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01



EMMA TRAINOR

EarShot is a modern transitional hearing aid kit, designed to promote connection and foster social relationships for those with low to moderate hearing loss.

EarShot allows the user to interact and sustain their social life through enabling communication with room for user control.

EarShot contains two forms of microphones and an earpiece that amplifies the sounds you want to hear. Unlike intermediate hearing aids, we provide a modernised design to boost your confidence, more user control options through the app and the ability to record speech as text!

There are four main parts within EarShot. The product can be placed in an area that the user wishes to amplify, this communicates through bluetooth to an earpiece placed in the user's ear. If the user wishes to focus their hearing on a presenter or speaker, they may clip the microphone attachment to the speaker. Moderated through an app, EarShot allows for more user control and personalisation over sound than ever before. Conversations can also be turned into text in real time and saved for later if needed.

01

Only one in five Australians who could benefit from a hearing aid actually use one .

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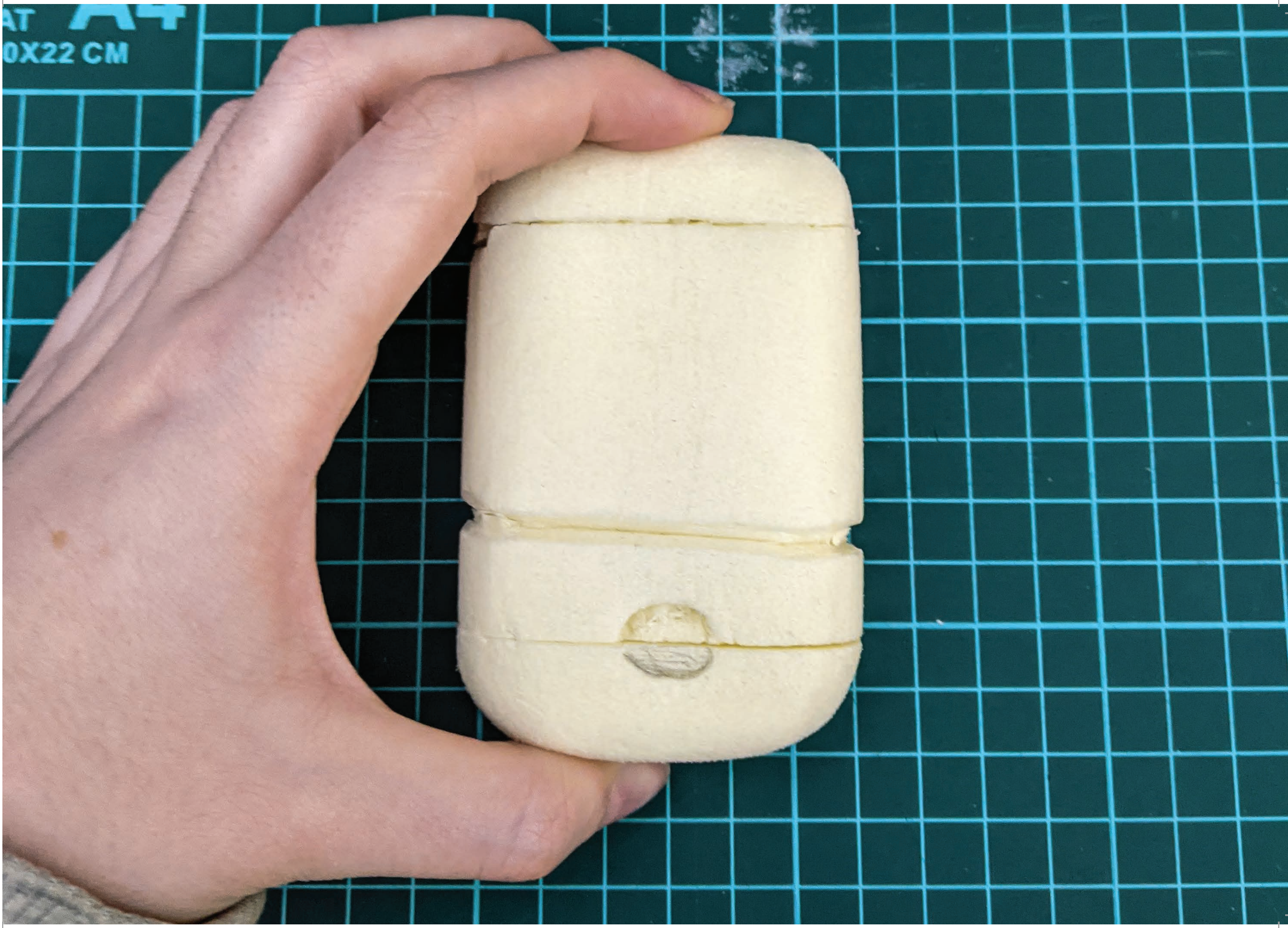
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Earshot



AT
0X22 CM



02



BRENTON SU

Asthma is one of the most prevalent chronic diseases that affects children around the world. It is an incurable condition, but it CAN be controlled with proper asthma management.

Proper asthma management of asthma include good asthma adherence, correct technique when taking medication, accurate data collection and avoiding known triggers.

Some of the main issues surrounding asthma management: 92% of children used their inhalers incorrectly, even when taught the correct technique, over 50% of children still reverted back to their old habits while some even developed new errors, over 90% of parents don't monitor their children using their medication, parents are often not aware of their children's poor inhaler technique, data is not collected (when/where/how inhalers are used), additionally children had an adherence rate of less than 50% while in adolescents the rate drops to less than 30%.

