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### Colophon

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### Foreword

Head, Division of Industrial Design

Associate Professor (Dr.) Christian Boucharenc

This 2019-20 academic year provides us the timely opportunity to celebrate the 20th Anniversary of our Division of Industrial Design (DID) programme.

I would like to thank all the brilliant actors that have contributed to the development of this pedagogy. Prof. Teh Ken Jim, founder of the Industrial Design Programme; Prof. Heng Chye Kiang, former Dean of SDE who strongly supported our programme; Dr. Yen Ching Chiuan, former Head of DID; all of our DID's lecturers who have year after year shaped our pedagogy and of course, all our graduates who have built and elevated the reputation of our division through their professional achievements.

Since the establishment of the Division of Industrial Design (DID) programme 20 years ago, the DID team has been continuously refining its programme and collaborating with companies from various sectors through workshops and studio platforms. These industry partnerships and exchange programmes have proven successful in providing employment opportunities and preparing our students for the workforce in their area of expertise.

Our platforms – the spine of DID's programme established a few years ago – reflect the evolution of these seven domains of expertise: product design, service design, UI/UX design, medical and healthcare design, space and retail design, exploratory design, and speculative 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 by the prestigious collaborations this year) to provide our students with hands-on experiences and exposure to relevant and valuable professional feedback. Some of our collaborations include NTUC First Campus, GovTech, SIA, Samsung and Shiseido. Some of the best-selected teams received a semester of internship during the term of their respective platforms. These internships naturally open up many promising career prospects for our students in the industry.

The Division is elated to see numerous awards won by our students, namely: Red Dot Award 2019, Taiwan International Student Design Competition (TISDC), IHA'S 25th Annual Student Design Competition 2019, International Design Awards (IDA), Global Service Design Award 2019, and Singapore Design Award 2019. For the fifth time, DID was invited to showcase our students' design works at the Dubai Design Week.

Our Design Incubation Centre, directed by Christophe Gaubert, helps young designers to develop and achieve their ideas and projects for production. Some undergraduate projects include: Simple Serenity by Tan Wei Jing, Yama by Jereme Tan, Reflection Clock by Anastasia Di Lorenzo, Qarah by Ashley Huang and Shine by Ng Zi Ning. Some postgraduates are also incubating their projects: Ji Jian Wu by Lin Qiuxia, LOOFT by Sheryl Teng, and Rewind by Poh Yun Ru.

DID, with our colleague Patrick Chia, has also played an active role as co-organiser in the latest edition of the NUS Makerthon to push the students' creativity, teamwork and innovation to the greatest extent. Themed "Designing for Social Connection", this competition was initiated by the NUS Senior Deputy President and Provost's Office.

"Silver Fun" a DID's platform led by Dr. Yen Ching Chiuan and Keio-NUS CUTE Centre worked with AWWA to allow the students to work closely with therapists and caregivers, making working prototypes resembling games that will eventually improve the quality of life of the elderly users in AWWA.

This academic year, we would also like to recognise our lecturers' design practices, parallel to our academic faculty's dedication to teaching. R Brian Stone, author of the book "The Theory and Practice of Motion Design" was Runner Up in the scholarship – Published Research category for the 2019 Design Incubation Educators Awards, a juried design competition. This recognition acknowledges Brian Stone's work as an original and innovative contribution to the discipline of communication design.

Hans Tan was selected to represent Singapore at ASEAN CRAFT, he had his works from the Sarong Party series exhibited at the Korea Foundation ASEAN Culture House, Busan City and also the Outside-In series at the Cheongju Craft Biennale 2019, Cheongju City.

Dr. Lee Jung-Joo, a supervisor and investigator has filed a patent on an Interactive System for Independent Engagement in Reminiscence Therapy in Nursing Homes with Tse Pei Ng and Fung John Chye (Centre for Aging Research and Environment, NUS).

Song Kee Hong has been invited as Jury in prestigious design competition such as Red Dot Award.

Martin Danzer was invited as a speaker for Formnex 2019 at Messe Frankfurt / Frankfurt Fair.

Our lecturers have remained passionate and connected with education in design, thus continuously enriching their respective pedagogical approaches and relevance to the evolving design landscape.

On the joyous occasion of our students' graduation, I would like to wish them great success in their future endeavours and congratulate them for their efforts, perseverance and finally the fruits of their labour.

All our accomplishments would not have come to fruition without the immense support from our dedicated faculty staff. Special thanks to the DIC team, who has rendered their support to the programme through teaching, research, and the promotion of our Division. Last but not least, our sincerest gratitude to the administrative staff who have supported us throughout all our projects.

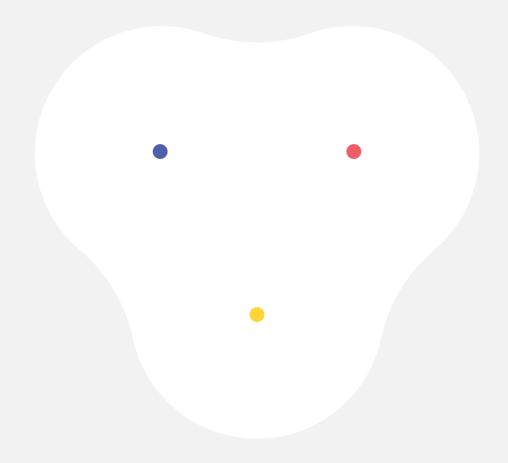
The Division of Industrial Design will continue its pursuits in the development of its curriculum, platforms, pedagogy and extensive industry collaborations to ensure that this progressive programme remains relevant in the evolving world of design.

This year, NUS was able to respond to the tremendous challenge of the COVID-19. This would not have been possible without the strong involvement and commitment of all members of our DID team, quickly switching all our courses and exams online. We would like to express our heartfelt gratitude to our students as well who understood the situation and carefully followed the safety quidelines.

Given the circumstances, our traditional graduation show had to go digital. This year, our DID team cordially invites you to join our division's 20th anniversary online graduation show.

# **CURRICULUM**

### Division of Industrial Design



### TECHNICAL

The technical dimension of design brings together all the tangible aspects of a project, from the manufacturing process to the choice of materials, from ergonomics to the functionality of a product, with a user-centric problem solving mindset.

### **ECONOMIC**

The economic dimension of design is dedicated to the realism and the viability of a project, involving sustainability, profitability and scalability as factors of success for innovation.

#### ARTISTIC

The artistic dimension of design is the territory where emotion becomes form and intention becomes meaning, giving identity to a product in a particular socio-cultural context.

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. Our pedagogy combines design thinking, innovation methods and humanistic approaches, alongside a clever mix of technical, artistic and economic disciplines - a multi-disciplinary vision of design.

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

Originally part of the Department of Architecture, our programme has built a stellar track record and gained independence in just 12 years. We are ranked among the world's top 30 university for the subject of art and design by QS World University Rankings by subject in 2016.

The practice of industrial design is articulated on three fundamental dimensions, three areas in which it takes root and spreads out in balance.

# B.A. course structure

### YEAR 1

Semester 1 Semester 2

Design Fundamentals

#### 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 through a succession of small-scale design exercises that focus on specific areas of learning in detail.

YEAR 2		YEAR 3	
Semester 3	Semester 4	Semester 5	Semester 6
Design Platforms		Design Platforms	
			Exchange Programme

#### 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 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 reflects the ever-expanding role of an industrial designer. Students are not only able to receive exposure to different areas of industrial design, but also gain the opportunity to learn different approaches to designing, from 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 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 2020, we have accepted a wide variety of industry-sponsored projects from the following industry partners:

Akzonobel, ASUS, DBS Bank Ltd, Dell, Dupont, Eight Inc., Estée Lauder, Eu Yan Sang, Festo AG & Co. KG, GovTech, Groupe PSA, Guerlain (LVMH), Hewlett Packard, Housing Development Board of Singapore, IBM, ICI Dulux, International Flavors & Fragrances (IFF), Jurong Port, L'Oréal, Ministry of Education Singapore, Ministry of Manpower Singapore, Motorola, National University Hospital, Nestlé, Nirvana Memorial Garden, OCBC Bank, Origins, OSIM, Philips Design, Prime Ministers Office Sinagpore, PSA, RISIS, Rolls Royce, Samsung, Shiseido Group, SIMTech, Singapore Civil Defence Force, Suntar Membrane Technology, Supermama, Toshiba, Tupperware, VISA, Woodlands Health Campus, World Kitchen, Xentiq, Yong Loo Lin School of Medicine

### YEAR 4

Semester 7

Semester 8

Design Platforms

Final Year Thesis

#### Final Year Thesis

#### Semesters 7-8

In the fourth year, students are required to research and investigate opportunities to 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. In this final year, students learn to form and evaluate value judgments on design decisions ensuring that design proposals meet rationalized and functional criterion as well as less tangible aesthetic qualities. Successful graduates will demonstrate innovation and competency in industrial design.

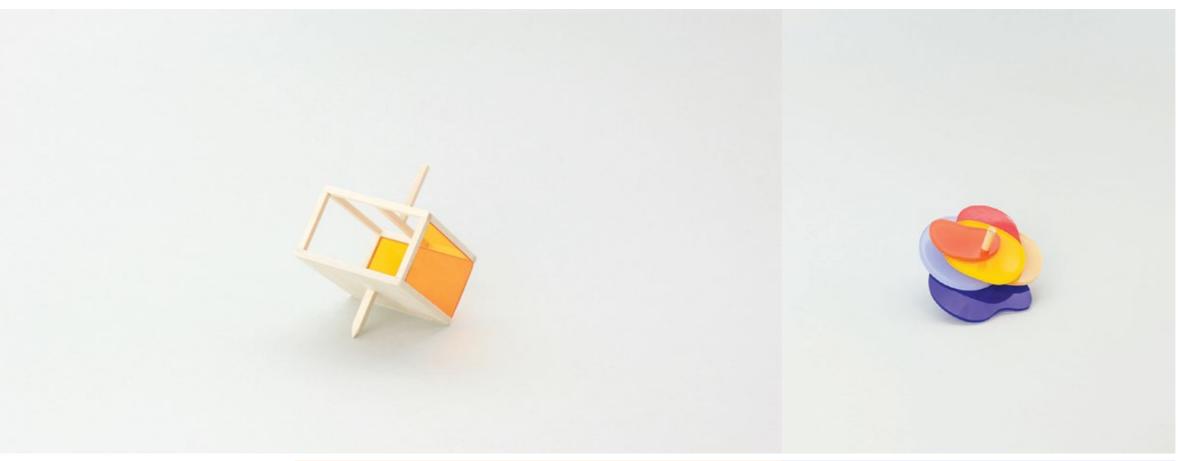
# DESIGN COURSES

### History and theory of industrial design

#### Instructor

Olivia Lee

An introduction to the origins of industrial design and its ever-evolving role – from the Industrial revolution to present day, this module explores how the practice of design both shapes and is shaped by its social, technological, cultural and political contexts. "Anatomy of a Designer" is a 5-week design exercise where students develop an object designed and made in the spirit and methodology of their assigned historical figure of art, design, or architecture.



A key figure of the minimalist movement, Donald Judd was an artist whose

work often comprised industrially produced abstract geometric forms, which

Judd's exploration of three dimensional space to create a spinning top consisting

challenged traditional forms of painting and sculpture. Cindy borrows from



#### Donald Judd

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The work of artist and designer Geoff McFetridge is deceptively simple. He uses shapes and colours boldly, building sophisticated imagery that is full of charm. Rachel has honed in on McFetridge's skills of abstraction as well as layering, interpreting his often 2D graphic work as a 3D spinning top.

Rachel Sim

Geoff McFetridge

#### Martí Guixé

^

With a critical and non-conventional gaze, the output of Martí Guixé often challenges the boundaries of traditional design. Clarissa focuses on the humour and rebellious nature of Guixé work, by adding upon the archetype of a spinning top the conceit of a 'decision-making' device.

Clarissa Edeline Yu

Cindy Evangeline

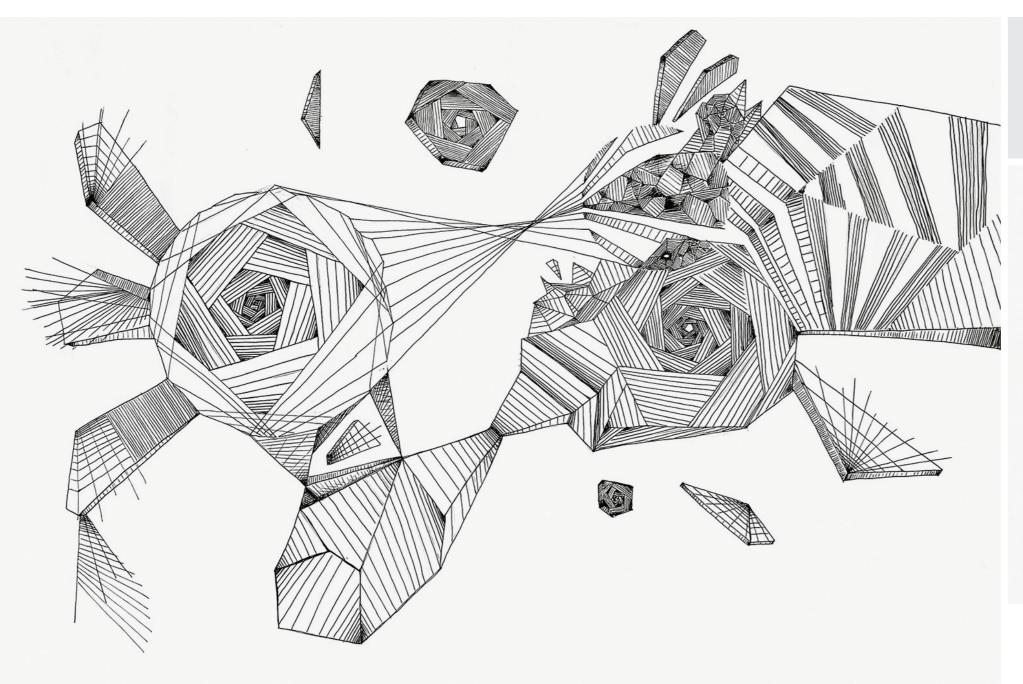
of planes and lines.

# Modelling and sketching for design

### Instructor

Vincent Leow

From the fundamentals of perspective, to fun and imaginative exercises, students learn not just how to sketch like a designer, but how to think like one.



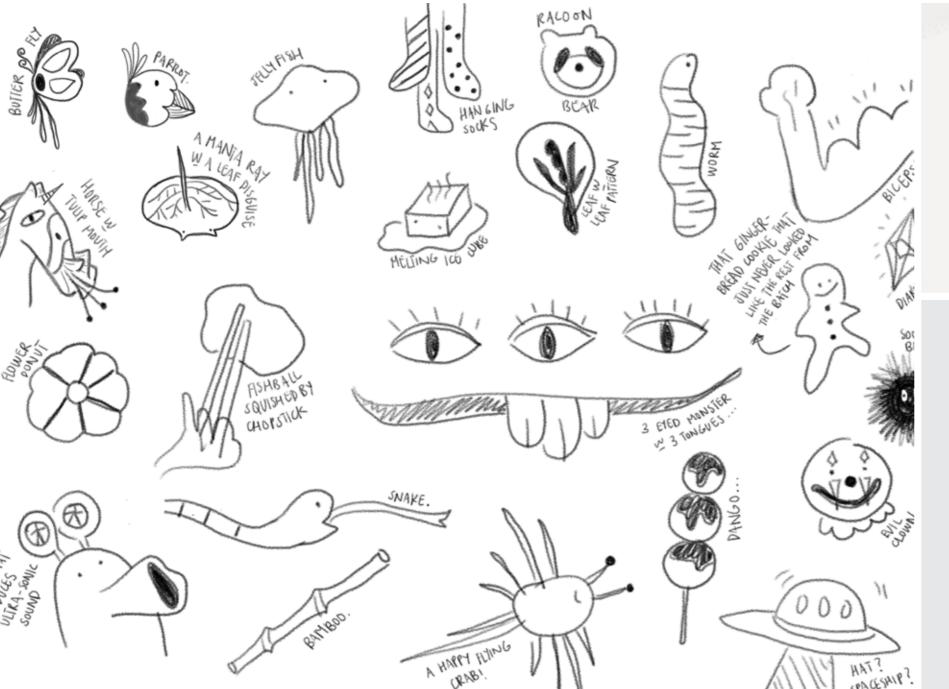




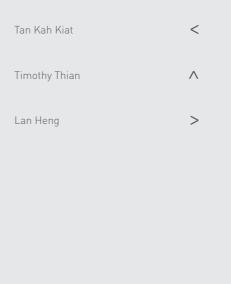
# Digital sketching & painting

Vincent Leow

The course is designed for individuals who want to improve their visual communication skills. Through hands-on practice and weekly projects, they are taught how to use Photoshop to create digital art and design.









### Colours, materials & finishing

### Instructor

Celia Wong

Colours, materials & finishing is in everything we see and touch. This module aims to improve one's sensitivity to the context of design application and to make meaningful choices of colours and materials. Topics include observing market trends, category codes, and translating leading design influences into relevant CMF palettes - every surface may be treated with CMF for a holistic design quality.



### Perceptions from CMF, by Trends

Trends are the manifestations of change which can be observed everyday around us. Being informed of creative pursuits in recent times, allows one to be more aware of the evolved expressions of perceived quality, enabling effective communication of a design in its appropriate form.

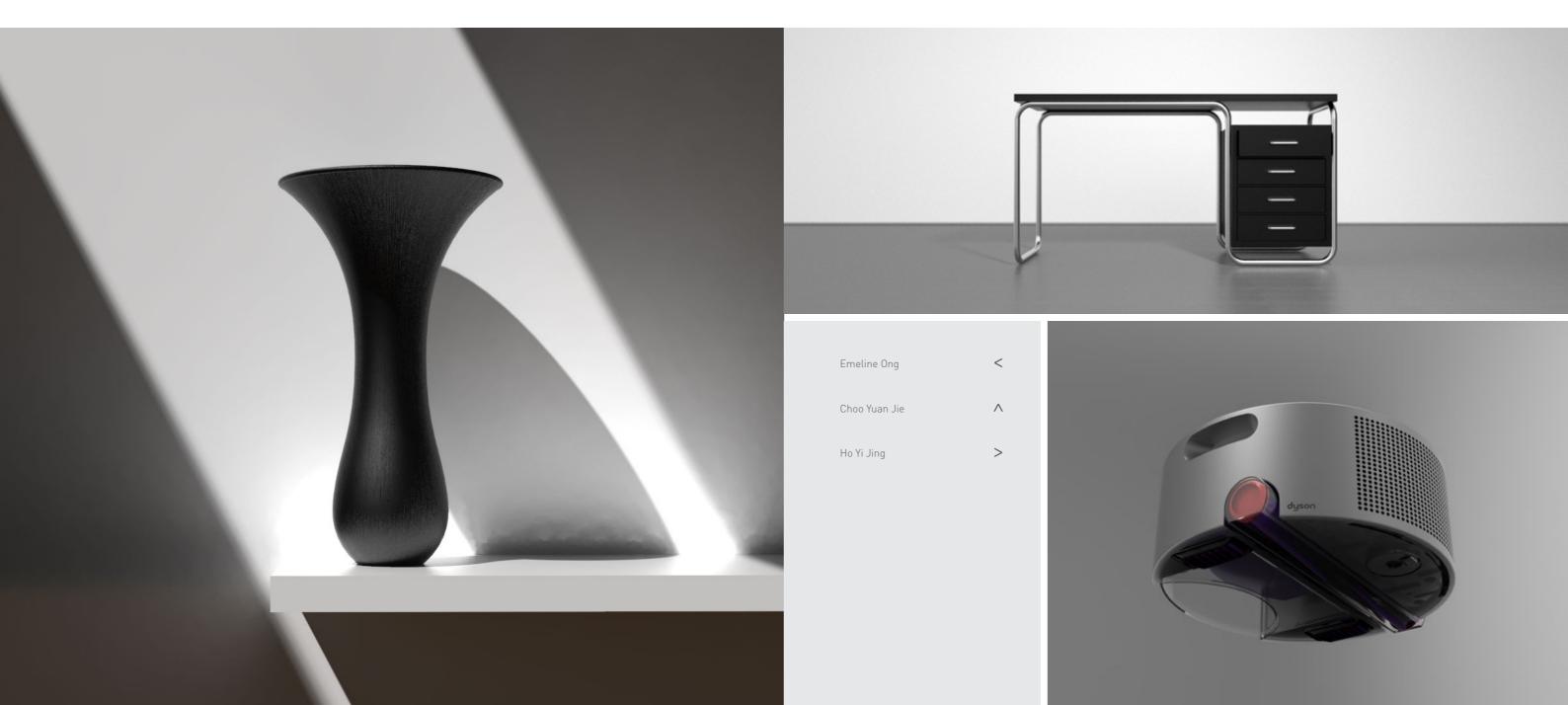
Jeraldine Boh

## Computer aided industrial design (I)

### Instructor

Martin Danzer

This lecture gives students a practical understanding on how to use CAID SW in industrial design. Basic topics of 3D digital modelling are discussed, including lines, surfaces, solids, colors & texture, lighting & shadows as well as rendering and animation techniques. Exercises involve creating revolve objects of various materials and advanced objects depicting Bauhaus design classics and Dyson products.

