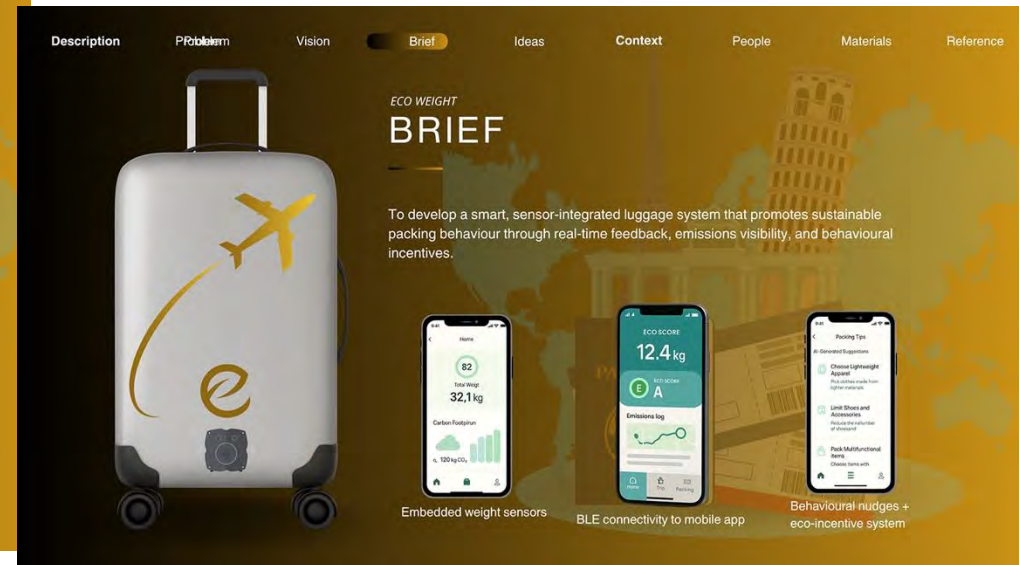
Build Your Profile
Enhance your reputation to customers and other installers.

Raabia Omer

EcoWeight: Smart Luggage for Sustainable Air Travel



EcoWeight is a smart luggage system designed to reduce carbon emissions caused by excessive passenger baggage weight in air travel. The product integrates Bluetooth Low Energy (BLE) weight sensors with a mobile application that provides real-time feedback and “eco-score” nudges to encourage lighter packing. Travelers are informed of their luggage’s environmental impact before check-in, helping them make more responsible choices. The system is screen-free, modular, and built from recycled carbon fibre and recyclable components to minimize lifecycle emissions. EcoWeight offers airlines an indirect path to fuel efficiency while empowering passengers to take climate-positive action.



Raabia Omer EcoWeight: Smart Luggage for Sustainable Air Travel

Description

Problem

Vision

Brief

Ideas

Context

People

Materials

Reference

Rimberio Co Shoe Store

CONTEXT

“EcoWeight enters here”

Current solutions

CURRENT SOLUTIONS-----> RIMOWA, SAMSONITE, AWAY

SMART LUGGAGE TODAY = TECH CONVENIENCE ONLY

Environmental context

MORE LUGGAGE WEIGHT -----> MORE FUEL CONSUMPTION -----> HIGHER CO₂

AIR TRAVEL = 2-3% OF GLOBAL EMISSION (IATA, 2023)

Unsolved problem

NO REALTIME FEEDBACK OR CARBON INSIGHT

Description

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Vision

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Ideas

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Materials

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ECO WEIGHT MATERIAL

To develop a smart, sensor-integrated luggage system that promotes sustainable packing behaviour through real-time feedback, emissions visibility, and behavioural incentives.

