

DIVISION OF
INDUSTRIAL
DESIGN
2018

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Division of Industrial Design
School of Design & Environment

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Contents

Foreword	006
Industrial Design Curriculum	008
Design Courses	012
Design Platforms	034
2018 Graduating Students	082
Post Graduates	204
Design Incubation Centre	218
Achievements	228
Staff Index	233

Curriculum

Foreword

Our society is in permanent mutation and Design education should analyse and understand these mutations before proposing pedagogical approaches that will provide our students with the tools to face current problems, anticipate future challenges and offer innovative solutions. Designers are currently confronted with new obstacles, new domains of expertise and new technology. Since the beginning of our program, DID as an academic institution has relentlessly tried to understand these new challenges in order to adapt our pedagogy and prepare our students for the reality of the industry.

The platforms set a few years ago under the headship of our colleague Yen Ching Chiuan reflects the evolution of our six main domains of expertise: Product Design, Healthcare Design, Experience Design, Service Design, Speculative Design and Interaction Design. Every year, we offer our students new projects related to these respective domains. To achieve this goal, our Division constantly reinforces our engagement with the industry as witnessed through the 14 platforms during the first semester. 10 have been conducted with industry collaborators (7 private partners, and 3 public partners). We can list here: IBM, Philips Design, Shiseido, Guerlain (LVMH), PSA, Festo, Ministry of Manpower and NUH. This close collaboration with the industry from such an early stage of the programme (2nd year onwards) has exposed our students to extremely relevant and valuable professional feedback. The best selected team gets one semester of internship during the term of their respective platforms. These internships naturally open up some very promising career opportunities for students in the industry.

This year we can summarize the thesis projects into four main categories which covers a very large spectrum of design fields. Namely, Lifestyle (person-to-person interactions, self-improvement), Social (for the greater good of the general public, awareness), Experimental (exploratory, futuristic) and finally Healthcare (medical, therapy).

The dynamism of our Division is also reflected by the numerous awards won by our students including Red Dot Best of the Best 2017, Edmund Zhang, Wallpaper* Handmade Next Generation Designer winner, Taiwan International Student Design Competition (TISDC) 2017. For the third time, during Dubai Design Week - DID was invited to showcase students' design work. Our Design Incubation Centre in association with the Kyoto Design Lab from the Kyoto Institute of Technology (KIT) was also represented at the Milan Design Week- 20 students from Kyoto and Singapore exhibited their works under the theme "Exchanged Forms".

During this academic year, we can also highlight that in parallel to our lecturers' teaching, their personal design practice were also featured in prestigious foreign exhibitions and museums. These include Hunn Wai of Lanzavecchia + Wai, who presented his furniture collection for Living Divani and Fiam in Milan, Olivia Lee's work featured at the Wallpaper* Handmade exhibition and SaloneSatellite 2018, Gabriel Tan's collections, featured successfully at the Milan Design week in collaboration with Ton Chairs, at the Stockholm Design Week with Ariake and Bla Station, and finally at the Cologne Design Weeks with Authentics. Christophe Gaubert who designed the permanent exhibition at the National Taiwan Museum - Discovering Taiwan and Hans Tan's "Pour" table and its process samples was acquired by M+ Museum for Visual Culture, Hong Kong, for its permanent collection. These personal practices of our lecturers are very important to preserve the link with the design world as it further enriches their respective pedagogical approaches.

On the occasion of our students' graduation, I would like to give my best wishes and congratulations to our students for their steadfast hard work and passion. All these accomplishments would not come into fruition without the support of our dedicated faculty staff. Special thanks to the DIC team, who has over the years rendered their support in our programme through teaching, research, and promotion of our Division, through the various exhibitions, conferences and workshops. Last but not least, our heartfelt appreciation and thanks to our administrative staff who supported us throughout all our projects.

The Division of Industrial Design will continue its pursuits in the development of its curriculum, platforms, pedagogy and extensive industry collaborations to ensure its relevance in the evolving world of design.

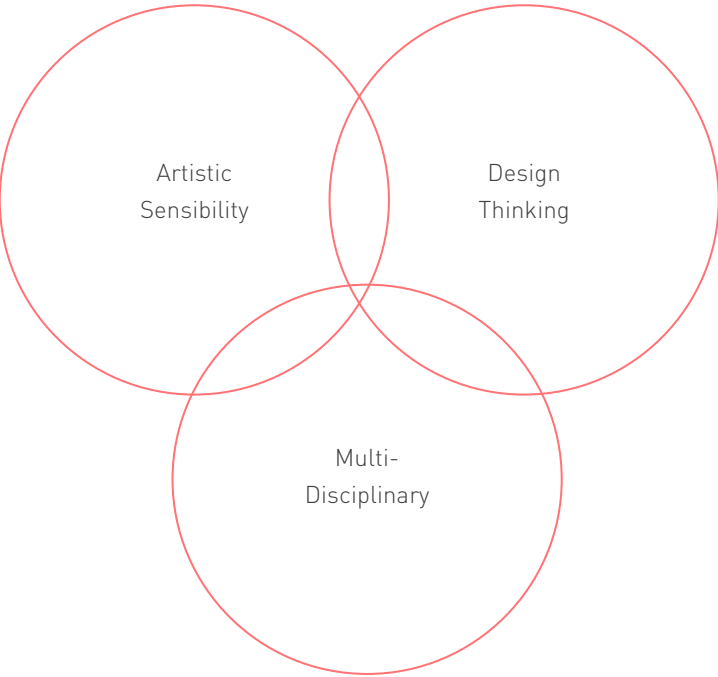
Associate Professor (Dr.) Christian Boucharenc
Head, Division of Industrial Design

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 11 years. We are ranked among the world’s top 30 University for the subject of Art and Design by QS World University Rankings by Subject 2016.



**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.

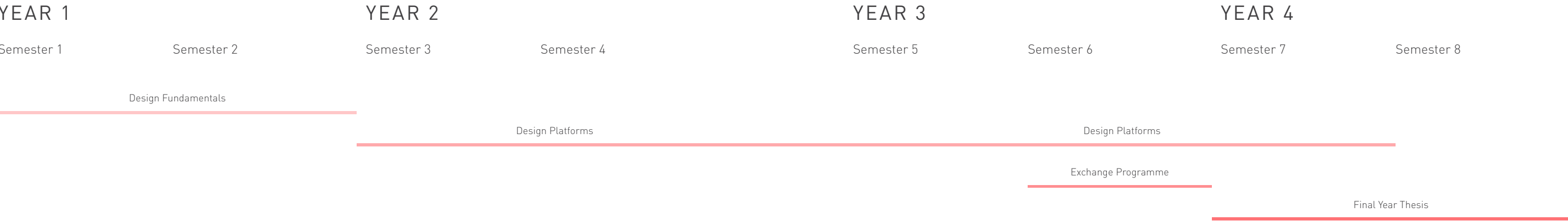
**COURSEWORK FOR THE
BACHELOR’S PROGRAMME**

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 emphasizes 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 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, where design teams often comprise of junior designers, senior designers and sometimes a creative director.

From 2010 till 2016, we have accepted a wide variety of industry-sponsored projects from the following industry partners:

Akzonobel, ASUS, Dell, Dupont, Estee Lauder, Housing Development Board of Singapore, ICI Dulux, L’Oreal, Motorola, National University Hospital, OCBC Bank, Origins, OSIM, Philips, RISIS, SIMTech, Singapore Civil Defence Force, Toshiba, Tupperware, World Kitchen, Xentiq, Samsung,Keio-NUSCUTECenter,PMOSingapore, Eight Inc, Suntar Membrane Technology, Nirvana Memorial Garen, Visa, Nestle, MOM Singapore, Eu Yan Sang, Hewlett-Packard.

FINAL YEAR THESIS

SEMESTER 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.

Design Courses

Sketching for Design

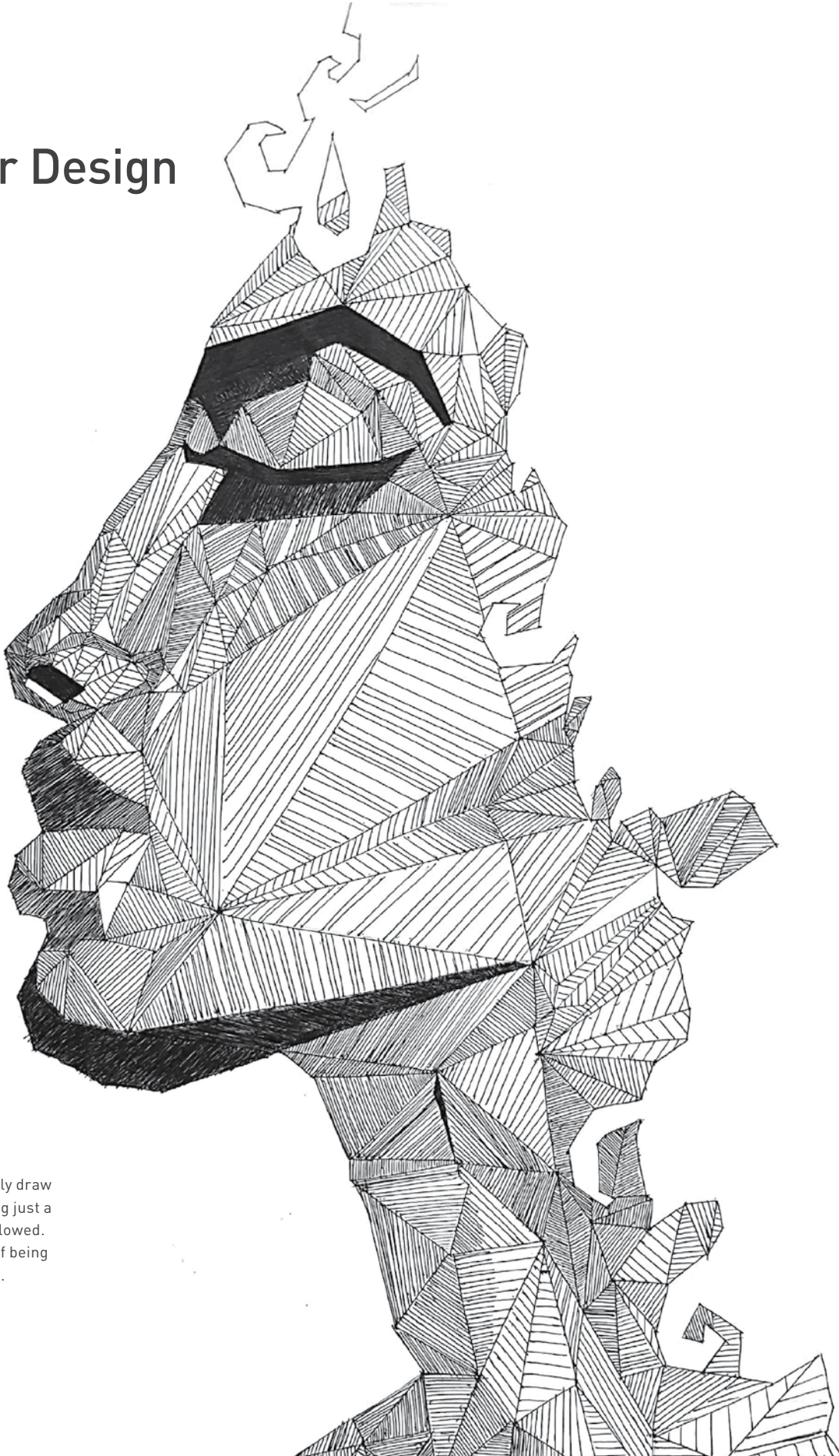
INSTRUCTOR
Vincent Leow

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

1 STRAIGHT LINES

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

Jonjoe Fong Jun Ming



2 LEFT HAND - RIGHT HAND SKETCH

Students use their non-master hand to sketch common objects and in the process, discover “happy accidents”, where interesting forms and proportions can result from so-called ugly scribbles.

Gracia Fei Yue



History and Theory of Industrial Design

INSTRUCTOR
Olivia Lee

“Anatomy of a Designer” is a 5-week design exercise piloted this semester. Students are assigned an influential historical/contemporary figure of art, design and architecture to research and understudy. Their investigation culminates into a biographical report as well as an homage — an object that is designed and fabricated in the spirit, philosophy and process of their assigned figure. The object archetype for this exercise was the comb.



1 FABRICA

This comb embodies the spirit of FABRICA, a cross-disciplinary design research centre based in Treviso Italy. The centre is known for conceptual design and grooming young ‘social catalysts’. Michelle examined the role of the comb as an object of personal grooming and vanity, creating a hybrid mirror-comb.

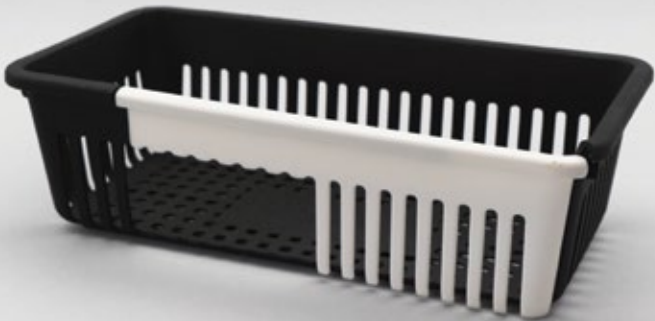
Michelle Loh



2 RON ARAD

Ron Arad’s iconic designs and visual language is rooted in his bold use of industrial materials and rebellious ready-mades (objects repurposed and fabricated from other objects). Wanni demonstrates this ethos, combining a series of mass-manufactured forks into a comb.

Jiang Wanni



3 DROOG

Droog is a conceptual design company founded in the early 1990s. Their designs were witty, deceptively simple and often repurposed found objects to make a bold statement. Fong Ling ‘creates’ a comb from a plastic accessory tray in the irreverent spirit of Droog.

Sen Fong Ling



4 ISSEY MIYAKE

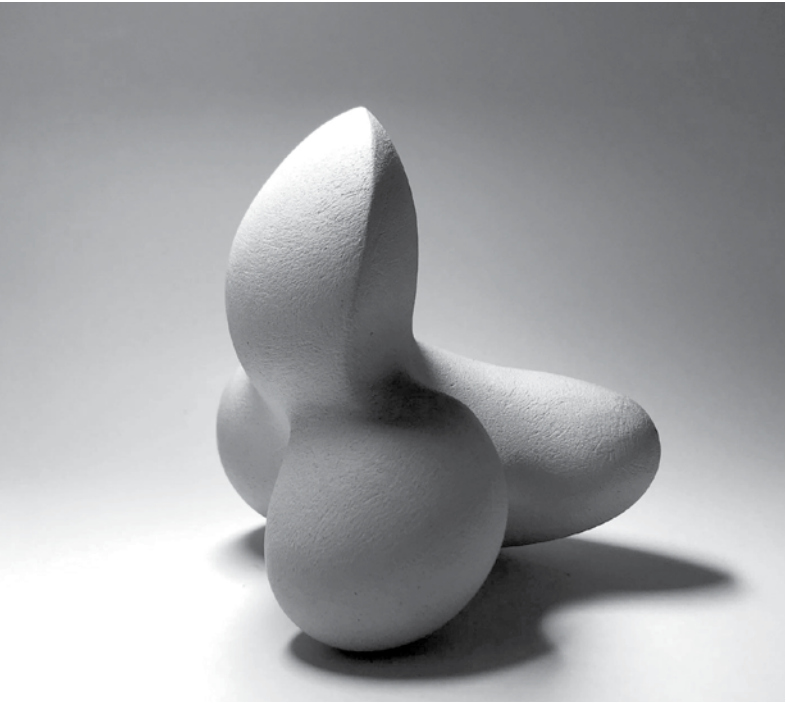
This comb successfully merges the ethos of the 132 5. ISSEY MIYAKE transforming flat 2D materials into 5D apparel with BAO BAO ISSEY MIYAKE – a collection built on ‘flexible functionality’. The handle and teeth of the Carina’s comb is folded from a single surface.

Carina Lim

Modelling For Design

INSTRUCTOR
Jason Ong

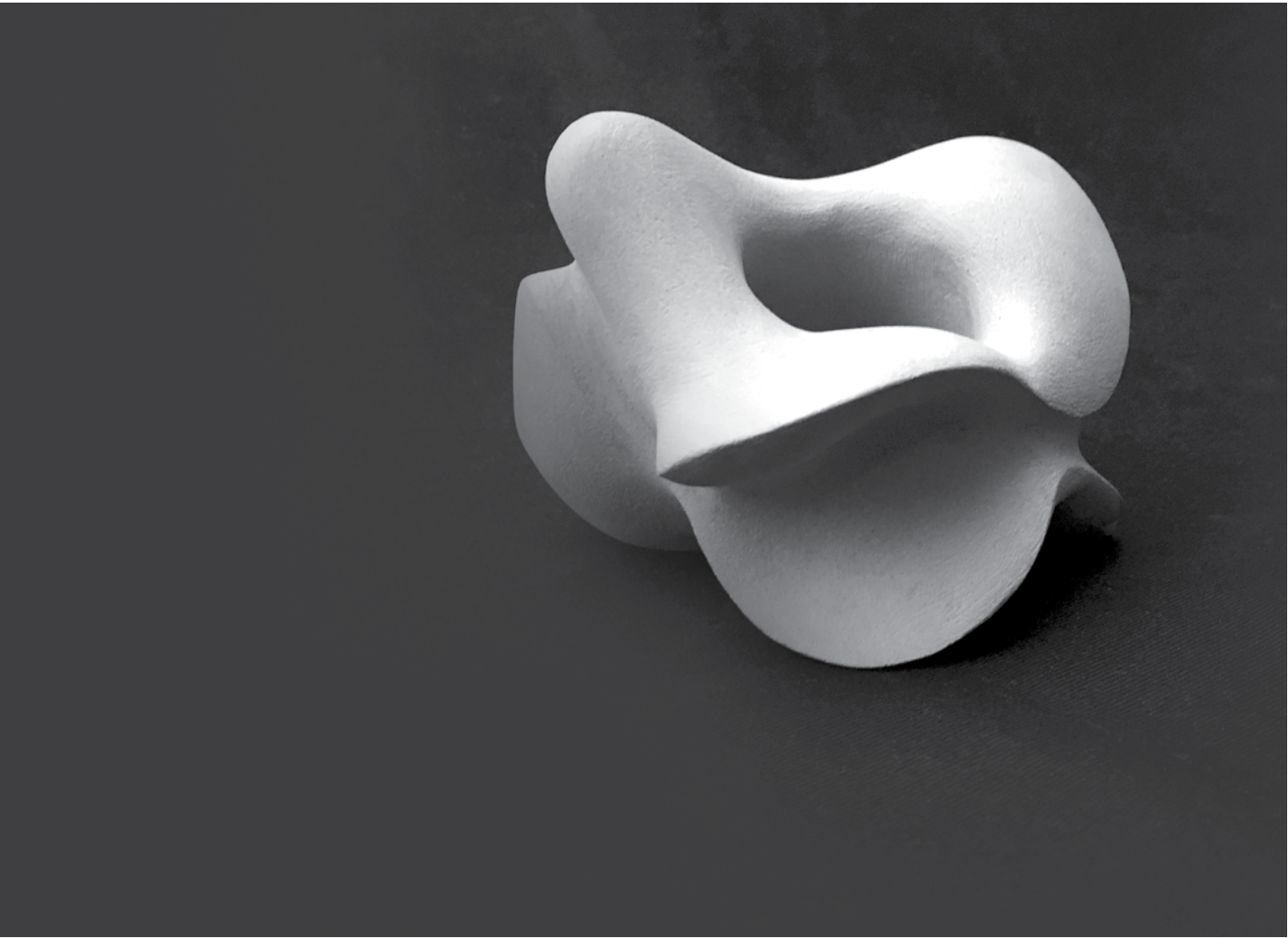
This module introduces basic model-making techniques using various material and hands-on processes. The workshops also incorporate fundamental form studies with a focus on visual relationships, through a series of iterations and refinements in the model-making process, Students develop value judgment while resolving multiple design elements. In addition to the understanding of material properties, the course aims to cultivate an appreciation for precision and finishing, as well as a mindset for high personal standards.



1 CONVEX MODEL IN CLAY

Multiple contrasting components are synthesised 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 judgment is exercised when manipulating these elements through numerous developments.

Above : Sen Fong Ling
Below : Nur Diyana



2 CONVEX/CONCAVE MODEL IN CLAY

This workshop takes the exercise of Convex Model in Clay to a greater level of complexity by incorporating concave surfaces, with the purpose of adding value. Students are tasked to examine the visual flow and surface transition of contrasting elements to generate an outcome with a sense of hierarchy and harmony.

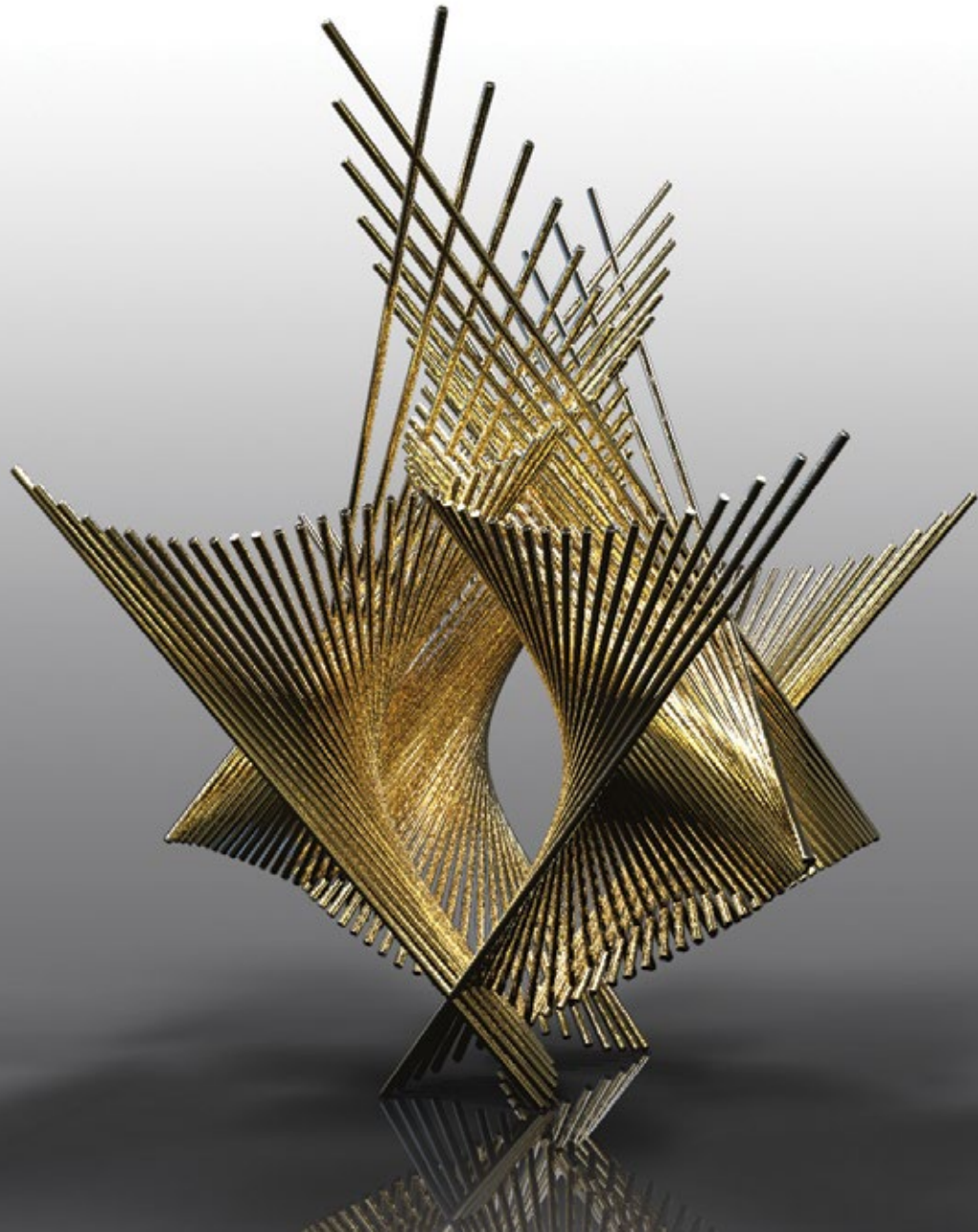
Mireille Lee

Computer Aided Industrial Design

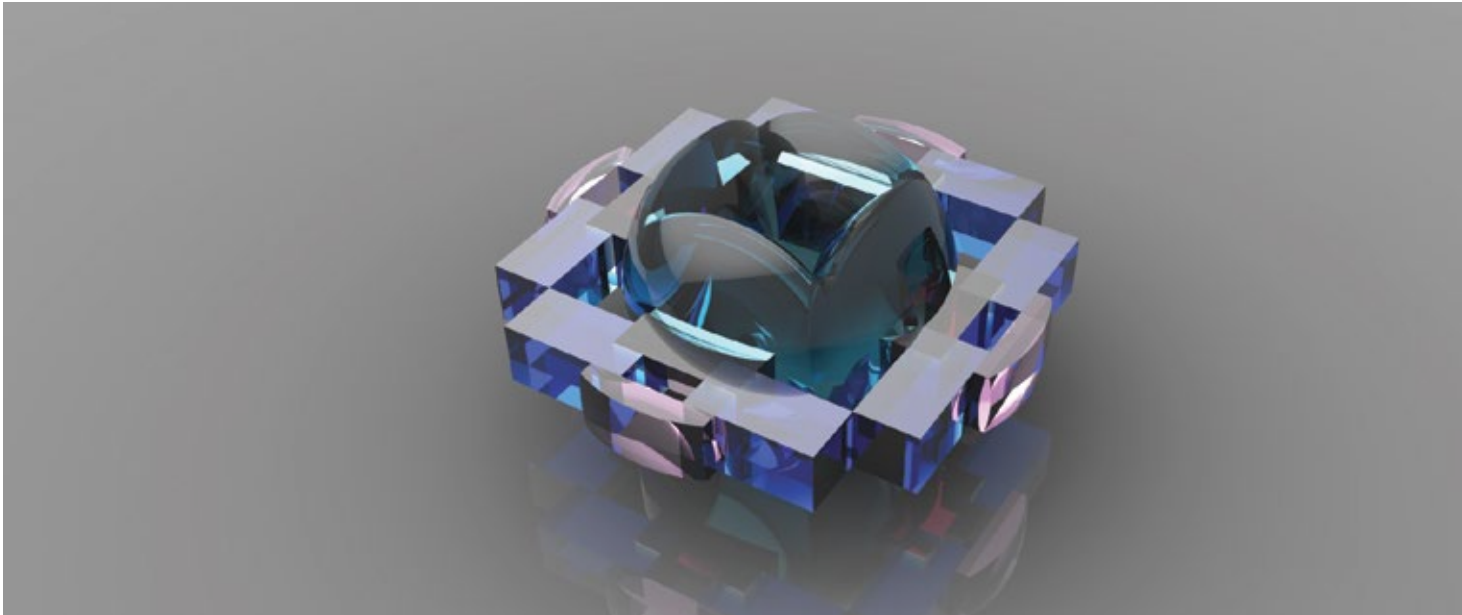
INSTRUCTOR
Martin Danzer

The aim of this exercise is to understand Industrial Design in the context of a digital product development process. The availability of digital 3D data is pre-requisite to Design, Engineering, Rapid Prototyping and Manufacturing. In this exercise, students are tasked to understand the creation of objects in a digital 3D space. Digital modelling marks an alternative to manual modelling of stone clay or foam. The exercise of creating lines, curves and surfaces in a digital 3D space is based on sketching and analytical drawings to extract distinct feature lines which build up surfaces; generating shapes to form a Gestalt object.

Teng I Ling



Jeraldine Low Jia Yu

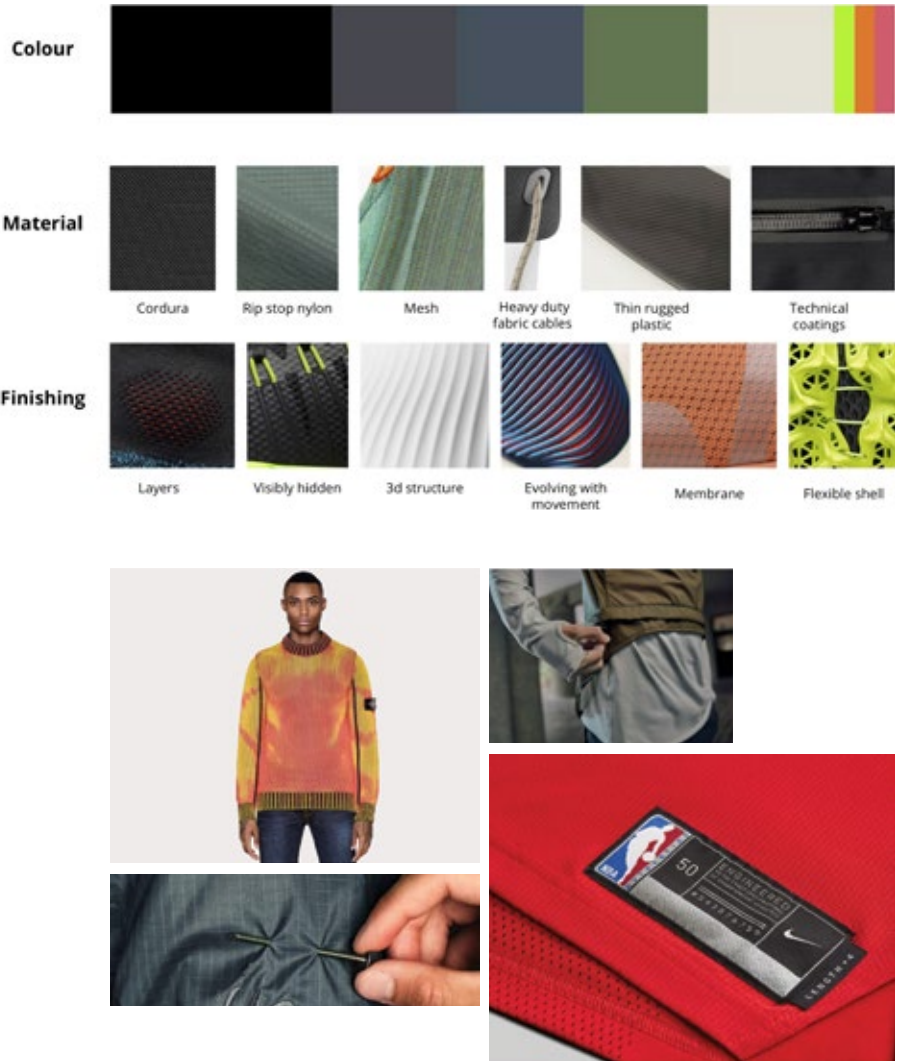


Lim Yu Ting, Zephania

Colour, Material and Finishing

INSTRUCTOR
Celia Wong

Colours, materials & finishings are in everything we can see and touch, they also plays a part in our sense of hearing, smell and taste. This module aims to increase sensitivity in relating the context of design application, with meaningful choices of colour and material. Expressing perceived values through effective communication through strong associations can increase design effectiveness. New applications can drive design innovation, challenging limits in technology. The topics in this module include: observing market trends and category codes, translating the leading design influences into the relevant palette, exploring and specifying colours, materials and finishing.



1 UNDERCOVER TECH

High-tech has always been a highly desirable value, as it is pushing the boundaries of its category. Today, technology in apparels differentiates by enhancing the experiences or providing new utilitarian value. Companies are not only looking to push the limits of technology but weave it into their products.

Chin Guo Hong

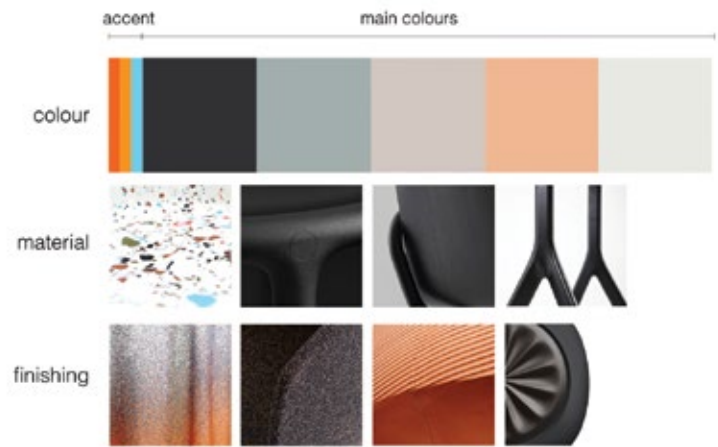
Utility | Technical | Performance | Empowering | Breakthrough | Modern

2 ENGINEERED PURITY

The rise of quicker/more efficient transport options (hyperloop), on-demand transport (autonomous and ridesharing services), and announcements to travel to mars (space X) have spurred on new fascination with escapades into the unknown, where people imagine living on foreign / exotic new lands.

Object’s materials will look like they are from their natural environment for its long lasting and hardy nature, and heavily manipulated to clearly show the level of technological finesse intervened by the designer. Hence, this translates into earthy tones, natural mineral finishes and materials such as terrazzo, clay and metals.

Jon Chan Hao



engineered purity

technical | cutting edge | engineered | unibody | seamless | durable | monolithic | pure | mineral

Human-Centered Design

INSTRUCTOR
Jung-Joo Lee

COLLABORATOR
DBS

In Human-Centered Design module, first year design students learn essential concepts, theories and methods of Human-Centered Design (HCD) that cover a wide range of topics such as anthropometry, usability, context, user experience, emotional design and co-design. Students work on a group project where they can apply the knowledge in a real industry challenge. In 2018, through collaboration with DBS, students designed for wearable digital payment solutions targeting teenagers or older adults.



1 DBS CONNECT

DBS Connect is a versatile social wearable that reimagines the way teenagers save. With its interchangeable mechanism, the device caters to teenager's preferences in the form of a clip, necklace and strap. Leveraging on the social interaction between friends, the device introduces a bump feature for friends to connect in a group to save together. Rewards are awarded through a point system once they achieve their saving goal. DBS Connect aims to nurture good saving habits in teenagers.

Andy Tang, Ashley Huang, Ashley Tan, Janna Tan & Joel Loo



2 HANDYPAY

HandyPay is a stainless steel tap-to-pay ring or wristband with embedded NETS Flashpay and EZ-link chips, created for 55-64 year old seniors for everyday petty purchases. Gone are the days of fumbling for wallets at the cashier and MRT gantry! All HandyPayments are automatically recorded and categorized in the accompanying phone app, which helps users visualize their monthly expenditure effortlessly.

Deborah Loh, Germaine Tan, Felicia Lee, Petrina Leow & Zephania Lim

Fashion Accessories

INSTRUCTOR
Patrick Chia

In this exercise, the students are tasked to create a fashion accessory through the process of scanning, editing, visualizing and translating visual reference. The project aims to develop the student’s 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 LUCENT

Lucent is a 3D-printed neck cuff inspired by the concept of “Weightless-ness”. To capture this concept, Lucent is made out of 1mm thin rods that interconnect at multiple points to form a dynamic and hollow crystal-like structure that wraps around the neck, suggesting the movement of floating. The aim of this project was to push and challenge the thickness limit of 3D printing and the stereotype that thin structures are brittle and breaks easily.

Nurul Syazwani

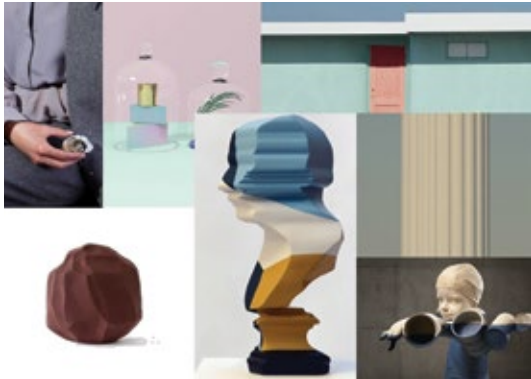


2 ARTEMIS

“Inspired by the intricacy of ancient Greek sculptures, Artemis is the birth child of the purposeful juxtaposition of adjacent blocks of colour and directed cuts. The transition from a flat surface to coordinated carvings, and finally to parallel extrusions influenced by Greek columns give structure to the wild orientation of solid, angular slabs of vibrant hues, which was, unbeknown to many, characteristic of the ancient Greeks.

Artemis, the goddess of the wild, is a bracelet which challenges one to be bold and yet elegant.”

Jonjoe Fong



3 ENDLESS

Endless is an accessory inspired by how the element of strength can be exhibited through fine strokes. It challenges the conventional visual interpretation that delicate strokes do not convey strength.

Endless explores using a single curve. A curve made with fine and delicate strokes to bring out the immense strength from within it.

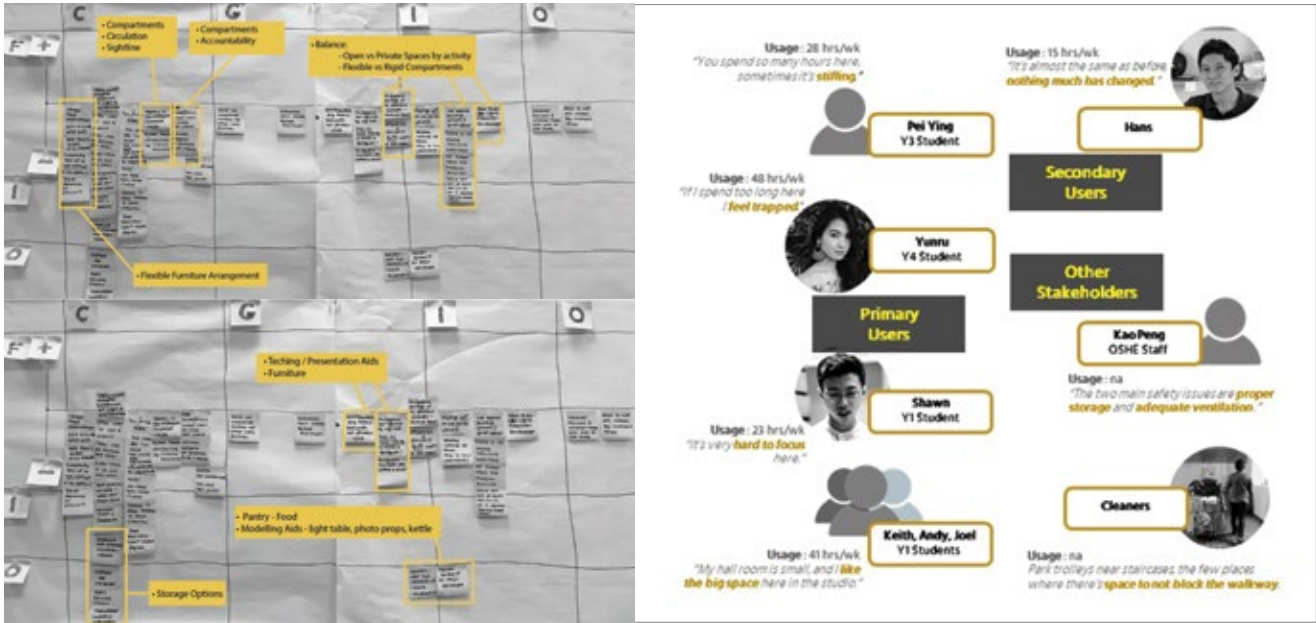
Genevieve Tan



Design Research and Process

INSTRUCTOR
Song Kee Hong

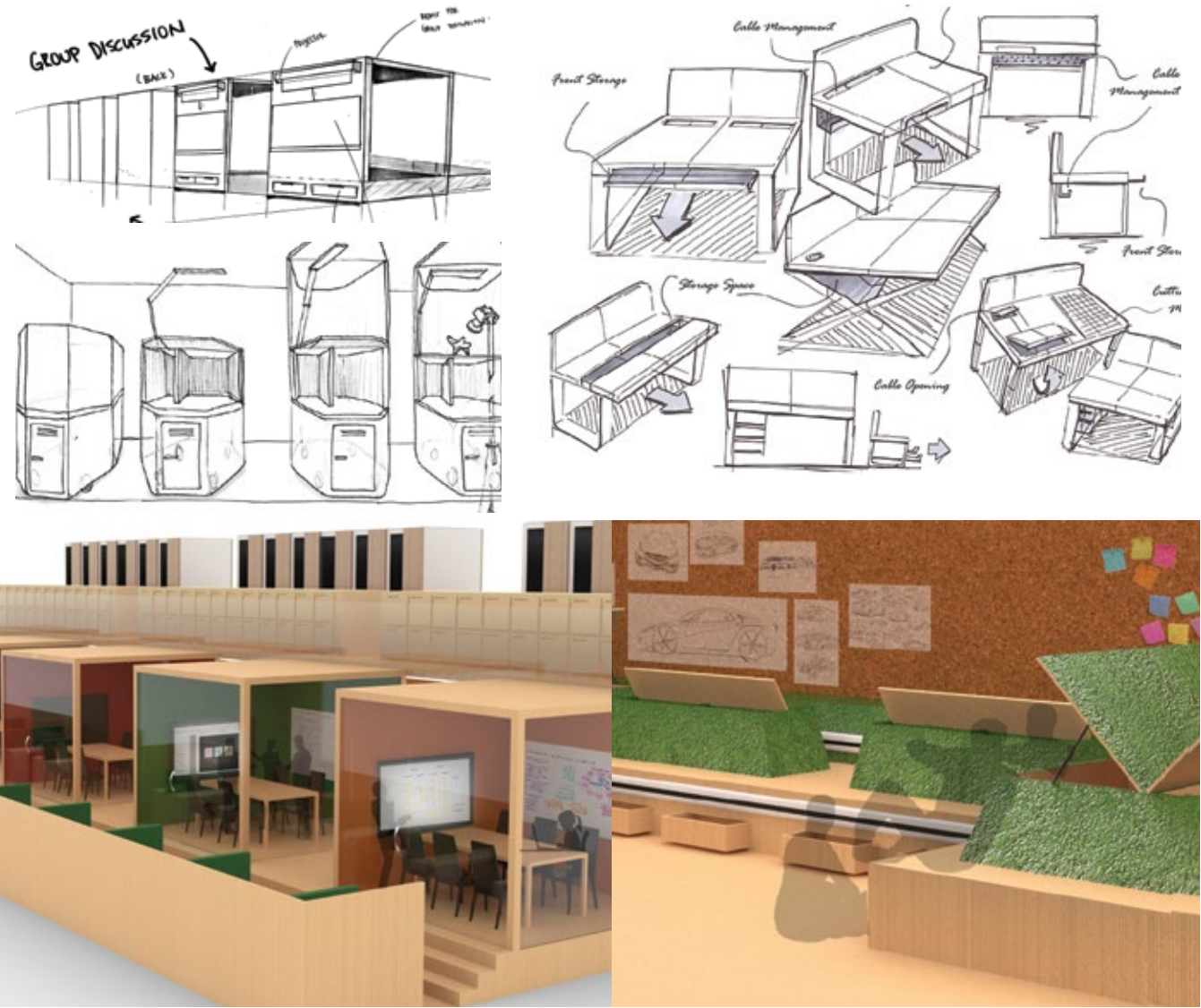
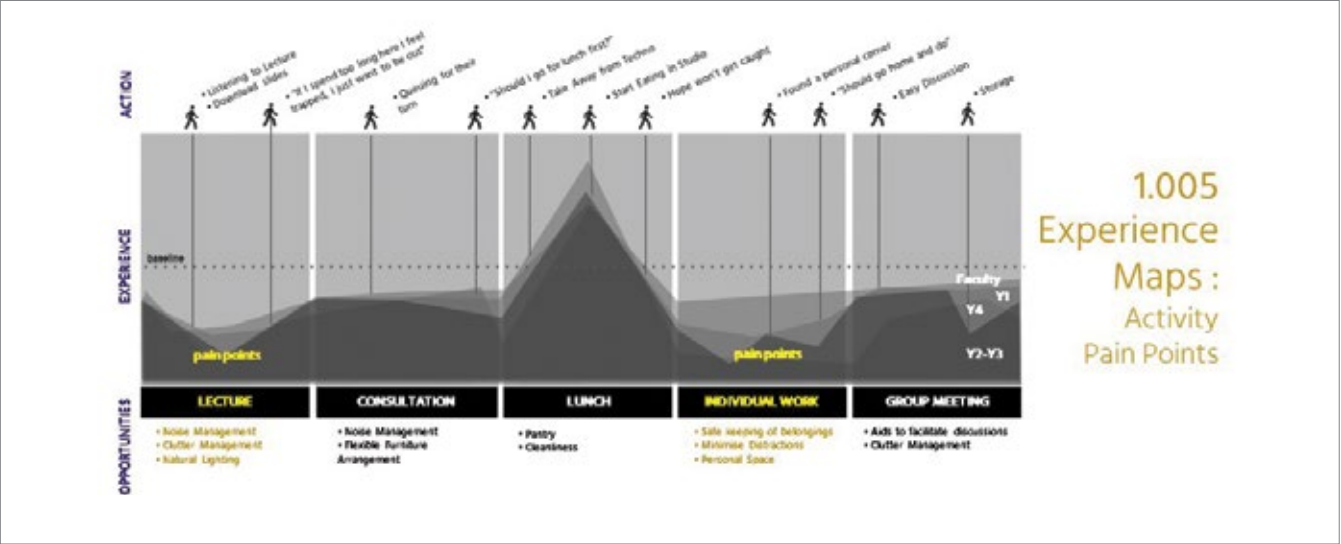
This module aims to teach students the use of structured design processes & user research methods to enhance the effectiveness of design outcomes. Students will learn and experience the application of these methods through the use of relevant industry case studies and structured exercises to solve a single, overarching design problem. This allows students to understand how to apply what they have learnt in a suitable and appropriate context.