In 2017 38,782 Australians were hospitalized with Asthma related issues. Over 80% of Asthma hospitalizations can be prevented if Asthma was properly managed.

02

Asthma Buddy

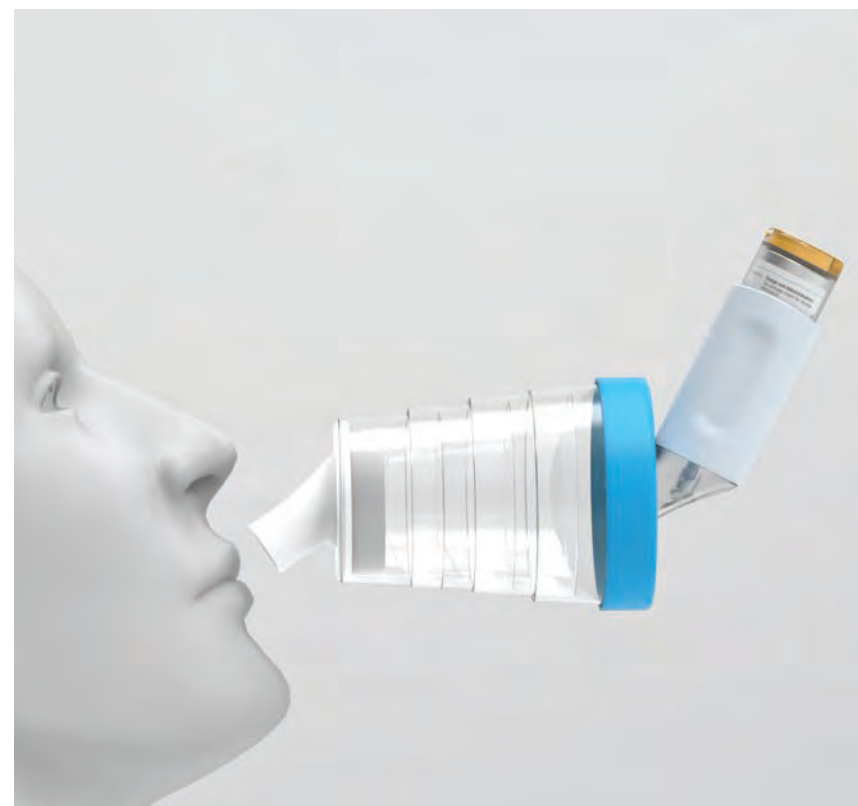
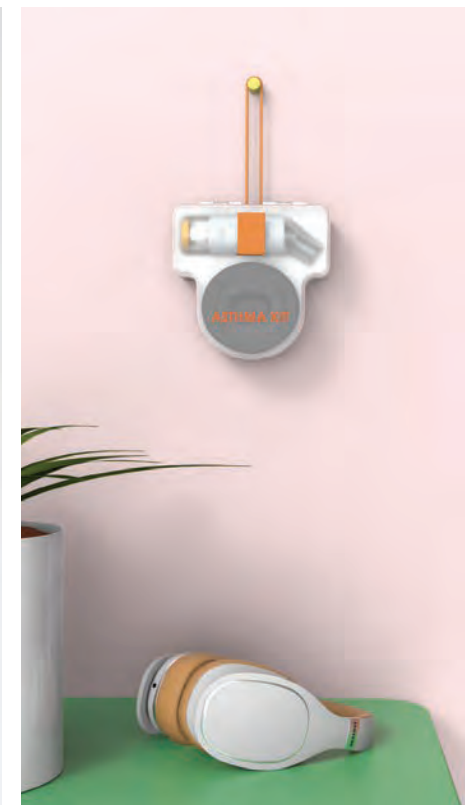
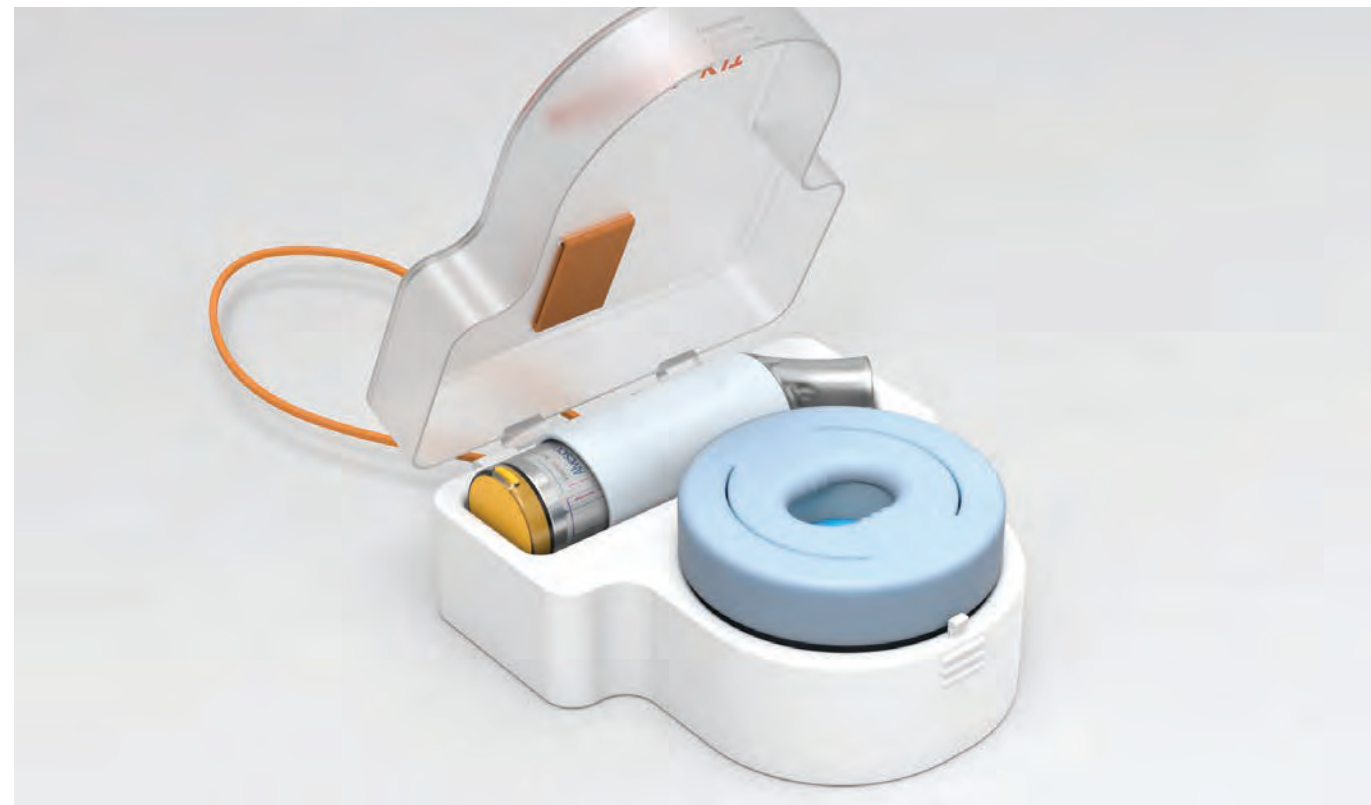
Asthma buddy is a small portable kit designed for children (4+) to make asthma management easier for both them, their parents and other stakeholders.