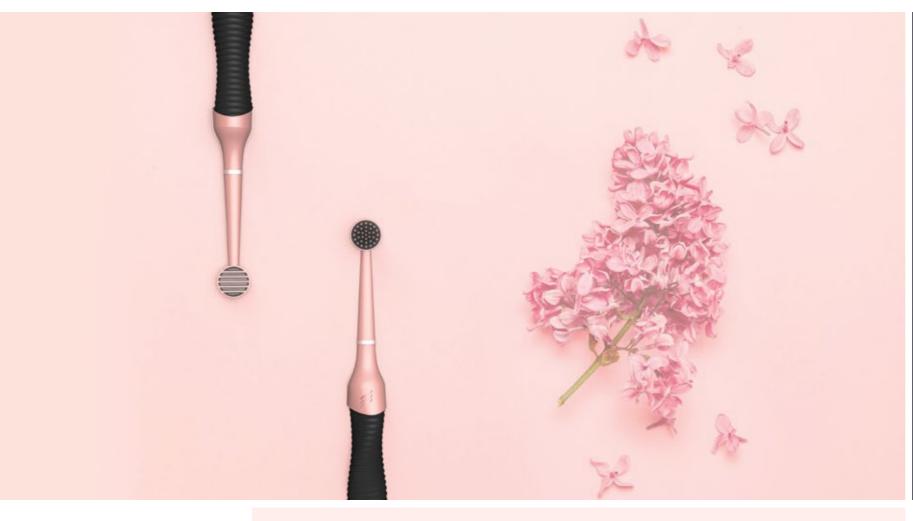


### Computer aided industrial design (II)

#### Instructor

Martin Danzer

In this lecture, students are taught to develop new design concepts utilizing 3D CA(I)D software technologies. The applications range from simple form studies to applications in product design (i.e. lattice and auxetic structures or weaving and knitting), architecture (i.e. facades, wall panels and dividers) or healthcare (i.e. orthosis or prostheses).





### **Auxetic Triangles**

Auxetic structures exhibit unique behaviour, expanding when stretched and vice versa. Studying them and their properties, we created a one-size fits all insulating cup sleeve, a

cozy furniture piece that saves material, a cast/support and even an avant-garde jewellery set that grows with you.

Daryl Pong, Timothy Thian

### **TWUSH**

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TWUSH, merging both the functions of a toothbrush and toothpaste. Featuring a unique twist, its textured, silicon handle provides an ergonomic grip and allows for ease of squeezing. With its exquisite and user-centric design — TWUSH is a

Karen Gan, Lee Zhi Ying

bathroom essential that adds enjoyment to your daily routine.

# Modelling for design

Instructor Jason Ong

This module covers several exercises focusing on precision, refinement and model-making techniques,. The convex clay model exercise involves basic form studies and development through multiple iterations; whereas the mixed-media construction of the automata explores sound and motion design in the process of making mock-ups and prototypes.





Clay model	
Cindy Evangeline	<
Alexandra Arguelles	/

Automata
Edith Tan

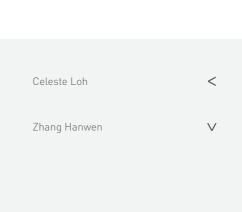
# The appreciation of wood craft

Instructor Jason Ong

This module introduces students to various wood-working processes through the fabrication of a small solid wood product and furniture. The syllabus covers instructional demonstrations on the use of hand tools, power tools and workshop machines; as well as the finer points on understanding and appreciating the material properties of wood and good finishing.









### Conceptual design of button controls

#### Instructors

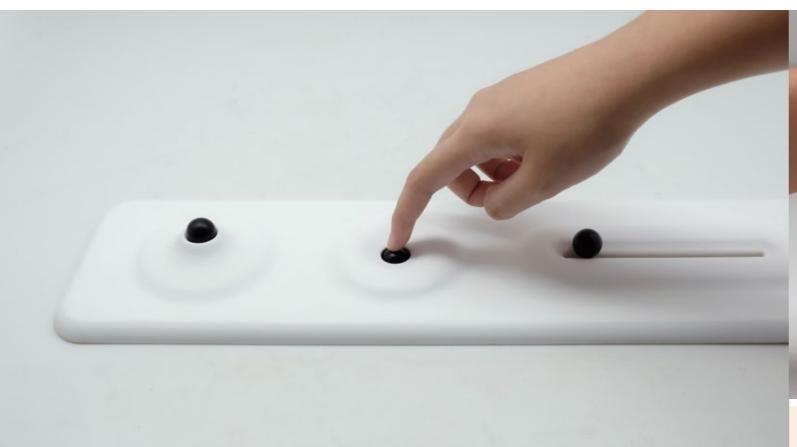
Dr. Christian Boucharenc, Olivia Lee

The aim of this discovery exercise is to develop a conceptual understanding of the physical attributes, control functions and visual signals of buttons used in general product design. Each of these buttons should have one of the following functions: to push, pull, swift, shift etc... The presentation of the final prototype should be the closest representation of a real product in terms of form, ergonomics, colour and texture.



Perspectives was conceptualized by a fidgety student who happened to be wearing a disconnected ring while brainstorming, and had an "Eureka!" moment. The fascination with how shifts in perspective can elicit different instincts, with the help of relentless foam sanding, led to this creation.

Vivien Tan





### Ripples and Sphere

I was inspired by the interaction between object and water. Its form and function are derived through submerging the spheres at different heights and its interplay with surrounding size. This was achieved through dedicated precision, as even a subtle difference could signify a different function.

Emeline Ong

### **Butter Biscuits**

Inspired by the Julie's biscuits I had when I was a kid, I wanted to re-create a nostalgic feeling when the user interacted with the buttons. These delicate forms were modified until the interactions were intuitive to the user. They were then achieved through high precision modelling and machining.

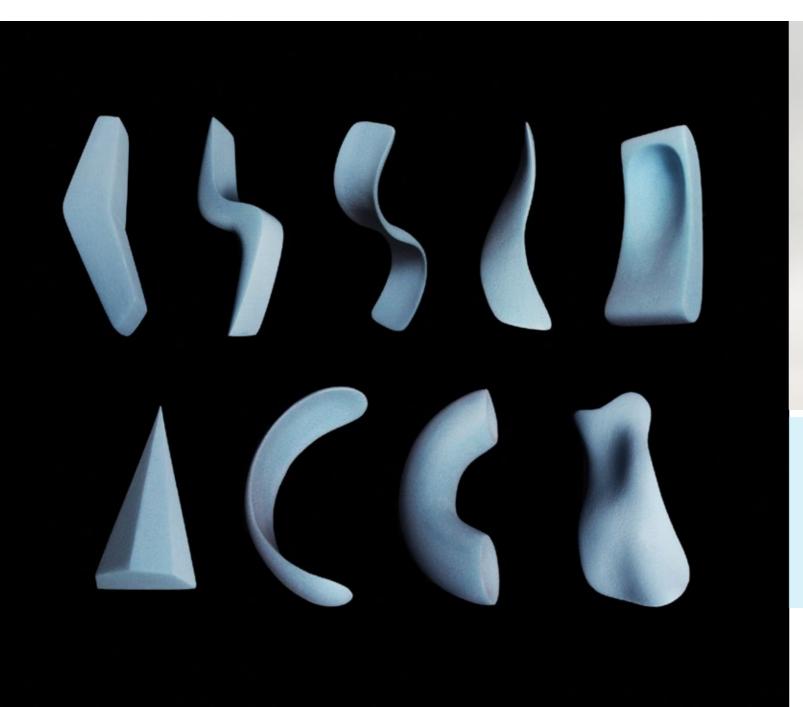
Prasanth Kumaar

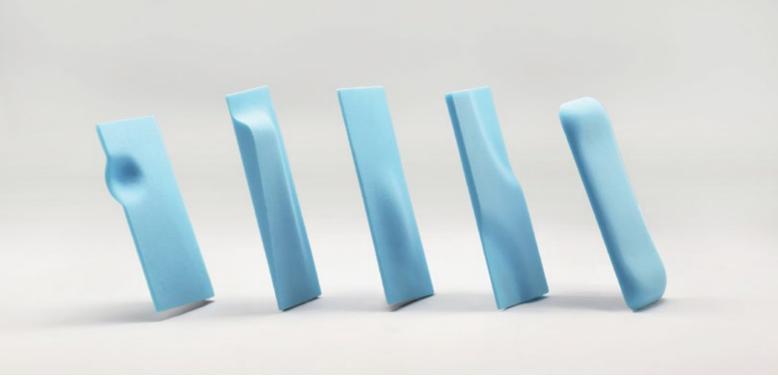


#### Instructor

Patrick Chia

The overall aim of this exercise is to develop perceptual form modelling skills to visualise and make value judgments on the quality of 3D forms, with respect to volumes, surfaces, and details. In part A of the exercise, students learn how to manipulate the material with simple tools, discovering and developing a wide variety of possible forms. In part B, students try to develop different expressions while keeping the same DNA of a selected piece.





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Elicia Low

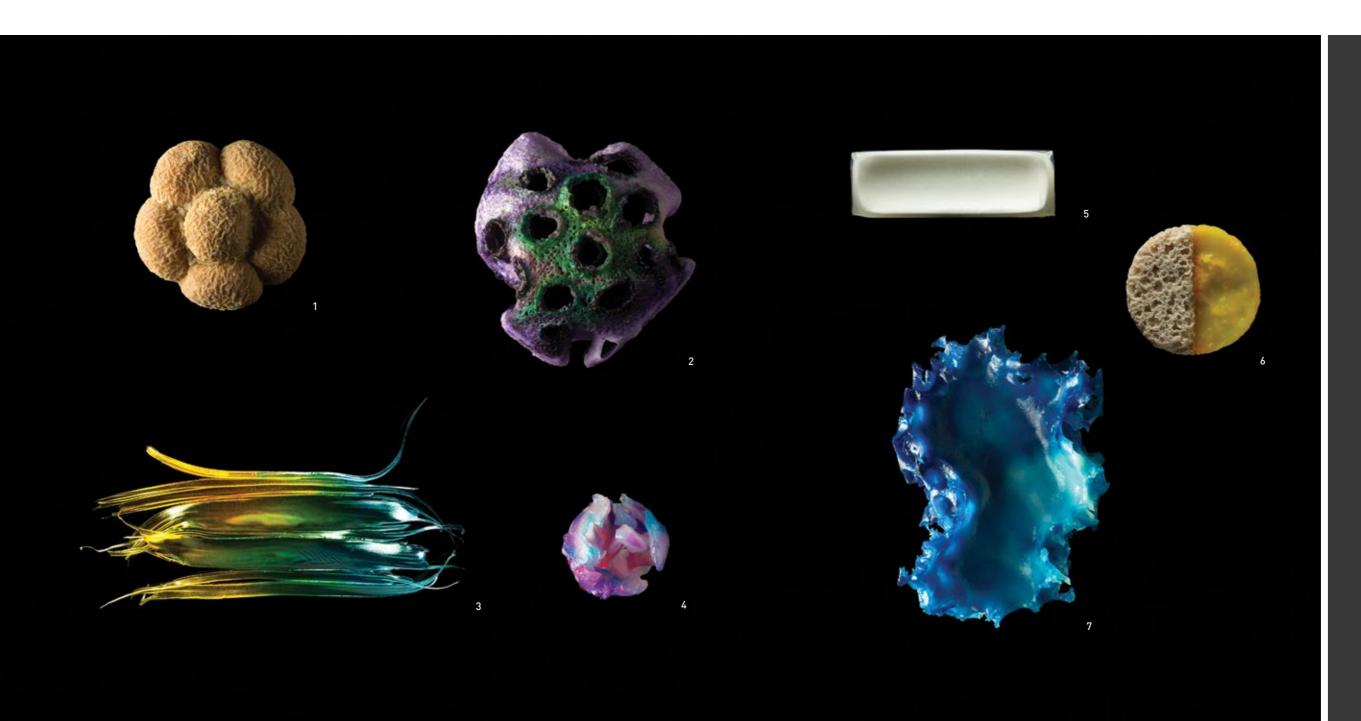
Clarissa Edeline

## Thinking through making

### Instructor

Hans Tan

Harnessing the cognitive link between one's hands and brain is significant to the practice of imaginative thinking and doing. With the task of arriving at a fascinating piece of cooked flour by manipulating flour (material) with steam (process), students bravely condition themselves to a hands-on approach to creativity driven by a risk taking and failure-oriented exploration process.



- Teh Wen Jan
- 3 Gabriella Edith Tan

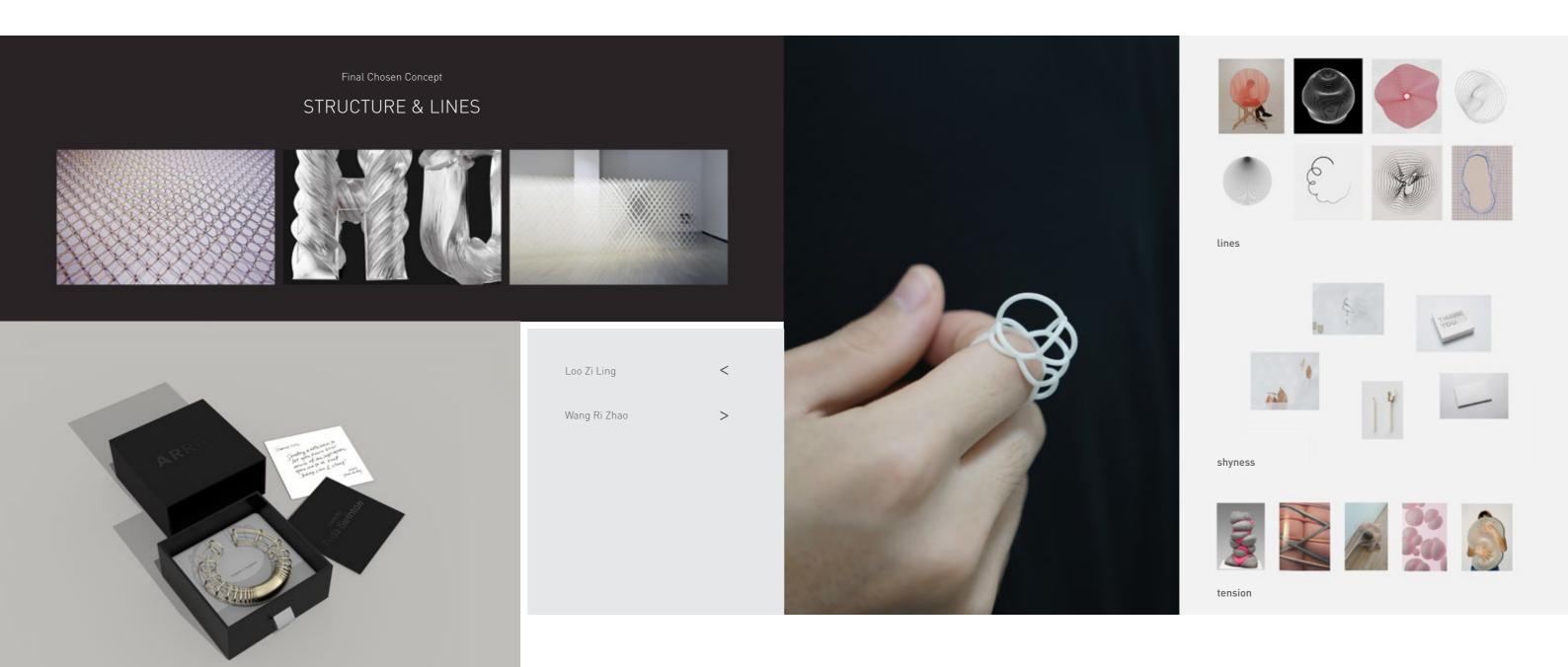
- Rachel Tan
- 7 Celine Chan

## Design, make & sell

### Instructor

Patrick Chia

In this exercise, students are tasked to create a fashion accessory through the process of scanning, seeing and editing. They have to do this with the understanding of the context in which it is used, exploit the opportunities and constraints of the selected material and fabrication process, and develop a branding and communication strategy.

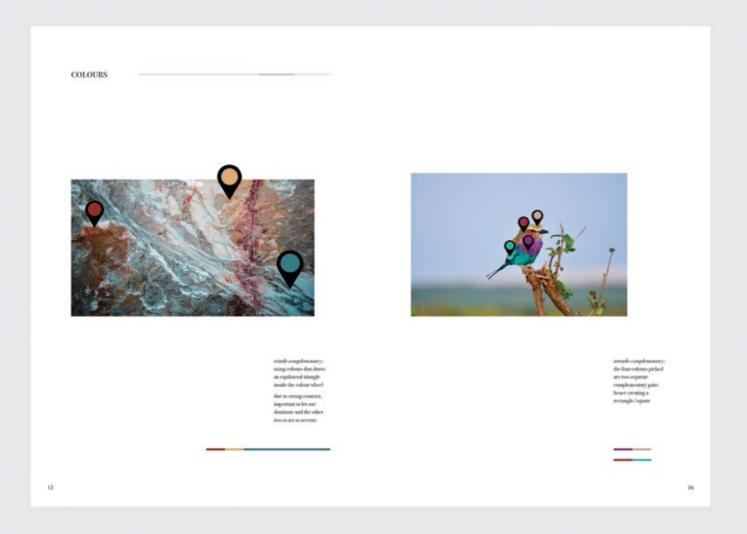


## Visual literacy

#### Instructor

R Brian Stone

This fundamental course focuses on honing one's ability to interpret, negotiate, and make meaning from information presented in the form of images. Through a series of exercises on design synthesis, Gestalt theory, colour interaction, rhythm and balance, organizational systems, typography, and communication hierarchy, students are able to heighten their sense of visual literacy. Studies were culminated into a booklet describing learning outcomes and student reflection.





