



Xavier Lim Zi Xu

Product Design Portfolio

As an aspiring product designer, my dream is to innovative meaningful, thought-provoking and most importantly useful designs.

I wish to hone my problem-solving techniques and explore different design approaches. Expanding my creative capabilities and contributing meaningfully to real-world problems is a must for me.

Following this introductory page is a list of my works.

SATURN

BA Product Design Project 1 - 1.5 Months

Design for the Future (2024)

A researched focused client project for Creative Technology

Problem

A rapidly ageing population and lower global birthrates will start the decade off with a smaller workforce, leading to a higher workload shared among fewer employees. And as technology advances, physical interfaces and interactions are less common.

Statement

Higher workload leads to heightened appreciation of relaxation times, and my product will aim to enhance these times. Bring tactility back in the future.

Criteria

Tackle the need to enhance relaxation, as well as provide an interactive experience in a digital world.

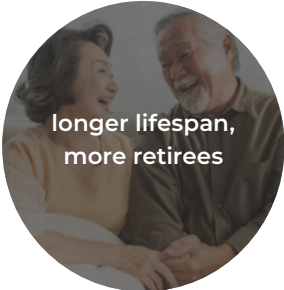


What is the **Future** Like?

| A supportive research on the vision of 2030

Rapidly Ageing Population

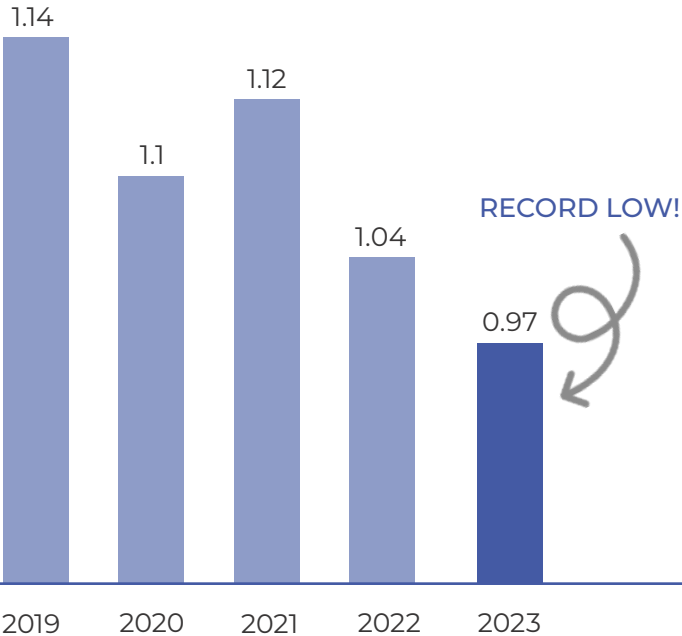
In the next few decades, the over-60 population is expected to double, making up 25% of the population by 2050 due to healthcare advancements and improved quality of life. This leads to more retiring, and less replacements. Eventually more workload and responsibilities for workers.



Lower Birth Rates

Currently we are at record low fertility, with 0.97 birth per woman in Singapore due to rising cost of living and demanding work culture. Less births will lead to less replacements for retirees.

Eventually we will have more workload, stress, and longer work days.



Singapore's Fertility Rate

A rapidly ageing population and lower global birthrates will start the 2030s off with a smaller workforce than what we have in 2024, leading to a **higher workload shared among fewer employees.**



The need to enhance relaxation

Higher workload will lead to the heightened appreciation of relaxation time or “time away from work”.

My products aim to enhance these carefree times.

As technology advances, **physical interfaces and interaction are less common.** From a Nokia phone with tactile buttons to the Apple Vision Pro needing only hand gestures and eye tracking.