The concept uses sensors to give live feedback on technique (data sent to app on parents phone), utilises routine integration to increase adherence and has a small portable carry case to address both these issues everywhere a child might go.

One of the key features this design has is the angled mouth piece of the inhaler and spacer which makes the user INTUITIVELY tilt their head back when using their medication , crucial in opening airways for asthma medication.

This kit also allows for high levels of customization within both the inhalers and the carry case to increase user engagement.

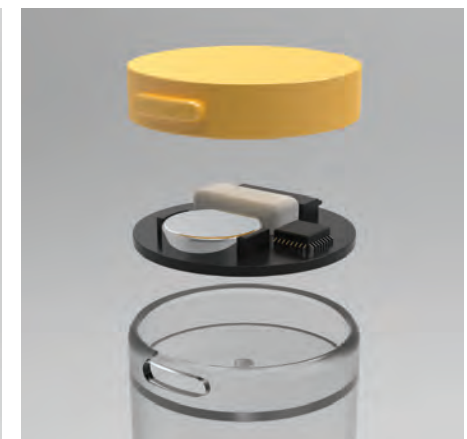
A full detailed explanation of each product in this kit is linked in my portfolio above.



Intuitively Tilt Head Back



Collapsible Spacer





Instagram: Hamish_mcf | 0478575008 | h.mcfarlane2022@gmail.com

03



HAMISH MCFARLANE

Children with intellectual disabilities are at an increased risk of suffering from psychosocial conditions such as anxiety and depression.

Exercise is a proven way of managing these conditions. However children with intellectual disabilities have been excluded from traditional exercise markets as they have unique challenges that prevent them from being able to exercise like their peers.

One of these challenges is the decreased hazard perception of children with intellectual disabilities, a child with the physicality of a thirteen year old may only have the hazard perception of a three year old.



03

Trike

Solution

The solution to these problems was to create a dual steering tandem trike, so that the child and adult can steer together while the adult has the mechanical advantage. The child is also able to control the bike within reason which fosters independence for the child. This solution provides the child with their needed exercise while mitigating the potential for harm to the rider or pedestrian.

What is TRIKE?

Trike is a three wheeled electric trike, made of mild steel, built for durability and adventure. Lights and steering are prioritised for safety. Built in the UNSW built environment workshop with the help of staff, TRIKE is built for durability, safety and style.





04

**BEN HANSEN**

Flipica is a desk designed for the small space of the bedroom.

But why? One of the major problems facing today's society is the rapid urbanization and growing population. This problem led to the advent of apartment city living. Many apartments have minimal space, and the room to make a designated office space for WFH just isn't space efficient. Hence, in those in a FWA, the office has begun to invade the bedroom.