Elicia Low

Loo Zi Ling

Annabelle Chan

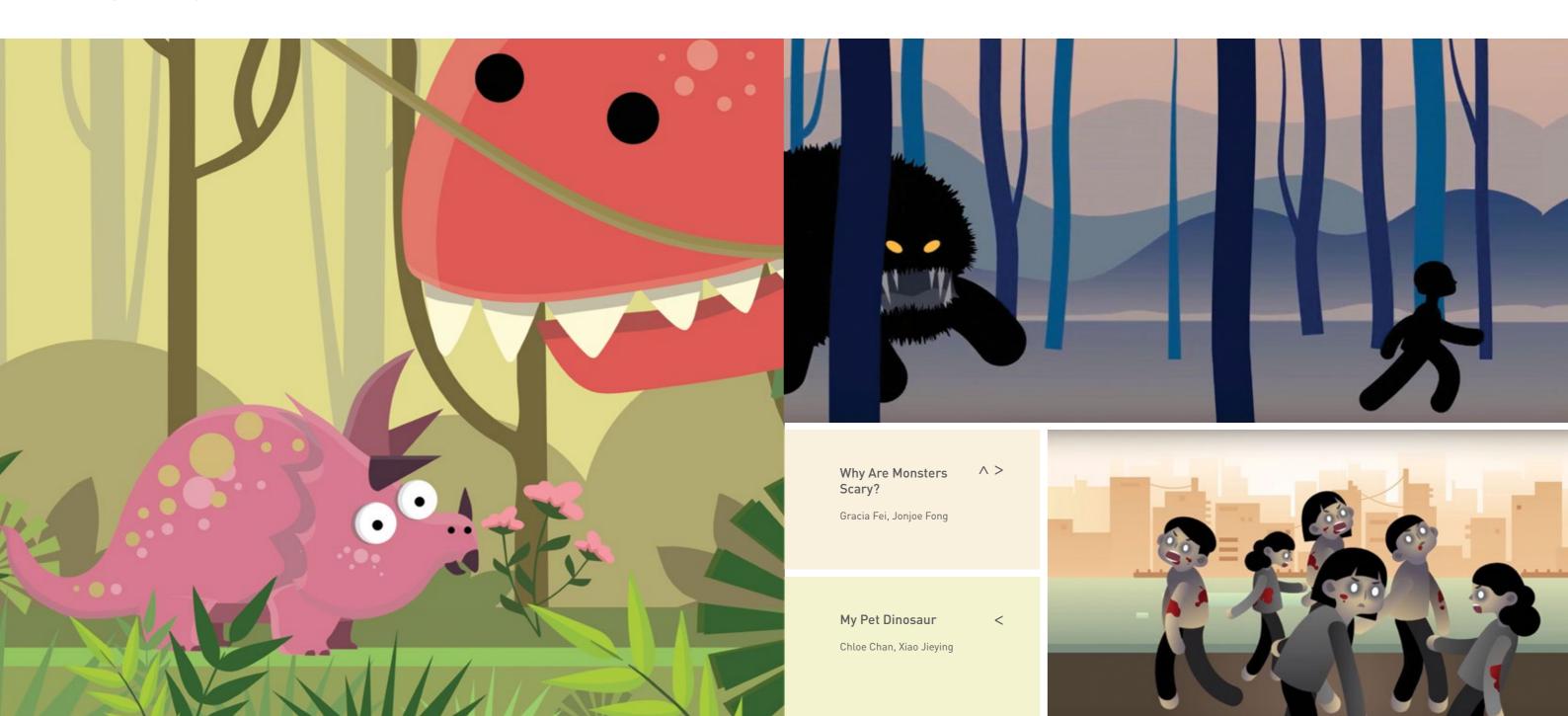


## Basics of motion design and storytelling

### Instructor

R Brian Stone

This module introduces students to the basic principles of motion design and how it is used to communicate and amplify the meaning of messages. Students investigated narrative strategies through the use of spatial change over time, utilizing the layering of temporal elements such as speed, sound, depth, and responsiveness. Their work culminated in an animation that depicted an interesting or compelling story.

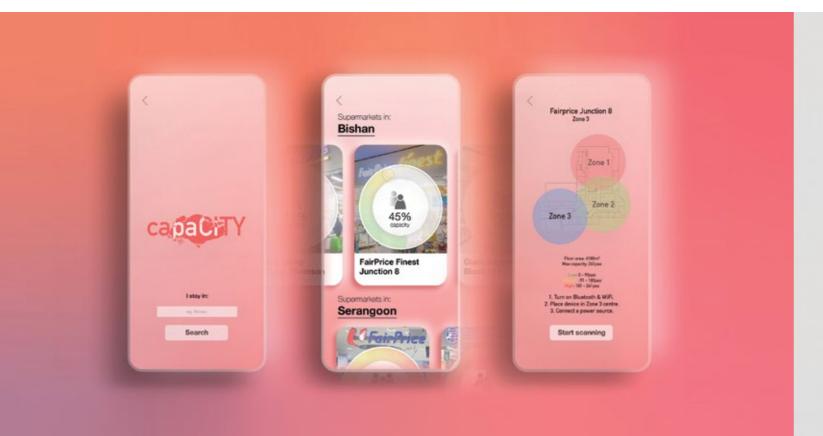


### Computing for design

#### Instructor

Yuta Nakayama

This module introduces the elements of computational thinking and its application in design. Students will acquire skills and knowledge in the use of computational logic and methods such as basic programming, data acquisition, and network architecture. Students learn to apply computational thinking to solve design problems and to use computational tools as part of their design process. Hands-on exercises and projects provide the opportunity for students to explore and apply various concepts of computing into real-world design problems.









CapaCITY

CapaCITY's unique system utilises the Bluetooth LE capabilities of consumer devices to analyse the number of people within specific locations, such as in supermarkets. Live data is transmitted to users, in the form of visually-concise graphics. This facilitates informed decisions on which stores are less crowded to visit, minimizing close-contact during the current COVID-19 pandemic.

Samuel Koh, John Marie Tan, John Tay, Tay Ying Qi

Snäc

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Snäc uses machine learning algorithms to accurately distinguish and identify the various snacks. With a quick scan, users are able to add to cart their chosen items and have their total amount calculated, before being seamlessly directed to an external payment provider. This reduces confusion for shoppers during check-out and removes the need for vendors to manually keep track of their stocks. A whole new integrated snack-shopping experience — Take a snäp, have a Snäc!

Karen Gan, Shanel Han, Kwa Li Ying, Nathaniel Ng

# 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 11 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 allow 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.

### Found forms: Design poetics

### Platform leader

Ash Y.S. Yeo

Fresh forms hold peculiar 'je ne sais quoi' phenomena of "where have I never seen you before." Using an intuitive investigative-discovery design approach to search forms and sieve visual memories, we find descriptive allegories and analogs, appealing to our empathic appreciations, meaningfully applied as design poetics to industrial design.





### **Quotidian Timepiece**

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Conceived as an immersive time-space-light experience, this functional installation's pulsating phenomenal comeliness is expressed in a voluminous relationship, through passing indications of the day, hour and minutes. An analogue vagueness lends a feel of abundance and expansivity, which lulls our obsessive passing of what is time.

Koh Bei Ning

### Hedonistic Honey

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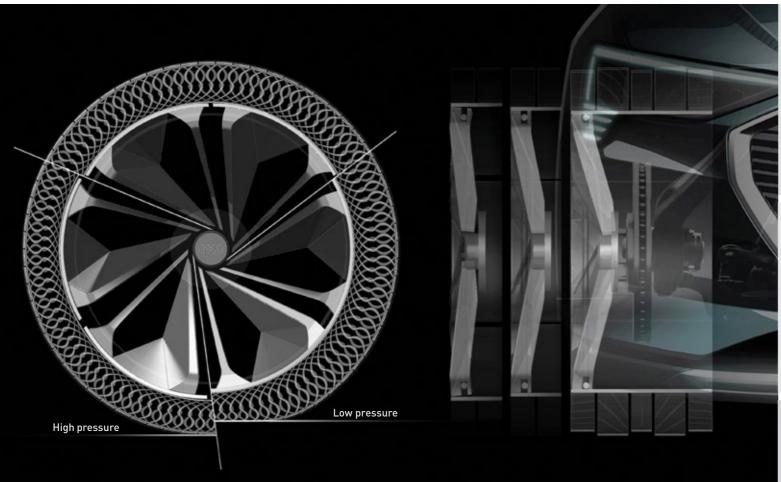
Found in forms of abundance is a phenomenal feel of hedonism, of this Honey Condiment set. The oozing many-layered folds of the Honey-Twirl, the bulbous Honey-jar, the bouncy fecund cup, all exude a softness, heft and mass, engrossing moments of breakfast or tea with generous happy pleasure.

Darryl Leong

#### Platform leader

Martin Danzer

Generative design is a methodology in industrial design which uses algorithm-based SW applications and visual programming. This is different from 2D or 3D design methods which are based on geometrical entities like curves, surfaces and solids. The idea of this platform is to develop new design concepts in the field of industrial design, packaging, healthcare or arts, utilizing SW technologies.



### Genesis concept tyre

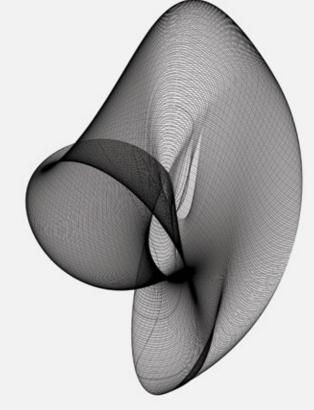
A first-of-its-kind mechanism enables split-second adjustments in tyre pressure, width, and road contact by expanding rims outward on an airless tyre. A generative algorithm choreographs these variables to actively adapt to any road condition. A new frontier of performance, durability, and efficiency.

John Tay



Box is a sustainable packaging concept that elevates user experience without glossy graphics. Box is pried open, the movement of the inner scissor-dome structure is synchronised to reveal the product inside. Proportions may vary from a tall and elegant profile, to a short and stocky personality.

Kianne Lim



### Just lines and more lines

Inspired by long exposure photos of helicopter blades attached to lights, the same idea of points moving around anchor points were applied to create line art. Anyone can easily create their own line art on this specially made platform, customising it based on base shape, number of divisions and density.

Tan Kah Kiat



## C for Compose

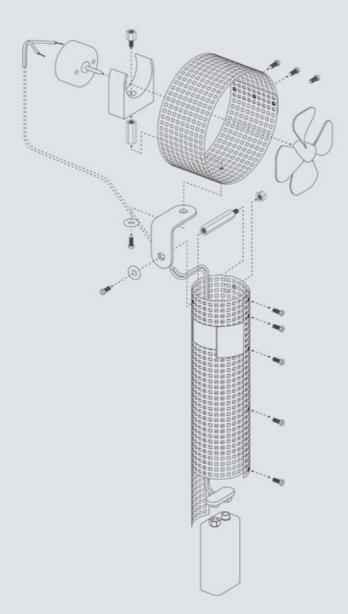
### Platform leader

Hans Tan

We braved functional fixedness and reimagined product typology by putting together existing parts and objects in an unimaginable manner to construct a product – like a musician composing music by arranging notes. Like a recipe, the found components and assembly method of each product is articulated in an instructional product composition drawing, to propagate the ingenuity and know-how generated.

### Component List









### Vacuum Vacuum

Feng Guoz



Patrick Chia

In this platform we explored the idea of light as an effect, as an object or something in between. Between poetry and industry, the students' aim was to create light or a light in response to different interpretations and design approaches. Along the way, students are led to figure out the what, why and how through iteration and making.





DESIGN PLATFORMS 53

Lumitch

Lumitch is a long ceiling lamp inspired by the idea of containing luminance through stitching techniques, recreating the familiar image of a bulb hanging from the ceiling. Lumitch is ideal for long dining tables or worktables, bringing both warmth and fun to homes.

Mervyn Chen

Aspidistra

The Wallflower Collection is a series of task lights reaching toward delicate beauty. Slender and sophisticated, each light is a svelte, cantilevering silhouette achieved through precise material distribution. A statement piece of cultivated duality: they are both the wallflower and the sun.

John Tay

Nodd

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The idea of a light is to help us see. With Nodd, a clean and contemporary task light, we can deepen this perception.

Unassuming and unobtrusive, inspired by the lifting gesture in its form, Nodd is the gentle monolith behind our shoulders. A faithful companion to our everyday introspection.

Cao Minh Huy

### Form follows content

### Platform Leader

Kelley Cheng

Based on a selected story, students will have to make something that visually and conceptually embody the key ideas of the story. The outcome may be best described as a cross between conceptual art and design. The whole exercise is to train the students to understand how a narrative can lead to a form, hence Form follows content.



### Painful pleasures

Painful pleasures is a series of delightful yet hurtful everyday objects where the use of each item promises a pleasurable experience even though we inadvertently hurt ourselves. This seeks to remind us of the often overlooked nature of relationships, a state that can both cut and connect.

Charlotte Ho



### The prison

The prison is a conceptual sculptural piece that represents the mental prison everyone suffers through, individually and collectively. We create our own mental prison, and in hopes of showing mine, people are able to connect as they share that agony and pain of their own mental struggles.

Chua Jia Hui

### Do-over

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Playing with dolls and dollhouses is about imagination and storytelling. This deconstructed dollhouse is a form to tell a story of a girl's journey. A journey of working her way up in life and eventually reaching an abrupt "end".

What happens next? You tell

Hana Amran



### Everything a book

### Platform leader

Donn Koh

What would an urn be like if it were to be like a book, living on a shelf? What if opening a picnic mat were like unravelling a fairy tale? What if dustbins fluttered like pages? By leveraging on the typological characteristics of books, this platform questions non-book objects and invents new solutions that are imaginative, plausible, creating new value by fundamental shifts in their format.





### Book urn

Both the urn and the book are objects capable of evoking powerful emotions within us. What if the urn could take on the format of the book? The Book Urn speculates this reality - by giving the urn its own place on the bookshelf while inviting us to connect with our loved and lost through touch.

Ashlyn Wong, Matthew Soon

### Thiddle

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Awakening music at your fingertips. A re-imagined musical box inspired by a book. Enthralled by the addictive gesture of thumbing through the pages, we wondered what if the gesture could suggest the progression of bars in a melody?

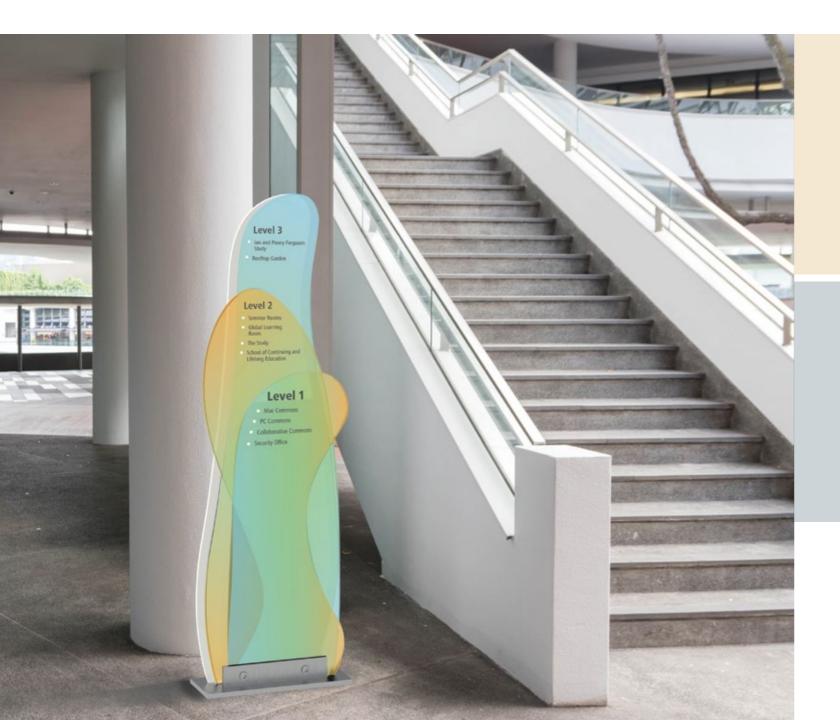
Ang Kay Li, Feng Guozi, Samuel Koh

### Investigations in wayfinding and signage

### Platform leader

R Brian Stone

Students investigated ways to develop a signage and wayfinding system for a public space. A system was proposed that would effectively and efficiently direct people to a desired destination. Systems are inclusive of multiple sign types, including directional, informational, and identification. Signs had to be located in a way that maximized readability and communicated a unique visual identity.



### Signage & wayfinding system of Education Resource Centre

The system uses colours and overlapping free forms to give an identity to the Education Resource Centre as a space which promotes creative thinking and collaborative learning.

Li Si Yi

### Signage & wayfinding system of Teban Gardens

The system not only embraces the progressive nature of Teban Gardens, but also directs users and promotes underutilised amenities, while maintaining the peace of the space.

Ong Kah Min



### Playscape

Platform leader Christophe Gaubert **Teaching assistants**Willie Tay, Poh Yun Ru, Lin Qiuxia

In collaboration with
Eric Yum, NTUC First Campus

This platform, in collaboration with NTUC First Campus, had the aim to imagine the future of playgrounds in Singapore as a way to connect the next generation of children to nature. Playing with the natural biotope, but also the elements such as sun, rain, and wind, the 23 students have developed 7 propositions that combine social, cognitive, and motor skill activities to generate curiosity, awareness, fun, and respect for nature.





### 森 (Sen)

森 (Sen) aims to recreate the density of the original Singaporean rainforests by mimicking their four layers: the Forest Floor, the Understory, the Canopy, and the Emergent, inviting children to explore, from close contact to contemplation.

Gui Xixian, Li Si Yi, Nguyen Thi Hoang Anh

### Colour splash

Colour splash is a playscape that transforms in different weathers. When the sun is out, children are immersed in this coloured forest created by the leaf panels, where the casted coloured shadows allow for imaginative and creative playing, as well as opportunities to learn about colours. On a rainy day, the place transforms, opening up new ways for discovery and playing with the rain.

Jiang Wanni, Valerie Tan, Yap Zi Ning

#### Pan'o

Pan'o provides a platform for nature's invisible resource to create a symphony of movement, orchestrated by the wind. The ever-changing site makes each visit to this playscape an opportunity for new discovery and endless games.

Lim Shi Yun, Ng Ai Ling, Shani Leplat, Lewis Ten



### Shiseido experiential pop-up store

Platform leaders

In collaboration with

Dr. Christian Boucharenc, Olivia Lee

Shiseido Group, LAB:OM: Olivier Moisan

The aim for this platform is to design pop-ups at two locations with Jewel Singapore, for the period of Jun-Sep 2020. This is an opportune time for SHISEIDO to showcase itself: a leading trusted brand of Japan that fully embodies all that is Japanese. With Tokyo Big Moment, SHISEIDO aims to show that beauty has no boundaries, and that this is true to their spirit as a brand since 1872.



#### Alive

Alive allows interactive exploration of ingredients and products within Brand Shiseido. Zonal "islands" drawn from their 1916 logo till today, creates an unobtrusive user flow.

Lush greenery, lighting and translucent materials unite to reflect the vitality of Changi Jewel around it.

