

DIVISION OF INDUSTRIAL DESIGN 2017



Division of Industrial Design
School of Design & Environment

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Contents

Foreword	4
Achievements	6
Exhibitions	10
Industrial Design Curriculum	13
2017 Graduating Students	21
Design Platforms	99
Design Fundamentals	145
Design Process	159
Design Incubation Centre	169
Staff Index	179

Foreword

The Division of Industrial Design (DID) during its 18 years of existence has constantly refined its curriculum, and learning objectives to offer to our graduates more professional opportunities. This constant effort has been acknowledged by International World Ranking 35 and Asia 5th in Art and Design in the latest QS World University Ranking by Subject 2017.

This international recognition could not be possible without the tremendous effort of the founder of the Industrial Design programme Prof Teh Kem Jim who initiated the first direction to the programme. During the past six years, this effort was followed by the headship of Prof Yen Ching Chiuan who has set a very efficient and original platform structure, a real spine of our Division. Furthermore, his close collaboration in the medical field is now considered as one of the key expertise of our Division. As a new head, I would like to acknowledge his great contribution to our Division and ensure that I will pursue in this direction in close collaboration with our DID team.

The Division of Industrial Design offers a solid foundation course where students learn the elements of design necessary to develop their projects during the design platforms. These platforms gave us the opportunity to develop and encourage collaboration with prestigious public and private partners namely, Ministry of Manpower, Singapore – MIT Alliance for Research and Technology, Rainbow Centre Singapore, Lanzavecchia + Wai Design Studio, Kvadrat, DBS Bank, Samsung and Guerlain (LVMH). These collaborations exposed the students to the reality of the industry at the early stage of their studies. This exposure also gave our students the possibilities of internships, opening up a breadth of professional opportunities. The variety of platforms offered to the students this academic year covered most of the contemporary fields of industrial design: Service Design, Design for Special Needs, Lifestyle Products, Experimental Design, Experience Design, Design for Medicine and Healthcare, Spatial Design and Design Entrepreneurship.

This year the thesis projects offered a wide spectrum of design domains which could be summarized into three main categories: Health & Wellness, Lifestyle & Interaction

and Work & Education. The projects provided some strong and original design solutions.

The Division was given the opportunity to showcase some of our best students' and staff's works, such as the inaugural Global Grad Show during Dubai Design Week in 2016 where the best design schools in the world were represented. Spotted Nyonya Vessel with Cover XL from our colleague Hans Tan was also incorporated into the permanent collection of the Copper Hewitt, Smithsonian Design Museum, New York. The Design Incubation Centre (DIC) showcased its D.Lab collection at Singaplural 2017, as well as two other exhibitions: "Design Future Now", featuring a selection of recent works by students and practicing alumni of DID, and "Priming of the Classroom Experience", an in-progress exhibition of a probe project being conducted by DIC.

I am pleased to announce that this year, our students, alumni and staff won prestigious local and international awards such as: IKEA Singapore's Young Designer Award 2016, Liteon Awards 2016 (Taiwan), Inaugural Design Intelligence Award 2016 (Beijing), James Dyson Award (USA), 2016 Taiwan International Student Design Competition. Our colleague, Donn Koh also won two prizes in the CES Innovation Award 2017 (USA), for his works in Product Design for Health-Tech Wearable and IOT Baby-Breathing Monitor App Interface Design, to name a few.

On the behalf of the Division, I would like to congratulate the students for their passion and hard work, driving them to outstanding achievement. This would not be possible without the commitment and relentless efforts of the faculty staff, to support our students and the Division. I would also like to acknowledge the contributions of the DIC team, supporting our programme through teaching, research and logistics. Last but not least, special thanks to our administrative staff for their constant support behind the scenes.

The Division of Industrial Design will continue to pursue its efforts and excellence in the re-invention of its curriculum, platforms, pedagogy and industry collaborations to ensure its relevance to better equip our students in their futures.

Associate Professor (Dr.) Christian Boucharenc
Head, Division of Industrial Design

Achievements

STUDENTS AY 2016-2017



2016 TAIWAN INTERNATIONAL STUDENT DESIGN COMPETITION

Gold Prize, Product Design Category: Loren Lim
Title: Oneware

JAMES DYSON AWARD

National Winner: Loren Lim
Title: Oneware

IKEA SINGAPORE'S YOUNG DESIGNER AWARD 2016

1st Prize: Loren Lim
Title: Oneware

Oneware is a sink necessity that is designed specifically for those who only have one functioning arm. It is a series of modular units that aids them in various kitchen processes from food preparation to dish washing.



LITEON AWARDS 2016

Gold Award, Design Category: Raymond Hon, Sylvia Ang
Title: SP3 Intraocular Lens Injector

SP3 is an intraocular lens injector for cataract surgery designed for single-handed use. By freeing up the other hand, SP3 allows the surgeon to stabilize the eye with another tool, allowing for a safer and more stable operation.



LITEON AWARDS 2016

Merit Award, Design Category: Raymond Hon
Title: WarTT

WarTT is an interactive display that uses colours and shape to educate children on the topic of energy consumption. Through colours and shapes, parents can instill the virtues of energy saving to their children.



IKEA SINGAPORE'S YOUNG DESIGNER AWARD 2016

3rd Prize: Anthony Yu
Title: Fläckfri

FLÄCKFRI provides a practical solution to rack the wet and bacteria-prone kitchen rags which increases the air circulation for drying.



SPACE10 IKEA DESIGN WORKSHOP

Joint Winner: Ku Ga Eun, Iliana Ishak, Loo Joo Tat, Letitia Lim
Title: ERIKA

ERIKA is an AI companion embedded in the form of the humble pencil that you can pick up once you enter IKEA's stores. ERIKA converses with the user via bone conduction technology that helps conduct sound to the inner ear through the skull.



FAST COMPANY INNOVATION BY DESIGN AWARD 2016

Honorable Mention: Khaw Yee Jek
Title: Echo

Echo is an audio simulation kit that helps people that are recently visually impaired to develop auditory awareness of their surroundings.



INAUGURAL DESIGN INTELLIGENCE AWARD 2016

Top 100 Entries: Raymond Hon, Eason Chow
Title: Flipod

Flipod simplifies bed rotation for non-ambulant patient to relieve respiratory and bed discomfort due to prolonged static positions while sleeping.

Achievements

STAFF
AY 2016-2017

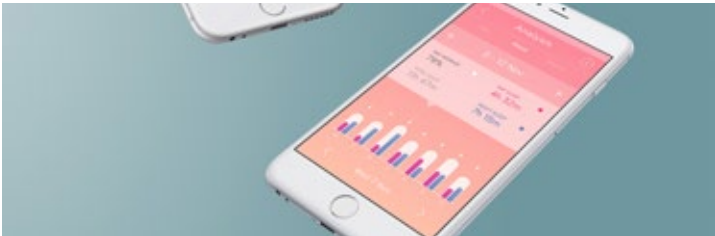


CES INNOVATION AWARD 2017

Wearable Technology: Donn Koh
Title: SenceBand

CES INNOVATION AWARD 2017
Fitness, Sports and Biotech: Donn Koh
Title: SenceBand

Professional work for Planexta Inc., design of the health-tech wearable - the SenceBand, which is the world's first single wrist electrocardiography (ECG) monitoring bracelet.

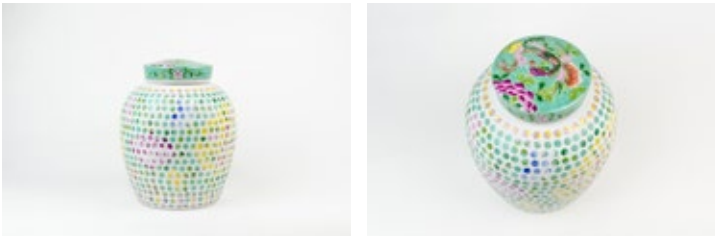


CES INNOVATION AWARD 2017

Tech for a Better World: Donn Koh
Title: SAFETOSLEEP

HONG KONG ELECTRONICS INDUSTRIES AWARD 2016
Product of the Year: Donn Koh
Title: SAFETOSLEEP

Professional work for SAFETOSLEEP, Companion App for Baby Breath Monitoring Mattress STS200.



COPPER HEWITT, SMITHSONIAN DESIGN MUSEUM

Acquired for permanent collection: Hans Tan
Title: Spotted Nyonya Vessel with Cover XL

Spotted Nyonya is a contemporary re-interpretation of traditional domestic wares native to Chinese-Peranakans in South East Asia. The original multicolored surface is transformed into a new dotted pattern using a resist blasting technique.

Exhibitions



D.LAB
In collaboration with Singaplural and Singapore Furniture Industry Council
Held during Singapore Design Week 2017

An exhibition featuring new projects developed by students from the Division of Industrial Design for the d.lab collection.



DESIGN FUTURE/NOW
In collaboration with Design Singapore Council and Ministry of Communication and Information Singapore
Held during Singapore Design Week 2017

Featuring a selection of recent works by students and practicing alumnus of the Division of Industrial Design, this exhibition aims to provide a snapshot of the now and future of design practice and design education in Singapore.



KOMOREBI
In collaboration with Lighting Planner Associates Inc, National Heritage Board
Held during Singapore Night Festival

Lighting installation with LPA Inc. The project started with a workshop conducted by Kauro Mende, the founder of LPA which cumulated to an installation at the National Design Centre during the Singapore Night Festival.



DEATH BY DESIGN
Sponsored by Nirvana Memorial Garden and supported by DesignSingapore Council

This exhibition presents a series of projects that investigate the role of design in death. A topic that is still taboo and often ill considered, these exploratory projects tackle the practical problems, semantic sensitivities and emotional challenges of passing on in the context of a contemporary society.



GLOBAL GRAD SHOW
Held during Dubai Design Week

This annual event is an exhibition of innovative student works from the world's leading design schools. Featuring projects organised around themes of empowerment, connectivity and sustainability, that aim to venture beyond aesthetics to transform the future.



MASAK MASAK
In collaboration with National Museum of Singapore and Keio-NUS CUTE Center

The exhibition featured Clumsy Dumpty on the Wall, an interactive installation inspired by the familiar shape sorter play toy that has encouraged bonding and teamwork among generations of children in the past and present.



DID OPEN HOUSE 2017

The Division of Industrial Design hosted its Open House exhibit at Tembusu Multi Purpose Sports Hall in UTown, National University of Singapore. Featuring the works of selected students, DID was keen to emphasize on the multi-disciplinary nature of Industrial Design.

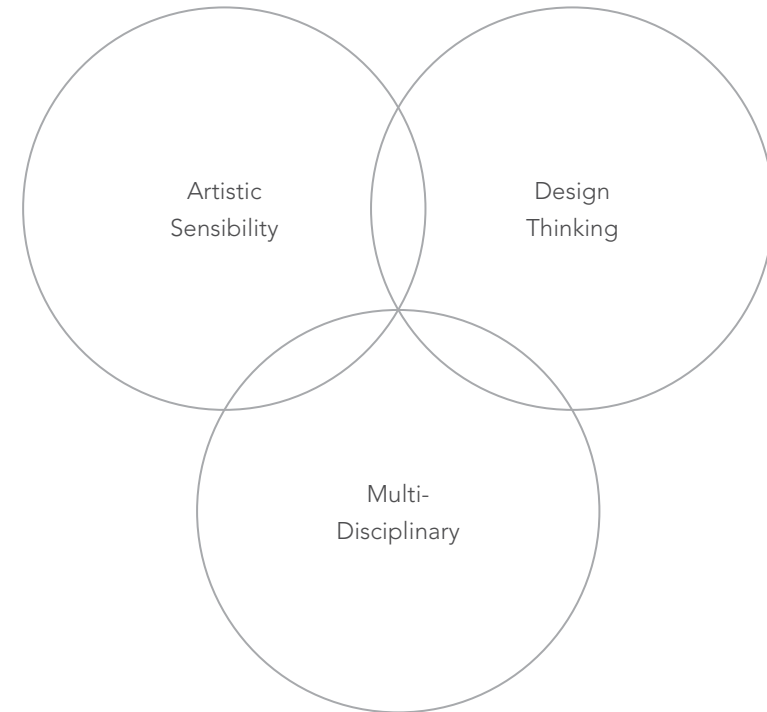
Curriculum

Division of Industrial Design

The Division of Industrial Design (DID) was founded in 1999 as Singapore's first university-level course in Industrial Design. DID offers a highly selective degree course in Industrial Design. We teach a potent combination of design thinking and innovation methods, with a clever mix of artistic, humanistic, technological and business disciplines.

Our vision is to make life better through design; to equip students with trans-disciplinary skills and thinking processes required to find unmet needs, to solve complex problems involved in creating viable new products, experiences, interfaces and environments. Our graduates are enabled to take up highly valuable and versatile roles as creative designers, innovators, entrepreneurs, and leaders of change.

Originally as part of the Department of Architecture, our programme has built a stellar track record and gained independence in just 12 years. We are ranked among the world's top 35 universities for the subject of Art and Design by QS World University Rankings by Subject 2017.



THE BACHELOR'S PROGRAMME B.A.(ID)

The Bachelor of Arts in Industrial Design, B.A. (ID), is an undergraduate honours programme consisting of coursework driven by a synergistic three-pronged approach:

1 | Design Thinking: Out-of-the-box innovation strategies and investigative methods to discover new ideas and unmet needs.

2 | Multi-Disciplinary Aptitudes: Behavioural science, social economics, business strategy and engineering and technology knowledge help out graduates develop entrepreneurial strategic thinking and holistic problem-solving capabilities.

3 | Artistic Sensibility: Training of imagination, taste, and crafts, to provide appropriate aesthetics and emotions to ideas so that solutions are both functional and desirable. The combined approaches equips our graduates with high-level strategic thinking, and enables them to translate problems and ideas to tangible, desirable solutions etc.

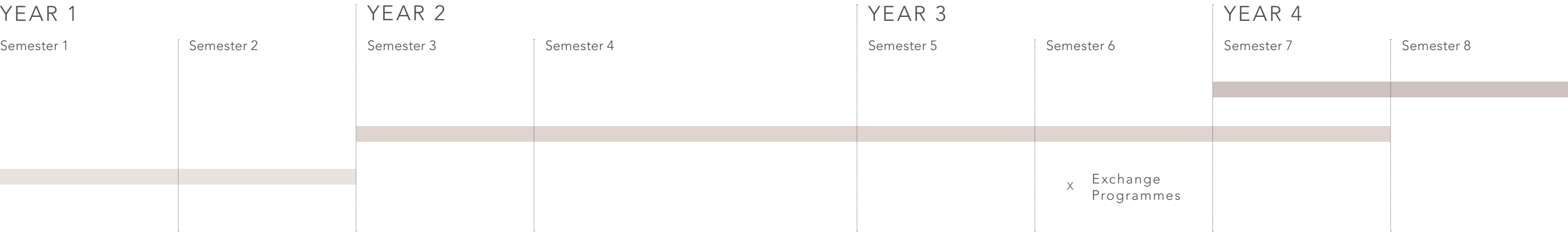
COURSEWORK FOR THE BACHELOR'S PROGRAMME

The DID curriculum is broken down into 3 main levels, namely Design Fundamentals, Design Platforms and Final Year Thesis. Students move progressively up these levels in the design studios, where they first learn the basics of design, fundamental knowledge, skills and capabilities in the first 2 semesters (Design Fundamentals); put this learning to practice and hone their skills in the next 5 semesters through a series of conceptual and industry projects, generating design competency as learning outcomes from the projects selected (Design Platforms); and finally culminating their proficiency with a final year project in the final 2 semesters (Final Year Thesis).

THE MASTER'S AND DOCTORAL PROGRAMME M.A. (ID) & PH.D (ID)

The M.A. (ID) and Ph.D (ID) are full-time graduate programmes by research that serve to advance the study of Industrial Design. They emphasize on a holistic approach to the research of design thinking and practice. Candidates will undertake research across a spectrum of design issues, not limited to design processes, methods or problems concerning target users but also focusing on issues pertaining to interactive design, sustainability, and environmental design. The research areas of interest include design theory, practice and innovation, technology and universal design, and biomedical equipment design.

B.A. Course Structure



DESIGN FUNDAMENTALS

SEMESTERS 1–2

In the first 2 semesters of Design Fundamentals, students acquire fundamental knowledge, skills and aptitudes in industrial design. This is achieved with a succession of small-scaled design exercises focusing on specific areas of learning in detail.

DESIGN PLATFORMS

SEMESTERS 3–7

As part of our strategy to evolve constantly, a major component of the course is the Design Platforms. It allows students to tailor their individual course of learning by selecting and participating in 2 concurrent design studios from a variety of 7 to 10 different design projects offered every semester — ranging from furniture design, healthcare design, consumer electronics design, transportation design, apps and interaction design, retail design, home appliance design, conceptual design, service design and more. The range of different topics reflect the ever-expanding role of an industrial designer; not only are students able to receive exposure to different areas of industrial design, they also get the opportunity to learn different approaches to designing from the individual studio leaders and industry collaborators.

In addition, the vertical format of the design platforms encourages cross-learning of ideas, skills and methods while junior students work alongside and/or compete with senior students. Students in a

FINAL YEAR THESIS

SEMESTERS 7–8

In the fourth year, students are required to research and investigate opportunities and develop a comprehensive design project. The major topics addressed in this level include research methodology, brief formulation, project planning techniques, information search and documentation, product analysis and evaluation, concept development and selection process for design development, design detailing and final market implementation. The final year thesis gives students the opportunity to self-initiate a project according to their area of interest, preparing the graduates for a career in design.

The final project ensures that students are sufficiently competent in research as an integral part of the design process. At this final year level, students would learn to form and evaluate value judgments on design decisions that ensures design proposals meet with rationalized and functional criterion as well as less tangible qualities of the aesthetic. Successful graduates will demonstrate innovation and competency in industrial design.

EXCHANGE PROGRAMMES

To broaden the students’ exposure, we typically send two-thirds of each cohort for a one-semester overseas exchange programme during their third year. Students get to attend distinguished design schools in:

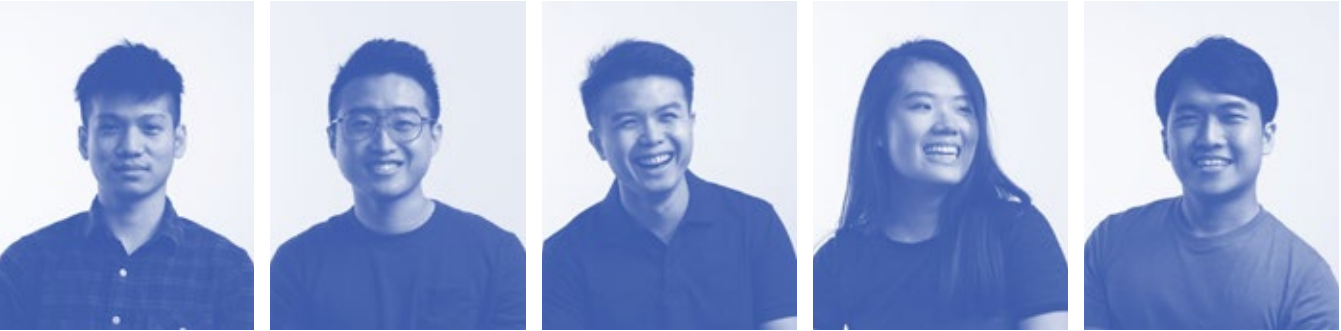
Australia	Monash University
Chile	Instituto Profesional Duoc UC
China	Tsinghua University
	Zhejiang University
France	ENSCI
	ENSAD
	International School of Design (ISD)
Germany	Folkwang University of the Arts
Italy	Politecnico di Milano
Japan	Kyoto Institute of Technology
The Netherlands	TU Delft
	TU Eindhoven
South Korea	KAIST
Switzerland	ECAL
Taiwan	National Cheng Kung University
USA	University of Illinois at Urbana-Champaign
	Georgia Institute of Technology



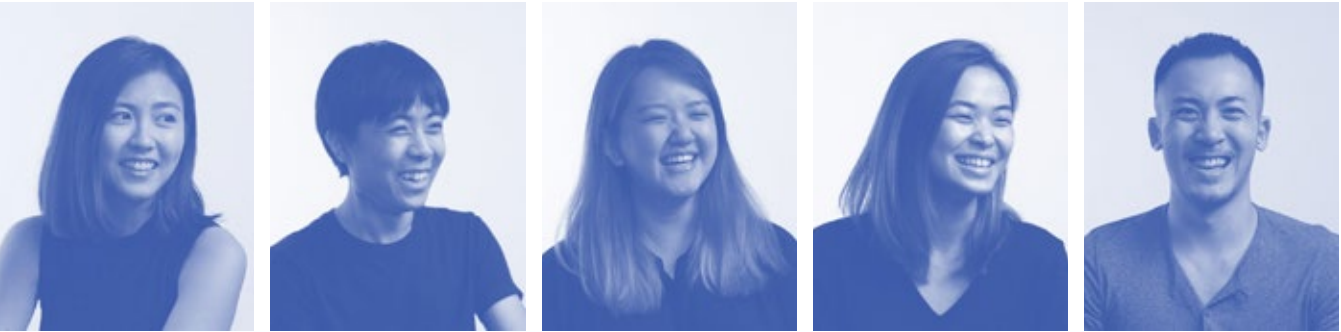
2017 Graduating Students

In the fourth year, students are required to research and investigate opportunities and develop a comprehensive design project in the form of a Design Thesis. The Design Thesis provides students with the opportunity to demonstrate their individual design abilities through the execution of a Major Design Project. This ensures that students are sufficiently competent in research which is an integral part of the design process.

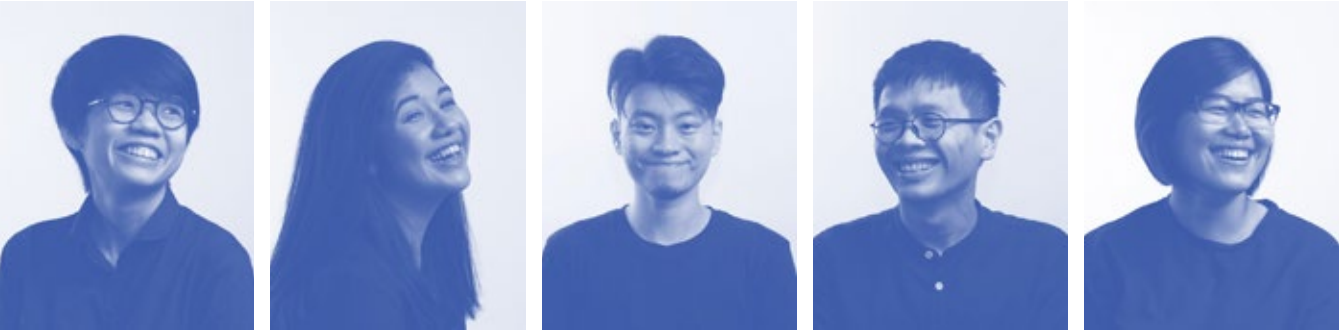
At this final year level, students would learn to form and evaluate value judgments on design decisions that ensure design proposals meet with rationalized and functional criterion as well as less tangible qualities of the aesthetic. Successful graduates will demonstrate competency in product/industrial design, healthcare design, interaction design, experience design, service design, speculative design, commercial design, social design, or experimental design.



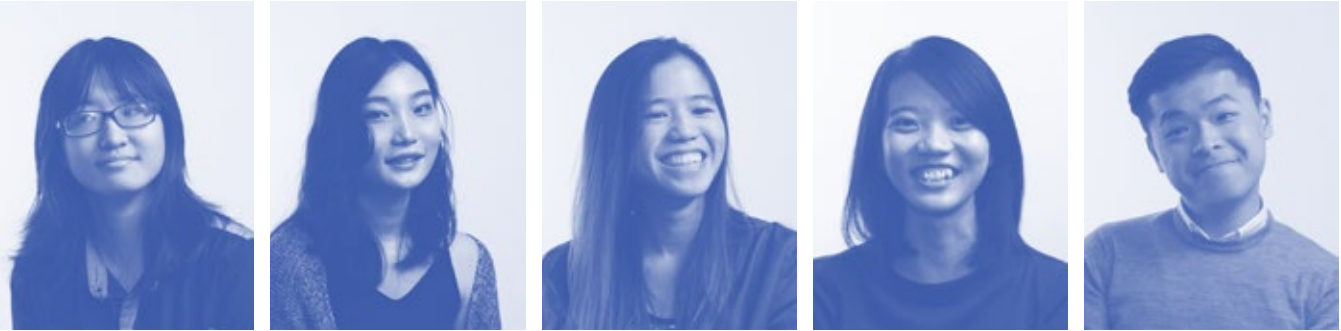
Adarrel Ho 24 Alvin Juano Widyarhaja 26 Anthony Yu 28 Audrey Chua 30 Chia Yong Qing 32



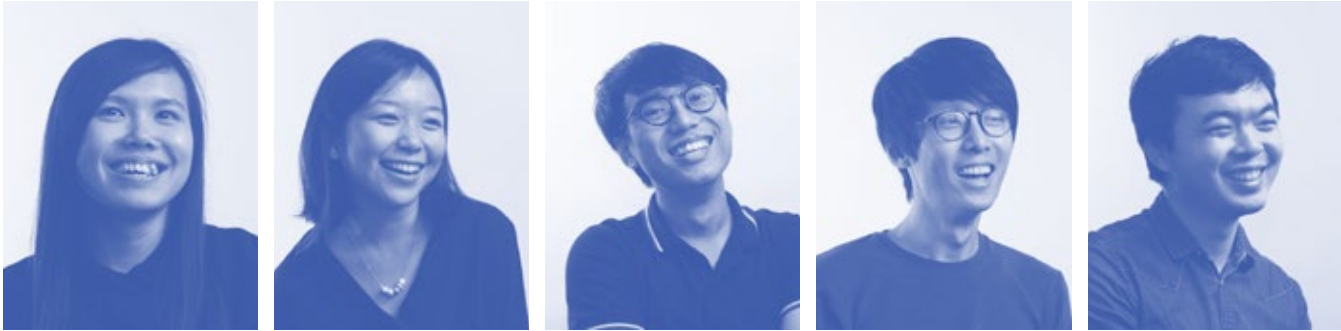
Delane Foo 34 Edmund Zhang 36 Eunice Er 38 Gabbie Goh 40 Hong Ling Yang 42



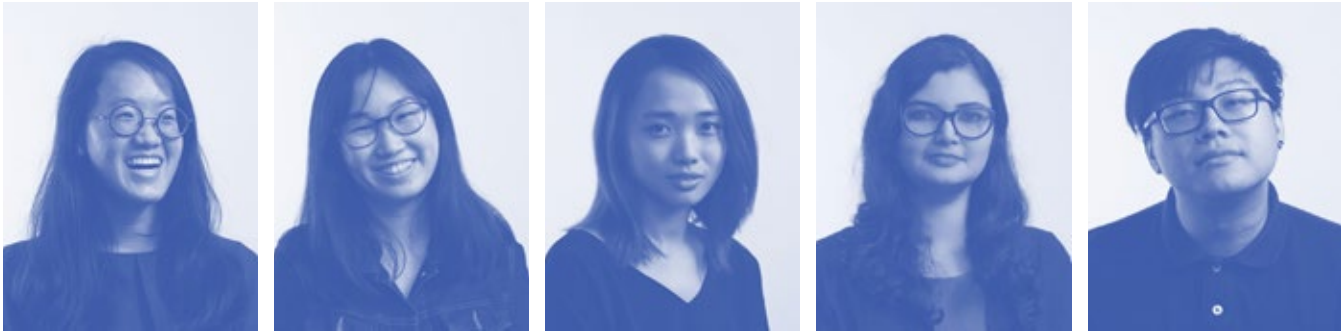
Hor Sue Xian 44 Iliana Ishak 46 Jexter Lim 48 Kevin Chiam 50 Koh Jing Ting 52



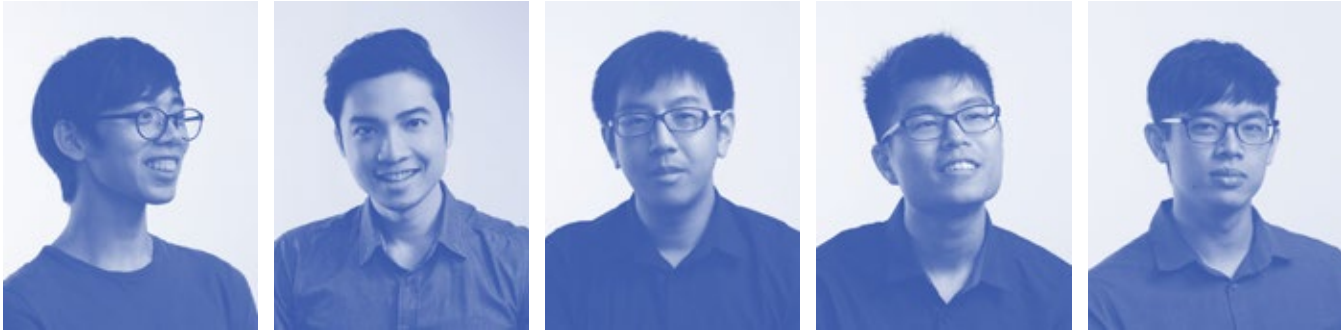
Kong Pek Kuan 54 Ku Ga Eun 56 Lai Jing Yi 58 Lee Hsiao Fong 60 Lee Xu Xun 62



Letitia Lim 64 Lim Xin Yuan 66 Lim Yong Kang 68 Low Joo Tat 70 Lu Xiaoheng 72



Priscilla Lee 74 Jasmine Quek 76 Seah Ying Xin 78 Shubhangi Paul 80 Tan Rongli 82



Tan Sei Yee 84 Teo He Chang Alex 86 Timothy Loh Wen Bin 88 Weng Yi Xiang 90 Wong Yi Yang Matthew 92



Yuen Hin Nam 94 Zheng Han John 96

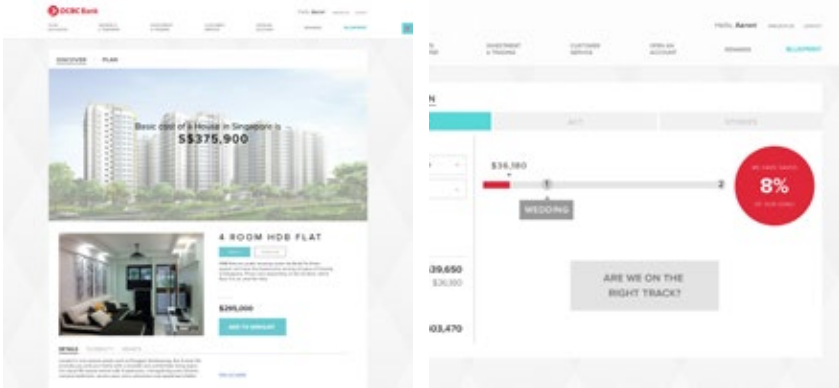
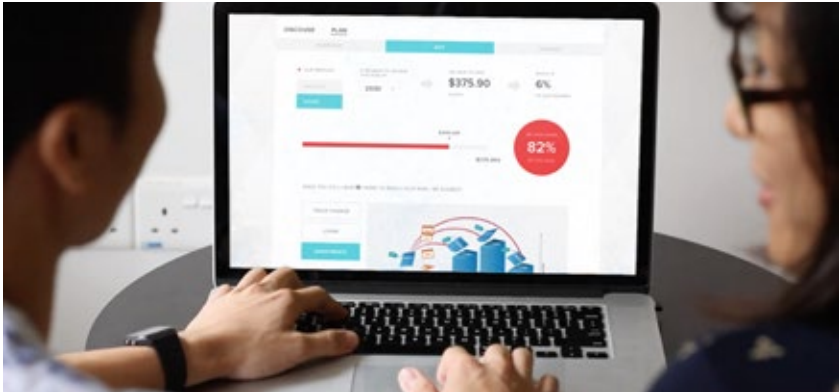
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THESIS VITAGREENS

With the growing concern for food consumption and nutrition, Vitagreens is an urban home system for growing vitamins that helps fill in nutritional gaps. This is achieved through an ‘adding vitamins to meals prepared at home’ approach. The Vitagreens system is a two part system consisting of individual growing cartridges and a growing capsule that streamlines the growing process and integrates well in the urban home setting.



OCBC BLUEPRINT

OCBC Blueprint is an online platform service designed to help people visualize their future financial needs with a ‘shop for the future’ approach. It also allows them to plan the steps they can take to achieve their goals with OCBC’s existing services. The aim is to equip young working adults with the technical knowhow and vital knowledge in future financial planning.