1 VILLAGE

After interviewing and shadowing the various stakeholders it was uncovered that while the studio is great for group activities, it is however disruptive for lessons and highly-focused individual work. Through further observations, reverse assumptions of what a studio should be were generated: A studio divided by activities instead of cohort; A studio enclosed in a building that is yet open. Aiming to cater to the needs of every activity Village still hopes to create a harmonious environment.

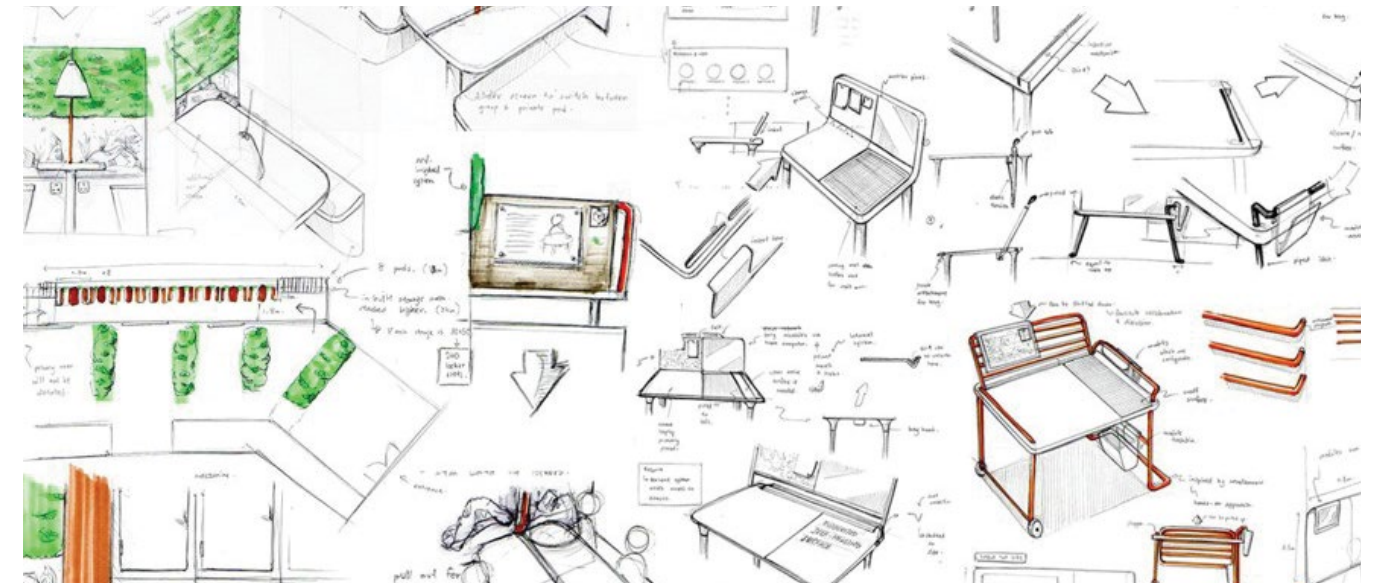
Tommy Cheong, Yap Chuin Houi, Jaylin Yeo & Ana Zheng



2 MODULO

In Modulo, a planned approach was used to break the process down into three distinct phases: Research, Ideation, and Refinement. In the research phase design frameworks such as AEIOU, stakeholder mapping, and journey mapping were used alongside observing parallel spaces and site visits. Raw data was then consolidated to create personas that then led to the final design intent of “redefining the studio experience to inspire learning and facilitate interaction”. After the second phase of ideation exploration of different possible studio typologies and solutions, the process was wrapped up with the third phase of refinement of ideas, prototyping and presentation.

Stephen Ow, Shawn Ng, Teh Xin Lei & Zeng Jie Ying





Daniel Ong - 22, DID Y2 Student

The Visionary - Passionate, Hardworking, Liberal.

Education

Primary Secondary Tertiary

Timeline

Primary Secondary Tertiary

"I feel inspired knowing that what I am doing and learning every day will have a real impact on other people's lives"

BIO

An aspiring young designer who has an eager spirit to learn and apply new knowledge, collaborate with like-minded people and honing both his technical and soft skills.

ACTION

Sees Cx studio as second home where he spends most time attending lessons, doing group-related work or musing hands-on projects.

GOALS

Finish working on deliverables

Exchange design beliefs and ideas

To churn out insightful ideas for his projects

FRUSTRATIONS

Unproductive with lack of facilities

Lack of imagination

Unable to store materials and prototypes in locker

MOTIVATIONS

Push Achievement Stress Inspire Relax

TECH-SAVVINESS

MAPPING AND EMOTIONS

LOBBY YEAR 4 STUDIO CORRIDOR OFFICES SHARED STUDIO MIDDIE LEAVE

STUDENT	TEACHER	KEY POINTS
Feeling tired "I'll meet them!" "What is school?"	Stance in "Stand still!" "Don't move!" "Get everything!"	Meeting friends Stance my left foot Stance my right foot "Thank you very much!"
"What is my space?"	Look: Studio area Students are in class "How to see what distribution along"	Meet Students "We didn't know it!"
Get into the room Feel this space Contacting Head Contact about DE	Comprehension Stop: Photo "Which space?" "Which space?" "What are you doing?"	"Comprehension?" "Can these walls?" "Can these walls?" "You like it?"
Understanding studies First impression	Conversation Contact of walls Ambient Lighting Stressfully	First reactions Propositions Two-dimensional
		Wants to see who is the officious
		Differentiation expresses different space configurations Items left for observation
		Need to begin Registration Registration Registration
		Students seem to be in a space that is for them Students seem to be in a space that is for them

Stakeholder Mapping

User Landscape

The diagram illustrates the User Landscape as a series of concentric circles. The innermost circle represents the core business and its users. The middle ring represents the ecosystem of partners and providers. The outermost ring represents the competitive and regulatory environment.

User Surveys
Qualitative Data and Justifications

On average how long do you spend in studio per day?

Time Interval (hours)	Frequency (Number of Responses)
0-1	1
1-2	1
2-3	1
3-4	1
4-5	5
5-6	1
6-7	1
7-8	1
8-9	1
9-10	1
10-11	1
11-12	1

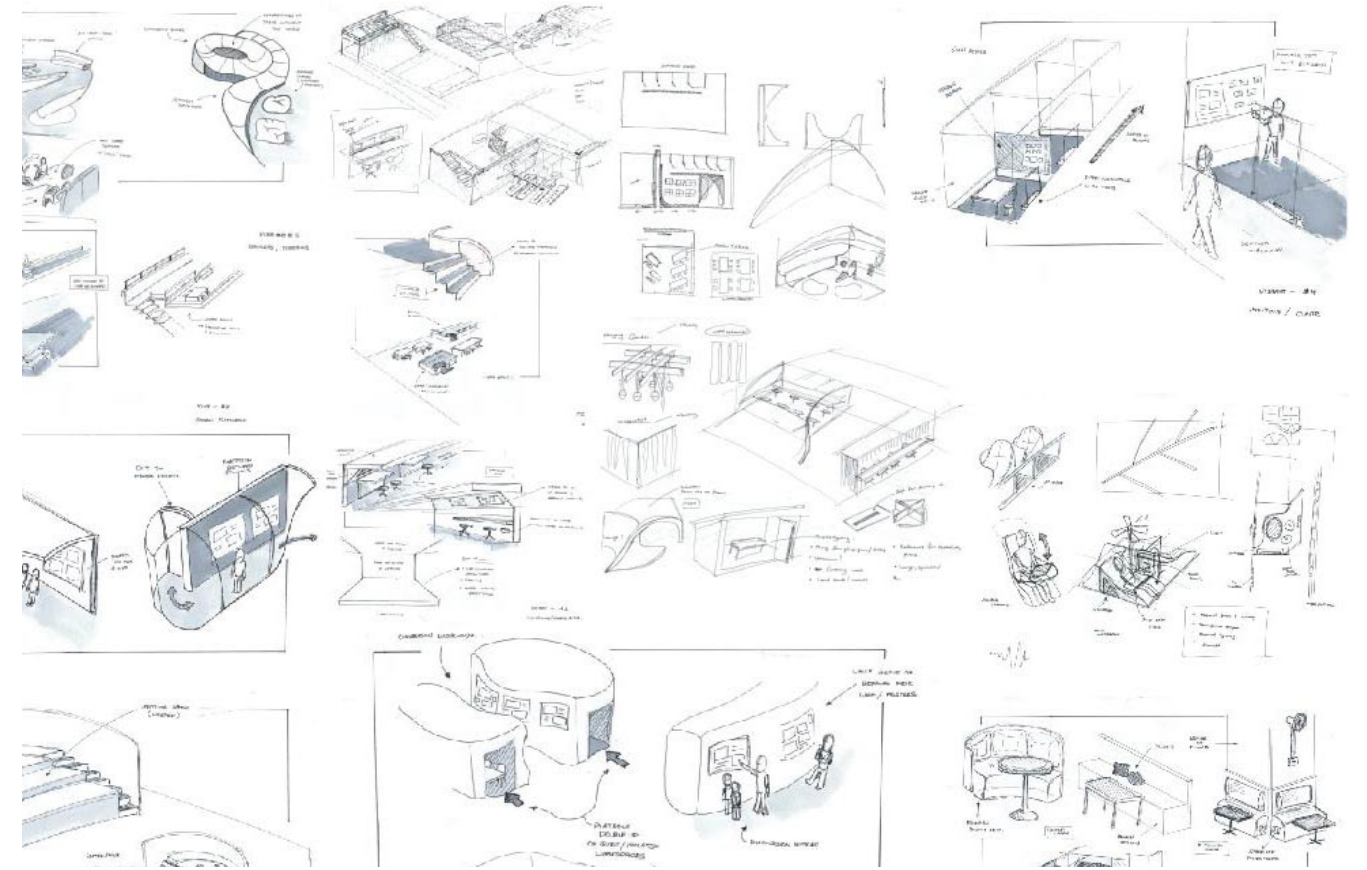
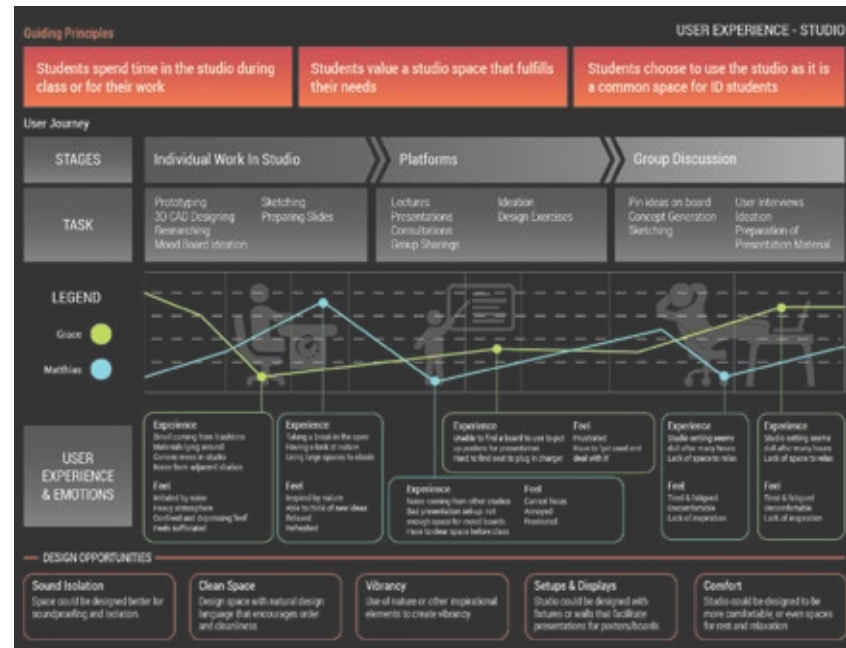
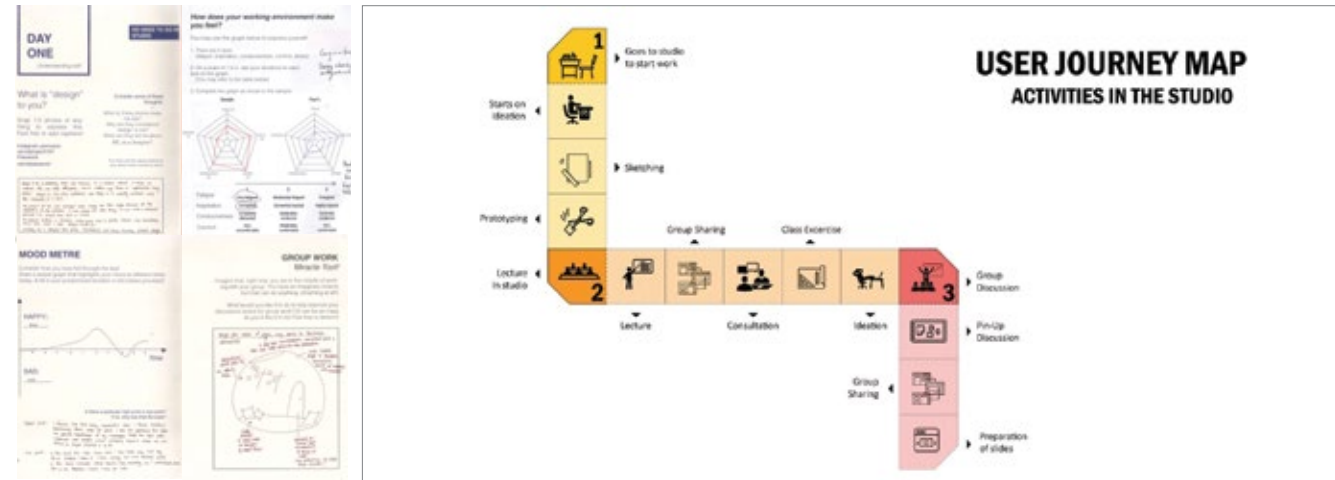
Peak! (at 4-5 hours)

What is your visual preferred work/study spot? (don't! have to be in studio or even at school?)

3 ME(WE)

In Me(We), user research comprised a mix of user interviews, observation sessions, and detailed journal entries. This provided information on what students really looked out for in their ideal design studio: a vibrant space where they are able to spend long hours but yet feel at home; and a space that caters to different tasks involved in design. These insights were the key driving factors for the studio redesign - creating a space that balances between controlled attention and rejuvenation, and an overall dynamism achieved by the combination of interior elements.

Jocelyn Tan, Valerie Tan, Tan Xin Qing & Matthew Soon



Design Platforms

As part of our strategy to evolve constantly, a major component of the course is 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 are exposed to real industry working experiences and develop relevant skill sets.

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.

Make Some Noise

PLATFORM LEADER
Lee Tze Ming

Despite the rise of digital tools and rapid prototyping, it has never been more important for designers to make things with their hands. Simply taking things apart helps us understand how products are made in the real world. Similarly, comfort with making prototypes as an exploration tool enhances a designer’s sensitivity to form, understanding of materials and thought process behind construction and assembly.

In this platform, students will take apart, design and build their own set of functional headphones. Through the process of iterative making and sketching, integrate the skills to finding solutions, thinking about form, material and detail, making telling product stories easier and more sensible.



1 AEOLIUS

AEOLUS is intricately designed to convey a sense of elegance and prestige which challenges the common misconception that aesthetics and audio performance cannot coexist. The headphone features a re-engineered wing system that self-adjusts and conforms to the contours of a user’s head effortlessly, thus enhancing the elegance of interaction in a hassle-free way.

Chui Pak Ho Tony & Tsang Xian Ting Jonathan



2 ONNA

Onna is designed to be a simple and unassuming headphone to make sound more wearable for the contemporary individual. Its magnetic rim grants the liberty to be donned on a myriad of fabric. Onna features a twisted rim and tapered body to accommodate the pleats and thickness of the fabric. The overall slim profile keeps the module in harmony with the fabric in use.

Grace Gandhi Goesantoso & Zeng Jieying



3 ELEMENT-O

In line with Pro-ject Audio’s Elemental line of turntables, ‘Element-O’ was designed by exploring the idea of openness, allowing natural sounds to blend in with the warm sounds of a vinyl record. These headphones stay true to the honesty of its materials, finding the perfect balance between comfort and style.

Valerie Koh & Samuel Woo

Mimetic Inceptions

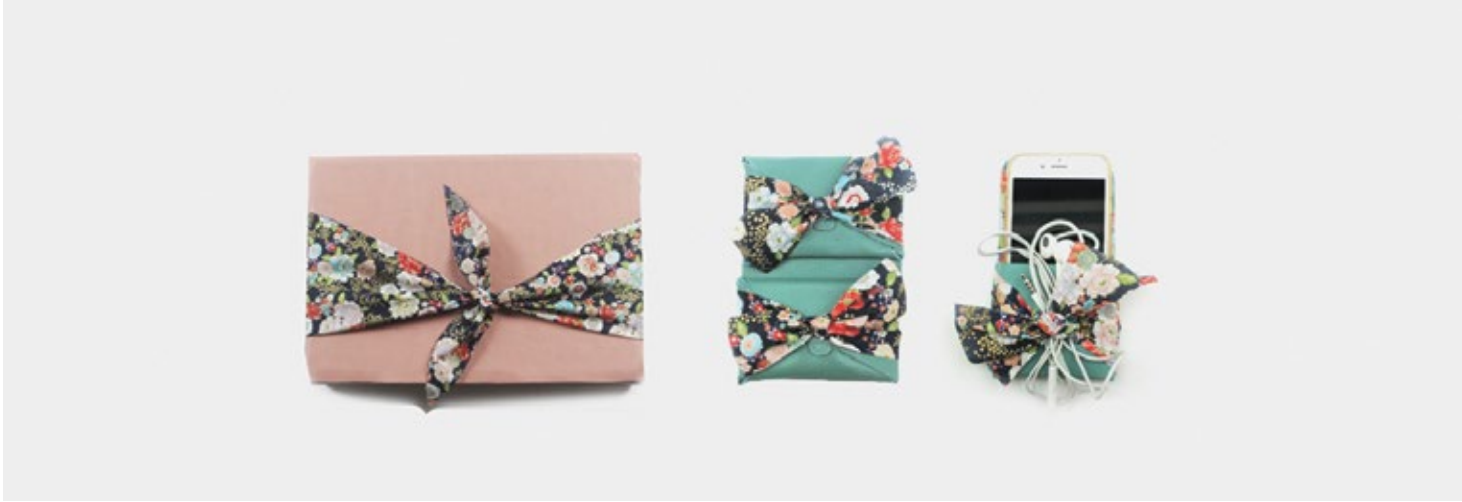
PLATFORM LEADER
Ash Yeo

Interesting objects can carry memes as codes of exchanges with users, to seem viscerally familiar as if an exchange had happened before. This can be primarily designed; prior to experience narratives are engaged. Memes can be intentionally incepted in design to engage empathy, experiences and service flows, to give meaningful sustained values over time, considering aesthetic values are more than beautiful skin-deep styled form, but tacit, imaginative, ephemeral and phenomenal, found in designing natural narratives.

1 PLAYERS

This project investigates how we can use ready-made goods as a material and transform its original value such that the value of outcome being greater than the sum of its parts. The wide variety of crockeries each have a unique form and peculiarities born out of their specific function. The knobs offered a sense of nostalgia and aesthetic appeal. By re-appropriating them into new products, different pairing expresses a different personality.

Jolyn Kang



2 ABOVE: ZERASHIKI

Furoshiki, a wrapping ritual, is a loving manner of anointing gifts and objects. This is typical of the Japanese ritual of Ikigai, which embraces a thorough presence of mind with things, events and phenomena. Replacing the convenient clasps, snap buttons, magnets and velcros, Zerashiki combines leather with intrinsically valued materials and colours, to inspire us in treasuring moments with things we own.

Nguyen Thi Hoang Anh

3 RIGHT: SAPODILLA

Nature does wonderfully and intuitively, in its order and typology of things, to inform us of its readymade affordances, to be simply transformed into guides and implements in small things such as hooks, handles and holders. Scalability, Replicability and interchangeability of parts are some of many embedded manufacturing principles of nature, which afford for efficiency, reduced energy processing, and thus sustainability of design aesthetics, according to Aristotle's "Nature creates nothing in vain."

Khng Tian Wei Melvin

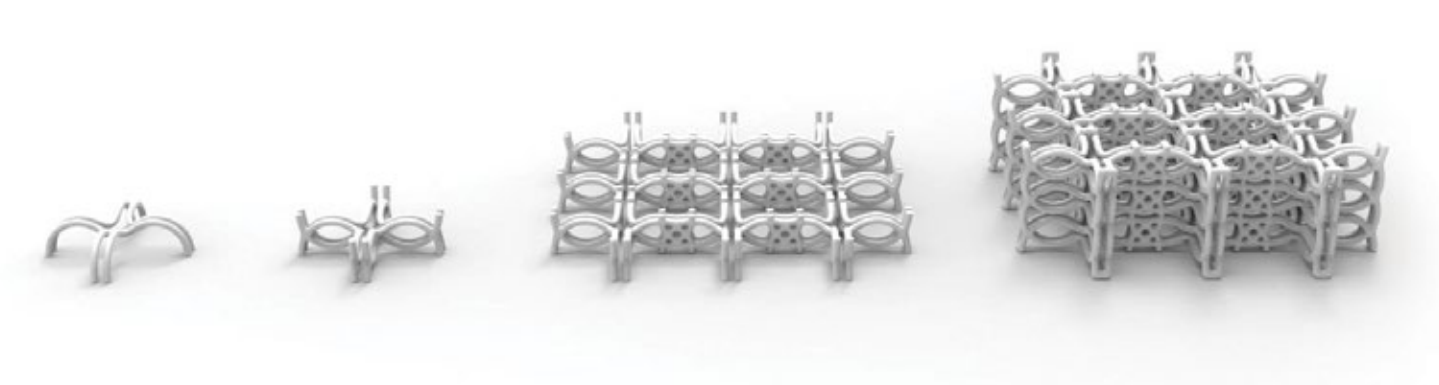


Lightweight Structures

PLATFORM LEADER
Axel Thallemer

Lattice structures can either be designed as infill materials to replace solid parts and thus save energy, material, weight, and increase the economy of production and use, or they can be directly implemented as a functionally enhanced product by making use of its inherent aesthetics.

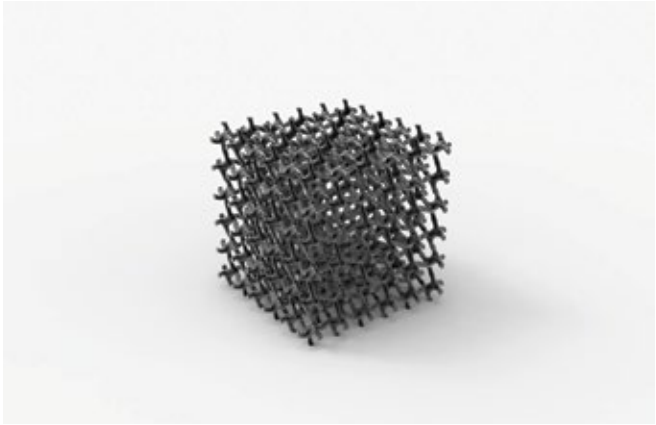
According to Sullivan’s phrase “form follows function” (1896), a designer’s form creation process is always driven by purpose. This resonates with the very idea of lattice structures, where every subtle detail in the lattice’s geometry contributes to its eventual functionality and value. Instead of targeting multiple product features for a single function, a well-designed lattice - when applied in a product - can bring about multiple benefits within a single feature. The earliest examples include megastructures like the Eiffel Tower (1887), whereas today, additively manufactured meso and micro-scale lattice structures are widely used in the medical industry. This platform explores geometries for various small-scale applications.



1 FLO.Z

Flo.z represents a simplified geometrical abstraction of a sixteen petal flower into a four petal unit cell, allowing the lattice to save up to 90% volume of the production material. It not only makes the whole structure lighter but also offers a minimum compression safety factor of 2.51 under a 9 psi load.

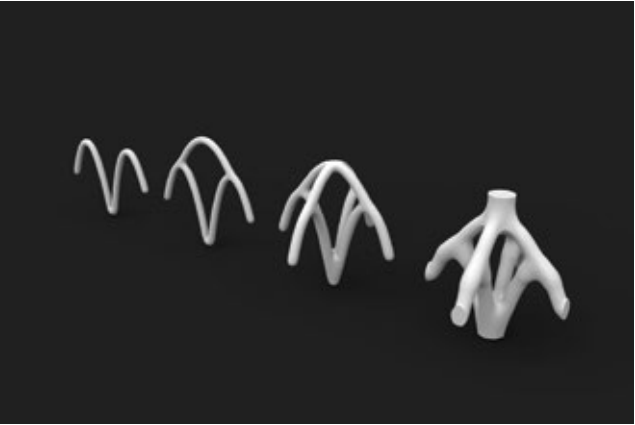
Lim Jun Jie



2 SINE

Moving away from straight struts and adopting only sine wave curves, SINE is a lightweight structure that embodies flexibility. A 92% weight reduction rate and inherent bendability was ensured by the 3-axis curvature array and fluid C2 surface continuity – all inspired by the mushroom phallus indusiatus.

Nguyen Trong Hieu



3 HSA-01

Every element in nature has its own unique biological strategy with the common purpose of survival. The method of Fusion Biomimicry explores the complementation of different elements from nature to create new possibility. The fusion of complementary structures found in nature inspired this creation of HSA-01, which represents a single unit within a load bearing structure.

Ng Ai Ling

In Praise of Shadows

PLATFORM LEADER
Christophe Gaubert

In typography, the white of paper can give shape to the black of font. In architecture, the empty can give shape to the full. Product design is somewhere between 3D and 2D, producing usable objects at the same time as strong and readable signs. So, let’s make the hypothesis that light can give shape to volumes. Can we design a product just by thinking about light or shadows? What could be an object if we first design its shadow? What could be the function of the shadow?

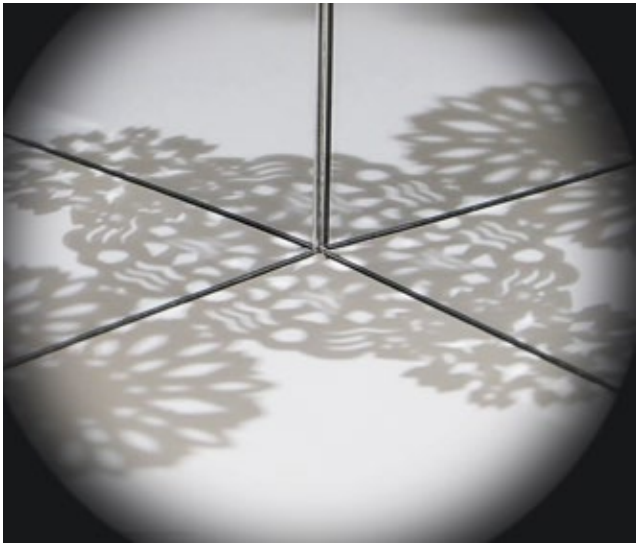
This platform consisted of research via experimenting with light and shadows to design a product in a non-conventional way and prototyping from the first ideas to the final product.



1 SHINE

Shadows have the powerful ability to convey messages which are difficult to say in words. Through combining this narrative ability with the imagination that is inherent in everyone, Shine tells a story which unfolds only in the dark with just a torchlight. Parents can accompany their children to cast shadows on each page and read the heartwarming story together.

Ng Zi Ning



2 SKIASCOPE

To create a world in which shadows alone captivate and elicit wonder, the Skiáscope applies the fascination that we have in playing with light to playing with shadows. Simply turn the light tube and peer in, to where the shadows come alive in a myriad of unexpected characteristics, playfully enchanting children and adults alike.

Ho Pui Ying



3 QUILLIAN

An elegant piece of furnishing on its own, Quillian offers something new to the ambience of our homes through simple shadow play. Sunlight is filtered by rotating rows of dichromic and tinted films to create an array of colours and shades, changing the tone and perceived temperature of the room to our needs and moods..

Khoo Yin Qi

The Notion Of Movement - Healthcare

PLATFORM LEADER
Anthony Chin
Tsuto Sakamoto

COLLABORATOR
Philips Design

A multi-disciplinary experience design platform that aims to redefine healthcare experiences through a high level system & service design thinking.

The end-result should encompass holistic & thoroughly considered user experiences that positively impacts both front & back-end users (ie. patients & care staff)



1 ED 2025

A trip to the Emergency Department often leads to high stress and anxiety. In collaboration with Tan Tock Seng Hospital, the team developed a holistic solution that incorporates pre-triaging, a smart trolley and dock system and a fluid spatial design. Working in harmony, these 3 elements define patient experience thus enabling a personalised healthcare experience while optimising circulation and workflow.

Yeo Ren Jie, Tan Wei Ming & Sherwin Ng



3 EMMA FERTILITY CLINIC

Emma Fertility Clinic is an IoT connected public fertility clinic that aims to lower emotional and physical stress for couples seeking infertility treatment. The sperm collection process is made dignified by removing unnecessary human contact. The tedious home medication journey is transformed into a shared responsibility between couples through Emma, the clinic's APP.

Lynn Ho Xin Yi, Lim Cai Jin & Zakhran Khan



2 GOTONG-ROYONG

Project Gotong-Royong is a new rental flat archetype that fosters a sense of connectedness and communal care. For isolated elderly living alone, reaching out for support from the community can be difficult. By decentralising daily activities and creating subtle shared spaces between neighbours, the passive elderly become more visible so neighbours can look out for them more easily.

Felicia Koh, Ng Tse Pei & Ye Lu Man

Business by Design

PLATFORM LEADER
Patrick Chia

COLLABORATOR
IBM

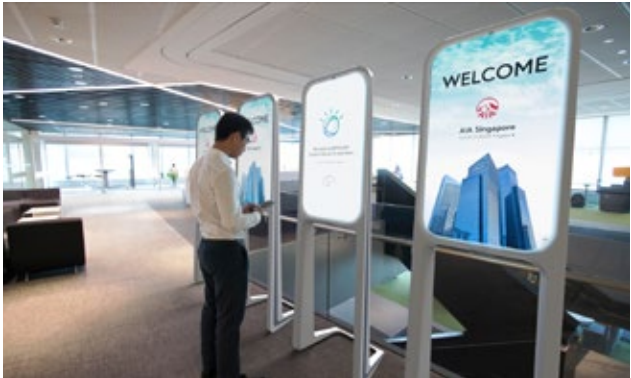
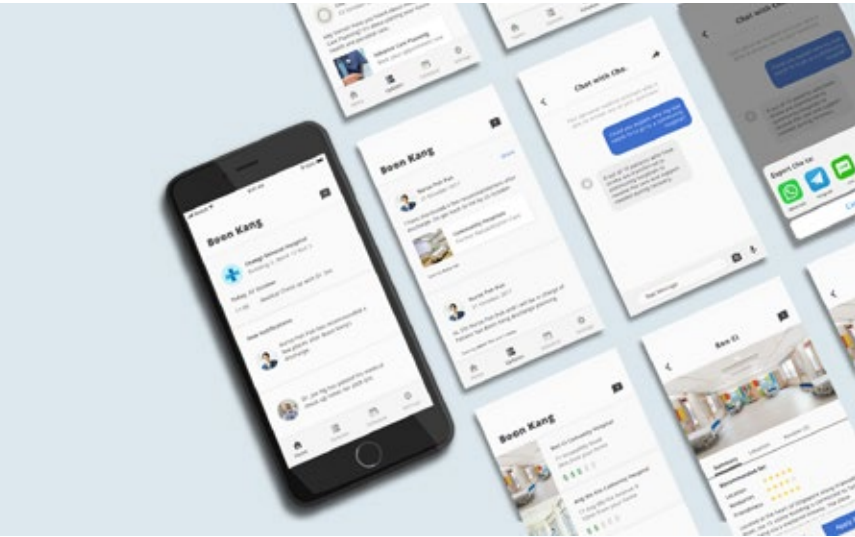
For the first time, IBM iX @ IBM Studios Singapore has collaborated with NUS Division of Industrial Design to explore new opportunities and build businesses, by design. This studio operates at the intersection of progressive strategy, creative vision, and transformational technology. Students are positioned as design consultants, and embarked on an experience-led journey. They had the opportunity to explore, learn and use IBM Methodologies, tool and technical platforms including IBM Design Thinking, Agile and, Bluemix platform etc. Through the 13 week studio, students worked on business challenges and enhanced client experiences. They also validated their solutions through iterative prototyping. This experience enables students to understand first-hand how IBM iX and IBM Studios Singapore play a key role in building businesses, by design.



1 CHO

CHO is a companion app that aims to simplify the discharge process for a smooth recovery. It provides assurance to the family by giving live updates on the patient’s situation, and creates a customised discharge plan based on their needs. With CHO, a more informative discussion can be facilitated amongst family members as they prepare for such future occurrences through family planning and medical coverage.

Chin Guo Hong, John Teo, Soo Woei Perng & Clifford Chew



2 DRE

By leveraging IBM Watson’s cognitive capabilities to create a new registration concept, a more engaging and immersive experience for first-timers at IBM Studios is created. The improved user journey begins with a interactive experience with Watson via a customised microsite. From this interaction, Watson is able to glean insights about the user’s personality which is translated into a personalised memento when the user arrives at IBM Studios.

Wilmer Tay, Jonathan Tsang & Shawn Ng



3 BOTSON

Botson, a word play on IBM’s super computer Watson, is a handy tool for IBM tour guides to showcase their studio to clients. Making use of IBM’s cognitive resources, Botson empowers guides with information on demand, on site cognitive demonstrations, location based prompts, post-tour reviews and archives, in order to create an engaging and memorable tour experience for their clients.

Huang Yixuan, Nine Sellier, Nghiem Si Phuoc & Jaycelyn Ye

Vehicle Design for Ridesharing

PLATFORM LEADER
Patrick Chia
Donn Koh

COLLABORATOR
PSA

The world of mobility is changing. Cars as a privately-owned device are transforming into an on-demand, multimodal and shared transportation system. However, when we look at cars used for ridesharing, one can observe that none are specifically designed for ridesharing, but are mostly re-purposed private passenger vehicles. Working alongside our collaborators at PSA GROUP, a car manufacturing and mobility providing company, we ask ourselves the question: what about a vehicle specifically designed for ridesharing? How would it improve the ridesharing experience ? The studio explores different ridesharing scenarios to gain insights, conceptualise design solutions, prototype and validate, for PSA GROUP to bring to its various brands for automobile development in the future.



1 OLO

OLO is an intelligent in-car assistant designed for ride-sharing drivers. Comprising of an app, AI, and shared screens, it uses information from both the car system and ride-share app to ease daily challenges faced by ride-share drivers. This includes quietly assisting with drivers' hosting duties, boosting their earning opportunities and supporting their personal comfort.

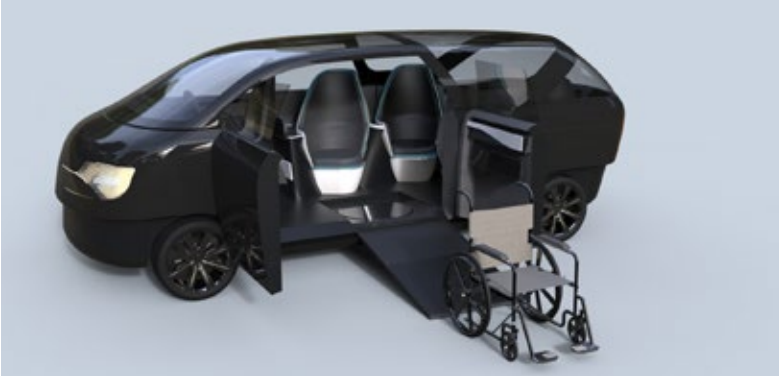
Koh Jing Ting, Lin Qiu Xia,
Roger Goh & Marion Casalis



2 MOVE

If money wasn't a factor, we would rather choose a personal ride than a shared one. MOVE adapts its interior to create a personal and intimate ride sharing experience. Through the use of versatile seating, individualised headrests, and personal amenities within the vehicular space, privacy among passengers is achieved seamlessly and unobtrusively.

Jon Chan, Gabriel Lim, Lum Jun Jie & Ang Kay Li



3 BALLADE

Experience the future of shared mobility with Ballade. Whether you are a single rider, with friends or with strangers, Ballade provides unparalleled comfort in the form of personal space. With our latest reconfiguration, we ensure that your toddler and bulky baggages are well taken care of. Wheelchair users are welcome aboard too, given our advanced accessibility and safety features. Simply come as you are, and enjoy your ride.

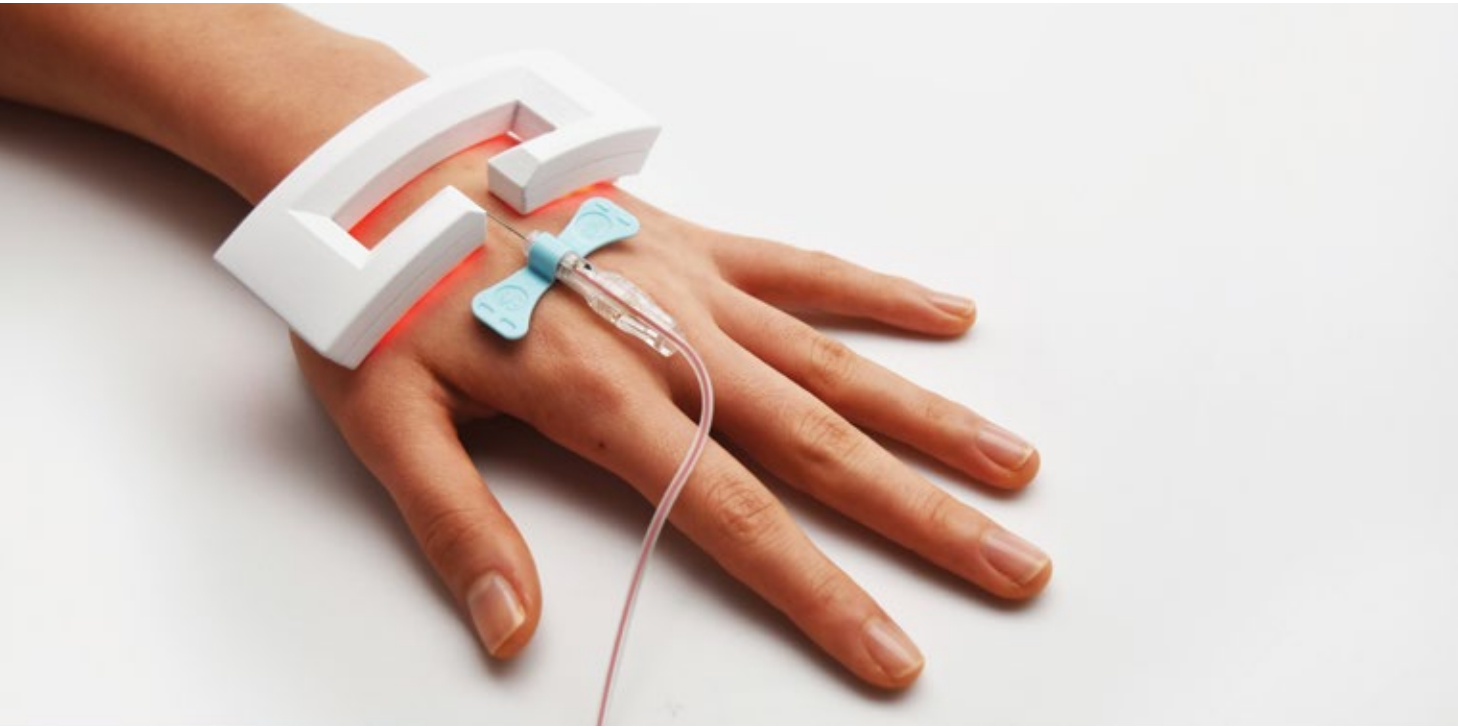
Poh Yun Ru, Philip Chen Qiyuan & Ysanne Yeo

Design for Medicine

PLATFORM LEADER
Dr Yen Ching-Chiuan
Ulrich Schaudolph

COLLABORATORS
National University Hospital

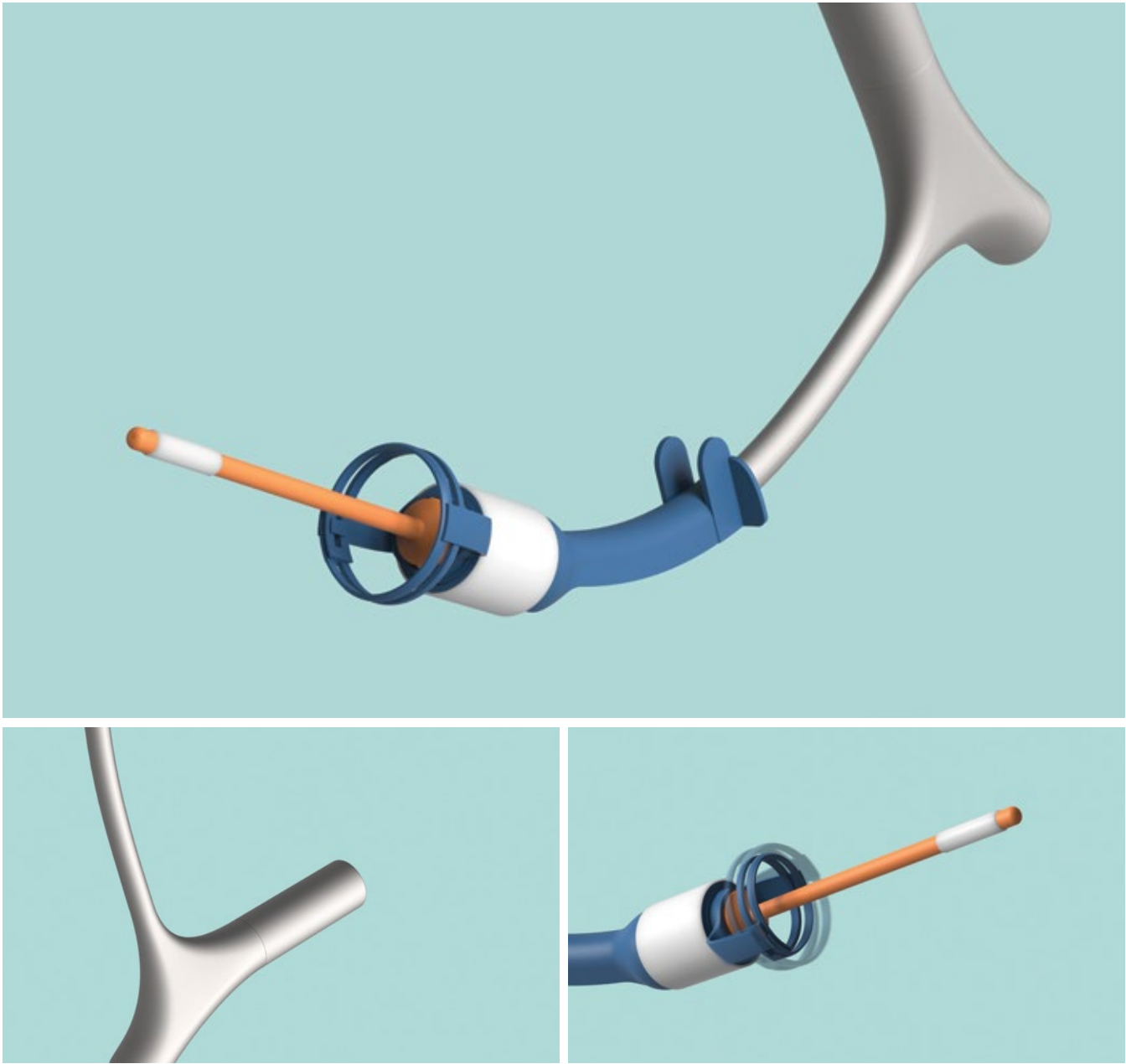
Design today plays a critical role in differentiating medical products beyond mere aesthetics. The ergonomic of surgical tools, the effectiveness of medical education, and the friendliness of assistive devices are some of the areas where design can intervene. This studio provides students the opportunity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



1 LUMIVEIN

Failure to accurately locate veins during a venipuncture procedure can be a painful experience due to repeated needle insertion. LumiVein is designed with an elongated viewport to enable optimal vein viewing across the transverse diameter of the arm. This lightweight and portable device utilizes infrared lights to reveal veins under skin layers for accurate intravenous access through light absorption.