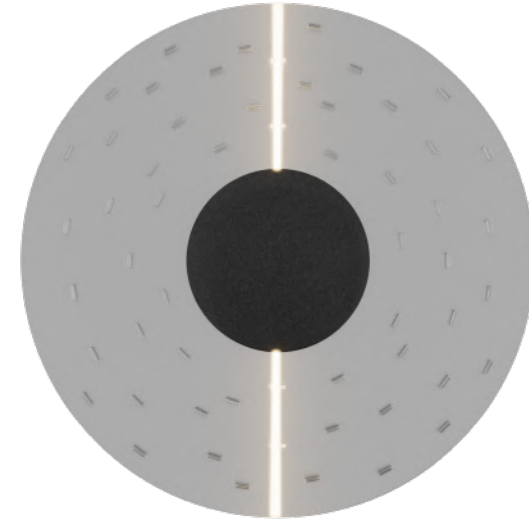


Interactive experience in a digital world

The need for physical interaction will be more pronounced by 2030 due to advancements in digital interfaces.

Bring tactility back!

Saturn is a powerhouse of a speaker. But it's also an artistic display of light and sound. When not in use, she transforms into an elegant timepiece or mood light, elevating your space with its artistic presence even in silence. Saturn enhances your environment, making every moment feel special.



Front Render w/ Directional Light,
Wall Mounted

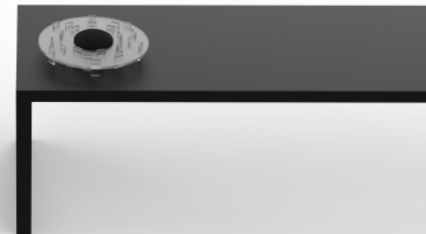
SATURN

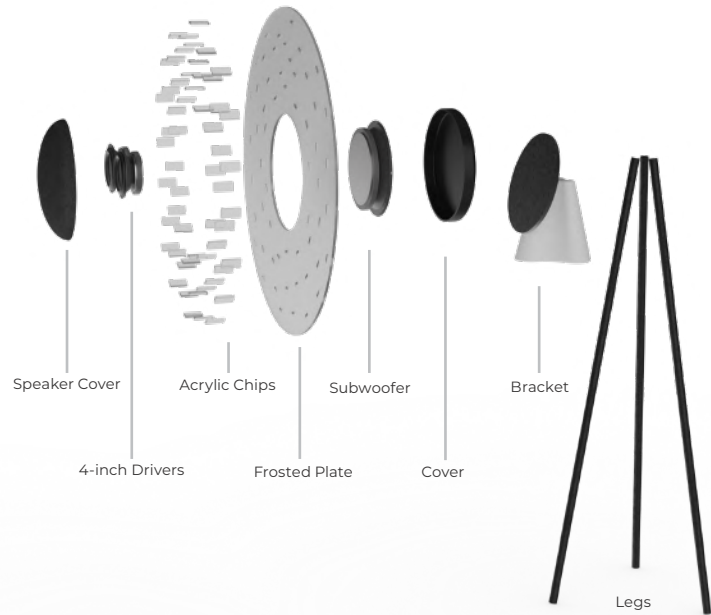
A centerpiece speaker that fuses audio, light, and interaction to address the challenges of 2030. Saturn enriches your time away from work through immersive sound and dynamic lighting, it turns relaxation into an art form, making you look forward to both doing nothing and everything. Elevate your downtime with a statement speaker that enhances life through creative audio and interactive experiences.



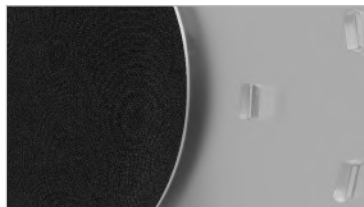
Acrylic Chips w/ NFC

Limited space but high expectations? The smaller variant of Saturn is the perfect fit. Designed for compact workspaces, it delivers the same impressive audio and visual experience.

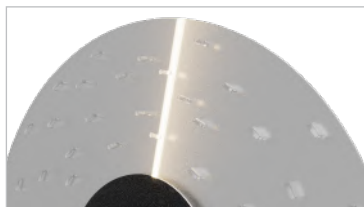




Bracket secures Saturn to the legs



Fabric mesh speaker and frosted acrylic plate



Directional light shoots out from beneath the speaker

PACKAGING

The packaging boasts clean lines, smooth surfaces, and minimal text, reflecting a refined aesthetic. Crafted from high-quality, eco-friendly cardboard, it feels both durable and luxurious, with a smooth matte finish and precisely cut edges that enhance the tactile unboxing experience. Inside, each component is thoughtfully arranged, cushioned by custom-cut foam that perfectly cushions the product. Easy-to-open pull tabs replace traditional stickers or tape, providing a seamless and secure closure, adding to the effortless elegance of the design.