*Designed with Alvina Yeo and Kelly Yap
In collaboration with OCBC*



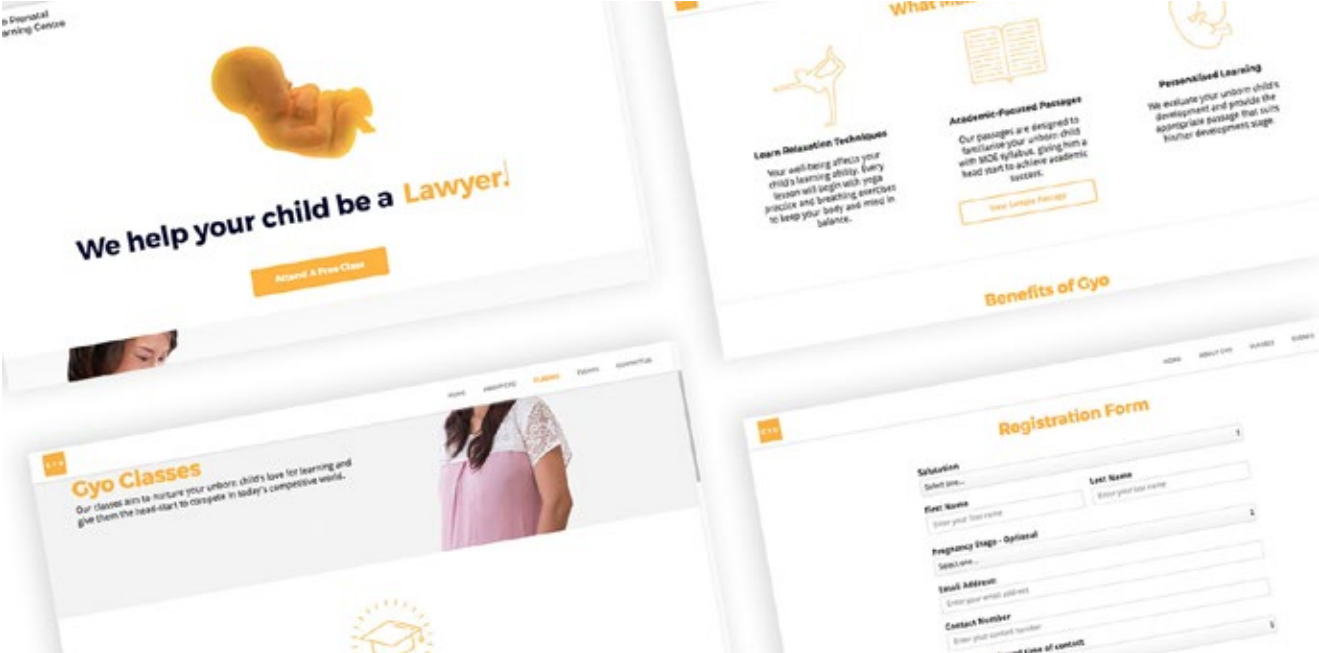
FILL PILL

Fill Pill is a weekly pill bottle that assists elderly in taking the right pills at the right time. The design tackles three main issues that elderly currently face - poor memory, lack of technological literacy and the absence of reminders. Fill Pill empowers elderly to carry on their daily activities without worrying and also keep the minds of their children at ease.

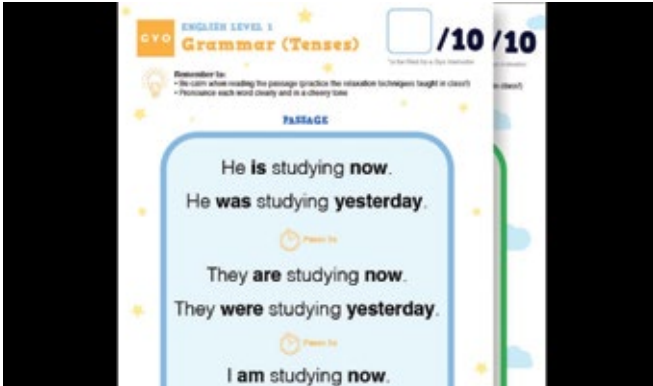
In collaboration with Prime Minister’s Office and iDA Labs

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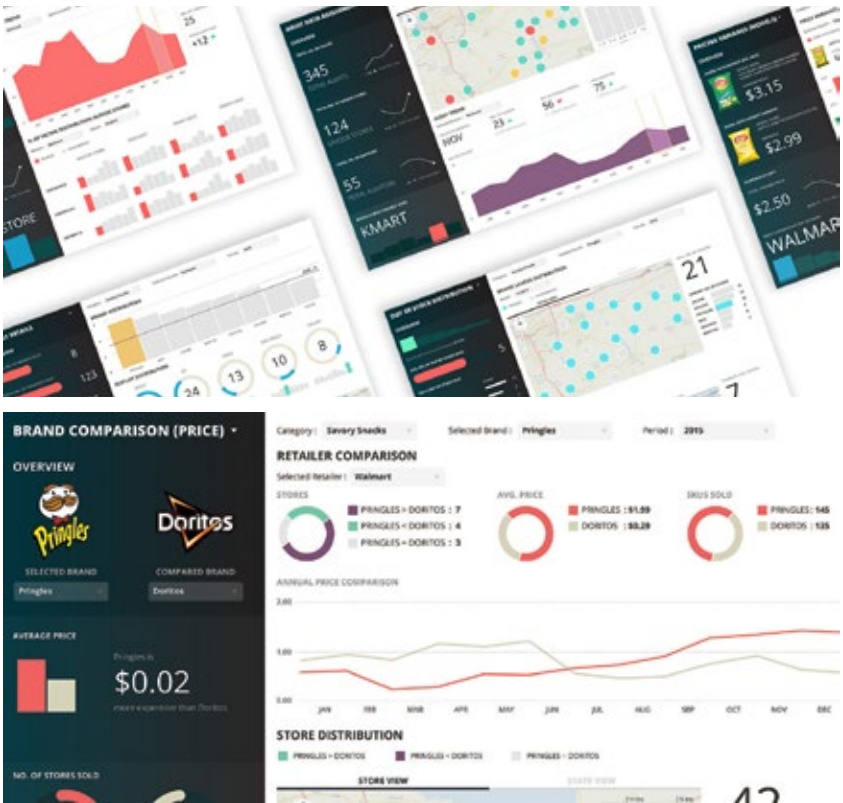


Gyo is a fictional site, designed to increase awareness on the impacts of **early academic acceleration** in Singapore.



THESIS GYO

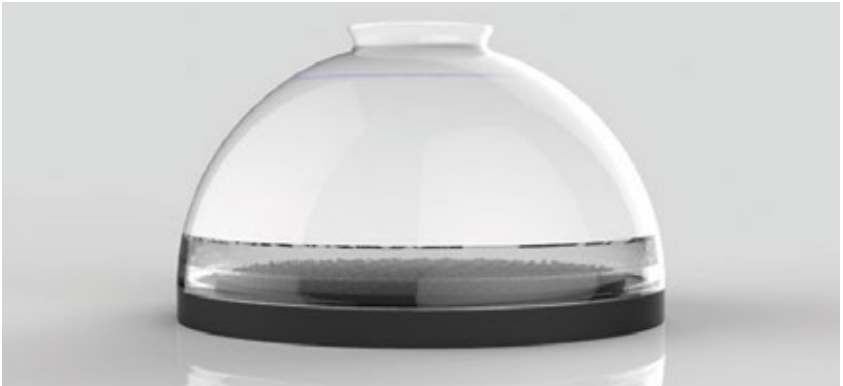
Gyo is a prenatal learning centre designed to address the issue of early academic acceleration in Singapore. It is designed to show the possible outcome of the ongoing trend to engage the audience and trigger reflection.



DATA VISUALISATION

The dashboard was designed to help brand managers assess their brand's performance quickly and easily. A broad-to-specific approach was used to design the information structure.

In collaboration with RetSKU



DITTO

Ditto is a 3D food printer that aims to help parents keep in touch with their children who are living overseas or apart from them.

In collaboration with Prime Minister's Office and iDA Labs

Anthony Yu

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anthony-yu.com



THESIS REGAIN®

Bracing helps to stabilise the ACL-deficient knee for nonoperative treatment, however the current knee braces are found unable to limit internal tibial rotation. REGAIN® is designed to effectively limit internal tibial rotation with increased tension by the semi-rigid lateral hinge. It also increases flexibility so that one can move around without any unnatural or uncomfortable restrictions.

In collaboration with National University Health System



ZELTA®

ZELTA® redefines the process of abdominal fascial layer closure by the movement and posture of the surgeons' wrist. It is a pair of suturing tools that consist of a needle holder and a forcep, which enables surgeons to suture the open wound comfortably, efficiently and safely with the designed overlaying locking system designed in the needle holder as well as the intestinal puncturing prevention of the forcep.

*Designed with Shaun Seah
In collaboration with National University Health System*



FLÄCKFRI

FLÄCKFRI provides a practical solution to rack the wet and bacteria-prone kitchen rags which increases the air circulation for drying. The design of FLÄCKFRI is simple and easy to install in any kitchen, resulting in a more cost-effective, energy efficient and a longer lasting solution which also caters additional storage space. It was awarded the 2nd runner-up for IKEA Young Designer Award 2016.

Audrey Chua

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THESIS BEAD BY BIT

Bead by Bit is a new method of producing beading canvas for Peranakan beadwork to enable beading on 3D forms that is previously not achievable with traditional cloth canvas. Using 3D printing technology and algorithmic software, the grid can be customised to suit different bead sizes yet retain the densely beaded Peranakan aesthetic on various forms. By readapting beading to a contemporary context, it evolves the craft to increase its relevance and sustainability in today's digital world.

In collaboration with Kim Choo Holdings Pte Ltd



SOUVENIR IS A PRIZED MEMORY

A souvenir that reflects tourists' personal experiences in its most unpretentious form. As an evidence of a particularly challenging experience, this souvenir is treasured as a reward for having braved the trial. The encapsulation and framing honors this symbol of the memory and celebrates the accomplishment of the experience, prizing what was just a remnant into a valuable memory.



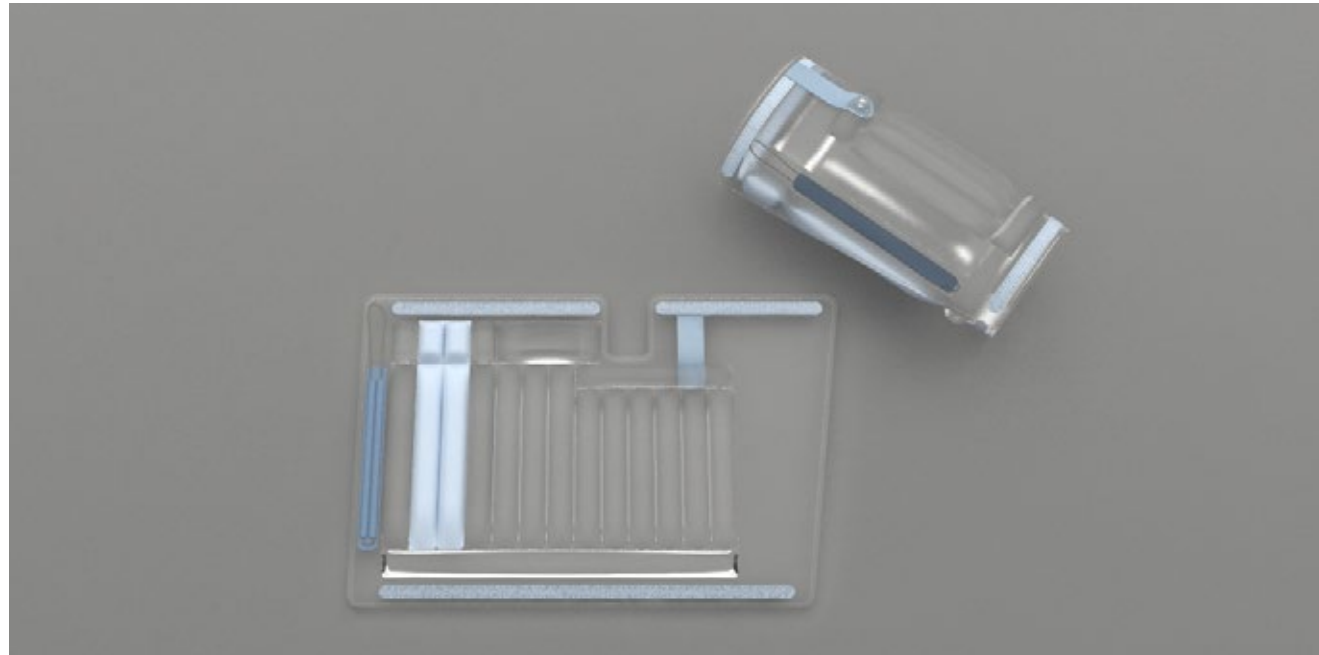
PATTERNS AND HUES

A series of fast moving lifestyle goods - notebooks, totebags and sticky notes were designed by abstracting the vibrant patterns and colours found in Southeast Asian fruits, food, flowers and architecture.

Designed with Kenneth Yip

Chia Yong Qing

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THESIS SELF-WRAPPING PNEUMATIC SPLINT

Combining the multifaceted usage of air as both a medium and an enabler, the Self-Wrapping Pneumatic Splint provides a simpler splinting alternative to post operation treatment of wrist fractures. Wrapping, compression and immobilization of the fractured area through the simple act of inflation, the result is a piece that embodies the functionality and versatility of air.



TERES

Teres is a new style coin cache designed to be the slimmest and most beautiful solution to bulging coin pouches. A sleek aluminium casing that encapsulates just the right amount of coins, swivels open with an intuitive slide of the hand. Teres changes the way we interact with coins, aiming to create a coin experience that will fit seamlessly into our 21st century lifestyle. The project was 150% successfully funded on Kickstarter.

*Designed with Jonathan Tsang and Paul Capdenat
Christy*



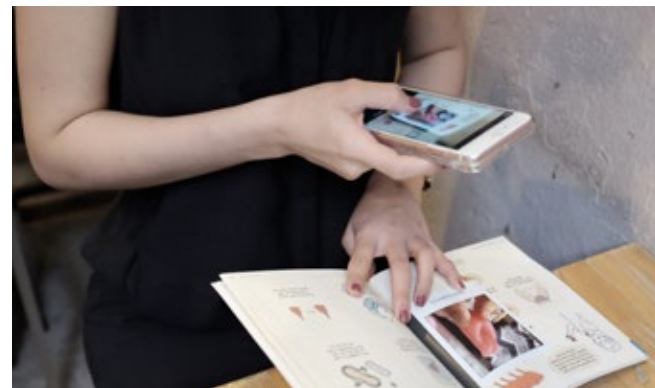
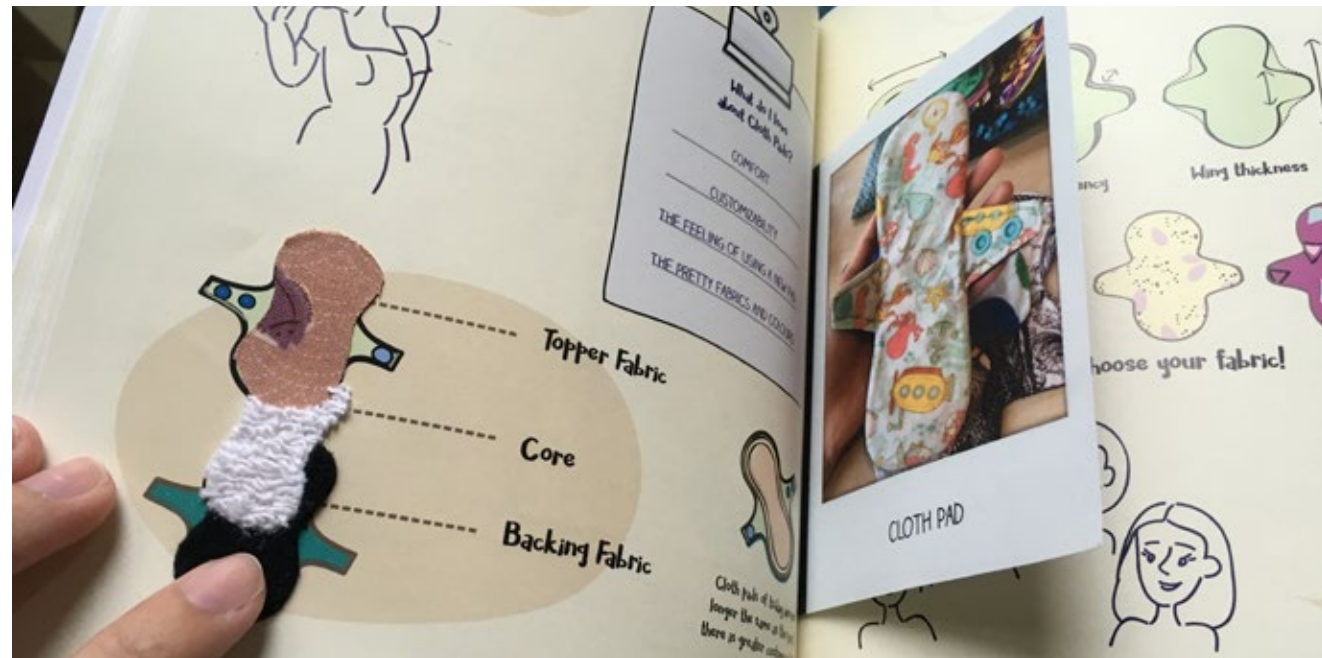
DASSAULT FALCON: ESPACE DE TRAVAIL

The side ledge of the plane is where the passengers interact and carry out most of their activities abroad. Espace De Travail is series of compartmental spaces modelled after the behavioural patterns of business jet passengers during flight. A continuity of shapes accompanied by expressive curvatures of the storage compartments, adds to a more coherent design language and stronger identity for the Falcon series.

*Designed with Lucile Brugiere
In collaboration with Dassault Aviation*

Delane Foo

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THESIS 'CAN I TELL YOU ABOUT MENSTRUATION?'

'Can I Tell You About Menstruation?' is an interactive, multi-channel education platform that uses real stories to educate young women about the more intangible yet practical aspects of menstruation, with the intent to go beyond function, into conversation. It consists of two key elements: an interactive physical book set that is as easy to read as a children's book and as comprehensive as a textbook, as well as a website that is a network to find answers and company.



MODUM

Modum is a low cost yet realistic simulator for otolaryngologists to practice myringotomy. It is equipped with a life-like modular ear, ear canal and ear drum which are interchangeable and easily replaceable. This allows doctors to practice on various scenarios of replicated conditions from the different sizes of babies' ears to adults and even abnormal conditions such as those of syndromic patients. It also allows the puncture of the ear drum as well as mucous removal.

*Designed with Darren Fill and Stephaine Yeo
In collaboration with National University Hospital*



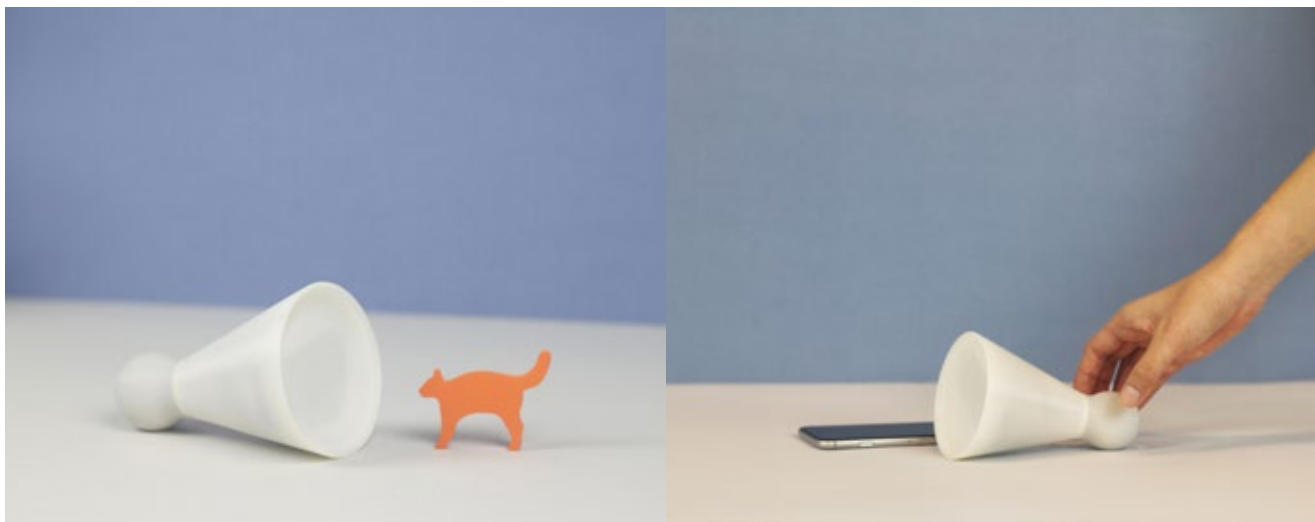
SNAP

SNAP is the future of shopping where you can buy-try a product experience anytime with the snap of a finger. By simply paying a subscription, you become part of a network of homes that rent to and from each other. Change up the style of your home for occasions any time, and free up space as your white-elephant products can find new life in someone else's home. SNAP becomes the new anchor of your home where products come and go around it.

*Designed with Esther Lim and Hieu Nguyen
In collaboration with Dell*

Edmund Zhang

clutzykat@gmail.com
cargocollective.com/edmundzhang



THESIS SQUEEZY PEASY

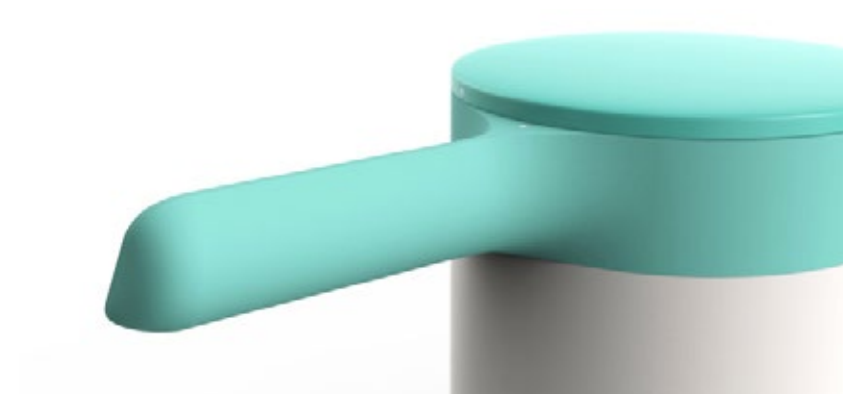
Squezy Peasy is a project that seeks to present an alternative way of interacting with everyday objects through the basic joy of squeezing. The table lamp incrementally increases its brightness the more it is squeezed, akin to inflating a balloon. It gradually dims down when the plug at the back is pulled out. The portable speaker increases its volume the more it is squeezed, and gradually quietens down when it is being set upright.



INSIGHT

inSight is a system of paired devices that act as a virtual two-way surface, connecting users through constant audio and video feed. inSight invites elderlies to interact with their loved ones in a playful, intuitive, and non-intrusive manner, achieved through the utilization of a simple interface metaphor of a fogged glass panel.

*Designed with Loh Zhide and Lim Zhiying
In collaboration with Keio-NUS CUTE Center*



A TOTEMIC KETTLE

A totemic kettle that evokes a sense of familial warmth. This project seeks to investigate how the elements of slow living can be expressed through the form of an electric household kettle.

Eunice Er

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THESIS SPRUCE

Current stroke rehabilitation tends to be unsuitable for elderly and do not encourage long-term engagement. However, gardening has been found to be a suitable medium where rehabilitation can be masked within frequent gardening activities such as watering and pruning. Spruce is a series of handles attached to common gardening tools where the different handles afford different rehabilitative actions. By masking the rehabilitation, Spruce seeks to motivate and cultivate the long-term habit of engaging in their prescribed exercises.

In collaboration with Khoo Teck Puat Hospital



DÉJÀ VU

We were tasked to design a pop-up store that embodied the brand's DNA and was transferrable across stores. My team's design was chosen – for not only fulfilling the brief but also for the consideration of retail experience of customers, low cost of production, ease of assembly and transportation. Déjà Vu mirrors the brand's constant reinvention with a contemporary twist where a recurring vertical element is incorporated, creating a sense of singularity and rediscovery. Its modularity allows for versatile configurations regardless of space.

*Designed with Kok Hua Bin
In collaboration with Guerlain*



CHUCK

Durable objects often look rugged and hardy. This project seeks to investigate how the notion of durability can be brought into a kettle in a different, more home-friendly manner. Chuck is an electric kettle that makes use of a wrench-like motion to unscrew its cap, a familiar movement done when working with tools, while it's bulbous and friendly form contrasts it. Overall, evoking a sense of durable friendliness.

Gabbie Goh

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THESIS 'CAN YOU FEED ME?'

'Can You Feed Me?' is a mealtime set designed for toddlers to create a more engaging way of learning and consuming food. The set uses animals as a medium for role playing, with food participating in the play. It aims to help parents to teach toddlers simple concepts of food and to improve toddler's reception to new food types.



L'ATELIER

L'atelier, which translates to "the artist/craftsman studio", is an event space concept designed for Guerlain's domestic and travel retail market. It is designed to showcase the maker spirit of Guerlain and to bring a sense of intimacy yet keeping the brand's sophistication. Chosen as the final winning concept, L'atelier's main inspirations were the classic French studios, specifically their lively environment and artistry. The current event celebrates Abeille Royale, a skincare franchise of Guerlain, but the space can be easily transformed to showcase other products too.

*Designed with Heather Ong
In collaboration with Guerlain*



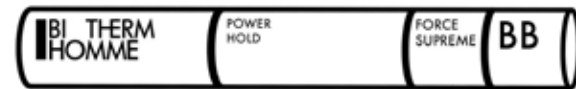
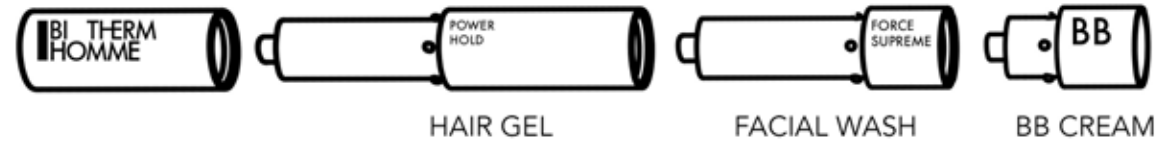
ANDREE

In collaboration with Immochan, one of European's leading commercial real estate company, the project was to design a showroom to sell Immochan's visionary project. The concept uses geometric shapes to create bold statement furniture. Given only an area of 18 metre square, furniture pieces are arranged in a way that it creates an informal and intimate environment. Playing with materials and colours, we aim to bring out Immochan's professionalism in the midst of the cosy arrangement.

*Designed with Chloé Allaert and Ségolène Cassoret
In collaboration with Immochan*

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THESIS SELLING BB CREAM TO MEN

BB cream has proved to be a good introductory product for men to get started on cosmetics. Men who have used BB cream often go on to include more grooming products (lip balm, concealer etc.) into their grooming routines. Hence, this project aims to subtly introduce more men to the BB cream, by packing it together with the hair gel and facial wash, which are the most common products that men use.

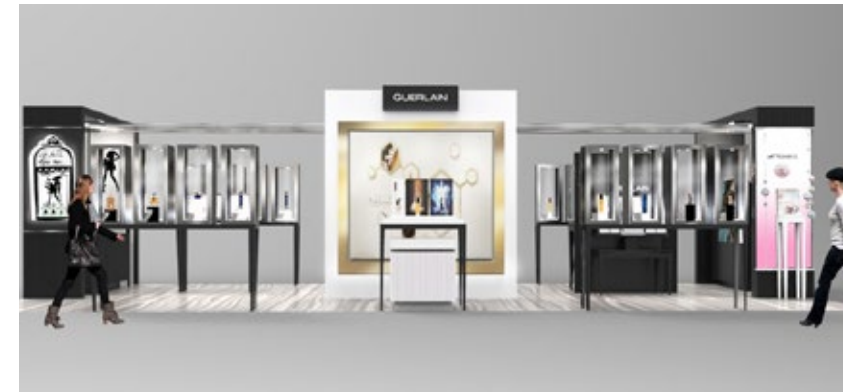
Note: All logo marks are purely coincidental and is used simply for concept presentation.



L'ORÉAL EXHIBITION BOOTH

This is a booth designed for the L'Oréal family, taking part in the Tax Free Asia Pacific show in 2015. My team's design was chosen to be realized. We were awarded with internships in L'Oréal, Hong Kong. I was selected to be stationed in L'Oréal Luxe Travel Retail Asia Pacific Department to assist in the realization of this exhibition booth design.

*Designed with Lee Xu Ying and He Yi Hong
In collaboration with L'Oréal Travel Retail Asia Pacific*



GUERLAIN TRAVEL RETAIL & LOCAL MARKET

This project's brief is to design a domestic pop-up store and travel retail space for Guerlain to showcase their three product axis (Skincare, Make-up, and Fragrance.) The concept is adaptable in both domestic and travel retail environments, which have differing customers' behavior. My team's concept is cost-effective as it requires minimal usage of large structures.

*Designed with Miko Yeo
In collaboration with Guerlain*

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THESIS LIANG POT

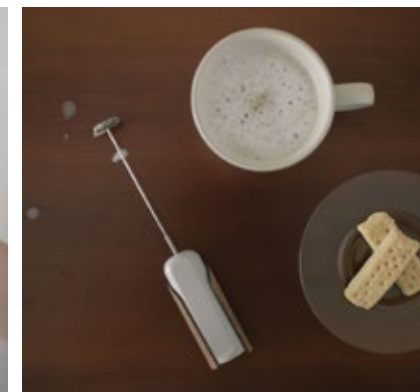
Fast, easy and safe way to brew homemade Chinese herbal tea without sacrificing quality or potency. It utilises pressure to brew 3x faster, while locking in the nutrients and flavours in its stainless steel vessel. Enjoying a cup of fresh, home-made liang teh has never been so effortless.



AUBERGINE PILLOW

An inflatable pillow that plumps up generously in one puff, yet compacts small enough to bring comfort along on everyday adventures. This project was successfully funded on Kickstarter by 450% of its original goal.

Designed with John Teo, Jolyn Kang and Jacelyn Lau



FIKA FROTHER

A handheld milk frother that introduces a therapeutic experience during morning coffee rituals. It is switched on through a caressing gesture by gliding the body downwards, while subtly easing the hand into a more relaxed position. Compact when deactivated, comfortable when activated.

Designed with Dyllis Teo and Iris Tan

Iliana Ishak

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THESIS SMOKEPOST | URBAN SMOKING SPACES

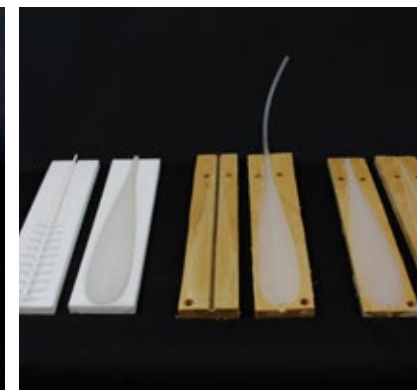
Current smoking areas enclose smokers with walls or demarcations, requiring large spaces. As a transitional fixture towards smoke-free cities, SmokePost suits compact city spaces (e.g. bus stops, neighbourhood sidewalks, building entrances etc.) by dislocating smoke upwards along controlled curvatures, aided by a fan. Affixed to the lamppost, sensors allow usage of pre-existing mapping, usage-frequency relocation and efficient maintenance.



ERIKA

In SPACE10's "Do you speak human?" workshop, we explored how IKEA can use conversational interfaces and artificial intelligence to foster meaningful in-store interactions. The iconic IKEA pencil converses via ear bone conduction, becoming the user's in-store companion. For rushed shoppers, ERIKA navigates and prescribes products needed fast. For browsers, conversations with ERIKA and product families add a museum-like dimension. For groups, ERIKAs are synced, combining dialogues and turning IKEA into a playground. Unlike most efficiency-centric AIs, ERIKA uses familiarity and technology to create enhanced experiences for the many people.

*Designed with Ku Ga Eun, Low Joo Tat, Letitia Lim
In collaboration with SPACE10, IKEA, NUS Enterprise*



DROPD

How can we increase the survival rate of implanted devices? Tasked to redesign the decade old typology of the peritoneal dialysis catheter: an implanted fluid exchange tube for kidney failure patients, to reduce catheter complications and hence need for surgery. Via in-depth research and translation, a simple, inexpensive and non-mechanical design reduces displacement (broad spine provides greater weight and tension against sideward bending) and tissue wrapping (breadth forms barrier to holes), whilst accounting for human internal system sensitivity.

*Designed with Johanan Lau
In collaboration with National University Hospital*

Jexter Lim

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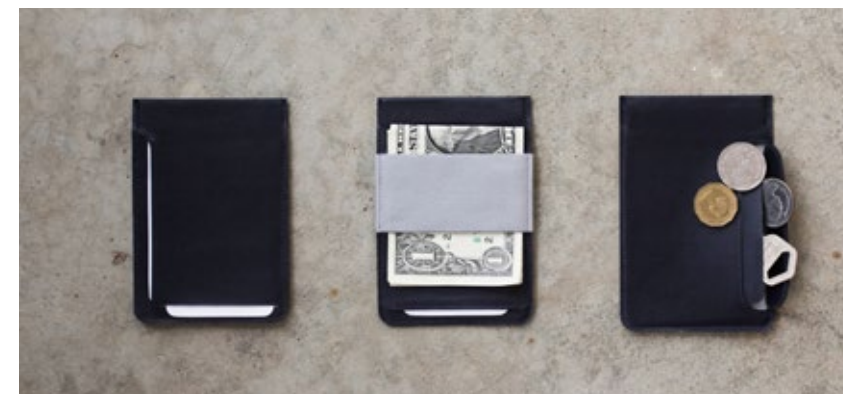
THESIS EATSY

Eatsy is a set of multi-functional tableware consisting of a plate, bowl, cup, and utensils. Each piece has a distinctive spot to provide sensory cues for the visually impaired. They are universal, applicable for children, elderly and even people without special needs. All in all, Eatsy is a multi-functional tableware with good affordance that reduces food waste.



REUNION STOOLS

Reunion is a set of stools inspired by the Cantonese cuisine "dim sum", where steamer baskets are widely used to serve bite-sized snacks. The baskets are usually stacked together, and later carted around in trolleys restaurant. Likewise, these stools can be arranged atop one another when not in use, making it versatile and space-savvy piece. The upholstered seat features a storage space underneath and can be flipped over to serve as a side table.