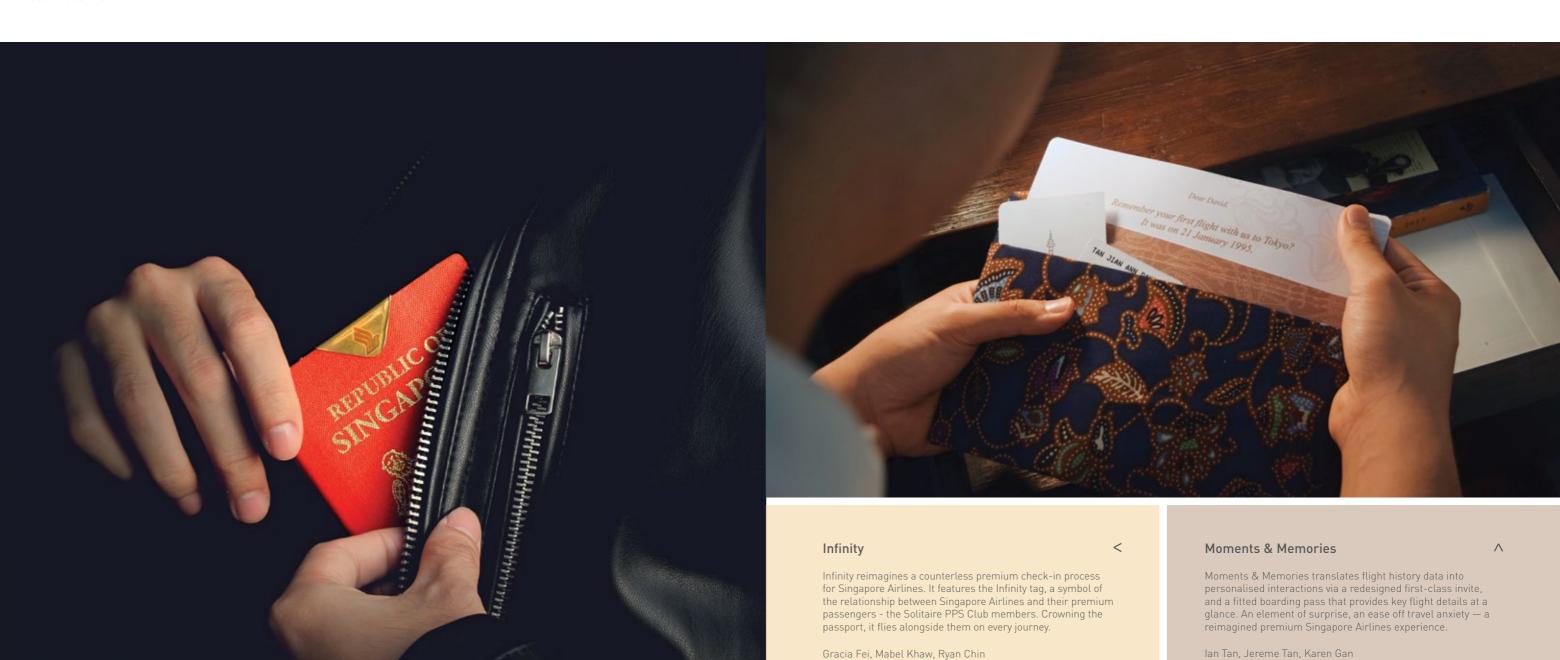
Mervyn Chen, Rachel Hu, Tan Xin Qing

### Re-imagining the premium airport experience

Platform leader
Patrick Chia

In collaboration with Singapore Airlines

Premium airport experience is highly treasured today because of the high touch, high recognition value it provides to the customer. Working closely with the airport operations team from Singapore Airlines and their key stakeholders, students aimed to develop new ways of offering consistent premium airport experience with the best use of resources, bringing delight to customers in a seamless manner.



### Expressing form: new objects for office & home

### Platform leader

Studio Juju

Form expresses the intention of the designer. Whether the project is determined to solve a problem, to create appeal, or to give shape to experiences, materiality or philosophy, form—through material, construction and distinctive drawings—is the final touchpoint to the user. Here, we explored objects for the office or home, focusing on form manipulation through point, line, surface and volume.





### Holio

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Holio is a series of hallway organisers designed to facilitate smoother entries and exits. With a playful colour palette, each piece seeks to inject some fun and personality into your living space. An elegant solution to streamlining your everyday routines, for your warm welcome home.

Karen Gan

### Fruit loops

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Fruit loops is your fruit bowl reimagined. It conveys the idea that exclusive spaces can be created with the simple manipulation of a surface. That boundary created serves to gather objects, in this case...fruits, challenging the need for a vessel to always have a base.

Tan Kah Kiat

### Story of play

Platform leader

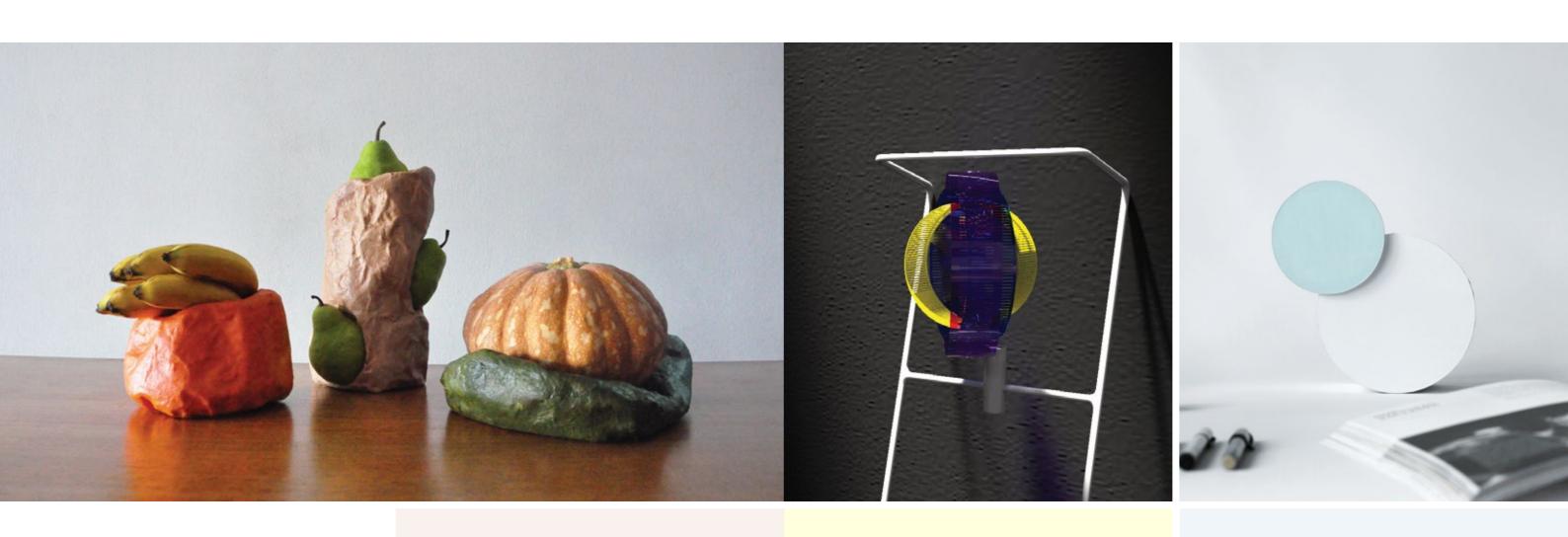
Guest tutor

Winston Chai

Élodie Palasse Leroux

Story of play is about rethinking the experience of play. This studio combined a tripod of probes: critical inquiry into the experience of play, understanding and personal aesthetics and exploration in object making.

With good storytelling techniques, each project weaves all these connecting parts into a compelling narrative that connects with their target audience.



Fruilly

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Mirage

Nudge

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A family of silly squeaky fruit containers designed with childlikeness to bring joy into daily life.

Ivan Tan

Experience the transition, freedom and interplay of colours with lines. Designed to lean against the wall, the stand is angled and connected to the interference of colours with the simplicity of lines, where it reveals an illusion of the iridescence effect portrayed on the wall.

Aderes Chua

With a gentle touch, awaken nudge. A table-top object of play that exists with an interplay of forms and cooling hues. Nudge offers users a form of mindful meditation through its graceful rhythmic sway, orchestrating a transportation to a sanctuary of peace and serenity as one begins to daydream.

Lewis Ten

### R for Repair

#### Platform leader

Hans Tan

In this climate of a disposable, consumerist culture, where repair is declining and ironically deemed extravagant, how may we redefine the concept of repair away from mere restoration, and reimagine the role of repair as an inspiring activity that produces inspiring outcomes? Students are tasked to produce a novel technique of repair for a product type, transferable through a kit to a layperson, where the repaired product must be "better off" than its original state.







#### "Canvas" shoe repair kit

Canvas gives you the opportunity to fix your once-great shoes and customise them with simple geometric shapes into desirable designs. Using a quick-drying liquid rubber paint guided by pre-cut stencils, holes and tears can be mended with compositions unique to you.

Mervyn Chen, Ng Luo Wei

#### "BU" fabric repair kit for kids

BU is a fabric repair kit encouraging kids to mend holes on garments with an embroidered character. With the garment industry as one of the biggest culprits of the throw-away culture, BU seeks to spark the imagination of children empowering them to see possibilities beyond damage.

Shawn Ng, Ye Jiajie

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#### "Āo" missing puzzle piece repair kit

Āo, which means concavity in Chinese, is a missing puzzle repair kit. Embracing the emptiness, the missing piece is highlighted as a lustrous concavity by debossing a metal foil. The awful experience of missing a piece is overturned by configuring the loss as part of its aesthetic narrative.

Sen Fong Ling, Shaina Kang

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### Social design: differently abled

Platform leader Yong Jieyu

In collaboration with SG Enable, Arts@Metta

Together with SG Enabled and Arts@Metta - a social service agency that focuses on using creative art to empower youths (artists) with mild intellectual disability (MID) and/or autism, the task was to create new products through designing a co-creation process with special needs artists. The process of creating and selling these products provides a mode of employment and sustenance for the artists.





Sarah Tan



#### Printed!

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Printed! is a redesigned 3 part co-creation creative process that involves input from a designer, an artist, and a volunteer. Using the lino printing technique to create prints with a "controlled" and yet "fluid" outcome, while not compromising the quality of the artwork and freedom of creative expression.

Cynthia Chan

#### Landscapes - Redesigning the scent experience

Project Revitalise

new life and possibilities to rejected batik prints created by special needs artists. By using this traditional yet simple method of silk-screening, the process allows the artists to be empowered to produce quality works of art.

Mabel Khaw

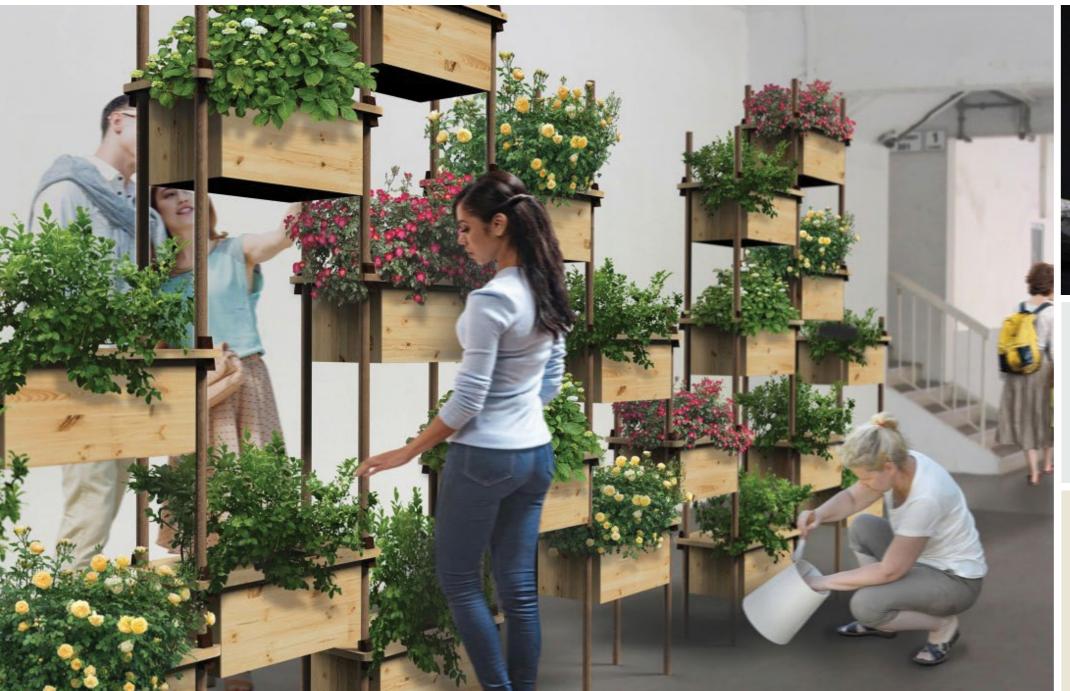
Project Revitalise is a post-process which aims to give

Modular wax melts (each color representing a specific fragrance), are designed to be pieced together by METTA youths. With each creation, a unique design landscape and functional blend combination is formed and when burnt, each structure releases a specially curated fragrance blend.

### Design for Ikigai economies

Platform leader Ash Y.S. Yeo

Ikigai seeks rewards of meaningful lives of engaging flow, social Moai emotions, and joyful daily living. While Singapore ranks 7th in Global Wellness Index, it untenably consumes faster than what 3.6 earth regenerates yearly. Applying Aristotle's teleology aptly deals with ends causes, and questions the granted purposes of designing in the material world. Design values then become the account of how each use of material, can proliferate joy.





#### Rhythmake

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Rhythmake creates meaningful object experiences infused with communal experiences of patience and flow. Upcycled paper is slowly layered, tooled, and crafted to express its rich paper qualities, transforming into individual musical artifacts that connect people in convivial states of deep-play.

Yong Zhen Zhou, Zeng Jieying

Vaso is a scalable, configurable modular planter system, upcycled from excess timber, designed to proliferate Gotong Royongs of 4 generations, to neighbourly Moai communities. It gives individual centering, flow and meaningful social connectivity with nature, bees and honey, and edible flora.

Chin Kar Fai, Tan Wei Jing

### Sustainable living

#### Platform leader

Martin Danzer

Protecting our environment is a global challenge for future generations. FridaysforFuture is a people movement following the call from @GretaThunberg to school strike. Even though, I'm not supporting school strikes, I heavily support the major intent of the movement, asking myself "How can we maintain our lifestyle while being responsible, sustainable and thinking green to protect our environment?"





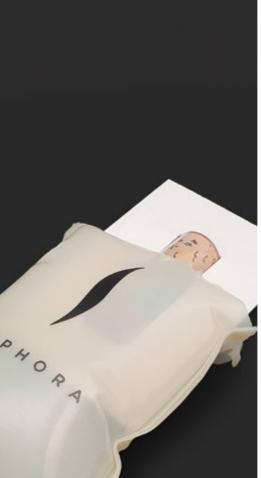
B condenses plastic parts of a bubble tea cup, redesigned into a reusable one, retaining the drinking experience with a recyclable silicone tip that provides the same suction as a straw. A simple twist of the lid allows access to the topping holder to swap between toppings or drinking tea.

John Marie Tan, Tan Kah Wee, Tommy Cheong

#### Psycle

Single-use plastic bags, are a result of the mindless consumption of disposables. What if an iconic visual could create long-term behavioural change? Disrupting daily supermarket experiences with surprising rhetorical messages. A witty twist to bring about a change in behaviour.

Jeraldine Boh, Roger Goh, Lewis Ten



#### Airy pocket

Delivery parcels often arrive over-packaged, resulting in an increase in material waste and environmental pollution. Made of fish gelatine, glycerine and water, Airy pocket is a fully biodegradable and sustainable alternative to traditional void fills used in the online beauty retail industry.

Pang Shi Jie, Seah Li Ping, Tay Ying Qi



### Samsung experience & product design

Platform leader

In collaboration with

Song Kee Hong

Samsung

The platform aims to create new products for APAC's rapidly aging but affluent tech-literate market segment. Future probe and ideation workshops identified opportunities and generated design concepts for alignment with Samsung's strategic roadmap before final development. This aims to expose students to realities of industrial design outside of the academic context; with fluid client demands and multi-disciplinary requirements.





#### Suary

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Suary is a seamless shower system that transforms your bathroom into a sanctuary. Comprising a sleek shower panel with enhanced features and an app, it integrates the entire shower journey, from in to out of the bathroom. Suary is a synchronised audio, visual and tactile experience—like never before.

Karen Gan

#### Allure

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The Allure smart hair brush allows users to track the conditions of their hair to receive personalized treatment.

Through the three steps: analyze, heal, and protect - users are able to nurture their hair journey through an online portal. It helps baby boomers build confidence in aging features.

Alyssa Auw

### Healthcare monitoring system for the elderly

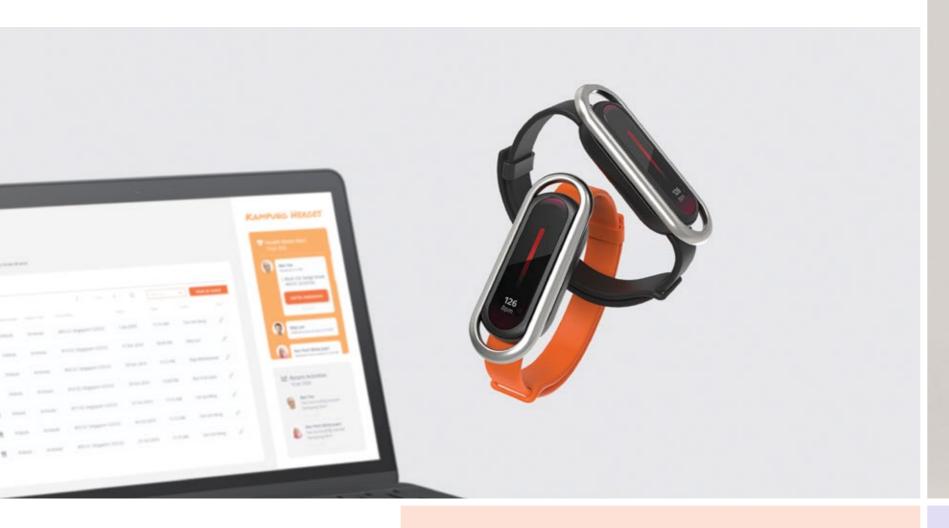
Platform leader

In collaboration with

Song Kee Hong

GovTech

This product and service design project for remote health monitoring enables the elderly to live independently at home instead of in retirement homes. The learning outcome is to understand how product design can be enhanced within an eco-system of service design touchpoints. It also introduces students to the rising industry practice of using multi-disciplinary approaches to address design problems.





#### Kampung heroes

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Kampung heroes aims to foster a well-knitted community just like the local Kampung times. Leveraging on human connection and social recognition, the band allows users to aid one another in the midst of any health emergencies with an intuitive front and back-end system.

Ng Luo Wei, Ong Kah Min, Tan Kah Wee

#### Cradle

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Cradle is a wearable leveraging on verbal vibrations and the strong pulse around the ear to track the health of elderlies. This provides layered triaging before activating SOS during emergencies. A complementary app tracks their health, providing assurance and autonomy to plan their daily routine.