BA Product Design Project 2 - 1 Month

Joinery Exploration & Fabrication (2024)

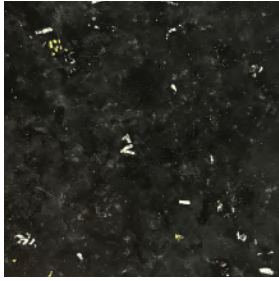
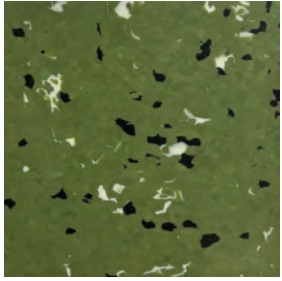
Fabrication project focused on joinery techniques

Introduction This materials and prototyping module requires us to design and fabricate a stool with recycled plastic and scrap wood. It places heavy emphasis on craftsmanship and properties of materials used, while form and aesthetics are secondary.

We learn to demonstrate understanding of material characteristics, structure and stability, finishings, and basic ergonomics in our stool.

Ethos Committed to *simplicity and precision*, I emphasize the beauty of structure over surface. By stripping away superficial aesthetics, I aim to reveal the elegance inherent in craftsmanship. This stool is a study in material honesty, focusing on the seamless integration of wood and plastic through refined joinery and meticulous finishing, where every detail enhances function and form without distraction.



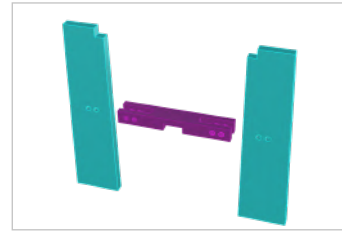


Recycled LDPE & HDPE Plastic

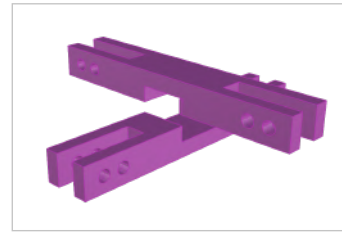
Leftover Chengai & Meranti Wood

MATERIALS & STRUCTURE

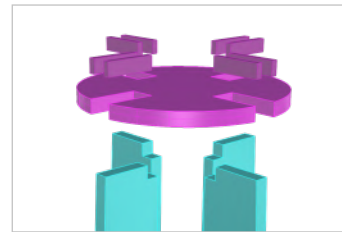
JOINERY



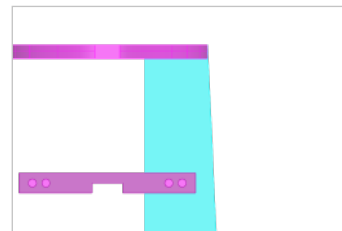
Dowels secure the legs and cross-braces together



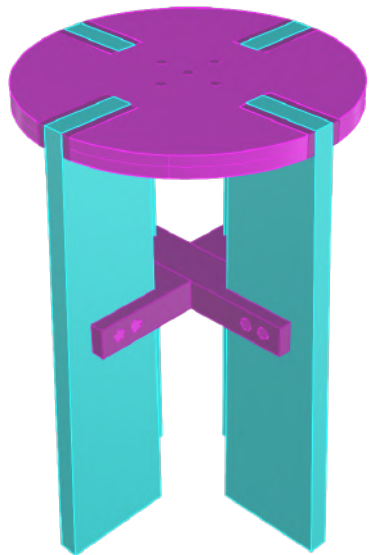
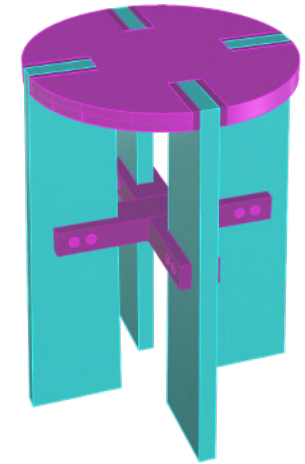
Cross-braces held together by a half lap joint