MAG WALLET

MAG — A modular wallet that you can swiftly detach and reattach. MAG's simple magnetic hinge system allows your wallet to customize to your needs. Split out your things for a more organized wallet! Stack them up only when you need and whichever way you want. MAG promises you a unique experience like never before. Bringing less? It's never been so easy.

Designed with Ngieng Jia'en and Jon Chan

Kevin Chiam

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THESIS FOLKS

Cooking is a challenging ritual for the visually impaired due to the lack of sensory references. To overcome the steep learning curve, "folks", a series of familiar kitchen tools, leverages on natural, sensory feedback and tactile cues such that they can prepare food safely with convenience, confidence and dignity.

In collaboration with SAVH, Dignity Kitchen, NUH Rehabilitation Department and NUS Enterprise



FLEX

Flex is a modern cane designed to complement the senior's natural walking posture. It spots an elastic shoe design which expands on contact with the ground and retracts when lifted for the next step. The increased surface contact thus ensures stability while the streamlined profile promises a smooth walking transition.

In collaboration with Prime Minister's Office and iDA Labs



VOORT

While quartz watch aesthetics do differ, the user experience has unfortunately remained status quo. VOORT ONE thus challenges the current watch typology. An integrated back button invites a curious push which results in a smooth, satisfying watch-hand transition. ONE is more than a time-telling tool. It is a conversational ornament.

Designed with Lim Yong Kang

Koh Jing Ting

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THESIS NATURAL REPOSITORY

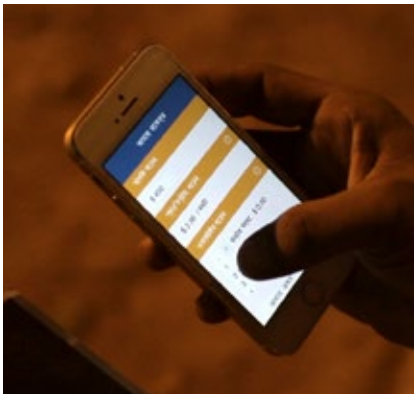
Natural Repository is a series of bags, made out of beeswax fabric. It matches the anti-bacterial and humectant properties of beeswax, to protect fresh produce that are often stored inappropriately. Tropical and subtropical produce suffer from chilling injuries when stored in fridges for extended periods. When combined with specially selected fabric, beeswax helps to prolong the freshness of these produce in room temperature, by preventing excessive moisture loss in Singapore’s warm humid climate.



PETAL

Many lament the destruction of the tart when sliced or broken down to be consumed. Petal is a tart, designed in response to this. The process of consuming of a tart is an often overlooked detail when eating the pastry. Inspired by the flower, the tart shell’s petals encourages the consumer to break, scoop and eat the tart, or to share it easily with another.

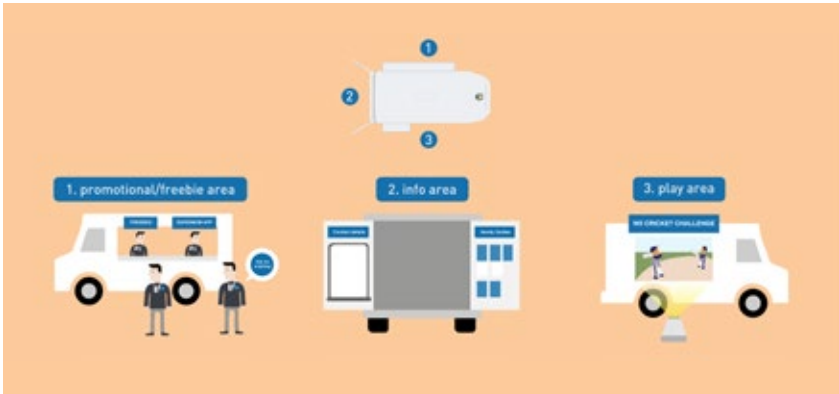
Designed with Matthew Wong and Lim Xin Yuan



E-HANDY GUIDE

We worked with Ministry of Manpower and used Service Design to improve the communication of important information to foreign workers. Information categories and dissemination methods were re-designed to be context- sensitive and relevant to the foreign worker’s real needs. A mobile app - the ‘e-Handy Guide’ was designed to provide easier access to info, including a salary calculator. To increase engagement and outreach, the MOM mobile truck visits popular hangout areas, and dormitories, providing services and activities.

*Designed with Edmund Zhang and Lim Xin Yuan
In collaboration with Ministry of Manpower*



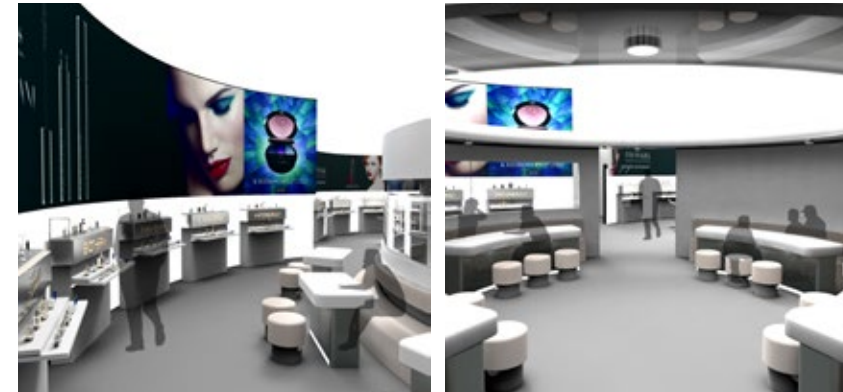
Kong Pek Kuan

kong.pekkuan@gmail.com



THESIS SORTIV

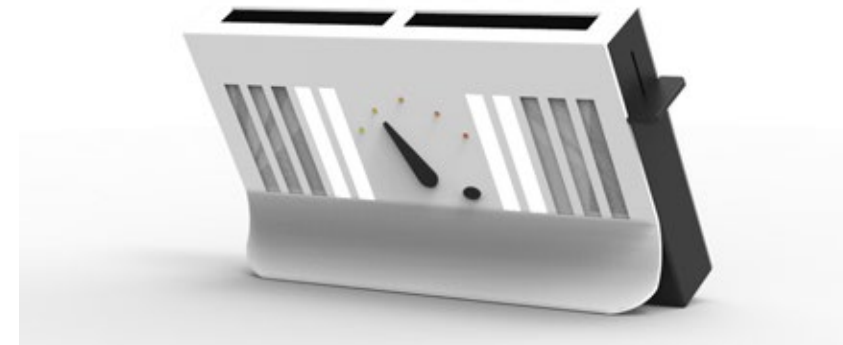
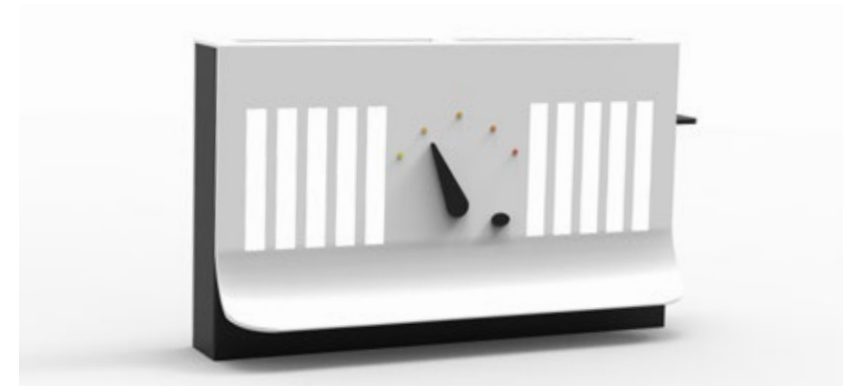
With the concern in attitude and behavioral change to improve the low domestic recycling rate in Singapore, Sortiv is a household waste segregation system for facilitating waste sorting experience that affords convenience and personalization. It also communicates with one's effort and recycling messages to bring up motivation and awareness to recycle.



THE CURVE

The Curve is crafted with L'Oréal for the travel retail exhibition. Two big curve walls with videos projected as highlights grabs attention and serves the whole experience of dynamism. The continuity flow of circulation through the curves also allow guests to visit each brand without any miss.

*Designed with Chow Jia Yi and Martin Dehollander
In collaboration with L'Oréal Travel Retail Asia Pacific*

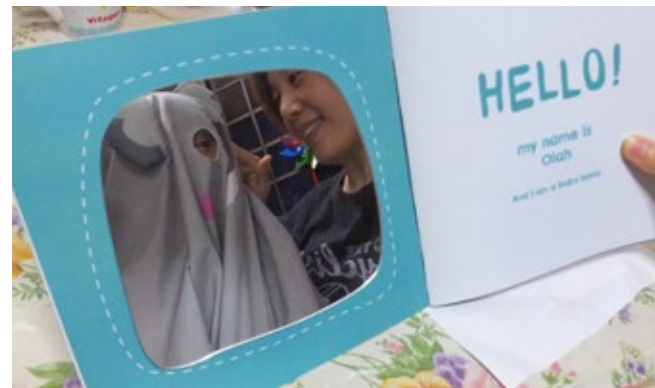


BUDDIES

Backing up silently, buDDies is a companion toaster designed for university hostel students. The slim, elongated form with rocking handle save space in context of hostel room. Interactive feedback LED progress light with customized colour could be changed according to one's mood, showing attentive support and a sense of companionship.

Ku Ga Eun

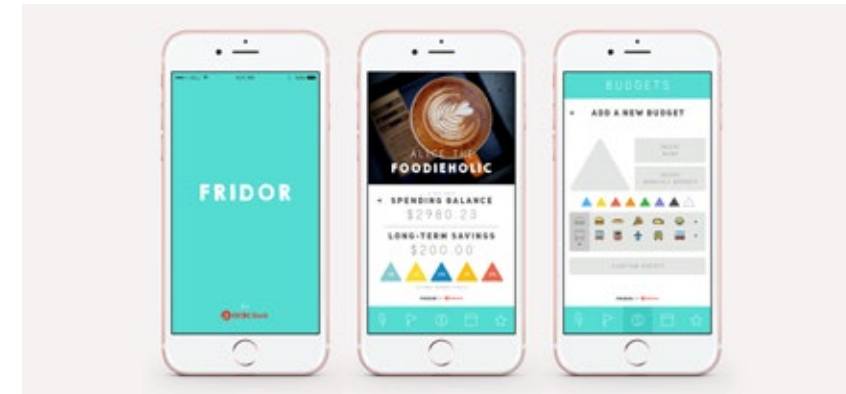
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issuu.com/838974/docs/gaeun_portfolio



THESIS OLAH

Olah is an educational tool designed for parents and early childhood patients to understand and practice Comfort Positioning in a more engaging way. By providing contextual learning, training and role-playing through a visual narrative, both parties are able to effectively comprehend the importance of Comfort Positioning. Through the integration of Olah, it empowers parents to physically and emotionally stabilise the child during treatments such as vaccination and blood draws.

In collaboration with KK Women's and Children's Hospital



FRIDOR

In conjunction with OCBC bank, Fridor aims to meet future banking services with relevance to Gen-Y's increasing demand of keeping track of their expenses with ease of convenience. By combining technical aspects and emotional touch, Gen-Y users are able to effectively track their expenses, customize and analyse their spendings, and celebrate their precious moments to the fullest.

*Designed with Hillary Hoe
In collaboration with OCBC*



ARC

Lauded for its strength, flexibility and long lifespan, PET straps are trusted to secure things in place. Arc is a family of vessels celebrating the freedom of motion in a material that was meant for restraining movement. A single composition can be transformed into bowls of different typologies. Ends of the strips are secured in a reversed configuration, creating the tension which forms the foundation of the bowl's structure, while the weaving completes the mechanism of the Arc.

*Designed with Chin Guo Hong
In collaboration with Cyklops Packaging Pte Ltd*



Lai Jing Yi

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RITUAL
THE NEW NORM



THESIS FUNCTIONAL AESTHETICS

Imagine a world where objects often valued more for its aesthetics; be it the wall paintings or the jewellery on us could serve utilitarian purposes on top of its primary function of adornment. This thesis took on a highly exploratory approach, looking through 3 aesthetics lenses to derive its final outcome. "Ritual" is a NFC jewellery series envisioning a new norm of tapping, to unlock current RFID doors and possibly replacing travel passes/credit cards for our daily commute/payments in the near future.



UNPRETENTIOUS TRANQUILITY

Imagine after a long day at work, you grab a bottle of beer from the refrigerator and now you are in search of an opener. You find it quietly sitting on the edge of the coffee table in the living room. In this project, we embarked on a journey to discover the inextricable relationship between form and emotions. The end result was a bottle opener that brought out the feeling of "unpretentious tranquility".

Designed with Chia Yong Qing and Matthew Wong



PILGRIMAGE

NUS DID first collaborated with Guerlain in 2015. The brief was to design a pop-up retail store for their domestic and travel retail market. Guerlain is a brand with rich history and a seamless transition from traditional to contemporary is observed over the 186 years. The inspiration of "Pilgrimage" came from the tabernacle of Moses where we wanted to bring out sacredness with a subtle sense of familiarity. It was attempted with the use of symmetry and framing as seen in parisian homes.

*Designed with Esli Ee
In collaboration with Guerlain*



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THESIS INTERRUPTION IN OBJECTS

Is it possible for something that is normally seen as a nuisance to be valuable? Imagine climbing down a ladder, uncertain of where the ground is — what if the last rung pre-empts you? Or as you pull a shirt off a hanger, it juts out from the rest of the clothes rack? By embracing disruptions as potential signifiers, new possibilities for everyday objects can be uncovered.



AN URN IS INTIMATE

We can stay at home and merely reminisce about the deceased, however we yearn for a less vicarious experience. Thus, an urn is intimate. Only when one cleans the empty plaque with water, the faces and names appear ephemerally as the water markings created slowly fades away. It is inconspicuous, viewable upon an act of intimacy and care so that visitation can be personal in a public space.

*Designed with Fabian Ong
In collaboration with Nirvana Memorial Garden*



XUBE

XUBE offers a sleek, beautiful solution for portable toiletries - simply fill with your chosen products, then bring it anywhere to unroll and mount on any smooth wall. And when it's time to go, roll it back up for easy packing.

Designed with Yang Ran and Julia Lee

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THESIS R15

Being truthful to rattan's flexible nature, R15 celebrates the material's pliability in its design. An emphatic chair that responds to human interaction. The engineered flexible structure affords for humans' shifting comfort, delivering a softer and delightful sitting experience.

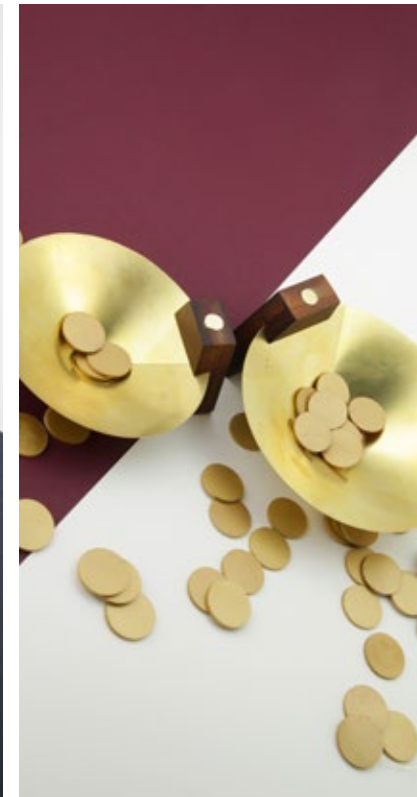
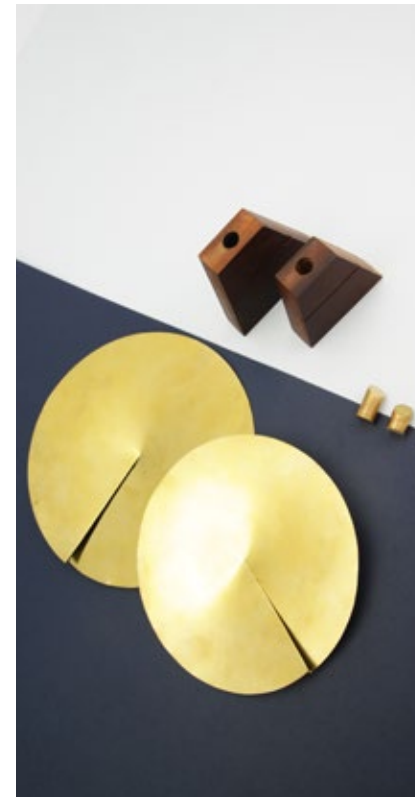
In collaboration with Mint Garden



INDULGENCE

Indulgence is a space is designed to promote and animate the Abeille Royale Skincare series. The space interprets the use of hexagons to create a luscious yet luxurious atmosphere, demonstrating Guerlain's dedication to its customers. A contemporary space that reflects its rich patrimony. The fixtures are also intentionally placed to create a sense of depth with the totality of store still visible from all angles.

*Designed with Jaycelyn Ye
In collaboration with Guerlain*



KOIN-KOIN

Southeast Asia is known for its traditional and basic lifestyle. People led easy and straightforward life. Inspired by this rudimentary way of living, Koin-Koin attempts to transcribe this spirit into its design. Koin-Koin is a coin holder constructed with basic elemental components. Flat packed when received and straightforwardly assembled.

Designed with Lydia Ragot

Letitia Lim

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THESIS BORDER

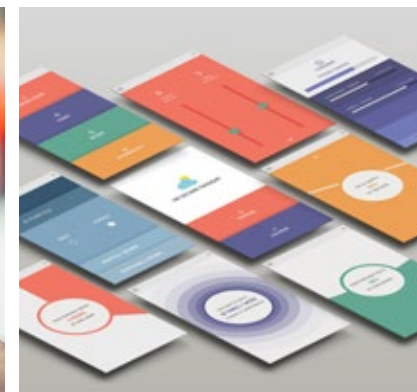
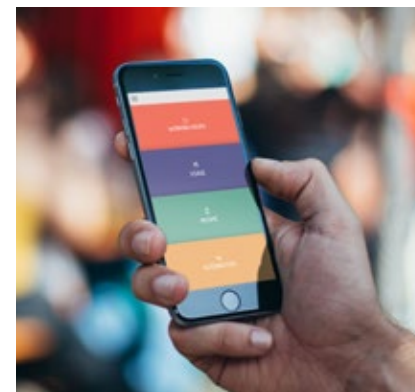
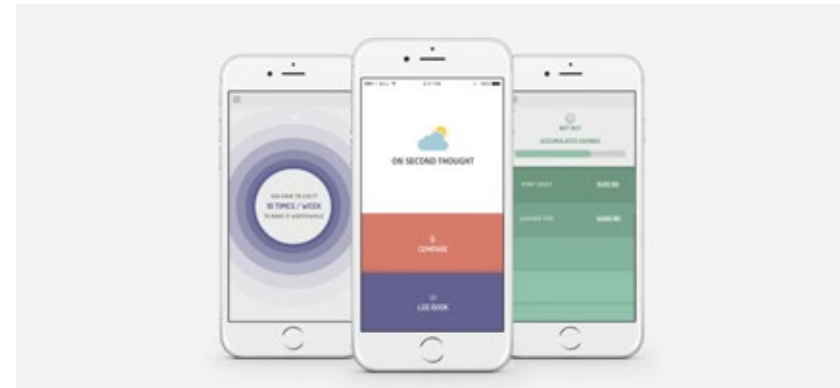
Centred around the home office tablescape, Border is a collection of everyday objects, consisting of a printer, fan and bin, that aims to re-imagine compactness not by reducing the amount of footprint taken, but by recovering useful area from overlooked spaces. By leveraging on the forgotten space under a table, the collection is a reinterpretation of objects that are typically considered bulky.



LEVIT8

LEVIT8 is a multi-purpose flat folding portable standing desk. Its functionality and form stem from an age-old origami technique; the box-spiral fold. From what appears to be an unassuming magazine, LEVIT8 transforms any ordinary desk into a sit-stand desk. With minimal time and financial cost, users can easily alternate between sitting and standing, breaking the unhealthy routine of our largely sedentary, computer-centred work lives.

Designed with Andriana Justine and Poh Hui Qing



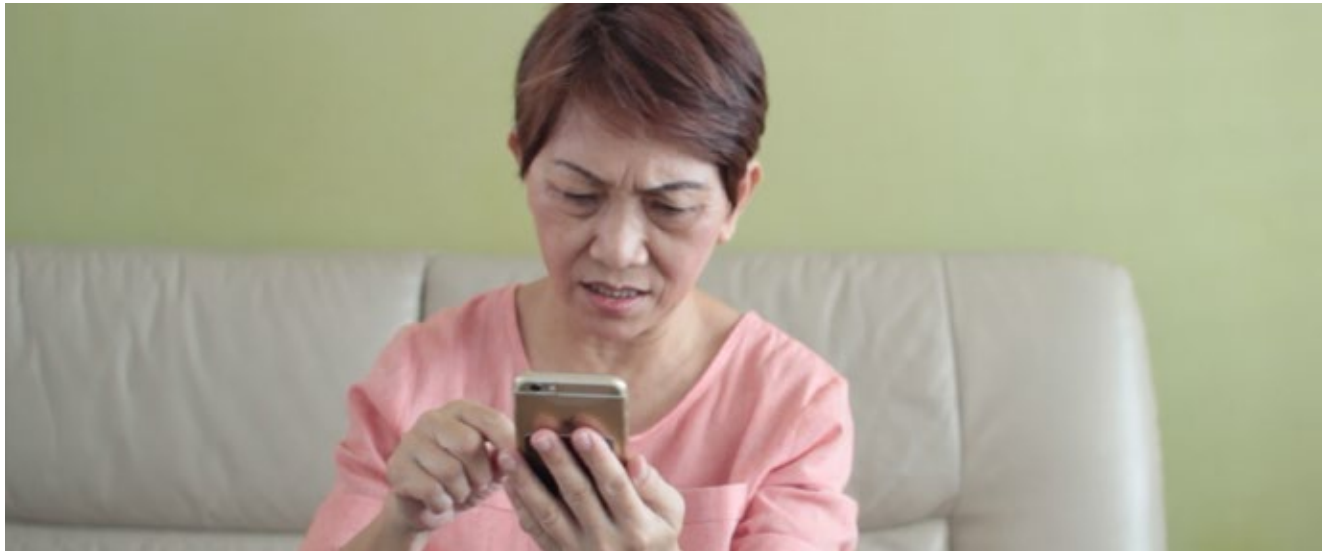
ON SECOND THOUGHT

On Second Thought is a money management app that cares about your wallet more than you. Buying a product is not solely a monetary loss, but a purchase that comes with hidden costs as well. On Second Thought aims to make the actual effects of impulse buying more perceptible and to lower the mental effort required in making a logical decision when shopping.

Designed with Lynn Ho Xin Yi

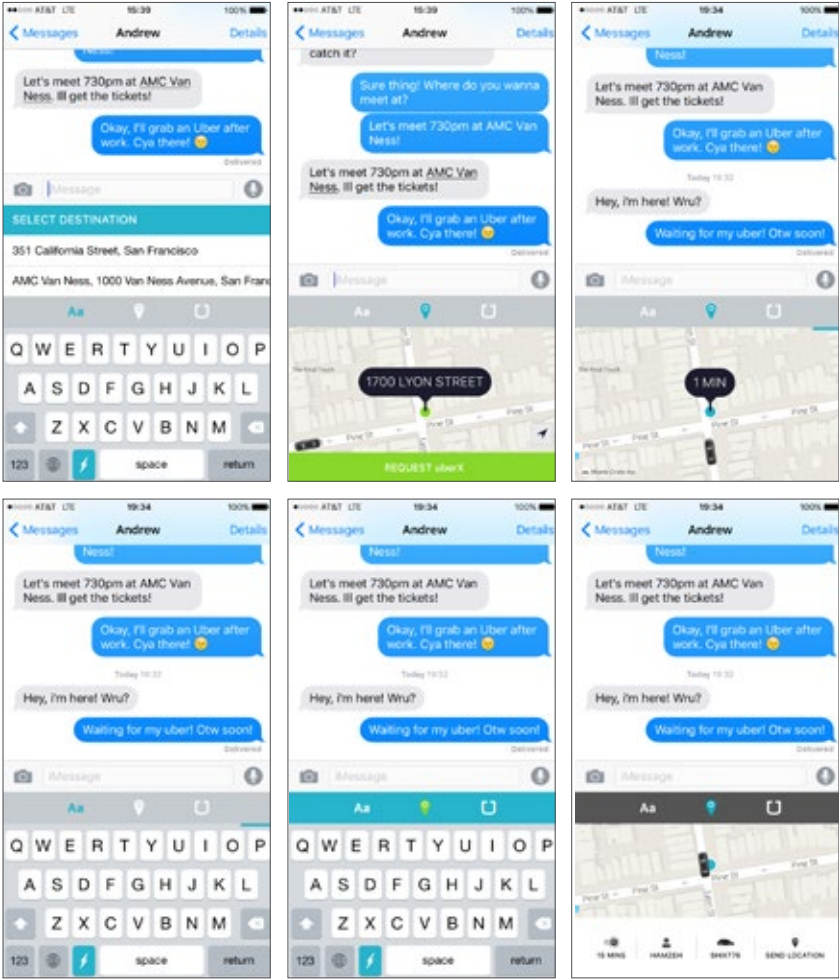
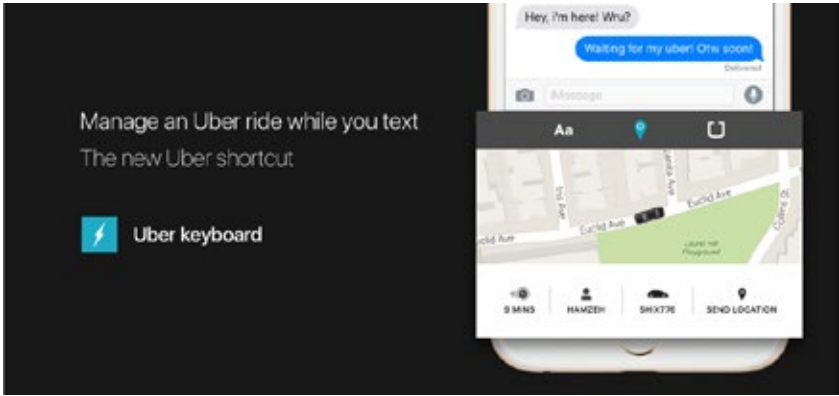
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THESIS USER INTERFACE REDESIGN FOR BABY BOOMERS

By studying baby boomers' behaviour during smartphone usage, this thesis aims to improve the smartphone's usability by suggesting a set of design principles with accompanying solutions to existing negative experiences.

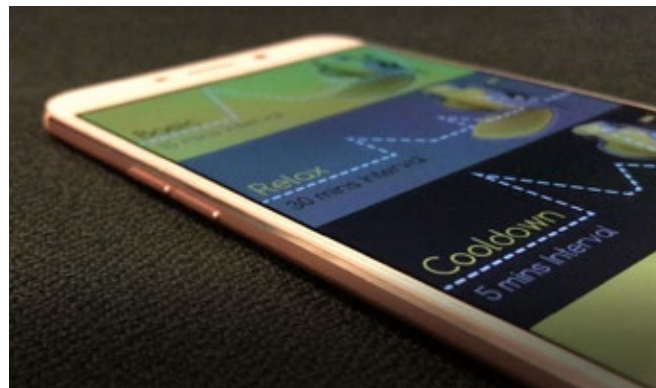


USER INTERFACE DESIGN
UBER KEYBOARD

The keyboard shortcut makes multitasking easy. Instead of switching between mobile applications, this is a shortcut to calling and tracking an Uber vehicle instantly while in a text conversation on any platforms. This is a shortcut created for frequent users of Uber. This was an entry for Calhacks 2016, a hackathon organised by UC Berkeley.

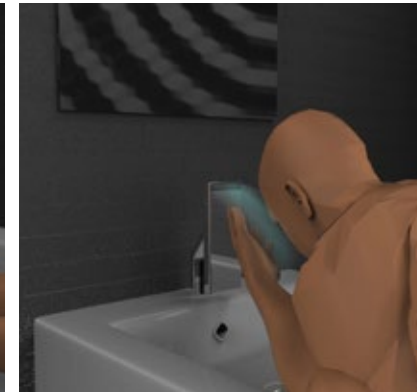
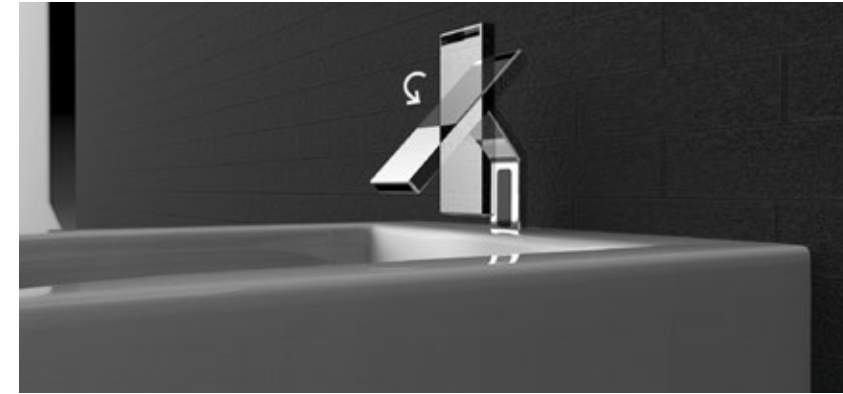
Lim Yong Kang

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THESIS SWI

SWI is a modular system that can be attached onto almost any wheelchair that allows users with muscular dystrophy to achieve an active seating. Due to muscle weakness, most of these personnel were unable to adjust their seating postures thus leading to discomfort and possible spinal deformation. SWI aims to create optimum comfort and adjustability for these users with ease throughout their daily routine.



TILT FAUCET

Tilt is a motion sensor faucet that is made of high chrome stainless steel. With motion sensing technology, Tilt allows hands-free washing. Tilt has two main functions, the hand washing mode and the face washing mode. By tilting Tilt to a vertical position, a secondary flow of the tap water located at the top valve will be activated.



OLLIE

Ollie is an adaptive soccer system for persons with disabilities that allows inclusive play. As normal soccer ball often escape from players range of sight and motion. Caregivers thus tend to take over the control of the gameplay limiting the playing time for the user.

Designed with Fabian Ong and Maggie Seah

Low Joo Tat

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THESIS LAST CRADLE

Last Cradle is a set of tools that helps the funeral profession humanise the procedure of transporting the recently departed. Through affording for gentler and more caring gestures, Last Cradle transforms the now clinical procedure into a warm and aesthetic ritual that is more meaningful for both the bereaved and the funeral staff. It consists of 1) a carrier that facilitates easier and gentler carrying, and 2) a mortuary stretcher cover that gracefully secures and envelops the departed into a cocoon-like vessel.

In collaboration with Ang Chin Moh Funeral Directors



DAX

DAX is a wallet that allows you to access your cards easily and beautifully. Simply pull the tab and watch your cards cascade out with a splash of colors! Launched on Kickstarter in 2015, the 30 day campaign raised USD 52,660, 1300% the original USD 4,000 goal.

Designed with Yeo Wan Jun and Jeff Bogue



K-01

An electric kettle with a boldly designed top cap that depresses completely as a "boil" button, giving a feeling of quick, pragmatic, efficient straightforwardness. The button pops back up to indicate the completion of the boiling.

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issuu.com/luxiaoheng/docs/lu_xiaoheng_portfolio_2017_02



THESIS AFTER DARK

After Dark is a smart object designed to be used by the elderly. Designing through a special framework derived from research, After Dark aims to remove learning curve while improving perceived usefulness. The lamp tackles the bedroom lighting dilemma where absolute darkness is needed for an elderly's good night sleep while strong illumination is needed to prevent trips and falls by monitoring movements during sleep and predict when an elderly is about to be awoken.



PLAYPEN

Playpen is a redesigned concept for the paediatric clinic of National University Hospital. The concept focuses on making the waiting experience of parents and their child easier and more pleasant. Through utilising colours and cartoon animal images, children are able to help their parents in finding their way through the hospital, allowing parents to focus on looking after the child. Children playgrounds are also elevated to the eye level of a sitting and standing adult for easier observation.

*Designed with Amanda Swee and Melvin Khng
In collaboration with National University Hospital*

Priscilla Lee

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behance.net/priscillallq



THESIS HOME RECYCLING FOR KIDS

To improve the low domestic recycling rate in Singapore, a recycling lifestyle needs be cultivated from young. Targeting kids aged 5-9, a fun, personalising and visually-attractive home recycling-motivating platform is created for them to learn and do regular recycling, with the facilitation of their parents.



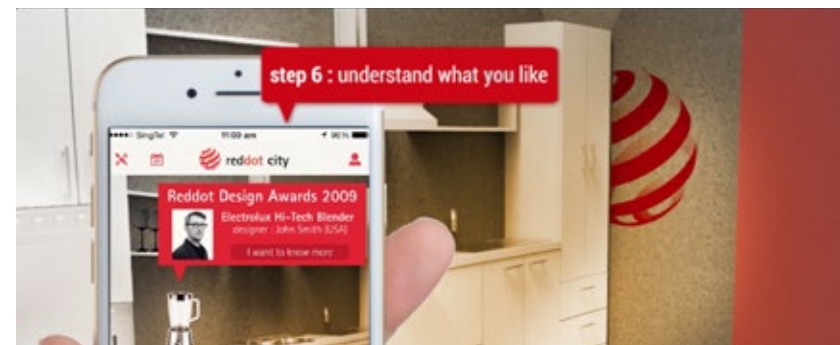
YIPPEE! SERVICE

As many young adults are fearful to invest while in their prime age to do so, YIPPEE!, a prelude of OCBC's Young Investor Programme (YIP), aims to demystify investment to empower them in investing. It portrays investment in a friendly manner, makes investment learning convenient, and applies learning knowledge in a real-time and risk-free context, to build the young adults' confidence towards actual investing.