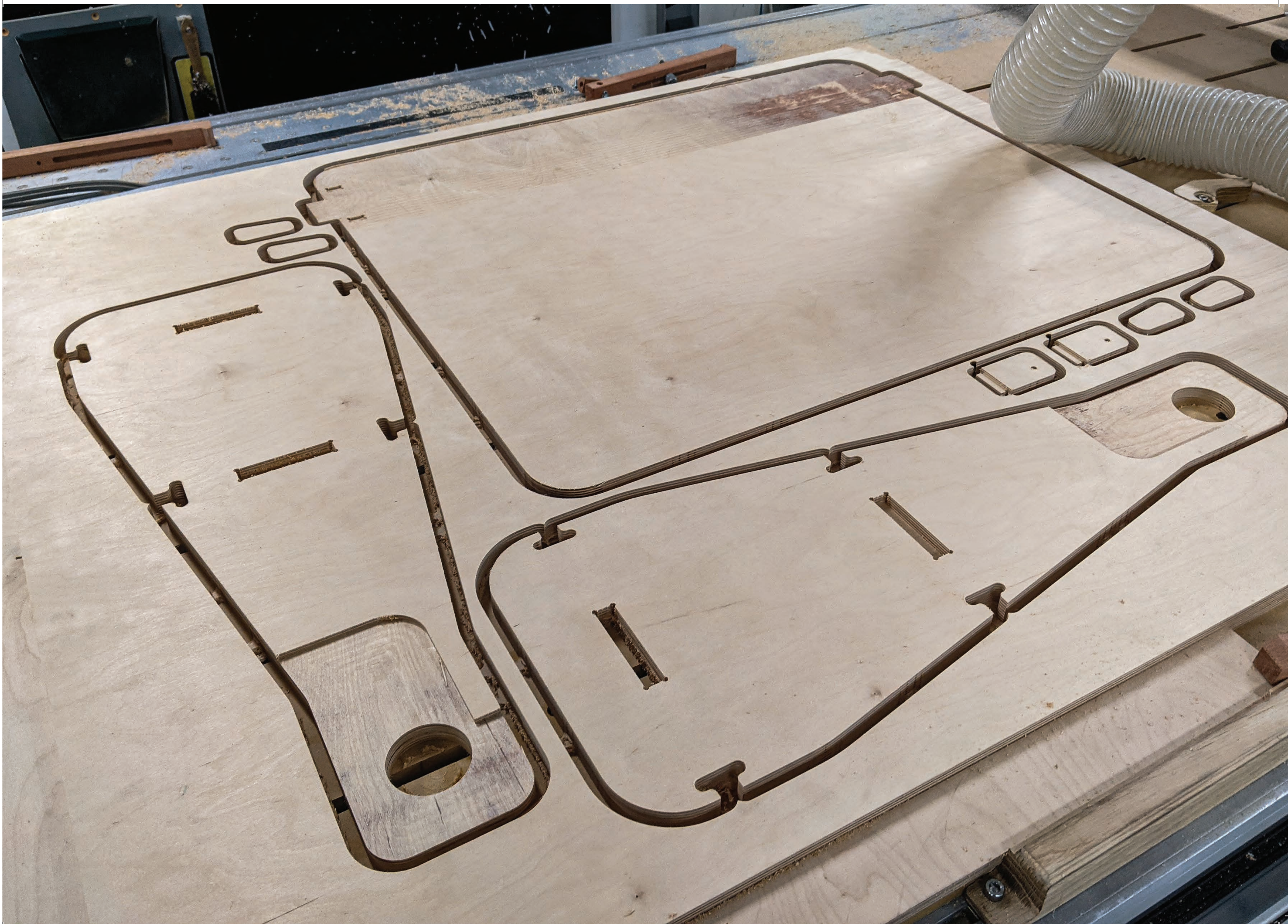
FLIPICA

04

Flipica is an adaptive desk designed to elevate people's work from home (WFH) lifestyle in the bedroom environment.

Flipica responds increased use of the bedroom environment for work related activities due to flexible work arrangements. Flexible work arrangements (FWA), where people work both from the home and the workplace, are becoming the norm. Flipica aims to adjust to this new situation by providing a desk for working that folds up against a wall revealing a mirror and shelving for bedroom living. The compact size and ability to fold up, allows the product to fit in the often crowded and small space of the bedroom, making it perfect for apartment city living.





05



ANGEL LIN

Thanks to the pandemic, there has been a substantial boom in pet ownership across Australia, 69% of Australian households own a pet and 30% are cats.

Cats can have a satisfying lifestyle with their owners living indoors. However, confinement in domestic environments can trigger behavior problems such as boredom, fearfulness and aggression to humans and other cats.

Environmental enrichment is commonly recommended by cat behaviourists to help cats adapt to home spaces. This happens when cats are provided with opportunities to play, climb, hide and perch. And the best results are achieved when it's tailored to the cat's individual preferences. Even though living indoors seem safe and sound, the danger that comes from a cat feeling boredom or stress can be profound. Common signs can be aggressive scratching, withdrawal and over-grooming. Providing an appropriate outlet for their energy and mental stimulation would be important for their overall welfare.



05

MEO is a set of modular furniture and accessories for cats. It serves to satisfy their practical needs in indoor environment, such as play, climb, perch, scratch, cuddle up and rest.

Composed of a “C” and “L” curved profile, the cat’s owner can customise and rearrange it in multiple ways. A designated clamp is used to secure everything together, just to eliminate any fuss of tools and instruction-reading.

The assembly process encourages active interaction between humans users and their feline friends, and the creativity to build something that is consistent with their home decor. Modifications can be made to the curved panels to suit the individual preferences of cats, such as padded felt for the cat who loves warmth and horizontal scratching; holes for the cat who like to squeeze through small spaces; slots for cats who like to hide and play “peekaboo”.

Flexible plywood is sandwiched in between birch veneer to create strong and sustainable curves for cats to use on a daily basis. The elegant profile serves well as a timeless design that adapts to changing human needs and spaces.



06



MIKI LI

To create an adaptable modular furniture for the modern office to enhance the comfort of the working environment and the rational use of space. The modern office is no longer a fixed and rigid space.

The interior of an office can be transformed by the application of light and shadow. Therefore, fluid shapes need to be applied, emphasising practicality and highlighting individuality to form the uniqueness of this product. The solution is a modular seating furniture set, formed from a simple shapes. They are maneuverable, and rechargeable to provide maximum flexibility and convenience.

Himawari furniture projects a quiet elegance that fits seamlessly with the architectural simplicity of the modern office with its pleasing sense of order and clarity. At the same time, clean, crisp furniture shapes can be paired with a wide choice of finishes and textiles: understated neutrals to keep the “temperature” cool or bright accent hues for bold contrast and greater warmth.