Jereme Tan, Kwa Li Ying, Shawn Ng

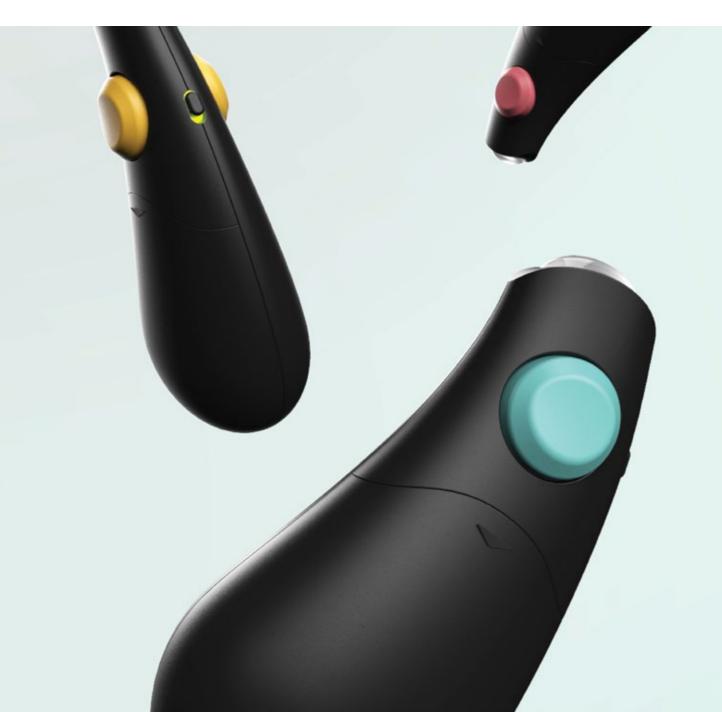
Platform leader
Dr. Yen Ching Chiuan

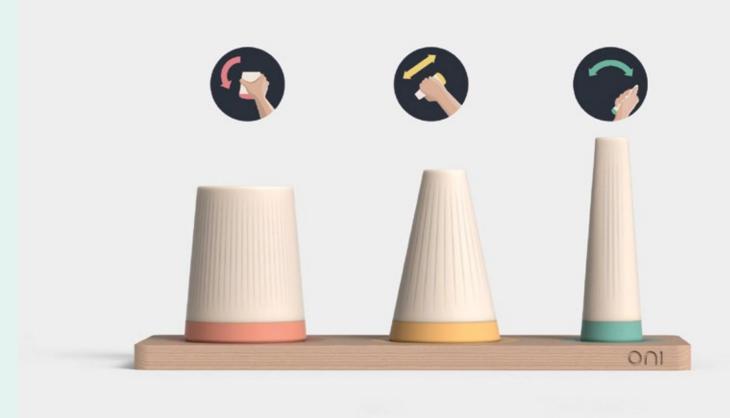
Teaching assistants

Ulrich chraudolph, Felix Austin Lee, Akbar Yunus

In collaboration with AWWA, KEIO - Cute Centre

This platform aimed at providing a positive experience, increasing participant interest and making rehabilitation process more enjoyable, memorable and effective by introducing games based on the existing assistive devices for the elderly at AWWA.





#### Perry: Finger and Shoulder Rehab System

abilities, ensuring patient engagement throughout rehab.

Perry helps stroke and Parkinson's patients train and regain the use of their shoulder reach and finger pinch abilities. Featuring a wireless 'pinch' controller that moves a cursor to play a list of curated games, Perry challenges cognitive

Felicia Lee, Sherwin Ng, Yeo Jun Peng

#### Oni

Oni is a serious game designed for self-motivated grasp therapy through the reminiscence of familiar routines. Three wireless controllers are shaped with increasing difficulty of grasp. Each controller recognises a functional hand movement to trigger corresponding on-screen feedback.

Cao Minh Huy, Deborah Loh, Ysanne Yeo

Platform leader

Teaching assistant

Christophe Gaubert Poh Yun Ru

This platform aimed to design a wooden toy, a very special typology of products. Initially made with an educational and cognitive purpose, they accompany the development and the imagination of children until adolescence and sometimes beyond. Becoming the support of endless stories but also remaining as decorative objects, serving as sculptural emblems of our relationship to childhood.

#### Kaki

Designed as a tool to connect people of different generations, Kaki is an intergenerational wooden toy immerses storytelling in play. It consists of magnetic wooden parts for endless construction, and a deck of cards to facilitate storytelling – allowing the elderly and child to tell and create their own creature.

Chloe Chan





#### Oods

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Oods is a collection of plant supports that spark imagination in grown-ups.

Inspired by the magic of the rainforest, the animatedness of the forms brings forward an emotion to care; while the visual and symbiotic relationship created by the plant and the wooden base sparks off an interest towards collecting them.

Ye Xiaoxuan

#### Kwe

Kwe is a playful take on the

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Singapore traditional pastry, with pieces stylistically inspired by popular Kueh. This wooden toy is dedicated to children aged 1-3 years old, to forge a unique relationship with these big players of local food heritage, exploring through endless possibilities of stacking and building.

Koh Bei Ning



### Beyond the surface 2: "Beyond the sight"

#### Platform leader

Yuta Nakayama

In this studio, we explore design opportunities in creating sensory experiences with digitally augmented surfaces. Students are tasked to extend a material surface through the creative use of physical objects combined with digital display technologies. The design outcome is presented as an interactive experience to evoke natural behavioural reactions against our sight and cross-modal perception.



#### Life beyond plastic

Life beyond plastic is an interactive campaign that highlights the consequences caused by our plastic obsession. the familiar daily actions transform the virtual shadows, revealing the potential threats posed to marine life. this inspires one to think twice before every consumption.

Pang Shi Jie, Ye Jiajie



#### Calvin Klein: The interactive house

The interactive house is an experiential installation. Interactions with the house triggers different reactions with inhabitants of the house (adorned in CK apparel). This generates a sense of curiosity and intimacy, allowing customers to gain a deeper connection to the brand.

Jules Kuipers, Shaina Kang, Xiao Jieying



### LEGO: "Unlock your imagination"

Unlock your imagination is an interactive booth that uses animated projection mapping to bring LEGO to life. Designed to be integrated seamlessly into LEGO stores, this booth houses captivating narratives that not only make the LEGO playing experience more immersive, but also more educational.

Ian Tan, Nathaniel Ng

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**DESIGN PLATFORMS** 

### When virtual meets reality

Platform leader
Dr. Yen Ching Chiuan

**Teaching assistants**Felix Austin Lee

In collaboration with
KEIO - Cute Centre

What happens when virtual meets reality?

In this platform, we explored how to hook audiences through their feelings by telling a story with the embodiment of Mixed Reality (MR), Virtual and physical objects are led to co-exist and interact in real-time, where the focus is not on the technology but the experience.





Space Piggy

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Space Piggy is a money-saving tool for young children that brings an inanimate piggy bank to life. Through storytelling and unpredictability, magic happens to Maggie the piggy bank when a coin is deposited. Every cent saved triggers a different reaction, getting children excited about saving money.

Yap Zi Ning

Virtual fitting

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Virtual fitting reimagines digital accessory fitting: by using a beam-splitting screen with a universal clip allowing for attachment on any mobile device, trying on accessories at stores can now be a hygienic experience for everyone. This may also be applied to enhance online shopping experiences.

Teng I Ling

### Interaction design in the context of TUI

#### Platform leader

R Brian Stone

Interaction design is often defined as the activity of defining the behavior of products that a user can interact with. To expand our range of interaction design practices beyond screen interfaces, students investigated possibilities that come from tangible user interfaces (TUI). This enables more physical forms of input, thus taking advantage of the human ability to direct and manipulate objects.



### Sen: A sensory experience

Sen is a tangible user interaction that allows the user to relax after a long day of work. Incorporated with biometric readings to determine heart rate, blood pressure and respiration rate and a different sound, fragrance and ambient lighting will then begin.

Nathaniel Ng, Tan Xin Qing

#### CREATE

CREATE is a tangible user interface system that aims to add a personal touch to the visitors' museum experience. Through various art-making stations, visitors can create their own masterpieces, discover artworks in the museum that resemble their creations and curate their own journey.

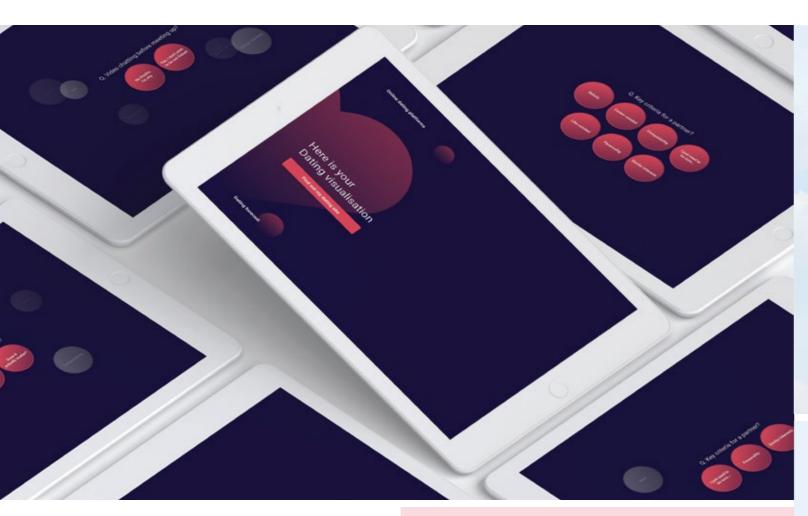
Luna Van Den Bergh, Lim Shi Yun, Yap Zi Ning



#### Platform leader

R Brian Stone

This platform investigated strategies for visualising time-based narratives. Students were introduced to various forms of data visualisation and how these forms may be animated to show the temporal dimension of a subject. The goal was to inform and engage an audience by using data to tell a visually comparative story. Projects may or may not have an interactive component.





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Dating visualisation uncovers how dating platforms are more than just trivial fun and entertainment. The data becomes useful as its results evolve, based on the way one chooses to unfold their story of meeting a companion.

Ong Kah Min



### Passenger traffic in Changi

An interactive data visualisation involving multidimensional data on Changi and its passenger traffic. Through interacting, viewers would be able to learn more about how much Changi's passenger traffic has grown over the past twenty years and understand the factors contributing to this growth.

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Yap Zi Ning

### Design with open data: Data as design materials

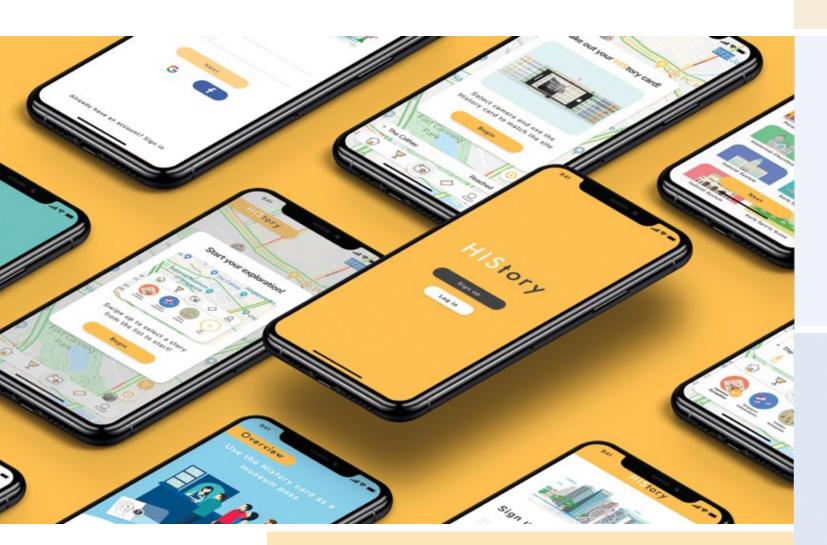
Platform leaders

Dr. Jung-Joo Lee, Yuta Nakayama

**Guest tutors** Anthony Howe, Erik Chua Teaching assistants Esli Ee, Christine Yap

In collaboration with GovTech

This platform focused on 'creative data literacy' of designers in the data economy and their roles in creating new services and meaningful experiences out of data. By taking open government data as design materials, students gained inspirations, combined it with other types of personal data, and created new service concepts and user experiences with data.



#### HIStory

An interactive experience to enhance museum visitor appreciation for the arts.

Aderes Chua, Ashley Tan, Jaylin Yeo

#### Data for dengue

understand their personal dengue risk in three parts: HDB digital screens that provide realtime updates of changing dengue risk factors, a dengue risk assessment which evaluates a

Kianne Lim, Keith Lee, Tracy Shen

#### Move

Move is a mobile application that integrates data to improve the decision-making process of price sensitive travelers. It compares prices across private hire companies offering the cheapest ride, uses weather and traffic data to identify price fluctuations and tracks users' travel expenses.

Botter Chan, Felicia Lee, Lee Zhi Ying, Ng Ai Ling

Data for dengue helps residents personal risk level, and a digital calendar that tracks personal dengue risk levels over time.









Amount speed

02 **Private Hire** 



### Speculative futures

#### Platform leader

Donn Koh

Designers possess a unique combination of skillsets that enable them to imagine plausible future scenarios based on the extrapolation of cultural and technological change. This enables them to speculate products and services that are emergent, using them as a vehicle to ask the important questions that come with progress and change - before they eventually arrive.

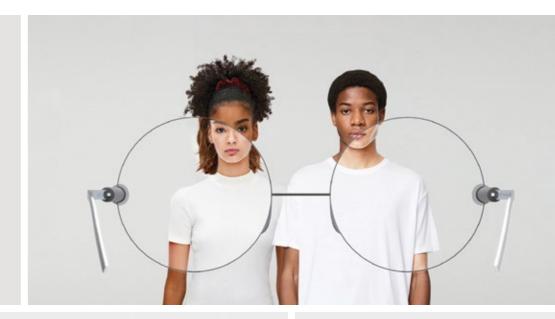


#### Harmoni

Harmoni glasses leverage AR technology to alter people's skin colour and appearances to manage our comfort with strangers.

Perhaps, with how realistic the modified way we see others will feel, it becomes irrelevant to question if avoidance and seeing only what we prefer is truly peace.

Kwa Li Ying



### Neumune

Neumune exists in a world where euthanizing newborns with a poor prognosis for life can be an option. In a single bottle feeding, a lethal dose of sodium phenobarbiturate is administered to the infant. Through a simple gesture of feeding, your child they can be saved from a lifetime of suffering.

Feng Guozi



#### Circlet - wearable Panadol

The Circlet is a visionary product of the near future that seeks to deliver alternatives for drug dependency (for medical relief). The Circlet uses electrical stimulation to stimulate the vagus nerve, influencing the release of neurotransmitters, which in turn helps to relieve headaches.

Nathaniel Ng

# EXCHANGE PROGRAMME

### Visiting students

NUS welcomes exchange students during both semesters; they participate in both design platforms as well as additional electives. These are the students who joined us during AY 2019/2020.

China

Zhejiang University

Li Shaokang

France

Strate School of Design

Kevin Tim Jiner Shani Leplat

Rubika

Pauline Boittiaux Marie Cordonnier

Alex Lepetz

Italy

of Milan

Chiara Baj Yu Cheng

The Polytechnic Univeristy

Yonsei University

Kim Dayeon

Korea

Taiwan

National Cheng Kung University

Lin Chia-Chen

Netherlands

Delft University of Technology

De Goede Maas Noa Luna Van Den Bergh Eindhoven University of Technology

Botter Chan Maureen Kuipers Jules Isidoor Louard Smeets Heleen Nora

USA

Georgia Insitute of Technology

Aya Bassel Mousa Ayoubi Hu Rachel Yating Sun Rebecca Yeshian Tarn Yui-Ting Julia Gao Lu Lu Kilpack Taft Elizabeth University of California

Tam Emily Rachel

University of Illinois, Urbana-Champaign

Auw Alyssa Lin-Ai Moy Carolin Ko Zulkarnain Anne Sam



### Exchange programme

To broaden the students' exposure, two-thirds of each cohort goes for a semester long overseas exchange programme during their 3rd Year (Semester 6).

Students are exposed to different working processes abroad at partner design schools.

#### China

Zhejiang University

#### France

École Nationale Supérieure de Création Industrielle, ENSCI Strate School of Design

#### Italy

Politechnico di Milano

#### Japan

Kyoto Institute of Technology, KIT

#### Netherlands

Delft University of Technology, TU Delft Eindhoven University of Technology, TU/e

#### South Korea

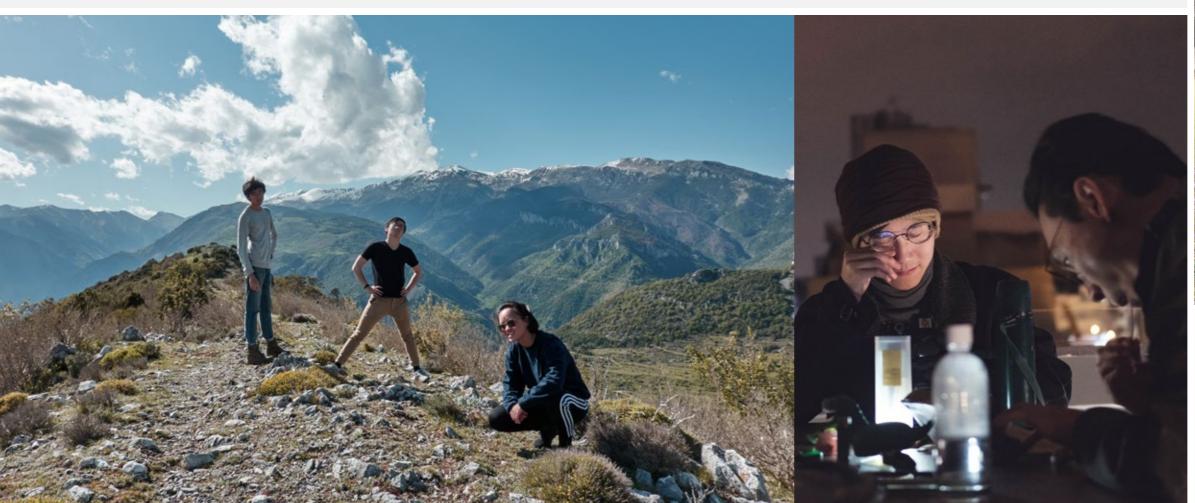
Korea Advanced Institute of Science & Technology, KAIST

#### Taiwan

National Cheng Kung University, NCKU

#### USA

Georgia Institute of Technology





Being exposed to new design processes and knowledge was interesting as they have very different perspectives from us.
The best takeaway was the friends that I've made. They were shy but welcomed us warmly and made us feel at home.

Yasmine Cheng | Zhejiang Univiersity

### NUS overseas colleges

NUS overseas colleges is a university level unit of the NUS enterprise cluster that manages the highly innovative NUS overseas colleges programme. The programme targets NUS undergraduates with the academic ability and entrepreneurial drive, keen to be immersed as interns in start-ups located in leading entrepreneurial and academic hubs of the world. At the same time, they will study entrepreneurship related courses at highly prestigious partner universities. The aim is to cultivate and nurture them into enterprising, resourceful, independent self-starters that will eventually blossom into successful entrepreneurs.





#### Stockholm

The NOC programme is like an express train to personal growth. Seasons changed and so did we; emerging from the harsh winter with almost tangible jubilation. Many times it challenged my resilience, but I found joy in the journey and learned to live more kindly. Now I couldn't imagine who I'd be without this experience.

Ysanne Yeo | NCST27

#### Beijing

Digitised payment, bike-sharing, street food peddlers, air pollution, VPN - these are just some of the many things that make China a gem. Immersing myself in a highly unique and entrepreneurial environment in the seven months definitely opened my eyes to the possibilities of technologies and believing that nothing is impossible. Being inspired by everyday happenings and overcoming challenges as a DBJ10 batch is truly one of the most valuable takeaways from this program.

Joycelyn Tan | DBJ10

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# 2020 GRADUATING STUDENTS

The design thesis provides students with the opportunity to demonstrate their individual design abilities through the execution of a major design project. The thesis ensures that students are sufficiently competent in research, which is an integral part of the design process.

At their final year, students would learn to form and evaluate value judgements on design decisions that ensure design proposals meet with rationalised and functional criterion as well as less tangible qualities of the aesthetic. Successful graduates will demonstrate competency in product design, service design, healthcare design, space design, experience design, speculative design and exploratory design.