*Designed with Caitlin Foo and Charles Prescott
In collaboration with OCBC*



you are unique
your trail is too



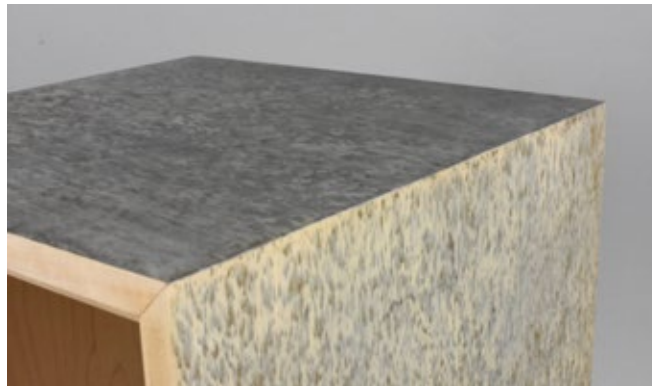
REDESIGN DESIGN MUSEUM EXPERIENCE

Due to the visitors' minimal interaction with museum exhibits and the low engagement with non-design visitors in Red Dot design museum, a personalised museum experience is created. Visitors will have opportunities to "become a designer", immerse in a relatable design world, and access design resources via augmented reality technology.

*Designed with Viki Yap and Constance Texier
In collaboration with Red Dot Design Museum*

Jasmine Quek

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THESIS PHENOMENAL WOOD

Discolourations and growth rings are natural occurrences and traits of wood. In this project, these inherent qualities are leveraged on and relevant processes are created to manipulate them. Hemlock wood was sandblasted to reveal the disparity in the density of its alternating growth rings and transforms into a grill with better water-resistance. Discolourations of wood caused by iron and tea are controlled with new staining processes to form distinct stain patterns. These result in a collection of objects with outcomes exclusive to wood.



MOORE

MOORE is a vibrant combinatorial costume play-kit with various basic soft panels of exciting shapes, sizes, patterns and slots, affords endless imaginative configurations. MOORE engrosses creative energies to become fun and unstructured collaborative discovery. It facilitates mental and physical dexterity while narrating social bonding skills with myriads of merry, unfolding role-play.

Designed with Russell Chew



HAZE GLOBE

This project attempts to re-imagine Singapore's souvenirs. Unforeseen circumstances often thwart our perfect plans in a vacation. However, these ominous surprises seal an enduring impression on us, more so than an ideal experience or a keepsake. As a parody of snow globes being the epitome of an ideal winter setting, the Haze Globe suggests an alternative view of the imperfect vacation quintessential to Singapore.

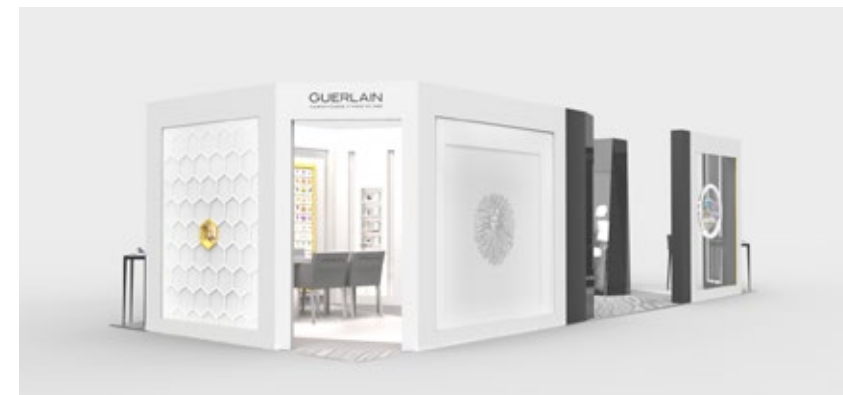
Seah Ying Xin

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THESIS RE-IMAGINATION OF ADAM FOOD CENTRE

This re-imagined Adam Food Centre is no longer just an eating place for our Indian or Malay cuisine fix, it is also a sanctuary where customers can enjoy a temporary escape from their mundane lives. The integration of vegetation within the space creates a forest-like dining experience, a reminiscence of the kampong days where our ancestors used to live and dine amongst nature.



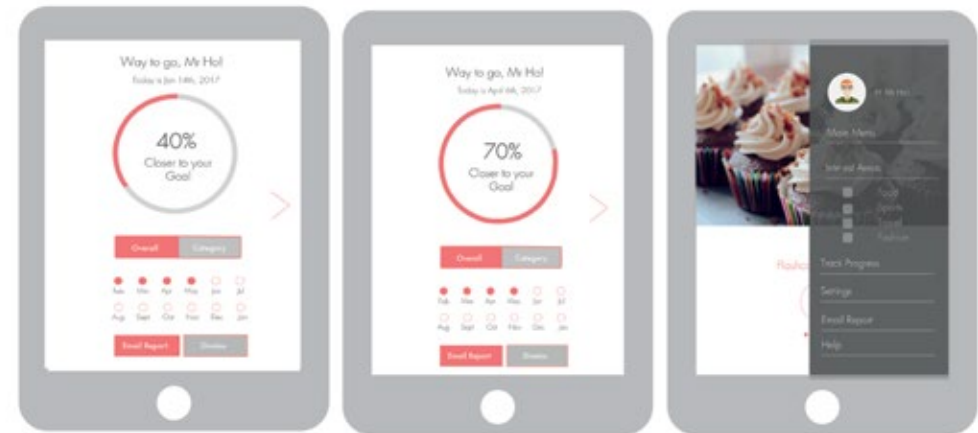
VUE - GUERLAIN POP-UP EVENT SPACE

Vue is a contemporary re-interpretation of the Guerlain's long history and rich heritage. The design is largely inspired by the Art Deco of Guerlain's beauty institute from 1939. The boundary of the space is defined using geometric blocky elements that also double as display shelves and windows. The store is characterized by unexpected cuts and angles of the elements to create entrances and three alcoves. Each space possesses their own individuality. The view and experience changes constantly as customers move from one space to another.

*Designed with Allison Yip Yee Roo
In collaboration with Guerlain*

Shubhangi Paul

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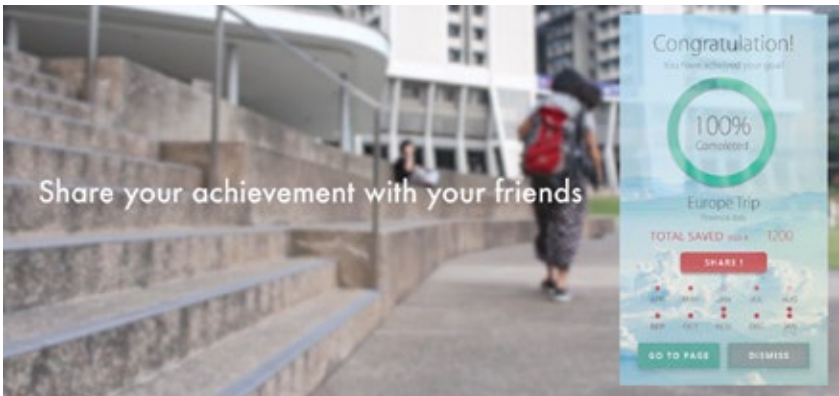
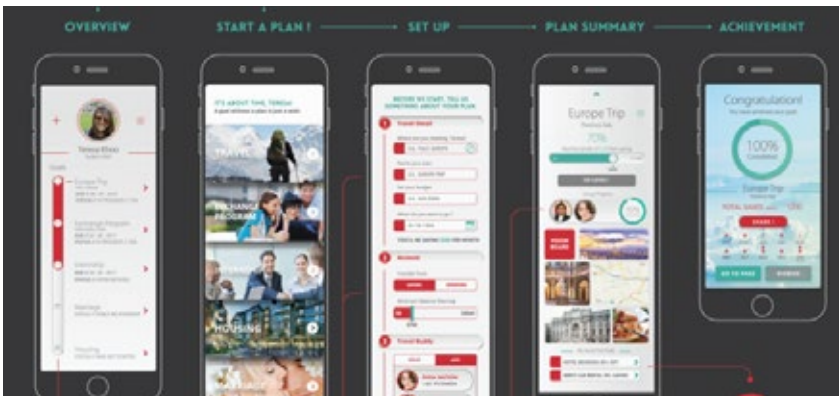
Progress Tracker



THESIS FIND YOUR VOICE

‘Find Your Voice’ is a digital platform that helps stroke survivors transition from assisted speech therapy to independent communication rehabilitation. It aims to empower patients to regain their communication abilities faster by re-structuring the rehabilitation process after they can no longer avail professional therapy. It provides customised communication strategies that focus on their strengths while still working on weaknesses, setting them on right track to independent, self-assisted rehabilitation.

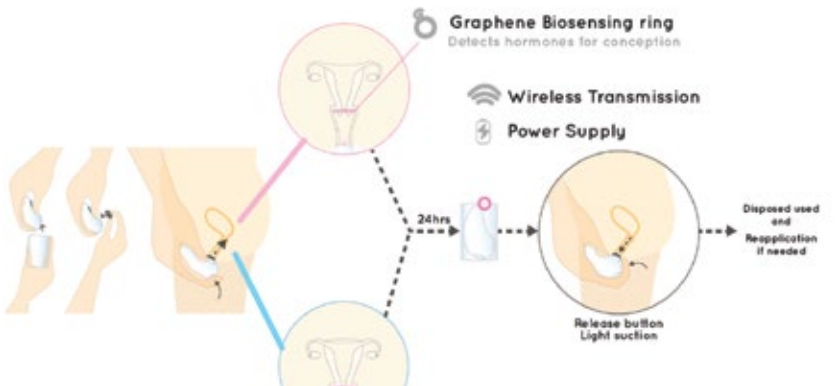
In collaboration with NUH Department of Otolaryngology



ENVISION

Envision is a service for transitioning working adults that forms a bridge between planning and goals. It educates users to set early goals that are relevant to them as individuals and enables them to visualise their dreams along the way as they plan. It also motivates them to imbibe the habit of saving for each milestone of their lives by allowing collective goals, peer-to-peer encouragement and personalised incentives.

Designed with Teresa Khoo and Tony Chui
In collaboration with OCBC



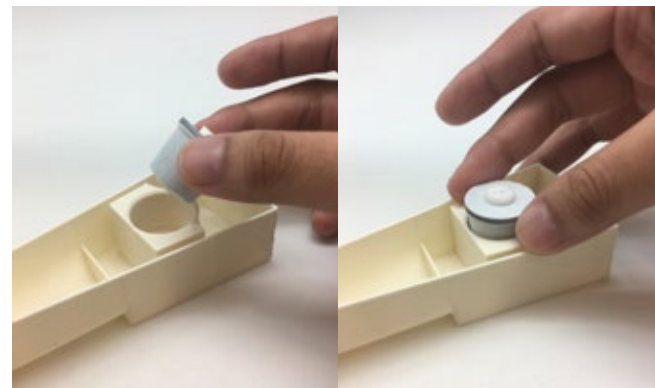
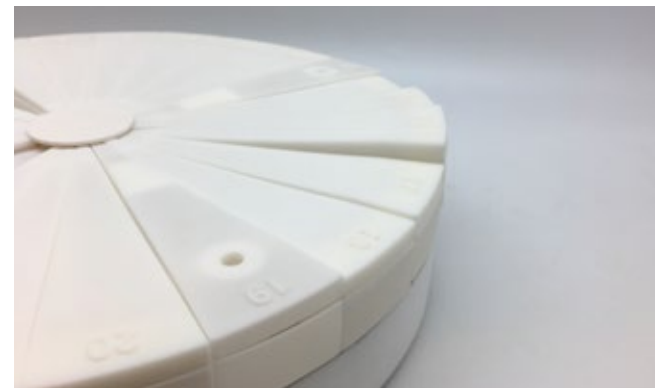
HUSH

Hush is a family planning kit that works as both as contraception and conception aid as need. It is a discrete and non-invasive option for women, to empower them to make their own decisions concerning their reproductive health. The vital functions are enabled by graphene, a nanomaterial.

Designed with Yeo Hui Ci
In collaboration with Graphene Research Centre

Tan Rongli

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THESIS VIDA

The amalgamation of exactitude and ambiguity. A kinetic sculpture with the functionality of scented notifications creates a unique experience for the elderly at risk of dementia. Looking beyond auditory and visual stimuli and leveraging on the intrinsic benefits of scents to provide timely reminders for the elderly to create a whole new experience for the elderly.



THE COVE

The Cove was carefully designed for L'Oréal Travel Retail Asia Pacific with the daring usage of distinctive curves and dynamic lines to create modular alcoves which equally represented all 18 brands under L'Oréal. Seamless circulation flows were taken into consideration, in turn creating a mysterious environment, invoking curiosity and finally engaging the guests.

*Designed with Elyn Wu and Gary Lim
In collaboration with L'Oréal Travel Retail Asia Pacific*



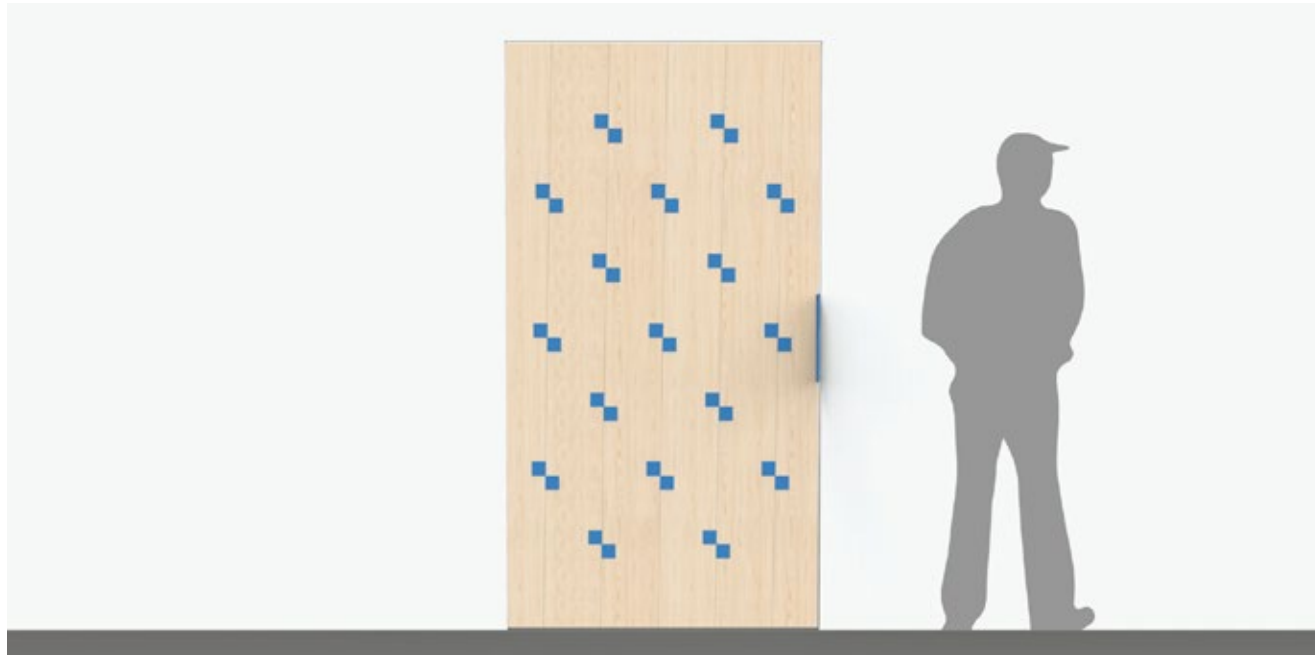
APOLLO

The concept of Apollo was crafted with Guerlain for the domestic and travel retail space. The golden sun being the core of Guerlain translated into radial circulation layouts. The strong and intense core built with bestseller products was supplemented with toned down elements at the side. The outer panels offer an embrace to the elements within centering around Guerlain's rich heritage.

*Designed with Josh Ho Jun Xian
In collaboration with Guerlain*

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THESIS DOOOOR

Objects are usually designed from positive inspirations. What happens when we design objects from an unusual starting point? Dooooor is designed from the word 'laziness'. It is a door that is coaxed open, opening a bit at a time. Dooooor can fold, roll, swing open, and naturally close by itself without complex mechanisms. With its fluid nature and light-hearted interaction, Dooooor shows us that doors can be much more than just an entrance or an exit.



TUPS

Tups by Tupperware is a novel temporary storage system, designed for micro-kitchens. By utilizing the usually unused area under the overhead cabinet, it maximises space and allows users to freely explore recipes, no longer bound by small countertops. Tups allows for greater convenience, offers more space, and a hassle-free experience.

*Designed with Jacqueline Lau and Yap Jiali Kelly
In collaboration with Tupperware*



ESPER

esper is a home medication system that is borne out of the 'Internet of things' and the rising trend of self-diagnosis. Everyday objects communicate with esper, providing data for esper to diagnose illnesses. A printer then produces the transdermal stickers that adjust its own medication dosage according to the diagnosis.

*Designed with Au Hui Ying and Tan Xin Yu
In collaboration with Dell*

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THESIS ADEPT & RESPONSIVE COMBAT (A.R.C) HEADGEAR

Conventional padding materials only absorb or dissipate impact energy. A.R.C brings it one step further by redirecting impact forces and was lab tested to protect up to 2.77x better than conventional headgears against concussive forces. The 4 segment design allows an adaptable and secure fit. With up to 98.8% material volume reduction, the ventilated and balanced headgear maximises athletic performance. A.R.C will be further developed on a NUS PhD Research scholarship.

In collaboration with NUS Mechanical Engineering, ONYX MMA



UNI SMART BEDTIME SYSTEM

UNI project was featured in Mediacorp's Design Singapore 2017 TV series, and most recently at the 2017 Modern Aging Symposium: "Aging Unlimited", co-organised by ACCESS Health International, Singhealth and NUS Enterprise as the only student project shared for the event. In line with the big data agenda of Prime Minister's Office Smart Nation campaign, UNI combines existing digital and sensor technologies within a thoughtful and cohesive package to provide a better bedtime experience for the elderly and a peace of mind for their family members.

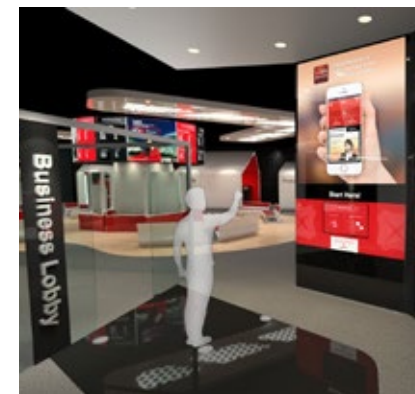
In collaboration with Prime Minister's Office and iDA Labs



DBS BANK: DIGITAL TRANSFORMATION

Awarded grand winner of \$3,000 for DBS Bank's branch banking design competition, we took a bold approach beyond traditional branch banking processes. Targeting DBS's Plaza Singapura Branch with a high demographic of rising affluent and savvy individuals, we envisioned a seamless customer journey complete with an immersive and engaging user experience. Understanding that DBS Bank has been immersed in the digital agenda, we reimagined the branch banking experience by leveraging mobile apps and embodiment of conversational Artificial Intelligence in tangible interactive spaces.

*Designed with Yeo Ren Jie and Jonathan Tsang
In collaboration with DBS Bank*



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THESIS THINKAT

THINKAT is an integrated and customizable toolkit with key types of cognitive activities. It has features of scalable levels of difficulty and modularity for faster transition between activities. Elements in invoking reminiscence are also embedded. This all-in-one toolkit allows for better facilitation of caregivers with dementia individuals during group therapy sessions.

In collaboration with Sunlove Home Dementia Daycare Centre & Family of Wisdom Programme (ADA Singapore)



LABYRINTH | L'OREAL TRAVEL RETAIL

Labyrinth, an exhibition booth, draws inspirations from the vastness and intricacy of an art gallery room. Labyrinth consists of a series of rooms which are linked through archways. Each room showcases two L'Oreal brands with accompanying collaterals. This allows patrons to experience consistent brand discovery whenever they enter each subsequent room.

*Designed with Goh Jie Sheng
In collaboration with L'oreal Travel Retail Asia Pacific*



CHORD-TET

Chord-Tet is the result of an exploration in creating value from ordinary value-store products. It is a series of 3D-printed bell triggers which are coupled with budget glassware of different innate sonorous qualities. This assembled setup invites playful users to experiment with different arrangements of glassware in creating unique tunes and melodies.

Weng Yi Xiang

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THESIS UNIQUELY UTENSILS

This is a set of utensils designed specifically for three Singaporean hawker dishes: chicken rice, rojak and chilli crab. These utensils prompt users to experience, learn about and better appreciate the colourful stories behind each iconic hawker dish. They aspire to reinvigorate Singapore's important, yet fading identity marker – hawker food.



CULTIVER: ORANGE PEELS, LEATHER HANDBAG

Orange peels are by-products generated by fruit juice bars. They are innately pliable and durable, presenting possible alternatives for leather. They are dehydrated into well-preserved pieces, trimmed to exact dimensions and connected strategically into sheets. The resulting sheets are stitched together with leather sewing techniques to form an exquisite handbag.

Designed with Leung Jia Jun



A SOUVENIR IS AN EXPERIENCE THAT IS IMPOSSIBLE TO BRING HOME

The project brief was to redefine souvenirs and convey the definition through designing a product. The outcome is postcards that produce characteristic sounds collected throughout Singapore. They aspire to help senders bring home the visceral experiences of their stay in Singapore that cannot physically be taken away, preserving precious memories.

Wong Yi Yang Matthew

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THESIS FIDGET LOLLIES

Fidgeting is a stimulation strategy that helps us maintain focus on a task, however it is often perceived as a nuisance. Fidget Lollies challenges this perception in the form of a candy that taps on the various sensory properties of the mouth as stimulation.



SPECIAL PASS BOOKLET

To improve communications between the Ministry of Manpower (MOM) and the migrant workers on Special Pass, a system was developed to clarify the tedious process of coming down to the branch.

*Designed with Yeo Li May and Eunice Er
In collaboration with Ministry of Manpower*



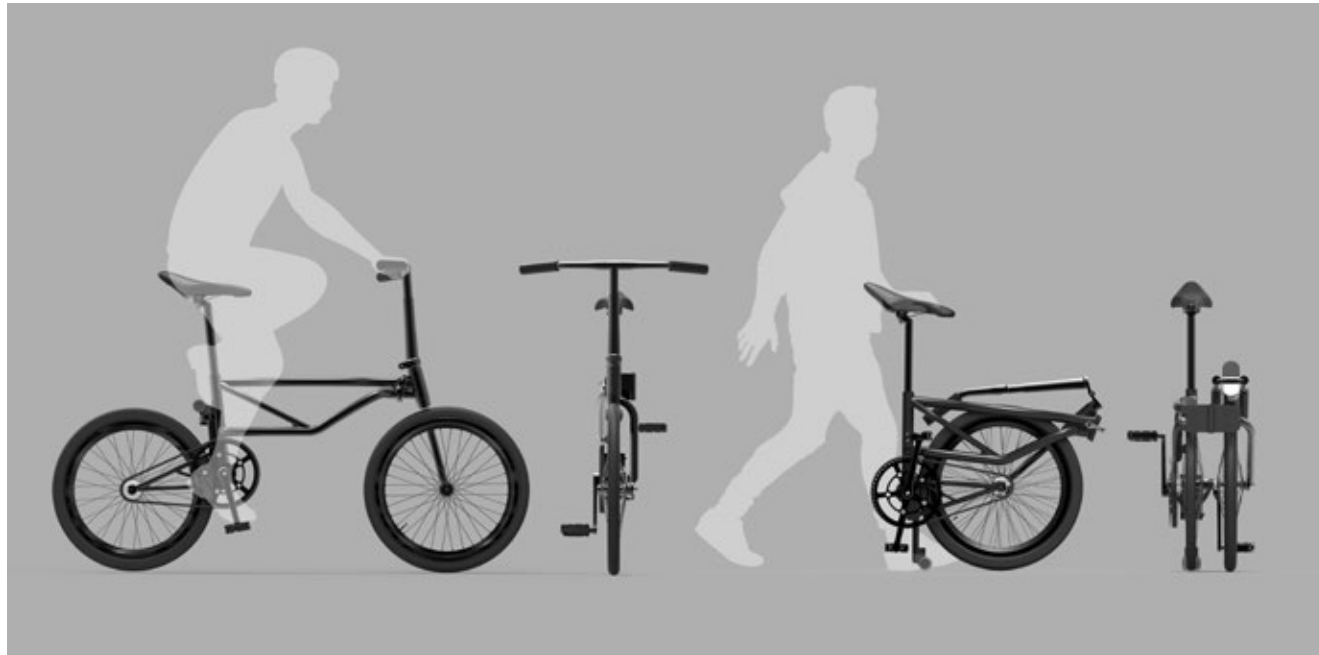
TUTU BAR

Tutu Bar specialises in gourmet tutu kuehs served in a sushi bar-like setting. Offering not only classic flavours such as Sugar Peanut and Coconut, but also modernist and premium flavours. Through branding, Tutu Bar seeks to rekindle the disappearing art of tutu kueh-making.

Designed with Esther Ng and Joost Schootra

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THESIS AMETRI

Ametri is a folding bicycle designed for Singaporean commuters. Users are able to fold and roll it into public transportation easily, compared to other folding bicycles. While folded, the caster wheel enables omnidirectional manoeuvrability. The dimensions of Ametri are also within LTA's constraints, making it the perfect cross-modal transportation device.



VETTERSCOPE

Veterscope is a stethoscope designed for veterinary use. Vets require a lot of dexterity when using the stethoscope on animals. Animals often fidget, requiring the vet to use both hands to stabilise the animal in order to diagnose it with the stethoscope. As such, the Veterscope encourages dexterity by enabling vets to wear their stethoscope with one hand, using a pinch-mount mechanism. The ergonomic hand latch also allows vets to use the stethoscope, while still applying pressure on an animal for better control and stability.

In collaboration with Georgia Tech



BUD BRACELET

Bud Bracelet is a conceptual design project for Smart Nation Singapore. Designed for the elderly, each module represents a friend, and can be connected to form a band or bracelet using magnets. Modules are meant to be swapped, to encourage social activity. A complete band symbolically represents the formation of a "social circle". When in distress, the red panic button can be activated to notify friends, indicative by a blinking LED light on the silicon strip.

In collaboration with Prime Minister's Office and iDA Labs



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THESIS SHUTTERBUD

The appropriate tool for toddlers as early as two years old to explore their potential talent in photography. Shutterbud conforms comfortably to the ergonomics of a child with dedicated handles and immersive screen display.



CORNERSTONE

Organic binding elements are incorporated into cremains to form naturalistic forms like pebbles and branches, which encourages the placement and scattering of cremains at more natural places without disturbing the landscape. By leaving the pebbles or branches singularly or as an arranged cluster at specifically chosen sites, the elements become the core of a personal sanctuary to remember the deceased.

*Designed with Desiree Lim
 In collaboration with Nirvana Memorial Garden*



ENLIVENED OBJECTS

Enlivened objects take everyday mundane actions and turn them into more appreciative and delightful moments. Light cheerful sounds are produced when interacting with the products, from watering of plants to stirring of cups, every action is elevated to a more conscious moment.

Designed with Chin Guo Hong

Design Platforms

As part of our strategy to evolve constantly, a major component of the course are the Design Platforms.

From their second year, students can tailor their individual course of learning by selecting 2 concurrent design studios from a variety of 9 to 14 different design projects offered every semester. Topics of each design studio are in line with the department's strategic focus areas, consisting of Healthcare Design, Interaction Design, Experience Design, Service Design, Product Design and Speculative Design. The range of different topics under the 6 focus areas reflect the ever-expanding role of a designer in the current society. Presented here are student works, where students tackle both conceptual and real life projects with industry collaborators. With this constant engagement of industry collaborators, students develop relevant skillsets and are exposed to real industry working experiences.

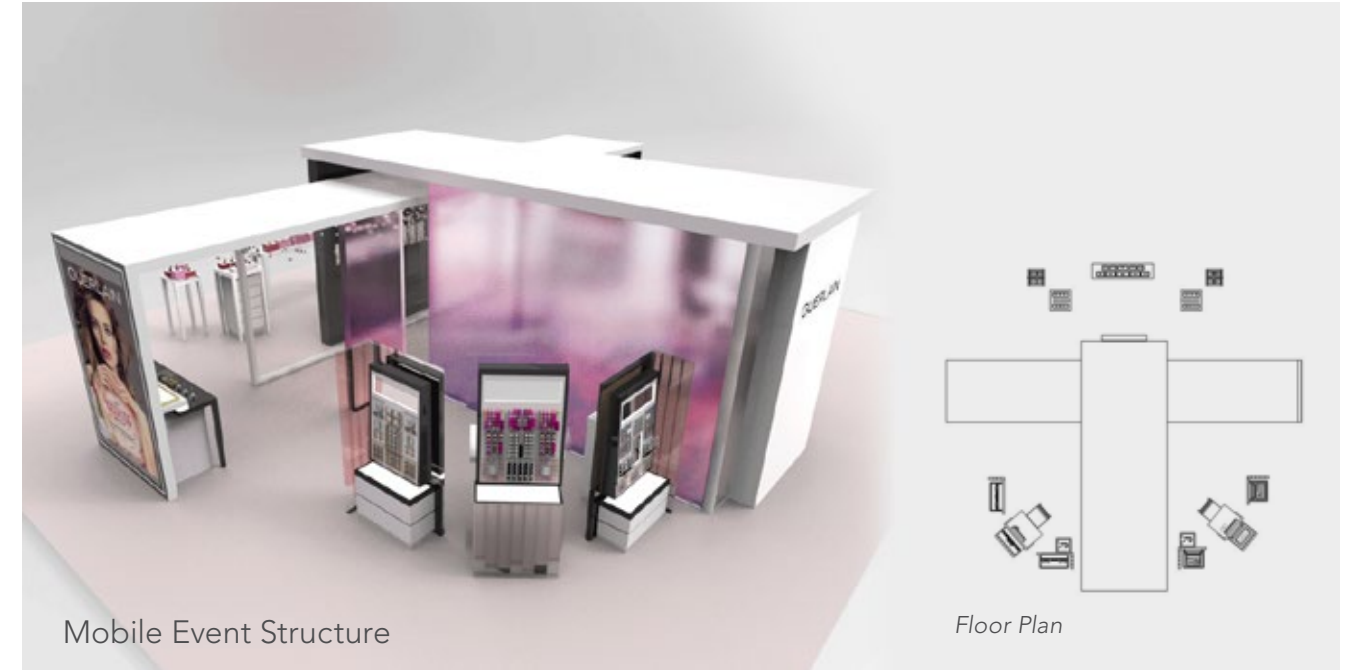
The structure of the Design Platforms allows junior students and senior students to work together as a group, which we call 'the vertical format'. Students in a lower year will take up the role of a junior designer, whilst senior students will have the opportunity to assume the role of a senior designer. This arrangement reflects the prevalent importance of group dynamics in industry practice.

Guerlain Mobile Event Structure

PLATFORM LEADER
Christian Boucharenc
Olivia Lee
Leow Yuan Kai

COLLABORATOR
Guerlain Hong Kong
Marina Oechsner de Coninck
(Regional Retail Design & Visual
Merchandising Manager)
Kenny Lee (Regional Visual Merchandiser)

The theme of this platform was: “to design a mobile event structure which will be adapted to different retail and event environments”. From a garden party to an art gallery event or hunting party, how can we create a memorable event with Guerlain as the Master of Ceremony? For this project, students were encouraged to explore all event scenarios as well as the brand’s corporate image, to understand Guerlain’s DNA and codes. Students also needed to integrate all kind of media support: visuals and video of the launch, digital, BA tutorials in iPad, photo booth, music and staging for entertainers or experts - using interactivity to provide a more immersive event experience.



Mobile Event Structure

Floor Plan



Travel Retail

Floor Plan



1 AURA

“Every woman has their own colour” was the guiding principle for Aura. Colour has a unique ability to affect the mood around them and Aura sought to capture each woman’s myriad of characteristics through this medium. The mobile event takes the consumer on a journey every step of the way, with something new to look at with each turn. The travel retail adaptation retains the dynamic yet non-intrusive washes of colour in order to elevate the shopping experience in a fast-paced environment.

Ho Xin Yi, Lynn and Lim Cai Jin



Improving Banking Experience

PLATFORM LEADER
Song Kee Hong

COLLABORATOR
DBS

To understand the mental journey of bank customers and address key challenges in providing an engaging user experience. The process involved user research to identify customer needs in a bank branch assigned by DBS. Students addressed challenges by relooking at the roles that objects, space, existing technology and efficient use of human touch can play in providing an engaging and seamless banking experience.



1 HUMANIZING TECHNOLOGY IN HEARTLAND BANKING

The less tech-savvy are often befuddled and unconfident in this increasingly digitized banking landscape. 80% of Hougang branch's customers are the middle-aged and elderly, who often visit the bank for simple services that can be done at the Automated-Teller- Machines. The heartland banking experience integrates subtle learning with simple transactions. Through digitized teller counters, customers experience streamlined self-service transactions with staff's presence. With constant assurance, exposure and familiarization, seniors gain confidence in adopting self-service banking - enjoying newfound convenience, reducing branch traffic.

Yeo Hui Ci, Neo Yu Qin Jomains and Lin Qiu Xia



2 TAILORED BANKING EXPERIENCE

In order to suit the vastly different needs of corporate and personal banking customers - which DBS Thomson welcomes an equal ratio of, the team has designed a differentiated yet directed customer experience through meaningful service touch points. The branch houses a colour-based zoning system for better contrast, an interchangeable interactive wall that provides on-demand information & services as well as supporting operations for an online corporate booking system to eliminate waiting time.