06



HIMAWARI





07



GEORGIA CRAWLEY

The ocean's natural production of oxygen conjunctively intertwines with the natural absorption of Carbon Dioxide released into the atmosphere through Carbon Emissions. The ocean absorbs 30% of carbon dioxide, accumulating to 10 gigatonnes of carbon dioxide annually.

The absorption of carbon dioxide into the ocean causes a dramatic raise in Ocean Acidification and Ph levels. Ocean Acidification kills marine species and affects the development of Coral Reefs as the centre of marine ecosystems through the acidic levels of the water. Coral Reefs are the primary habitat for more than 4,000 species of fish, 700 species of coral and thousands of other plants and animals.

The implication of Artificial Coral Reefs used to enhance and introduce growth of natural coral, thus enables. Phytoplankton to thrive as the number 1 organism used to combat Ocean Acidification as they absorb Carbon Dioxide and convert it to sugars, protein and energy to live. Phytoplankton as well as combating ocean acidification, is food for several marine ecosystems and completes multiple lifecycles of species.

Shell

The aim of this project is to produce a product that utilises Oyster Shells, as 2 billion oysters are consumed world wide per year, 70% of which in the hospitality industry and take 1000's of years to decompose in landfill.

Oyster shells can be incorporated into concrete as a material, as oysters are predominately calcium carbonate which is used to create shelled crustaceans and coral reefs. Using the oyster shell concrete material a product will be designed taking inspiration from marine ecosystems and coral reef forms, exhibiting the affects of ocean acidification as well as creating an artificial coral reef that can be discarded in oceans to produce coral reefs at the end of the products life cycle thus, reducing oceans Ph levels and acidification implications. Overall improving marine Eco systems and affects of carbon emissions on the ocean.



07



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08



NICOLE KYRIACOU

How might we design a product that can accurately and easily record basic health levels and ultimately improve the lives of people part of the aging population in Australia, while living independently.

The issues with current products are as follows :
Inaccurate collection of data, too many different types of home medical devices, unappealing and negative connotations attached to the existing product, complicated process and difficult to accurately use and Weather (too cold and too hot) conditions.

How do we improve this problem and enhance users experience? By developing a product that can: Decreases the amount of strain when setting up and using device, records health levels quickly accurately, record data in a clear and communicable way (for family and health professions) quick, simple and straightforward process.



08

Aima

Aíma is a multi functional and seamless design that measures a person's blood pressure, blood oxygen levels, heart rate and temperature through a high- tech ear piece.

The ear piece looks like a regular Bluetooth earphone, however the integration of PPG technology infra-red LED's allows the detection of a range of health levels through a user's ear canal. This product solves multiple problems with existing home medical products.

The seamless and easy process ensures a high rate of accuracy compared to existing home medical devices, as users do not need to learn lengthy and detailed processes in order to be provided with accurate information concerning their general health.



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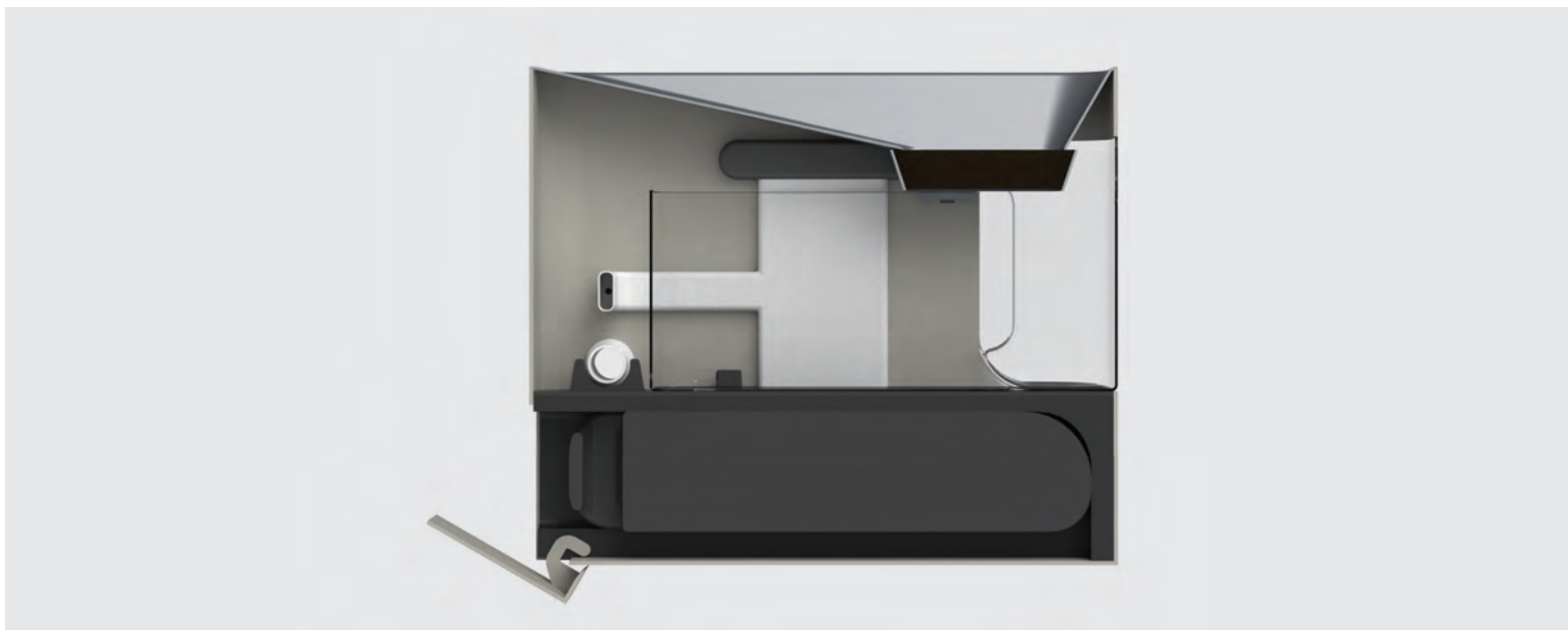
09



AERY CHEUNG

Changes to animal habitats would shift the equilibrium of the population of each species. While one species might begin to gain advantage and then population, the other might go the contrary way.