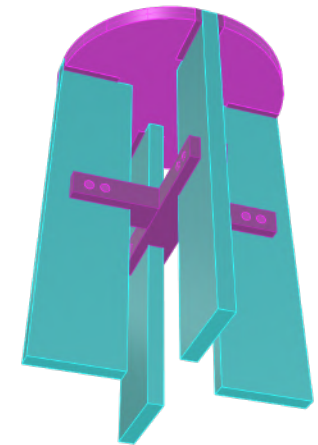
Seat glued in place with dowels & wedges



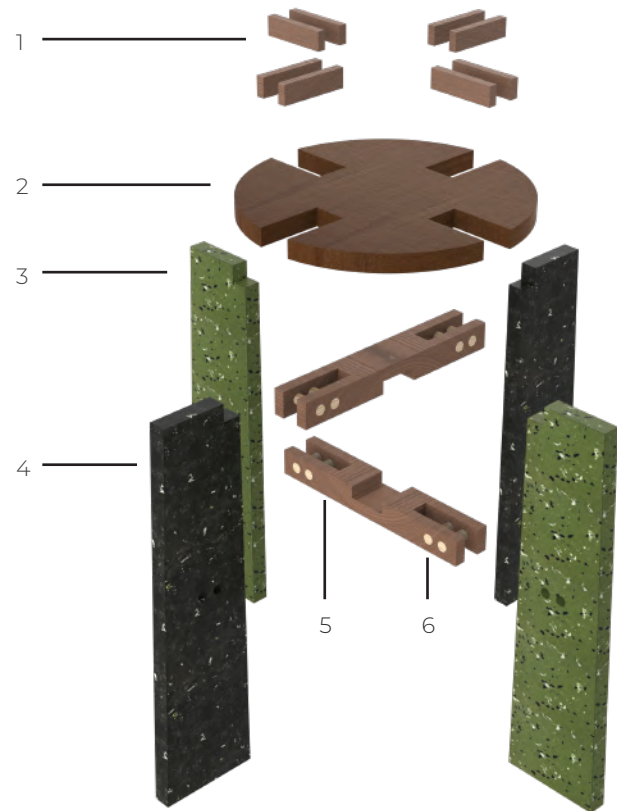
Wedges and braces prevent horizontal and vertical movement



The stool features four straight, subtly angled legs, secured to the circular seat by precisely cut wedges that rely on friction for a sturdy, reliable hold. Cross-braces between the legs ensure lateral stability, preventing any unwanted movement. The result is a design that blends clean lines with strength and durability.



EXPLODED VIEW



- 1 — MERANTI WEDGES
- 2 — CHENGAI SEAT
- 3 — SAGE HDPE RECYCLED PLASTIC
- 4 — BLACK LDPE RECYCLED PLASTIC
- 5 — MERANTI CROSS HALF-LAP BRACES
- 6 — PINE DOWELS

ASSEMBLY



Legs fit into a cross half-lap brace



Dowels hold the legs in place



Second pair of legs' braces fit in



Wedges secure seat to legs



Fully assembled stool



Dip. Final Year Project - 4 Months

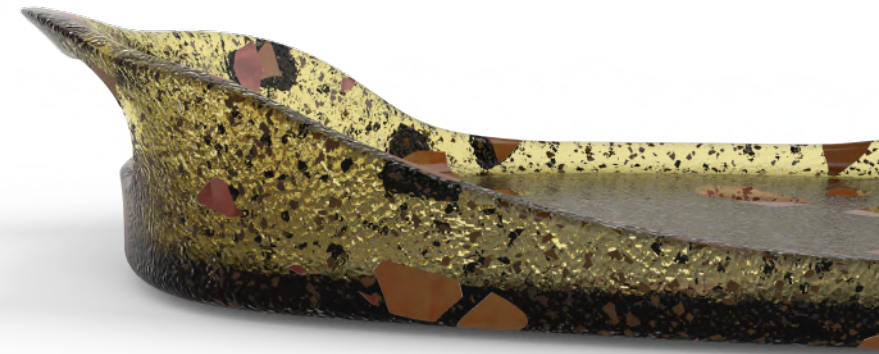
Sustainable Dining
& Experiential Living (2022)