Lu Xiaoheng, Huang Yixuan and Yang Xinhui



3 DBS SOUTH BRIDGE : BANKING WITH COMFORT

The project aims to create a comfortable and seamless banking experience for all through the introduction of assistive technology and dynamic furnitures. The proposed technologies will serve to simplify and speed up the banking registration process for customers. Implementing real-time updates on the queue progress allows customers to maximise their waiting time. Inclusive seating accommodate different types of waiting (e.g. leaning, seating and wheelchair accessibility) for customer comfort and privacy.

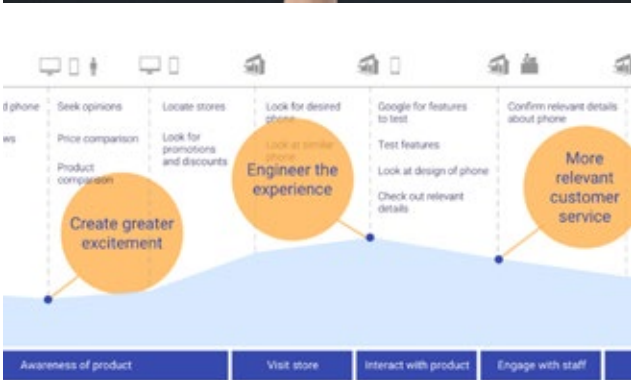
Loh Wen Bin Timothy, Teo Ren Zhong John and Jaycelyn Ye Siling

Retail Experience Design

PLATFORM LEADERS
Song Kee Hong
Timothy Hoo

COLLABORATOR
Samsung, Product Innovation Team

With the rise of e-commerce, physical retail shops need product interaction experience to be more compelling and engaging to remain viable. The objective is to re-imagine and conceive an engaging interactive retail experiences for a consumer product category within a physical retail environment.



1 INTIMATE AND HONEST RETAIL EXPERIENCE

In the current retail experience, customers are engaged across physical and digital spaces, where both are essential for a complete journey. However, the physical retail experience is lacking, and customers constantly switch in and out of the digital space to compensate for these gaps. Hence, we aim to rebuild the integrity of the in-store experience by reviving the intimacy and honesty of physical interaction, emphasizing on 3 retail stages: Awareness, Exploration and Evaluation; promoting a seamless transition as consumers move between digital and physical spaces.

Cecilia Lim, Julia Lee and Valerie Koh

2 THE STORE WITH A SOUL

The store with a soul reimagines the role of a retail store, from a sales-driven experience to a platform that strives to connect with users. The use of Augmented Reality panels to redefine window-shopping, an overarching AI system that acknowledges users throughout the store and the capturing of more accurate user data help to craft a relevant experience that users need. Through constantly engaging users throughout the entire experience journey, we hope to forge a relationship with them.

Yeo Kun Lin Glenda, Chow Jia Yi, Leung Jia Jun and Liang Ce

3 SAMSUNG HOME

In creating an engaging and fulfilling retail experience, Samsung Home is designed to bring customers through a journey of sensorial discovery. The explorational interactivity, along with the seamless transitions between personal devices (microsite & app) and physical in-store displays (comparison panels & real-time review map), facilitates better decision making throughout the immersive retail journey.

Koh Kangzhi and Ho Pui Yng

Design for Age-friendly Workplaces

PLATFORM LEADERS

Jung-Joo Lee
Jiaying Chew
Yvonne Yeo
Anthony Howe

COLLABORATORS

Ministry of Manpower & Singapore
National Employers Federation (SNEF)

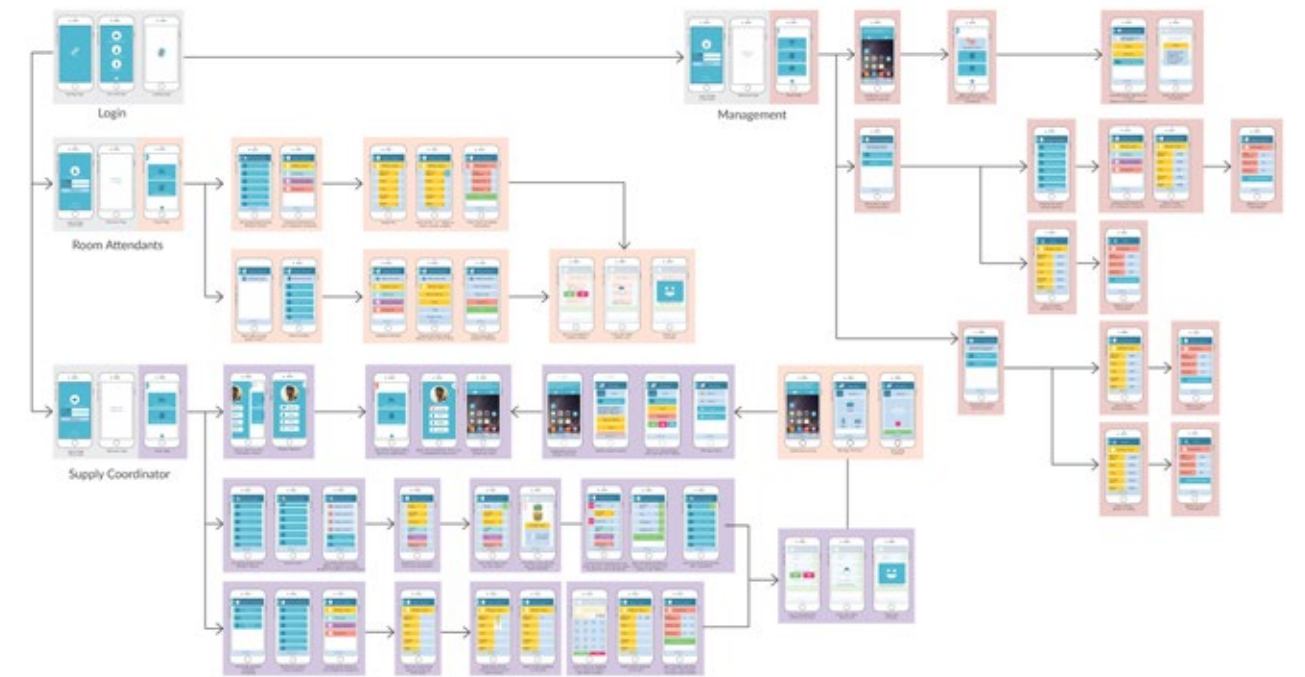
In this era of an aging society, companies in Singapore increasingly want to tap on the aging workforce. However, are the current workplaces conducive for older workers to stay productive, safe and motivated? In this studio, we apply service design approaches to create solutions for age-friendly workplaces. Student teams collaborated with 7 different companies and designed solutions that are company-specific yet scalable.



1 TOGATHER

TOGATHER is a contextualized digital training tool designed to facilitate cross-department learning through employee-curated content. TOGATHER engages workers in real-life teaching and learning by documenting it in the form of a training video to be shared within the community. This ensures an up-to-date collection of training videos that actively involves workers. TOGATHER offers a cooperative learning opportunity for the experienced and new workers and ultimately, creates an inclusive, multi-generational workforce.

*Ku Ga Eun, Chan Wing Kei and Ngiam Si Phuoc
In collaboration with Lawry's The Prime Rib Singapore*



2 RESTOCK

Restock is an integrative supply management system that reduces physical labour and facilitates with social interactions. With emphasis on familiar routines and alignment between physical and digital interaction mediums, Restock proposes a redesigned supply work flow that is assisted by restructured pantries, delivery tools and an application. With Restock, unnecessary repetitions are reduced for senior workers, implying a shortened workflow and faster job performance with reduced physical and mental fatigue. More importantly, an inclusive platform is created for staff to motivate and encourage one another.

*Chiam Yong Sheng Kevin, Ee Jun, Esli and Lim Rui Ying Priscillia
In collaboration with Bay Hotel*

Designing for Children from Vulnerable Families

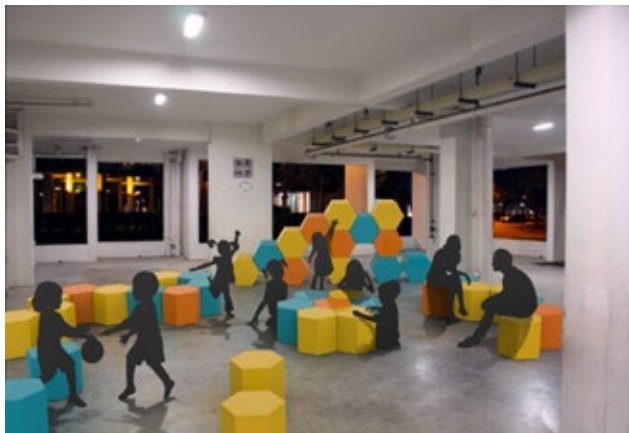
PLATFORM LEADERS

Jung-Joo Lee
Chew Jiaying
Yvonne Yeo

COLLABORATOR

Ang Mo Kio Family Service Center
(AMKFSC)

In Ang Mo Kio, there is the biggest number of rental blocks for families who are economically and socially vulnerable. Children from those families are scarce of learning opportunities and exposed to various hazards after the school time. This platform collaborated with AMKFSC to design for new services, tools and activities for the children's learning and social development. The students actively interacted with the children, families and social workers and designed prototypes that fulfill the needs of various stakeholders.



1 PLAY PIXEL

Play Pixel is targeted toward children from vulnerable families living in rental flats, whose void decks lack infrastructure for activities. Play Pixels are building blocks which can be used to create physical play-spaces at void decks. They can also be used to facilitate community events, while serving as functional furniture at home. It can be collapsed and stored when not in use. Each child is given their own Play Pixel; the more children participating, the greater the possibilities for structuring the play space, underscoring the value of a collective effort.

Ng Tse Pei, Koh Xiao Jie Felicia and Maggie Seah

2 SAFE HAVEN

Safe Haven serves as an intervention platform to aid children to better manage their emotions through recognition, expression and translation. The enclosed environment allows for expression without fear of judgement, providing emotional stability. The act of drawing the curtains open signifies the willingness for interaction. Interactive mediums are provided to aid educators in understanding the child's expression and translation of emotions. This framework can be extended to any organizations, targeting children from a young age so that they will be emotionally independent in the future.

Kelvin Siew, Milly Tan and Han Yuen Wei

Designing for Special Needs

PLATFORM LEADER
Yong Jieyu

COLLABORATOR
Rainbow Centre Singapore

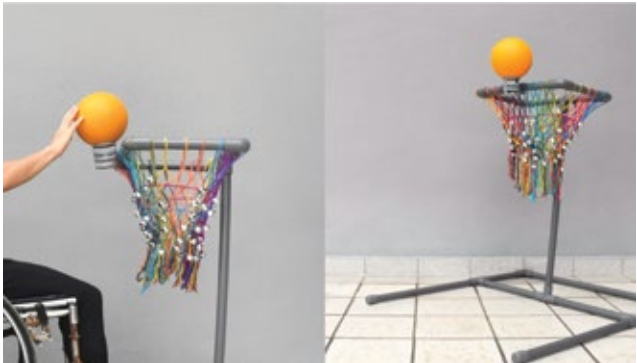
In collaboration with Rainbow Centre Singapore – a Special Education School serving children and youths with Autism Spectrum Disorder (ASD) and multi-disabilities. This platform immerses students in an actual environment to learn and practise designing for users with special needs. The scope covers two main areas: to design and edit sports equipment catered for multi-disability clients, and to design for Community Based Inquiry Programs.



1 CBI PIE

Community Based Instruction (CBI) is an aspect of special education curriculum that teaches students adaptive living skills. CBI PIE is an educator’s toolkit that assists the preparation, implementation and evaluation stage of CBI lessons. The kit includes visual instructions of the intended activity, leadership roles for students to fulfill, and a reward chart. Students are empowered by roles and affirmed for good behaviour. Simultaneously, educators can evaluate their performance systematically. The kit helps the students reach their long term CBI goals.

Timothy Loh, Caitlin Foo and Christine Yap



2 FIGO

Figo is an adaptive sports equipment with sensory feedback for wheelchair users with multiple disabilities such as cerebral palsy and hypotonia. It is designed to reduce inaccessibility to sports beyond school curriculum. Figo is made from readily available and low cost materials. It comes with a booklet to guide users on the simple assembly and dismantling for the ease of use in any environment. Using the same base, users can create endless possibilities of sports by changing into different attachments.

Low Jun Ting Alvin, Poh Yun Ru and Ng Zi Ning



3 RIPPLY

Ripply is a wearable, multi-function swimming float that encourages students to continue swimming outside of the Rainbow Centre curriculum. It is designed to be minimal, easy to use, affordable, convenient and suitable for public pool use. With Ripply, Pupils with Multiple Disabilities (PPMD) students will be able to enjoy the lifelong benefits of swimming in the many more years to come after their graduation from Rainbow Centre.

Yeo Hui Ci, Lim Jun Jie and Philip Chen Qiyuan

Design for Medicine and Healthcare

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Ulrich Schraudolph

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Sim Yong Jie
Cai Bohong
Ng Jia Ying

COLLABORATOR

National University Hospital

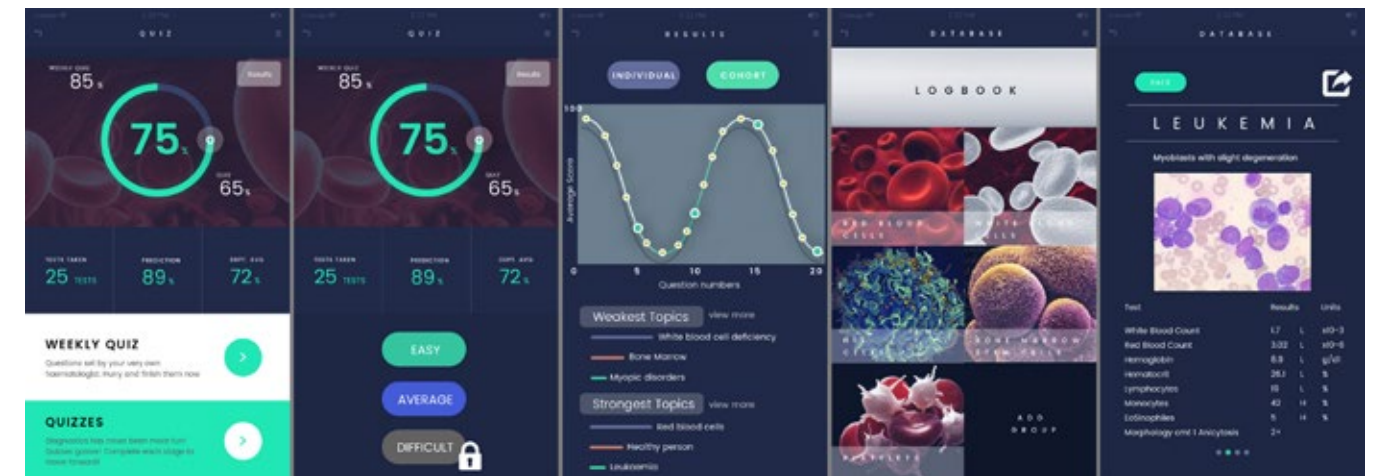
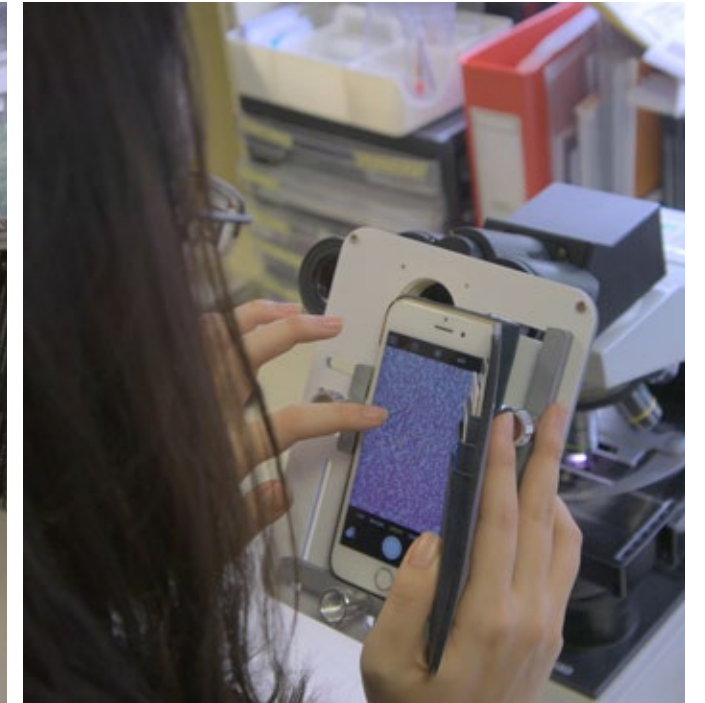
Design today plays a critical role in differentiating medical products beyond mere aesthetics. The ergonomics of surgical tools, the effectiveness of medical education, and the user-friendliness of assistive devices are some of the areas where design can intervene. This studio provides students the opportunity to be lead design innovators, to create a positive impact in the healthcare industry.



1 SCALESIDE

Accurate weight taking is crucial in drug dosing for stroke and trauma victims. A prevailing method of weight taking is estimation by eye, which is both prone to human error and is time-consuming, thus placing patients at greater risk. Scaleslide seamlessly integrates weight taking into current patient transfer procedures, saving space and time. It is used as a bridge between beds for patients to slide across. Weight is measured by the displacement of air exerted onto the circuit of hosing housed within the product.

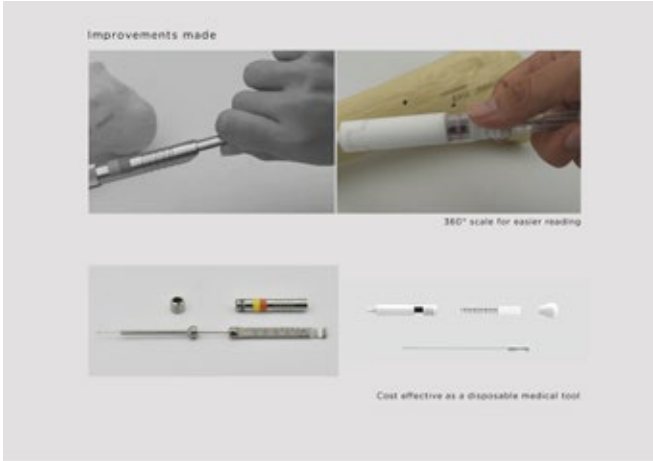
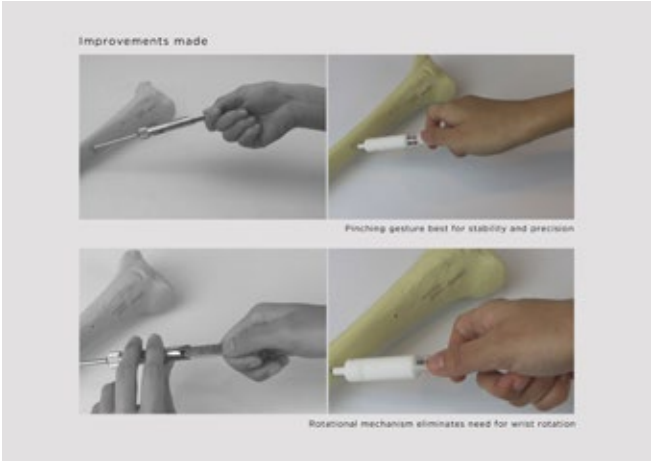
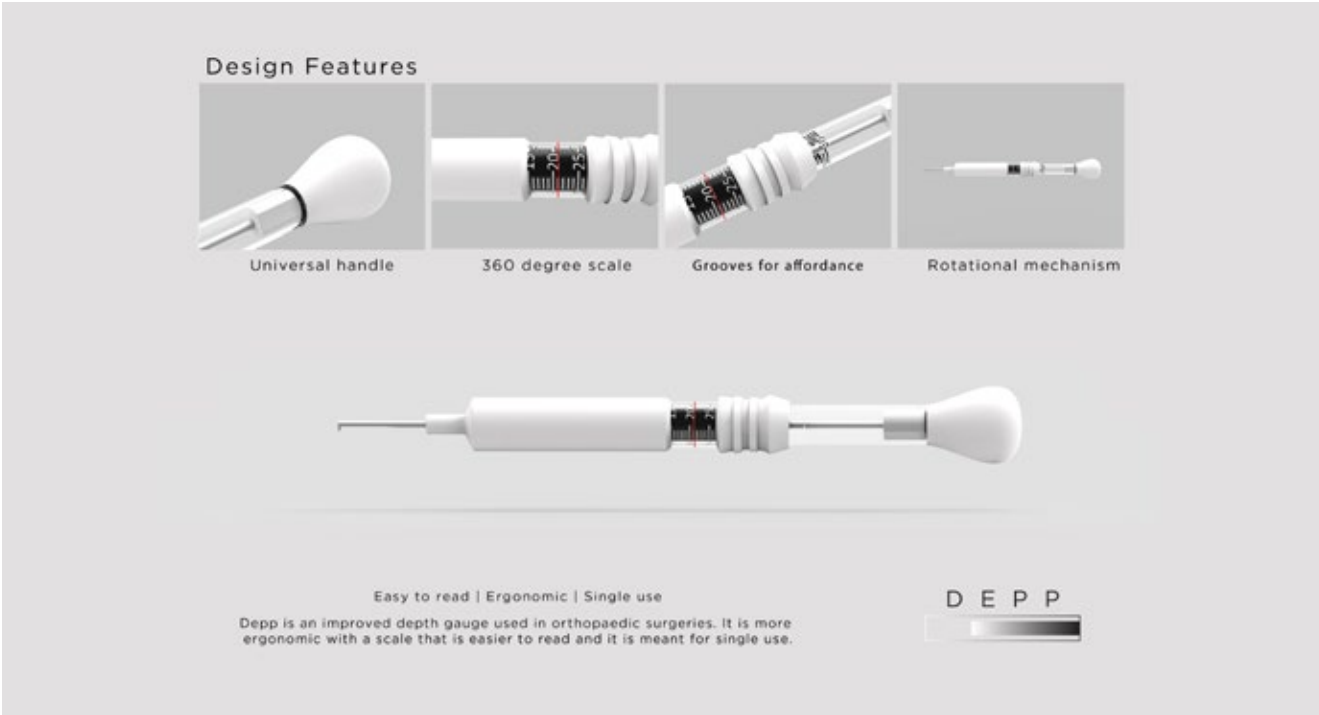
Jexter Lim and Maggie Seah



2 MICRODOC

MicroDoc is a learning system for junior haematologists to improve their diagnostic accuracy and confidence. It comes with a microscope phone mount designed to fit a variety of smartphones, in order to capture images of blood slides for later reference and review. The bundled application has a digital logbook, as well as a quiz function, so that junior haematologists can perfect their visual diagnostic skills. This project is done in collaboration with the Department of Haematology-Oncology in NUH.

Yuen Hin Nam and Kelvin Siew Zhi Wei



3 TO REDESIGN THE STANDARD DEPTH GAUGE FOR ORTHOPAEDIC SURGERIES

In orthopaedic surgeries, a standard depth gauge is used to measure the appropriate screw length for a hole drilled in bone to secure various plates used to repair bone fractures. The standard depth gauge is reusable, expensive, with a scale that is hard to read and causes the surgeon's hand to be at awkward positions. Our objective is to redesign the depth gauge to be more ergonomic with a scale that is easier to read and disposable after use.

Miko Yeo and Christine Yap



4 CONNIE

CONNIE is a modular training model that simulates the treatment of ocular injuries in the emergency department. It features a to-scale mount that attaches to the standard slit-lamp, and easily swappable eye modules to simulate corneal foreign bodies, as well as modules for various corneal infection/injury patterns to aid in diagnosis. Corneal foreign body modules were developed to have the consistency and clarity, as well as the correct curvature of the human cornea, to enable a realistic examination and removal process using the slit-lamp beam. The corneal infection/injury modules are etched to enable fluorescein staining.

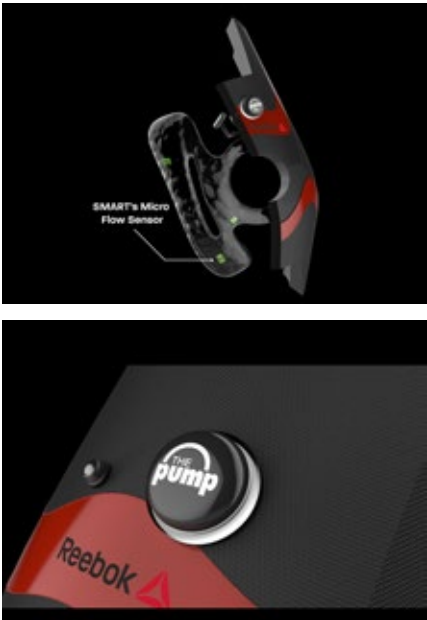
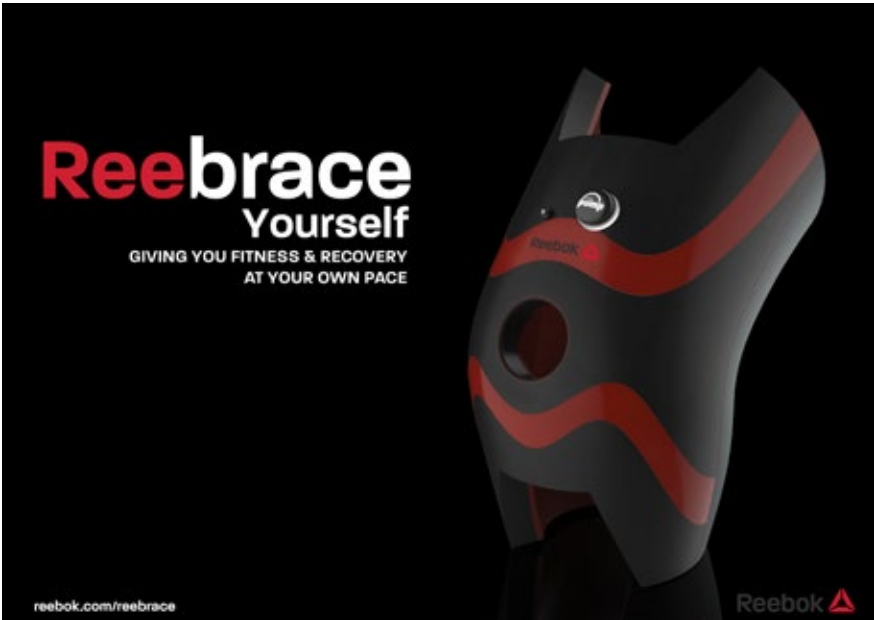
Johanan Lau, Denise Yeo and Soo Woei Perng

Reframing Technology

PLATFORM LEADER
Lee Tze Ming

COLLABORATOR
Singapore-MIT Alliance for Research
and Technology

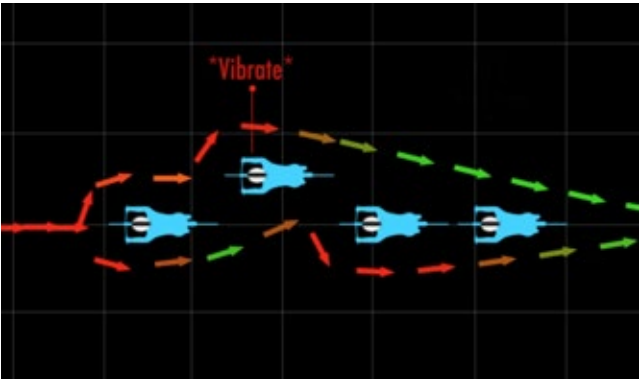
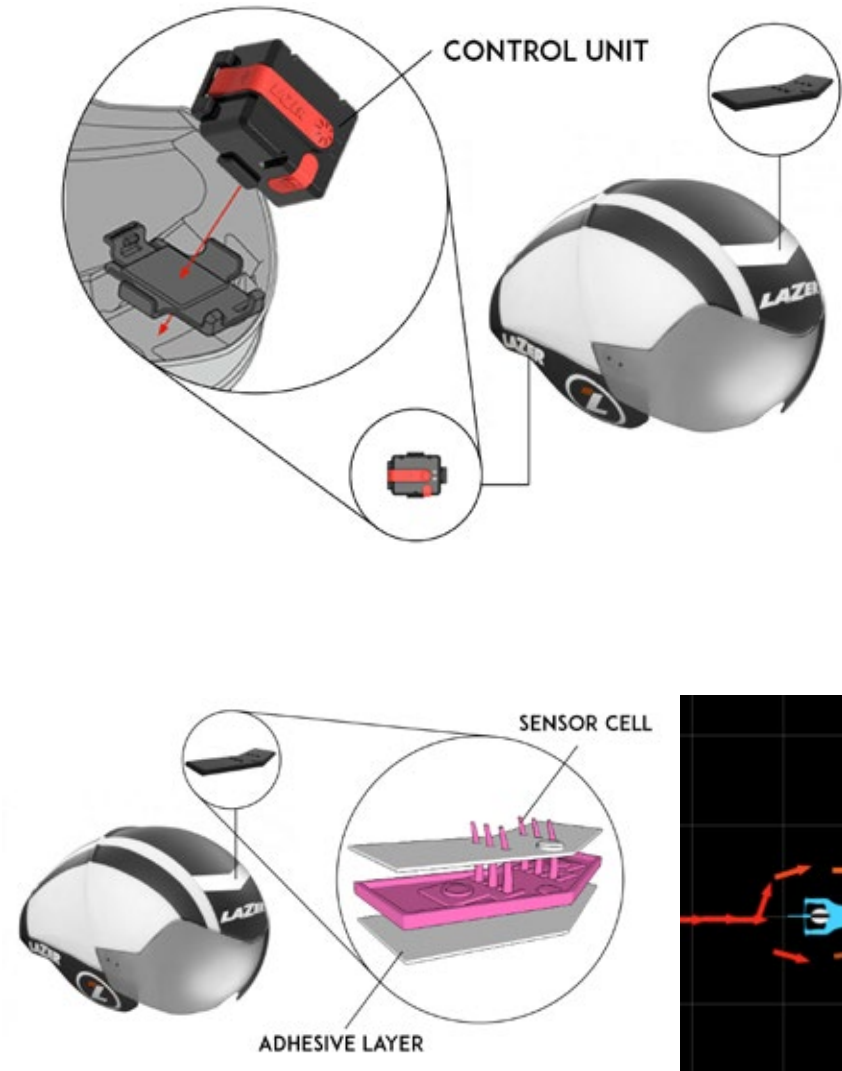
All too often, innovations in technology get caught up in the novelty of format, or seduced by efficiency gains. Real contextual and user needs are easily marginalized, leaving us with high-tech low-user experience outcomes. Reframing Technology aims to apply strategic design to technology innovation, framing and exploring new uses for technology while designing concise experience and benefits.



1 REEBRACE

Reebbrace is designed with a specific focus on knee injuries. Embedded in the inflatable air-cell encased within the brace, are SMART's micro sensors. They monitor precise movements and notify users when excessive rates of airflow are detected. Coupled with Reebok's unique pump technology, users can then inflate the air-cell, which tightens the brace and prevents the worsening of injuries. Reebbrace, giving you fitness and recovery at your own pace.

Alvina Yeo and Jervenne Teo



2 EXPLORING USAGE OF THE MICRO FLOW SENSOR

Wind drag management is essential in team cycling. Each cyclist blocks a percentage of wind for the cyclist behind him. Cyclists currently train this technique in an indoor wind tunnel, which is expensive and inaccurate. With the micro flow sensor, we can take the training outdoors. In our concept, each cyclist has a flow sensor on his helmet, calibrated with each other. When a cyclist is not experiencing the minimum wind drag possible (due to bad positioning), a device in the helmet vibrates to notify him. Hence, this concept increases the accuracy and lowering the cost of an otherwise inaccurate and expensive training method.

Hong Ling Yang and Wilmer Tay

Telemedical Device

PLATFORM LEADER
Axel Thallemer

TEACHING ASSISTANT
Bernhard Rogler

COLLABORATORS
Bernhard Wolf
Technical University of Munich
University of Paderborn

An analysis of telemedical products in the market was followed by a study of existing electronic modules' packaging. Students are tasked to design for a modular system and/or an "all-in-one solution" for a smartphone. The focus would be on ergonomics, communication of usage, tooling cost optimisation and rendering of the final design solutions. Non-invasive measurements taken are all-in-one go for systolic and diastolic blood pressure, pulse rate, oxygen saturation, skin conductivity and skin temperature that is via Bluetooth to scale the body mass index/weight, and in the future, blood sugar readings.



1 A non-invasive blood pressure measuring device that is specially designed to fit the Sony Xperia Arc S mobile phone. It consists of a polyester cotton screen protection that wraps around the mobile phone. It is an ambidextrous design which allows users of both right and left hand to take their blood pressure with. It has a rotatable sensor ring which can be rotated either to the left or right of the mobile phone. The base body is made of polycarbonate with an anti slip finishing. It is connected to the mobile phone via USB cable. Securing of the phone to the device is done via a magnetic end.

Lim Yong Kang



2 Designed to synchronise with any smart phone device, this portable finger blood pressure measuring device is powered by 2 AA batteries and connected to the smart phone via USB cable. The design of the form factor allows easy measurement of blood pressure through the index or ring finger. The entire casing is sealed to prevent dust from entering the delicate internal components. It is manufactured by injection moulding using ABS thermoplastic. The centre of the body has a rubber grip which makes it comfortable for the user and allows a better frictional grip when the user is taking his blood pressure.