## Yap Chuin Houi

In a previous life, Yap was an economist and civil servant. In his current one, a scuba diver and hobbyist photographer. He has lived in the US, UK, and Japan, has worked in small teams and run a large department. Yap brings a breadth and depth of experiences and interests, but mostly he brings a curious eye and a critical mind.

yapo88@gmail.com





Cascade is a packing machine for spherical fruit like oranges. It is intended as a simple, low-cost alternative for the citrus packing industry, where much still seems to be manually performed. The concept uses gravity for power and three modules to sort and arrange the oranges before a cartoning.

Under the supervision of Martin Danzer



### Enigma, Allure, and company

The perfume bottles represent unique individuals within a systematic collection. This project was inspired by perfume's role as a projection of our identity in the outside world and a reflection of our inner world.

Designed with Jaylin Yeo

In collaboration with International Flavors & Fragrances

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#### Officine Panerai Luminor MTSM Cronoscopio

This hypothetical watch design was inspired by the hydrodynamic form of the Italian Navy's torpedo boat used in WWII. Designed as part of an exploratory study of double-curvature surface transitions in Rhino 3D, focus was placed on specific areas of the rounded square case: bezel, lug, inset crown.

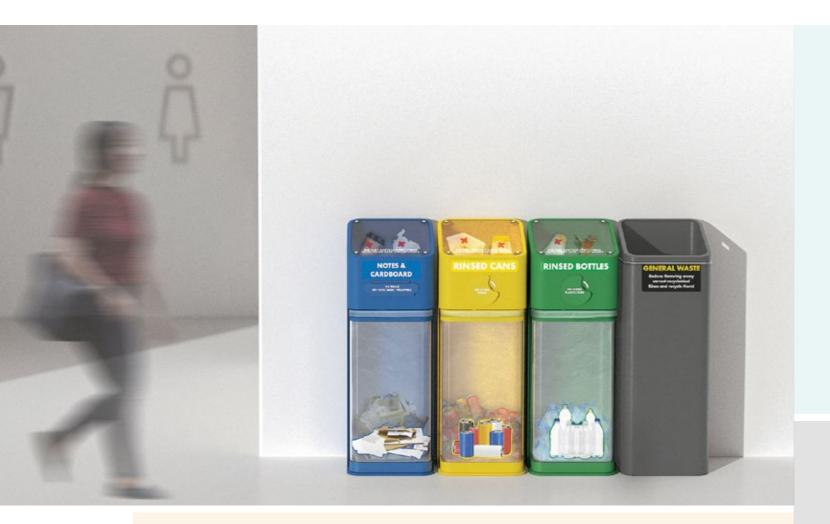
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### Tommy Cheong

Tommy believes that design is a constant work in progress. Adopting a human-centred approach (uncovering human needs, desires and their motivations) driven by quantitative data research and qualitative observations, he designs sustainable solutions to improve quality of life. Always keen to learn and grow through collaborative works.

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#### Recycle right bin

Designed for mindful recycling to reduce contamination by disrupting automatic behavior with its defensive, intuitive features and timely information about incorrect non-recyclables. Strategic co-location with rinsing facilities such as malls or community centres that promote clean recycling.

In collaboration with NUS Office of Facilities Management, NUS Office of Estate Development. Supported by South West Community Development Council. Under the supervision of Dr. Yen Ching Chiuan

#### CHEW

Being eco-friendly is easy, if you have the right tool to do it. With the aim of creating a gateway to a greener life, CHEW reinvents the user experience of reusable straws tackling typical pain points users face. Launched on Kickstarter in 2018, CHEW raised over \$20,000 in its first week.

Designed with Kevin Yeo & Lim Jing Jie

International Design Award
- Gold in Design For Society
/ Design for Sustainability /
Design for Environment

Singapore Creator Awards -Merit Award (Lifestyle Product)

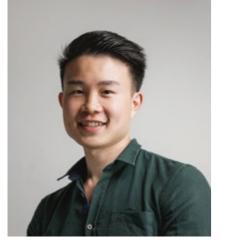
#### Mirage

A single sheet of stainlesssteel makes this outdoor stool, designed for public spaces. Its fading mirror polished surface gives the illusion of a suspended seat as if people were sitting on the air, as a mirage.

International Design Awards 2019 Gold in Other Products Designs







### Chew En Wei

With a strong passion for developing products, Enwei enjoys translating functional concepts into feasible, and viable products. He enjoys designing for people and believes that design is used to solve problems.

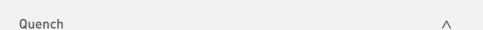
chew.enwei@hotmail.com











Quench is a home fire extinguisher that is ideal for kitchen settings. The simplistic design eases its use and releases fire suppression fluids at the touch of a button. The three main features of Quench includes an integrated smoke detector, an automated spray, and a live feedback notification system.

Under the supervision of Song Kee Hong



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#### Ember stove

Ember is an ultra- efficient pocket stove designed for easy usage and excellent heating performance to cook your meal fast and well. It comprises of unique air vents that ignite a long-lasting vortex flame from twigs and sticks, a 3 point elevation base that ensures that the stove remains stable during use.

Designed with Png Qi Hui and Martin Dellinger

#### Bio-brace

Post- surgery knee brace with internal macro- and micro- trabecular structure for maximum strength and minimum weight, while the inner silicon layer distributes weight and relieves stress from the knee cap and ligaments.

Designed with Christine Yap, Teng I Ling and Martin Dellinger





### Chua Kah Yeow

Having been very fortunate to be granted an opportunity to design amidst great people with great minds and hearts, the earnest and honest desire for a greater world inspired by those around him will always motivate his thinking, in everyday actions and in the design process.

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### Momentum: Free light

Momentum is a modular desk lamp that seeks to accommodate its user by providing an unrestricted freedom in the positioning of light. The magnetic ball joints between each unit removes the limitations of traditional mechanical joints, internal wiring creates a sleek almost unreal depth to



Salus: the first modular protection system

Designed for professionals, SALUS is a new take on head worn personal protection equipment. It alleviates discomfort and reduces the fall in productivity encountered with wearing protection equipment. The modular and portable system provides all rounded face protection and adapts to other equipment.

Designed with Keith Lee

#### Kargo

Kargo is a reflective look into mobility by providing sustainable, accessible and flexible mobility for the people.

Kargo is a carriage unit that can be universally mounted onto any bicycle frame, transforming any bicycle into a capable transport option both in cities and rural areas.

Under the supervision of Martin Danzer





### Sherwin Ng

Sherwin believes that all good things start with an open heart. He embraces candid discussions and finds fulfilment in using design to lend a voice to the unheard. His ultimate goal is to set up an education fund for disadvantaged children. Beyond design, he enjoys exploring lesser known parts of the world, usually by motorcycle.

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ED 2025

Patients and staff often experience high stress at the ED. Developed with inputs from healthcare staff on the ground, ED2025 incorporates pre-triaging, a smart trolley and dock system, and a fluid spatial design, enabling personalised healthcare while optimising circulation and staff workflow.

Designed with Yeo Ren Jie and Tan Wei Ming In collaboration with Tan Tock Seng Hospital and Philips Design

Adaptix

Most exercise equipment is inaccessible – designed only for the able-bodied. Developed with paraplegics and physiotherapists, Adaptix is a home-based exercise system empowering paraplegics to stay healthy, holistically. Shrinking to the size of a bedside table when kept, it easily fits in any home.

Under the supervision of Song Kee Hong

Glucofast

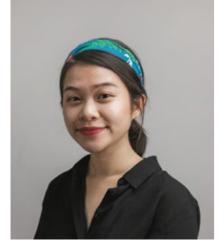
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Diabetics measure their glucose levels up to 10 times a day, with devices that are cumbersome to use. By altering and merging components of current systems into an all-in-one device, Glucofast makes glucose monitoring simpler and more discreet.

Designed with Philip Chen Finalist in the Taiwan International Student Design Competition



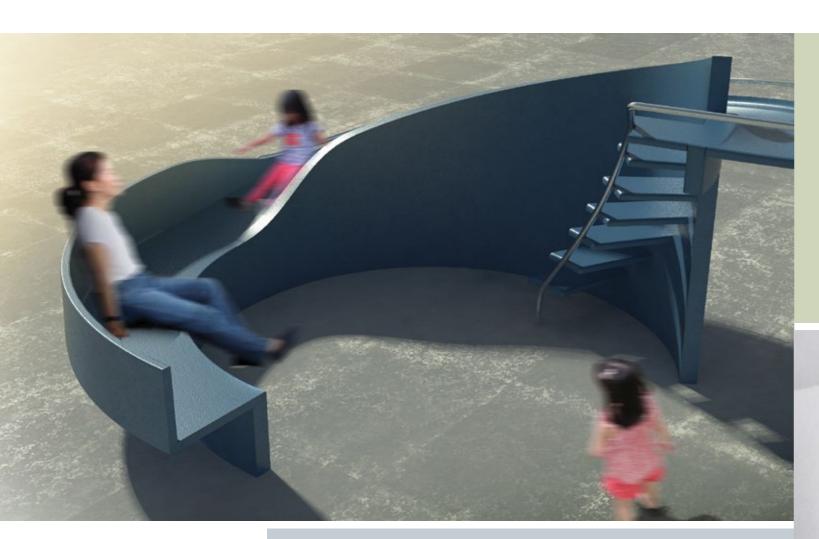
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### Mariel Chua

With the passion to delight the human spirit, Mariel's work deploys design as a means to reconnect relationships humans have with their environments. She believes in thoughtful actions, to serve the needs for the everyday person.

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#### Water Valley

Water Valley brings the notion of respect for plants through play. Focusing on nature and rain, the playscape inculcates the right relationship children should have with the green around them - that we do not hurt the plants but through the use of water serve and care for them.

Designed with Diyana Aqilah Salam and Lester Kum In collaboration with NTUC First Campus



#### Anidando

size usage.

Anidando features a modest design, made from Japanese white birch wood. It has carefully planned angles and proportions. Its distinct asymmetrical beams challenge the norms of a trestle, allowing for various nesting configurations and table

Designed with Tan Zhi Ru In collaboration with SuperMama

#### Calibrating social interactions: Slide-Bench

How do we promote the start of bonds between elders and children in a neighbourhood? By combining existing furniture, we direct the gaze of users and gently divert attention to each other. Where children playing can have eye contact or a smile to the elders sitting there. The slide-bench is one configuration that achieves this balance of an encounter.

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Under the supervision of Donn Koh





### Jocelyn Tan

"Change is the only constant." With an interest in problem-solving and her inquisitive nature, Jocelyn believes in designing for purpose. She constantly seeks out untapped opportunities in her everyday life to see where and how design could intervene to make the world a little better than it used to be.

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#### Itchy Itchy

Targeting kids with Eczema aged 3 to 6, Itchy Itchy reframes moisturising from a daunting chore to a fun activity.

With relatable visuals, the book teaches children the effects of tapping, rubbing, scratching, and applying moisturiser on their skin. The moisturiser is disguised as a portable toy, motivating them to bring around and apply when their skin itches.

Under the supervision of Dr. Yen Ching Chiuan



#### Mei kueh

Designed with a unique twist from the famous nine-layer cake or better known as kueh lapis, these nine layers are rearranged to form a rose-shaped kueh, Mei kueh. It is meant to be consumed during the tea ceremony during a Chinese wedding to signify promise, new beginnings, and beauty.

#### Ban Ban

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Ban Ban aims to help parents be aware of their child's emotional mental health. Through AI and machine learning, our bear collects information of the child's interaction and translates it to the app which analyses and recommends solutions to help improve the child's condition.

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Designed with Dalson Tan, Teo Jin Ming, and Wang Wu HackBJ Al Hackathon 2019, Rokid Challenge winner



大人们从来不会自己搞清楚事情,总是让孩 子们一遍又一遍的给他们解释,真是烦人。











### Teng Yan Wen

As a designer, Yan Wen appreciates the iterative process of design because she believes that each step paves way for a better change. From the past we learn, in the present we apply, for the future we create. She is determined to strive for the best outcome for her projects.

yanwenywt@gmail.com



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#### SUPR0

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SUPRO is a rehabilitative device that strengthens and improves the range of forearm movements of stroke patients. Paired with a digital game, it helps users visualise their hand motions and track recovery progress. Hence, creating a fun and engaging therapy session.

Designed with Lin Tsai Wei and Tan Yew Mei Nysha In collaboration with NUS KEIO-CUTE Center, Xentiq Partners and AWWA

#### Kanso

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Fascinated by the design of a traditional tea ceremony space by Toshiyuki Kita, this project, Kanso, introduces a contemporary twist by using bold lines and simple light structures. The modularity of the red frames also allows for different configurations to suit any exhibition space.

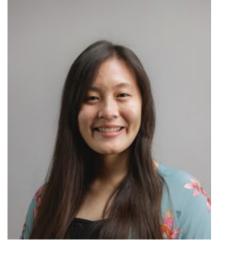
Designed with Miko Yeo In collaboration with Shiseido Group



Bre

Bre is a breathing guide aroma diffuser that creates a calm environment in which the scent naturally invites people to breathe with it. The release of ring mists on each count of a breathing exercise helps to pace and slow down one's breathing. It also facilitates users to focus on their breaths.

Under the supervision of Hans Tan



### Delia Lim

Delia believes in designing for people with people. Her design aims to aid people in their lives and create meaningful moments. She enjoys putting plans into actions and ideas into creations, adapting and striving for the best in the things she does.

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#### A saliva pH monitoring device













### Joy-to-Order (JTO)

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Joy-to-Order (JTO) is a financial planning app for young couples that also guides them along the Build-to-Order process. It helps them plan for their home purchase and keep track of their related financial goals, while encouraging celebration and joy.

Designed with Tan Hwee Peng and Stacy Manta In collaboration with Government Technology Agency

#### Phases



Phases aim to transform the way women monitor and are informed of the various reproductive health stages (Period, Pregnancy & Menopause) that they may or soon be going through, with the use of their saliva pH.

Under the supervision of Hans Tan

#### #PassOnPlastic



We are designing to support World Wildlife Fund's (WWF) work in safeguarding marine life. Our exhibition gives users a sensorial experience to alert them about the consequence of plastic consumption in their everyday lifestyles. We hope to influence users to be more conscious about using plastic.

Designed with Jacelyn Lau







## Ng Luo Wei

Luo Wei strongly believes that design should have meaning beyond functionality. She is passionate in designing tangible objects that help people see things in a different perspective, prompting them to behave in ways that result in a lifestyle befitting of each individual.



Dawn, the public persona has a controlled and gentle character, hinting at something nested within. Dusk, the private persona is unconventional, expressing a rebellious and provocative spirit. Both exist as vastly different identities, but complement each other beautifully.

In collaboration with International Flavours & Fragrances



#### CO

CO is an exploration of how travelling results in the evolution of cosmetics' properties and values. Parallel to how coconut water converts to coconut meat overtime without degradation. CO leverages on abrasions and impacts to reveal underlying colors, forming identities and experiences unique to you.



#### fond

fond is an organiser series designed utilising partial concealment as an approach to create a hierarchy that suits your lifestyle.

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Under the supervision of Song Kee Hong





### Sheryl Ang

Sheryl prefers to call herself an experience designer over an industrial designer. Rather than a purely product-oriented approach to design, she believes in creating meaningful experiences – designing products that stir emotions and tell a story. Her interest lies in using design to give shape to complex, intangible phenomena.

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#### Let's create your tableware.





# Magic of a drop

Each fragrance tells a story, embodying an intimate world of its own. By exploring the semiotic associations of a single drop, we designed a scent sampling experience to celebrate the distinct character and preciousness of individual scents.

Designed with Valerie Koh and Jonjoe Fong In collaboration with International Flavours & Fragrances



#### Wei!

Chinese Diet Therapy is a traditional practice that uniquely classifies food in terms of flavours and temperature. While it is often conveyed by word of mouth, Wei! is a generative design tool that introduces a new medium and context for communicating this intangible, knowledge-based tradition.

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Under the supervision of Christophe Gaubert

#### Vitamin B

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In likening the process of saving money to the process of planting a fruit, Vitamin B explores how the action of breaking can be re-imagined as something delightful. Here, 3D fabrication technology enabled experimentation with joint types that could break precisely or slide open upon impact.

Designed with Ng Zining and Chang Zixin In collaboration with Studio Juju



### Seah Li Ping

Li Ping believes that every great design begins with an even better story. She appreciates unexpected findings in every design journey. Learning that the most complicated skill is to be simple, her creations are simple yet with the finest details. To be simple but significant.

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#### Tua Jia Kar Kueh

A famous well, known as 'Tua Jia Kar' provides water to villagers at Upper Serangoon's Somapah Village. During a drought, a family decided to use the last pail of water to make kueh and a hole appeared magically in the middle of the kueh. This unexpected phenomenon was shared with the village; rainfall followed shortly. After the incident, Tua Jia Kar kueh was made every drought to bring rain.



#### For durian, by durian

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An ecological packaging for durian made of fiber and starch extracted from the rinds and seeds, as a sustainable alternative to styrofoam. As the durian generates 70% of waste in the form of rinds and seeds due to the lack of reusability, it is upcycled through industrial means and ironically used to contain the food it is made from.

Under the supervision of Hans Tan

#### Inspiring with Senses

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A winning event space concept with 3 different zones creating sensory experiences to evoke symphony, serenity and calm. A garden of interactive camellias, a reflection of the brand, is expressed through dynamism and energy.

Designed with Tan Wei Jing In collaboration with Shiseido Travel Retail Asia Pacific



## Tan Xin Qing

Xin Qing enjoys designing spaces around her, constantly imagining a new interior design whilst playing with SketchUp. Always critical of her designs, striving to be her best in whatever she does is something that never changes. Nature influences her style in design, creating a new point of view for her each time.

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#### お茶ードの波 (Orchard no Nami)

This interior design aims to bring Japanese culture to Singapore and allows Singaporeans to enjoy authentic Japanese matcha and sweets.

「Nami」 is a piece that brings the elements of the sea to the land combining the beauty of the waves.

Designed during SEP, Kyoto Institute of Technology

#### Then & There

Inspired by the notion of time, 'Then & There' depicts a timeline of past and present. 'There' portrays the realism of life while 'Then' recalls the positive moments and memories.

In collaboration with International

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Drawing the nostalgic moments in our lives keeps us looking forward, forging new memories. Designed with Roger Goh

Flavors & Fragrance



Kaze

Kaze and zephyr incorporate affinities, fragrance and sound through the use of color, material and patterns to create a sensory experience to elevate the experience of feeling wind. Creating a series of products to be placed at two different parts of a house allows customization and unique experiences.

Under the supervision of Dr. Christian Boucharenc



### Zhang Hanwen

Hanwen has a strong spirit of investigation and curiosity. She uses design as a means to facilitate meaningful and enjoyable interactions between humans, objects and spaces.

hanwendesigns@gmail.com





#### New experience through window screens

A series of window screens are created to reconnect us with our windows. With simple and original hanging systems, they can be easily installed by users while fitting every window, both closed and open. The spectrum offers different levels of privacy, fulfilling our needs in various modern contexts

Under the supervision of Hans Tan

#### Mischief

Mischief is the winning concept of a collaborative retail design project with Guerlain. A myriad of colours celebrates Guerlain's 190th anniversary since its inception, creating a brand image that is still young at heart. Key elements are delicately framed architecturally to create visual emphasis.

Designed with Cheng Jun Hoe In collaboration with Guerlain (Asia Pacific)

#### Journey

Journey is an all-in-one platform that simplifies postdeath settlement - a lengthy process that involves various stakeholders and service providers. It consists of an information booklet that provides an immediate overview of tasks and an online platform with customisable step-bystep guidance.