TECHNICAL COMPONENTS

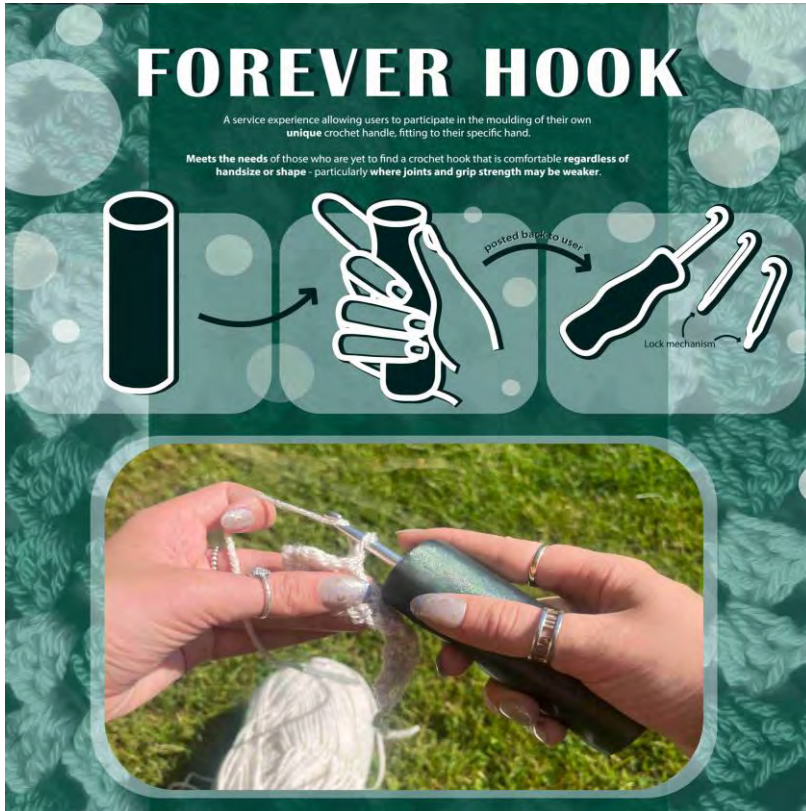
- Weight sensors (~100-150g)
- Bluetooth LE module (~10-30g)
- Microcontroller (~15-30g)
- Rechargeable lithium battery (~100-150g)

MATERIAL ASPECTS

- Recycled carbon fiber shell
- Honeycomb polymer structure
- Packing tips

Sarah Karn

Forever Hook

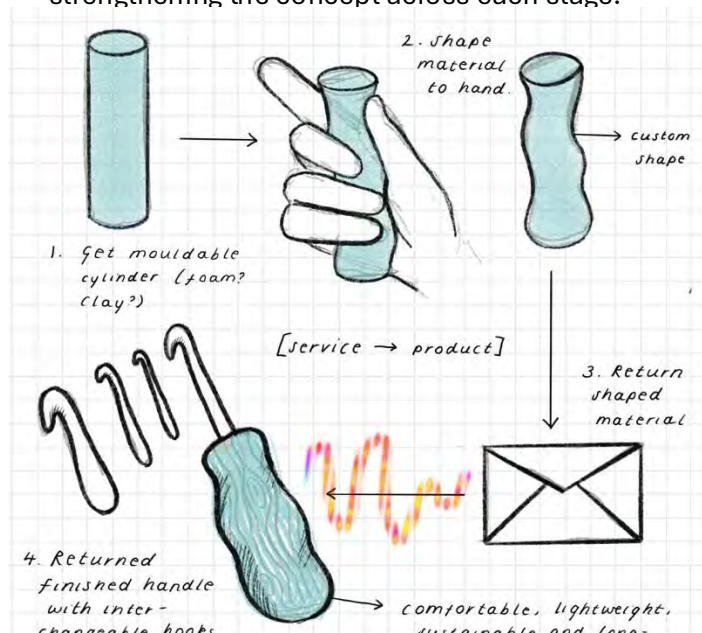


Forever Hook is a hybrid between a service and product, initially designed to support individuals with reduced hand mobility in continuing/starting crochet. Users receive a cylinder of eco-friendly floral foam, shape it to their natural grip, and return it for 3D scanning. A bespoke crochet handle is then 3D-printed using lightweight, biodegradable PLA and returned to the user with interchangeable recycled-aluminium hooks.

This solution sustainably addresses the overlooked issue of inaccessible craft tools. Current crochet hooks are often uniform in shape and size, regularly cause pain, and are difficult for people with physical disabilities to use. The Forever Hook offers comfort, customisation, and inclusivity.