Khng Tian Wei, Melvin



3 This finger blood pressure measuring device is specially designed to fit any smart phone device in the market. It consists of an attachment clip which attaches any smart phone to the blood pressure device. Blood pressure is taken via the ring sensor located at the base of the device when the user slides his finger through it. The shell is made of polycarbonate and is connected via USB port and Bluetooth. This device is powered by a lithium ion battery.

Loh Wen Bin Timothy



4 Specially designed to fit the Sony Xperia Arc S mobile phone, this finger blood pressure measuring device is inspired by the form factor of an ergonomic mouse. It allows users to wrap their palm around the top of the blood pressure device so that their blood pressure can be comfortably and accurately taken from the ring sensor around their finger. It is powered by 2 AA batteries and is made of ABS plastic. The surface of the device has a rubber coating to allow a better grip. It is connected to the phone via a USB cable.

Goh Jie Sheng

Form Storm

PLATFORM LEADER
Lee Tze Ming

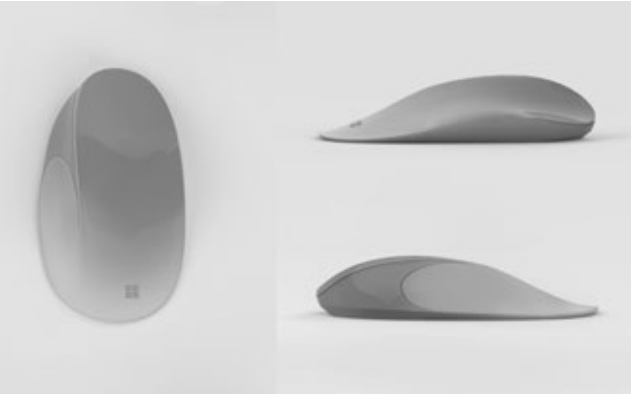
“Form storms.” Like brainstorming, bring a group of designers together to build sketch models quickly by hand. Students learn to be comfortable with 3D representation as a sketching tool, as well as a way of understanding form and construction through immediate tactile feedback. This, together with a rigorous, research-informed sketching process, grounds form, material and detail design decisions - making the storytelling of the product easier and more sensible.



1 FORM STUDY: DESIGNING A BUSINESS MOUSE

Current mice used for business purposes generally function well and are ergonomic. However they often feel cold and hard, lacking more approachable qualities. My objective is to design a business mouse with a soft look and feel for a more comfortable and delightful work experience. The design consists of a cushion palm rest as the focal point for comfort and user interaction, with an outer case of defined form and edges, displaying a hybrid between a welcoming spirit and professionalism.

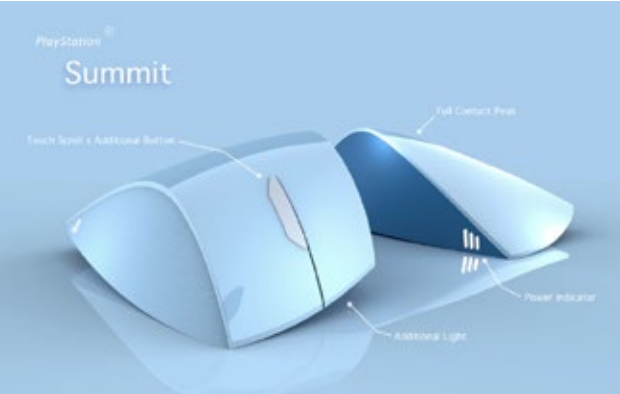
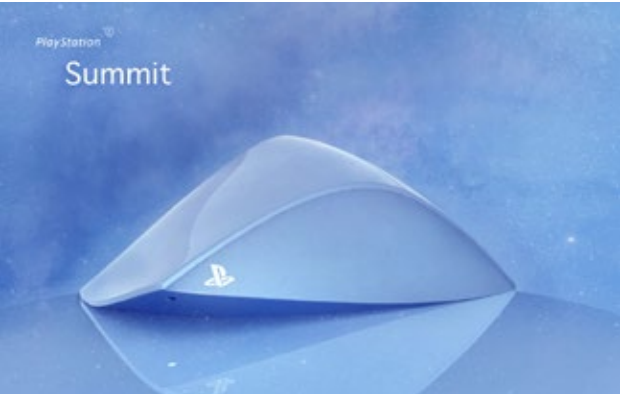
Christine Yap Ee Ling



2 MICROSOFT SURFACE TOUCH

Offering a different take on the traditional gaming mouse, Microsoft Surface Touch is a 'lazy' touch mouse for slow, exploratory gaming, built to facilitate immersion and indulgence rather than speed and efficiency. The languid contours and accommodating size of the mouse allow users to rest their hand comfortably, inducing a sense of laziness and inviting them to slow down and enjoy the exploratory gaming experience.

Ng Tse Pei



3 SUMMIT

Summit is a dreamy gaming mouse designed for Playstation that intends to suspend reality for its user by playing with the visual qualities of dreaminess. Focusing on two visual themes; dreaminess evoked by scooped volumes and sinuous surfaces and dreaminess being a warped, surreal perspective we went into the search for that form by 3D sketching different models. Summit stands tilted to the side with an asymmetrical profile and is gently lifted off the ground ready to enter the gaming world.

Mathilde Gaucher

Product Design

PLATFORM LEADER
Song Kee Hong

The objective is to revamp an existing product utilizing original key components. Students' designs need to address fundamental engineering and manufacturing requirements to understand integration with downstream process for mass production.



1 VODALUX

An elegant showpiece crafted with superior quality materials, Vodalux is a unique water air revitalizing system which uses antimicrobial concentrate to effectively neutralize harmful micro-organisms, thus improving the quality of air for healthy living. Utilizing a bulbous profile for high capacity, Vodalux is designed for the up market to provide quality air in vast indoor spaces.

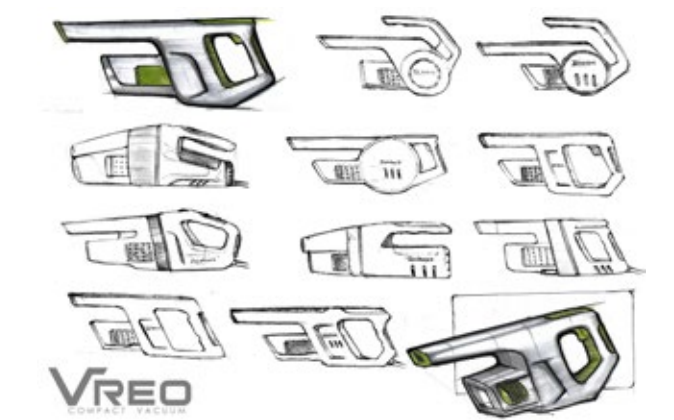
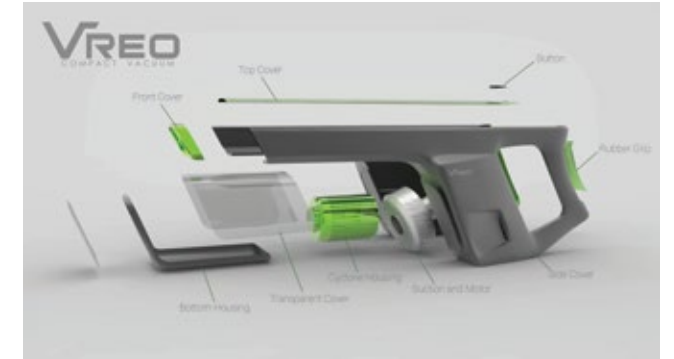
Ye Siling Jaycelyn



2 ONYX

Onyx is a gamepad built with a focus in keeping elements simple and elegant. The introduction of the control discs, replaces traditional protruding buttons, giving players improved comfort, and the Onyx, a seamless design. The toggles have also been refined for a more intuitive operation. When it comes to material choices, Onyx's design paves way to a diverse range of custom textiles, introducing a whole new dimension to your game.

Lum Jun Jie



3 VREO

Vreo compact handheld vacuum is inspired by the themes of minimalist, modern and conceptual. The idea behind this concept is to exclude the complex surfaces of the current designs by creating a clear, sleek and compact appearance for the overall look and feel. The design is lightweight with an ergonomically designed grip for the comfort of the user.

Goh Jie Sheng

Aperture: When Product Styling Is Not Frivolous

PLATFORM LEADER
Donn Koh

This platform, through the medium of designing a micro 4/3rds camera leads students through a self-learning journey of becoming comfortable and proficient with the tools and thinking necessary for making products aesthetically purposeful. It also aims to help students discover their own sensibilities and inclinations with regards to product aesthetics, to question whether one should stretch or stay within the bounds of personal preferences, and to dialogue with oneself on the limits and excesses of styling.



1 LUXO EDGE: THIN BUT UNYIELDING

LUXO Edge is designed for the "Aesthetes" - consumers that crave a level of aesthetic and form that is not offered by most photography brands. LUXO Edge is simple, ahead of time and uncommon. It is designed to look thin but unyielding from all angles with an elusive front plate and an angled back plate. Together, these two elements compose an illusion of an extremely slim camera with almost zero components behind it.

Fiona Tan Yi Yun



2 LUXO HYPER PRO II

The LUXO Hyper Pro II is a micro 4/3rds camera for the proficient yet reclusive user with a strong personal style of photography. The camera favours various analog controls for fine manual calibration for greater control over creative expression. The camera's form stays true to internal component layout resulting in an aesthetic that is mechanical, precise and efficient.

Samuel Woo



3 LUXO AUSTERE

The LUXO Austere was designed specifically to make micro 4/3rds cameras approachable for new learners, which is in direct contrast to the complex aesthetics found in other micro 4/3rds cameras of today. Through careful consideration of form and control interface details, the LUXO Austere manages to provide the same complex functions while still looking accessible and understandable.

Tsang Xian Ting Jonathan

Happy By Design

PLATFORM LEADER
Ash Yeo

User Experiences (UX) are valuably and essentially informed, by Designed Phenomenology. “Tacit experiences” can be described by a design process of filtering “Qualias” to capture natural phenomena, to inform creative, meaningful and responsible design narratives. Truly universal, well-intentioned designs, gives genuine aesthetic affectation. Such naturally immersive episodes create objects as carriers of genius loci, which in turns are intrinsically valuable, sustain living values becoming culture, in responding to contemporary cultures of throwaway obsolescence design.



1 MOOV!T

Moov!t is a creative play kit which provides children with the autonomy to engage in discovery play through modification and enhancement of movement. The unusual tactile feedback stimulates children to engage in spontaneous unbridled play, with natural opportunities for children to improvise further through highly engrossing and intuitive explorations. Charged with enlivening vitality and sense of liberation, Moov!t lets children’s creativity run wild!

Ng Tse Pei and Kwek Ai Ling



2 HAPS-TABLE

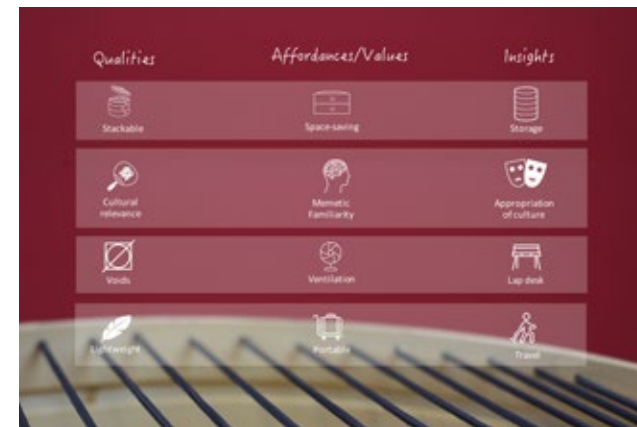
Endearing serendipitous discoveries, Haps-table immerses cafe readers with their own narrative stream of consciousness, to connect with other future revellers in absentia. Meaningful spirits are colourfully interlaced, the world made a less lonely place in faith, and with genial imaginations.

Khoo Yin Qi and Ho Pui Yng

Object Syntheses: Plays of Affordance & Confluence

PLATFORM LEADER
Ash Yeo

By Marcel Duchamp's "One does not create (objects), one designates (ideas)", students divine qualities of readymades translated to affordances, confluent with situations as users unfold natural narratives. Priorities are less with how "clever I, the designer," but authentic primacy of "User" and "Context." This competency humbles a designer who assures the users, insightful values necessary in sustainable designs.



1 THE READYMADE BY NATURE

Nature produces efficient readymades found in trees, its intrinsic materials and inherent form structures give solutions which once gleaned and in-sighted, are confluent with functional mass produced contemporary readymades. This finds a valuable key to sustainable design initiatives: that conceptual design processes, just lesser mental effort, can efficiently counter excess investments of production energies, translated as replicable program to produce highly meaningful objects.

Khng Tian Wei, Melvin

2 DIMSUM THREESUM

Dimsum Threesum is a combinatory play between contemporary furniture with Asian readymades. It's a hybrid system of occasional functions that are contextually adaptable and creatively engrossing. Gleaned values of stackability, low surface footprint and dense organizational affordances are design particularities of this series which allows room for imaginative play and interaction whether at home, in a corporate office, at a kindergarten or even in the outdoors.

Yong Zi Fong

3 FOREST OF SHELVES

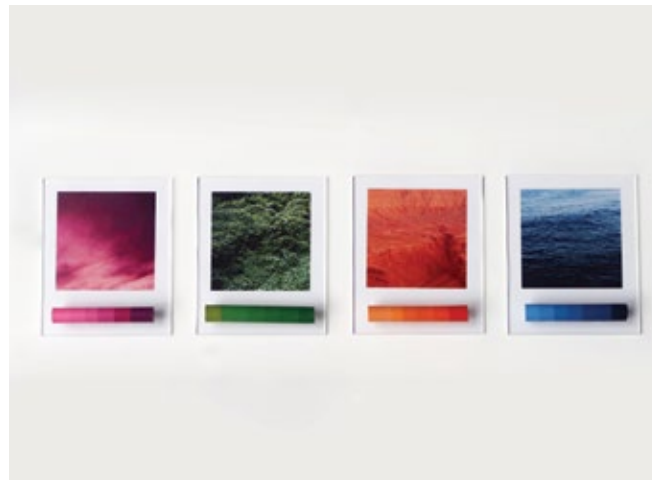
"Like tree like shelves; and forests like screens" is an analog extract off nature, which informs indoor living environments. This poetics forge a natural structural organisation of furniture systems, just as trees allow for spatial segregation and concealment. The gifts of trees, fostering new types of capacity, storage and privacies, in sum gives off fresh natural intuitive phenomena, ease of feel and intuitive interfaces, calling forth an aesthetic which is larger than the clever looks of its parts.

Yeo Kun Lin, Glenda

ProdArt

PLATFORM LEADER
Yong Jieyu

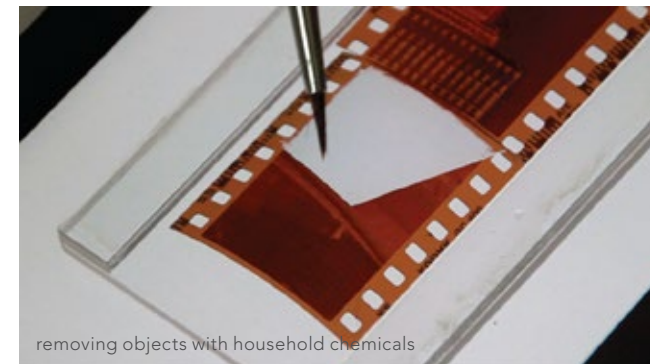
ProdArt is a reverse product design platform. Rather than to work towards a holistic design solution suitable for manufacturing, it focuses on emphasizing one particular aspect of the product. In this focus, we amplify or degrade, transforming ordinary products into emotional objects contextualized as artefacts of our thinking. Through this exercise, we get better at understanding a product, communicating a message, and designing for engagement.



1 CRAY/ON

We often find broken products a pity and cast them aside without hesitation. But there is beauty in being broken - if one sees beyond the surface and understands its inherent nature. *cray/on* was born by making use of the simple yet beautiful inherent properties of broken crayons - the ability to be melted, mixed, and cast. *cray/on* is not meant to be used, but to be appreciated and admired for its beauty, just like how one would towards a picturesque scenery.

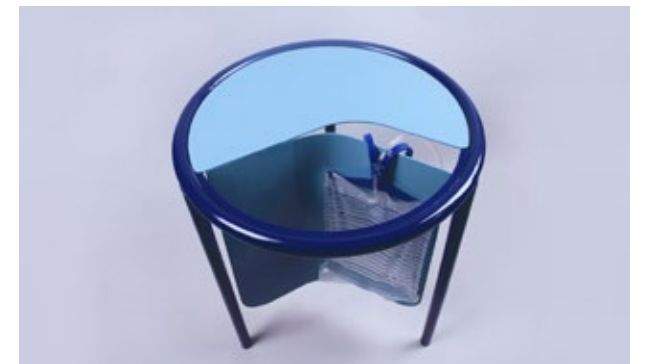
Ng Zi Ning



2 FILM IS CHEMICAL ART

Through the development of a process where household chemicals are used to directly induce changes on developed and unused film, a series of colour alterations, object deletions and filters were obtained. These results were used in the creation of collages. The project aims to communicate the artistic control offered by manipulating film through manual processes and the creative satisfaction of a physical end product. It also hopes to educate the uninitiated about the physical differences between film and digital photography.

Grace Ng



3 OBJECTIFYING URINE BAG

Upon looking deeper into how users live with a urine bag, I realised that the integration of urine bags into one's environment is often overlooked and disconnected. Urine bags often appear to be an exposed and unresolved fit into surroundings. Hence, to amplify the physically invasive nature of the bag, a furniture piece was designed to objectify the struggle of physical acceptance. For this product, privacy was re-established by giving users the choice to switch between revealing and concealing of the bag through the simple 360° rotation of the table top.

Magdalene Huang

Food Design

PLATFORM LEADER
Patrick Chia

How we taste and experience food is affected by everything around us. It is affected by the form and color of the food, lighting and the environment, the graphic of the packaging, the décor of the shop, the length of the queue and even the rhythm of the person preparing the food. In this studio, the students discovered that food design is the design of food, reference, memories, operations, space, branding, narrative and storytelling which all ultimately lead to the framing of transaction, which is the design of business.



1 BONJELLY

In this project, we wanted to magnify the childhood jelly experience – reimagining and recreating the sense of unbridled childlike joy ascribed to it. BonJelly is a series of lively jellies with different wobbling personalities where the different shapes of jellies would wobble in different ways. With a tweak in the design of the holder, customers are able to wobble it in any way they want to – even upside down! From the preparation of the jelly to delivering it into the hands of the customer, every part is well-crafted to facilitate this experience.

Eunice Er, Fong Sook Yin and Jervenne Teo



2 SIX

Have you ever tasted food with your eyes? In this project, we questioned how the eating experience would be like if we were to isolate our senses to just taste and colours when eating. Six is an outcome of multi-coloured hard candies where we do not reveal the actual flavours, allowing the users to run wild in their minds as they attempt to guess the flavours through just the colours and taste of the candies. From the store design to the handling of candies during packaging, every part was a well-thought process to ensure its one-of-a-kind experience.

Lai Jing Yi, Gabriel Lim and Lum Jun Jie



3 TARIK.

The team worked with Teh Tarik — a South-East Asian “pulled” milk tea beverage whereby the preparation is a dying trade — and designed a cohesive system to capitalise on the beverage’s unique qualities. A custom-designed “pulling” machine precisely and constantly produces the perfect drink with the best ingredients; and comprehensive branding, marketing, and spatial design gives the beverage a youthful breath of new life.

Seah Ying Xin, Josh Ho and Yeo Ai Yuan Kevin

Eyewear Studio

PLATFORM LEADER
Patrick Chia

COLLABORATORS
Kwang Meng Co Ltd
Visual Mass Inc.

A pair of glasses is both a fashion accessory and a medical device. In this studio, students learnt how to design a proper pair of good fitting eyewear. They conducted research on current market trends in design and business models. They learnt about the current manufacturing process and materials employed by the industry. Finally, they designed a business and a brand distilled in a collection of eyewear.



1 LOOP

LOOP is a spectacle series designed for kids. As decision-making is often left to the parents, LOOP aims to change that by giving kids the freedom to pick, choose and decide. Each pair comes with a base frame, and an endless variety of attachments to switch around and select from. Acetate, the material for LOOP's frames, promises strength and flexibility for the wearer, allowing kids to explore and express themselves more freely and uniquely.

Poh Yun Ru



2 SERIF

Form conveys feeling. Broad, even strokes convey assertiveness. Sinuous, undulating strokes convey gentleness. Serif is a series of eyewear that distills the essential visual features of iconic typefaces such as Times New Roman, Rockwell and Bembo, translating them into distinct frame designs.

Maggie Seah



3 KYE-EYI-KAYE

KYE-EYI-KAYE's base kit provides two lens combinations tailored to both high and low nose-bridges. Along with clip-on accessories, KYE-EYI-KAYE hopes to bring its user a personal collection of interchangeable eyeweares to suit their ever-changing states, at different time.

Ngieng Jia'en

Akan Datang – New Southeast Asian Lifestyle Products

PLATFORM LEADER
Hunn Wai / Lanzavecchia + Wai
Design Studio

The Italo-Singaporean design studio Lanzavecchia + Wai, having one foot in Europe and one foot in Singapore, has always been fascinated with Southeast Asia; her cultures, her idiosyncrasies, her vibrancy, her energy, her colours, symbols and patterns, her rich smorgasbord of flavours, scents and visuality. Desktop accessories, home ambience products, to soft carry goods, to daily tools were all explored potential typologies to channel New Southeast Asian narratives into commercially-viable products for B2C as well as B2B in international and domestic markets. This platform also emphasized on the Art-Direction of each project's Marketing & Communication photo-and-videography, as a key component.



1 HERDS & FLOCKS

Herds & Flocks is a New Southeast Asian collection that focuses on the tropical animals and materials found within the region to raise awareness on its risk of extinction. Kuat stationery-ware is made out of wood specific to the region shaped to the silhouettes of animals from Southeast Asia. Bulu hooks are modular pieces of metal shaped and painted similar to the feathers of the Jambu Fruit Dove. The collection boasts low-cost manufacturing and modular design to encourage increased buyer-ship.

Anthony Yu Wei Tong and Ee Jun, Esli



2 ODDS AND ENDS, LIT

Odds & Ends is a family of containers for storing miscellaneous items at home. Inspired by the terraced paddy fields iconic of South East Asian landscapes, these containers come with lids in a range of rich hues characteristic of the vibrant region. Lit is a sculptural tealight holder designed for the flame to fill the space within. Inspired by the silhouette of Asian sky lanterns, these holders are a miniature, portable version designed for everyday use.

Edmund Zhang and Fong Sook Yin



3 MEN & MOO, DISTRICT BLOCKS

Men & Moo and District Blocks are lifestyle products inspired by the New Southeast Asia landscape. Designed after the iconic rice terrace fields of Vietnam and its farmers, Men & Moo is a set of push pins that can sit comfortably on its cork cover, or inside its glass container. District Blocks is a set of wooden blocks for the coffee table, inspired by the towns and cities of Singapore.

Tan Sei Yee and Ho Pui Yng

one's trash, another's treasure.

PLATFORM LEADER
Hans Tan

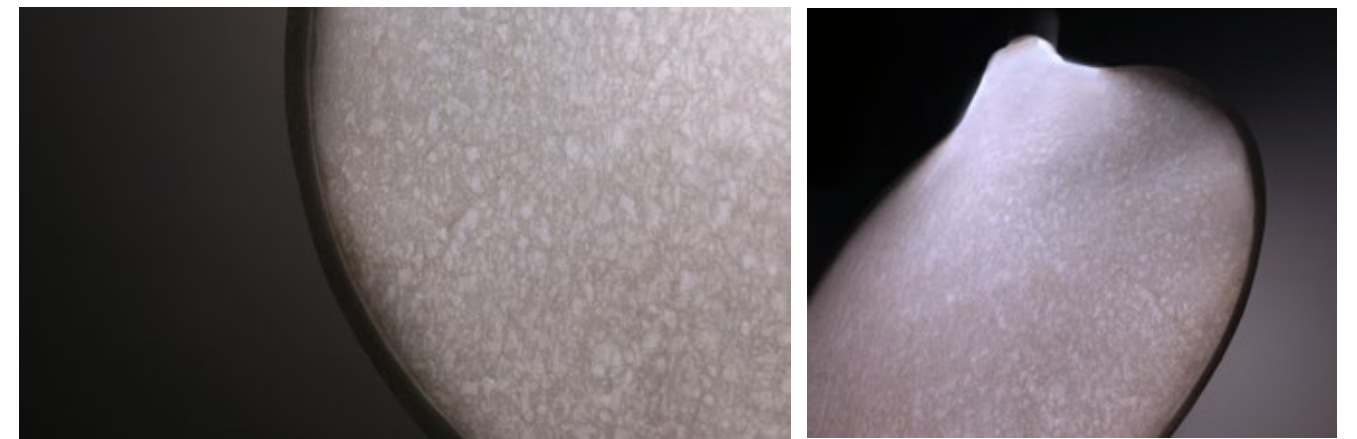
This platform proposes a context for artisanal crafting in the context of industrial production. By observing the inefficiencies of production processes as designers we have both the responsibility and skill to identify opportunities for superfluous materials that often bear traces of the original production process. Students were tasked to identify a by-product material from an existing manufacturing or fabrication process to work with, leveraging on its inherent properties to design a process that transforms the material into a fitting product.



1 KAMI NO ISHI

Kami No Ishi, or “paper stone” in Japanese, is the intersection between marble powder from a stonecutting factory and paper off-cuts from an industrial printing facility. These two materials in combination unite the beautiful texture and structural rigidity of stone with the dynamic colors and translucency of paper. Taking inspiration from traditional Japanese papermaking and pottery, the collection of lampshades and tabletop objects with minimalistic banded designs and clean forms embrace the composite material’s varied properties.

Khoo Hui Ting, Justin Andrew Horst and Soo Woei Perng



2 LUNAR

Leveraging on the usage of discarded industrial cling wrap, Lunar is a series of light vessels that preserves the crinkled texture naturally created during the packaging process. Individual sheets of cling wrap are carefully layered and heat compressed in an industrial oven, whereupon they are shaped and ironed to seal the edges together. In doing so, this creates a sensuous silhouette that illuminates the material’s lightness and transformation.

Chiam Yong Sheng Kevin and Jon Chan Hao

Designing with Textiles

PLATFORM LEADER
Gabriel Tan

COLLABORATOR
Kvadrat

This platform was developed as a hands on module where students began working with the sewing machine and textiles right from the first week, and classes consisted of upholstery factory and furniture store visits, as well as meeting with Kvadrat at their flagship store to learn more about the company, their history and products. Students initially developed their skills and confidence with the sewing machine through a mini project where they were tasked to make a non-functional fabric sculpture. They then formed groups to research around a common group topic, from which each student eventually developed their own product made using Kvadrat textiles.



1 PERSONAS

personas is a collection of accent pieces formed by the amalgamation of natural materials with fabrics from Kvadrat. Palm leaves are cross-weaved, layered with Kvadrat fabrics, then strategically bent to form functional volumes. The juxtaposition is a grand fusion — natural materials with fabrics, sculptural and functional, Scandinavian and South-East Asian, and harmonious yet distinctive. Together, they suggest a new typology for the living and dining table with their quirky and unexpected forms.

Josh Ho



2 DEVOUR

DEVOUR presents an intersection between raw Southeast Asian craft, and mass-produced Scandinavian textiles. Palm leaves from a plantation are hand-processed using traditional rope-making techniques, interwoven with acrylic yarn, and strung into a hyperbolic lattice. The acrylic frame is made with more industrial materials and methods. The form of the lamp bodies and woven rope are reminiscent of a traditional Asian aesthetic, but are juxtaposed against modern pop colors to create a dialogue between dichotomous cultures, materials, and techniques.

Julia Lee



3 SOLSTICE

The cuts on the lamp follow the texture of the fabric, highlighting and enhancing the direction of the curves. Adjustable height and direction allows the user to interact with the lamp in more than one way - push, pull, twist or a combination. This allows the user to customize the glow to soften their home space.

Valerie Koh

Launchpad

PLATFORM LEADER
Donn Koh

Launchpad brings students through the opportunity identification and validation process to create a market-ready idea that could be crowdfunded. The projects are developed with production-ready finish and detailing and launched for crowdfunding to assess the real market performance of the product. The best teams finish the 13-week course with a product on the market, a pool of pre-order customers, and a handsome profit to further their business.



1 QUOTIDIAN

Coined as the World's First Magnetic Propulsion Pen, with a unique and never-seen before magnetic mechanism that uses the strong attraction and repelling forces of Neodymium magnets to unlock the pen nib, the Quotidian Pen changes the way one uses and fidgets with a pen. Made from precision-machined metal and offered in aircraft-grade aluminium and solid brass, this project raised more than \$71,000 in pre-sales on Kickstarter. They have successfully spun off as a new brand on the market.

Tay Ze Jun Wilmer, Chui Pak Ho and Yong Zi Fong



2 KIN

We've all experienced the pains of holding up the queue while fumbling with change. KIN is an elegant solution to this everyday dilemma. Both notes and coins are inserted from the top, and the coins sorted is easily retrieved from the pocket on the side. KIN is no ordinary bifold - it is beautiful and stylish as it is functional. Till date, KIN has received international and local coverage from HYPEBEAST, The Independent, Core77, TABI LABO, The Straits Times, and many more.

Lim Li Xue, Cheryl Ho and Ng Ai Ling

Design Fundamentals

In the first 2 semesters of Design Fundamentals, students acquire fundamental knowledge, skills and aptitudes in industrial design. This is achieved through a succession of small-scaled design exercises that focus on specific areas of learning in detail.