Designed with Carina Lim & Mireille Lee In collaboration with Govtech SDN Service Design Award 2019 Finalist



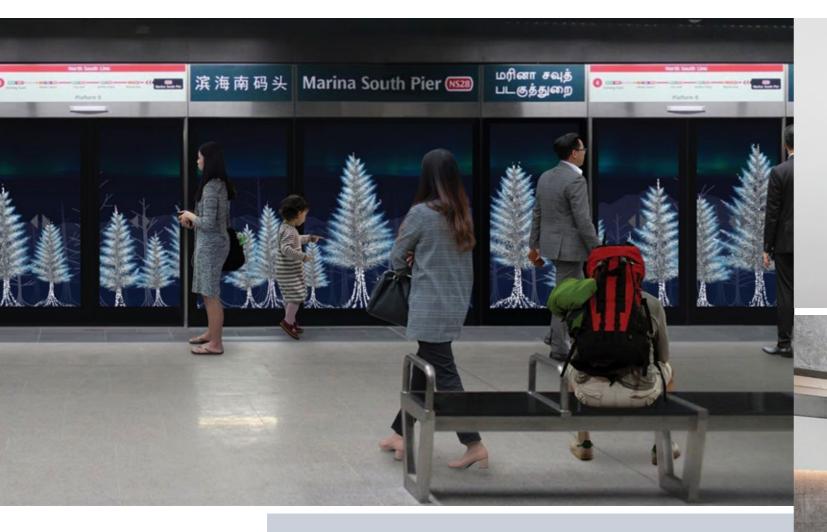




### Zeng Jieying

Jieying desires to be a gardener of the world. She roots herself in delightful encounters with people she works with and end-users. Her sensitivity towards the relationship between objects, people, and their environment empowers her to sow seeds of joy and cultivate meaningful immersive experiences.

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A simple and unassuming set of headphone to make sound more wearable for the contemporary individual. Its magnetic rim grants the liberty to be donned on a myriad of fabric. Its twisted rim and tapered body accommodates the pleats and thickness of the fabric, keeping the module in harmony with the fabric.

Designed with Grace Gandi Goesantoso



#### AUŔE

Sparked by the combinatorial play of confluent archetypes: windows, partitions, shelves and tables, AUÆE is a multicontextual furnitecture that can be quickly deployed, transformed with extensions, and placed together in different permutations to afford the proliferation of contexture propensities.

Designed with Jia'en Ngieng

#### Alive with nature

Won't knowing exact waiting times help commuters? This concept challenges the notion that more information is better. It metaphorises information into performative art that targets feelings of anxiety. In our hectic lives, we can momentarily slow down through mindfulness while anticipating the train.

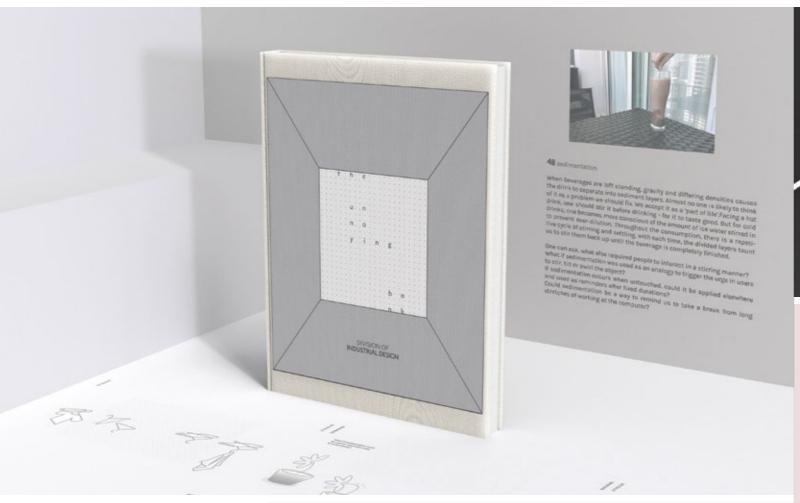
Under the supervision of R Brian Stone



### Ang Kay Li

Kay Li is unafraid to pursue seemingly nonsensical trains of thought to bring about new perspectives to the mundane.

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#### Unnoyances

Often overlooked, unnoyances are un-annoying and unnoticed annoyances. They trigger subconscious or conditioned reflexes in us without our rejection.

This book is a manifestation that serves as a point of reference to discern them, as well as a tool to empower and stimulate lateral design thinking.

Under the supervision of Donn Koh



#### MOVE

Privacy disguised as comfort; A glimpse into a future where ride sharing vehicles offer greater personal privacy in a courteous manner. Asymmetrical headrests and sinking seats draw up soft boundaries, separating riders without isolating them.

Designed with Gabriel Lim, Jon Chan Hao and Lum Jun Jie In collaboration with Groupe PSA

#### Strength and beauty

Reminiscent of an art gallery, the booth plays on the duality of boldness and serenity. A striking red parallelogram draws visitors into the booth where overhead criss-crossing brand pylons cascade; gently inviting visitors to more private meeting corners.

Under the supervision of Dominic Poon (Shiseido Travel Retail: Store Design Assistant Manager); Showcased at TFWA2018: Marina Bay Sands Expo and Convention Centre, (May 7–10, 2018); Original concept by Josh Ho and Roger Goh. In collaboration with Shiseido Travel Retail Asia-Pacific

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### Stacey Yip

Stacey is interested in creating tangible objects that enhances the human connection. With a habit for always thinking and observing, she enjoys asking questions and seeing where it brings her. A detail-oriented team player, Stacey often tries to incorporate little moments of joy in her designs.

stacey.yip@gmail.com | staceyip.com



#### COLOR

COLOR is a workshop that unlocks the eyes to another culture's concept of color through play. It introduces us to the Candoshi by challenging our understanding of color. Through activities rooted in divergent play, COLOR guides children to imagine how color can transform in different environments.

Under the supervision of Song Kee Hong

### Reimagined doorbells

A set of curious objects that inverts the identity of a doorbell. Tapping on familiar artefacts in strange contexts, a doorbell invites interaction at the door. From being alerted with a whiff of perfume, to having a ball knock back at you, we imagine the possibilities of surprises in a doorbell.

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Designed with Deborah Loh and Clement Defenin In collaboration with Studio Juju

#### Nestled

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With the playful graphics, Nestled offers a sneak peek into its contents, inviting users to pick it up. It opens up to a new world, an adventurous endeavour full of making memories with loved ones. Unfolding each layer brings joy and anticipation, creating a memorable start to the picnic experience.

Designed with Jeraldine Boh







## Stephen Ow

Stephen is interested in doing design for social change. He strives to approach complex human issues by holistically understanding the ecosystem before approaching it from a different angle. He believes that design should understand users - nothing delights him more than seeing his designs make an impact on people's lives.

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#### Tipot

Tipot is designed for people with arthritis who struggle with pouring water. It addresses this issue with a simple but effective modification with a tip of the Tipot. By transferring the load of the kettle to the tabletop, it requires the user to just tilt, drastically reducing strain on the wrist.

Platinum Award by Singapore Design Awards 2019 German Design Council Special Award by Taiwan International Student Design Competition 2019

Note

Note was made using books as an inspiration to find new possibilities of a speaker for the blind. A mixtage for the blind with simple book gestures, simply open the book to start a song. Flip a page for a new genre, or flip back to play another song. Volume is adjusted based on how wide the book opens.

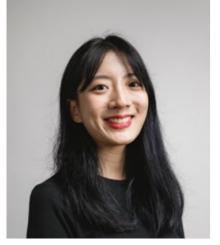
Designed with Tan Kah Kiat



Deathbox

The Deathbox Service is an after-death box service to palliative care patients to extend their presence up to 4 years. This service enables willing patients to leave behind five "last words" or precious "objects" to their loved ones. Once you pass on, what might you leave behind to your loved ones?

Under the supervision of Donn Koh

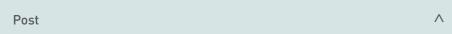


## Yasmine Cheng

Yasmine believes design is finding the right balance between form and function. Known to be an optimistic sloth, she always embraces unconventional ideas and turns them into pleasurable outcomes. Slowly but surely.

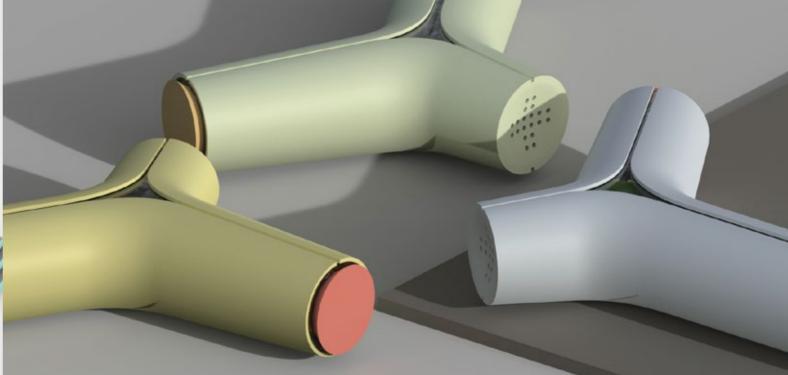
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Post is a system that includes a physical mailbox device and a mobile app. Aiming to help grandparents stay updated about their grandchild's life, Post allows the grandchild to send social media posts as physical photos via a cloud system. Printed with ZINK technology, grandparents can keep the photos in their photo album.

Under the supervision of Patrick Chia



#### Blossé & Zelee

Two perfume bottles designed based on scent characteristics and interactions. The facets of Zelee represent energy, the roundness of Blossé emulates delicateness, and the two fit perfectly when stacked together, creating a harmonious unit.

Designed with Ian Tan
In collaboration with International
Flavours & Fragrances



#### Vapour

A portable humidifier that aims to relieve discomfort caused by dry air in aircraft. The transparent compartment allows users to check the water level easily, while the light indicator is designed to give a semantic association.

Singapore Design Award 2019 - Silver Award Taiwan International Student Design Competition - Finalist



## Clifford Chew

Drawing inspiration from anywhere, Clifford enjoys the good, the bad and the ugly designs that he comes across. He believes that lessons can be found in the most unlikely places.

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#### **Uo Collection**

An exploration into morbid curiosity, the Uo collection represents our human urge to peek into the unknown-it is innate and undeniable. Through a process of distilling the morbid, the result is something pure and elemental.

#### Complete health organiser (CHO)

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Taking care of an elderly parent comes with many worries for the caregiver. CHO helps caregivers by organising check ups, reminders and doctor contacts into one application, so they can worry less and care more.

Designed with Guo Hong and John Teo

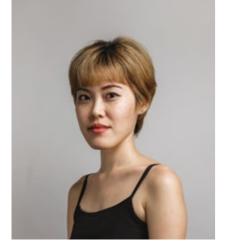
#### Nest

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Nest helps you reduce idle phone use by distancing you and your phone, creating a space for self reflection.

Under the supervision of Patrick Chia





## Claire Chou

Claire delights in being an experience provider.

With an innate curiosity about people's reactions to events and objects, and an interest in spirituality, she is dedicated to curating forces that impact people's psyche positively.

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Fruit for thought

Inspired by sandtray therapy, Fruit for thought lets families express mutual appreciation through both words and action.

The tea-time activity in a box encourages family members to build portraits of each other into fruit tarts, picking and deciding what each fruit represents. This allows families to express love in a comfortable and light-hearted way.

Under the supervision of Donn Koh



#### Ringscape

A ring symbolizes connection and commitment.

By varying the orientation of rings, any place with trees can become a playscape. The abstract rings not only open up imaginations, but also connect children back to nature as they play with trees from different perspectives with renewed intimacy.

Designed with Teng I-Ling, Aya Ayoubi and Kianne Lim

#### Secret

Secret is a double-sided blanket with pockets of different textures, shapes and colours. It offers children endless ways to explore and imagine, conceal and reveal objects, encouraging the heart of an adventurer through the familiar form of a blanket.

In collaboration with IBIS Hotel



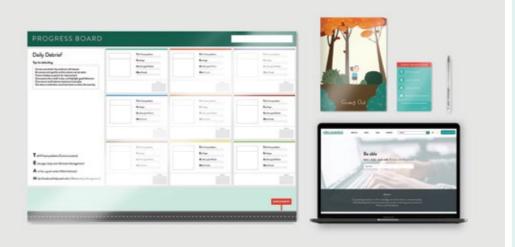


## Tan Zijie

The strings of a good design are woven together, almost perfectly, with a thread of the times. Zijie thus believes that staying relevant is pivotal to weaving the tapestry of design, an orchestra of diligence and expression. She understands that she is a work in progress - that learning is lifelong and design lasts a lifetime.

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#### Hirelearning

Hirelearning is a toolkit that aims to improve job hiring and sustainability for students with Mild Intellectual Disabilities. The kit primes students with work-related social skills and provides learning, personalized tips and tools for employers.

Designed with Kenneth Yip & Jervenne Teo In Collaboration with Ministry of Manpower (MOM)

#### Geste

A collection of simple elements that naturally guides users to indulge in a fragrance at the various stages of an olfactory experience. A paper fan enables the first smell, while a microfabric brush offers to try and to take away the scent.

Designed with Ho Pui Yng and Petrina Leow In collaboration with International Flavors & Fragrances

#### Imagine with Tom

Imagine with Tom is an interactive digital book that positively distracts children to engage in real-life play with minimal supervision. Minute-short stories teach and trigger children's system 1 thinking. As a result, conditioning children to exercise creativity by continuously drawing and making animals.

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Under the supervision of Song Kee Hong

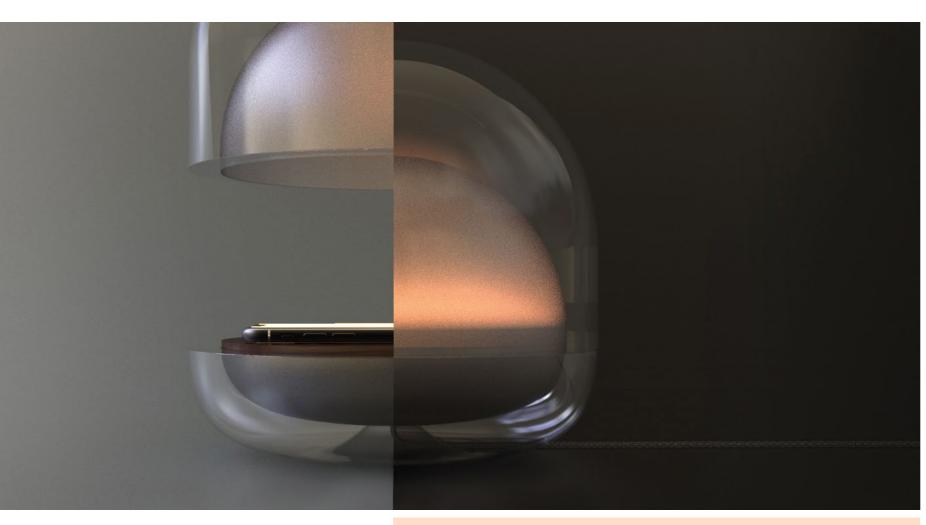




## Ryan Chin

Ryan believes that every piece of design paints a picture of a fraction of the designer's life, manifesting itself through a tangible expression. A jack of all trades, he thrives with a passion for exploring the narratives and rhythm between people and objects.

ryanchinqf2@gmail.com | be.net/DesignbyRyanC





#### Songbird

your solo headsets.

Thoughtfully designed, meticulously handcrafted and inexpensive to reproduce, Songbird headphone stands are a series of lightweight and portable desktop companions to

Designed in Georgia Institute of Technology In collaboration with Orange Sparkle Ball Atlanta



#### Qi

By seeing the smartphone as an extension of the body, and a reflection of their minds; principles which exist in traditional Chinese practices, Qi gives a permanent space to rest their phones, creating opportunities for users to focus on themselves.

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Under the supervision of Christophe Gaubert

#### Delicate Power

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The most powerful entity of the human mind, a fragile shell, and yet oftentimes overlooked, are memories. This series personifies this metaphor and heightens its interpretation through the extension of each product's perceivable power and suspending them within a delicate containment.



## Niveditha VJK

Niveditha is an empathetic designer who strongly believes that solutions can be found for the most intricate problems through a well executed design process. Her openness to the ideas and feedback of users, her peers and teachers has allowed her to legitimise her innovative ideas.

niveditha.jai@gmail.com





#### Naga kueh

Using flour as a design material and steaming as the only process to cook it, after a rigorous period of exploration the Naga kueh was derived and a narrative was spun around the process, taste and aesthetic of the Kueh. Naga kueh is made by the fishermen in Thailand to thank the protector of the sea, the Naga snake and the Kueh is made by steaming the flour with an aluminum net.

#### Ability portal

Ability portal was meticulously designed to make the job matching process for People with disabilities (Pwds) more seamless. It also equips both the employers and employees with the necessary knowledge.

Designed with Lai Hoibing and Chan Shi Ming In collaboration with Ministry of Manpower

#### Pair it, wear it, repair it or share it!

'Pair it, wear it, repair it or share it' is a sustainable fashion kit for children which aims to raise awareness and expose children to sustainable fashion practices through a series of 12 interactive activities. The kit is crafted in a way where Terry, the polar bear guides children through the experience and acts as a companion.

Under the supervision of R Brian Stone





## Teh Xin Lei

Growing up with the dream of becoming a toy designer, Xin Lei is fond of playful and interactive design. Her idealism, coupled with know-how, helps her to spring into action when she wants to craft something.

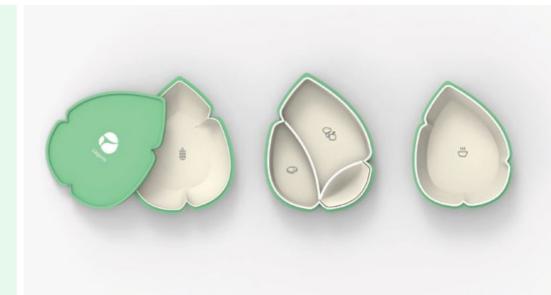
tehxinlei@outlook.com | be.net/tehxinlei



#### Lagom

Lagom is a lunchbox to promote healthy eating. It is inspired by the star fruit which is to be consumed moderately and is often recognised by its starshaped slices. Lagom has three tiered compartments of a leaf shape, with different dimensions to hold recommended proportions of food groups. It provides sensorial delight from unpacking to dining.

>



## Em dev

Emoco is a social and emotional development toy for children aged 5 to 12 years old. It teaches emotional expression based on theory of the 6 universal emotions. Each emotion is mapped onto a distinct colour detectable by a sensor. Children may activate movements, sounds and an animated display. As playsets are connectable, they can learn empathy.

Emoco

#### Ocean friends! Fight against pollution

Ocean friends! Fight against pollution is a classroom hybrid board game to educate primary school children on ocean pollution. Players play as ocean animals who have to stay alive and work together to save the heavily polluted ocean. The game demonstrates causality and a need for collective effort.