Swift parrots have been threatened by the sugar glider, which was mistakenly introduced to the habitat of the parrots, by traveling on a cargo ship. In fact, there are a lot more cases of human errors that caused animals to be threatened.

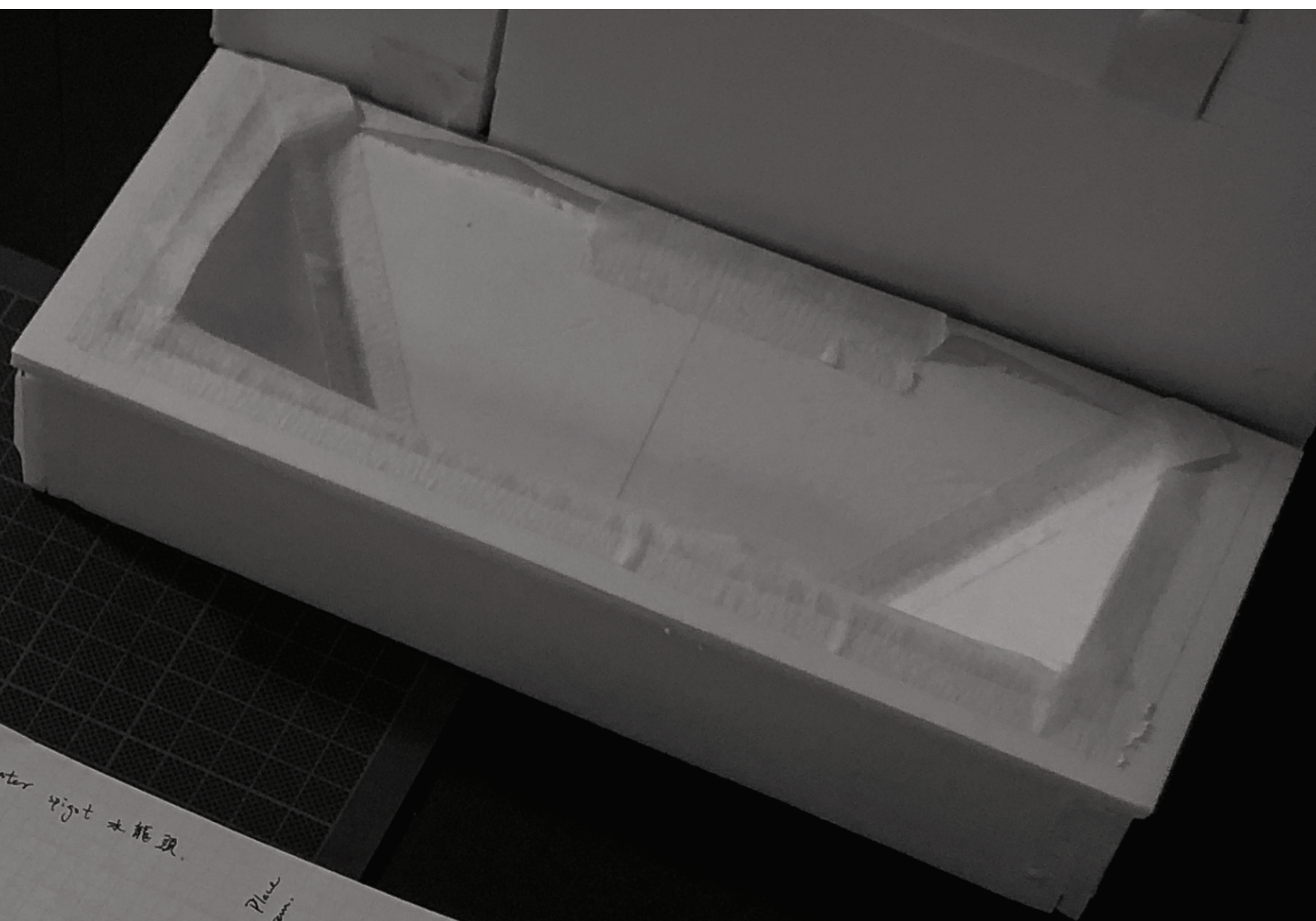
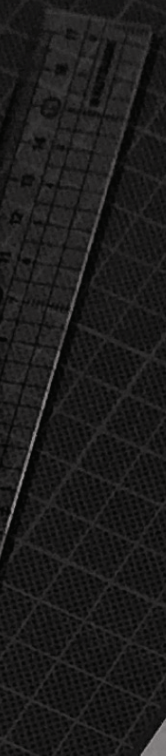