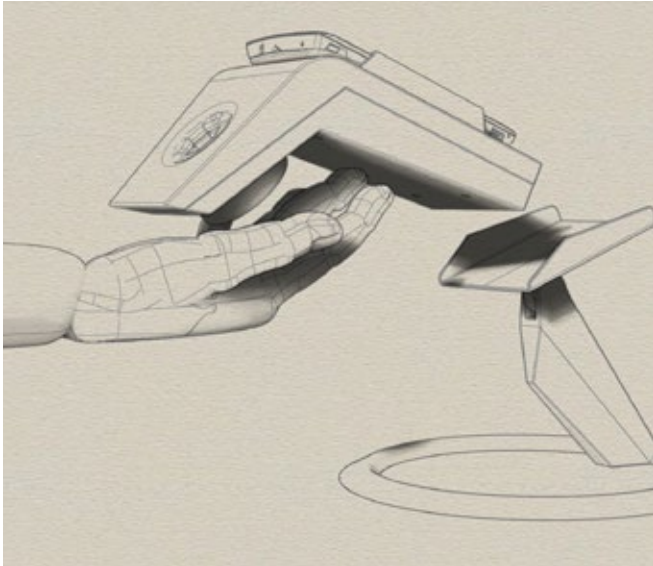
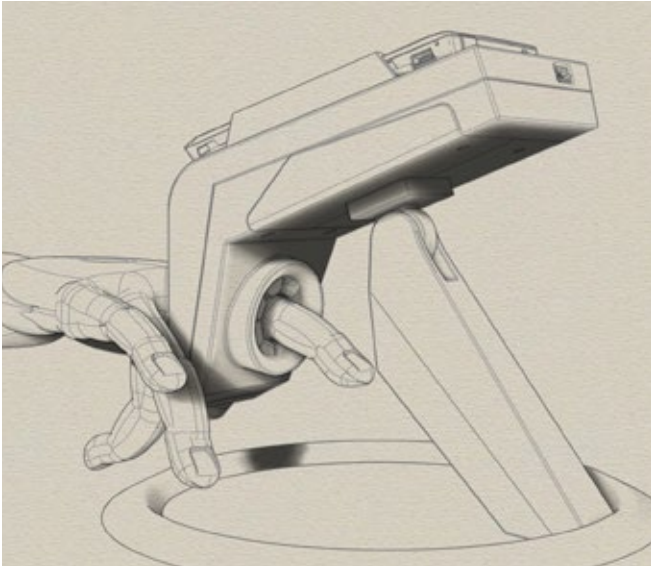
Design Process

PLATFORM LEADER
Axel Thallemer

TEACHING ASSISTANT
Bernhard Rogler

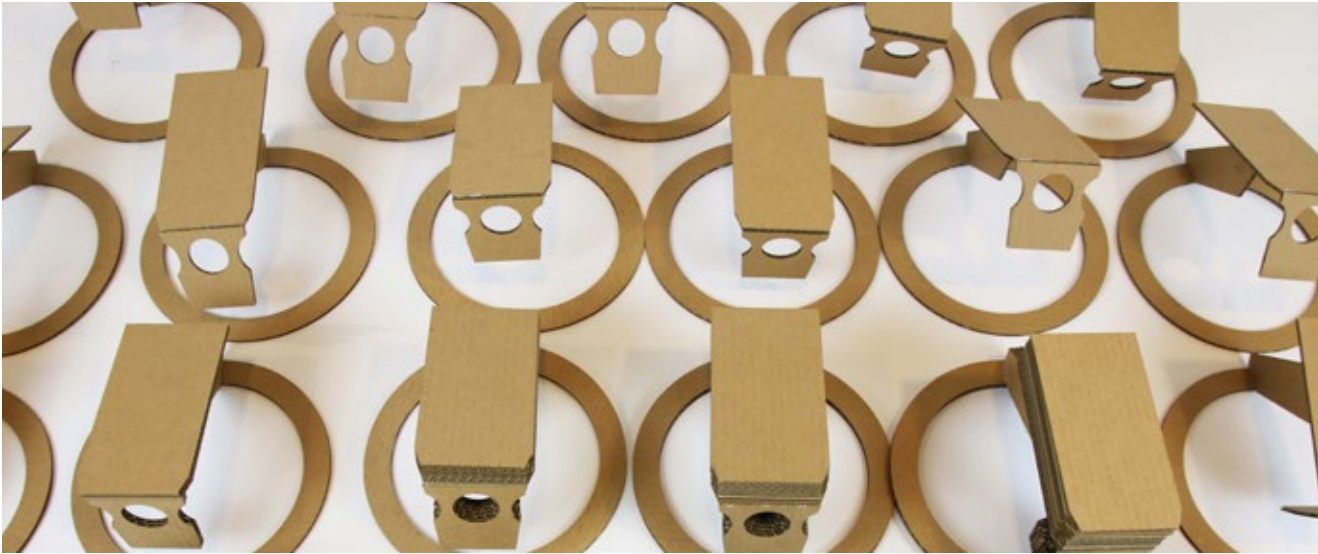
STUDENT
Yeo Ren Jie

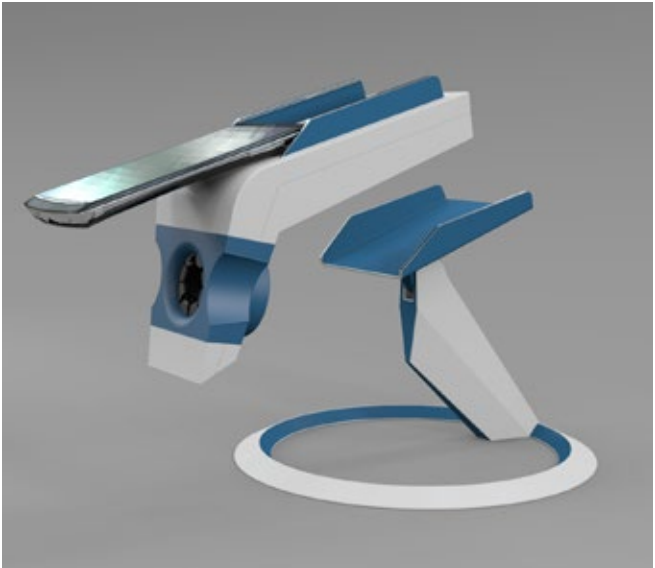
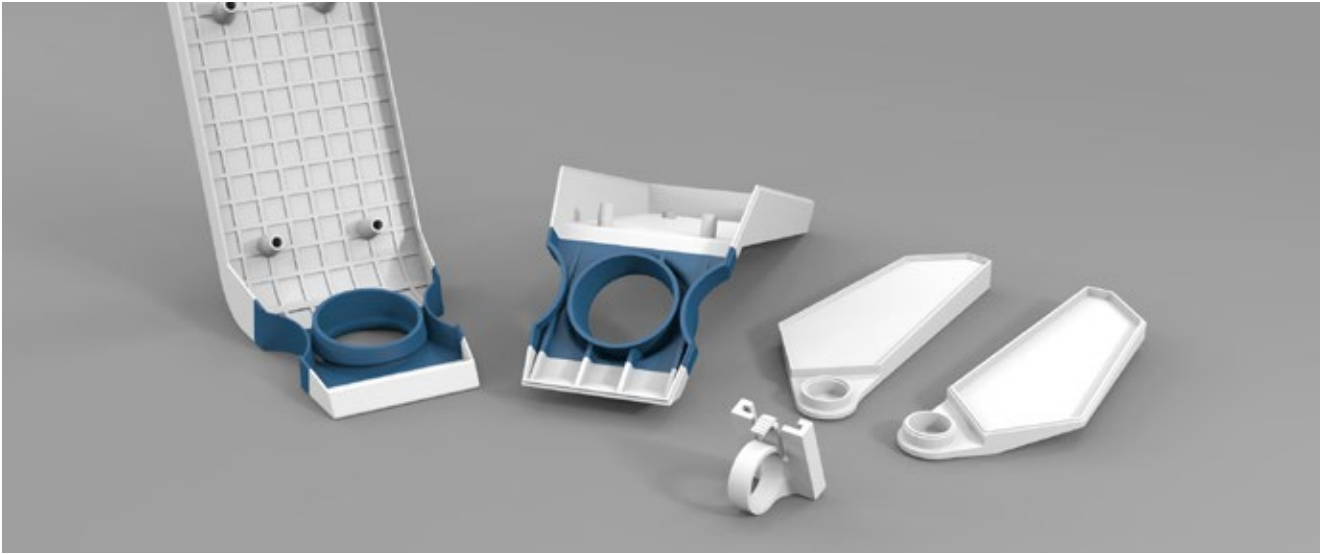
The design process started with many ideation sketches after researching on exisiting competitor products in the market. Aside from aesthetics and ergonomics consideration, manufacturing techniques like draft angles were also taken into consideration. The final design was 3D printed and an in-depth user testing was performed in a hospital setting. The following explains the entire design process that the student went through.



MODEL PROTOTYPING

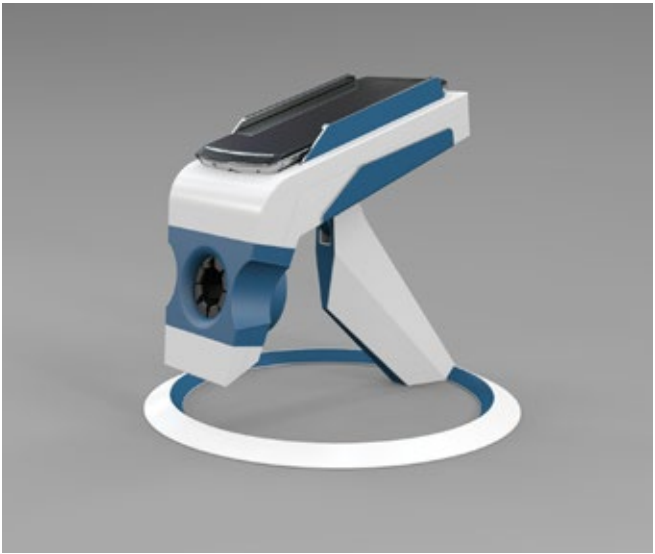
A total of 52 test models were done in order to determine the best angle of tilt and thickness of the finger blood pressure monitoring device. It was tested over 12 test subjects and was concluded that 110° would be the best angle of tilt.

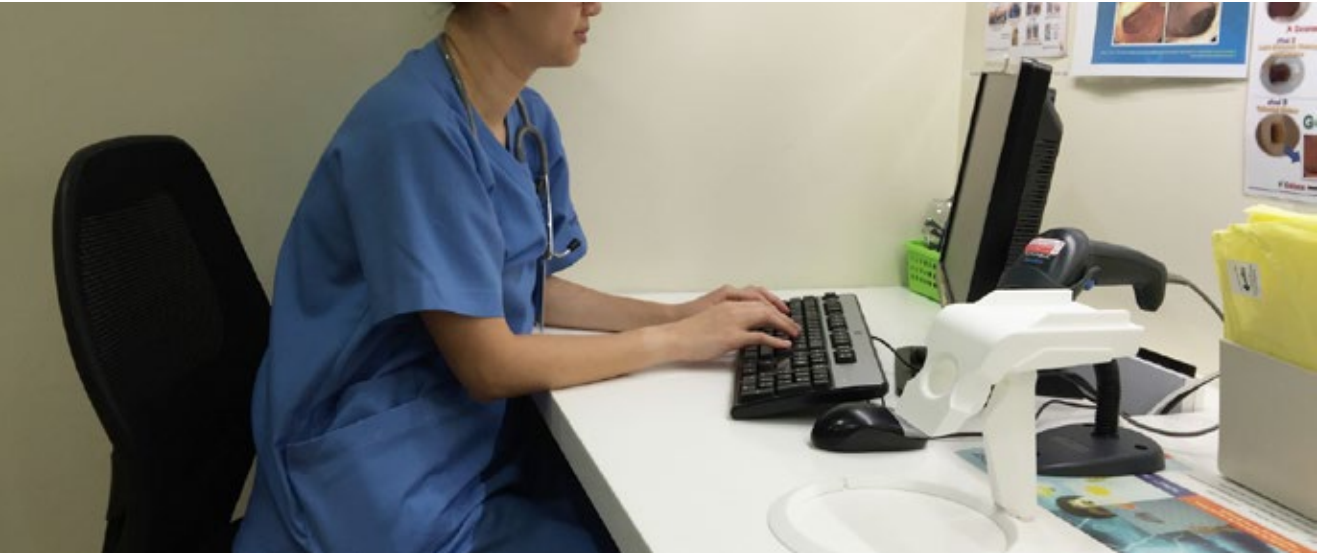




CONCEPT REFINEMENT

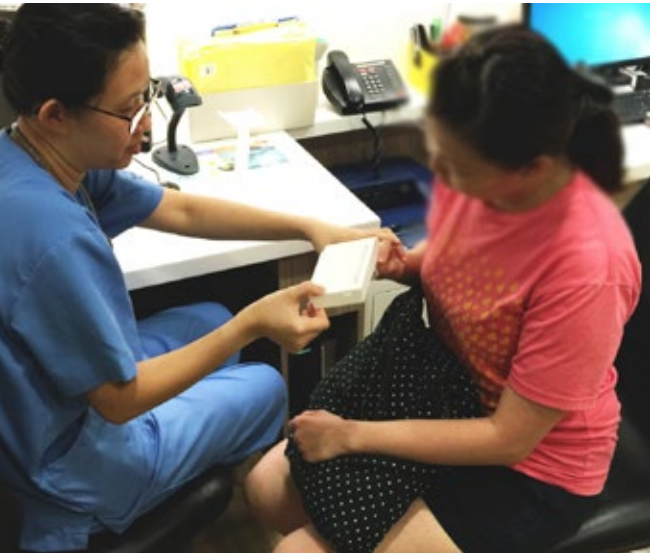
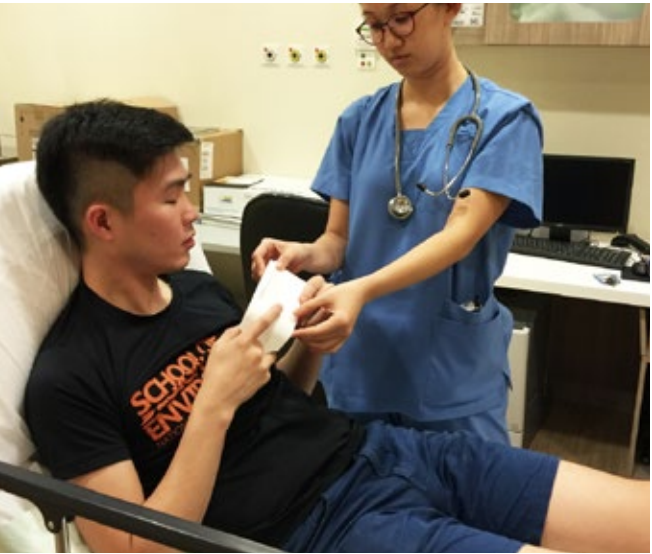
Next, further iterative designs were conceptualized to improve the overall aesthetics and ergonomics of the product. Choice of materials and colour palate were also ideated. Aside from aesthetics and ergonomics consideration, manufacturing techniques like draft angles, plastic ribbing, connectors and co-injection molding issues were also taken into consideration.





USER TESTING

The final design was 3D printed to ensure that its draft angles and scale are in proportion. An in-depth user testing was performed in the hospital. Through observations, user testing, interviews and role playing, further feedback was gathered to improve the desirability and feasibility of the blood pressure device.

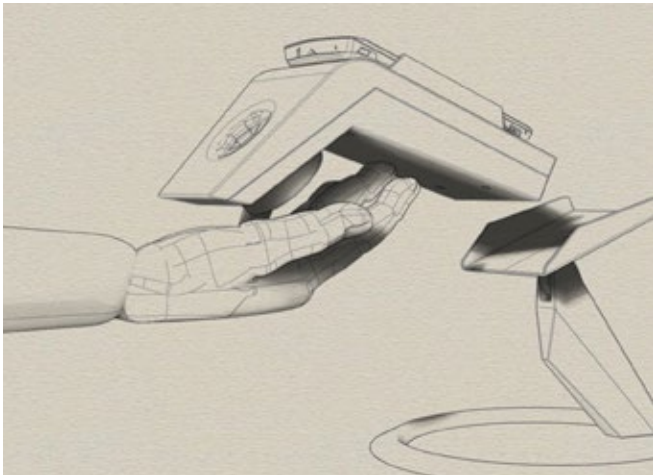
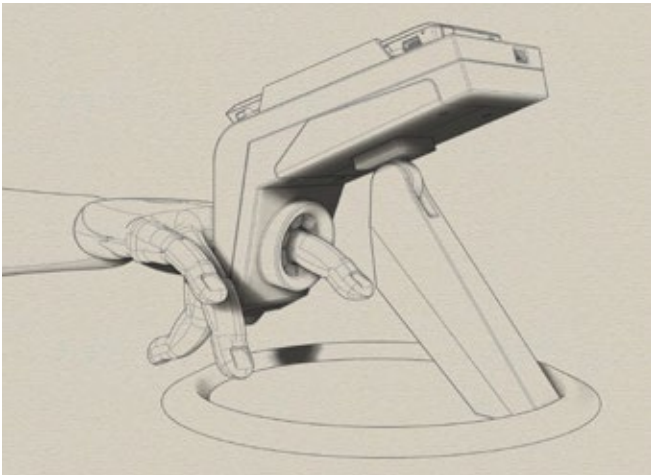


Design Process

PLATFORM LEADER
Axel Thallemer

STUDENT
Yeo Ren Jie

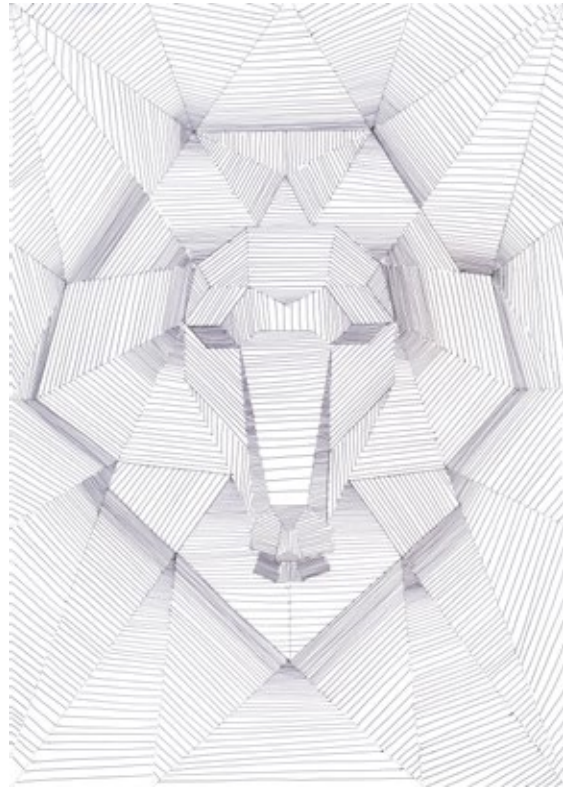
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Design Sketching

MODULE LEADER
Vincent Leow

From how to draw straight lines without the use of rulers, to drawing complex 3D forms in perspective, students learn the skills to draw anything from their imagination with ease, speed and confidence.

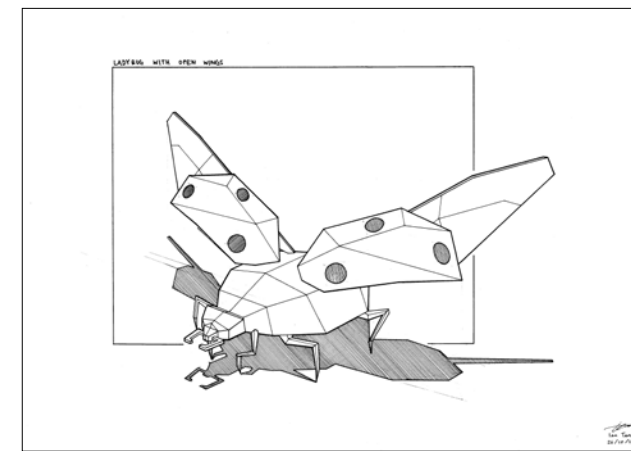
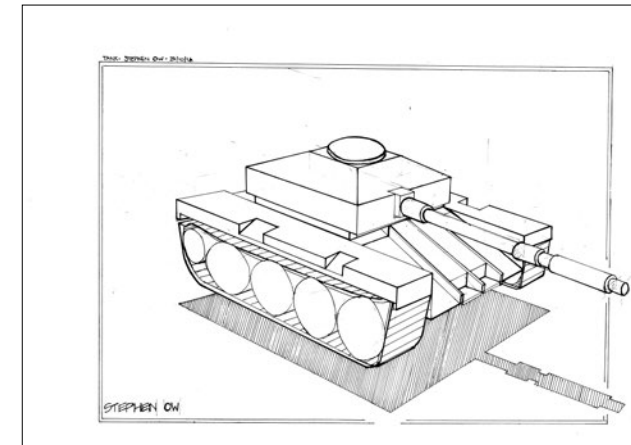


1 STRAIGHT LINES

How to consistently draw perfectly straight lines freehand, using just a pen: No ruler, no pencil, no erasing allowed. Students also learn two important traits of being a good designer – focus and discipline.

Left: Stacey Yip

Right: Sheryl Ang



2 DRAW THROUGH

The concept of “draw through” is introduced to help students “think in 3D” by “seeing through” things. With that, they can draw any object or scene from any view or angle.

Top: Stephen Ow

Bottom: Ian Tan



3 DIGITAL SKETCHING AND PAINTING

The beginner's guide to sketching and painting in Photoshop, using a tablet. Students learn to wield a stylus instead of a pen to bring their sketches and visual storytelling to another level.

Top: Ng Senn Wee, Sherwin

Bottom: Zhang Hanwen

Modelling for Design

MODULE LEADER
Jason Ong

This module introduces basic model-making techniques using various material and hands-on processes. The various workshops incorporate fundamental form studies through a series of iterations and refinements. In the process, students develop value judgement while resolving multiple design elements. In addition to the understanding of material properties, the course aims to cultivate an appreciation for precision and finishing.



1 PLANAR MODEL WITH WOOD VENEER

This workshop attempts to transform a 2D veneer sheet into a 3D object with compound curves. Students are introduced to the basic processes of moulding and extracting an object, while understanding the possibilities and limitations the material provides. This appreciation for material properties includes the attention to details such as cuts, joints and wood grain direction.

Left: Ian Tan

Right: Zhang Hanwen



2 CONVEX MODEL WITH CLAY

Multiple contrasting components are synthesized in this workshop to create an unified organic form. Students are acquainted with the fundamentals of design such as scale, proportion, axis, surface tension, balance and contrast. With this awareness, aesthetic judgement is exercised when manipulating these elements through numerous developments.

Top: Matthew Soon

Bottom: Ysanne Yeo



3 CONCAVE MODEL WITH FOAM

This workshop calls for a geometrical form with concave surfaces to be executed in foam. Emphases are placed on the transition of surfaces as well as the repetition of parts to assess the precision of model-making. This involves proper process planning and setting up in order to ensure accuracy and good finishing.

Top: Zhang Hanwen

Bottom: Ian Tan

Anamorphic Permutation in 3D design

MODULE LEADER
Axel Thallemer

TEACHING ASSISTANT
Aleksandar Kostadinov

Students are tasked to analyse well-designed industrial products and identify the distinctive features that lend a product its form and function. By distorting and altering the defining characteristics, a new form is derived — a form which is void of meaning, symmetry, or associations with any organic or technoid structures. This exercise teaches the students to break out of their comfort zone to achieve an unconventional solution.



1 Clifford Chew



2 Nguyen Thi Hoang Anh



3 Ng Senn Wee, Sherwin

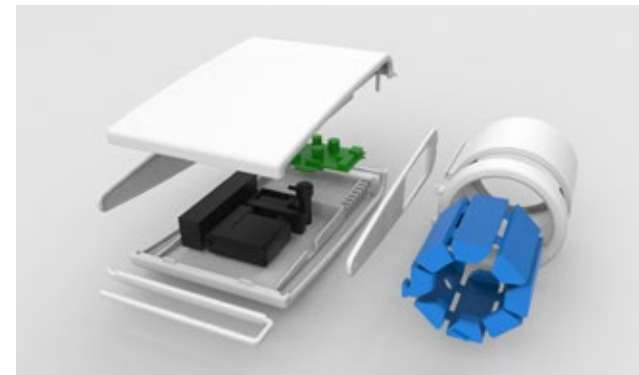
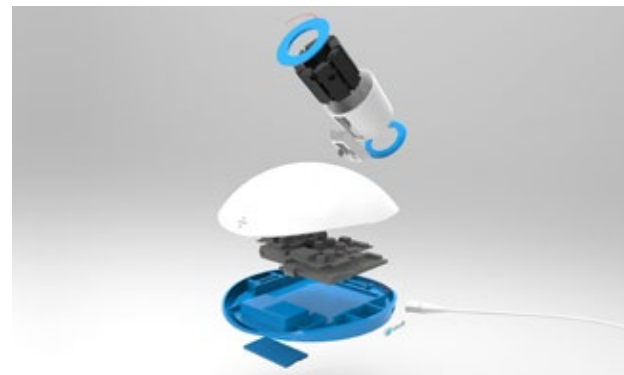
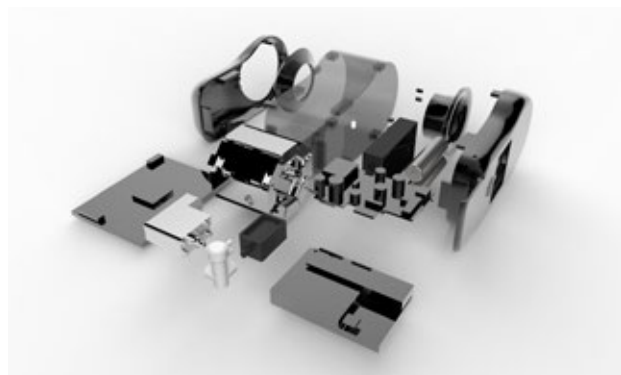
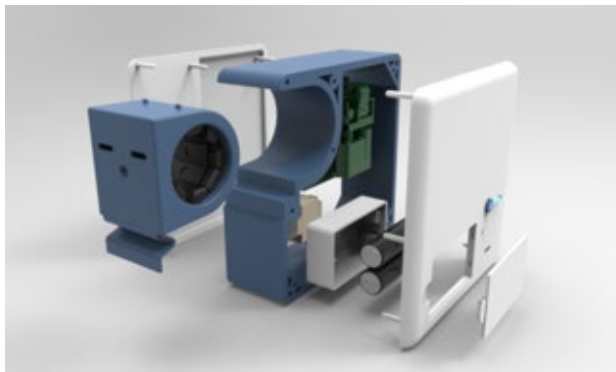


4 Zhang Hanwen

Computer Aided Industrial Design

MODULE LEADER
Martin Danzer

The aim of this exercise is to understand industrial design as an integrated product development process from digital design concept to fabrication. Students are tasked to create objects and critically analyse them for further prototyping and manufacturing. Based on manufacturing requirements and material specification, each design concept was specifically tailored for the various manufacturing methods.



EXTRUSION

The manufacturing method of extruding is ideal for design concepts with sharp edges, complex cross sections, uniform wall thickness and inner walls and ribs.

Top: Natalie Mae Tan Sze Ying, Ngieng Jia'en and Jonathan Tsang Xian Ting, based on design concept by Emma Constantino Axtell

Bottom: Alison Wong Li En and Lim Rui Ying Priscillia, based on design concept by Weng Yixiang

INJECTION MOULDING

To develop a design object for injection moulding, parting lines and draft angles have to be applied (depending on material and surface roughness, step rims, snap mechanism as well as ribs and gussets) while the CAID parts shall have consistent wall thickness and minimal undercuts.

Top: Lee Ying Hui Julia, Hansel Wong Chen Han and Maggie Madelaine Seah, based on design concept by Alvina Yeo Jin Li

Bottom: Sheryl Teng Swee Sim and Valerie Koh Hui Le, based on design concept by Jon Chan and Brandon Cheng

CNC MILLING

CNC milling allows the prototyping of curved or complex organic objects with minimal undercuts. The objects require high quality surfaces, as any flaws and inconsistencies will be seen. CNC milling can also create negative moulds for injection moulding, with the dies being milled from steel or high-performance aluminum alloys.

Top: Leung Jia Jun, Lin Quixia, Philip Chen Qiyuan, Rachel Chan Hui Ying, Nghiem Si Phuoc and Yang Xihui, based on design concept by Fabian Ong

Bottom: Leung Jia Jun, Lin Quixia, Philip Chen Qiyuan, Rachel Chan Hui Ying, Nghiem Si Phuoc and Yang Xihui, based on design concept by Tan Si Wei Brandon

ADDITIVE MANUFACTURING

Highly complex objects with internally intricate 3D lattice structures or ribs and gussets, can only be produced via additive manufacturing. Due to the layer adding process, the final prototypes may show significant aliasing while support structures will be necessary during the building process. However, this fabrication method is highly regarded as manufacturing process of the future.

Top: Kwek Ai Ling and Lim Cai Jin, based on design concept by Goh Jie Sheng

Bottom: Ye Siling Jacelyn, Huang Min Xian and Kevin Yeo Ai Yuan, based on design concept by Lim Yong Kang

Design Research and Process

MODULE LEADER
Song Kee Hong

TEACHING ASSISTANT
Timothy Hoo

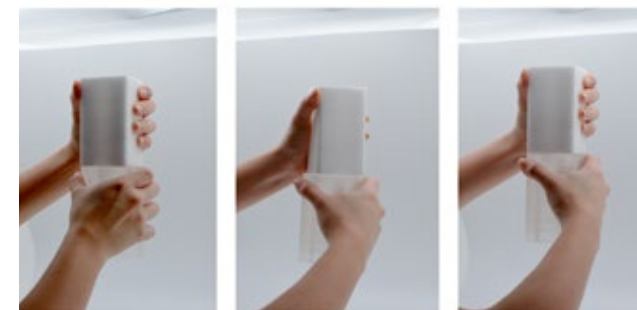
The aim of this module is to understand how design process and research methods can enhance the effectiveness of design outcomes. This allows students to experience how these methods can help unveil user insights and latent needs during the design process to address key issues and improve user experience.



1 HAIRDRYER FOR PROFESSIONAL SALONS

In collaboration with Toni & Guy Hair Dressing Salon, a detailed in-depth research was performed at the salon to help design a hairdryer for their company. Through observation, interviewing and role play, insights were translated into the hairdryer design. The design objective was to design a high end hairdryer for professional use. It must be ergonomic and user friendly. It has 3 key features: intuitive button control, good organisation of accessories and excellent aesthetics that is focused around excellent human centered design.

Yeo Ren Jie, Ellvixson Yap and Nguyen Trong Hieu



2 TOGIWA FOOD WARMER

Reframing the mechanism of a humble hairdryer into the kitchen, TOGIWA Food Warmer is a redesigned food cover that heats up food and keep your meal warm with no hassle. Inspired by familiar actions in the kitchen space, it can be activated with an intuitive twist, similar to the nuances of a pepper shaker. TOGIWA Food Warmer is a portable handheld kitchenware device that blends seamlessly and harmoniously into the household, bringing warmth into your home.

Chen Han and Yong Zi Fong



3 HAIRDRYERS FOR CHILDREN

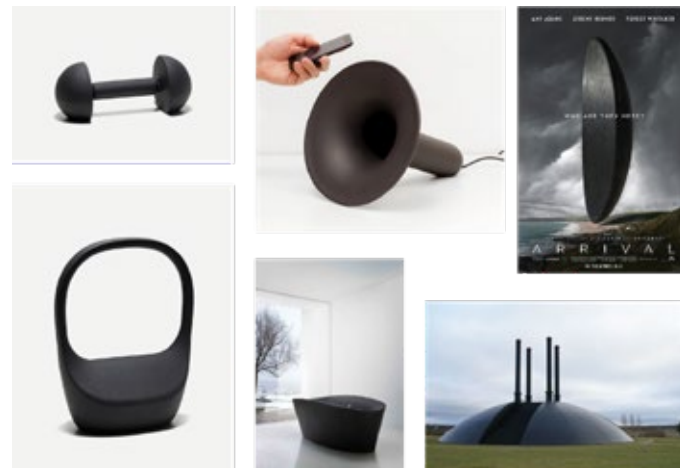
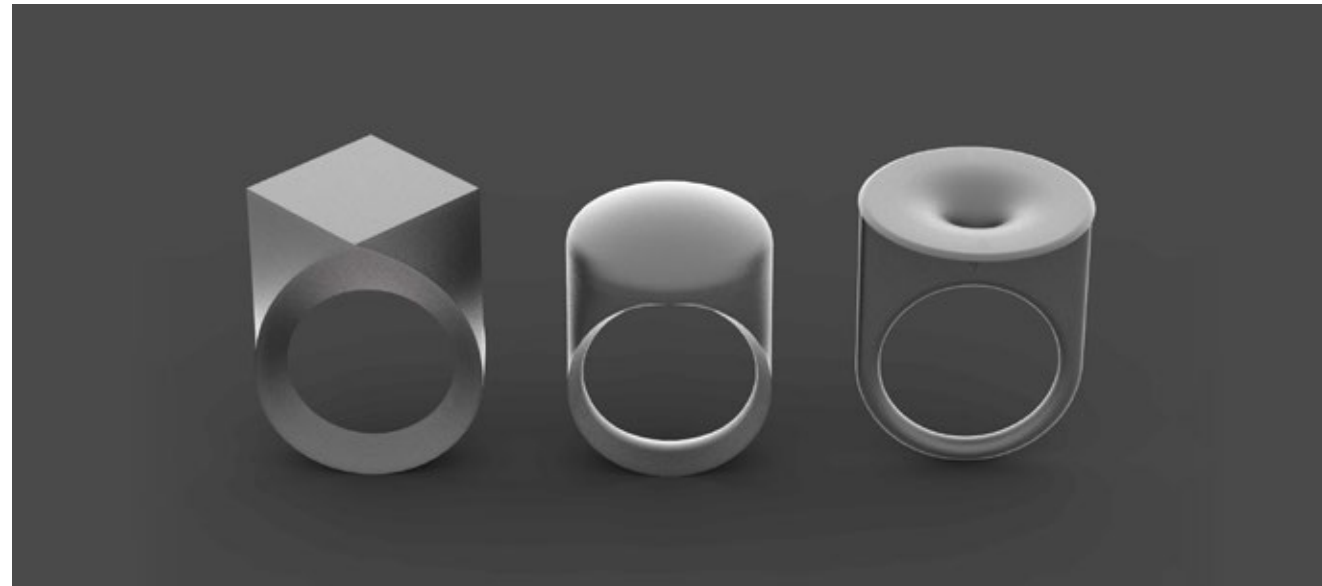
Targeting children 6 to 12 years old, Piri, Vorto and Caterpillar is a series of brightly coloured hairdryers that combines practicality with a twist of quirkiness. Prioritising safety and usability, these hairdryers feature rounded shape bodies with no sharp edges and they tap on cordless charging. They are also lightweight, ergonomically friendly and highly portable, making them suitable for children's usage.

Koh Xiao Jie Felicia, Kwek Ai Ling and Julia Lee

Fashion Accessories

MODULE LEADER
Patrick Chia

In this exercise, the students are tasked to create a collection of fashion accessories through the process of scanning, editing, extracting, visualizing and translating visual reference. The project aims to develop the students' awareness of the current trends and their visual sensitivity, build up their visual vocabulary and their ability to develop design quickly by referencing, editing and translating.



1 RINGS OF DESTINY

The Rings of Destiny explores how additive manufacturing is changing the creative process. Many iterations, both digital and physical, had to be done to explore the many avenues this new workflow enables. Throughout the project, any tweak could yield subtly different results, but this is the control and power held by designers today.

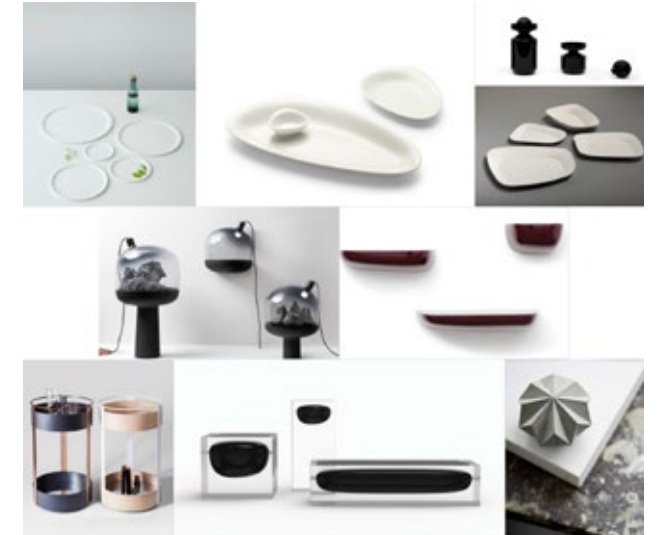
Chew Ming Kai Clifford



2 MM ACCESSORY NAMES: MASSHIRO, MAKURO

MM challenges the limits of additive fabrication in accessory making. Masshiro (pure white) and Makkuro (pure black) each comprising of 1mm width rods that gather to a semi-ellipsoid centre - a design that finds balance between form complexity and material simplicity to achieve utmost delicacy.

Ysanne Yeo



3 PEBBLE

Pebble is a collection of four pieces, two for women and two for men. Using a semi-ellipsoid-ovoid form as an initial reference, a systematic exploration is undertaken of a range of first, proportions, then of scales, and finally, of combinations and arrangements. A final series of one (pendant), two (ring), three (boutonniere), and four (cufflinks) formal components is derived as a result.