Problem is the absence of capitalising efforts on cafes' food waste issues to reduce environmental impact and provide a multitude of benefits to both company and people if handled correctly.

Statement to enhance the experience of customers in cafes through a sustainable effort with waste produced from the cafe space

Criteria

- a multi-layered experience; an extension of their effort to be sustainable
- convenient and inclusive for the community
- provides the cafe with a good business plan



Concept



composting



continue intended use



repurposed

An experiential solution that benefits both cafe & customer

Elevated Dining Experience

- > Served bakes on ARCADIA tableware
- > Visible representation of food waste
- > Repurposed as a sustainable effort

Benefits Business

- > attracts customers
- > reduces food waste produced

Benefits Customers

- > convenient
- > enhanced experience at the cafe
- > beneficial uses for lifestyle

For a 2 min understanding of my project, please click me:

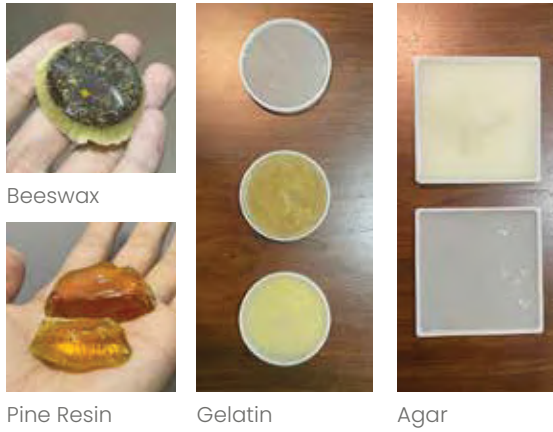


or view at: <https://youtu.be/HvxAUKuINOY>

User Journey



Material Exploration



WHAT I EXPLORED



FILTERED SAMPLES

OTHERS:

Cornstarch, Glycerin, Sorbitol, Salt (Reagent), Water
Orange Peel, Coffee Grounds, Eggshells, Tea Leaves

Final Material

Pine Resin

+



tea leaves



fruit peels



eggshells



coffee grounds



Form

iteration 0



iteration 1



iteration 2



Irregular edges

inspired by nature's terrain

Organic form

tie in with design language

Handles

served with two hands

Flat base

compliment pasteries and bakes



Irregular edges

inspired by nature's terrain

Organic shape

inspired by rose silhouette

Handle

allows for multiple ways of ergonomic handling

Tapered silhouette

sleeker look

iteration 0



iteration 1

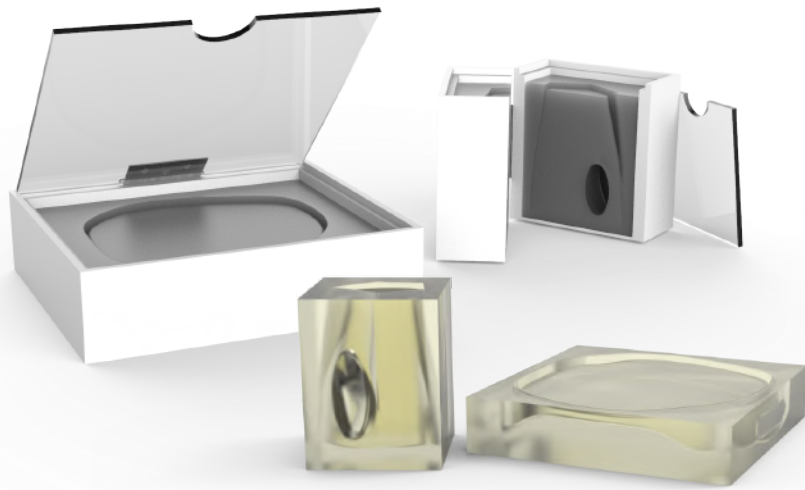


iteration 2





Mould



Packaging & Accessories

allows the customer to immerse themselves in the concept and story of ARCADIA, educating and influencing change through understanding