Fiona Tan, Samuel Woo & Alison Wong



2 LUSH

Uterine manipulation is done during a laparoscopic assisted vaginal hysterectomy. Due to the difference in diameter of the cervix and the vaginal entry, an episiotomy may have to be done in order to fit current equipment in. Lush comes with an adjustable cup accommodating the difference in diameters, reducing the need for an episiotomy. Additionally, the versatile handling allows for both precision and power depending on the surgeon's needs during the surgery.

Teo Ren Zhong John, Lew Jin Jie & Kim Yoo Jung

Interactive Exhibit

Design and Prototyping

PLATFORM LEADER

Dr Yen Ching-Chiuan, Yong Lint, Chuah Teong Leong & Mandi Lee

COLLABORATORS

Yong Loo Lin School of Medicine
Prof Dinesh Kumar & Prof Bay Boon Huat

1 AUSCUE

AusCue is a medical education simulator designed to build confidence in recognizing heart sounds for foundation medicine students. Apart from integrating physical landmarks of the ribs for a tactile learning experience, AusCue is equipped with accuracy sensors within the stethoscope and a speaker that amplifies heart sounds. This enhanced cue-learning experience fosters accuracy, confidence, and assurance of auscultation skills before entering clinical attachment.

Fiona Tan, Kevin Yeo & Chew En Wei

Students collaborated with the Anatomy Museum to design an interactive exhibit. Students were exposed to design implications and constraints of the current and near-future state of Human-Computer Interaction, and worked with existing technology platforms to create a working prototype capable of effectively demonstrating an interactive design concept.

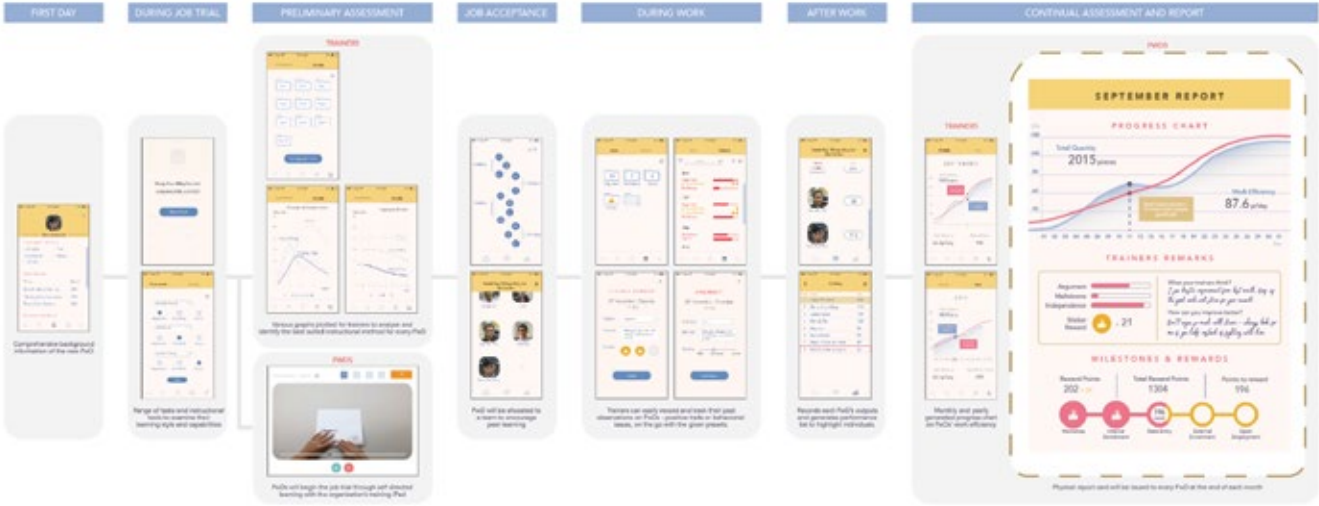


Social design for disability

PLATFORM LEADER
Song Kee Hong

COLLABORATOR
Ministry of Manpower, Singapore

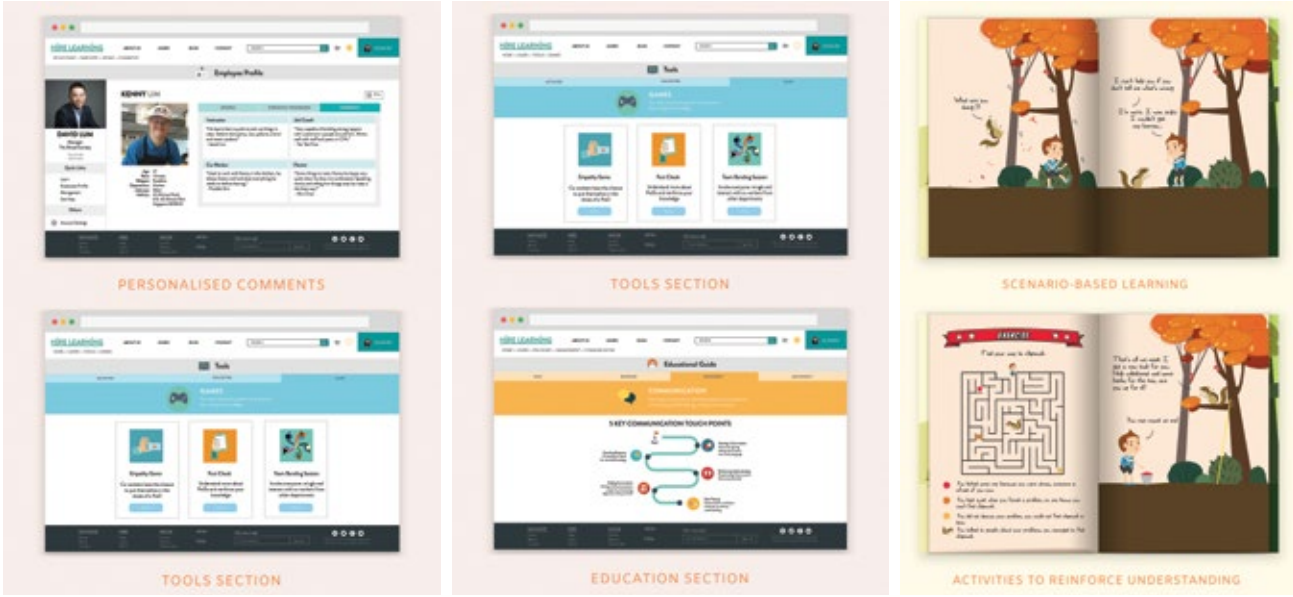
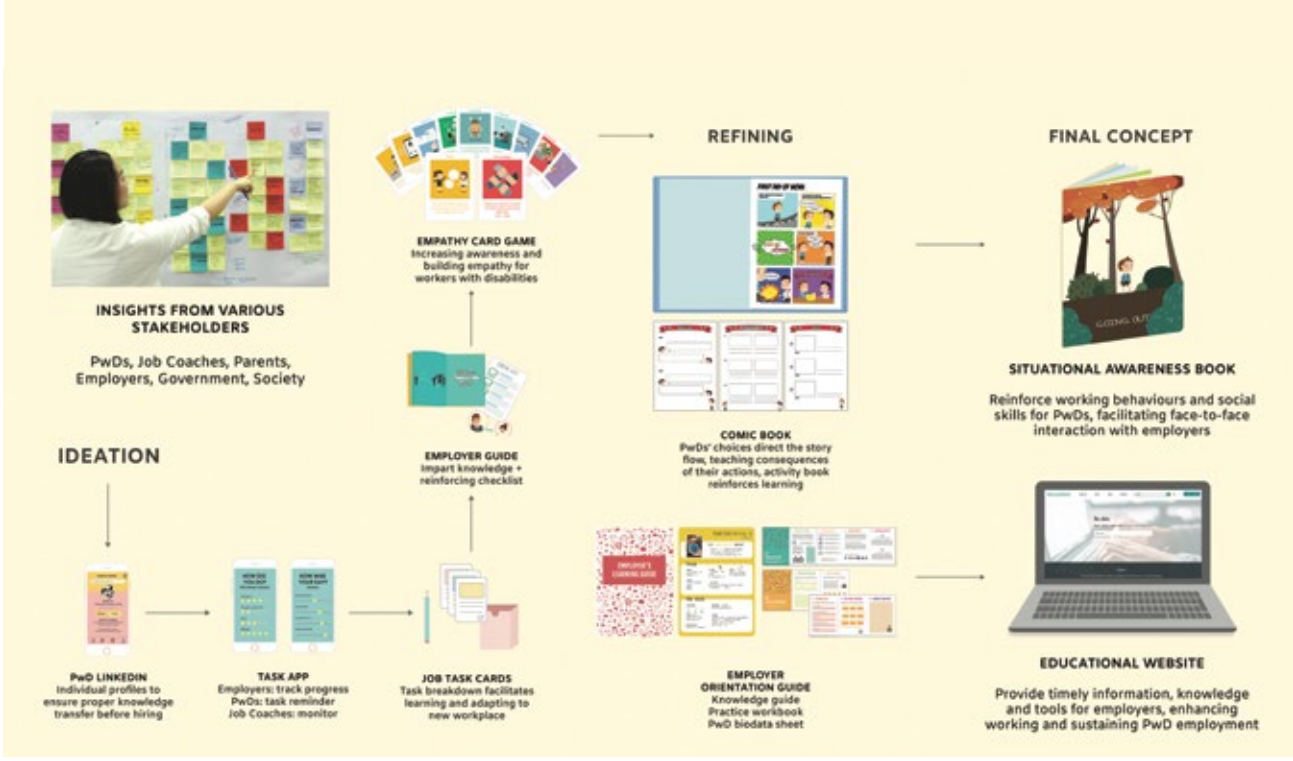
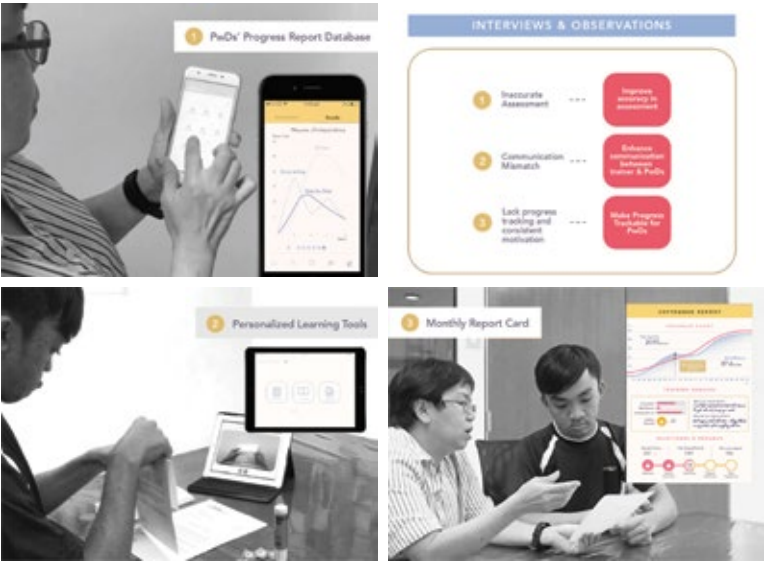
Approximately 8% of Singapore’s resident population suffer from some form of disability. Quality of life is most affected by the severity of the individual’s disability. Not being employed or meaningfully engaged coming at a close second. Although labour shortage is one of the biggest challenges for the Singapore economy, ironically there are low employment opportunities for the disabled. Of the jobs available, the majority are low-wage jobs; even for the skilled & educated. Objective of this studio is to help the disabled find suitable jobs to improve their quality of life. The design process starts with interviewing the disabled, the Voluntary Welfare organizations that are helping them and potential employers to understand the challenges involved in job matching. Multiple concepts are developed, prototyped & tested to validate solutions.



1 GOING OUT + HIRELEARNING

Going Out and Hirelearning is a 2-part solution aimed at enabling individuals with Mild Intellectual Disabilities in job-matching and employment sustaining. Targeted at PwDs with MID, Going Out is a situational awareness book focusing on imparting employment related social skills, to educate and prepare them for the workforce. For the employers, Hirelearning imparts knowledge and tools related to working with MID and other disabilities with a focus in fostering better understanding and raising awareness about working with PwDs.

Kenneth Yip, Jervenne Teo & Tan Zijie



2 TAP - TRAINING ASSISTIVE PORTAL

People with disabilities (PwDs) working in a sheltered workplace rely heavily on trainers for work-skills guidance. Therefore, TAP is designed to bridge them effectively. It helps trainers discover the true capabilities of PwDs by providing a medium for compatible learning methods and proper task matching. Ultimately, TAP assists PwDs in achieving independence and encouraging continual upskilling – essentially creating opportunities for open employment.

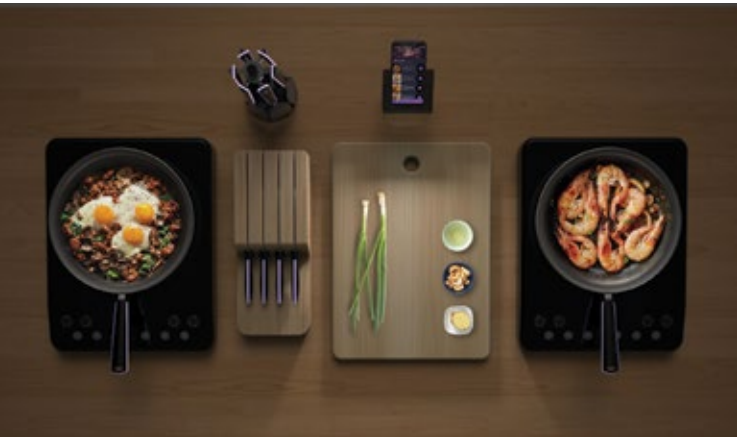
Jomains Neo, Ngieng Jia'en & Mariel Chua

Fooding 2.0

PLATFORM LEADER
Christophe Gaubert

Can digitalization change our relationship with food? What can we imagine on our tables tomorrow? What new technologies, what new shapes, what new experiences? How will it deal with tradition? As digital technologies are firstly information-based, what consequences does it have on food? How production and distribution schemes could evolve or mutate? What new imagination field can we build? And, most important, regarding global issues, how ethics can drive and structure this new way to make food?

This platform was the opportunity to develop a vision of the future of food through several dimensions of design, from what we will eat to how we will produce and share it, from product to service.



1 IKI-O

Iki-o aims to promote the idea of eating insects by generating snacks using an abstraction process that reduces the obvious connection with insects, yet provides a subtle hint of its origin. An algorithm allows to invent names according to scientific origin, CAD and generative softwares allow to decide the shape, color and texture from the original aspect of insect.

Kenneth Yip Weng Yew, Rachel Chan
Hui Ying & Ryan Chin Qing Feng

2 SYNC

Sync is a system that combines both kitchen tools and a digital platform to revolutionise the cooking experience. Inspired by the concept of a DJ, users can blend music tracks through the normal cooking routine, creating a groove-worthy cooking experience. It opens up avenues for sharing of music creations online, and envisions a future of music-food co-creation with others.

Lim Xin Yuan, Matthew Soon Meng Chew,
Zhang Han Wen & Marion Casalis



3 ABOVE: PROPORTION

ProPortion is a system that helps us visualise what a balanced diet looks like. The system consists of a mirror and scale that records height and weight, an app that generates meal plans based on user data, and a plate which serves as a visual guide for food portions. The artefacts help us understand our bodies and anticipate the adjustments that need to be made to our diets.

Foo Ying Li Caitlin, Denise Yeo Jia Ying & Valerie Tan Shi Min

4 BELOW: LANGUAGE OF FOOD

The Language for Food is designed to translate the complexity of memories into food. It captures 3 important parameters of our memories: visuals of experience, physical sensations and emotions, and translates them onto the colour, form, taste & texture of the snack. As a vessel for memories, the snack can commemorate anniversaries, any memory of personal significance, or tell new stories..

Poh Yun Ru, Zeng Jin & Ho Pui Yng



Stands and Bins

PLATFORM LEADERS
Yong Jieyu
Hans Tan

COLLABORATOR
NUS Office of Facilities
Management

This platform tackled two separate projects: bicycle stands and recycling bins at the university campus. There are existing recycling bins “littered” all over the campus, while the university is working on a “Greenway” masterplan to build cycling paths around the university. The students are challenged to create evidence-based value that transfuses the micro and the macro – the projects will not consider these products as singular objects, but as part of a larger network of mobility, accessibility and waste management.

1 VELOTETHER

The Velotether is a bicycle stand both rigid and flexible, an outcome grounded on two conceptual anchors - the bicycle stand had to have a small and flexible footprint because of site variability around campus, and it had to be as secure as possible while allowing the user to carry as little by way of locks and chains as possible.

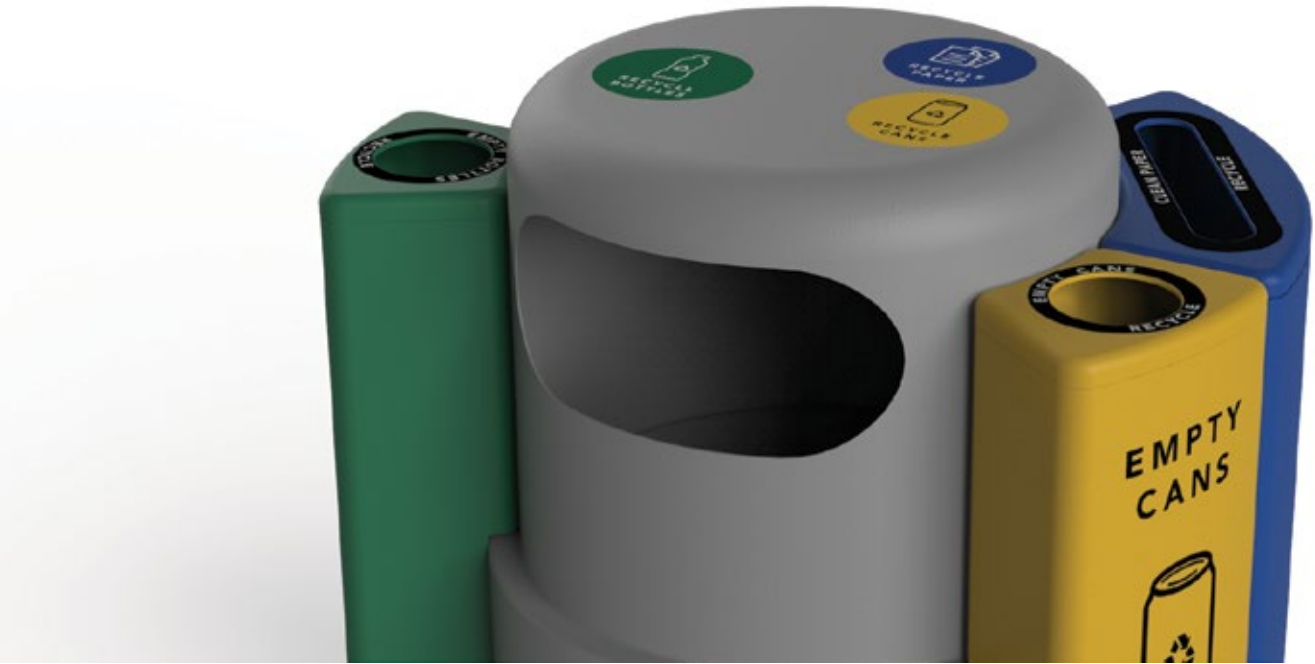
Yap Chuin Houi & Gabriel Lim



2 SATELLITE BINS

By identifying that recycling for most users is not a first intention, where the priority to get rid of their trash instead, Satellite Bins leverages on this behaviour to nudge recycling habits. By hijacking the common general waste bins found on the NUS campus with small accompanying satellite bins, users are diverted in their split second decision process from throwing away to instead recycle their potential recyclables.

Jon Chan Hao & Yang Yang



Guerlain Cosmetic Stand

PLATFORM LEADER
Dr Christian Boucharenc

Hunn Wai
Leow Yuan Kai

COLLABORATOR
Marina Oechsner de Coninck
(Regional Merchandising Manager,
Travel Retail Asia Pacific, Singapore)
Victor Chen (Regional, Retail Design &
Visual Merchandising Asia Pacific & Japan,
Hong Kong)



The theme of this platform was: “To design a project to celebrate 190 Years Guerlain Anniversary in 2018.” Though the year we will celebrate the french perfumer, its patrimony & passion for beauty, its iconic franchises Abeille Royale, Orchidée Royale, Rouge G, Aqua Allegoria & the Bee bottle. This Mobile Event Structure will have 3 dedicated poles of Beauty: Skincare premium consultation station, Make up animation zone and Perfumes zone. The Mobile Event Structure will be adaptable for two kinds of markets and environments: Domestic & Travel Retail in Asia.

1 PARAGON

The concept ‘Call for celebration’ celebrates Guerlain’s 190 years of history through the notion of gifting. Inspired by the traditional French boutique with Guerlain’s iconic and luxurious bee bottle as the product focus, the main highlight of the store concept is an exclusive perfumery zone consisting of a grand perfume bar paired with rows of bee bottles on the rack. The store design also features an extensive use ribbons and gift boxes to immerse shoppers in this celebratory mood.

Kwek Ai Ling & Lim Xin Yuan



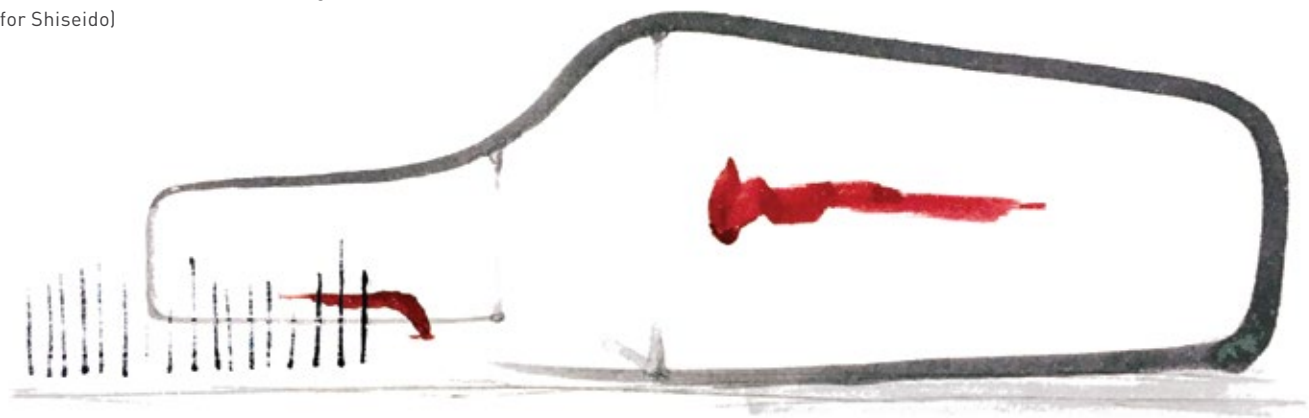
Shiseido Cosmetic Stand

PLATFORM LEADER
Christian Boucharenc

Olivia Lee
Leow Yuan Kai

COLLABORATOR
Shiseido Singapore
Eyan Chang (Global Design Centre Director)
Hideaki Nishimura (Creative Director
– Global Travel Retail)
Darren Leow (Store Design &
Project Manager – GDC)
Olivier Moisan from Lab:OM, (Design Consultant
for Shiseido)

The aim for this platform, is to design the exhibition stand of Shiseido Group, in TFWA Asia 2018, in Marina Bay Sands for May 2018. This stand will present 9 brands in the Shiseido Group. These brands will congregate for the various Asian clients. This project is an opportunity to use new technologies like multimedia, interactive screens etc...In addition, this project also allows some investigation and experimentation using recycled materials and dis-mountable modular systems, making it reusable and adaptable for other following exhibitions.



1 AN INVITING TURN

Guests are invited to take a journey through the space, encountering the beauty of Shiseido at every turn. The contrast between opaque mass and translucent lightness creates a feeling of elusiveness and allure, particularly in the front façade. Each detail and touchpoint is designed to evoke a sense of timelessness and humble hospitality, while keeping in consideration guest and staff interactions.

Desiree Lim, Ang Kay Li & Eugie Song



Orange & Co

PLATFORM LEADER
Christophe Gaubert

This platform leads to address the notion of Biomimicry in a new and creative way. As a tribute to Bruno Munari and his book Good Design (1963, Corraini Edizioni), every student made a study on a local Singaporean fruit, from durian to salak, to extract some particularities from an industrial point of view. Then, these potential skills were considered as the starting point of innovation, incarnated in an iconic product, opening the field of a new brand, far away from the original fruit but deeply inspired by it.

1 LEXIGON

Inspired by the tessellation of pineapple skin, Lexigon is a lighting system consisting of interactive units. Each unit is a flexagon volume with LED lights and magnetic power connectors implanted within. There are innumerable ways to combine these units together, forming larger lighting concretions of different shapes and sizes, serving different functions and places.

Nguyen Thi Hoang Anh



2 RAUCOUS

This high-end Hi-Fi 3D speaker, Raucous (meaning ‘disturbingly harsh and loud noise’) is inspired by the Durian’s exclusive experience in contrast to its first impression: an uninviting look and smell hiding the most delicious flesh ever. Similarly, Raucous is designed almost unattractive from outside and gives no clue about itself while protecting a jewel of technology producing the best sound you can imagine. By also providing the highest quality of digital files through its restricted online platform, the ‘Rau Club’, Raucous guarantees an exclusive musical experience, only for people who knows.

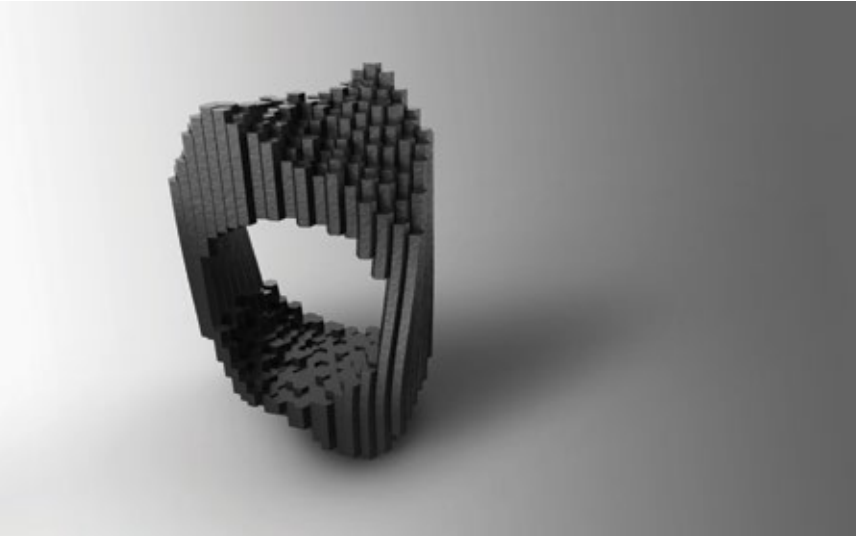
Zeynep Ozge Aydin



Funcsthetics

PLATFORM LEADER
Axel Thallemer

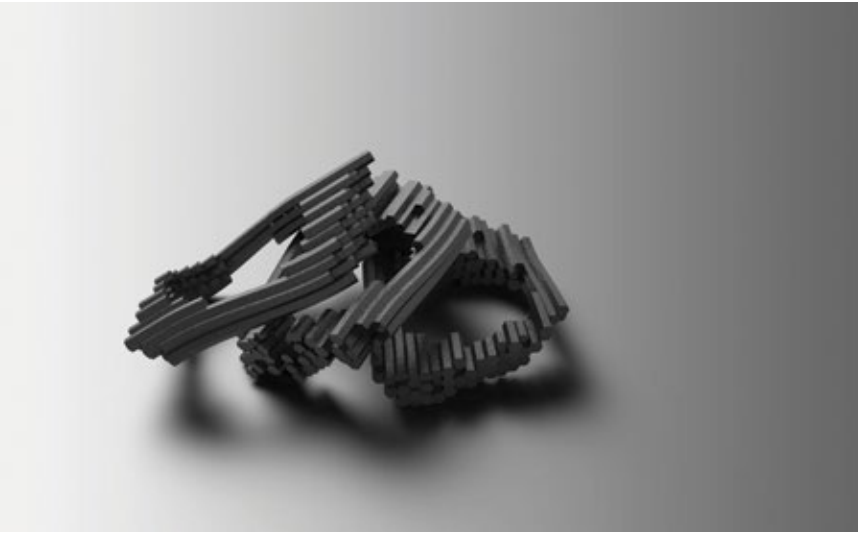
Investment casting is a millennia-old process of materialising shapes. 3D printing is only a few decades old and has somehow matured offering higher resolution. Amalgamating both technologies, this design platform is about combining the make of investment cast models by 3D printing of wax. There are, so to speak, no limits to shape as long as the proposed design is printable within the maximum build envelope of the machine. One goal of this design platform was to design a finger related object, which could only be fabricated by 3D printing while making use of the achievable resolution of 35 microns by designing the features accordingly. Each individual exercise uses the creator’s family name as label for the printed object and serves as the background for the creation of a brand identity.



1 BASALT RING

Inspired by basalt columns formed naturally by volcanic eruptions, the Basalt Ring is a puzzle ring that aims to embody the harmony between opposites: The unwavering structure of hexagonal columns and the chaotic arrangement of their heights; and the integration of nature and artificial manufacturing in a congruous whole. Composed of 3 bands with complex interlocking geometries afforded by its columns, it challenges its user/s to discover the perfect fit.

Ian Tan Jian Ann



2 JIEYING, A FINGER RING/SPLINT

Jieying is designed to be a stylish and sophisticated finger splint to treat the medical condition Swan Neck Deformity. The helicoidal structure contours to grant individualized comfort, fit and support. Inspired by nature’s topography and terraced paddy fields, the dynamic curves of *Jieying* feature the perfect harmony between regularity and irregularity. The detailed texture resembling that of a miniature topographic map was a result of its production method (SLA), a perfect coincidence that harmonizes with the overall design.

Zeng Jieying



3 HAIRY RING

We are unable to deny how society has helped inculcate a perception of ideal beauty standards. To be beautiful is to be “clean of hair” at certain regions and going natural is deemed as a social prohibition.

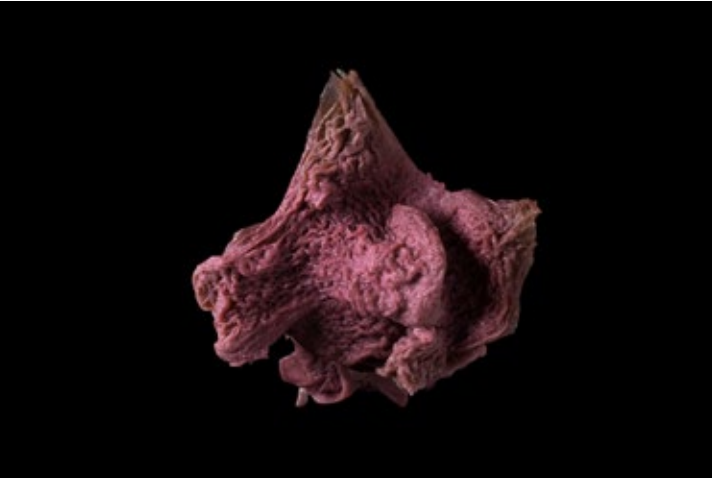
We should get thinking of how we have become slaves seeking to fit society’s ideals. What if we had hair at places we are not supposed to?

Tan Zijie

K for Kueh

PLATFORM LEADER
Hans Tan

Students are tasked to create an original Kueh that does not pre-exist. Limited to the process of steaming as the key process and any type of flour as the main ingredient, students discover new Kueh forms through the investigation of this interaction. Students also shape the story behind the origin of the Kueh, each narrative though fictional, is woven with historical events, beliefs, tradition and folklore with an affiliation to Singapore.



1 HUA FA KUEH

Hua Fa Kueh was created in the 1970s by a hawker called Ee Kiat, while experimenting with his recipes stumbled across a kueh that reminded him of the rare Rafflesia flower he found in full bloom whilst previously working as the errand boy of a doctor. When steaming is done and the lid uncovered, the kueh deflates from a large bulbous shape that ‘folds into petals’ in a metal can that is traditionally used as its mould.

Natalie Mae Tan



2 KUEH HAMIL

An Indonesian-Chinese immigrant couple had been trying to conceive for 10 years. One day, the woman suddenly craved for Kueh-Ampong, an Indonesian honeycomb cake. Uncertain of the recipe, she made a few mistakes, and resulted in a Kueh with a pink protruding bulbous form enveloped by walls. Shortly after, she was pregnant! Word got around; Kueh Hamil has been consumed ever since to bless couples with children.

Sheryl Teng



3 TUA JIA KAR KUEH

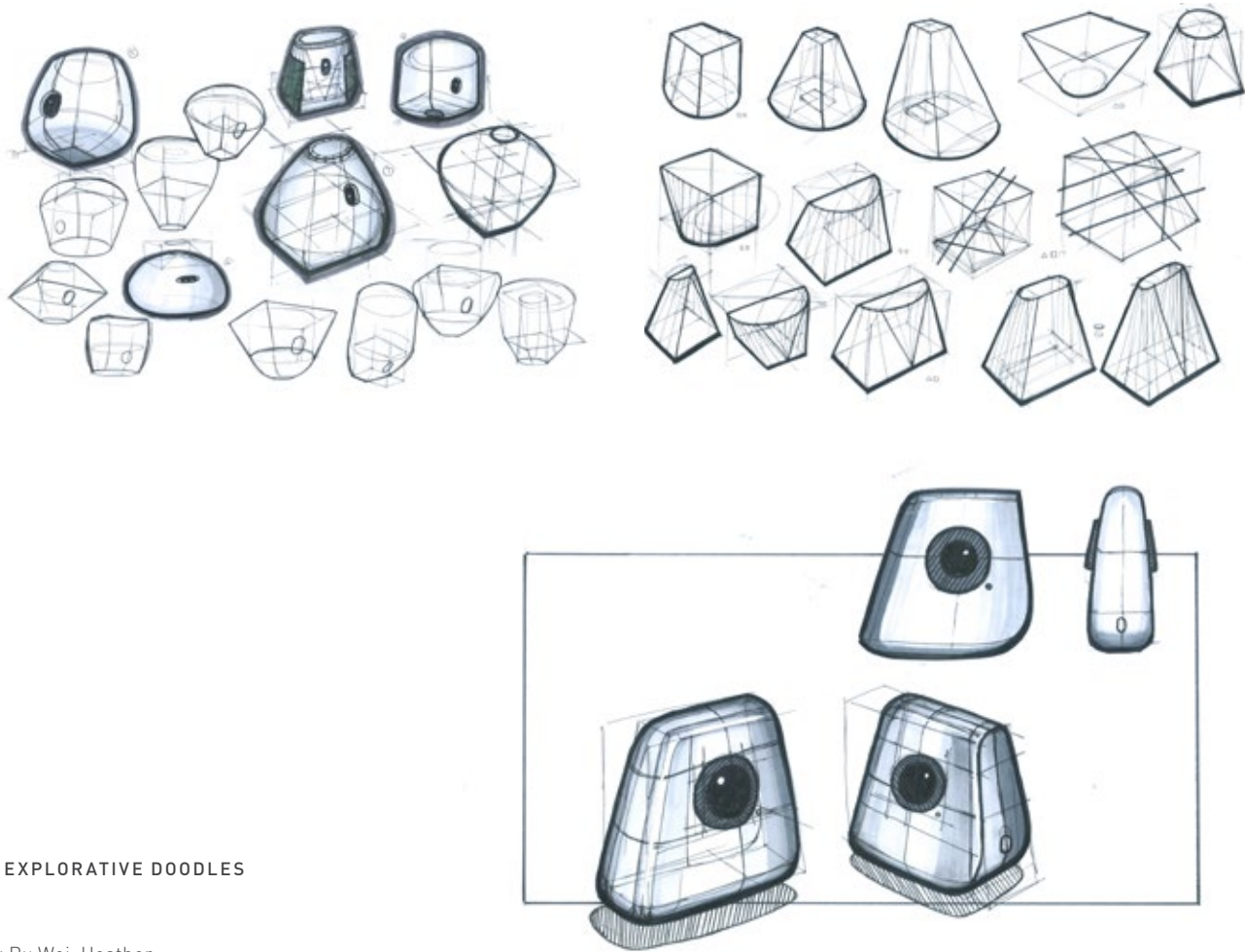
A famous well, fondly known as ‘Tua Jia Kar’ at Upper Serangoon’s Somapah village provides water to hundreds of households. On one occasion of a drought, a household decided to use some water drawn from the well to make kueh. A well-like hole appeared magically in the middle of the kueh. This unexpected phenomenon was shared with the village; rainfall followed shortly. Since then, the ‘Tua Jia Kar’ kueh was made every dry season to bring rain.

Seah Li Ping

Back to Basics

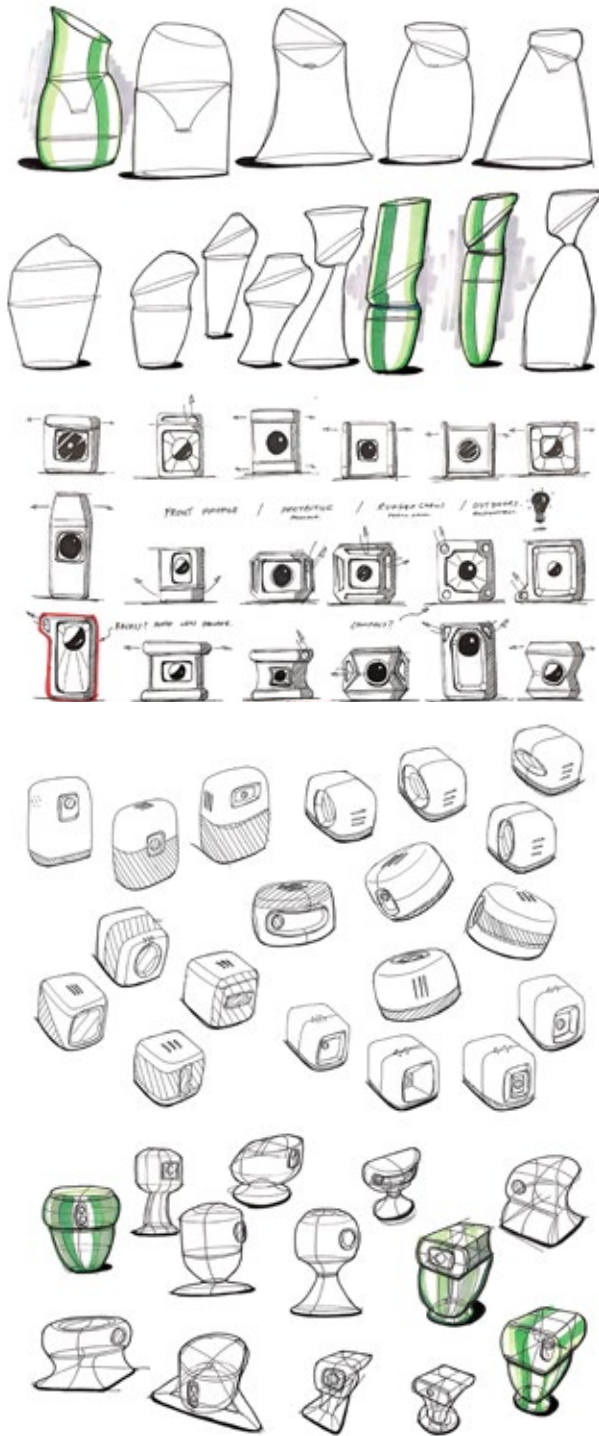
PLATFORM LEADER
Donn Koh

As an equipping platform, this course helps students to gain explorative confidence and develop a personal communicative style to their ideation sketches - prioritizing the flair and fluidity of ideas, speed, breadth, and the explanatory clarity of 3D shape intent for product design. 2D visualizations are taught as a rapid means of iteration and approximate validation, and the sketched forms are finally brought through to 3D CAD, in order to revisit NURBS with practical construction methodology and principles that are oriented for product design, as a means to strengthen the fundamentals.