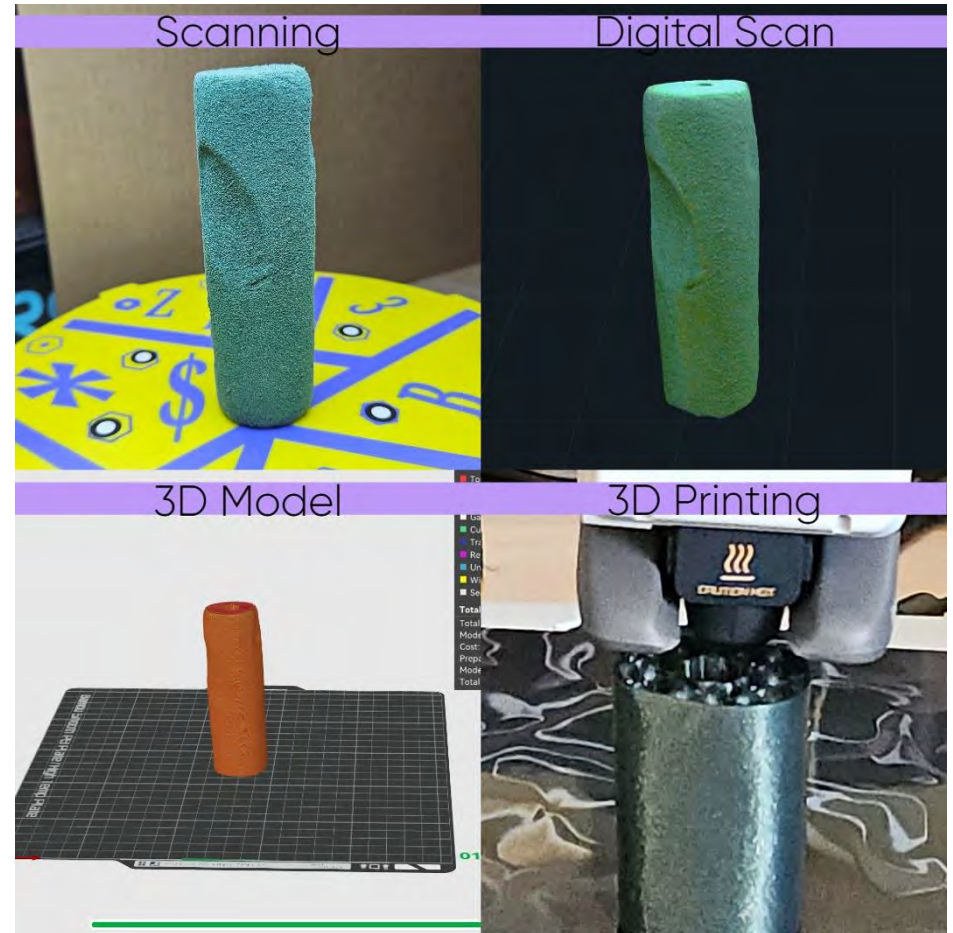
Initial research included analysing the problem through immersion, observations and reviewing online accounts from crocheters with/without disabilities. After generating concepts through brainwriting and morphological/heuristic methods, I carried out further research into the effects of disabilities on fine motor skills, potential materials and inclusive measures within design before beginning to prototype this concept.

I selected this idea to develop because it fulfilled my brief and personal values far better than alternative concepts. Although there are still improvements to be made, prototyping; user testing; and sustainability evaluation tools have been key for strengthening the concept across each stage.