09

Fuentes

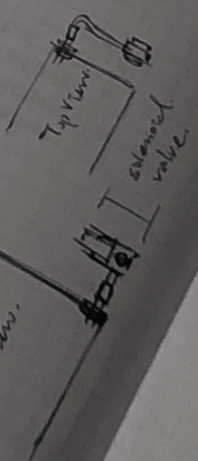
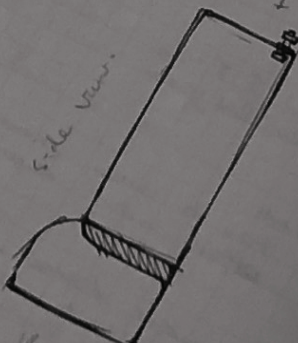
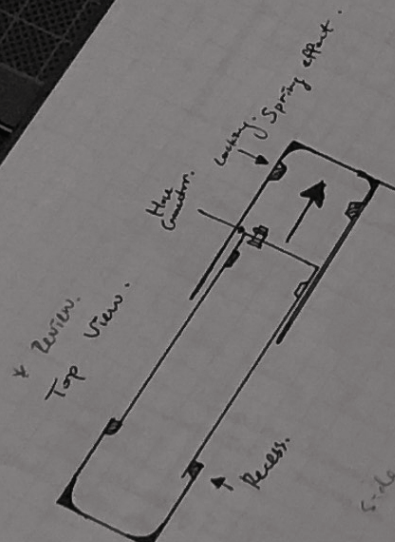
Fuentes is a drinking fountain for birds that has implemented AI for species recognition and tracking. Fuentes creates an alternative way for birds to drink.

By lowering or even avoiding the chances of encountering a potential predator, Fuentes is also a safer option for birds. The easy-to-use nature of Fuentes also makes the using experience fun for domesticated use, bringing humans closer to wildlife, in turn makes for a beginning to raise wildlife and environmental awareness



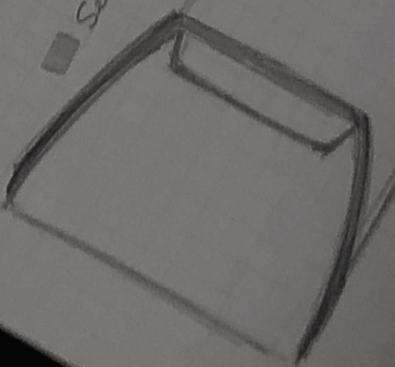
water spout 水龍頭

- hold water tank in place
- connect water to system



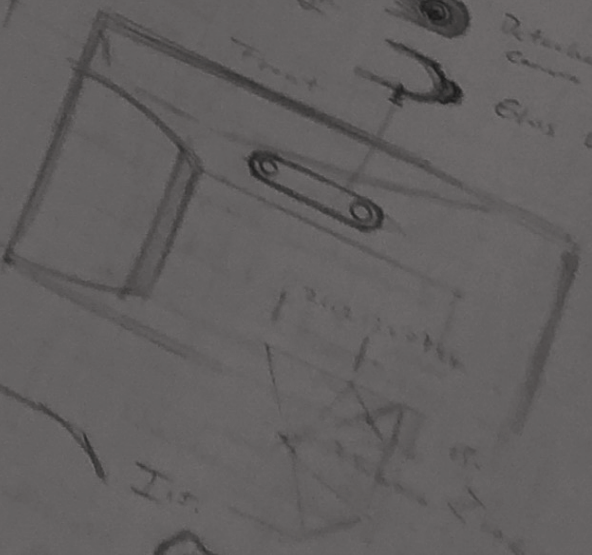
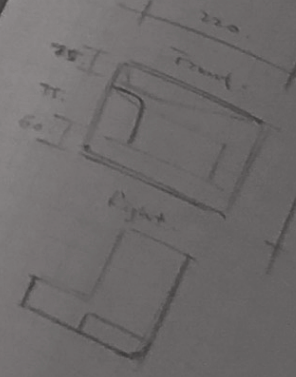
water tank side view

Sealant Puller



Model

Expanded Design



Retractable
Camera unit
Plus connector

10



CYNTHIA LIU

People need nature, so how can we get people to interact better with nature?

My design starts with this question. After the constant recurrence of epidemics and blockades and quarantines from 2020 to the present, which have been testing for everyone, the need for nature has intensified.

Because the impact of environmental problems is often potential, long-term and not a threat to present life, people often think that environmental issues are not urgent. But people need to understand their environment and the lives they share, and understanding and love can lead to responsibility and action.

10

Botanist

“Botanist” is a smart wearable device that provides children and families with the opportunity to interact with nature, using technology to encourage a better relationship between humans and nature.

It is a smartwatch that helps users have more fun interacting with nature. Few products focus on the user's interactive experience in parks or ecological areas. This smart device will provide participants with a rich and interesting tour process, guiding children to learn through entertainment.





11



KATHY KY

Blood is the body's life-supporting fluid. According to the World Health Organization (WHO), severe bleeding (hemorrhage) caused by traumatic injury remains the leading cause of preventable death worldwide.

In 2015, WHO estimated that over 16,000 people died daily from traumatic injuries where hemorrhage resulted in the majority of prehospital deaths. The most common method for stopping the bleed is through direct manual compression over the wound using pressure bandages or dressings, followed by a tourniquet application. However, with civilian injury patterns increasingly resembling those of combat, solutions developed for the military are becoming commercially available for civilian use.

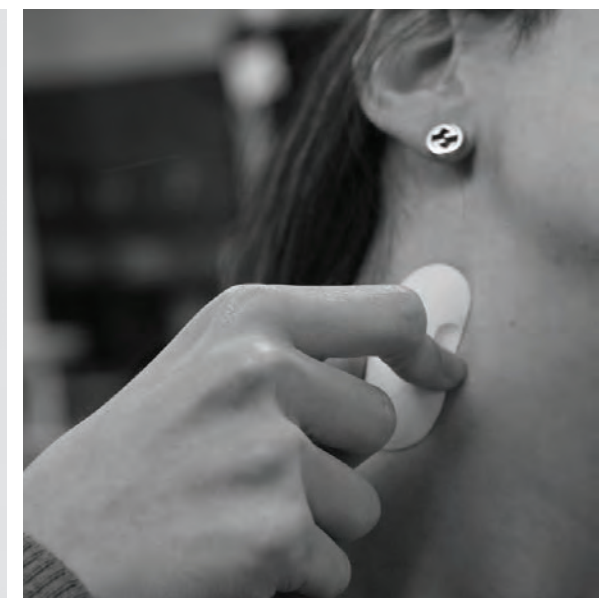
These are commonly known as haemostatic products; they are used as an adjunct or alternative to the standard tourniquet and come in various forms, including gel, granules, sponges, gauze, and dressing. Upon application, these highly absorbent products are packed deeply into the open wound, which temporarily forms a 'plug' around the injury to stop the bleeds.