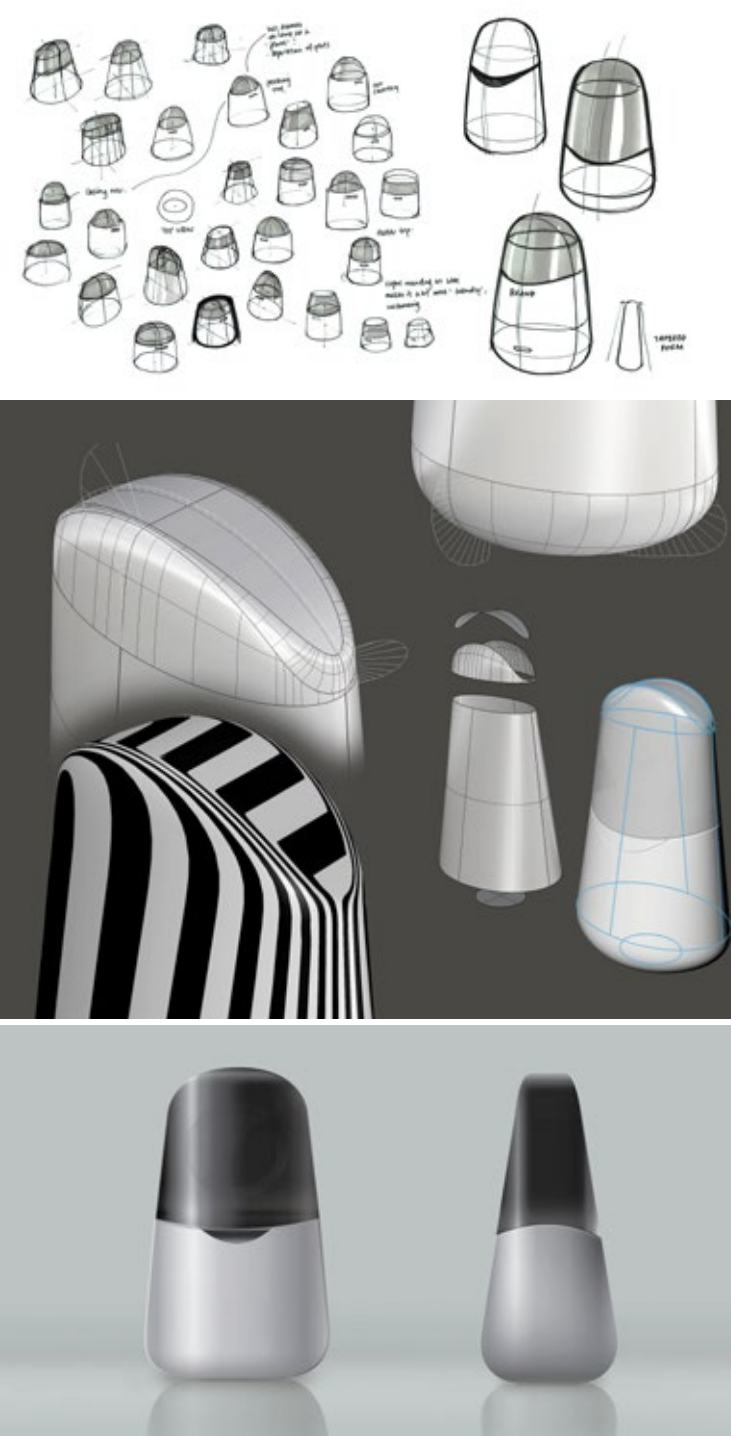
1 EXPLORATIVE DOODLES

Ong Ru Wei, Heather



2 SKETCH STYLES

Cheong Kwok Wen Tommy



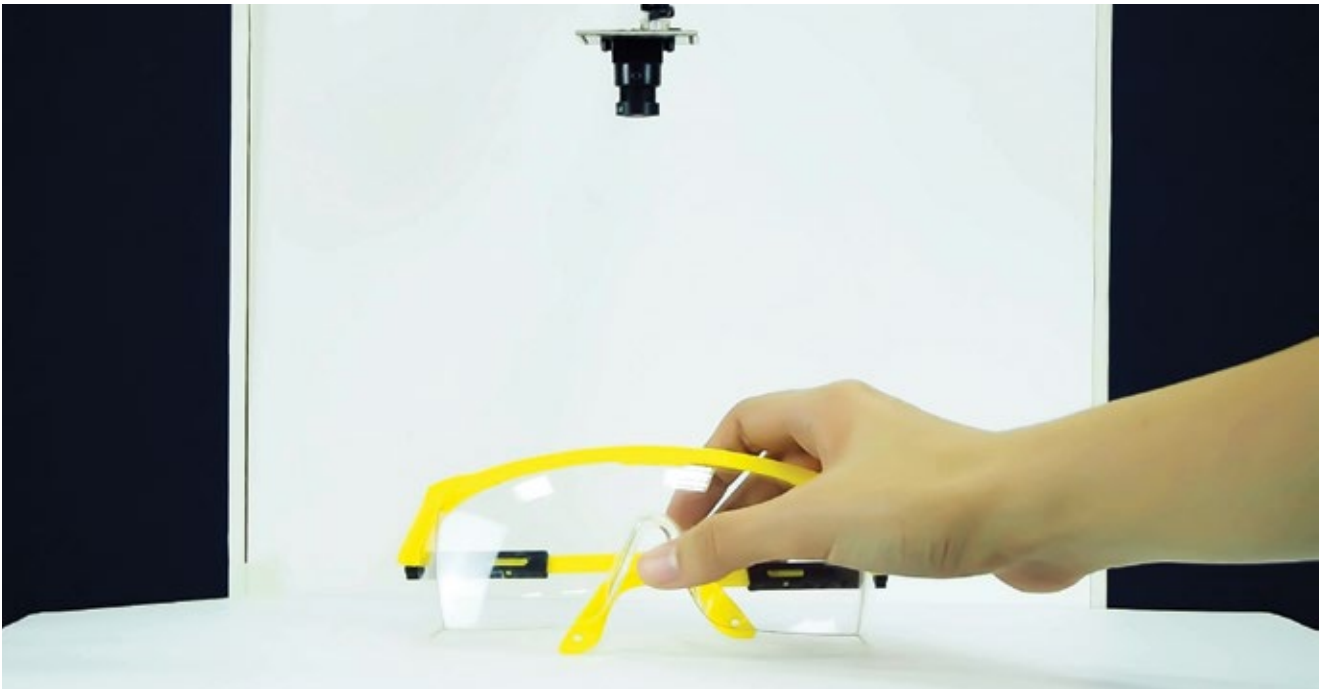
3 EXPLORATION, 2D, AND 3D

Sheryl Ang Shi Le

Machine Learning for Design

PLATFORM LEADER
Yuta Nakayama

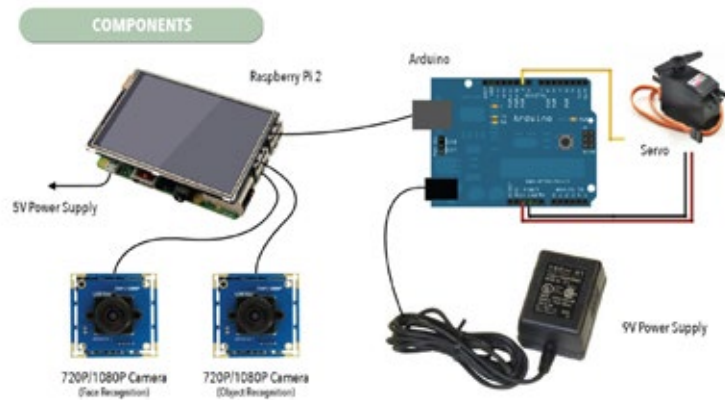
Machine Learning for Design is a platform to explore how the latest machine learning technologies can serve as a design tool to improve our quality of life. Students are tasked with designing an interactive system that addresses daily life problems by gathering data and training a machine learning model with the dataset. Starting from empathising with the user to identify problem statements, students run through iterative user-centred design processes to build a working prototype that can be evaluated with the user.



1 SCANBINET

The idea for Scanbinet came from the lack of organisation of storage in the studio. The unique value of Scanbinet is in the ability to profile objects by assigning a name to these items stored in the cabinet. Since a student's information is paired with the stored object, it allows other students who would like to borrow the equipment to easily contact the individual. In the future, this system can also be used in other contexts where sharing takes place, for example in a hostel pantry.

Stacey Yip Yi Zhen



2 ICO

ICO is a smart home security system that stops burglary before it happens. Burglars target easy homes and are easily deterred with increased difficulty of entering. This system is made up of a camera that picks up movements and sends recognition data to a trained machine learning software. This software will send output telling the floodlight when and where to shine. Once an intruder enters the home, the system will stalk, blind, and disorient the intruder using flicker vertigo. With the increased difficulty of breaking in, burglars would choose another target.

Lim Cai Jin

Product Design

PLATFORM LEADER
Song Kee Hong

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



1 TIPOT

Tipot is designed for people with arthritis who struggle with pouring water from an electric kettle. The design addressed this issue by transferring the load of the kettle to the table top, thus requiring the user to just tilt it to pour; drastically reducing strain on the wrist. This is achieved by creating a flat forward edge to serve as a fulcrum and shifting the centre of gravity over the fulcrum to improve stability when pouring.

Stephen Ow Sian Yau



2 HALE

Hale is an inhaler designed to promote proper inhaler usage, especially in children. It displays on its main body a mixture of oil and water, a visual cue that prompts one to shake the inhaler to mix the elements. This nudges the user towards shaking the inhaler before each use, a crucial step that is often overlooked, especially by children. This ensures that the administered medication is homogenized upon each spray, maximizing the efficiency of each dosage. The addition of a simple label to detail the steps of usage also serve to reinforce the right habits of inhaler use.

Valerie Tan Shi Min



3 VAPOUR

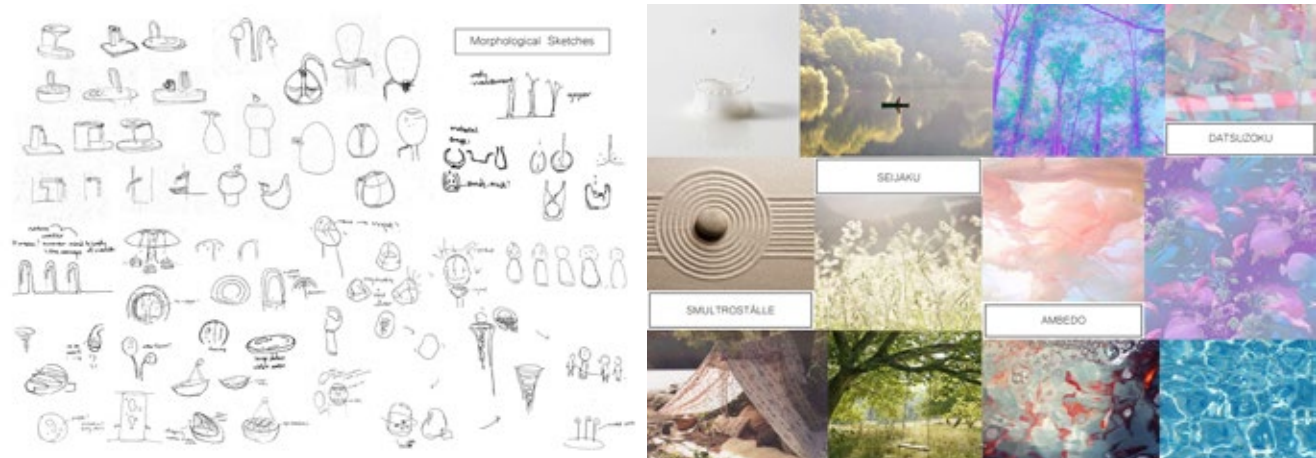
Vapour is a handheld humidifier for air travelers. Dry air in aircrafts can cause sinus, nosebleed and sore throat during long flights for some people. Designed to be light and compact for easy carry-on in pocket or handbag. Water compartment is easily replenished and water level is clearly visible through window. The window also emits light when device is switched on and pattern on vent is designed to give a sematic association with healthcare.

Yasmine Cheng Ya Wen

Body Mind Extension

PLATFORM LEADER
Ash Y.S. Yeo

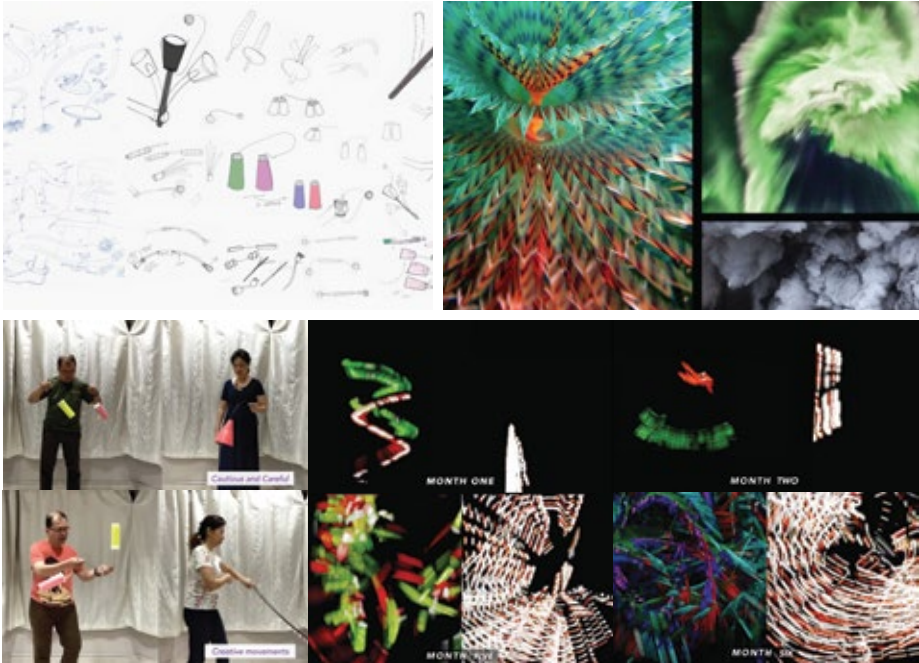
“Form follows phenomena” gives an object, a genius loci of essential values being conveyed to the user, along with its contexts, the authentic flow of experiences engrossed, and affords unexpected events which may ensue with the user’s interface. Good phenomenal designs are symbiotic to human gestures, manners, habits, routines, rituals, customs, traditions, all with engaged cognitive flow, it ensues mindfulness, and thus harbours certain tacit beauty, while redefining common consumption ‘aesthetics’. Happenstance engage meaningful exchanges, transpires engrossed lingering, thus honouring the human spirit in design.



1 AMBEDO

Ambedo is a Japanese inspired ‘Yugen’ trance; when light meets water, a phenomenal narrative is captured by the water dispenser, within an irregularly thick and indented glass orb. Dispensed water swirls along with uplit projections which dances about the surrounding space; charging and rejuvenating one’s inner mind, affording rest as you drink.

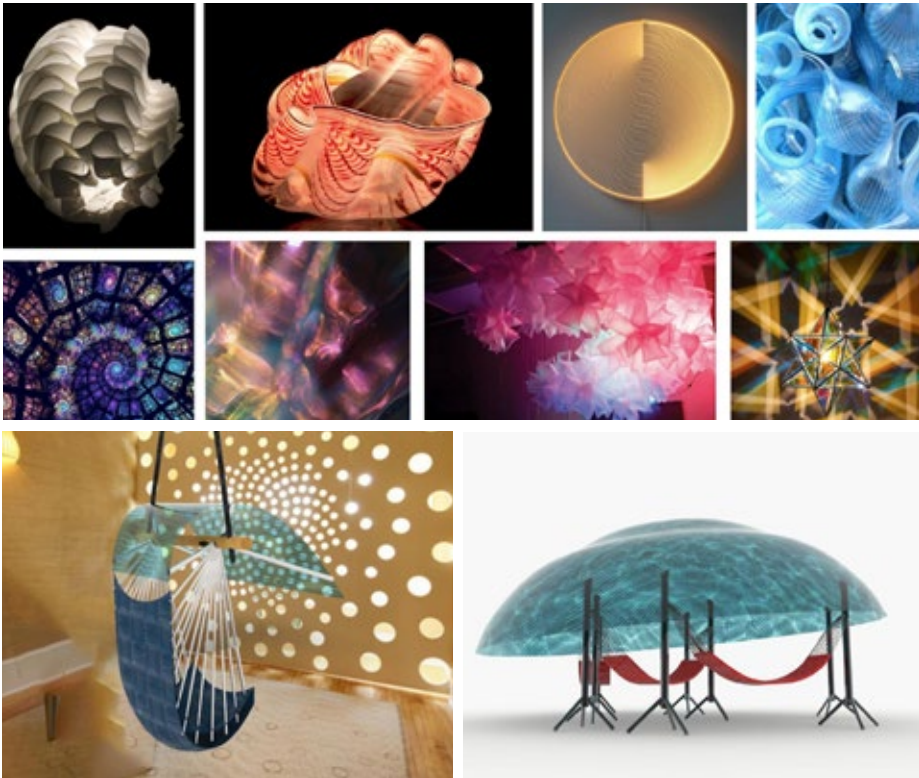
Shen Fang Yu Tracy



2 PHIZOG

Phizog gives expressive freedom to its user, while mark-making swings between random chaos to freeform elegance: felt as fearful stigmas for mistakes made; or joyful play. Inviting as intuitive choreography art-making, arrogant left-brained leaders learn to raise their EQ’s with “made-better-as-person” routines, gaining transparency in socially mindful situations.

Chua See Woon, Mariel



3 HYPNOGOGIA

A soporific lull in Hypnogogia transports the anxious to a sensory retreat filled with ambient scent mix, moving moire-wave patterns, celestial white noise, and swaying quells. A retreat for corporate chillouts and creative re-grouping recharge, or for simply idle escapades, the highly-strung finds an oasis for re-centering.

Niveditha Jayakumar Vilvanathan

Service Design Studio

PLATFORM LEADER
Dr Jung-Joo Lee

COLLABORATOR:
Ministry of Education

In collaboration with Ministry of Education Singapore (MOE), students at the Service Design Studio were working on two design challenges: first, design for school staff to provide better services, and second, design for self-help for MOE customers, who are mainly parents. Six student teams conducted in-depth stakeholder research and co-creation sessions with partnering schools and MOE HQ. They aimed at solutions that are scalable across schools and sustainable with MOE’s future visions. The final solutions were designed through several rounds of iterations with service prototyping and testing.



1 PUSH FOR PULL

The P1 Refistration Care Package

P1 registration is a critical and highly anxious period for parents. Focusing on anxiety when parents research, the P1 Registration Care Package is an ecosystem that uses a physical push to generate a digital pull, resulting in physical returns. Physical codes create direct paths to specified information, paired with digital tools to filter and give relevant results. The system comes as a physical guide that blends into homes and allows for personalization to cater to different families.

Lew Jin Jie, Natalie Mae Tan & Clifford Chew



2 CARE-LENDER + EUREKA! BOARD

Our system of ideas is informed by the values of flexible communication of service principles and enhancing staff creativity and motivation.

The CARE-lender is a personal “bite-sized” guide that utilises generative questions that prompt frontline staff towards discovery-based learning and self-reflection. Staff can define for themselves what makes for great service, constructing their own knowledge through daily routine of attending to calls/walk-in cases. The Eureka! Board is a tool designed to empower staff to engage in collaborative peer-to-peer learning and micro-innovation.

Denise Yeo, Matthew Soon & Valerie Tan



3 EASYTASK

EasyTask is an intuitive system that streamlines the process for customer-specific tasks to achieve service excellence. It enhances the efficiency of Customer Service Officers and provides guidance to covering staff with bit-sized sequential content at their fingertips - for quick processing. Visual cues in the system nudge customer-centric attitudes to satisfy customer’s every need. What good is a system if it isn’t also easy to create? The creation of new tasks uses versatile elements for customisation to any specific task.

Zeng Jieying, Teh Xin Lei & Cemal Caglar Bektas

The Language of Scent

PLATFORM LEADER
Christophe Gaubert

COLLABORATOR
IFF (International Flavors & Fragrances Inc.)
Johanna Monange

1 THEN & THERE

Inspired by the notion of time, both fragrances ‘Then & There’ depicts a timeline of past and present. ‘There’ portrays the realism of life while ‘Then’ recalls the positive moments and memories. Drawing the nostalgic moments in our life that kept us looking forward to one and another, forging new memories.

Tan Xin Qing & Roger Goh Zhen Wei



For a first contact with design, IFF, one of the world leaders in terms of creation and production of scents, proposed to our students to elaborate a new language to talk about perfume to consumers.

The purpose of this platform was to translate the perception of scents into tangible representations (colour, architecture, character, music, etc.) Then, from two different fragrances, the students designed a pair of bottles that embody the subjective DNA of the fragrances and tell their relationship until the possibility to mix them.

2 ZELEE & BLOSSÉE

Like the relationship between brother and sister, ‘Zelee’ and ‘Blossée’ imprint themselves onto the other. ‘Blossée’ has an intimate nature while ‘Zelee’ is defined by a burst of energy, but they come together to form a harmonious unit, producing an entity more sophisticated than their individual selves.

Cheng Ya Wen Yasmine & Ian Tan Jian Ann



3 THE ART OF SEDUCTION

‘Opulent Oud’ is seductive, distinctive, and rare. It envelops you with rare oud, sexy tuberose and vanilla. ‘Voluptuous’ is elegant, irresistible and classy, an addictive musk creation captures the essence of Sandal Wood, Figue leaf and sesame. Their charisma complements each other, like tango dancers exhaling an energetic sensuality of which we do not know who finally leads the movement.

Chew En Wei & Soo Woei Perng



4 VENTUR & ZEPHYR

‘Zephyr’ possesses the volatility of Champagne, the grace of a Ballerina. ‘Ventur’ embodies eternal youth, forthright, carefree, bold and wise. Together, their friendship is that of an introvert and extrovert. Inherently different, ‘Ventur’ embraces ‘Zephyr’ who seeks harmony in life, eventually enabling his independence with a soft personality.

Sheryl Teng Swee Sim & Seah Li Ping



Exchange

Exchange Programme

To broaden the students' exposures, two-thirds of each cohort go for a one-semester overseas exchange programme during their 3rd year to distinguished design schools. Our partner schools include:

- University of Adelaide | Austrailia
- Monash University | Austrailia
- Duoc UC | Chile
- Tsinghua University | China
- Zhejiang University | China
- Tongji University | China
- ENSCI | France
- ENSAD | France
- International School of Design (ISD) | France
- Folkwang University of the Arts | Germany
- Politechnico di Milano | Italy
- Kyoto Institute of Technology | Japan
- TU Delft | The Netherlands
- TU Eindhoven | The Netherlands
- Korea Advanced Institue of Science and Technology | South Korea
- Ecole Cantonale d'art de Lausanne (ECAL) | Switzerland
- National Cheng Kung University | Taiwan
- University of Illinois at Urbana-Champaign | USA
- Georgia Institute of Technology | USA



DESIGN EDUCATION AND EXPOSURE

In addition to being exposed to different working processes in schools, students are also given access to new facilities.

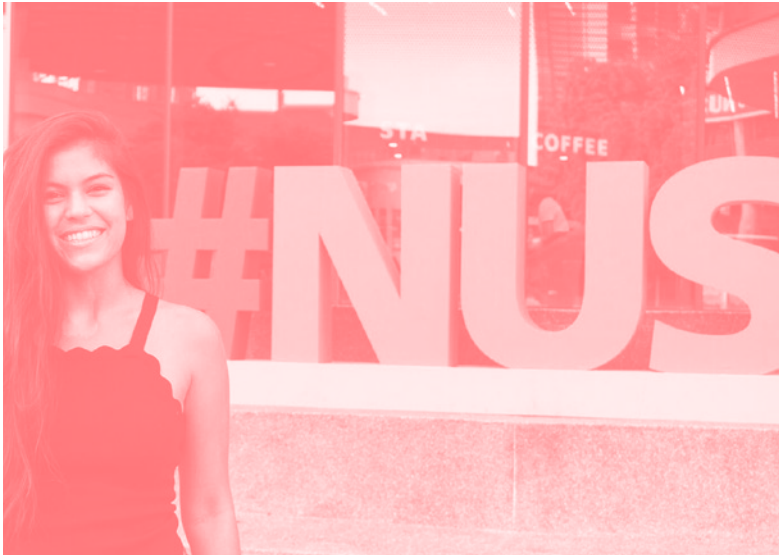
Many students also attend design events during their exchange.



Visiting Students

NUS welcomes exchange students during both semsters; they participate in both Design Platforms as well as additional electives. Here are some of the students that joined us during AY 2017/2018.

- Mignon Agnes Helena Vieveen | TU Eindhoven, The Netherlands
- Nine Seillier | TU Eindhoven, The Netherlands
- Celiane Nathalie Majolein Bouville | RUBIKA, France
- Emily Min Kim | Georgia Institute of Technology, USA
- Eugie Euginie Song | Georgia Institute of Technology, USA
- Sze-Yee Abigail Tan | Georgia Institute of Technology, USA
- Yoo Jung Kim | Georgia Institute of Technology, USA
- Ines Ningyu Seagalen-Mok | ENSCI, France
- Marie Clara Rachel Oignier | RUBIKA, France
- Cecile Odette Gabrielle Nicole Rajau | Strate School of Design, USA
- Marion Casalis | Strate School of Design , USA
- Cemal Caglar Bektas | Polytechnic Institute of Milan, Italy
- Guo Delong | Polytechnic Institute of Milan, Italy
- Zeynep Ozge Aydin | Polytechnic Institute of Milan, Italy



“PEOPLE HERE ARE MORE DRIVEN AND
VALUE TEAMWORK AND ARE WILLING
TO PUT IN THE WORK”

Emily Kim
Final year Student from Georgia
Institute of Technology



2018 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 the 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.

ALVINA YEO JINLI

Alvina believes in having an optimistic and fun outlook, often reflecting it in her design to be vibrant and enjoyable. She is interested in how design is able to positively improve one’s life, adding more colours to their life.

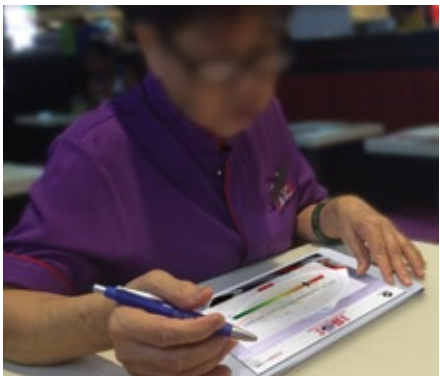
alvinayj02@gmail.com



THESIS GARDENIA

Gardenia aims to pique children curiosity on plants through a playful learning experience using the mobile application. Gardenia also encourages exploration in nature, using tools to view plants from different perspectives, and provides knowledge about the plants explored.

Under the supervision of Christophe Gaubert



THE HELPING HAND

The Helping Hand is a feedback system for employers to regularly engage and obtain insights on contextual pain points from older workers, to better align their job responsibilities and guide the recruitment process to make evidence-based improvements to jobs of mature workers. It opens communication channels for mature workers to express their pain points.

Designed with Shubhangi Paul & Hans Brombacher

In collaboration with Ministry of Manpower (MOM), National Trades Union Congress (NTUC) and Singapore National Employers Federation (SNEF), and Select Group



SYNERGISED DEDICATION

Synergised Dedication is inspired by the idea of intricacy and portrays Guerlain’s detailed craftsmanship and strong dedication over the past 190 years. It uses coloured strings to create structures and partitions, creating the idea of something delicate yet producing a strong impact when placed together. Synergised Dedication consists of modular structures made of strings and opaque walls to create flexibility and a chromatic effect, while playing with the rhythm of opacity.

Designed with Jocelyn Tan

In collaboration with Guerlain (Asia-Pacific)

ALVIN LOW JUN TING

Alvin gets his inspiration from understanding the relationship between objects, people and their environment. Every detail needs to make sense and serve a purpose. He is passionate in social design where he takes up pro bono design projects in his free time.

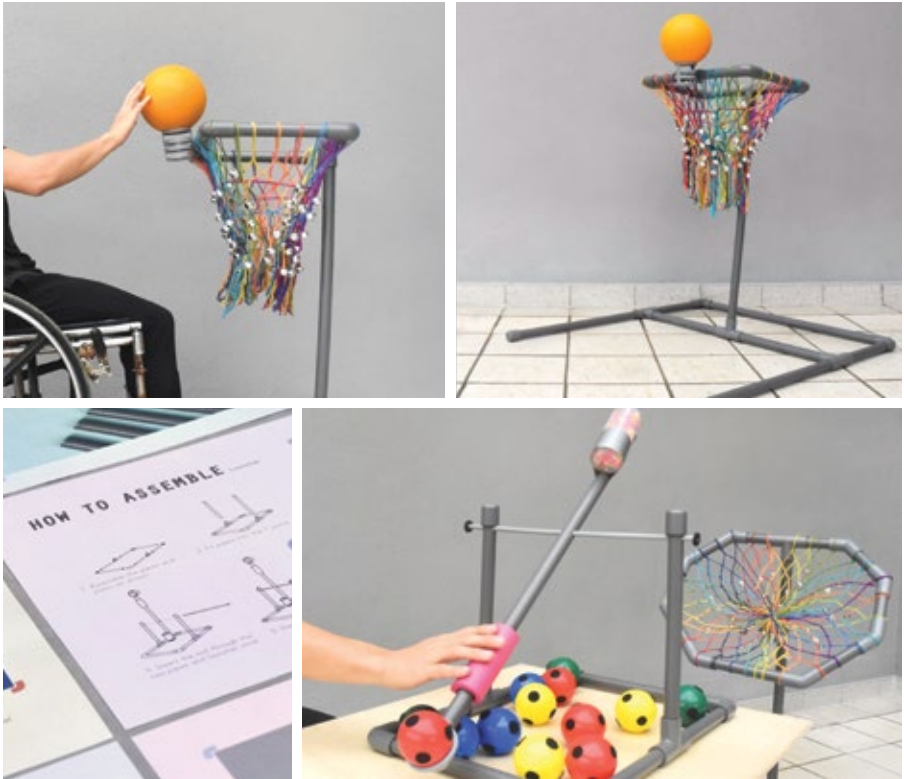
alvinlow92@hotmail.com



THESIS BUDDY

Buddy is a versatile ride-on toy that integrates the main features of different ride-on toys with minimal parts and grows with your child seamlessly. Buddy is able to transform from a push toy to rocking, ride-on, scooter and skateboard easily.

Under the supervision of Christophe Gaubert



FIGO

Figo is an adaptive sports equipment with sensory feedback for wheelchair users with multiple disabilities such as cerebral palsy and hypotonia. 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 its simple assembly and dismantling for ease of use in any environment. Using the same base, users can create endless possibilities for sports by swapping the different attachments. Best Product, Designathon 2017 Designing for Persons with Disabilities

Designed with Poh Yun Ru, Ng Zi Ning

In collaboration with Rainbow Centre Singapore



UNIQLO AIR

Designed with a user's comfort and hygiene in mind, Uniqlo AIR is a pair of washable headphones with AIRism technology. The AIRism headband and ear cushions provide a cooling listening experience and can be detached easily for washing. The thread spool-like ear cups also enable neat cable management after use.

Designed with Huang Minxian

AMANDA SWEE PING EN

Amanda believes in finding hidden opportunities in things. She believes that design is contextual problem solving at heart — whether that context be physical or emotional. She believes in the power of human emotion to drive decision and actions, and finds great personal joy in re-imagining the world at large.

amanda.swee@gmail.com



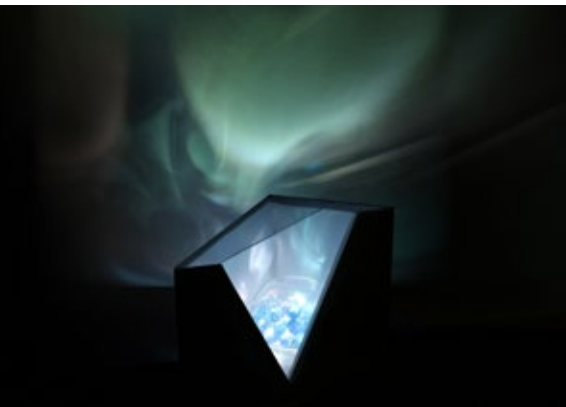
THESIS SANCTUARY: A SIGN OF LOVE

A redesigned church pew that envisions what a modern inclusive church could be like, Sanctuary carves a welcoming presence for homeless members of our society who are so often made invisible and forgotten by offering them a resting place in the unused hours of the church.

Under the supervision of Donn Koh

IN PRAISE OF SHADOWS: AURA

Shadows have the curious ability to facilitate conversations. We've all had heart-to-heart conversations with people in the dark; perhaps at a sleepover, late at night, or under the starry sky. Taking cues from this useful distraction of shadows, AURA seeks to enhance this experience at the table, giving users something to focus on, thus -hopefully- making it easier to share. With its fresh colours and form, AURA playfully becomes a modern update to traditional candlelight dinners of the past.

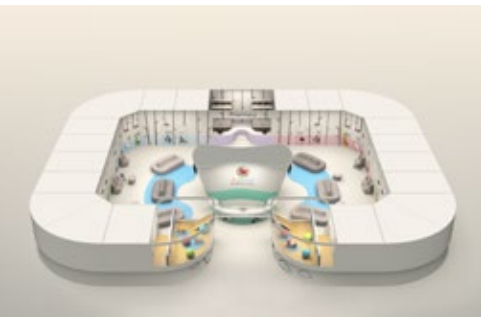
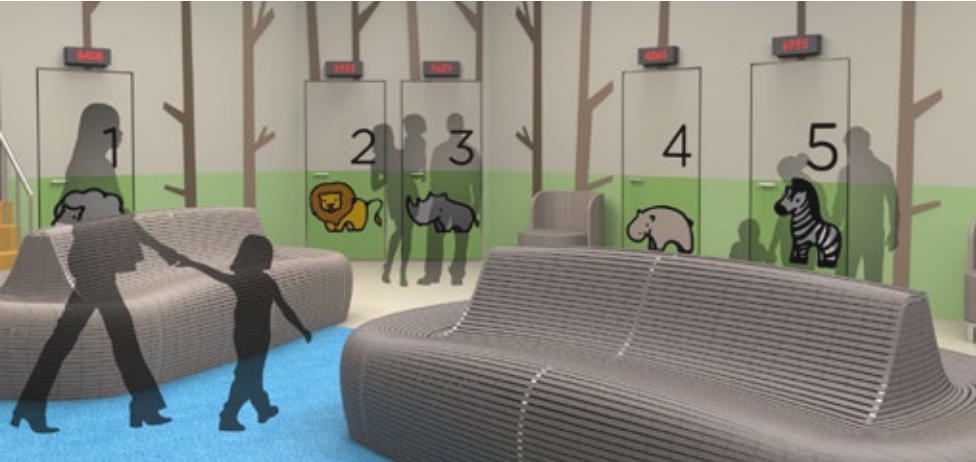


PLAYPEN

Playpen seeks to turn stressful clinic visits into fun ones. The glass playroom doubles as the exterior, making the clinic easily identifiable even without signage. Graphics split at respective eye-level heights of children and adults allows for both colourfully vibrant and neutral informative graphics to co-exist in the space. The animal graphics serve as a confirmation guide for parents about locating the correct room, and negative space under the raised playroom doubles as pram parking space, while children can be easily monitored through the glass playroom. Selected aspects of the design are currently adopted by NUH Pediatrics Clinic A.

Designed with Lu Xiaoheng and Melvin Khng

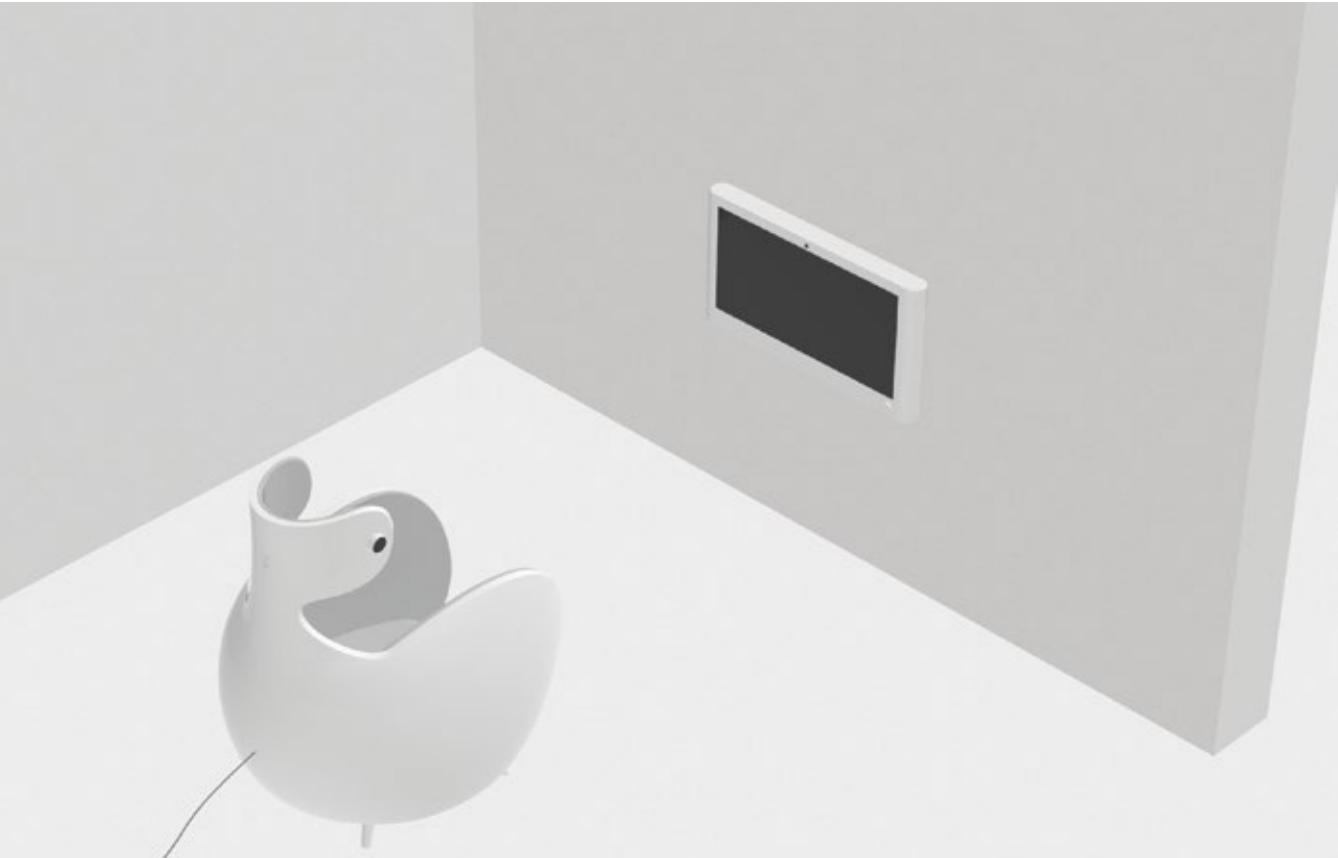
In collaboration with Philips Healthcare, and National University Hospital (NUH) Children's Specialist Clinic (Clinic A)



BRANDON CHENG

Brandon thinks that design is about packing and unpacking the beauty of the world. Ahhh...it would be nice to be a designer.

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THESIS EMOTION STATE

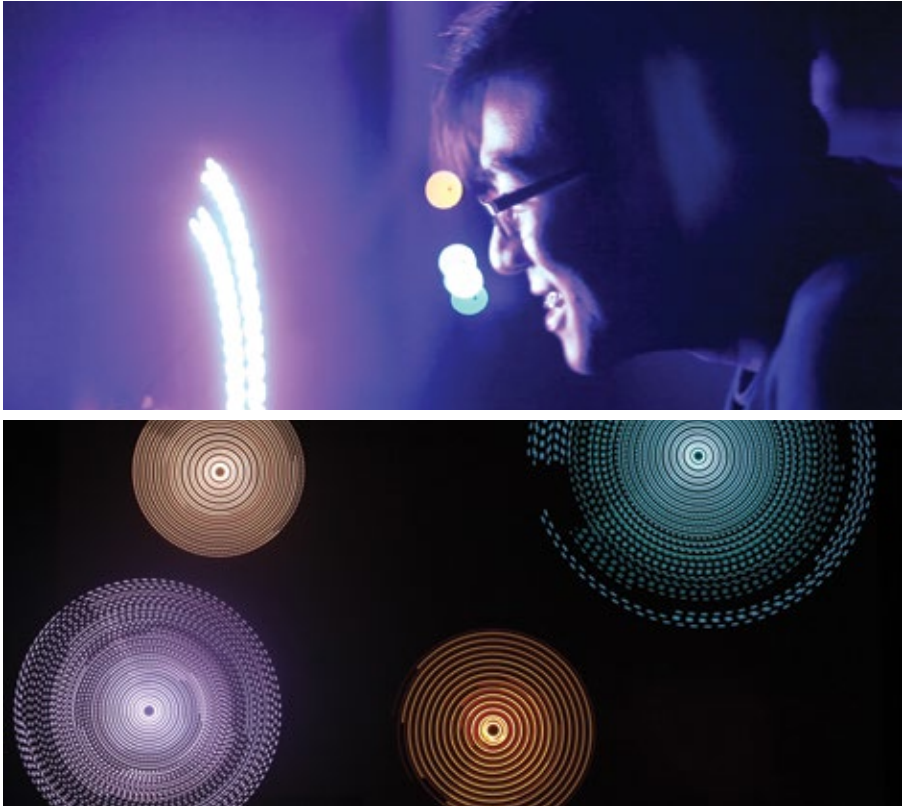
Emotion state is a fictional state where democracy is run on algorithms and emotions. It offers a critical look at the current intersections of technology and social phenomenon. What would technology in such a society look like?

Under the supervision of Patrick Chia



HUTTLE

An electric kettle which is designed to be unconventional and intriguing; subtly transforming the kitchen table into a dreamscape. The top lid is formed with a simple yet geometric cut to look warm and also provide affordance for twisting it open.



HANABI

Hanabi is an interactive light installation that engages both our audio and visual sense. Working with Persistence of Vision (POV), we aim to recreate the sense of wonderment of the fireworks display, the audience can enjoy a myriad of visual effects based on their audio input. This creates an impression that the fireworks are responding to the audience's excitement.

Designed with Au Hui Ying & Lee Xu Xun

BRANDON TAN

Brandon believes a designer is a vessel that gathers insight, weighs opinion from experiences of others to deliver a solution. In being attentive when communicating, having the willingness to entertain new ways of working as well as staying introspective had allowed him to explore new possibilities.

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issuu.com/brandontan6/docs/brandon_portfolio



TRI FURNITURE PIECES

Tri furniture pieces came to be by observing how behavioural gestures and habits such as hanging, placing objects onto table tops or at the back of a chair are habitual. Incorporating holes in specific locations encourages the expression of such gestures. The name “Tri”, suggest an emphasis on the triangular flap, used for one’s preference to hang something on.



FORM LANGUAGE DESIGN FOR 2020 OFFICE SPACES

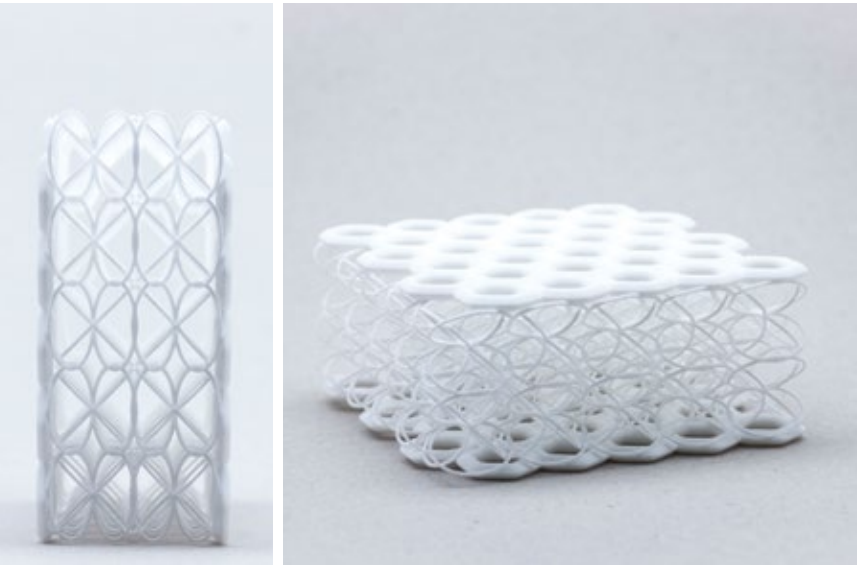
The term “Mindfulness” is an expression of reflectiveness, balance, and cognitive awareness of oneself. “Sparsity” on the other hand, introduces the ideology of spatial thinness and emptiness. This analogy is represented with an elevated “Mirror-like” platform that triggers reflectiveness. These themes used for a form language design produces a vision of office products for HP in the future. The form ultimately engages one’s thoughts, feelings, and re-interpretation.