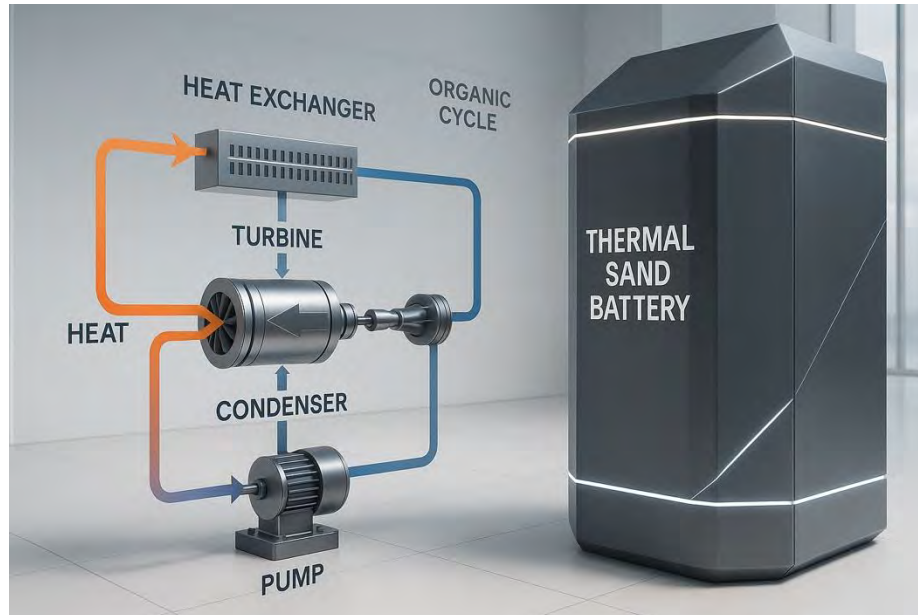
Sarah Karn

Forever Hook



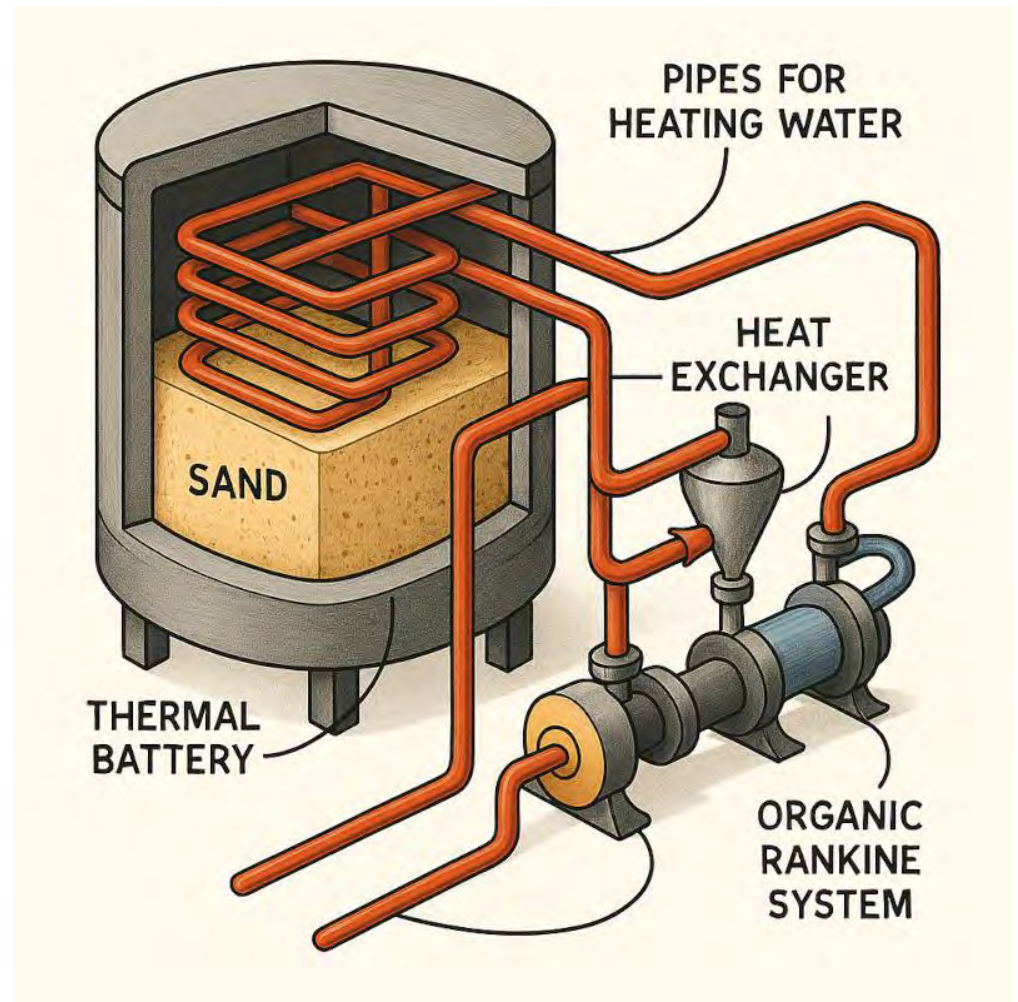
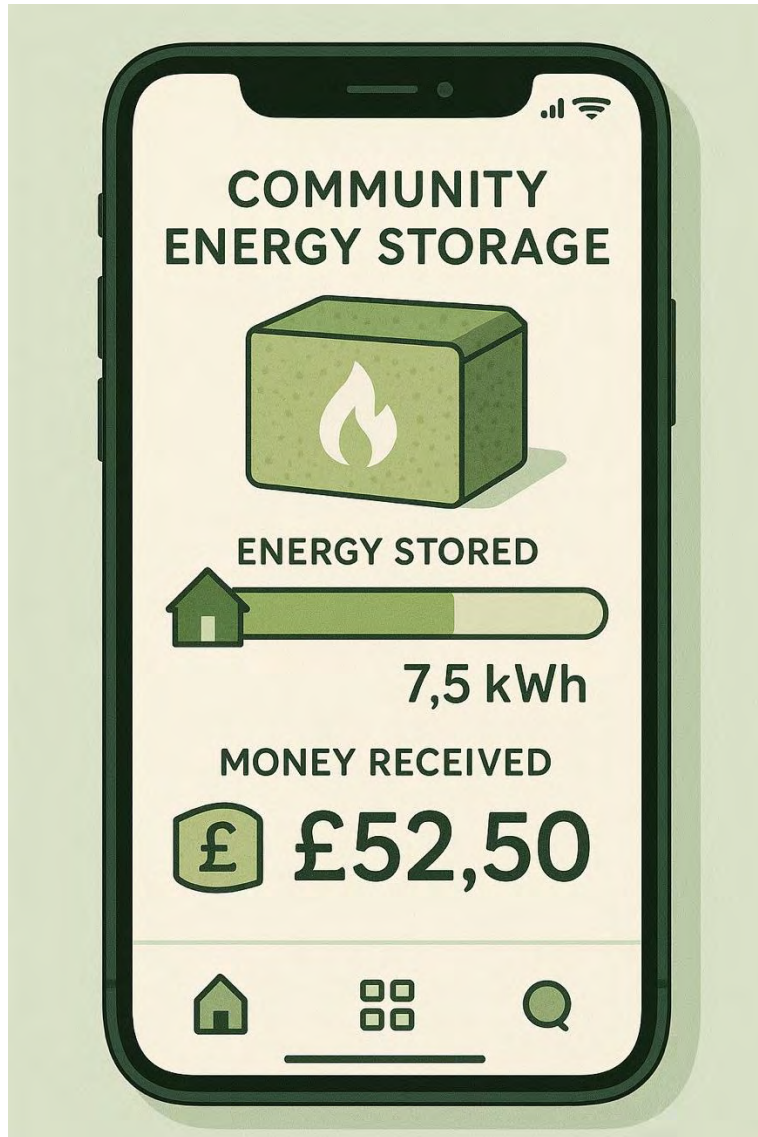


The communal sand thermal battery is a sustainable energy storage solution designed for neighborhoods aiming to reduce reliance on fossil fuels. It stores excess renewable energy—such as solar or wind—as heat within a large, insulated sand reservoir. Sand's high thermal capacity allows it to retain heat for extended periods, which can be redistributed for home heating or converted to electricity during peak demand. This cooperative system enables households to share resources, lower energy costs, and enhance grid resilience. Ideal for off-grid or hybrid systems, the sand battery promotes energy independence and supports the transition to cleaner, community-driven energy solutions. Using online information gathering as my main research technique and keeping abreast of current and upcoming technologies, I designed this system. Necessity is the mother of invention and creative discontent turns a negative into a positive. Here the cost-of-living crisis acts as an opportunity for locals within a community to work together to source and store their own energy. I created an initial 8 ideas then used a selection matrix to select the best 3 ideas. Finally, using the criteria for the project I selected the best option with a slight modification from some aspects of other ideas that I liked.



Steven Carlin

Community Home Energy Storage



www.oudesignshow.org

design@open.ac.uk