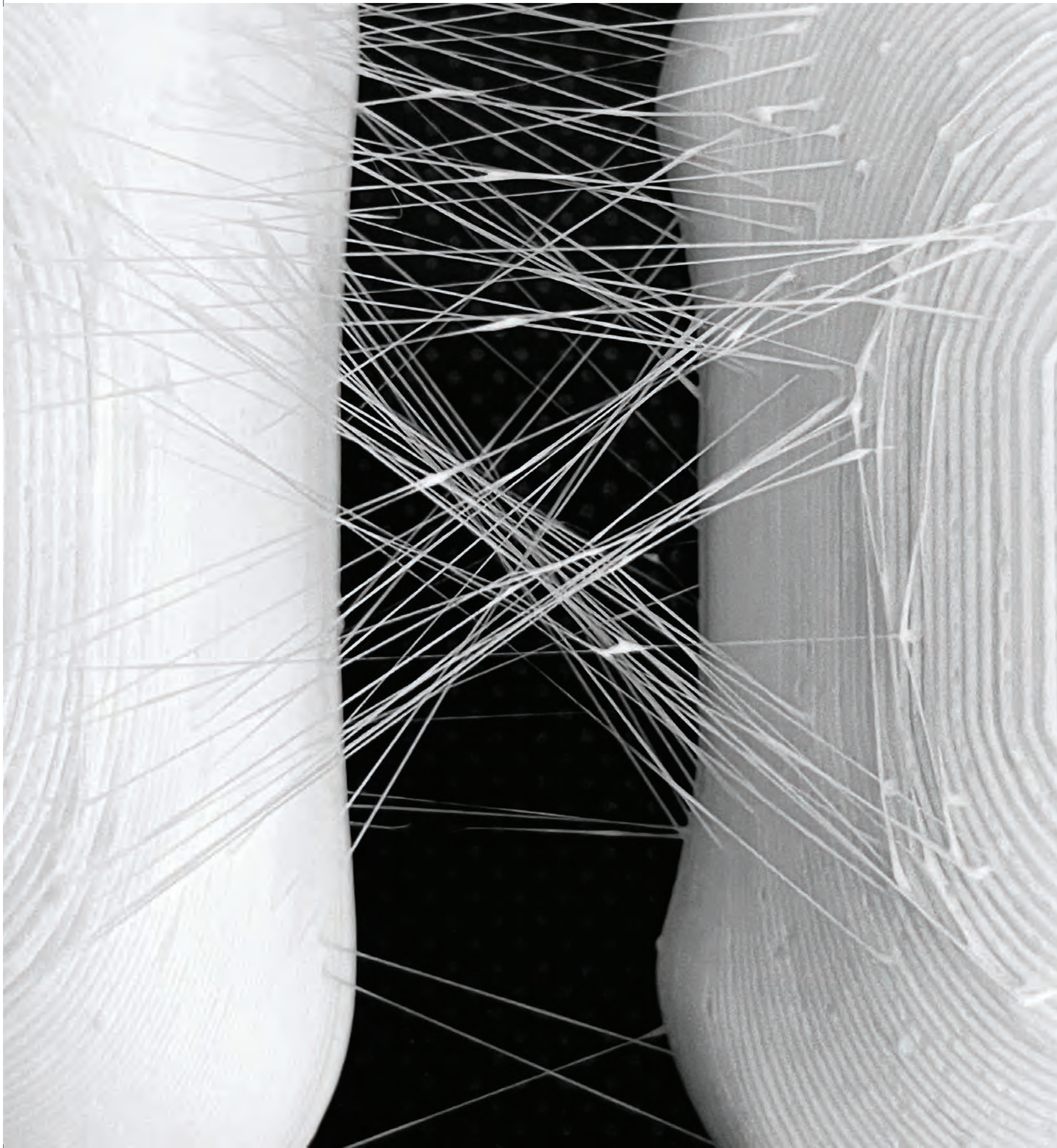
11

Neural Tourniquet

The Neural Tourniquet is a non-invasive, cervical Vagus Nerve Stimulation (VNS) device that uses electrical stimulation to immediately stop severe bleeding from traumatic injuries.

Unlike existing solutions, the device uses TENS technology to stimulate a specific neural pathway at the vagus nerve to enhance the body's innate immune response to injury. Electrical VNS at the neck increases blood clotting factors to the site of injury in a single application. In the same way haemostatic solutions expand and clog the wound, platelets form a natural 'plug' at the open cavity to stop arterial bleeding. Pre-clinical Studies show that electrical VNS can significantly reduce the total amount of blood loss by 50% in under a minute with promising results on also addressing internal bleeding.





12



ASHLEY MUTANDIRO







ACKNOWLEDGEMENTS

The Industrial Design Honours class of 2021 would like to acknowledge the support from the wonderful members of the Industrial Design team for their continued support that has shaped the direction in which we design and think as new emerging designers.