In collaboration with HP



LIGHTWEIGHT COMPRESSIVE STRUCTURE

The theory of compression describes the application of inward forces at two ends. In using this analogy, this experiment in creating a lightweight lattice structure design serves to remain stable in strength despite the impact of compressive forces. This unit may be used in a variety of applications that are under compressive stress.



THESIS CAREO

A caring fatigue reminder system for delivery businesses that consists of posture analysing sensors, a smart driver’s hydration shirt, and a reminder system interface. Careo aims to target long term prevention with building of good habits.

In collaboration with Just R Enterprise & Shalom Movers
Under the supervision of Martin Danzer

CAITLIN FOO

Caitlin is a firm believer that good design involves breaking the patterns of the world and a renewal of minds. She is unafraid to take a chance on silly ideas and nudge it closer to the intersection of logic and beauty.

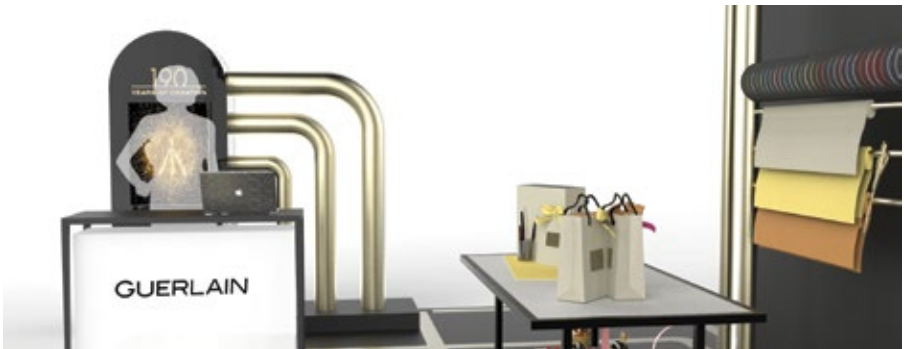
caitfoo.yingli@gmail.com | behance.net/caricature



THESIS SPECTATION NATION

This series of artefacts is designed to galvanise a discussion of civic behaviour in Singapore. The products are presented in the form of a fictitious National Day Funpack, as a means of constructing a cautionary tale of the future of civic society in Singapore.

Under the supervision of Donn Koh



THE POWERHOUSE

The Powerhouse is a retail concept that was developed for Guerlain’s 190th anniversary pop-up space in Metro Paragon. The concept portrays Guerlain as an innovative factory and pays homage to the brand’s long tradition of experimentation. Traffic circulation is driven by the pipe system and floor graphics, which demarcate the makeup, fragrance and skincare zones. The pipes create the atmosphere of a dynamic facility that is always in motion while doubling up to function as stunning display stands.

Designed with Michelle Loh & Mignon Vieveen
In collaboration with Guerlain (Asia-Pacific)



FLIPSIDE

Flipside is a bag that transforms into a sleeping mat. This design is a humble response to the seemingly invisible problem of homelessness in Singapore. The mat provides a hygienic solution for a community that uses scavenged cardboard to sleep on. Hidden pockets and adjustable straps protect their valuables against theft, the biggest vulnerability from sleeping on the streets. The bag was designed based on the principles of universal design, which is a school of thought that advocates inclusiveness and accessibility to good design.

Designed with Magdalene Huang

CECILIA LIM

Cecilia finds interest in discovering new approaches to design for user experiences. Out of work, she appreciates weird and eccentric designs.

cecilialimjy@gmail.com



THESIS OPO

OPO is a clothes rack designed to address current user narrative in storing and organizing clothes, where different strategies are translated into physical cues to nudge users to think twice before moving an item in or out of the way.

Under the supervision of Ash Yeo



QEO

QEO is a scanning device designed to improve the waiting experience of patients by bringing it out of the clinic. The approach of this design is to shift the restrains off patients waiting at the same area and allow them the flexibility to make use of this excess time. With this set-up, patients are then able to check for updates whenever they are within the hospital compounds, keeping patients assured that they are still in the queue and not forgotten..

Designed with Magdelene Huang & Gloria Ng
In collaboration with Philips Healthcare, and National University Hospital (NUH)



REDESIGNING SAMSUNG RETAIL EXPERIENCE

In the current retail experience, customers are engaged across physical and digital spaces. While both are essential for a complete journey, the physical retail experience however, is lacking and customers constantly switch in and out of the digital space to compensate for these gaps.

In our approach, 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.

Designed with Valerie Koh & Julia Lee
In collaboration with Samsung Asia, Product Innovation Team

CHAN SHI MING

Shi Ming is a strong believer that form follows function. Having an engineering background allows him to think through design systematically. Being a fitness enthusiast and a Personal Trainer, his interest lies in exploring the connection between design and fitness.

chanshiming91@gmail.com



THESIS SPIN

SPIN is an inclusive cycling training system for children with less severe Cerebral Palsy to exercise on bicycles with training wheels. It enables learning and fitness progression through cycling while empowering parents/care-givers to lead, guide and accompany their child through their progress.

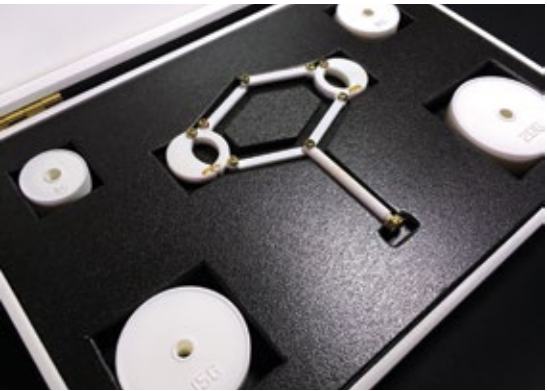
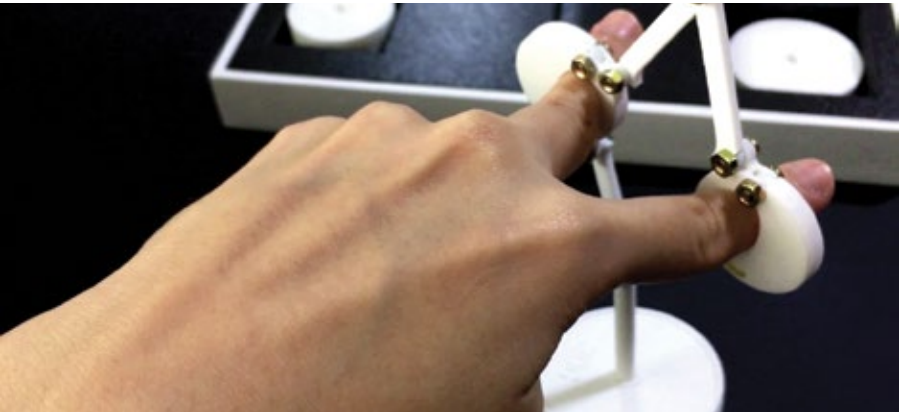
Under the supervision of Axel Thallemer



FORM LANGUAGE DESIGN FOR 2020 SOHO SPACES

This project aims to establish a design language for active lifestyle desktop products in 2020, used in Small Office Home Office (SOHO), which promotes productivity and an active working environment. The design language elevates the sense of Energy, Generosity and Warmth. The accent color and diminishing trim creates a flow of energy to the product. The matte plastic convex surface introduces a welcoming and warm interaction while the frosted plastic housing enables light to pass through, livening up the product and the workspace.

Collaboration with HP



OBJECTIFYING DUMBBELLS

Dumbbells, a tool used in the pursuit of body perfection result in the obsession for targeted muscle training. By objectifying the dumbbell, a tool is created to specifically target an obscure muscle group, the interossei muscles of the hand, to emphasize the chase for ideal body perfection.

CHAN WING KEI

A firm believer of research-driven methodologies, Wing Kei is known for integrating delightful user experiences in both tangible solutions and experiential journeys. She particularly takes pride in her domain knowledge and competencies in UIUX design, an evident competency in her portfolio.

wcwk95@gmail.com



PICKIT

Designed to improve the introductory phase for first time foreign domestic workers (FDW), the visual toolkit equips both FDW and employers with the use of contextual prompts to facilitate household training. Recognised for PICKit’s empathetic design methodology, the novel outcome was awarded 1st-Runner Up.

Designed with Jomains Neo & Huang Yi Xuan
In collaboration with Ministry of Manpower



TOGATHER

This interactive platform facilitates transference of skills from mature employees to the less experienced via employee curated and created content. The concept was awarded ‘Most Helpful Design’ for using digital technologies to enhance training processes and encouraging active relearning, effectively building an age-friendly workplace.

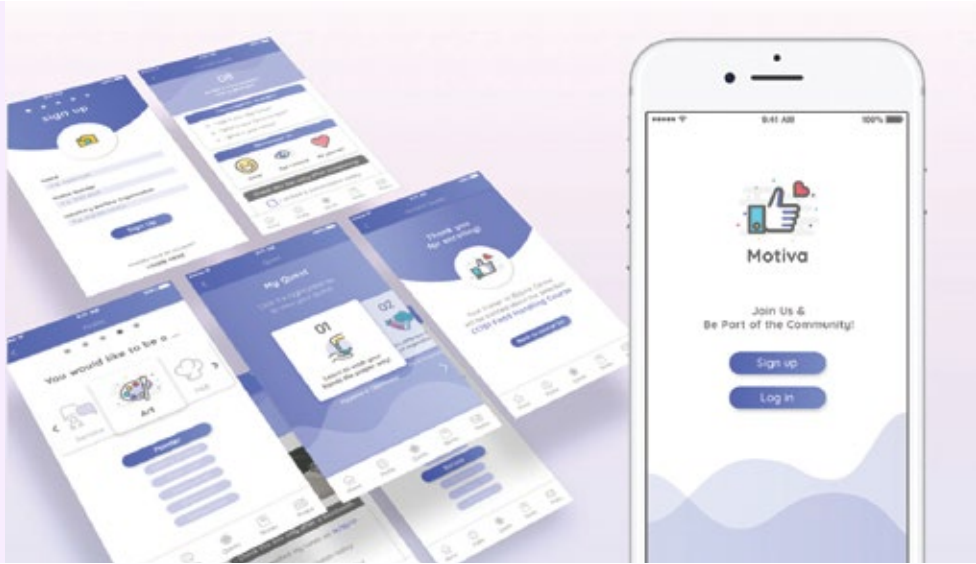
Designed with Ku Ga Eun & Si Phuoc
In collaboration with Ministry of Manpower(MOM) and Lawry’s The Prime Ribs Singapore



MOTIVA

MOTIVA empowers people with disabilities into gaining employment with a multi-phase approach. Firstly, identifying residual capabilities and goals. Secondly, a gamified ‘quest’ of daily tasks progressively prepares them physically and emotionally. Lastly, big data shared with prospective employers improves hiring rates. MOTIVA was awarded for its research heuristics and implementability.

Designed with Lim Cai Jin & Jaylin Yeo
In collaboration with Ministry of Manpower and BizLink Centre Singapore



THESIS MERYL

Meryl introduces a unique type of cooperative gameplay between parent and child, utilising sensory integration in play to promote early childhood development of skills necessary for success in later life. Its mobile app provides analytics of play statistics and inform parents with behavioral insights of the child’s development.

Under the supervision of Song Kee Hong



CHENG JUN HOE

Jun Hoe has a keen interest in spatial and interaction design. He believes that the experience of a human space is greatly defined by the intricacies of its design and embedded touchpoints. Moreover, he also believes that there is an ‘i’ in ‘designer’ — that is to say, design is an agent in which the designer’s individuality and character manifests itself.

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THESIS GESTURE-BASED DEVICES OF TOMORROW

Gestures are produced through the movement of our physical bodies, and are unique to human beings. Through the exploration of human gestures and their underlying intentions, a series of artefacts are produced, which discuss the relationship between gestures and devices.

Under the supervision of Dr. Christian Boucharenc



MISCHIEF

Mischief is the winning concept of a collaborative retail design platform between NUS and Guerlain. It is a celebration of Guerlain’s 190th anniversary since its inception. A myriad of vibrant colours decorates the space, and product testers are part of a curated, enticing consumer experience. Variances in structural thicknesses are also meticulously designed such that key visual elements are emphasised within a frame.

Designed with Zhang Hanwen
In collaboration with Guerlain (Asia-Pacific)



JUXTAPOSE

Juxtapose is a concept centered around spatial transparency and cosy alcoves. It was manufactured and chosen to represent L’Oréal Travel Retail in the Tax Free World Association (TFWA) Asia-Pacific exhibition in 2016, and will be subsequently reused for the years 2017 and 2018. Modular booths were designed with ease of construction and brand personalisation in mind. Windows provide dynamic perspectives and a sense of openness amidst the bustling crowds.

Designed with Lee Han Xi
In collaboration with
L’Oréal Travel Retail Asia Pacific

CHERYL HO JING YI

Intrigued by the intricacies and quaint curiosities of the world around us, Cheryl believes that design is a constant work in progress of connecting the dots to create new, meaningful, and delightful solutions across a variety of disciplines.

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THESIS SOUNDCAPES

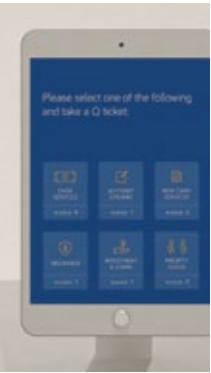
Soundscapes is a simple and fun home-based therapy exercise for Central Auditory Processing Disorder (CAPD) patients. Children form patterns on a board based on audio instructions that automatically adjusts the difficulty of audibility as they play, enabling ease of use and better uptake of therapy at home.

Under the supervision of Donn Koh

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, bringing greater ease and convenience to our lives. With KIN, simply put all your change from the top, and let the wallet do the separating for you. The month long campaign has been fully funded on Kickstarter, raising \$280,000, 7000% of its initial funding goal.

Designed with Lim Li Xue & Ng Ai Ling



POSB BEDOK CENTRAL: A BANKING OASIS

In order to suit the diverse needs of Bedok Central's elderly and youth population mix, the unique two-storey POSB branch was redesigned to provide two primary services: quick, fast teller services on the first floor, and private, personalised consultation services from POSB Relationship Managers. This allows for a more tailored service and experience for POSB customers. The layout has since been implemented at POSB's Bedok Central branch.

Designed with Letitia Lim & Rachel Chan
In collaboration with DBS Bank

CHING SOON TIAC

Soon Tiac specialises in behaviours and keeping things stupidly simple.

soontiac@gmail.com



THESIS OFFTEN

Offten is a series of off switches embedded into everyday objects. By tapping on existing behaviours, we can be inspired to disconnect from our devices more often, at the right place and the right time.

Under the supervision of Donn Koh

SPEEDBUMPS

Speedbumps is a barrier that latches on to the aperture of existing recycling bins. With bold signage and its just-in-time position, Speedbumps deliberately slow down the recycling action to prevent careless contamination of recyclables.

Designed with Hannah Tan
In collaboration with
NUS Office of Facilities Management



8UP

8UP is a bottle you can count on. It measures water by the glasses and has a physical counter that counts up to 8. With a twist and a click, 8UP makes hydration fun, intuitive and simply satisfying. A Kickstarter project.

Designed with Iliana Ishak, Abel
Fam & Zack Petricca



CHIN GUO HONG

Guo Hong is always curious, looking to understand more about how things work and how humans interact with them.

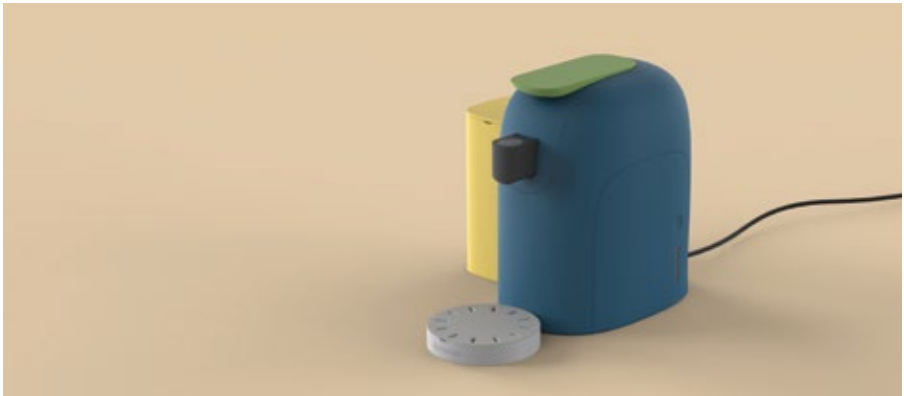
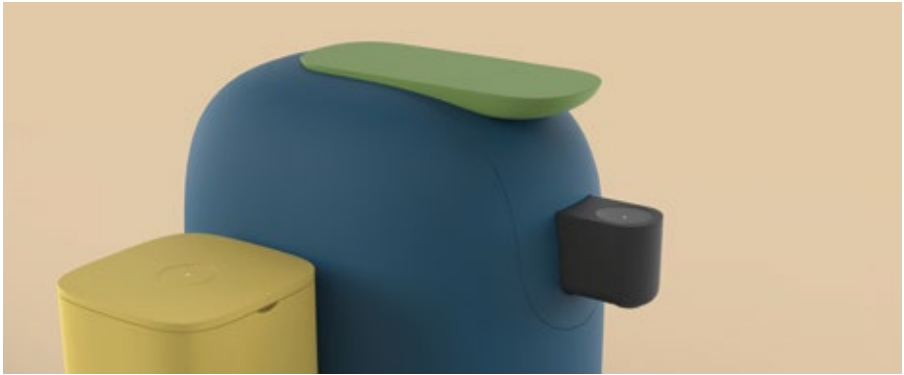
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THE SIS PEEK

PEEK is a series of tabletop objects that seek to change the way we think about mess on our tables. Designed to support the user in their own form of messy organisation, the PEEK series nudges people to live harmoniously with their messy environment.

Under the supervision of Donn Koh



NORMANN

A friendly and joyful coffee machine that welcomes interaction through bold colours. The form, surfaces and colours accentuate clarity of use, making the interaction with the coffee machine more enjoyable and intuitive.



ARC

Lauded for its strength, flexibility and long lifespan, PET straps are trusted to secure things in place. Arc is 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 for Arc.

Designed with Ku Ga Eun

CHOW JIA YI

Jia Yi loves purposeful creation that makes life a little better. She enjoys thinking strategically on new ways to approach things for a positive change. With relevant training in business and entrepreneurship, she believes versatility is a key quality to being a good designer, to create well rounded and balanced products for the market.

chowjy22@gmail.com



THESIS THE HUMAN COMPASS

With a turn of the head, The Human Compass turns users into a living compass by providing intuitive, unobtrusive navigation guidance. Freed from instructional digital maps on their smartphones, users have more autonomy over their journey, empowering them to engage in the world around them.

Under the supervision of Dr. Yen Ching Chiuan



REMIX IO- 3-IN-1 SET-TOP BOX

Redefining “all-in-one”. Remix IO is a set-top box, gaming console, and PC in a single device. Two user interface modes were introduced: TV mode and PC mode, to allow better user interactions with the device. Remix IO was successfully funded with \$598,268 on Kickstarter with love from the community.

A product of Jide Technology



THE STORE WITH A SOUL

The Store With A Soul reimagines the role of a Samsung retail store, from a sales driven experience to a platform that strives to connects with its users. The store uses Augmented Reality, Big Data and AI system to acknowledges users throughout the store to craft a relevant user experiences.

Designed with Glenda Yeo, Leung Jia Jun, & Liang Ce

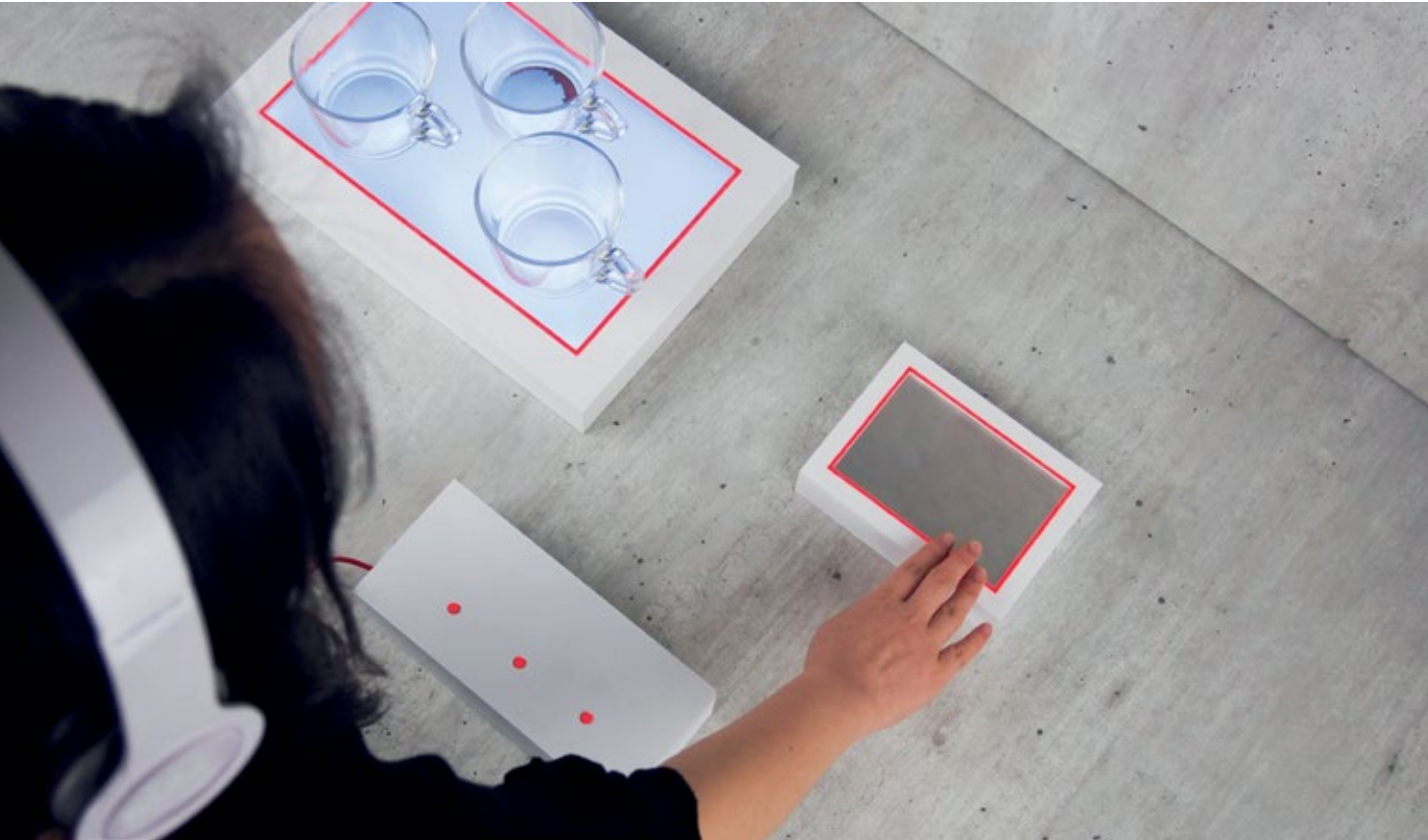
In collaboration with Samsung Asia, Product Innovation Team



DESIREE LIM

Desiree believes that design thrives in works that cross multi-disciplinary fields. With a keen attention to detail and an appreciation for people-watching, she is pulled towards the emotional and experiential aspects of design.

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THESIS OCD EMPATHY KIT

This empathy kit was designed in response to the trivialisation of Obsessive Compulsive Disorder (OCD). Ordeals of the mental illness are translated into an auditory and interactive experience in order to confront misconceptions of and foster understanding for OCD.

Under the supervision of Donn Koh

ENTHRALLING EDEN

Enthralling Eden seeks to envelop guests in reverie and enchantment of the Guerlain brand through the use of playful product interactions and dreamy undertones. The spatial layout is inspired by gardenscapes, with a central feature surrounded by satellites, and the use of arches and frames throughout the space.

Designed with Audrey Chua
In collaboration with Guerlain (Asia-Pacific)



CORNERSTONE

Cornerstone is a re-imagination of the scattering of cremains. Cremains are incorporated with organic binding elements to form naturalistic masses such as pebbles. This encourages scattering in natural environments without disturbing the landscape, while creating a personal sanctuary at specifically chosen sites to remember the deceased and provide a ceremonious sendoff.

Designed with Zheng Han John
In collaboration with Nirvana Memorial Garden

ELLVIXSON YAP ZHEN KANG

Ellvixson is a multidisciplinary designer focused in User-Experiences and Products. He aspires to share his knowledge as a designer to contribute in making a difference to society. His family adopted a cat, Meow-mi, in 2016.

yzk.evs@gmail.com | cargocollective.com/ellvixson/



THESIS “JUST A LITTLE MORE”

People find comfort in negotiating for concessions with objects and the environment around them. We hit torchlights for their last bits of power or cover our ears when music is too loud. The eventual artefacts are crafted based on the observations of such behaviours.

Under the supervision of Christophe Gaubert



AN URN IS NATURE’S WILL

Many turn to the sea scattering of ashes because of its notion of freedom. Inspired by the dispersal of seeds in nature, the concept provides a light and organic movement of scattering ashes through the wind and depicts a clean visual purity through its translucency and whiteness. The visual effect of scattering is enhanced when the ashes slowly fleet down in that short but lasting temporal moment before the form disintegrates in the water.

Designed with Yinlin Yvonne
In collaboration with Nirvana Memorial Garden



MOSS-DISH

Mosses are a beautiful plant that are always around us. Especially in Singapore’s humid climate, mosses can be easily found in drainage or even along the road. Using moss as the coaster, condensation of water is preserved by watering the foliage instead of ending up nowhere.



ESLIEE

, a creative
, ready with various perspectives and lenses to life.
, genuinity in design.

eslieedesign@gmail.com | behance.net/esliee



HERDS & FLOCKS

A New Southeast Asian lifestyle goods collection that conveys the message of the risk of extinction of animals from Southeast Asia using details and materials from the region.

Designed with Anthony Yu



RESTOCK

An integrative supply management system that reduces physical labour and facilitates social interactions. With designed restructured pantries, delivery tools and an application as part of the system, senior workers are able to perform better with reduced physical and mental fatigue.

Designed with Kevin Chiam & Priscilia Lim



THESIS VIBR8

Centered around using vibrations as a language for the deaf to 'hear' and be aware of their surroundings. Vibr8 is a system designed to recognise sounds and translate them into vibration patterns to inform the user of the surroundings.

Under the supervision of Hans Tan

TRIODE

A portable breakdown triangle that ensures users deploy the triangle at an appropriate distance to remedy calmly amidst the chaos. Using a magnetic cordon to the side of the vehicle ensures this and creates diversion from the breakdown.

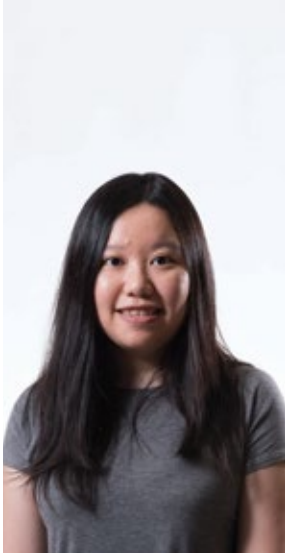
Awarded Merit for
Motorola Solutions Design Competition 2013



ESTHER NG YU XUAN

Esther believe that curious exploration and observation brings new perspective. She aims to bridge experiences and innovations through design.

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THESIS SWIPE

Swipe is a stretch measuring tool that calculates the stretchability of fabrics. By stretching the fabric, a stretch percentage is computed. This informs Occupational Therapist about the amount of fabric to stretch during a fabric alteration for pressure garments.

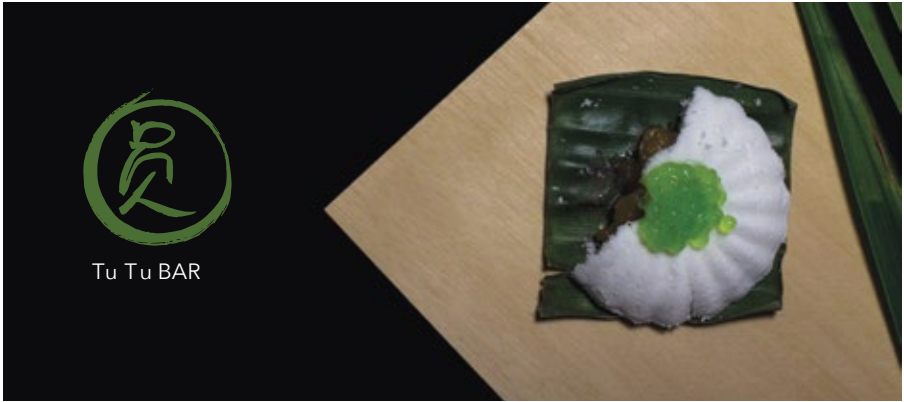
Under the supervision of Martin Danzer



CAC

Cac is a series of textile cable organisers. By tackling the cluttered and tangled cables on the workspace, Cac helps with the management of cables. The concepts use a semi-sturdy Kvadrat fabric, Divina 3 which gives structure and movement to the design. Cables can be weaved and sorted to enable a neat usage of cables. The vibrant colours also adds a pop of character to a dull workspace.

In collaboration with Kvadrat, Singapore



TUTU BAR

Tutu Bar is a food concept that brings focus in the artisanal craft of making Tutu Kuehs in Singapore. Traditionally made with rice flour and substantial fillings like chopped peanuts and coconut flakes, these local snacks are sold cheaply in the night markets. Tutu Bar rethinks the eating experience by reimaging flavours and presentations that aims glorify the craft of Tutu Kuehs.

Designed with Matthew Wong & Joost Schootstra

FABIAN ONG

Fabian is interested in industrial design that revolves around sustainable, tangible product systems, with a focus on technical solutions that are designed with insights derived from the research process. In his spare time, he enjoys discovering global cultural norms, understanding the natural world and human behaviour.

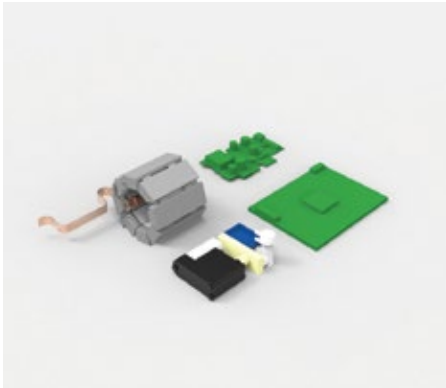
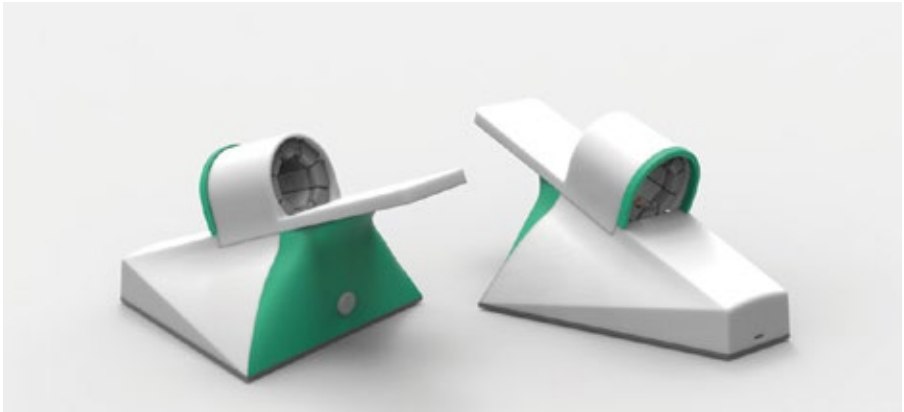
fabianong.designs@gmail.com | behance.net/changdou



THESIS SOFT ROBOTIC GRIPPER

Current robotic grippers face computing and mechanical complexity when tasked to perform grasping of soft, force-sensitive objects. Using negative pressure (vacuum) to deform foam materials, soft grasping is created to enable potential application in the agriculture and food production industry.

Under the supervision of Axel Thallemer



QARE TELEMEDICAL MONITOR

QARE is a web-connected health monitor designed to track crucial biometric data, allowing of remote health data monitoring for the ageing population. QARE's pared-back, fuss-free design allows for the elderly to use it in the comfort of their own homes, enabling quick access to healthcare staff in the event of unusual biometric data.

In collaboration with
Technical University Munich



INTIMATE 亲 | 清

The time-honoured tradition of tomb-sweeping is now modernised with a visit to the columbarium to view the deceased's remains obscured by a marble niche plaque.

The redesigned niche plaque is treated to only allow to image of the deceased to temporarily appear with the gesture of wiping with a wet tissue, disappearing as it dries up.

Both the terms '亲' and '清' are pronounced as 'qing' in mandarin, '亲' meaning 'dear', while '清' means 'to clean'; giving a poetic interpretation to the cleaning of the niche plaque of a loved one.

Designed with Lee Hsiao Fong
In collaboration with Nirvana
Memorial Garden

FIONA TAN YI YUN

Fiona strives to achieve balance between the functional and aesthetic aspects of design. She enjoys drawing links between adjacent fields to envisage innovation from a fresh perspective. In her free time, she appreciates nature, animals and photography.

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THESIS UNAFRAID

UnafrAID is a first aid kit designed to empower children with first aid confidence. Modular, colour-coded and compartmentalised by injuries, UnafrAID reduces the learning curve required to master the skill of first aid, fostering independence, interest and motivation in the subject.

Under the supervision of Christophe Gaubert

LUXO EDGE

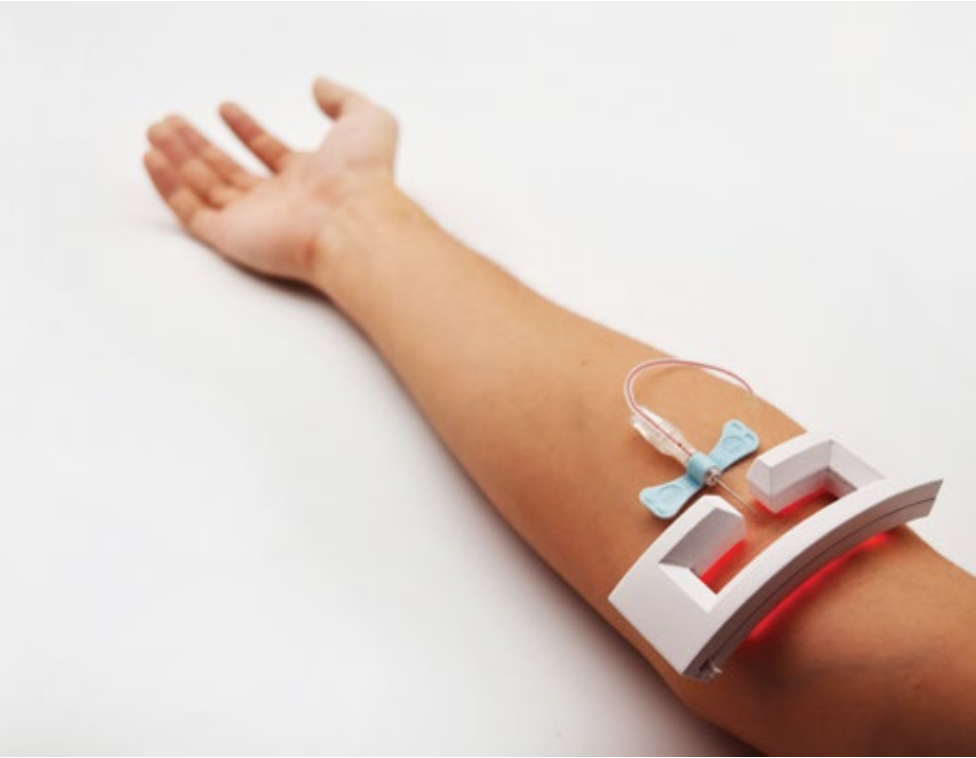
Edge is designed for the “Aesthetes” - consumers that crave a level of aesthetic and form that is not offered by most brands. Designed to look thin but unyielding from all angles with an elusive front plate and an angled back plate, these elements together compose an illusion of an extremely slim camera with almost zero components behind it.



LUMIVEIN

Failure to accurately locate veins during a venipuncture procedure can be a painful experience due to repeated needle insertion. LumiVein is designed with an elongated viewport to enable optimal vein viewing across the transverse diameter of the arm. This lightweight and portable device utilizes infrared lights to reveal veins under skin layers for accurate intravenous access through light absorption.

Designed with Samuel Woo & Alison Wong
In collaboration with
National University Hospital (NUH)
Division of Plastic, Reconstructive
and Aesthetic Surgery



FONG SOOK YIN

Sook Yin believes that design is in the service of a better life. Her main interest lies in the human responses to the everyday things of the world and how they can be enhanced.

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AKAN DATANG

Odds & Ends - A family of lidded containers inspired by the terraced paddy fields iconic of South East Asia.

Lit - A homage to the sky lanterns of South East Asia, a frame for a candle flame to exist within.

Designed with Edmund Zhang



THESIS LUSCIOUS LIQUIDS

The properties of liquids are explored to envision visually exciting drinking experiences for a new tomorrow – resulting in new drinking opportunities offered by technological advancements that blend seamlessly into a tablescape full of familiar drinkware with a surprising twist.

Under the supervision of Patrick Chia

GUERLAIN 190 ANNIVERSARY

Inspired by the act of unraveling a gift box, we sought to recreate an experience of curiosity that leads to discovery within our space. Carefully segmented by function, the retail space consists of an interplay of large imposing walls, open spaces, discreet alcoves, and delicate, light fixtures.

Designed with Felicia Koh

In collaboration with Guerlain (Asia-Pacific)



BONJELLY

An ode to the wobble. Through various experiments with different gelling agents, jelly shapes, and serveware, Bonjelly was conceived for maximum edible, wobbling fun. The handle is designed to affix the base of the jelly in place through the negative fluid pressure of air. Bonjelly can be completely inverted without detaching from the handle.

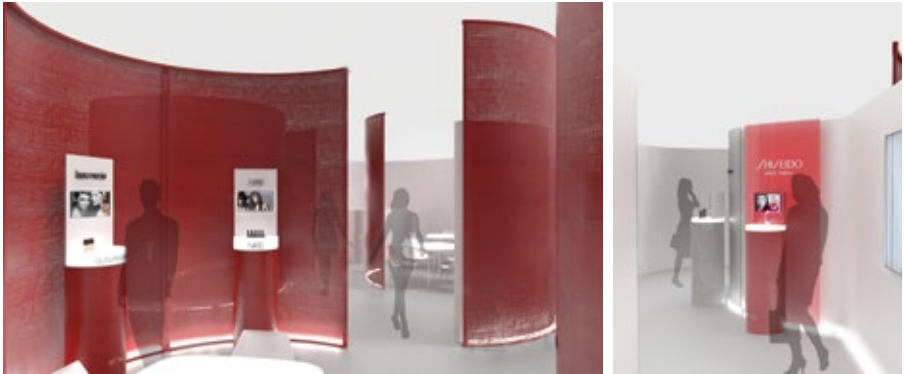
Designed with Eunice Er and Jervenne Teo



GLORIA NG SHU YI

During her own free time, Gloria finds joy in creating paintings. In design, she is interested in the influence of the graphic or spatial layout on the user experience and emotions.

gloriangsy@hotmail.com



BLOOMING

Recognizing Shiseido as a brand that connects deeply with nature, the concept Blooming alludes beauty to the delicate moment of a flower blooming. The atmosphere is created by superimposing red fabric against each other to bring out the varying intensity of colours and light just like in nature.

Designed with Lin Qiu Xia

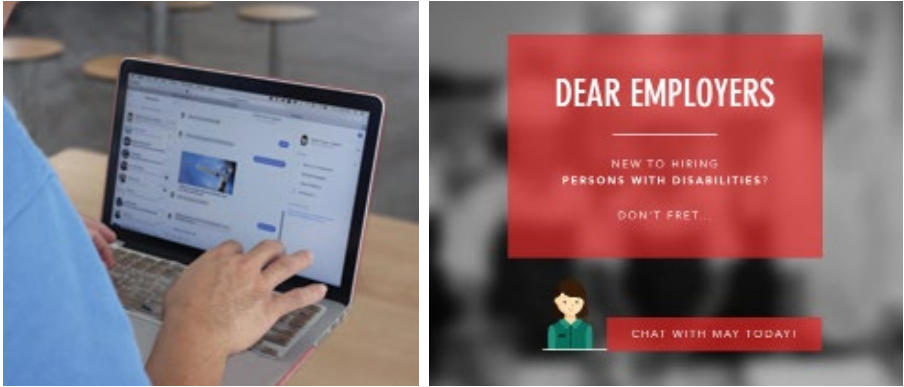
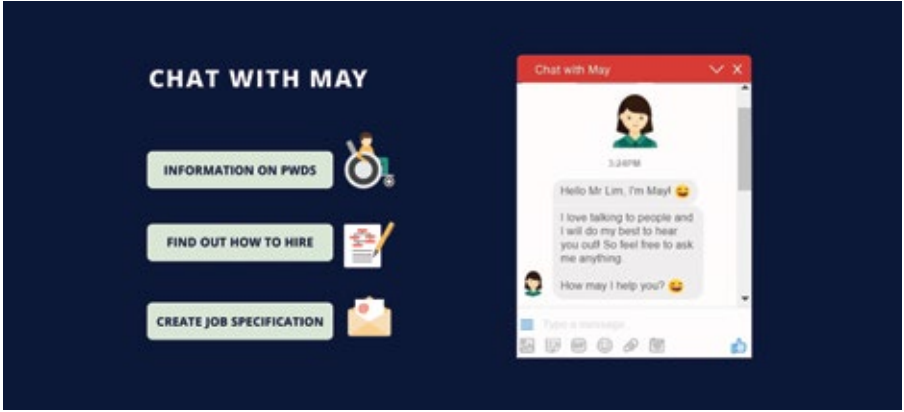
In collaboration with Shiseido Group



THESIS COALESCE

Coalesce is a set of tabletop and accessories that play with indents in the surface and magnets underneath the table top, to allow objects to snap into order. It stems from the exploration of oddly satisfying arrangements and the desire to give structure to our chaotic environment.

Under the supervision of Christophe Gaubert



CHAT WITH MAY

Chat with May is a chatbot that aims to improve job opportunities for Persons with Disabilities. It focuses on easing job matching process by helping employers find information instantly and speeding up the exchange of job information between employers and job coaches.

Designed with Denise Yeo & Stephen Ow

In collaboration with
Ministry of Manpower (MOM)

GABRIEL LIM

Gabriel believes design is best utilised to create valuable connections with users. He believes that design is about solving problems and purifying the solution. His interest lie strongly in product modeling and visualisations. However, he is so eager to constantly improve that he has it permanently on his skin.

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THESIS TILT & BARE

A wardrobe set that diverges from the norms of storage furniture to bring about a lifestyle absent from clutter and filled only with meaningful possessions. It creates an environment where clutter is visibly apparent and is accessible, paving the way for actionable de-cluttering.