Family



1 x
espresso
cup

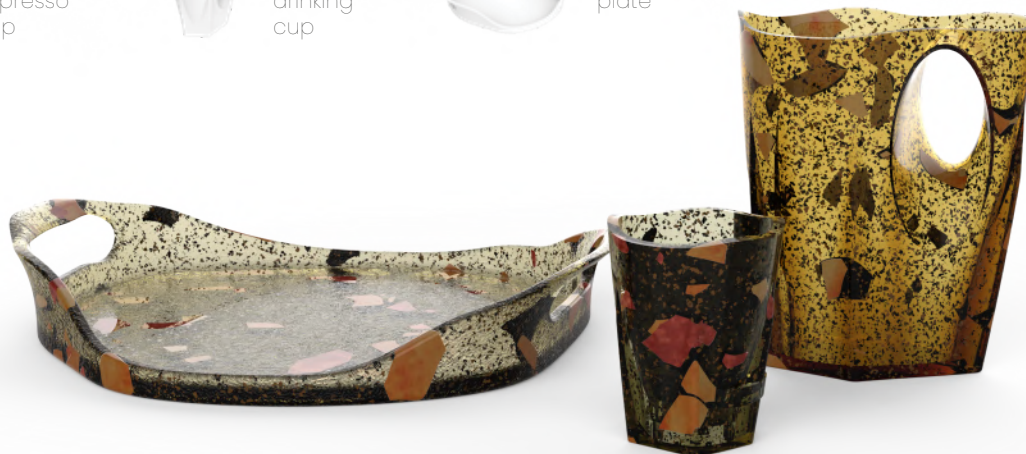


1 x
drinking
cup



1 x
plate

every piece
will differ due
to nature of
materials



INFAPCDS

Dip. Industry Project - 3 Months

Design for Good

A group project with Caleb Toh & Caleb Ho (2021)
For PCF Sparkletots - PAP Community Foundation

Problem

Most infant evacuation devices do not consider stairwell evacuation, are hard to secure infants down, take up much storage space and are physically straining on the user. Educarers fear of overly complicated innovations as solutions.

Statement

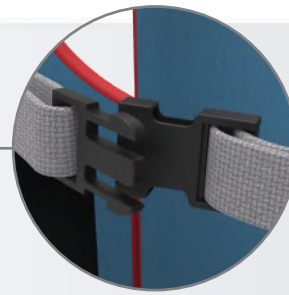
To design a product that aids educarers when evacuating infants and toddlers aged 7-10 months quickly and effectively out of a multi-storey care centre, that can also be used for infants aged 5-18 months

Criteria

- Design with the ratio of 1 educarer to 2 infants
- Safe and efficient to handle over all spaces
- Consider the toddlers' neck/spine support
- Lightweight, easy to learn and compactable
- Consider the storage of infant necessities



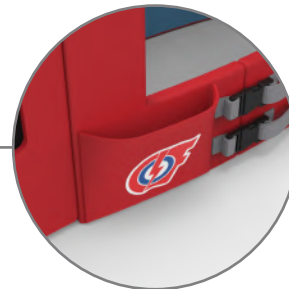
features.



Polyacetal Plastic Hardware
Inexpensive and widely found, strong and durable to withstand any accidental unlocking



Velcro'd Infant Pods
Allows for the educator to secure the infants down easier with more space for mobility



Extendable Compartment
Stores bare essentials for first aid and name lists.
e.g: plasters, etc.