Yap Chuin Houi

Design Process

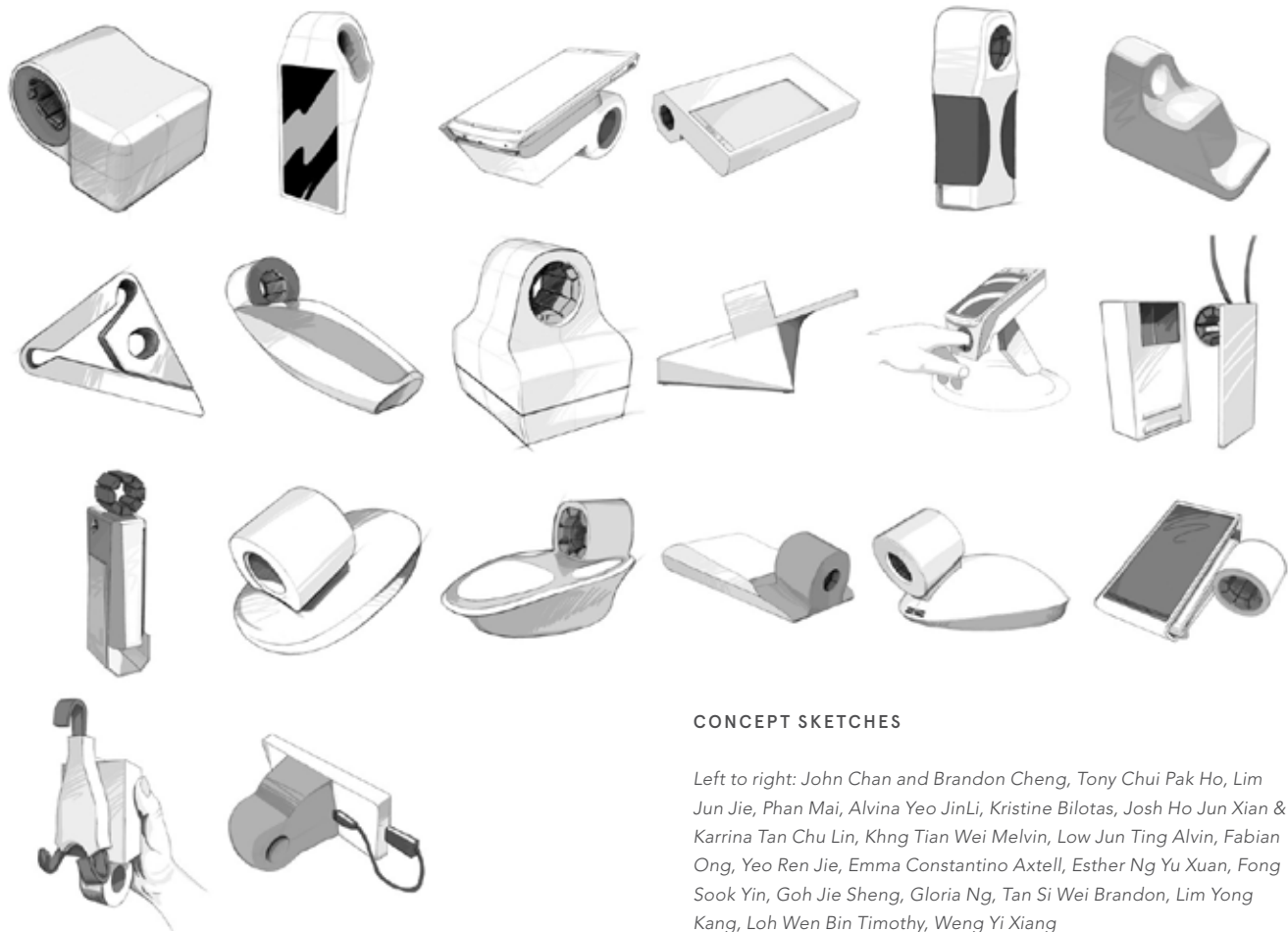
Design Process

PLATFORM LEADER
Axel Thallemer

TEACHING ASSISTANT
Bernhard Rogler

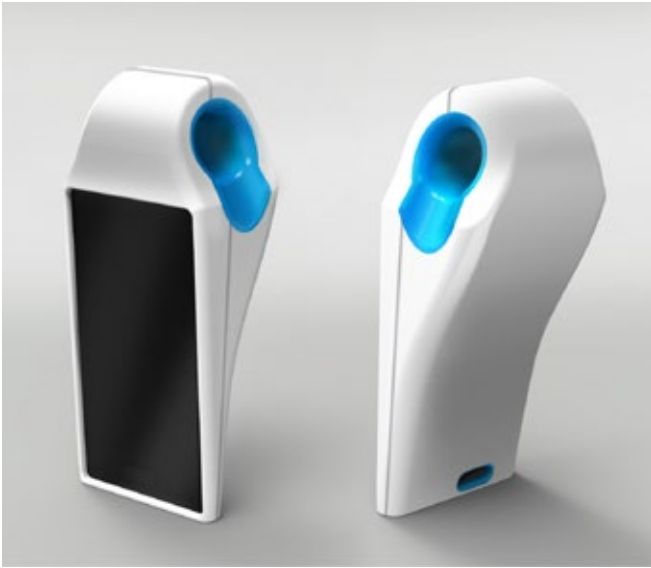
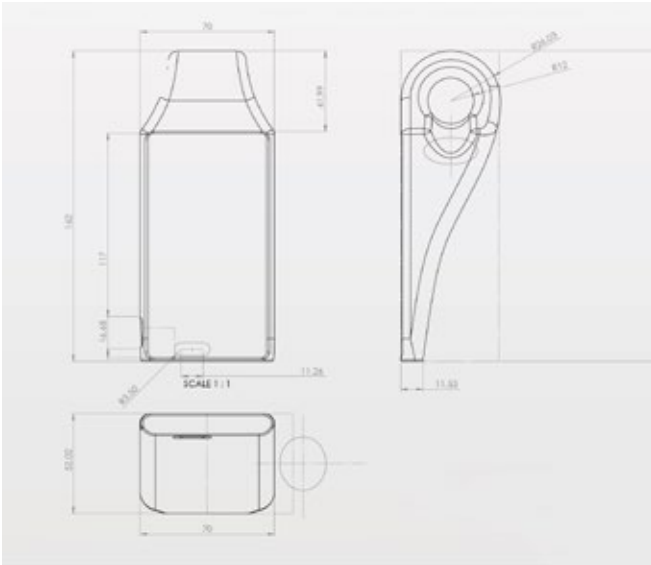
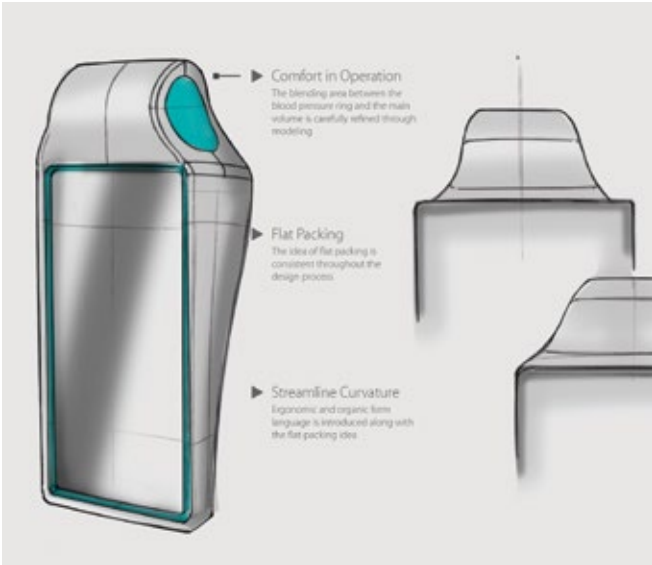
COLLABORATORS
Bernhard Wolf
Technical University of Munich
University of Paderborn

A total of 22 students took part in the Telemedical Device platform supervised by Professor Axel Thallemer. Students underwent a full design process of research, concept sketching, test models and user testing before the final design is proposed. Manufacturing techniques of their proposed design was also a focus for this platform. The following pages will show the design process by two students Tony Chui Pak Ho and Yeo Ren Jie respectively.



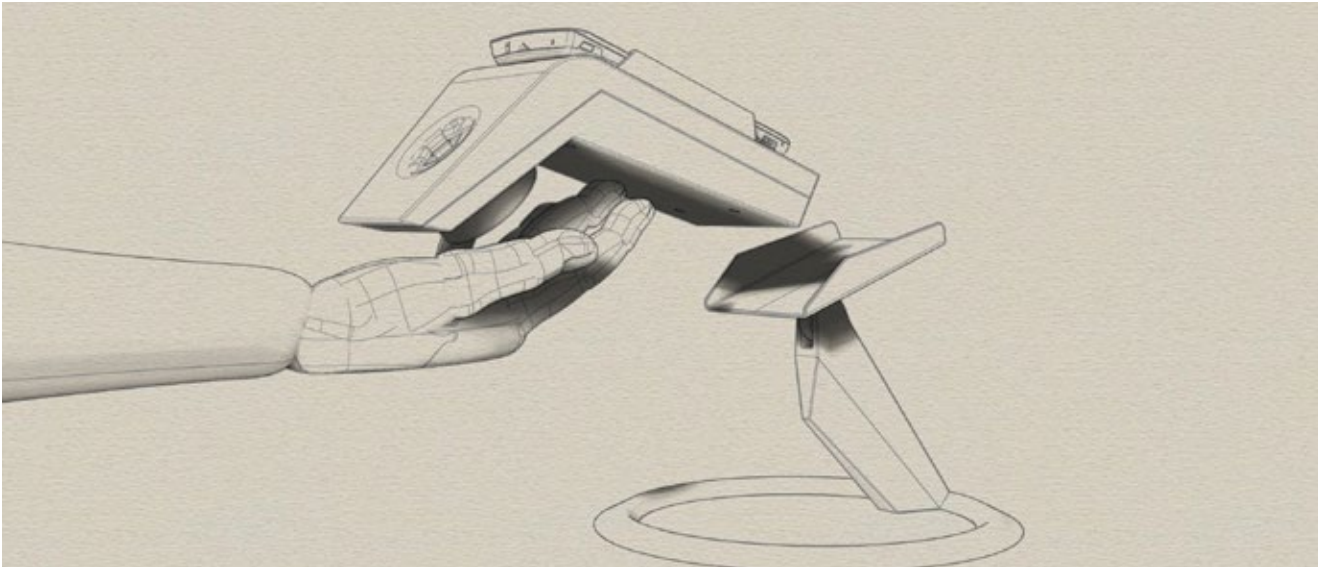
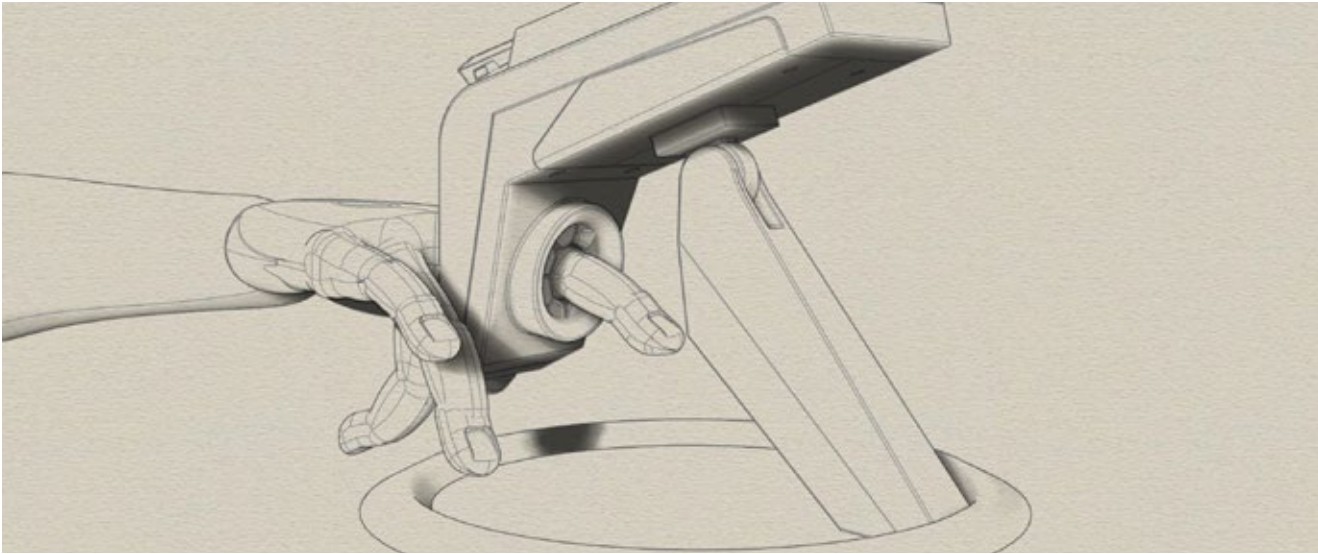
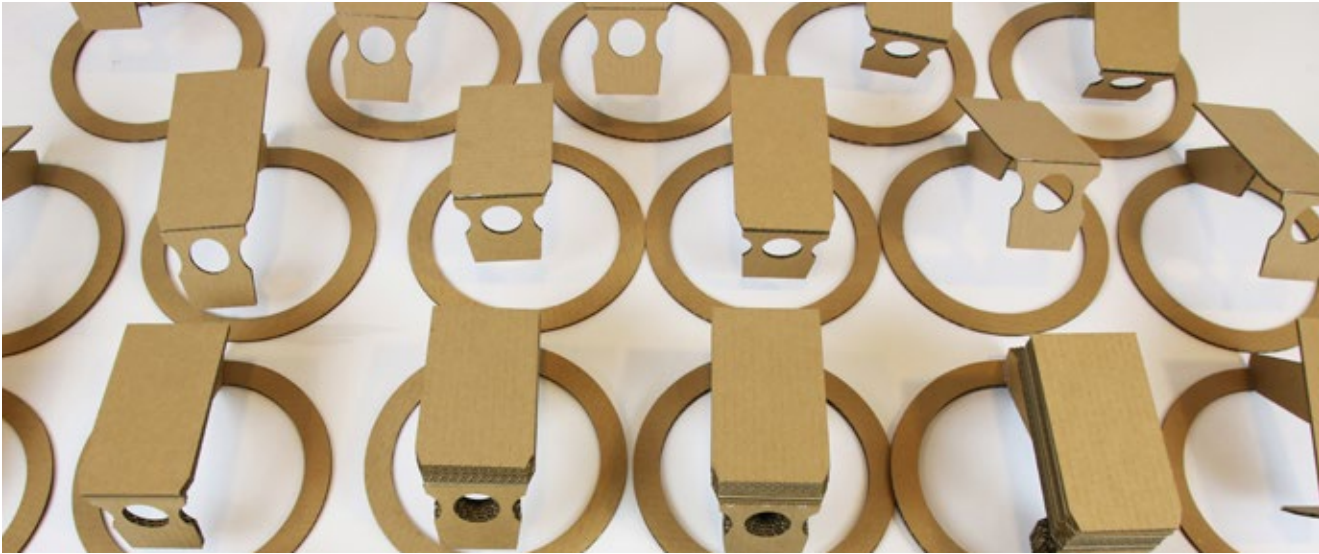
CONCEPT SKETCHES

Left to right: John Chan and Brandon Cheng, Tony Chui Pak Ho, Lim Jun Jie, Phan Mai, Alvina Yeo JinLi, Kristine Bilotas, Josh Ho Jun Xian & Karrina Tan Chu Lin, Khng Tian Wei Melvin, Low Jun Ting Alvin, Fabian Ong, Yeo Ren Jie, Emma Constantino Axtell, Esther Ng Yu Xuan, Fong Sook Yin, Goh Jie Sheng, Gloria Ng, Tan Si Wei Brandon, Lim Yong Kang, Loh Wen Bin Timothy, Weng Yi Xiang



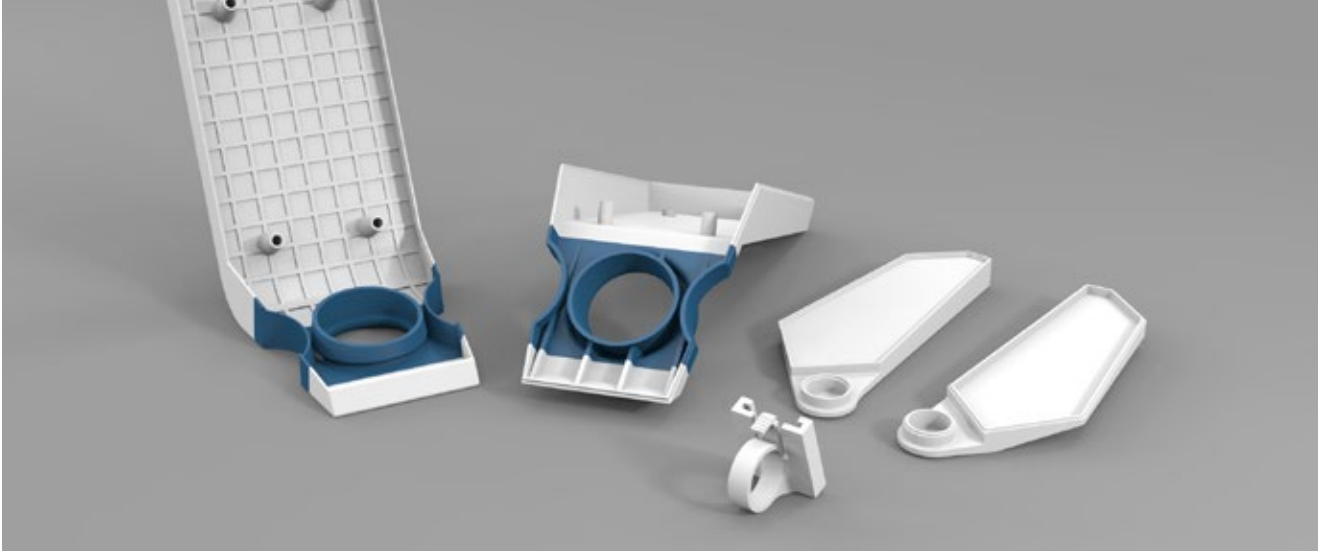
The design and ideation process started with numerous concept sketches after weeks of intense user research. Various foam models were made to evaluate the ergonomics of the blood pressure device. It was further tested with users to ensure that the form factor fits a wide range of the percentile. Manufacturability such as assembly and draft angles of the device enclosure were taken into consideration. Additionally, the blood pressure device is designed to be weather resistant with an IP67 standard.

Tony Chui Pak Ho



The design process started with many ideation sketches after researching on existing competitor products in the market. Next, a total of 52 test models were done in order to determine the best angle of tilt and thickness of the finger blood pressure monitoring device. It was tested over 12 test subjects and was concluded that 110 degrees would be the best angle of tilt. Aside from aesthetics and ergonomics consideration, manufacturing techniques like draft angles were also taken into consideration. The final design was 3D printed and an in depth user testing was performed in a hospital setting. The next few pages shall explain the entire design process that the student went through.

Yeo Ren Jie



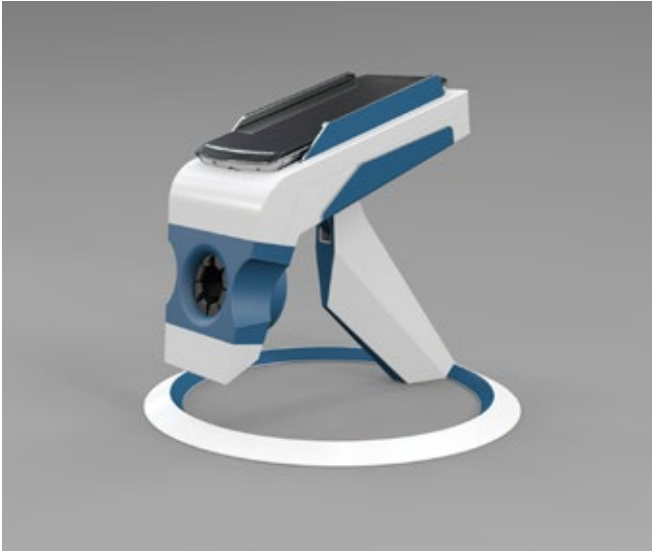
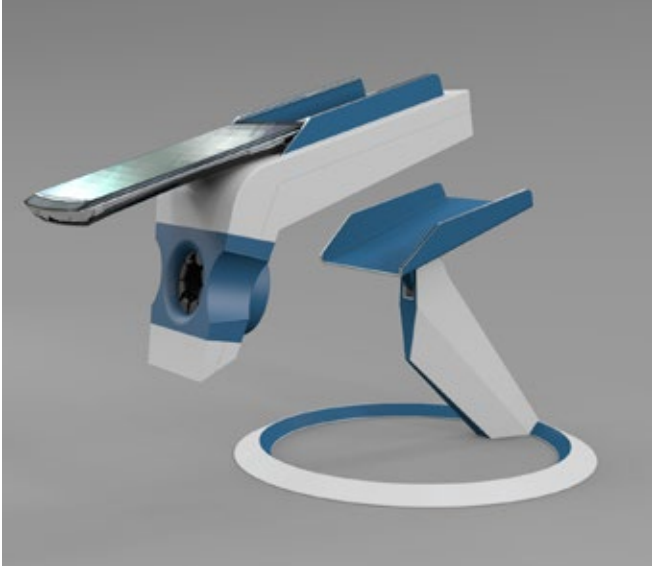
Initial Design

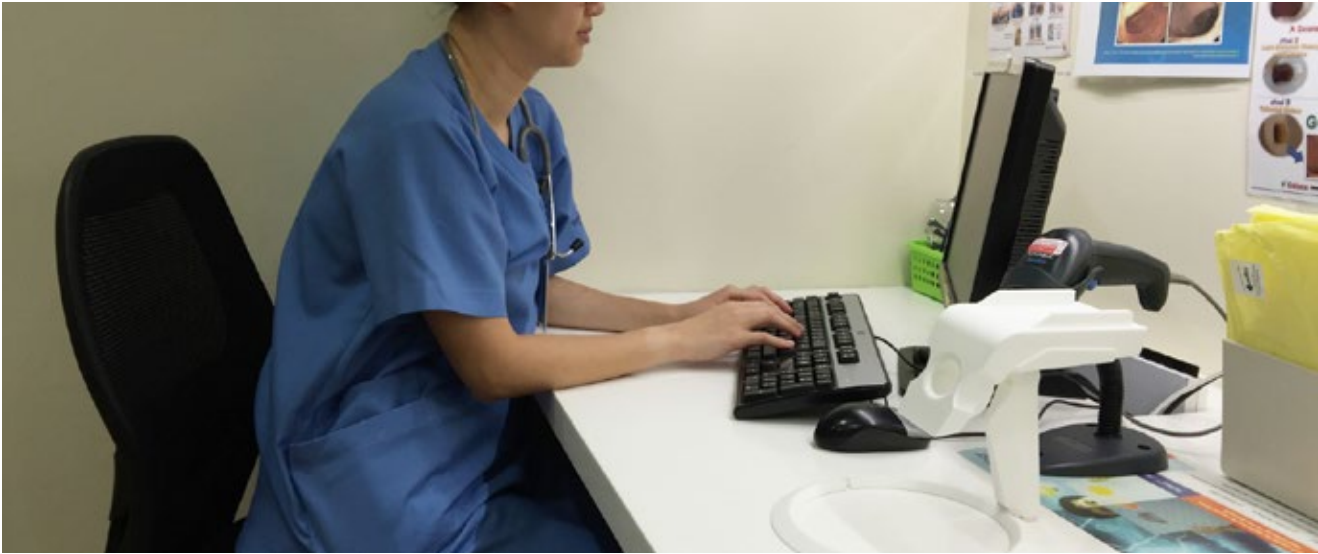


Revised Design

CONCEPT REFINEMENT

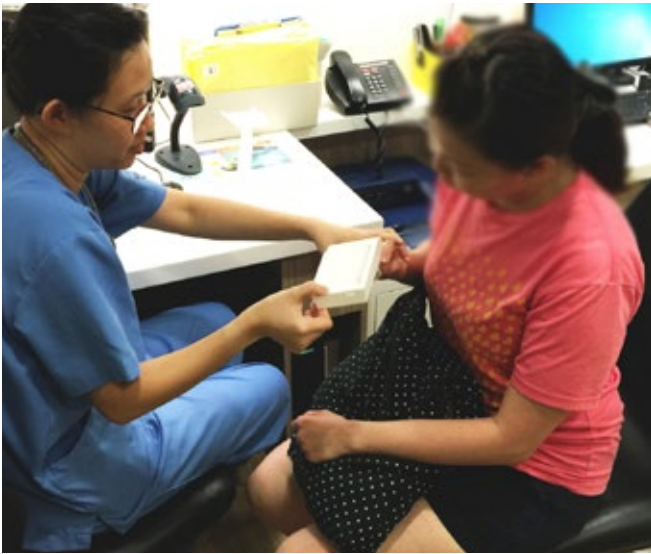
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USER TESTING

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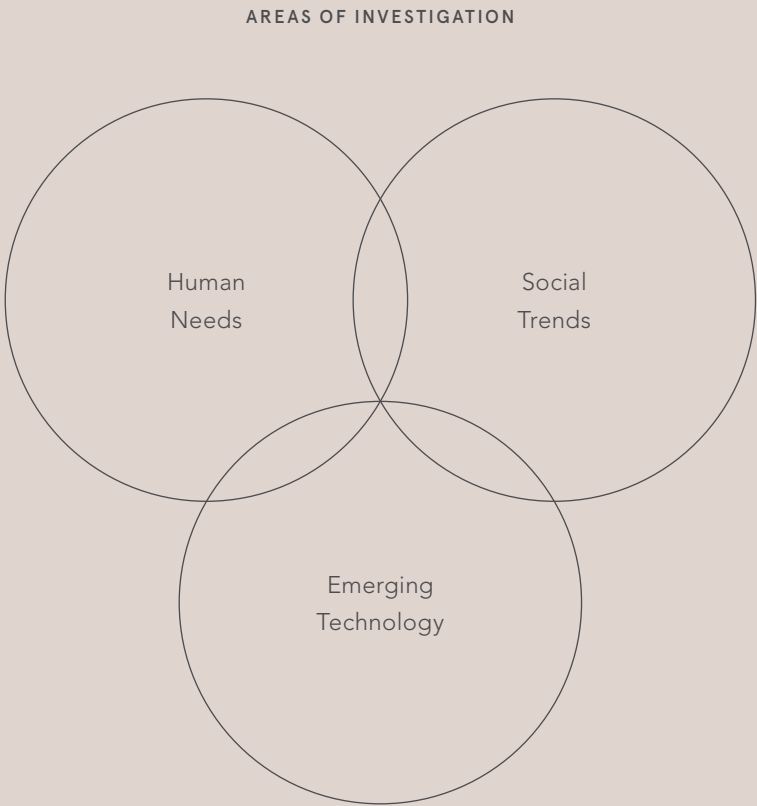


Design Incubation Centre

Design Incubation Centre

The Design Incubation Centre (DIC) is a design research lab which investigates and develops new design tools, with the aim of expanding the possibilities of the design practice.

Established in 2006, DIC is a strategic initiative funded by the National University of Singapore and is Singapore’s first dedicated design research laboratory.



RESEARCH PROBE

Identifying emergence in domains such as social sciences, economy and technology that design can be applied and vice versa. This is done through Workshops and Probe Projects.

DEVELOP NEW TEACHING PROGRAMMES

Responding to new needs, skills and knowledge that are required for the design practice.

OUTREACH & COMMUNICATION

Reaching out to the public and prospective students to communicate about Industrial Design.

DESIGN TRANSLATION

Translating projects from concept to refinement, and working with industry collaborators in developing commercialization opportunities.

CAPABILITIES DEVELOPMENT AND TEACHING SUPPORT

Develop new capabilities in design and fabrication in both digital and analogue platforms. Transfer of know-how through direct project support and running technical workshops. Provide support in fabrication of physical and mechatronics prototypes.

Workshops

Workshops are platforms for the Centre to explore new areas for design. They allow us to conduct probes in new areas for design.

Workshops are also a platform for multi-disciplinary collaboration, where cross pollination of ideas and discussion happen between participants of various disciplines. It is also a platform to engage various stakeholders and an seeding event to build a future ecosystem of discussion and collaboration.

To date, we have conducted 32 workshops since 2007.



AUS 2017 WORKSHOP

The Asian Undergraduate Summit (AUS) is a student-run international programme organised by the University Scholars Club (USC) of the University Scholars Programme, National University of Singapore (NUS). The Summit aims to bring together undergraduates of diverse disciplines from all over Asia, and provide them with the opportunity to engage in meaningful academic, cultural and social exchange.

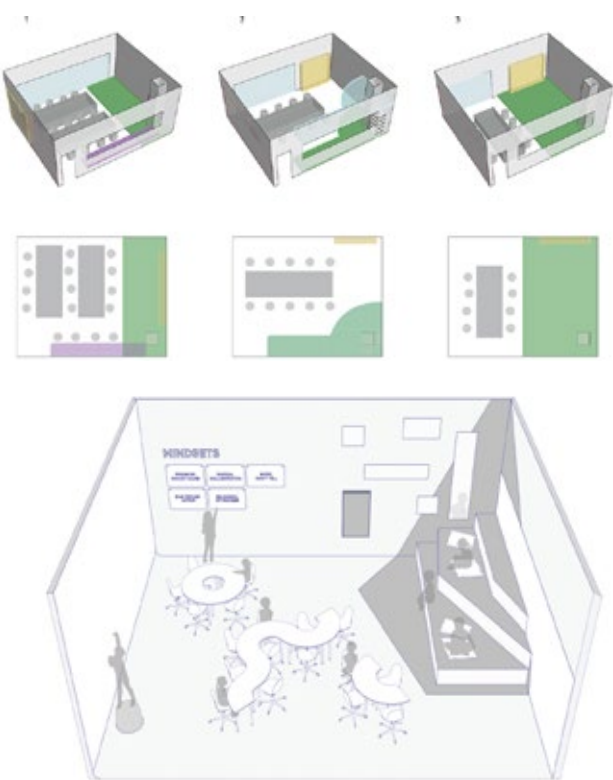
The theme for 2017 was “Leadership in a Complex World: Disruptive Change in Everyday Life”, and DIC was invited to teach participants the design thinking framework, and how to apply it in the context of disruptive innovations. Led by the probe team, this two-day workshop was synthesised in-house, with content and tools tailored specifically for the workshop. Participants were also given pointers on how to facilitate group discussions, with mock settings established to test their competencies.



Research Probe

A probe project is a project initiated by the Centre when it is curious about a certain topic but has no clear strategy of how to engage in yet.

Probe projects allow us to just dive into the subject and come up with some answers, or as in most cases, more questions. It is also an opportunity for us to engage the community or stakeholders whom might share the same interest.



CREATIVE LEARNING SPACE FOR CANBERRA PRIMARY SCHOOL

Building on from the co-creation workshop, the Centre started to delve into the realm of Education in search of priming opportunities with the Centre establishing a project collaboration with Canberra Primary School. The collaboration between the Centre and the key school leaders started off with several sessions of deep design-related discussions and eventually mapping out possible outcomes that can be prototyped or even implemented in the school. Once the agendas are sorted and goals are aligned, the collaboration took on a more exploratory and experimental turn.

CANBERRA CREATIVE HUB

The Canberra Hub is a space buzzing with creative activity. Here, ideas are encouraged to flow freely and student leaders can collaborate with their peers on various projects.

The space allows for small to medium-sized group meetings, brainstorm sessions, discussions, as well as presentations and sharings. The main floor space is occupied by a custom-designed mobile and modular desk system. The quarter desks allow a variety of configurations to suit different activities.

The small and cosy raised-platform zone at the corner is suitable for both lounging and casual presentations.

A well-organized storage system keeps all the stationery and work materials (paper, makers, etc.) neatly in sight.



Outreach & Communication

The Centre develops programmes in the form of exhibition, public talks and workshops as a means of communicating the value of design to its targeted audience and beyond.



TRAVELING EXHIBITION &
ASSEMBLY TALK TO SCHOOLS

Traveling exhibitions and assembly talk were held in various secondary schools for students of all levels so as to expose them to the field of Industrial design. The exhibition featured projects from the Centre as well as student projects from the Division of Industrial Design. The week long exhibition allowed students to take time to view, explore and interact with the projects in the convenience of their own school. Also, the Centre was given the opportunity to address the students in the assembly talk, with the aim of further enhancing the value of design, thus, giving the students a prospective alternative choice of career to pursue.

PUBLIC EXHIBITIONS

Public exhibitions are one of the best ways to reach out and expose the public to design. Several exhibitions have been held over the past year at prime location such as the “Design Future / Now Exhibition” at National Design Centre and “Singapural - d.lab” at F1 Pit Building, both held in partnership with Singapore Design Week 2017. The Centre also supported the NUS Open House 2017 with Division of Industrial Design, featuring selected works from both students and the Centre.



SINGAPORE’S NIGHT FESTIVAL EXHIBITION – KOMOREBI 2

The Design Incubation Centre, in collaboration with Lighting Planners Associates Inc., developed this installation piece for the National Design Centre which was displayed for Singapore’s Night Festival.

Komorebi loosely refers to the sunlight that filters between tree branches and leaves. From this, beautiful transient patterns are created on the ground from the play between textures of translucency in leaves, their changing colours through the seasons, and movement created by winds rustling through the branches.

Using contemporary technology to interpret and create a komorebi effect found in nature, this presentation explores the relation between nature and technology and challenges visitors to define komorebi for themselves.

This project was the outcome of a workshop, in collaboration with Lighting Planners Associates Inc. which was hosted by the Centre.



NO FOOD OR DRINK ALLOWED

ANY UNATTENDED ITEMS
WILL BE DISCARDED



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