Under the supervision of Patrick Chia

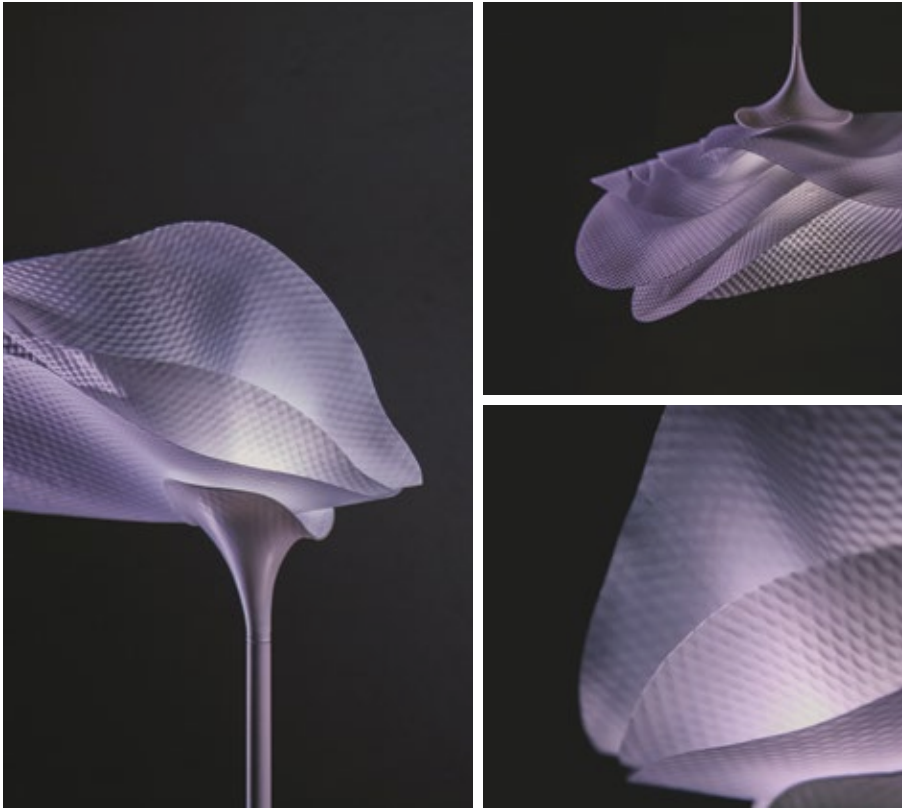


LUFT

A fresh interpretation on scent diffusers.

Luft blends two scents together to create more than just a mixture of scents. Combining scent not only produces a pleasant aroma but can be used as a complementary healing modality as well. Each scent is specifically tailored to a colour to enhance the experience of its aroma. This blending of colours can stimulate, excite, depress, tranquilize, increase appetite and create a feeling of warmth or coolness. Through this blending of scent and colour, Luft produces a medley of sensory experiences that is unique to each individual.

Designed with Edmund Zhang



FAY

Fay is a series of lamp shades made from the by-products generated from the fabrication process of vacuum forming.

Leveraging on the unique texture and the inherent thermoforming properties of the material, a process involving precise re-heating and controlled manipulation of the material by hand was developed to coax these “waste” sheets into sculptural expressions that invoke a surprising fabric-like quality. The material is also subjected to sandblasting to achieve a soft diffused quality fitting for its function as a lamp shade.

Designed with Low Joo Tat

GLENDAYEO KUN LIN

Glenda believes that design is an expression of love; She enjoys learning about people, she strives to create positive impact for the people around her, and she loves that design allows her to experience these, together.

glendayeo@u.nus.edu



THESIS PADDO, A CUTE SANITARY PAD

‘Cute’ is more than just aesthetics- Cuteness is an approach, with the ability to engender intimacy and overcome undesirability. Qualities of cute have been injected into the disposable sanitary pad through aesthetics and interactions, challenging the perception of how sanitary pads are dreadful and gross.

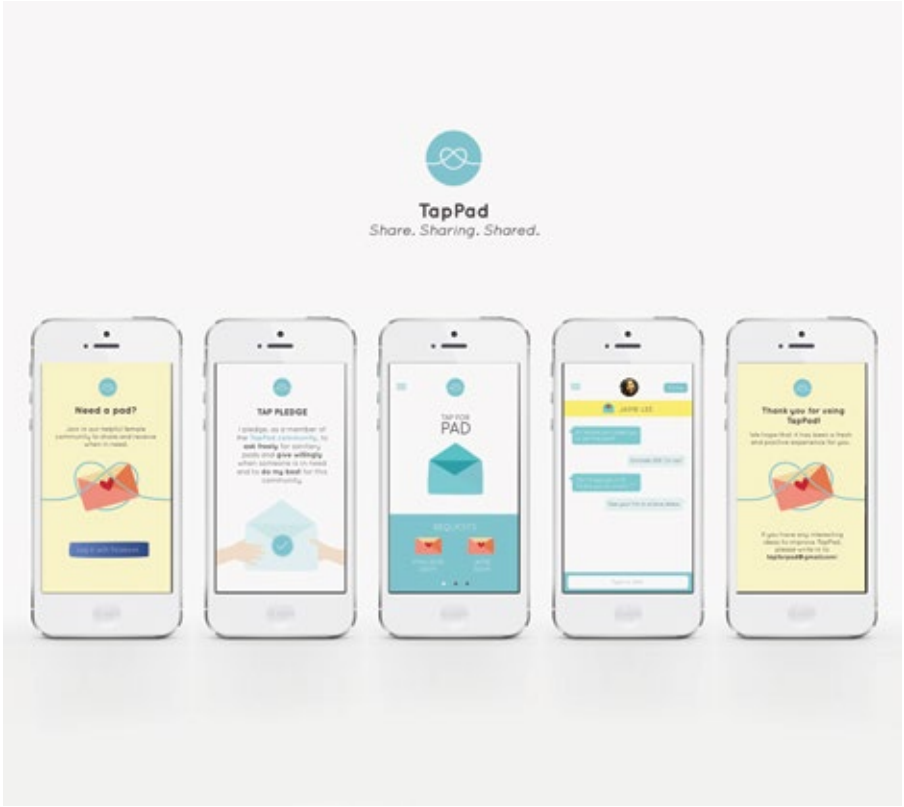
Under the supervision of Dr. Christian Boucharenc



CMYK

CMYK is a new learning system that strives to unify generational learning. It was discovered that different generations learn differently - The Baby Boomers are systematic and orderly, Generation X look for the most efficient and relevant method, while Millennials prefer to make sense of the world through trial and error. By making use of a colour coding system, a straightforward colour-matching process allows all three generations to comfortably get to work, significantly reducing the room for error. With color being the common denominator, CMYK unifies all three learning models while celebrating aesthetics at the same time.

Designed with Iris Tan



TAPPAD

TapPad is a mobile application that allows girls to get a sanitary pad during an emergency in three simple steps - Tap a button, wait for response and chat to meet. It also allows girls to give pads to other girls in need, whenever and wherever. Bringing together a community of women, TapPad aims to connect girls to solve this monthly issue, faced daily by girls around the world.

Designed with Lim Xinyuan, Sylvia Ang, Thomas Budin & Wadii Zaim

GRACE GANDI GOESANTOSO

Grace loves the fact that design allows for intriguing encounters with people, be it end users, people she works with or people who make the design journey possible. She appreciates design that communicates wisdom and emotions in any magnitude, in varying mediums.

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THESIS NIMBLE

Nimble is a handy attachment duo for the broom and the mop. It makes housekeeping less strenuous for paraplegics who often use one hand to clean while navigating with the other. By supporting the wrist at a comfortable angle, Nimble aids in the repetitive gestures of sweeping and mopping.

Under the supervision of Dr. Yen Ching Chiuan

NASIM

Medical students practice their very first nasal examination on real patients during their clinical posting, which often cause discomfort.

Nasim is a simulator kit which includes nasal cavity modules based on real patients developed with 3D printing and modelling technology. Pressure sensors embedded within the nasal cavity walls are calibrated to real patients to simulate their discomfort experience, visualised through differing light intensities and a complementary application.

Designed with Chow Jia Yi & Yang Ran

In collaboration with
National University Hospital (NUH)
Department of Otolaryngology (ENT)



CLUMSY DUMPTY

“Clumsy Dumpty on the wall, who’s the clumsiest of them all? Help Dumpty the Dino keep his shape, pick up the pieces and stop their escape.”

As children today grow up in an increasingly digital world, Clumsy Dumpty on the Wall seeks to create a more physical, tactile and traditional experience for all who help put Dumpty back together again.

Designed with Ng Tse Pei & Sharon Lam

Exhibited at National Museum of Singapore’s
“Masak masak” exhibition in 2016



GRACE NG LI CHING

Grace is driven by the rigorous design-thinking and brainstorming process that is behind every project. She believes that the role of the designer constantly evolves to challenge the status quo. To her, design is about starting the conversation to create change in everyday life.

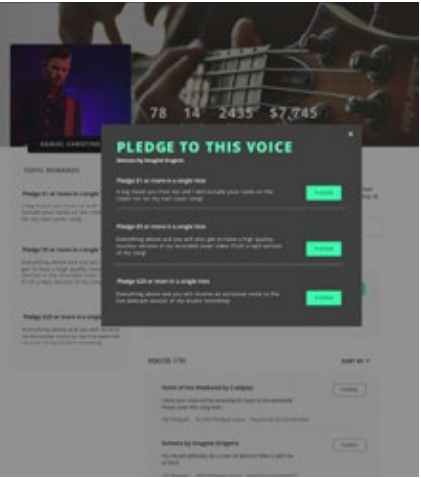
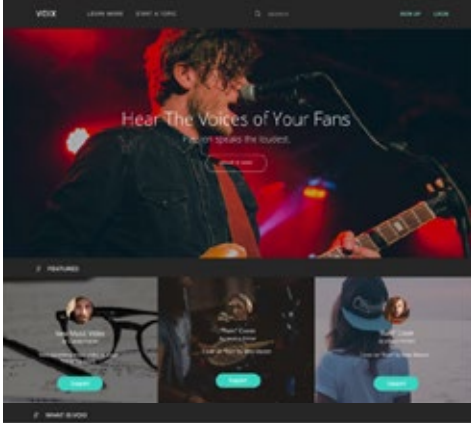
graceliching@gmail.com



THESIS HEXA

Hexa is a colour-sensing tool that translates colour to sound and light. It allows the visualization of music with the physical experience for early music education, introducing colour-music notation to children in kindergarten.

Under the supervision of Dr. Christian Boucharenc



VOIX

Voix is an online fan discovery platform that helps fan convey their wants to their favorite artists on various media sharing websites. This is done through fan-generated and cross-promoted ideas. It aims to provide effective bi-directional, focused communication on content production between creators and fans.



ATOM: A WORKER'S HELP

ATOM is an interface developed in conjunction with the Ministry of Manpower, Singapore. It is an interface meant for the implementation in ATMs (Automated Teller Machines) to help MOM reach out to the large population of low-skilled foreign workers in Singapore. This project was awarded 1st Place in the Ministry of Manpower Competition 2015.

Designed with Magdalene Huang & Florian Dach
In collaboration with Ministry of Manpower (MOM)

GOH JIE SHENG

Every good design comes with a story. It is not about how great you do it. It is about the learning process behind that counts in Jason’s view.

jaszzgoh@gmail.com



FINPRO

THESIS FINPRO

Finpro is a finger prosthetic functionality concept which helps user who have financial difficulties. Finpro rethinks and refines finger prosthetics by the use of technology to create affordability for its end user.

Under the supervision of Martin Danzer



ZENO TELEMEDICAL DEVICE

A non-invasive blood pressure measuring device that is specially designed to fit the Sony Xperia Arc S mobile phone. Inspired by the format of an ergonomic mouse, Zeno 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 by the ring sensor around their finger.



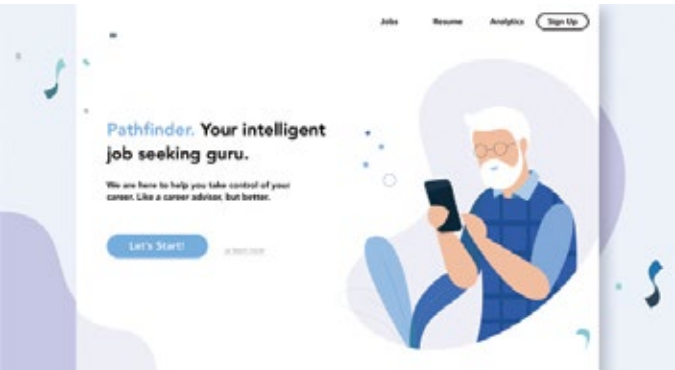
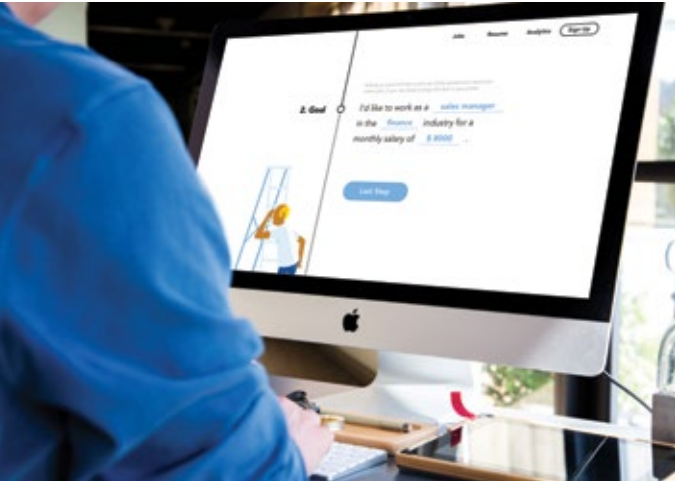
VREO

VREO is a compact handheld vacuum is inspired by what is minimalist, modern and conceptual. VREO aims to exclude the complex surface of 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.

HUANG YIXUAN

Yixuan thinks that design is a special place where art meets science, empathy meets rationality and head in the clouds meets feet on the ground.

iamhuangyixuan@gmail.com



THESIS PATHFINDER

Pathfinder is an enhanced recruitment service platform for out-of-work senior executives aged 50 and above. It is designed to provide a seamless job search experience with a progressive resume builder, skills-based job matching and personalised support system.

Under the supervision of Song Kee Hong



FROM GUERLAIN, WITH LOVE

From Guerlain, With Love is a pop up store designed with Guerlain's 190th anniversary in mind. The theme centers around the art of gifting, with an exaggerated digital "gift box" as the centerpiece. The open concept is modular and easily adaptable to any space or product line deemed fit.

Designed with Celiane Bouville & Yang Yang
In collaboration with Guerlain (Asia-Pacific)



DBS BRANCH REDESIGN

In order to suit the vastly different needs of corporate and personal banking in the DBS Thomson branch, our team designed differentiated yet directed customer experiences through meaningful service touchpoints.

The newly designed branch houses a colour based zoning system for way finding, an interchangeable interactive wall that provides on demand information and services, as well as supporting operations for an online corporate booking system to eliminate waiting time.

Designed with Lu Xiao Heng & Yang Xin Hui
In collaboration with DBS Singapore

JO-HANAN LAU

Johanan believes great beauty can be found in the complexity and messiness of people and everyday life - and with care, simpler answers can be distilled from the tangles that mark our humanness.

johananlau@gmail.com



THESIS LOW-COST MOTORCYCLE RAINGEAR

Designed for the riders of asia’s ubiquitous small motorcycles, this raincoat is designed to be worn quickly from the front, allowing tropical bikers quick escape from sudden downpours with complete rain protection.

Under the supervision of Martin Danzer



CONNIE

Connie is a modular training simulator for ocular injury treatment in the ER. It features a to-scale mount that attaches to the standard slit-lamp, easily swappable eye modules to simulate corneal foreign bodies and infection/injury patterns to aid diagnosis. Corneal modules were developed to be reusable and have a long shelf life, and have the consistency, clarity and curvature of the human cornea, to enable a realistic examination-and-removal process using the slit-lamp beam. Infection/injury models are etched to enable fluorescein staining.

Designed with Denise Yeo & Soo Woei Perng

In collaboration with National University Hospital (NUH)



DROPD

A more human peritoneal dialysis catheter - DroPD’s gentle teardrop shape helps hold the catheter in the abdominal cavity, reducing dislocation, and the leaf-like side flaps prevent tissue wrapping and occlusion of liquid channels, improving catheter survival rates. The design also allows for traditional implantation methods and equipment.

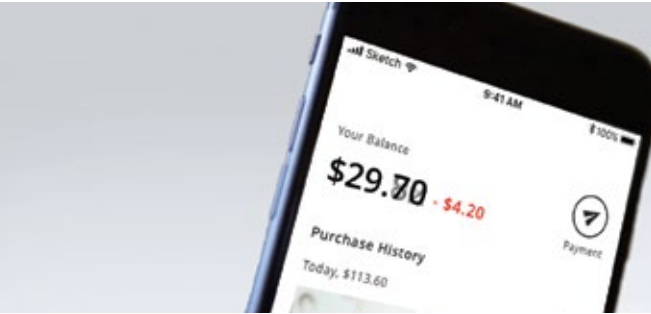
Designed with Iliana Ishak

In collaboration with National University Hospital (NUH)

JOHN TEO

John believes that design is a journey of discovery, a story waiting to be told. He finds joy in taking apart complex processes and systems, digesting the nuances and subtleties that will allow for simple, thoughtful experiences.

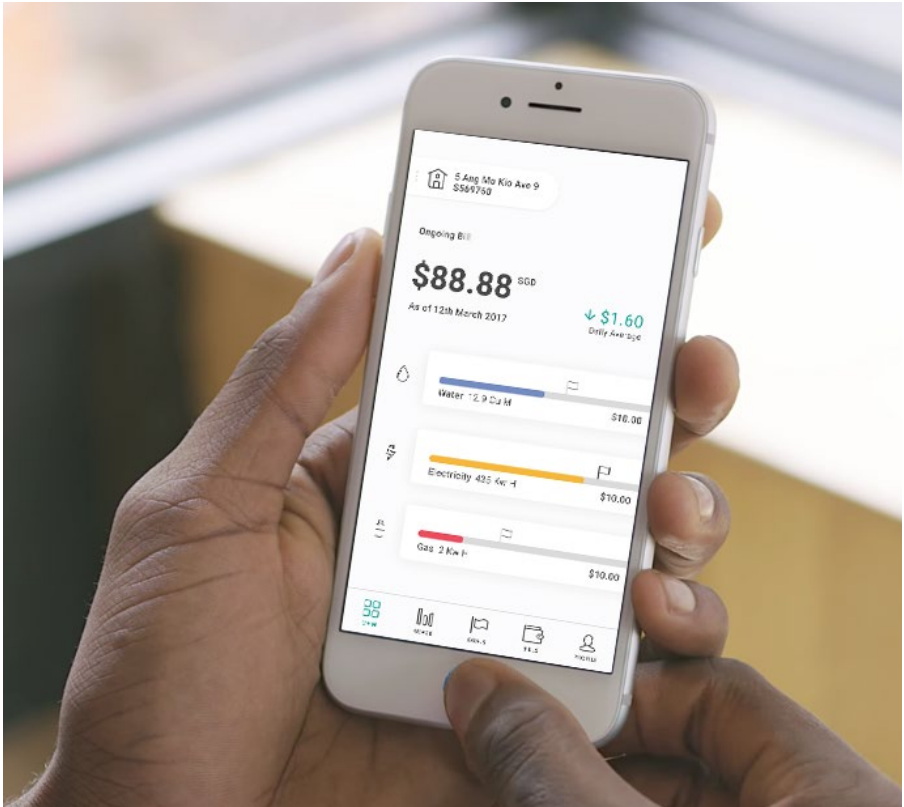
teorzjohn@gmail.com | www.johnteo.design



THESIS AFFORD

Afford is a mobile application designed out of concern for our tendency to spend mindlessly with today's cashless payment processes. Trading convenience for more attention, Afford emphasizes on the amount we are spending and heightens our awareness towards it.

Under the supervision of Song Kee Hong



METER

Meter is a mobile application that provide timely and useful information feedback to consumers on their utility consumption (electricity, town gas and water). Through various prompts, it encourages users to conserve their utilities. It was awarded First Runner Up, Mobile Application Design for Smart Metering Call-For-Proposal 2017.

Designed with Jolene Ng Jia Ying



BOLEH

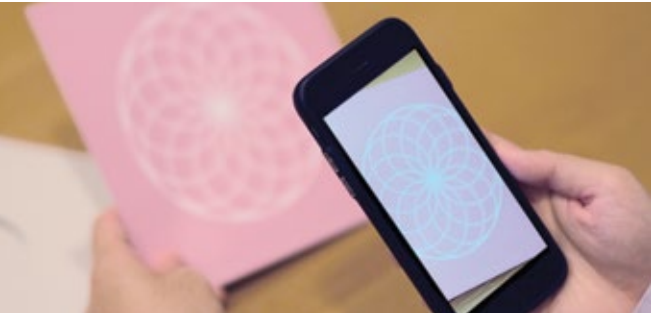
Boleh is a mobile application that pushes affiliated events to users such that the user can work on something new and instantly gratifying everyday. Working in conjunction with the Boleh Calendar, a daily planner disguised as a familiar artifact, it acts as a physical reminder to use the Boleh App everyday. It was awarded Best User-Centred Solution, Designathon 2016.

Designed with Chin Guo Hong, Ching Soon Tiac & Jon Chan Hao

JOLYN KANG

Jolyn is interested in art direction, illustration and graphic design. Her work embodies the spirit of enjoyment and cheerfulness.

jolynkang@gmail.com | www.behance.net/jolynkang



THESIS U+U

Social media makes celebrating online easy, almost generic. Yet it also lets us partake in brief moments of a stranger’s life. U+U is a product- service system that rethinks the celebration system by blending personal touch with digital technology.

Under the supervision of Christophe Gaubert



CAPER

Meet Caper, a delightful and lighthearted camera designed with a cheeky shutter. Likened to your travel buddy, Caper is compact in size and its friendly interface offers intuitive interaction.



THE POLYAMOROUS SOCKS

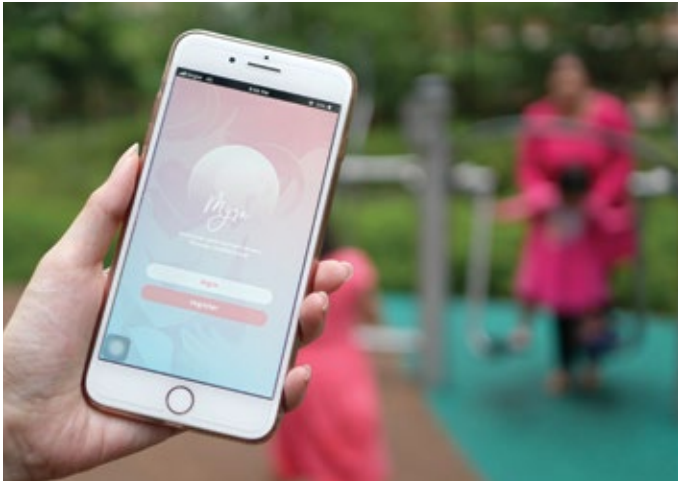
It’s always a good match. A kickstarter project created to combat the issue of lost socks. Imagine if you owned socks that look good with every other sock. Socks that matches with every other sock. Get the world’s greatest socks – The Polyamorous Socks.

Designed with Koh Kang Zhi & Kong Pek Kuan

JOMAINS NEO YU QIN

Jomains seeks joy in creating meaningful experiences for the users. Having a keen interest in spatial and service design, she hopes to enhance the quality of interaction and depth of engagement between users and their environments.

jomains.n@gmail.com | www.j-omainss.wixsite.com/design



THESIS MYRA

MYRA aims to empower stay-home mums by embracing skills acquired from their familial role as mothers, skills that are often marginalised in society; connecting and sharing services to other mums in need within the motherhood community.

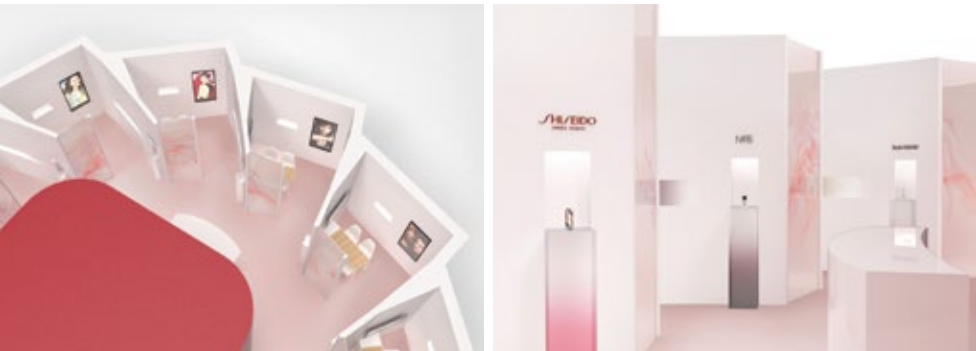
In collaboration with Daughters of Tomorrow
Under the supervision of Song Kee Hong

ENDLESS BEAUTY

The concept celebrates Shiseido's love for discovery and sharing of beauty since 1872.

Drawing inspiration from Shiseido's iconic trademark, the Hanatsubaki, the exhibition space is designed to exude the essence of beauty and nature. The abstract interpretation of this motif is executed with the graduation of colours and gentle curves through spaces to achieve a chromatic effect.

Designed with Seah Li Ping
In collaboration with Shiseido Group



PICKIT

PICKit repackages the household introductory experience of first time foreign domestic workers (FDW) into a visual, progressive and in-context learning toolkit.

Aimed to ease the communication barrier between the employer and FDWs, the toolkit visually guides and engages them with instructional stickers, empathetic prompts and milestone tracker. These allow training to be personalized to every household's needs and the learning curve of FDWs. The project was awarded the 1st Runner-up and has been developed and implemented for piloting phase with MOM.

Designed with Chan Wing Kei & Huang Yixuan
In collaboration with Ministry of Manpower (MOM)

JON CHAN HAO

Jon believes that design serves the role of a catalyst: inspiring innovative solutions that people love. With an expertise in product design and prototyping, he’s excited to see where he can apply his knowledge in the future.

jonchanhao@gmail.com | jonchanhao.com



THESIS UNCANNY MACHINES

What if drones looked alive? Exploring how “skin” can transform existing personal drones into living creatures, Uncanny Machines proposes an alternative to approaching the design of personal robots. As they become increasing autonomous and pervasive, should they still be designed as machines, or as living creatures?

Under the supervision of Hans Tan



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. The project is the winner of the Furniture and Lighting Category in the 2017 Core77 Design Award.

Designed with Kevin Chiam Yong Sheng



MAG

MAG is a modular wallet that adapts to your lifestyle. A magnetic hinge allows individual modules to be attached and detached, making carrying what you need easy and effortless. Launched on Kickstarted in 2016, the campaign was fully funded under 24 hours, and raised S\$27,209, 400% of its original goal S\$6,000 in 30 days.

Designed with Jexter Lim & Ngieng Jia'en

JOSH HO

A believer in making the intangible tangible and working mostly with physical objects and spaces, Josh communicates material quality and human presence within space by constantly challenging paradigms while exploring and studying subtleties in human emotions.

josh@joshhodesign.com | www.joshhodesign.com



JENNIFER

An experiment to push the conventional limits of what a material is and can do was dictated by artistry to result in a series of hand-crafted accent pieces that radically transforms the environment it is in. The result is not just a series of objects but a persona—built out of months of dialogue with the material.

In collaboration with Design Incubation Centre



APOLLO

Apollo radically reimagines the retail experience of a historical fragrance and beauty brand by extracting light and the sun as main semantic inspirations from the perfumery’s rich history. The brand is presented as the sun at the center of the universe, while spatial depth illustrates a sense of illumination.

Designed with Tan Rongli Zacharies
In collaboration with Guerlain (Asia-Pacific)



THESIS PULSE

PULSE is a re-imagination into the existence of analog objects as humans live in a world with the ever-increasing ubiquity of technology. A personal token is proposed that serves as a universal tool and ‘the one’ analog medium humans use to interact with digital technology.

Under the supervision of Patrick Chia

STRENGTH AND BEAUTY

This exhibition space showcases the unity of the beauty brand’s multiple sub-brands by expressing the qualities of strength and beauty within, on the outside, and with each other. There is a strategic mix of broad and generous design strokes with subtle yet deeply-meaningful details relating to the brand. The concept was further developed and showcased at the 2018 TFWA Asia Pacific Exhibition & Conference.

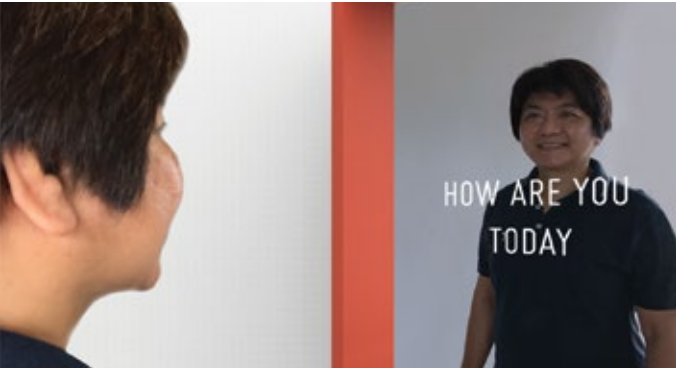
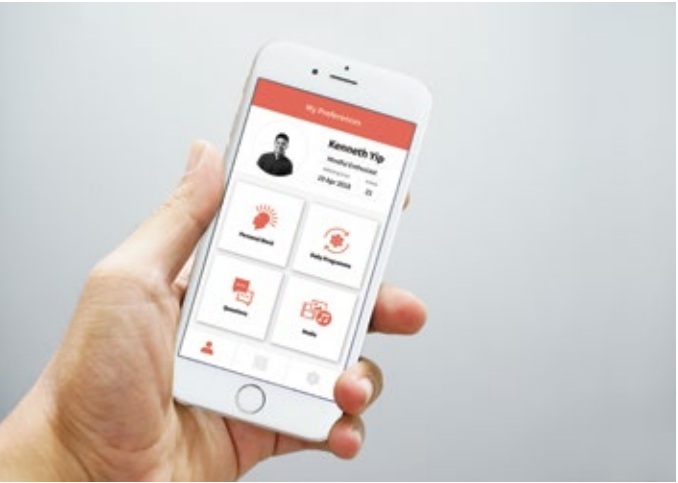
In collaboration with Shiseido Group



KENNETH YIP WENG YEW

Kenneth loves observing people interact with their environments and finds meaning in developing solutions that bring joy and enhance the lives of people. He is particularly interested in service-based approaches to design as well as IoT integration, and also constantly seeks new opportunities for hands on tinkering and crafting.

kenneth.ywy@gmail.com



THESIS INTERLUDE

Imagining a society where mobile apps support our interactions with digital objects to create more contextual, customisable and ultimately meaningful experiences, Interlude is a dressing space for mindfulness, with a digital mirror facilitator that motivates users with intuitive prompts.

Under the supervision of Patrick Chia



HIRELEARNING

Hirelearning is a set of educational aids designed for individuals with Mild Intellectual Disabilities and their employers, with the aim of improving job sustainability for them. For employers, a website provides general learning, personal employee write-ups, and printable tools, providing them greater awareness and knowledge to interact with their employees. For students, a situational awareness book helps to prime them for the workforce by imparting them essential skills in a timely manner.

Designed with Jervenne Teo & Tan Zi Jie

In Collaboration with Ministry of Manpower (MOM)

Winner of NUS Social Design Award



WANDERLUST

Wanderlust is an exhibition design concept for Guerlain (Asia-Pacific). It revolves around empowering the Guerlain woman to create a personalised beauty journey, through the use of varying depths and layers to invoke a sense of discovery. It features individual islands which provide clear zoning for different product axes and help to create cosy passageways for customers to navigate through. Furthermore, the experience-zones for each axis provide interactive digital touchpoints where customers can immerse themselves with the products.

Designed with Leung Jia Jun

KHOO YIN QI

Yin Qi enjoys functional design mixed in with a little bit of art and quirk, and hopes to find (and offer) the unusual in the over-seen. She enjoys working with her hands and thinks design should be less pretentious and more helpful.

www.quintch.wixsite.com/portfolio



THESIS PAPER MANTIS V

Paper Mantis is a website that provides materials needed to teach individuals with intellectual disabilities an adapted craft of paper upcycling that creates beautiful products, whilst improving their fine motor skills at the same time.

Under the supervision of Christophe Gaubert



TABLE TOPPERS

Table Toppers are a pair of desktop organisers - a salt shaker and table mat from Daiso that quickly turn into a cable organiser and tray with adjustable compartments through the simple addition of 3D-printed prostheses.



PLAYYBLOCKS

Playy blocks are a new take on the traditional building block. Designed with Arduino components, these digital toys engage children through creative and sensory play. Each block is able to produce and pass light and sound on to adjacent blocks, creating endless fun and possibilities. Children can learn rhythm, enjoy collaborative play and improve their motor skills as they try to keep the light and music going.

Designed with Lee Si Min & Weng Yixiang

LIM JUN JIE

Design plays a huge part in our daily lives. Being able to design a product that can benefit a certain group of individuals is worthy and meaningful. JJ believes that every project has a story of its hard work and the best part of it is the design process he had gone through.

lim_jun_jie@hotmail.com



THESIS ORI

ORI is a bag that is able to meet our daily needs (school day, grocery shopping etc) without having to switch into another bag. ORI can be folded into a number of shapes and sizes which can vary from a A3-sized backpack to a A4-sized handbag or clutch.

Under the supervision of Prof. Axel Thallemer



LIMA

LIMA explains the redesigning of a hot glue gun in our modern society. It enhances convenience when we use it for gluing. On top of that, the top casing was designed to enable it to act as a stable stand when we are not using it.



RIPPLY

RIPPLY is a wearable, multi-function swimming float designed to be minimal, affordable, convenient and suitable for public pool use. With Ripply, people with multiple disabilities will be able to enjoy the lifelong benefits of swimming.

Designed with Yeo Hui Ci & Philip Chen
In collaboration with
Rainbow Centre, Singapore

LIM LI XUE

Li Xue is deeply inspired by colour, material, form, texture, and feelings. She is always in pursuit of expression, and it has grown to be part of her identity as a designer. She appreciates a good play of colours, patterns and textures. She loves experimenting and making things! Anything tactile!

limlixue@live.com | cargocollective.com/euchilles/



THESIS THE DOODLE LAMP

The outcome from a keen interest in fabric, the Doodle Lamp invites one to dress the light bulb - allowing a more personal experience. The unique charm and possibilities of the product are something I am very excited to explore beyond this thesis. There are always new things to discover through making!

Under the supervision of Donn Koh

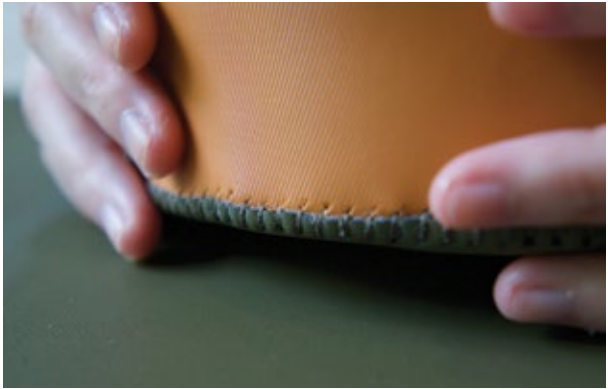


KIN

We’ve all experienced the pains of holding up the queue while fumbling with change. KIN is an elegant solution to this everyday dilemma, bringing greater ease and convenience to our lives.

Notes and coins are inserted from the top, and the coins sorted is easily retrieved from the pocket on the side. KIN has received international and local coverage from HYPEBEAST, The Independent, Core77, and many more. KIN’s design is acknowledged by industry experts - and was awarded the Red Dot: Best of the Best under the Fashion Category for Design Concept 2017.

Designed with Cheryl Ho & Ng Ai Ling



SOFT TRAY

Soft Tray is created by the special properties of Kvadrat’s Bazil fabric line. The process focuses on exploring and experimenting the material, which resulted in a form leading to many possible outcomes.

In the chosen product family, Soft Tray challenges common hard trays used in home living contexts by offering it softness and buoyancy yet retaining its function as a light vessel. Imagine dropping some coins on a cold, hard tray. It’s alarming! Harsh!

What Soft Tray offers is an alternative response to hard objects - the softness in feedback. Feel the coins drop! Watch it bounce! Feel the texture!

In collaboration with Kvadrat, Singapore

LYNN HO XIN YI

Lynn enjoys being a sponge - she enjoys soaking up knowledge in diverse areas. Not all of them are necessarily applicable to her design journey, but definitely enriches her life. A people-watcher, she finds amusement in observing human behaviours and uses them to create more nuanced solutions.

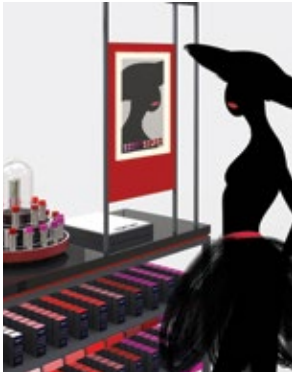
lynnhoxinyi@gmail.com



THESIS THE ORACLE

The Oracle is a fictional e-commerce company selling consultative devices that feeds their users pieces of advice based off various sources of data. This speculative design paints an image of a future where data is perceived as all-knowing and influences how we make day-to-day decisions.

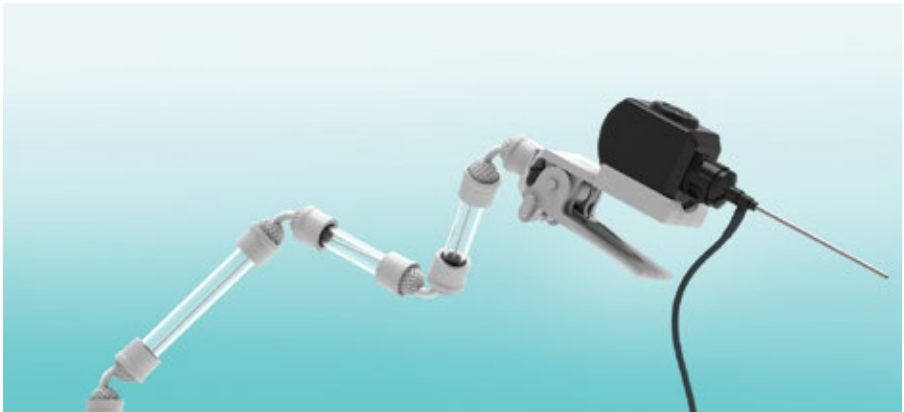
Under the supervision of Donn Koh



LE CINÉMA

Le Cinéma is a mobile event concept in celebration of Guerlain's historic 190th year anniversary. The concept takes inspiration from movie sets, using various experiential points to narrate a story where the customer is the star. In an age where photo-documentation is an essential part of a person's daily life, Le Cinéma provides a photo-ready moment at every turn of the head, achieved through elegant framing proportions. The construction of the various structures are highly adaptable and transportable to allow for better mobility across different locations.

Designed with Emily Kim & Jennifer Lim
In collaboration with Guerlain (Asia-Pacific)



RIGIFLEX

Rigiflex is an arthroscope holder that allows for the required flexibility when maneuvered and stays in position when hands-free, all achieved in a single action. In typical situations, the surgeon has to hold onto the athroscope throughout the operation which limits the range of movements. Yet, this is essential as the athroscope has to be constantly moved. Rigiflex essentially acts as an alternative arm that exhibits the same flexibility as a human's and stops in place when released to allow for stability.

Designed with Hong Ling Yang & Tan Xin Yu
In collaboration with
National University Hospital (NUH)
Department of Orthopaedic Surgery

MAGDALENE HUANG YIXIN

Mag enjoys working with physical objects, form exploration and translating intangible ideas onto paper. Her approach to design has always been about finding meaningful connections and solutions for real people. She believes design is a powerful medium for both communication and problem solving.

magdalenehyx@gmail.com



FLOO

Floo hopes to express the spirit of childlike joy and capture the essence of a light-hearted, carefree kettle. The simple, childlike quality of Floo brings a lightness to the space and In a context of a practical and monotonous kitchen, Floo hopes to add that touch of perky positive energy to a kitchen landscape.



OBJECTIFYING URINE BAGS

To amplify the physically invasive nature of the urine bag, a furniture piece was designed to objectify the struggle of physical acceptance. For this sidetable piece, 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.



THESIS HEM

Hem is a re-design of existing stoma bags, a prosthetic medical device used for waste collection. Hem boasts a much larger capacity – giving users the freedom, assurance and confidence to leave house without being tied down by the anxiety of carrying a filled stoma bag.

Under the supervision of Donn Koh

TABAOWARE

Tabaaware looks into the prominent takeaway culture in the Asian context. Compact in size, Tabaaware is portable and suitable for storage in micro-spaces. Tabaaware allows for basic containment, soup and food separation and for steaming purposes – a simple solution to all takeaway problems for an Asian urban dweller.

In collaboration with Tupperware



MELVIN KHNG TIAN WEI

Currently Melvin is into using tree forks for furniture design and has in his collection unique pieces of furniture crafted using tree forks. Moving forward, he aspires to expand his research on *‘Typologies in Nature’* to impact a larger community.

deco_designs@hotmail.com



THESIS NATURAL ORGANIC TOYS

Growing up with nature at a young age has evoked Melvin’s curiosity towards the way nature works. His thesis focuses mainly on *‘Natural Organic Toys’* made from tree forks to enhance creativity in children.

Under the supervision of Prof. Axel Thallemer



ARECA CURVED FACADE

Working with natural fibres, the inspiration comes from the palm trees, making use of the leaves as a fabric. The Sheath of palm trees are used. Going through the process of sun drying, bleaching and flattening. The ottoman, pedestal and coffee table drew their inspiration from the seed, trunk and leaves of the palm tree.

In collaboration with Kvadrat, Singapore



BELINA 5.0

Belina 5.0 is a dressing table for both male and female users, young or old. Nature produces efficient ready-mades found in trees; its intrinsic materials and inherent form structures give solutions which once gleaned and in-sighted, are confluent with functional and mass-produced contemporary ready-mades. This presents a valuable key to sustainable design initiatives: that conceptual design processes, with lesser mental effort, can efficiently counter excess investments of production energies, translated as repeatable programs to produce highly meaningful objects.



MIKO YEO XUE TING

Miko enjoys design centered around user interactions and experiences, especially in problem-solving or challenging the status quo. She believes in design that is aesthetic yet purposeful.

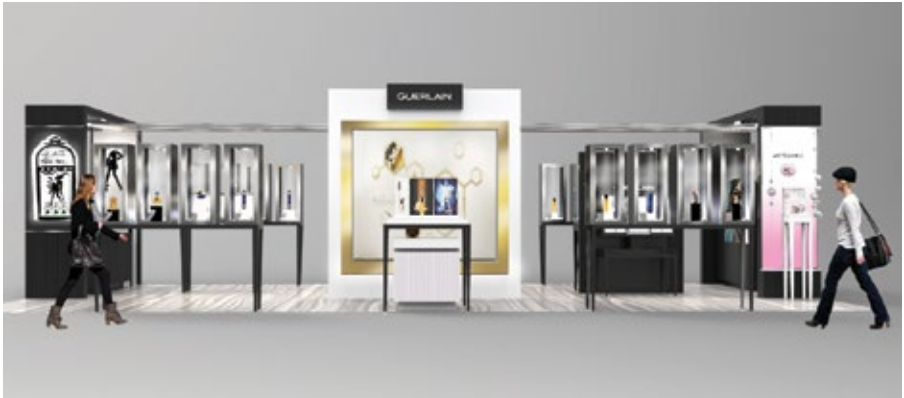
miko.yxt@gmail.com | mikoyeo.weebly.com



THESIS COOK UP A STORY!

Cook up a story! is a set of kitchen tools, each with a personality accompanied by a storybook that encourages imaginative play while the senses are being stimulated by the smells, colors and textures of food. It is perfect for picky eaters and learning new words.

Under the supervision of Christophe Gaubert



GUERLAIN POP-UP STORE

Guerlain is brave in innovation, but also celebrates its rich history. This concept portrays the brand's delicate contrast in their quest for beauty. Guerlain is more than a store, it is a house - the customer journey starts from an open front yard to a sheltered alcove for product browsing, before being invited into the room for an intimate consultation experience. The concept is cost-effective with minimal bulky structures.