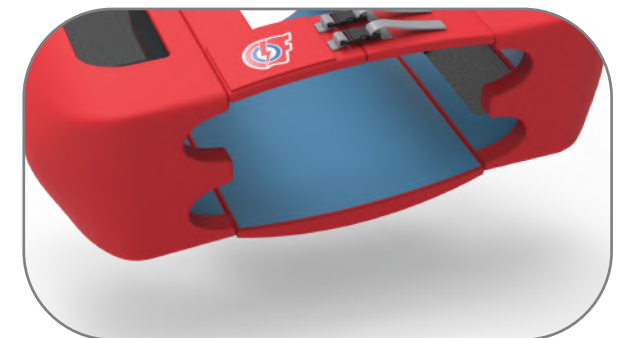


adjustable chest straps

chest strap moves up and down freely to allow breathability and comfort for different bust sizes and accounts for ergonomics

levelled base

allows the educator to place the device on a flat surface to secure the infants before wearing the vest on



how to use.



C

spread the vest straps apart slightly



buckle hardware and evacuate

D

B

release velcro and secure infant with buckles

A

in storage, Infapods come unbuckled

colour palettes

main

- PANTONE 18-1662 TCX
Flame Scarlet
- PANTONE 16-4134 TCX
Bonnie Blue
- PANTONE 12-4401 TSX
Antique Crinoline

primary secondary accent

- PANTONE 16-1149 TCX
Desert Sun
- PANTONE 12-0742 TCX
Lemon Verbena
- PANTONE 18-1560 TSX
Mandevilla Red

- PANTONE 14-4530 TN
Bluefish
- PANTONE 13-4421 TSX
Castaway
- PANTONE 12-4401 TSX
Antique Crinoline

- PANTONE 15-1460 TN
Orange Clown Fish
- PANTONE 15-1160 TCX
Blazing Orange
- PANTONE 16-3850 TCX
Silver Sconce

- PANTONE 16-0163 TSX
Lounge Lizard
- PANTONE 12-0742 TCX
Lemon Verbena
- PANTONE 19-4006 TCX
Caviar

design accomplishments.



familiar and easy to use



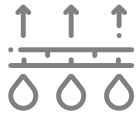
fully adjustable

1:2

ratio of educator to infants



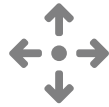
comfortable



breathable



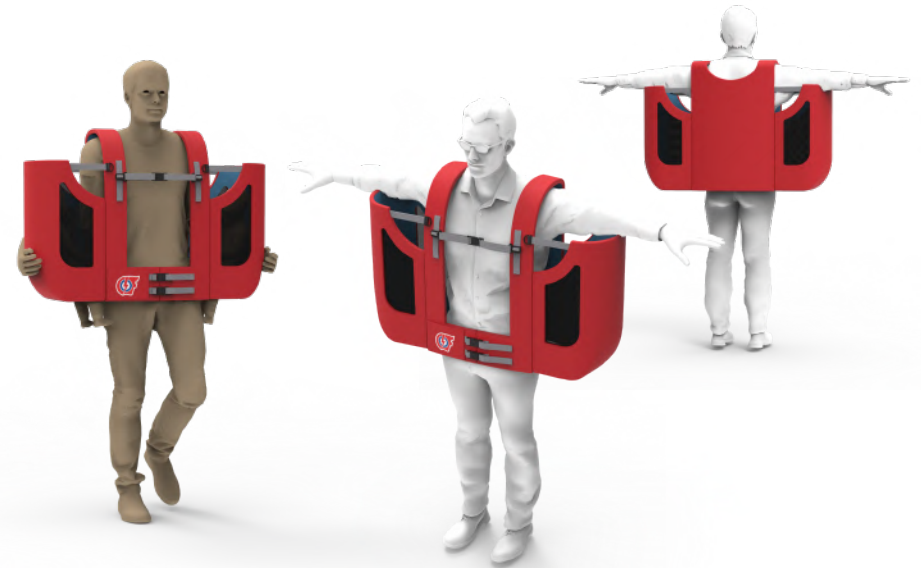
infants are well protected



easily maneuverable down stairwells

proportions.

the models are 165cm



storage.

flattened, alike a kayaking vest (PFD) hung on a hook when not in use