Designed with Hong Ling Yang
In collaboration with Guerlain (Asia Pacific)



DESIGN FOR AN AGE-FRIENDLY WORKPLACE

With Singapore facing a rapidly aging population and the increase in retirement age, it is more important than ever to build inclusive workplaces that meet the elderly workers' needs. We partnered to design for the elderly workers of York Hotel's restaurant. This project redesigns the work flow to make it less physically taxing on the elderly workers and empower them with an appropriate service tool to boost their productivity.

Designed with Vanessa Ong & Hong Ling Yang
In collaboration with Ministry of Manpower (MOM), National Trades Union Congress (NTUC) and Singapore National Employers Federation (SNEF)

NG TSE PEI

Tse Pei enjoys creating meaningful designs that carry a social impact and relishes in finding simple, elegant solutions to complex problems. She craves knowledge and is curious about the world around her.

ngtsepei@gmail.com



THESIS FLIT.

Flit helps nurses quickly manage aggressive outbursts in psychiatric patients. It eases the stress of applying restraints on restless patients by enabling swift and secure application, so that nurses can soothe and calm patients in a safe environment and ensure the patient's wellbeing.

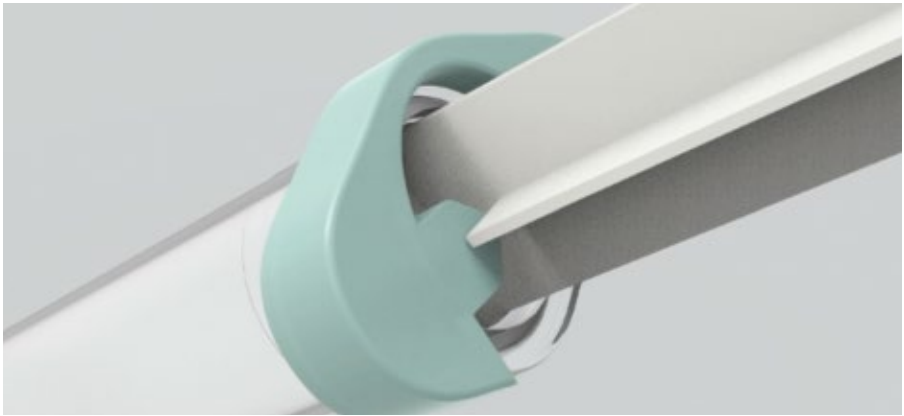
Under the supervision of Dr. Yen Ching Chiuan



PROJECT GOTONG-ROYONG

Project Gotong-Royong is our vision of communal living for vulnerable elderlies living alone in HDB rental flats. With a lack of resources and no family to rely on, most elderly turn to the community for support. However, for the passive elderly who shy away from social interactions, turning to the community for help does not come naturally. With small, meaningful tweaks in design, Project Gotong-Royong leverages on the differing but complementing personalities of the active and passive elderlies, to bring back the spirit of communal living. By decentralising daily activities and creating shared spaces between neighbours, the passive elderly become more visible to the community, allowing help to come to them instead.

Designed with Felicia Koh & Ye Luman



VAC

VAC is a vacuum operated, syringe adaptor for single-handed aspiration. When handling multiple tools in a biopsy procedure, doctors only have one hand available. Single-handed aspiration with a standard needle causes instability and imprecision, which can lead to injury or lack of viable samples. With VAC however, it is a different story. VAC fits onto a standard syringe and leverages on the plunger's vacuum creating ability to allow easy single-handed aspiration with a simple push of the button.

Designed with Delia Lim & Priscillia Lim
In collaboration with
National University Hospital (NUH)
Division of Thyroid and Endocrine Surgery

NGUYEN THI TUYET TRINH

Trinh believes in empowering design to make a change –“where there is design, there will be a way”.
Trinh is passionate about finding ways to work with her hands, turning creativity into living breathing entities that matter.

d.i.trinh@outlook.com



MOBILITY CART

A mobility cart for the lower limb disabled.

The project aims to design an improved Personal Energy Transportation (PET) Mobility Cart for the mobility of the lower limb disabled worldwide. This new design improves the propulsion and break system, the ingress and regression, the adjustability of the chair to maximise functionality to broaden the range of user.



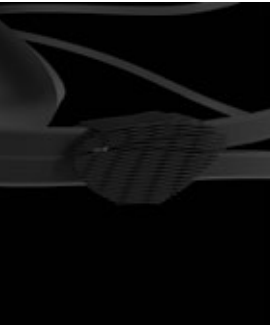
LATCH

Work-life balance does not equate to equal balance for every individual. It is hence essential to provide a practical mean of customising balance. By giving individuals the choice to re-evaluate their priorities in life. Latch allows users to discover their own balance and adapts accordingly to suit their preferences. Every “layer” of life is accommodated efficiently through three layers offered by Latch. Latch serves as a soul mate for finding your own version of balance and becoming your best self.



HYDROELITE

Hydroelite is a gateway to a bigger and richer experience. Designed to help every swimmer, both able-bodied and visually impaired. Hydroelite uses flow sensing technology combined with an accelerometer to detect all the changes in water flow and subsequently translating into useful information, e.g. speed, stroke per second, efficiency, etc. For the first time, swimmers the blind, or visually impaired swimmers are capable of swimming without assistance.



THESIS BANG BANG

BANG BANG is an innovative “ Positive pressure ventilation” air mask for young children from 8 months old to 2 years old whose breathing power is weak due to the natural immaturity of lung development, enabling them to fight against air pollution with isolation protection.

Under the supervision of Dr. Yen Ching Chiuan

NGUYEN TRONG HIEU

If there is anything Hieu fervently believes, it is that form follows function. He is excited by the prospect of designing to overcome challenges, solve problems and touching as many lives as he can in the process

ngtronghieu96@gmail.com



THESIS NON-ASSEMBLY ADDITIVELY MANUFACTURED ARTICULATED JOINTS

A series of assembly-less articulated joints designed exclusively for powder bed 3D printing that has never before seen capabilities like increased accuracy, inner friction and self-locking capability.

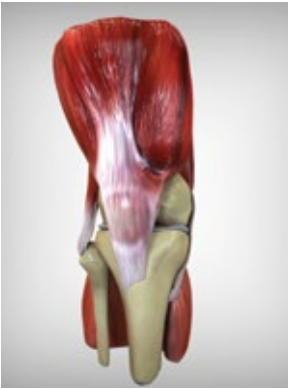
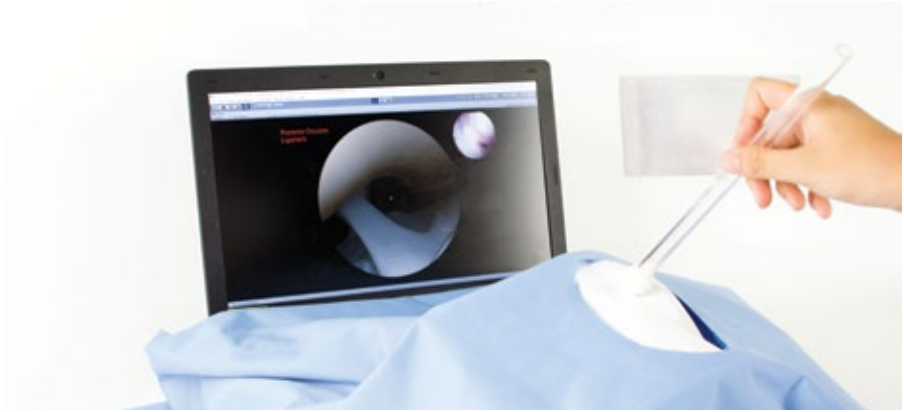
Under the supervision of Martin Danzer



HAIR DRYER

In collaboration with Toni & Guy Hair Dressing Salon, a detailed in-depth research was performed at the salon to help design a hair dryer for their company. Through observation, interviewing and role play, insights were translated into the hair dryer 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.

Designed with Yeo Ren Jle and Ellvixson Yap



ARTHRO

Arthro is an educational simulator designed to teach university students about knee arthroscopy. Designed with a simplified control method, responsive interface and recognizable anatomical landmarks, Arthro caters to university students' knowledge level while providing an effective starting point for them to begin their surgical training.

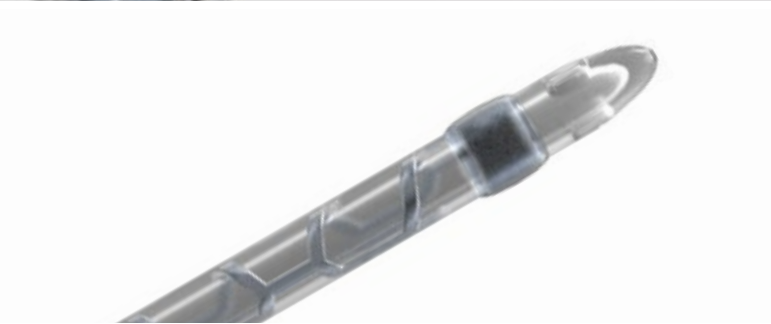
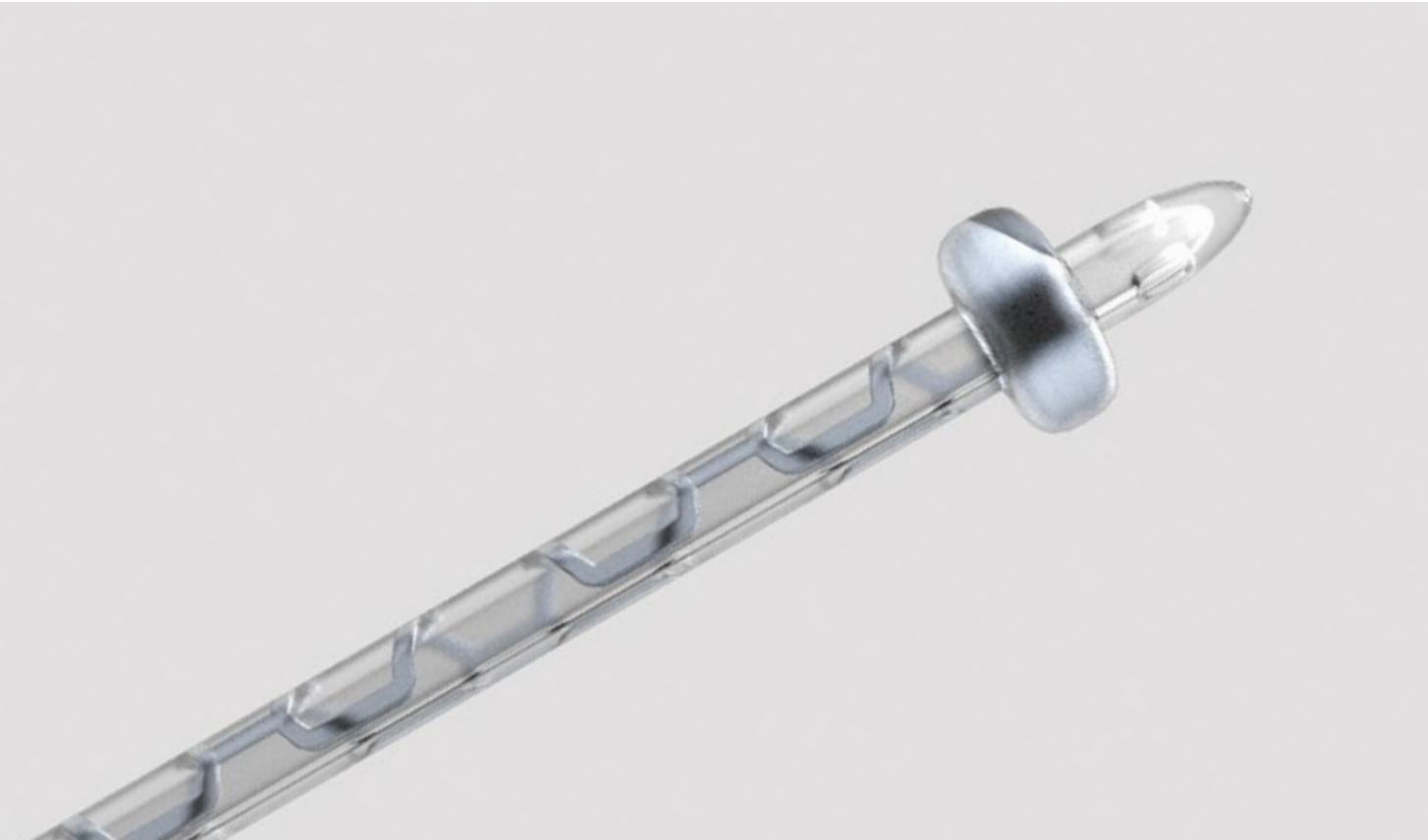
Designed with Yasmine Cheng and Mignon Vieveen

In collaboration with NUS School of Medicine Department of Anatomy

PHAN MAI

Animal lover. Tea addict. Cake enthusiast.
Curious and adventurous, Mai enjoys learning about new subjects, getting different perspectives and gaining new experience.

phan.thinhumai94@gmail.com



THESIS FIDEAN

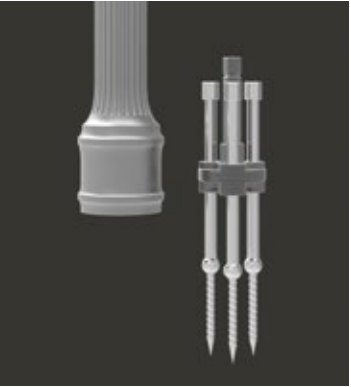
A redesigned catheter for Haematuria, Fidean uses a balloon water channel as the reinforcing structure allows it to be soft and comfortable to patients yet strong enough for doctors to work with during manual irrigation, removing the need and pain of changing catheters multiple times for manual irrigation.

Under the supervision of Martin Konrad Danzer



ALORA

Alora is a lamp that brings soothing music to the atmosphere. When an object is placed on the base, a network of light sensors underneath recognises a disruption in the light shining downwards and activates a library of sounds. Each sensor is programmed to a unique sound of nature and relaxing music. This means the combination of sounds and music is determined by the shape of the shadow of the object placed on the base. Even the same object can produce different combinations if placed in different position and location on the lamp, and each experience is a new and unique one. Alora breathes life into your everyday objects and sets the mood for the room.



VELOS

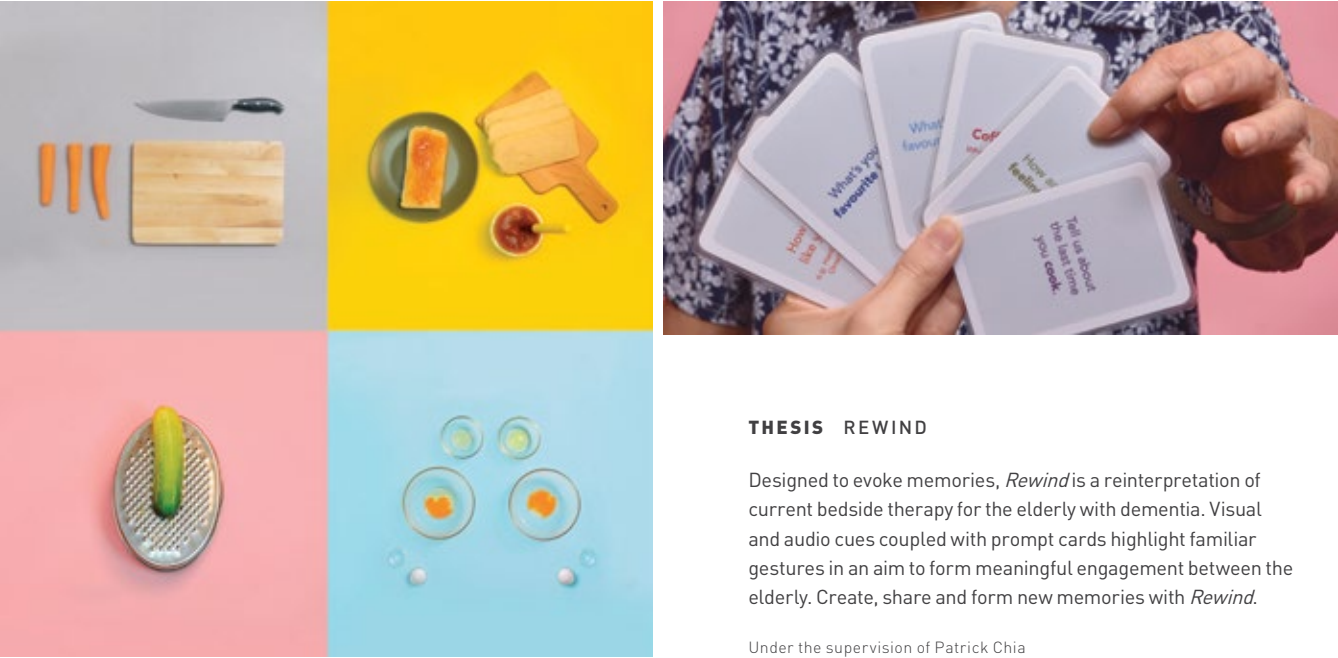
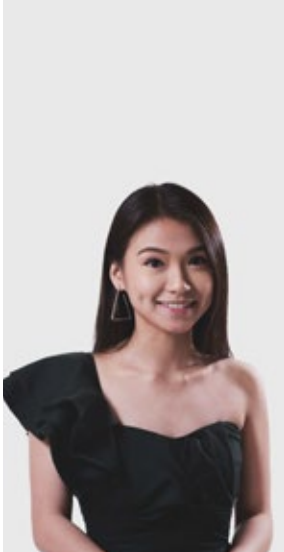
Velos is an improved version of the Carroll-Girard screw commonly used in zygomatic fracture reconstructive surgery. Velos replaces the single unstable screw in the Carroll-Girard with a template of 3 screws, providing a sturdy triangular base for more anchor and control. The handle is also redesigned to have a more comfortable grip and 360° turn for more maneuverability to put less strain on the wrist. Velos will save time and energy for the surgeons by providing a more secure grip on the bone fragment and affording a larger angle of movement on the handle.

Designed with Vanessa Ong
In collaboration with National University Hospital (NUH)
Division of Plastic, Reconstructive and Aesthetic Surgery

POH YUN RU

The best design starts from a small idea that incubates in the mind and slowly evolves into a story everyone can relate to. With an open mind, Yun Ru loves discussing different thoughts, working with other people, and seeing things from their perspectives.

yrpyr@hotmail.com



THESIS REWIND

Designed to evoke memories, *Rewind* is a reinterpretation of current bedside therapy for the elderly with dementia. Visual and audio cues coupled with prompt cards highlight familiar gestures in an aim to form meaningful engagement between the elderly. Create, share and form new memories with *Rewind*.

Under the supervision of Patrick Chia



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 endless variety of attachments to switch around and select from. Acetate, the material for LOOP's frame, promises strength and flexibility for the wearer, allowing kids to explore and express themselves more freely and uniquely.

In collaboration with Kwang Meng Co Ltd and Visual Mass Inc



NOMNOM

Nomnom is a breast milk warmer in-built with a special heat conductive label that heats up expressed milk to optimum temperatures. Lightweight and portable, it makes feeding-on-the-go more convenient and practical, to be used anytime and anywhere. This means that mothers can travel more effortlessly with the lightened load when heading outdoors with their child.

First Place, Motorola Solutions Project Award

RHODA OH YUN QI

Rhoda finds joy in observing and learning from how people communicate and interact with the environment and the things around them. With a keen eye for detail, Rhoda values quality and meaningful experiences.

rhoda.ohyq@gmail.com



THESIS INTERACTIVE RELAXATION EXPERIENCE

An interactive relaxation experience for anxiety relief. With four unique progressive levels of tension-releasing to fluid rhythmic gesture-based interactions, the app serves as a tool for therapy as well as an everyday-practice for mindfulness.

Under the supervision of Patrick Chia



DISTILLED BEAUTY

Through the exploration of translucency and elliptical forms, Distilled Beauty establishes a sculptural and ethereal presence, echoing Shiseido’s reverence to nature and essential simplicity. Long continuous curves create intimate enclaves of meeting spaces while inviting clients to weave through the space. Translucent walls wrap the space with projections of brand visuals and soft morphing textures and colours, creating an immersive environment with emotion and life.

Designed with Maggie Seah

In collaboration with Shiseido Group



CRESCENDO

A gradual steady increase.

Parallel cuts and alternating scoring made on a cardboard creates a leaf-shaped basket that unveils itself when it is constructed. The playful nature of “tossing” magazines into the rack encourages interaction as the rack changes in shape in response to the presence of magazines. The weight of the added magazines strengthens the stability of the rack. Crescendo can be seen as a sculptural work of interactive art.

Designed with Fong Sook Yin & Milly Tan

SAMUEL WOO CHUN KIAT

Samuel believes the key to being a good designer is the ability to think, sketch and make. He enjoys the iterative process of hands-on working and the exploration of new materials, technologies and processes. Design is not just about solving a problem.

wck.sam@gmail.com | www.cargocollective.com/wcksam



A FULL SEA

The advent of 3D printing creates the unique opportunity to modify the mass-produced products we consume. Using stacking containers retailed at Daiso as a material for experimentation, the project aimed to investigate “what more could an existing product be(come)?”



THESIS A PAPER OBJECT

What is our actual experience with everyday paper products? Can the inherent qualities of the material reveal a side of paper that is novel and unexpected?

Under the supervision of Dr. Christian Boucharenc

LUXO HYPER PRO II

The Hyper Pro II is a Micro 4/3 camera for the proficient and reclusive user who favours fine manual calibration for control over creative expression. The camera proposes a form that is honest to the internal component layout, creating an aesthetic that is mechanical, precise and efficient.



VOCAL REPOSITORY

When tangible ‘presence’ of a person is lost forever in the process of cremation; can an urn, instead of merely containing ashes, contain a person’s voice? Can this containment of audial remains on top of the physical remains comfort the loved ones left behind?

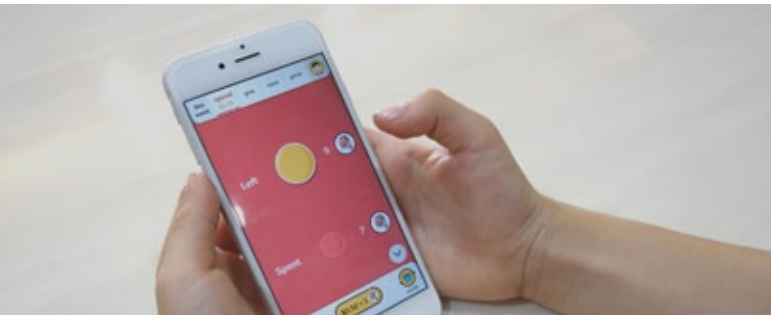
Designed with Bae Soo Kyung
In collaboration with Nirvana Memorial Garden



TAN XIN YU

Xin Yu finds pleasure in observing people and places to uncover design opportunities that can be translated into meaningful experiences. Thinking about the “what ifs” excites her. She believes that good design does not have to change the world, but it enhances our day to day experiences in life.

tanxinyu.design@gmail.com



THESIS ALLO

As we progress towards a cashless society, the virtual nature of money makes it harder for kids to understand its value. ALLO is a mobile banking tool that helps kids visualise their money and develop financial literacy in a cashless society.

Under the supervision of Hans Tan



ILLUMINATE

With the use of 3D printed prostheses to transform the original Daiso flower pot, ILLUMINATE aims to give a renewed perspective on a modular lamp system. The 3D printed parts serve as electrical and structural connections between the “flowerpots” to give the lamp its form as a table lamp, a pendant lamp, or a standing floor lamp.



RIGIFLEX

Arthroscopy is a surgical procedure orthopaedic surgeons use to examine and treat problems inside a joint. An arthroscope (a camera) is inserted into the joint through small incisions, and requires a surgeon or an assistant to hold it throughout the entire surgery. RIGIFLEX is an arthroscope holder designed to free up the surgeon’s hands. It allows for the required flexibility when maneuvered and stays in position when hands-free, all achieved in a single action.

Designed with Hong Ling Yang & Lynn Ho Xin Yi

In collaboration with National University Hospital (NUH) Department of Orthopaedic Surgery

TAY ZE JUN WILMER

Wilmer’s passion for design comes from a constant need to problem solve and create solutions that are of positive impact to the people he is designing for. His superhero power is his ability to ideate in his dreams.

wilmertay92@gmail.com

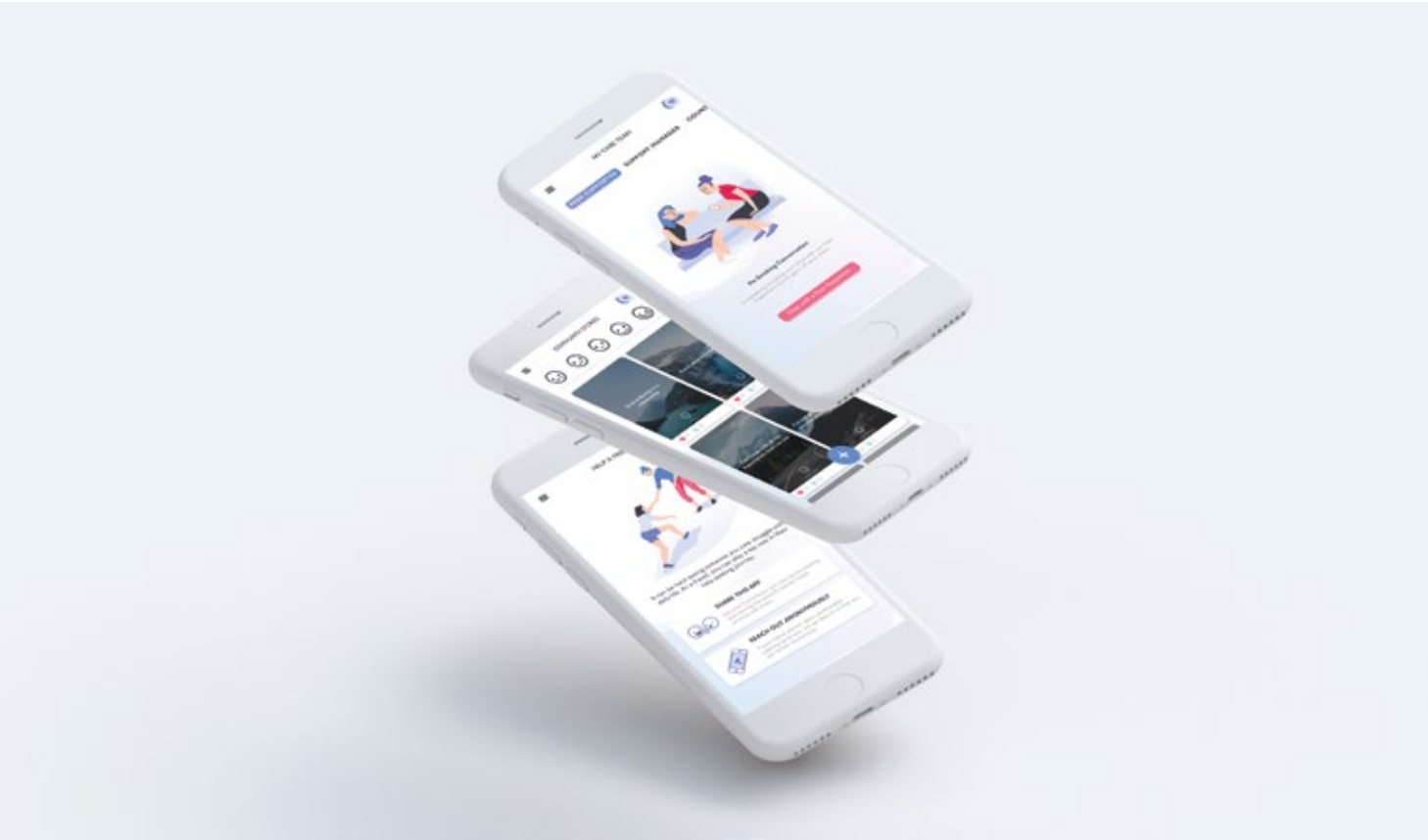
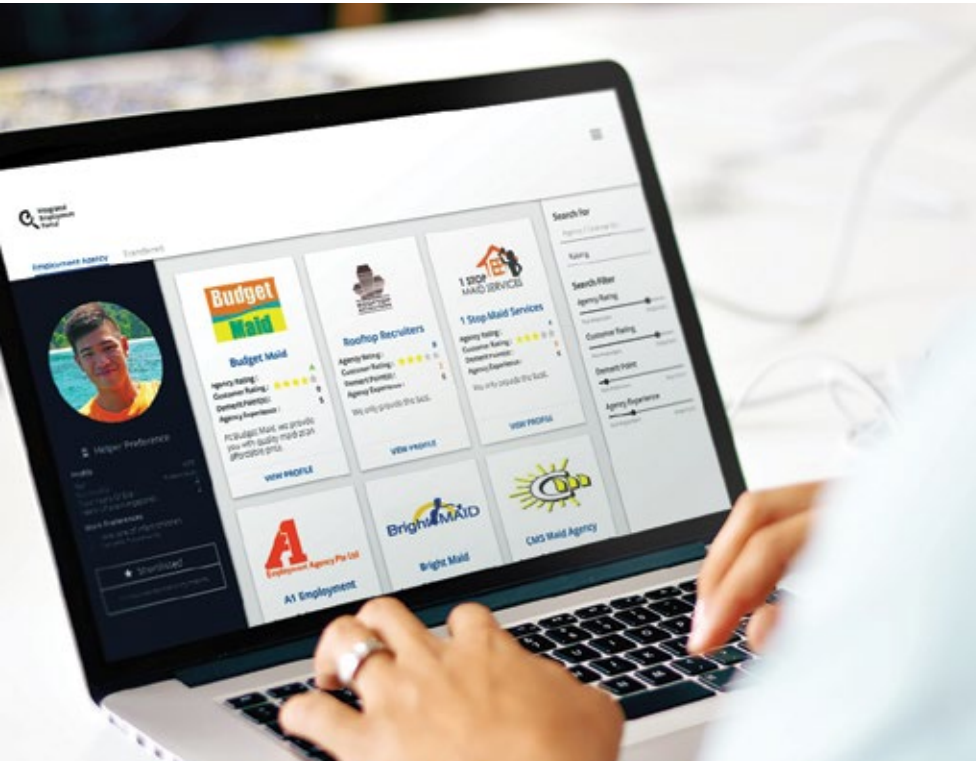


INTEGRATED EMPLOYMENT PORTAL

Currently, information provided by employment agencies are not standardize throughout and are insufficient for both the employer and helper to make a good decision during the hiring process.

The Integrated Employment Portal is a platform that allows employers to match with their most compatible helpers under the suitable agency with the help of preference questionnaires, detailed bio data, agency rating and customer reviews. We strongly believe that a better match leads to a better working relationship.

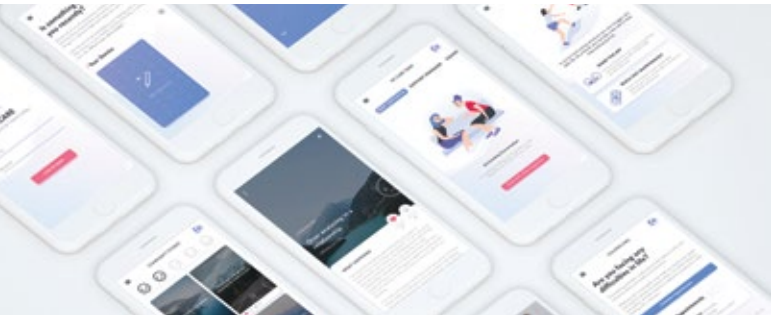
Designed with John Teo & Chan Shi Ming



THESIS SHARECARE

ShareCARE is a one-stop platform that provides an easy way for students to connect with the university’s mental health services anytime, anywhere. Features in the application allow students to take mini-steps as they start on their help-seeking journey at an early stage.

Under the supervision of Song Kee Hong



D-CHESS

D-Chess is a modern chess set that makes use of a 9x9 Daiso wire-net’s intersection to hold the chess pieces. The chess pieces are curated with 12 different unique Daiso products that are attached to customised 3D printed bases.

TERESA KHOO HUI TING

Teresa is inspired by everyday objects and human interactions. She believes that it is important to find joy in everything she does for creative ideas to flow.

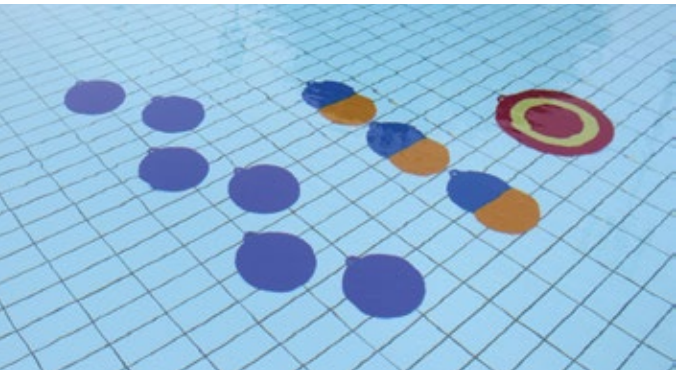
teresa.kht@gmail.com



KAMI NO ISHI

Kami No Ishi, 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.

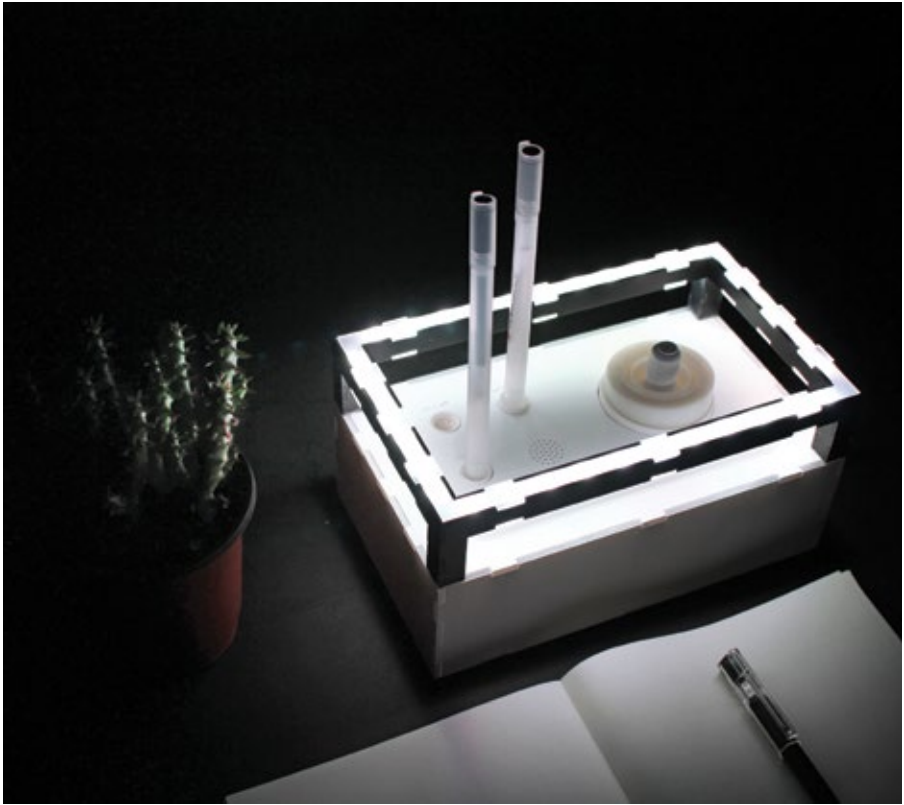
Designed with Justin Horst



THESIS TRACE

Trace is an intuitive set of non-slip visual cue mat designed for elderly novice swimmers. With Trace, therapeutic water exercises can be made accessible in public swimming pools.

Under the supervision of Dr. Christian Boucharenc



HEY!

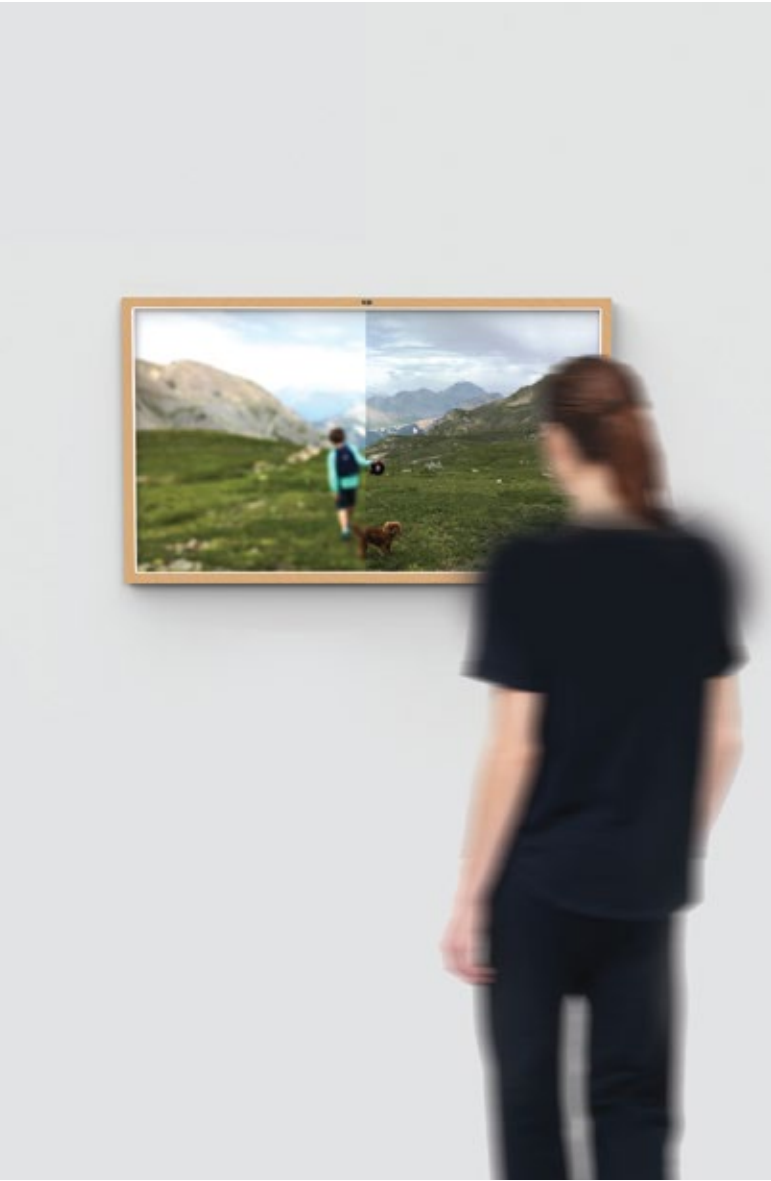
HEY! is an interactive stationary container that gives a timely reminder for user to take a break. User can set their own working hours, when the time is up it creates an ambient light which can be customisable by the user to create a relaxing atmosphere

Developed during exchange in KAIST

TILLY GAUCHER

Tilly likes to investigate what people are experiencing and where their dreams, imagination and fantasies can lead. She draws on these to explore how design can play on the boundaries of life experience and cause us to question assumptions and old ways of living.

tilly.gaucher@gmail.com



THESIS PASSÉ COMPOSÉ

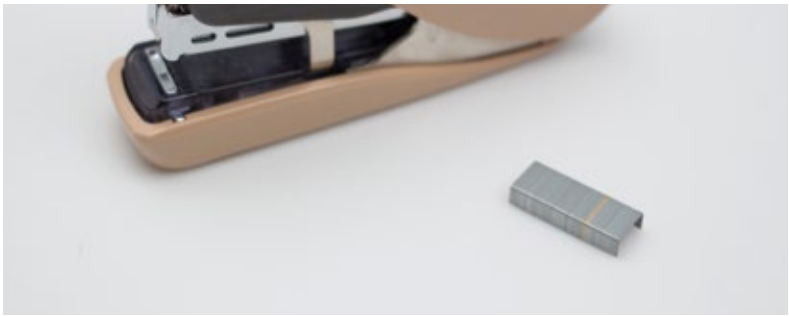
Your past, composed to the present. Passé Composé redesigns the experience of an electronic photo frame. Inspired by flashback arcs from cinema, it uses the contextual information of the present to curate digital image and video memories, so the past can be experienced again.

Under the supervision of Hans Tan

MALLEABLE MARBLE

At marble factories 30% of material becomes a by-product. Malleable Marble is a new material made by combining different densities of marble powder and combined with silicone to become reconstituted marble pieces that can be casted. Malleable Marble is flexible yet has a marble finishing. The material was applied into two non-slip bathroom mats.

Designed with Ng Zi Ning



CHANCE IN EVERYDAY OBJECTS

Inspired by the act of surrendering to chance, three everyday objects were embedded with chance-taking possibilities. 'A Golden Staple', inspired by roulettes, 'Plan For Serendipity', a calendar with activities suggested under scratch off cards and 'Either/or', a perfume bottle with two caps, each opening to one of two scent possibilities for your day.

Designed with Chow Jia Yi

TONY CHUI PAK HO

Design is fundamental to the progress of civilisation. As a prospective industrial designer, Tony believes the profession bears the responsibility to enhance living standards of the society and he seeks to contribute through designing practical products and solutions with a human touch.

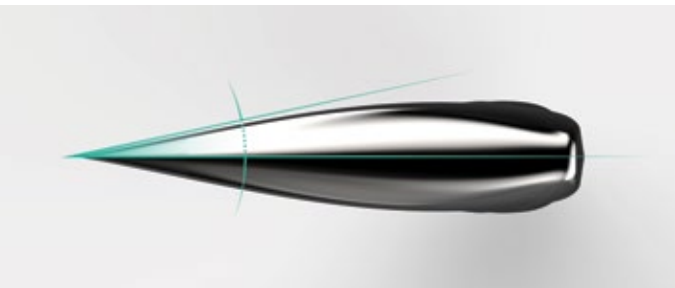
chui.designer@gmail.com | Instagram : @chui.design



QUOTIDIAN PEN

Quotidian Pen was developed as the world’s first magnetic propulsion pen with the aim to challenge the fundamental construction of a pen and reinvent the way we interact with a writing instrument. The project has successfully raised 1776% of its initial funding goal on kickstarter.

Designed with Wilmer Tay & Zi Fong Yong



THESIS FORSETI AXE

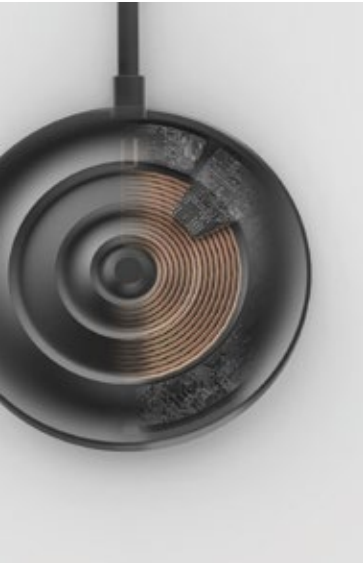
A radically redesigned axe with maximum enhancement in performance and longevity. It is an amalgamation between a 3D printed titanium body with integrated lightweight structure and a heat treated high speed steel (HSS) blade by using aerospace grade vacuum brazing technology.

Under the supervision of Prof. Axel Thallemer

CLAVICOLA

An electric kettle fundamentally designed with considerations of ergonomics, weight distribution and smart connectivity in a familiarised form. Its Induction heating modules allow watertight construction of power base along with an intelligent safety module which automatically disconnects power in the case of short circuit.

Designed in Tsinghua University, China
Student Exchange Programme (SEP)



CAFFÈ D'AMORE

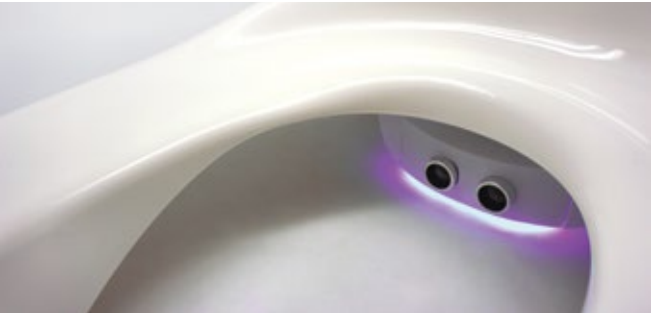
A coffee maker designed to elevate the sense of warmth and calmness for users and enable sharing of coffee between loved ones in an enjoyable atmosphere. Process of coffee making and sharing is further streamlined with one-tap activation and complimentary sharing tray.



WILSON TEO WEIXIANG

Wilson believes that design is about relationships. He finds fulfillment in journeying together with people to create solutions that make a difference. He aspires to design unique products, services and experiences that people hope for, which reveal ideas that are yet to be seen.

twxwilson@gmail.com | linkedin.com/in/twxwilson



THESIS P.PAL

P.Pal is a toilet seat attachment that is designed to address the sensory needs of children with autism in the toilet environment. It uses audio and visual interactions to make the experience more comforting for them as they learn to manage their senses in the toilet.

Under the supervision of Dr. Christian Boucharenc



DESIGNING FOR CARDIAC SURGERY PATIENTS

For many cardiac surgery patients, the transition from dependence in the hospital environment to independence in the home environment is too overwhelming for them. This activity space that is designed within the constraints of a hospital ward seeks to build confidence and create a notion of progress in patients through providing a space that encourages activities of daily living.

Designed with Liu Meilan & Tan Zijie
In collaboration with Phillips Healthcare



DBS TOA PAYOH: BANKING WITH FAMILIARITY

Digital touch-points do not appeal to the older crowd as they are foreign to them and do not offer the same experience as teller services. This project aims to make banking more familiar for elderly residents by encouraging them to become more independent and familiar with banking technology.

Real time updates and interactive experiences cater to working adults by allowing them to maximise their waiting time as well.

Designed with Tan Xin Yu & Noemie Basset
In collaboration with DBS Bank



YANG RAN

Yang Ran finds joy in creating delightful and useful objects that makes people happy when they interact with them. She enjoys discovering beauty in little things and moments in daily life.

yangran04@gmail.com



THESIS CRAFTING CHORES

Crafting Chores is a set of household tools that translates the mindfulness of craft to our daily lives. Inspired by the craft of screen printing, pottery and origami; Crafting Chores is a reimagined set of three tools: an iron, a dishwashing sponge and kitchen cloth.

Under the supervision of Hans Tan

AN URN IS ME

我(wo) is a set of 8 bone china rice bowls, made of bone ash from the deceased. Richly symbolic of family ties and reunion, it also serves as a daily remembrance of the departed. It challenges the perception of a conventional urn, redefining an urn as a functional and intimate object in our daily life instead of a fearful existence in columbarium.

Designed with Dyllis Teo
In collaboration with Nirvana Memorial Garden



XUBE

XUBE offers a sleek, beautiful solution for portable toiletries - simply fill with your chosen products, 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. Launched on Kickstarter in 2016, XUBE raised S\$ 43,977 in the 30-days campaign.

Designed with Lee Hsiao Fong & Julia Lee



YEO REN JIE

Ren Jie has a passion for lifesaving and incorporates his problem solving skills with his technical abilities to help design better products for the pre-hospital care. He believes that medical products should be intuitive to use while having a strong emphasis in human centered design.

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THESIS ZPULSE

ZPULSE incorporates the seamlessly integration of a crowdsourcing app, drone and medical kit. It gathers citizens together, makes critical medical supplies available instantly at the push of a button, thus giving every critically ill patient another chance of survival.

Under the supervision of Song Kee Hong



NEW GENERATION AMBULANCE

A live design project with the Singapore Civil Defence Force, this new generation ambulance is a result of 3 years of research and development. It is the most significant leap of advancement in terms of technology, safety and ergonomics. The ambulance is designed with 2 key focuses: Operational Safety and Clinical Ergonomics. It is also certified to meet European Ambulance Safety standards (EN1789) to withstand a 10G crash.



PNEUMATIC HEAD
IMMOBILIZER

An inflatable head immobilizer designed for safe transportation of traumatic patients in the ambulance. Its internal structures add stability and rigidity to prevent further aggravation of the patient's spinal cord.

This design serves 3 distinctive benefits as compared to traditional foam immobilizers. It allows for space savings when packed, reduces the number of steps taken to apply on the patient and allows for full conformation around the patient's head for added protection.



Post Graduate Research

Additively Manufactured Lattice Materials for dynamic applications

PHD STUDENT:
Alex Teo He Chang

PHD SUPERVISOR:
Professor Axel Thallemer

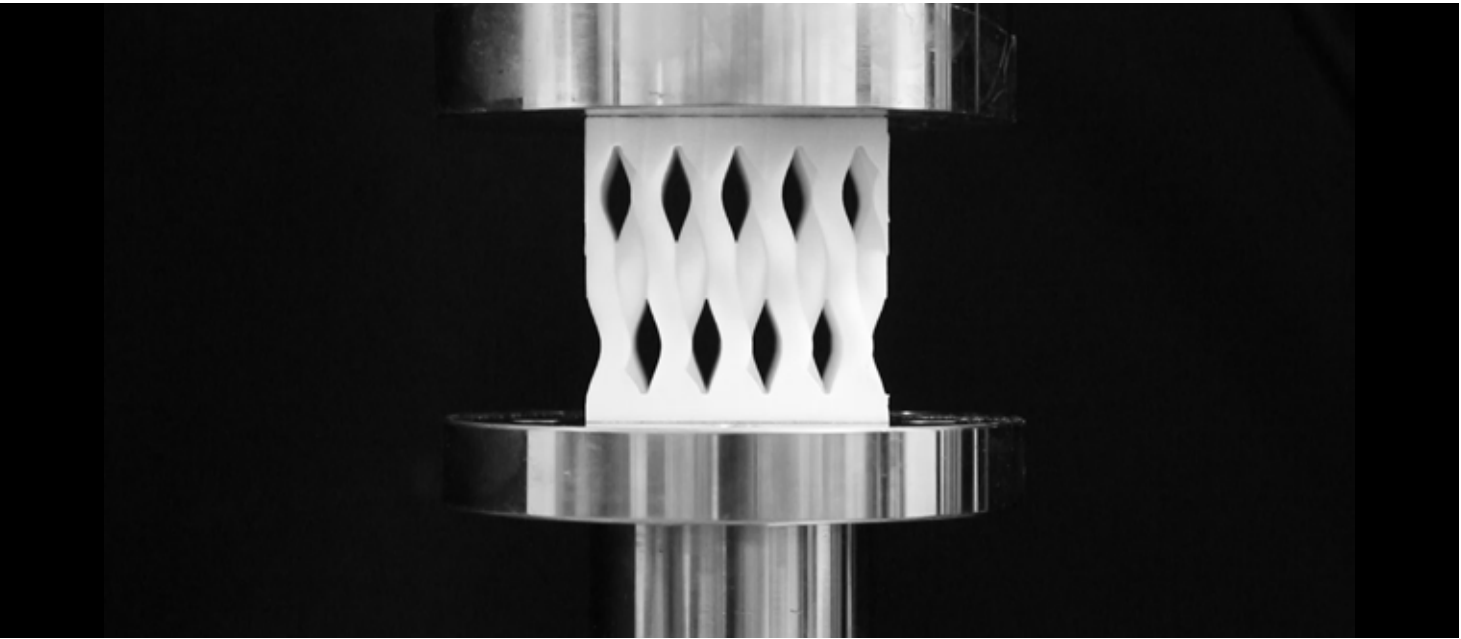


ABSTRACT

The concept of lattices transcends several cross-disciplinary fundamental research areas, such as the science of Crystallography studied by Chemists and Physicist, and the study of solid geometries and symmetry groups by Mathematicians. In the applied areas, manufactured lattices have been of great interest by structural engineers and material scientists, and most recently by industrial designers

(ID) due to the advance of Additive Manufacturing (AM). Historically, megastructures like the Garabit viaduct (1884) and Eiffel Tower (1889) exemplified the ingenuity of a purpose-driven aesthetic, where the structure’s enigmatic features are a natural consequence of it’s designed functional and experiential values. Today, AM allows lattice structures of various production lengthscales

to play pivotal roles across diverse industrial applications ranging from, macroscale structures for Airbus’s titanium aviation parts to performance wearable apparels like Adidas’s Futurecraft 4D shoes, and micro and mesoscale structures like orthopaedic implants and orthodontic models (Cronskär, 2011; Murr, Gaytan, Martinez, Medina, & Wicker, 2012).



ABSTRACT

Low patient motivation is a common issue in rehabilitation programs. Interactive games have been increasingly applied to address these issues. Integrating social elements into rehabilitation games may have positive influences on patient’s motivation, however, the long-term effect of social games on patient motivation are still unclear as majority of the studies only conduct evaluations over single-sessions. This study aims to incorporate competition in the design and to investigate its effects on patient motivation, participation and functional improvements.

An interactive gaming board which supports both single-player and two-player competitive gameplay for the training of upper limb functions was developed through an iterative design process. A 12-week three-arm Randomized Controlled Trial (RCT) was conducted to compare the effects between the single-player game, competitive game and a control group on the motivation, exercise duration and functional improvement in a rehabilitation program. Key design features to sustain patients’ motivation over time were identified and discussed.

Improving Patient Motivation and Participation in Rehab Programs through Social Games

PHD STUDENT:
Wang Pan

PHD SUPERVISOR:
Dr Christian Gilles Boucharenc

COLLABORATOR:
AWWA Day Rehab Center,
Adventist Nursing & Rehabilitation Center

PHD CO-SUPERVISOR:
Dr Yen Ching Chiuan



Mapping Design Capability of Public Service Organisations: A tool for Collaborative Reflection

PHD STUDENT:
Yvonne Yeo

PHD SUPERVISOR:
Dr Jung-Joo Lee

COLLABORATOR:
Ministry of Manpower
Ministry of Education
Inland Revenue of Singapore



ABSTRACT

Design approaches in the public service sector have recently shifted their focus onto customer experiences without thoroughly basing insights from historical data or expert opinions. Although public agencies strive to be collaborative with corporate culture geared towards human-centeredness, design as a growing strategic tool is not clearly understood among public service officers. “What exactly is design?”, “What are its contributions?” and “How does one relate design

practices to daily work?” are barriers to successfully embedding design within organisations. There are also limited facilitation tools to create a common language, to start conversations between design practitioners and clients with no design backgrounds on the role of design and how it helps to achieve organisational goals. This PhD research introduces the development of a design capability mapping tool, with the

aim of capturing and amplifying clarity around a public service organisation’s propensity and aptitude to embed design at various levels throughout the organisation. The tool has been developed and tested with several Singapore public agencies to identify their perceptions of design, organisational resources and mind-sets, as well as uncovering any misalignments.



ABSTRACT

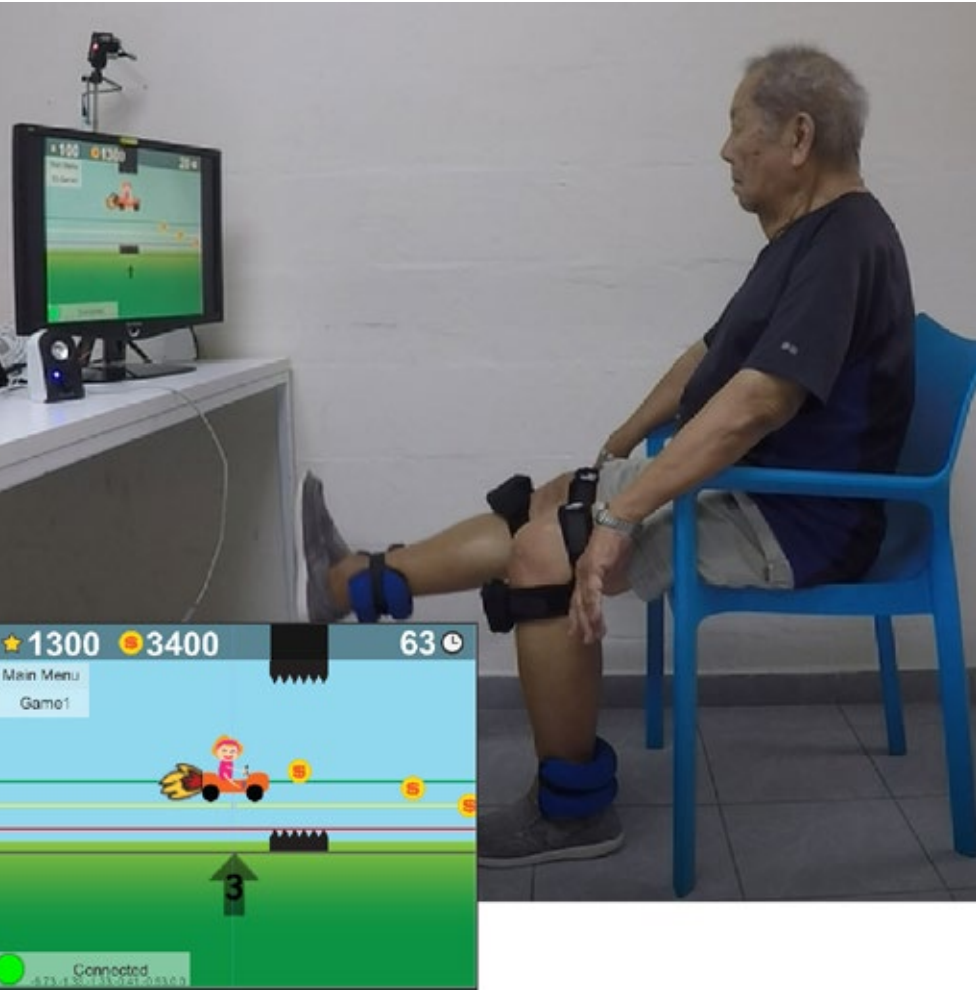
This research project endeavours to critically study and examine how multi-modal interaction, framed and presented as an exergame (movement-based video game), can benefit older adults’ healthcare design – currently applied and validated within the community in Singapore. This study aims to overcome the high fall incidence rates and low old-age support ratio through increased older adult learn-ability and independence to practise optimal exercise movement without supervision. The design considered the physiotherapist’s coaching process and older adults exercising process (demonstrating and observing; guiding and performing, feedback and understanding his/her own movement). The game mechanism and storyline are designed to intuitively lead the player to exercise with the appropriate Range of Movement: slow and controlled movement speed with correct posture control. The designs of the game are evaluated to be a design guideline for future therapeutic exergame design for older adults.

Improving Range of Motion during Lower Limb Rehabilitation Among Older Adults Through Therapeutic Exergame

PHD STUDENT:
Liow Wei Ting

COLLABORATOR:
AWWA Day Rehab Center,
Econ HealthCare Group

PHD SUPERVISOR:
Dr Yen Ching Chiuan



Design at Crossroads: The Emergence & Implementation of Human-Centered Design in Business

PHD STUDENT:
Chia Jia Hao Alvin

PHD SUPERVISOR:
Dr Jung-Joo Lee



ABSTRACT

Human-centered design (HCD) has emerged in the business world today as one of the leading problem solving methods, as it brings the customer’s perspectives into business-oriented decision making, leading to more well-rounded and robust solutions. Despite the obvious upside, the implementation of HCD is often fraught with challenges, as businesses lacks the talent, skill-sets

and toolkits to launch it at scale. With a limited number of trained designers, implementing HCD often falls into the remit of non-designers from varying background and little training. This proposed dissertation seeks to understand the problems non-designers experience when implementing HCD in business.

Proposed outcomes of the study include:

(1) case studies of how businesses have implemented HCD and (2) a HCD toolkit designed for non-designers, to aid in business implementation.



Application of 3D Technology to the Design of Medical Simulation for Education and Training

PHD STUDENT:
Cai Bohong

PHD SUPERVISOR:
Dr Yen Ching Chiuan

ABSTRACT

Medical simulation has been developed for centuries. It has been applied to various medical disciplines, such as medical education, surgical planning, and medical research, etc. In the last two decades, one of the most promising technologies for medical simulation is the introduction of three-dimensional (3D) printing.

3D printed simulation models offer medical trainees a better understanding of complex anatomical structures. The aim of this study is to apply 3D printing and medical imaging to create functional medical simulator that can contribute to medical education, medical research, and relevant product design.



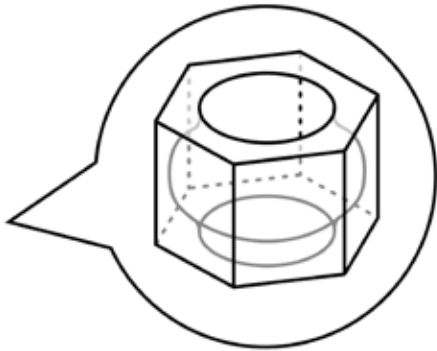
Force and Form: Nature Inspired Columnar, Planar and Structures

MASTERS STUDENT:
Wu Yumo

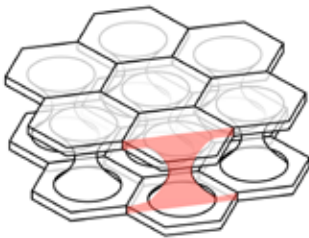
PHD SUPERVISOR:
Professor Axel Thallemer



A. Diatom Frustule



B. Echinoid skeleton



ABSTRACT

Straight lines and solid components were predominant in industrial products, resulting in relatively low material efficiency in some cases. In nature, where materials have been utilized to their fullest, curvy and porous structures are commonly seen. Since 3D printing technology has largely decreased the difficulty of manufacturing complicated curvy structures, complicated lightweight structures are now far more manufacturable. To find out the mechanical advantages of some features found in natural columnar structures, models were built, tested (with Finite Element Method), and the results were compared and analyzed. From the analysis, it was found that, for various reasons, instead of merely evolving to become mechanically rigid, many natural structures were developed to be elastic. In some cases, the morphology of some natural structures may be optimized for biological functionalities instead of mechanical properties. In the last section, in the re-designing of a robotic arm module, the proven mechanically strengthening features were applied accordingly to enhance the material efficiency.



ABSTRACT

Additive manufacturing (AM) technologies have greatly evolved since the initial commercialization of Stereolithography in 1987. Over the past 30 years, machines have become more efficient, precise and economical, leading to a change in the role of AM, from just a prototyping method to a method of fabricating end products. Industries such as aerospace, biomedical and dentistry, have benefited from the utilization of additive manufacturing to accelerate the product development process and to drive down production time. Application of additive manufacturing can potentially be used to overcome existing issues faced in current treatment methods requiring manual fabrication of customized splints.

This research aims to explore the potential applications of additive manufacturing in the context of biomedical product development, through the development of a splinting device for management of proximal interphalangeal joint dorsal fracture and dislocation.

Application of Additive Manufacturing in Development of Biomedical Products

PHD STUDENT:
Hon Sui Ming Raymond

COLLABORATOR:
National University Hospital

PHD SUPERVISOR:
Dr Yen Ching Chiuan

PHD CO-SUPERVISOR:
Mr Hans Tan



Understanding Team Decision-Making in Conceptual Design Stages: A Comparative Study between Product Design Consultancies (PDCs)

PHD STUDENT:
Cai Jun Dak

PHD SUPERVISOR:
Dr Yen Ching Chiuan

COLLABORATOR:
10 SME projects and six MNC projects across eight PDCs (anonymities) based in Singapore and Malaysia



ABSTRACT

This study aims to investigate the underlying issues affecting team decision-making, appropriate methods/approaches for making decisions, and decision-making styles/models practised by PDCs for better applications. A multiple case studies method was adopted. The data collected included semi-structured in-depth interviews and other sources of evidence.

Results revealed that all teams tended to be solution-focused but employed

different strategies to formulate design problems. Most Singaporean teams demonstrated problem framing; most Malaysian counterparts demonstrated problem clarification. These brought different internal challenges on conducting user research, generating ideas/concepts, and team communication. External challenges included comprehending clients’ verbalised design requirements, supporting clients in visualising ideas, concepts, implementing procurement, and collecting clients’ feedback. Most

teams in both countries tended to apply an authority model (AM) with five decision strategies (analogy reasoning, technical feasibility, gut feeling, understanding clients’ behaviours, and understanding clients’ business motivation) to inform decisions. This study provides a rich understanding of how team decision-making is formed/developed.

ABSTRACT

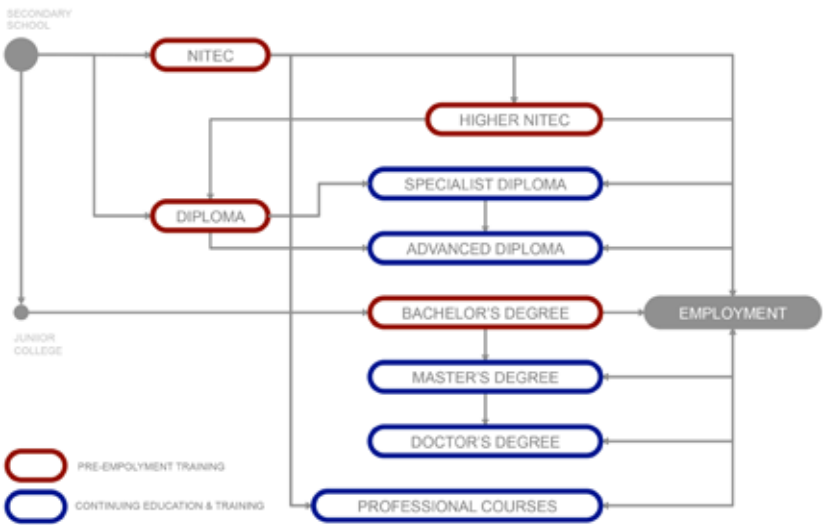
Two shifts are under way in the design world in Singapore. Firstly, with more multinational corporations and innovation service firms building in-house design teams, many of today’s designers are working in multidisciplinary settings, whereby they need to marry their design skills with different domain knowledge. Secondly, there is a bigger push for non-design professionals to pick up the knowledge and practice of design thinking. This is because the next generation of Singapore’s workforce will require not only a strong foundation in professional skills but also in design innovation skills. To address these shifts, it would be necessary to review the design education in Singapore. Being in design education for almost a decade, it is in my interest to use my Ph.D. research as an avenue to gather data and insights that can be beneficial to organisations and individuals to enable them to make better informed decisions in the areas of design education, training and career advancements.

Case Study Research for Design Education to Teach Designers Domain Knowledge and Domain Professional Design

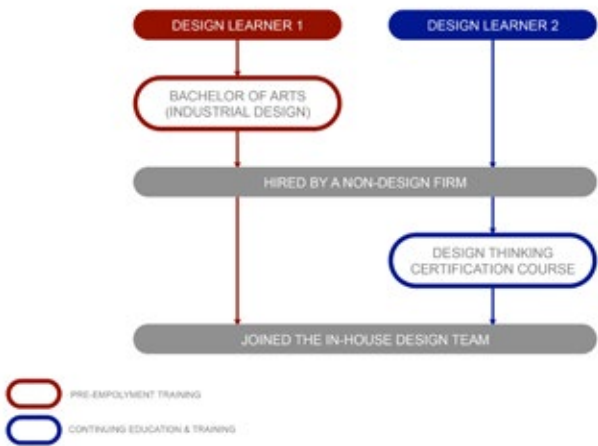
PHD STUDENT:
Erik Chua Ying Shiun

PHD SUPERVISOR:
Dr Jung-Joo Lee

DESIGN EDUCATION IN SINGAPORE



PRE-EMPLOYMENT VS. POST-EMPLOYMENT DESIGN LEARNERS



Industrial Manipulator with Variable Degrees of Freedom

PHD STUDENT:
Kostadinov Aleksandar

PHD SUPERVISOR:
Professor Axel Thallemer

COLLABORATOR:
Festo



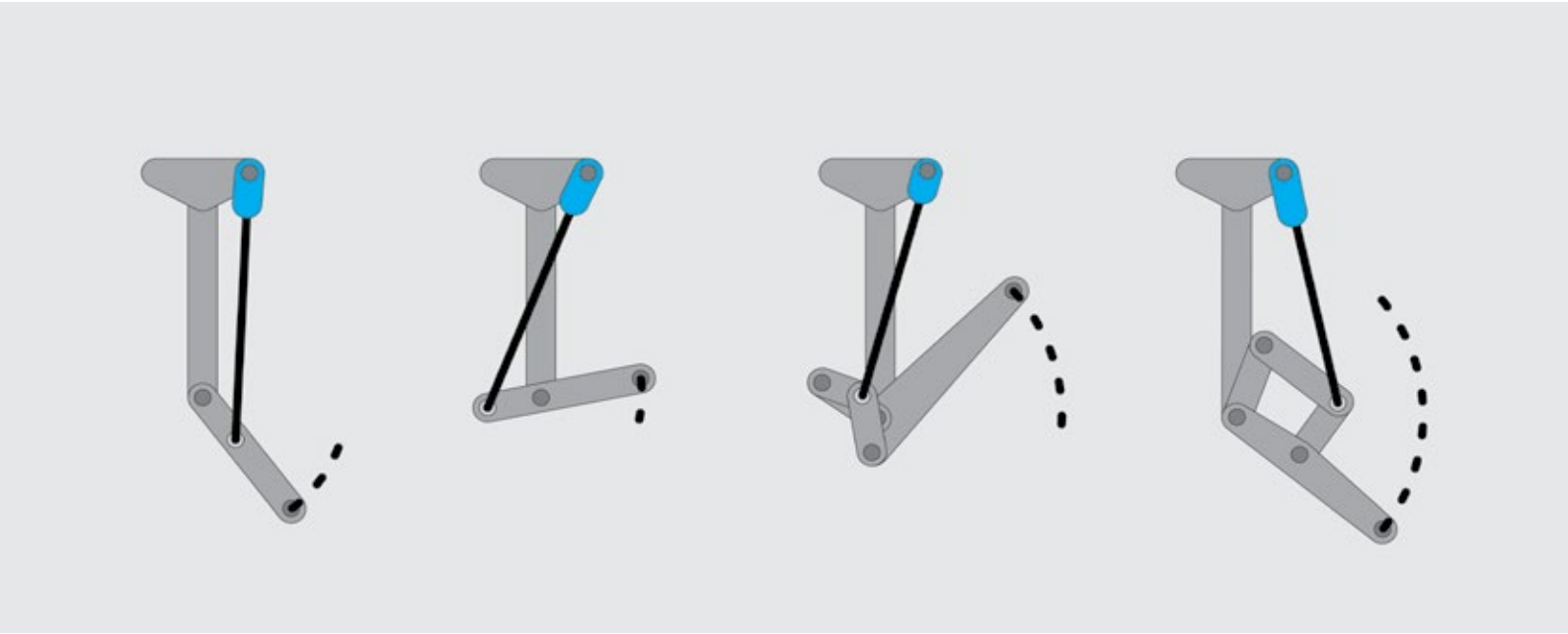
ABSTRACT

Manufacturing robots are on the rise. Implemented predominantly in the car- and electronics industry, they are now more than ever taking over the famous trinity of dull, dirty, and dangerous tasks worldwide.

Having robots all around the globe's large production facilities, the competitiveness of small and middle sized manufacturers seems

diminished, as the implementation of robotic systems is relatively expensive. Increased standards and manpower costs, an affordable alternative would cater to those companies that are in need of reliable and cost-efficient automated workers and assistants. This research project aims at meeting those requirements

through a low-cost, robust, and customizable industrial manipulator. Having a modular setup and being simple in its nature, the device might offer an economically valuable solution to improve the efficiency of the aforementioned production facilities.

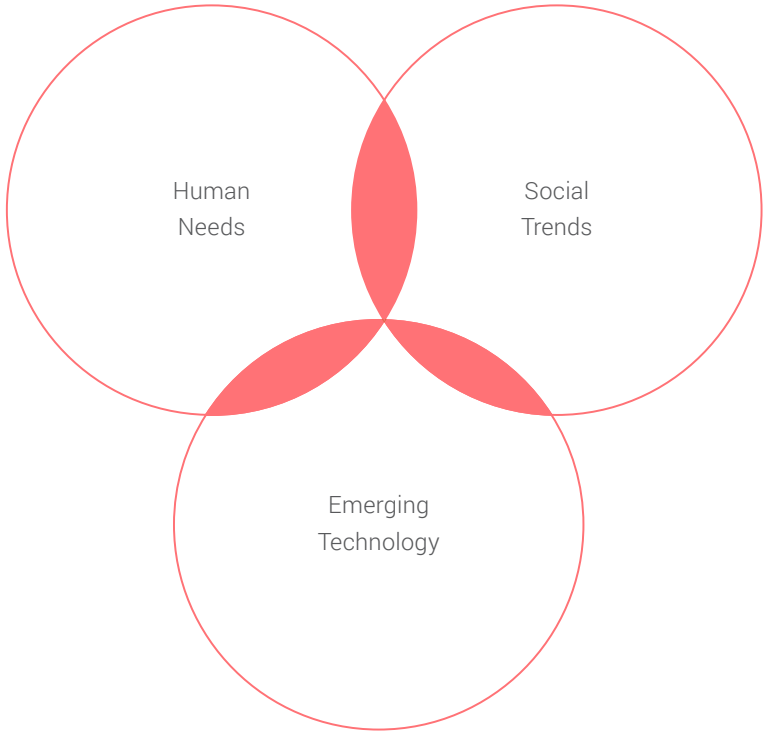


Design Incubation Centre

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 apply. 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 function as the start point for the design probe in DIC. They are also a platform for multi-disciplinary collaboration, where ideas can cross-pollinate amongst various groups of people. We also use workshops to engage various stakeholders and as a seeding event to build an ecosystem of discussion and collaboration.

Design thinking has in recent times come to the forefront of the discussion, and seems to be a key differentiating factor in today’s creative-based economy. We ask questions like “who can benefit from this?” and “what would a generation of people brought up with this mode of thinking look like?”, before embarking on workshops to educate or democratize this structure of problem solving.

PRIMING THE ART CLASSROOM

A second installation of our Priming Workshop was conducted at the Singapore Teachers’ Academy of the Arts in Gillman, as part of a two-day workshop to introduce art teachers to design thinking.

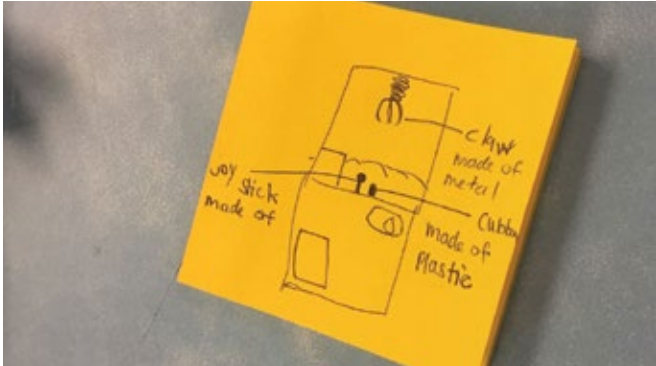
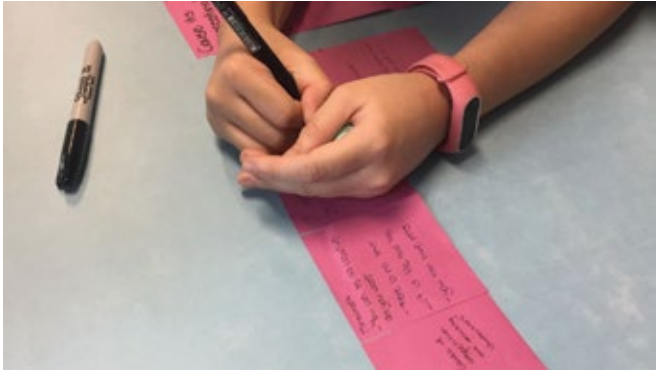
The workshop was commissioned as part of a larger initiative to bring several art teachers through the design thinking process, and prep them with a framework to innovate in their own classrooms.



SIA APP CHALLENGE

The SIA app challenge was organized together with NUS Enterprise. Participants were provided 10 real-world business challenges related to the aviation industry and had to demonstrate their skill and creativity in developing digital applications.

DIC was invited to give a design thinking seminar as part of a series of technical workshops to prep participants for the challenge.



GAME DESIGN: HUAMIN PRIMARY

Huamin Primary School was an interesting case study of a school that wanted to diffuse a culture of design thinking to their students, starting with re-inventing their approach of teaching students how to design games for a carnival.

We conducted a series of workshops, to progressively guide students in their understanding of game design mechanics, as well as to encourage questioning and a divergent mode of thinking.

At a deeper level, we are interested to see if the design process of building, testing and iterating could be use as a tool and framework for learning , analysis and synthesis.

Outreach & Communication

The Centre develops programmes in the form of exhibitions, public talks and internships as a means of communicating the value of design to its targeted audience and beyond. We also communicate the achievements of the Division of Industrial Design during Open Houses, showcase the works of our evergreen alumni and their impact on the local industry.

TRAVELING EXHIBITIONS & ASSEMBLY TALKS

Traveling exhibitions and assembly talks were held in various secondary schools for students to be exposed to the field of Industrial Design. These talks educate students on the prospect of a career in design, as they get to explore and interact with the projects that are showcased.

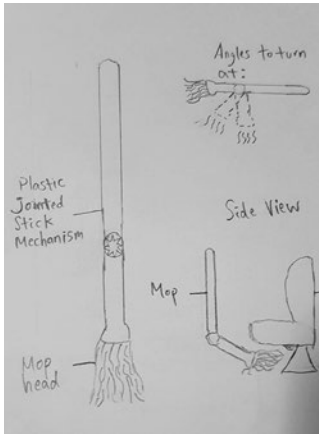
One such talk was hosted at SOTA (School of the Arts) by our alumni, Ai Ling.



RAFFLES INSTITUTION INTERNSHIP

Raffles Institution has worked closely with DIC over the past 5 years through its internship programme, where they send students for a two week attachment programme to learn about design.

Here we see two outcomes of their work in the context of a household object redesign, using the Syntactic Pragmatic and Semantic framework.



Capabilities Development

The Centre frequently conducts research into new capabilities in design and fabrication in both digital and analogue platforms. Knowledge gained in these domains is then springboarded to the student population, through direct project support or running of technical workshops.

FIX-C

This project was initiated by the Centre to test and showcase the manufacturing capabilities of its latest 3D printer, the Markforged X7, which can 3D print parts in continuous carbon fibre.

Experimenting with the printer, lugs of the bike frame were 3D printed, using off-the-shelf carbon fibre tubes to complete it. Finite Element Analysis was also used to digitally stress-test the frame before sectioning and printing the joints.



PRIMING STRATEGY CARDS FOR SERVICE DESIGN

The Priming Strategy Cards were developed in 2017 from our research into behavioral science and design.

This semester, it is utilized by Assistant Professor Jung-Joo Lee for her service design platform collaboration with MOE (Ministry of Education), to experiment with the strategy cards as an ideation tool.

Feedback from the students show that the immediate strategies pictured on cards lead to quicker ideation sessions, helping them expand their scope of thinking.



Exchanged Forms

A project of cultural exchange and collaboration presented by KYOTO Design Lab, Kyoto Institute of Technology and the Design Incubation Centre, National University of Singapore.



1 TUBO

Kyoto is home to the finest Uji tea productions in Japan. Tubo is a trio of lidded canisters for storing miscellaneous items at home. The lids are a graphical extraction of the linear, tubular tea aisles spanning across the mountainsides of Kyoto, emphasising its three-dimensional, lush quality.

Fong Sook Yin



2 HORI AND VERTI

Inspired by the way light filters through the lattice patterns of Japanese windows, these wall lamps serve to bring out the horizontal and vertical qualities individually. Together, Hori and Verti form a grid lattice when overlapped with one another, creating intrigue and a new dimension to the piece.

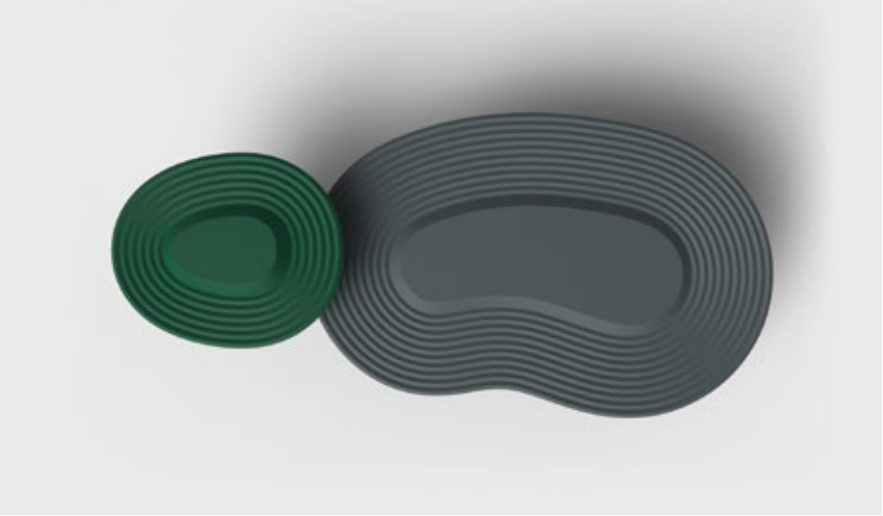
Cheryl Ho



3 RIDGE

Ridge is a set of low tables inspired by the patterns of Kyoto's famous Zen rock gardens. The juxtaposition of wavy ridges and a heightened, flat surface amplifies the subtle graphical composition of the Zen gardens.

Tan Sei Yee



4 BOO & BAM

Boo & Bam is a pair of 3D-printed carbon fibre vessels, with their components held snugly together by lengths of tied braided ropes, paying homage to the traditional construction of Japanese bamboo fences.

Edmund Zhang



Achievements

STUDENTS AY 2017-2018



TISDC 2017 (TAIWAN INTERNATIONAL STUDENT DESIGN COMPETITION)
Gold Prize : Kevin Chiam
Title: 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.



TISDC 2017 (TAIWAN INTERNATIONAL STUDENT DESIGN COMPETITION)
International Design Association Special Prize : Jexter Lim
Title : Eatsy

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



THE RED DOT AWARD 2017
Best of the Best (Top prize) : Lim Li Xue, Ng Ai Ling & Cherly Ho
Title: KIN WALLET

KIN brings greater ease and convenience to an everyday situation such as sorting out the notes from coins. "A simple yet revolutionary wallet", as praised by Tabi Labo, this is no ordinary bi-fold wallet. To date, KIN has received international and local coverage from HYPEBEAST, The Independent, Core77, Mashable, The Straits Times and other platforms.



WALLPAPER* HANDMADE NEXT GENERATION SINGAPORE DESIGNER
Winner : Edmund Zhang
Title: SQUEEZY LAMP

Inspired by the therapeutic benefits and joy of squeezing, Squeezzy is a LED desktop lamp that gets brighter with every squeeze, but it then gradually dims to a pleasing glimmer over time.

This project was awarded the overall winner after an open call to all young Singaporean designers to contribute to its upcoming 2018 Handmade exhibition, following the theme of "Wellness & Wonder."

Achievements

ALUMNI AY 2017-2018



COOPER HEWITT, SMITHSONIAN DESIGN MUSEUM
Exhibited work for The Senses: Design Beyond Vision
: Pravar Jain and Eason Chow
Title : Laba

LABA is an innovative bluetooth speaker designed alongside its horn inserts collection. As sound travels through the medium projected from its source, the acoustics can be manipulated with a change of its medium textures/surfaces, resulting in the altered reception of the sound by the user.



ASIA DESIGN PRIZE 2018 & A'DESIGN AWARD WINNER 2018 (SILVER AWARD)
Winner : Hor Sue Xian, John Teo, Jolyn Kang and Jacelyn Lau
Title : AUBERGINE PILLOW

The Aubergine Pillow is an inflatable pillow that plumps up generously in one puff, yet compacts small. Affording you the everyday comfort you hunger for on demand.

Achievements

STAFF
AY 2017-2018



HONG KONG, M+ MUSEUM
Acquired for permanent collection: Hans Tan
Title: Pour (Table) And Process Samples

Pour is side table that resulted from explorations that arose from questioning fabrication techniques and processes, more specifically, plastic resin-casting methods. The work also aligns to itself to the artisanal approach to production, developing craftsmanship techniques to produce the table otherwise unachievable with automation.



TAIWAN, NATIONAL TAIWAN MUSEUM
Permanent exhibition : Christophe Gaubert
Title: Discovering Taiwan

Discovering Taiwan is a permanent exhibition dedicated to the History of the collections of the National Taiwan Museum, the History of the Natural and Aboriginal Treasures of Taiwan, and the History of Japanese Researchers who built this institution one century ago.



**IN COLLABORATION WITH DR. HUGO VAN BEVER
DEPT. OF PAEDIATRICS NUH**
Design patent : Dr. Yen Ching-Chiuan
With formal students : Lim Shi Yun Karyn, Zheng John, Woo Kum Yoong Marcus
Co-supervised : Ulrich Schraudolph and Felix Austin
Title: ASTHMA SPACER WITH VISUAL INDICATORS

Asthma spacer design, a project derived from our medical platform, has been filed a patent under the title "spacer device for an inhaler and method of manufacture thereof" and ILO is drafting a licensing agreement with Forefront Medical Technology as the company is keen to commercialised it.

Workshops and Exhibitions



WORKSHOP - DECATHLON

A selected group of 18 students from the 2nd, 3rd and 4th year attended a workshop conducted by the Design Leader of Decathlon Singapore and the Head of the Division.

This workshop benefited our students and could open some potential cooperation, platforms, internships and job opportunities.



DID OPEN HOUSE 2018

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.



EXHIBITION - EXCHANGED FORMS

A collaboration project between the KYOTO Design Lab, (Kyoto Institute of Technology) and the Design Incubation Centre. The result of 17 projects from the students of both university was exhibited in Milan during the Milan Design Week 2018.



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.

Staff index

Dr. Christian Gilles Boucharenc
Head & Associate Professor

Song Kee Hong
Deputy Head (Admin & Finance) &
Associate Professor

Hans Tan
Deputy Head (Academic) & Assistant Professor

Dr. Jung-Joo Lee
Deputy Head (Research) & Assistant Professor

Dr. Yen Ching-Chiuan
Associate Professor

Axel Thallemer
Professor

Martin Danzer
Associate Professor

Christophe Gaubert
Visiting Associate Professor

Donn Koh Zhenglong
Senior Lecturer

Zheng Zhihan Clement
Instructor

Ash Yeo
Adjunct Assistant Professor

Kwok Wai-Chiau
Adjunct Assistant Professor

Winnie Chin
Manager

Avril Teh
Assistant Manager

Sunny Low
Executive

Chew Jia Ying
Research Assistant

Eason Chow
Research Assistant

Fam Xin-Cheng Abel
Research Assistant

Glenda Yeo
Research Assistant

EXTERNAL EXAMINER

Cai Jun
Professor
Academy of Arts & Design,
Tsinghua University

PART-TIME FACULTY

Lee Tze Ming
(Part-time Lecturer) - STUCK

Ulrich Schraudolph
(Part-time Lecturer) - Xentiq

Wai Yuh-Hunn
(Part-time Lecturer) - Lanzavecchia + Wai

Olivia Lee
(Part-time Lecturer) - OLIVIA LEE

Celia Wong
(Part-time Lecturer) - ACUMiQ

Raymond Hon Sui Ming

Sim Yong Jie

Genevieve Low

Cai Bohong

Chuah Teong Leong

Yong Lin

Lee Jieying Mandi

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Director & Associate Professor

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Willie Tay
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Narothman Murali
Design Researcher

Ricky Ho
Graphic Designer

Chen Chee Keong
Specialist Associate

Colin Thiam
Specialist Associate