Under the supervision of R Brian Stone

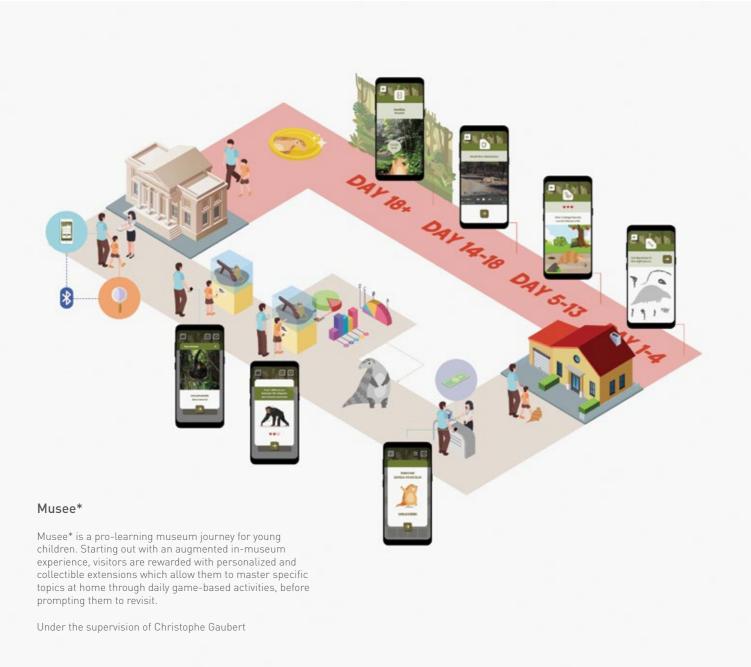




## Nguyen Thi Hoang Anh

Hoang Anh is an eager learner who does not shy away from new exposures and is always ready to adopt new skills. To her, being a good designer requires constant learning, as diverse skill sets will allow the designer to be flexible, adaptive and fully prepared for the constant changes that the world is going through on a daily basis.

a.nguyen1506@gmail.com | anguyen1506.wixsite.com/myportfolio





#### Lexigon

Inspired by the tessellation on pineapple skin, Lexigon is a modular lighting system, each unit of which is a flexagon with implanted LED lights. There are innumerable possible combinations to form larger lighting systems of different shapes and sizes, serving a wide variety of functions.

#### Unfold the untold story of scents

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Each fragrance is encased in a unique form, allowing direct smelling and test-stamping on tester bracelet. As a drawing is then revealed with the humidity, the universe of the fragrance can expand through AR to unfold its untold stories.

Designed with Ngieng Jia'en & Winnie Lim In collaboration with International Flavors & Fragrances

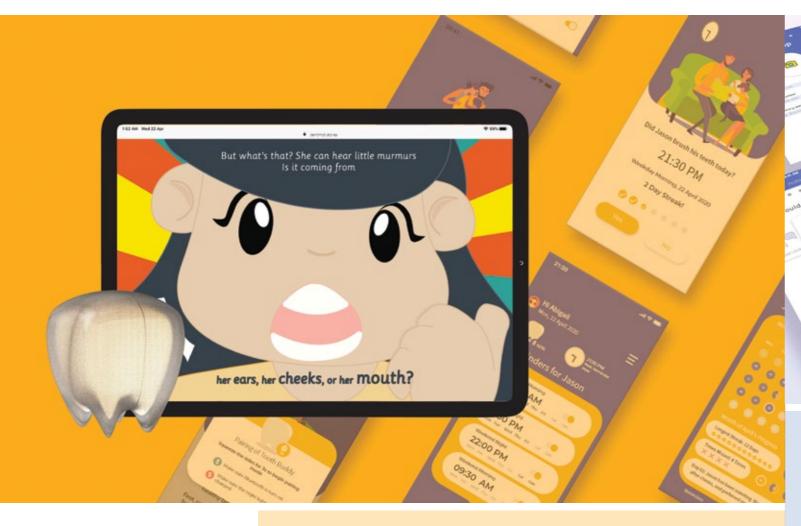




## Jaylin Yeo

With keen interest in human behaviour, Jaylin takes on service design projects every semester. When she is not in school, she's probably in a cafe conducting deep user interviews. She wants to master mind reading. She might not be there yet, but she gets closer everyday.

jaylinyeo@gmail.com | jaylinyeo.wixsite.com/website





#### MOTIVA

MOTIVA empowers people with disabilities for gaining employment with a multi-phase approach. Firstly, it identifies residual capabilities and goals. Secondly, a gamified 'quest' of daily tasks prepares them for a lasting career. Finally, data shared with prospective employers improves hiring rates.

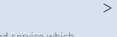
Designed with Chan Wing Kei & Lim Cai Jin In collaboration with Ministry of Manpower and BizLink Centre Singapore

#### TOD

Λ

Transport on Demand (TOD) is a proposed service which primarily assists vessel crews in navigating the highly automated Tuas Mega Port. Its main structure of profiling users helps to direct information efficiently, such as booking of PSA vehicles for staffs, and navigation for contractors and new recruits.

Designed with Ashley Tan and Christine Yap In collaboration with PSA Group





DentiMoti is a dental motivation system for daddies and mummies to increase a child's excitement to brush. Leveraging on storytelling to transport children into the realm of

fun, it includes a companion that tells children the brushing time and an application for parents to facilitate the experience.

DentiMoti

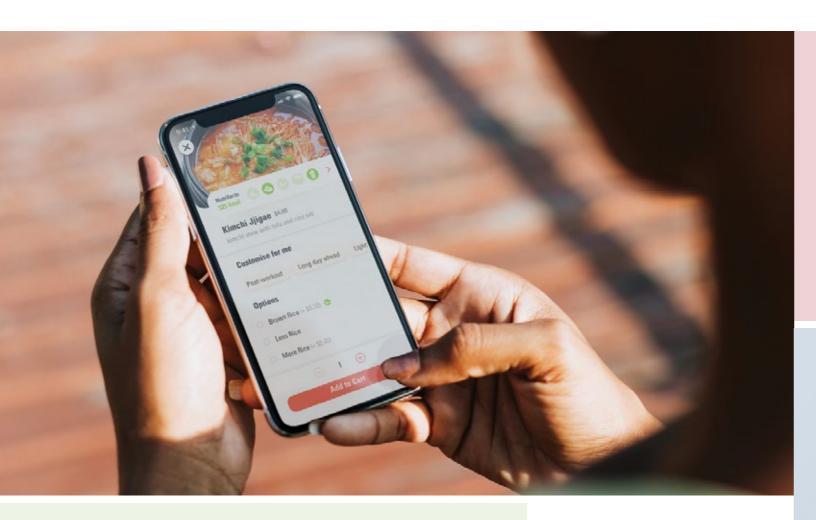
Under the supervision of Dr. Christian Boucharenc



## Ysanne Yeo

With a big heart for others, Ysanne has an aptitude for designing desirable user experiences. Being sharp and meticulous, she effectively translates domain expertise into meaningful and enjoyable interactions for various communities. She is a keen learner and human advocate, especially in public health, food and technology

ysanneyeoldgmail.com | ysanne.co



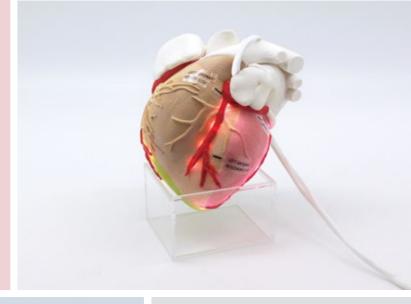
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#### Electro

Electro is an interactive setup that facilitates effective learning of the electrocardiogram (ECG) through bridging 2D to 3D information. It provides visual cues that connect the anatomy of the human heart with its corresponding ECG graphs, to strengthen students' structural understanding of the heart.

Designed with Han Yuen Wei and Teresa Khoo Hui Ting In collaboration with Keio-NUS CUTE Center and Yong Loo Lin School of Medicine

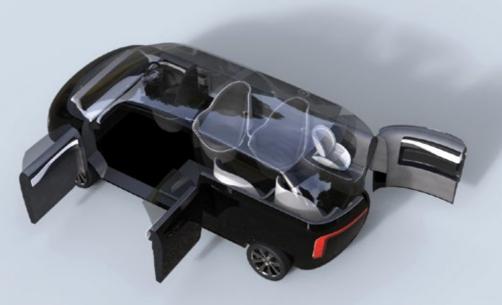
The James Dyson Award National Runner Up 2019



#### Nutrismart

Supported by NUS Healthy Campus Initiative, the Nutrismart Dining App encourages students to make healthier food choices through increasing self-efficacy. It uses a dynamic nutrition indicator (Nutrifacts) and other clever nudges to provide personalised nutrition literacy so users make better-informed decisions for themselves.

Supported by NUS Healthy Campus Initiative Under the supervision of Patrick Chia



#### Ballade

Ballade is a ridesharing vehicle with a versatile seat configuration that creates a spectrum of spatial affordances to cater for privacy among strangers, a social space with friends, child safety, as well as wheelchair accessibility.

Designed with Philip Chen Qiyuan and Poh Yun Ru
In collaboration with Groupe PSA



## Yang Yang

In Yangyang's eyes, good design comes from experience and inspiration. She believes in minimalism, as the simplicity of a design does not diminish its value, instead it holds more meaning when the general audience is able to conceive the design with ease.

yang961128@gmail.com



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#### Xian Cha

Designed for the Chinese Tea lover on the move, Xian Cha is a self-heating portable tea brewer with a rechargeable heating element and detachable origami tea bag. Its compact size is convenient to carry around, which allows the user to enjoy the freshly made Chinese tea anywhere anytime.

Designed with Lin Qiuxia Red Dot Awards -Design Concept 2019



## 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



#### The Conversation

The Conversation is a toolkit with four stages that provides step-by-step guidance for parents to achieve genuine conversation with their adolescent pair. The aim for the toolkit is to identify and solve the problem between parent and adolescent through enhancing effective communication.

Under the supervision of Patrick Chia



## Ng Ai Ling

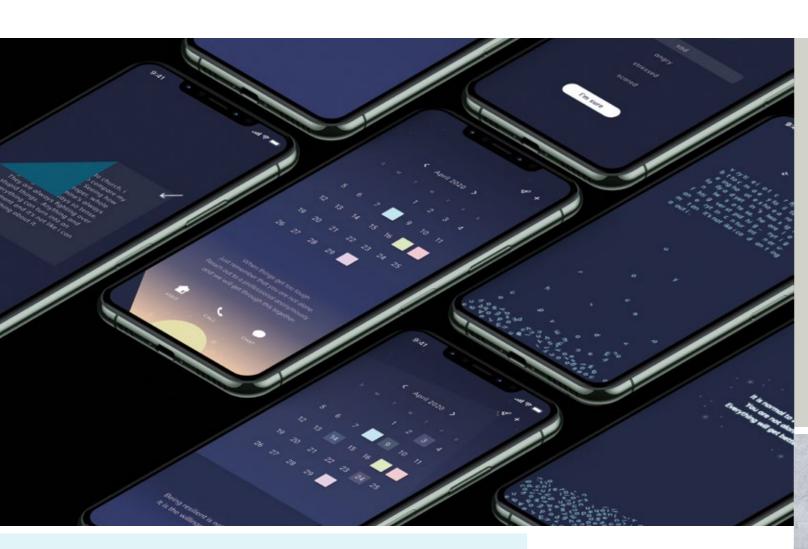
Like a conductor that orchestrates the improbable connections to form a symphony of possibilities filled with awe and wonder, Ai Ling's opportunistic personality motivates her to dive into the unknown in search for the magic that lies between the world of rationality and intuition. Design is her passion and improving people's life is her purpose.

ailingng.me@gmail.com | ailingng.me

#### Dyslexperience

With the enhancement of projection mapping on a book's physical surface, the Dyslexperience is an empathy book designed to communicate the emotional ordeal dyslexics face everyday, making the individual diagnosis visible.

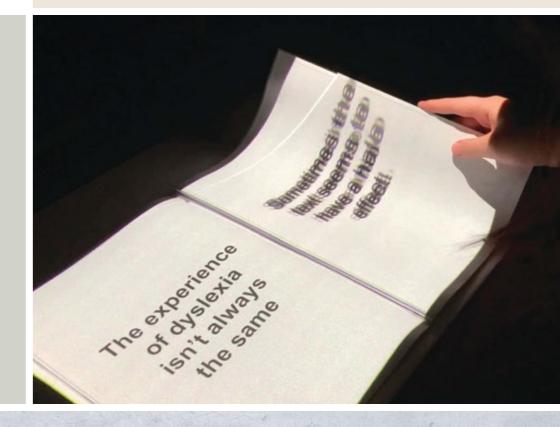
Designed with Yong Zi Fong. In collaboration with Dyslexia Association Singapore. Won Grand Prix Award Taiwan International Student Design Competition 2019 & Best Demo Award International Conference on Multimodal Interaction 2019



#### Kin

KIN is the world's first wallet that sorts your cash in a cinch; an elegant solution for fumbling with change by simply dropping them from the top, and let KIN do the separating for you. The patent-pending mechanism started off with a month long campaign on Kickstarter which raised \$280,000 in 2017.

Designed with Lim Li Xue & Cheryl Ho
Red Dot: Best of the Best 2017
(Fashion Category for Design Concept), Shortlisted for President Design Award 2018



#### Ava - A gentle nudge to the road of recovery

Children undergoing prolonged parent's marital conflict often suppress their emotions, leading to deep seated trauma when unaddressed. Ava is a journaling tool that uses interactive gestures and visual feedbacks to encourage expression of emotions in time of need while nudging them to seek help.

Under the supervision of Patrick Chia

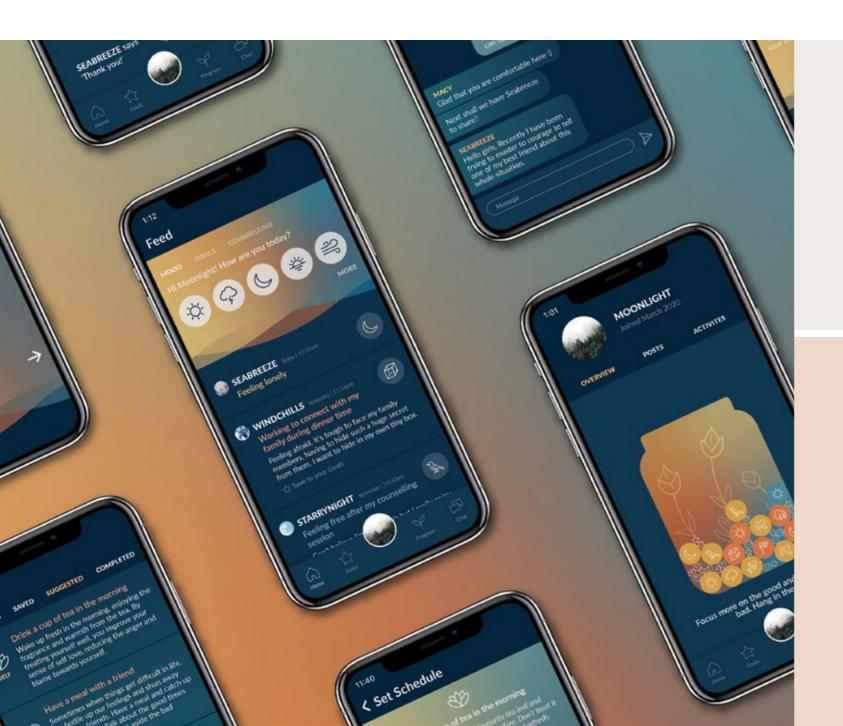




## Jennifer Lim

Jennifer believes design creates new possibilities in the way of living. She enjoys learning about behaviours and everyday interactions of humans and nature, often with her lemongrass tea.

limjennifer97@gmail.com



#### Crêpe

Crêpe is made up of 16 layers of triangles, functioning as a trestle and coffee table. Skewed in both directions, it appears to be defying gravity, making it appealing while providing stability at the same time.

Designed with Anna Kwek In collaboration with Supermama

#### Journey

Journey is an online community that connects women who are struggling after their abortion anonymously. With the support of others who are able to empathise with what they are experiencing, they have the courage to walk their healing journey in a safe and encouraging space.

In collaboration with Buttons Project SG Under the supervision of R Brian Stone

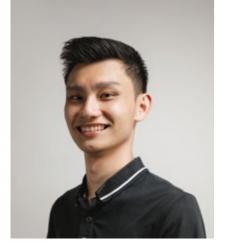




Evie

Evie is a workplace companion that reduces risk of repetitive strain injury by tracking work intensity and suggesting breaks accordingly. By connecting with colleagues in the office, it serves as a motivation for workaholics to take breaks, improving work productivity.

Designed with Emily Tam and Gui Xixian



### Matthew Soon

Matthew finds joy in connecting the dots everywhere he goes and seeing the world around him with an ever-changing lens. His goal is to get involved in the business of serving the underserved and improving the lives of people in rural parts of the world.

matthewsoon.design@gmail.com | matthewsoondesign.com



#### Design for Open Parent-Child Conversations on Pornography

The normalization of pornography as sex education for adolescents proves problematic in Singapore today. This thesis employs the creative potential of lightweight roleplay tools to train parents in creating positive, open conversations with their children on pornography and sexuality.

In collaboration with TOUCH Community Services Under the supervision of Patrick Chia

#### **Nest Chair**

The Nest Chair is a personal alcove providing a space of refuge. Designed for waiting spaces within Specialist Outpatient Clinics, its modular set-up and flexible configuration affords face-to-face seating, and encouraging invigoration through conversation between caregivers and patients.

In collaboration with SAA Architects and Woodlands Health Campus



# SEL-UP SEL-UP

#### Sushi Banzai

Jump right into this quick, high-octane, reaction-based sushi stealing experience!
Sushi Banzai is an original table-top game that features ridiculously simple gameplay suitable for everyone: fun for children, elderly, and the whole family!

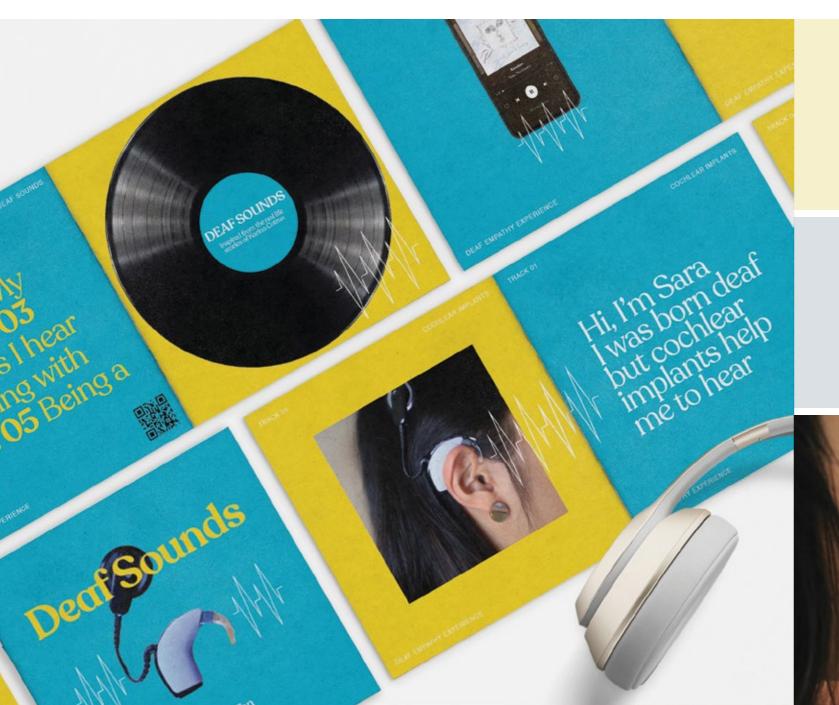
In collaboration with Orange Sparkle Ball Atlanta 1st place award for "Make Ten" competition at Launchpad, Spring 2019



## Valerie Tan

Valerie is an explorer and an empath. She lives for unexpected connections with people and they serve as a point of inspiration in creating memorable product experiences.

valerietanshimin@gmail.com | be.net/valtan



#### Deaf Sounds

Deaf Sounds is an educational kit designed to help hearing individuals develop empathy for cochlear implant users. The audiobook experience features a voice that shares about the social and learning challenges faced growing up, as well as the sounds that they hear.

Under the supervision of Song Kee Hong

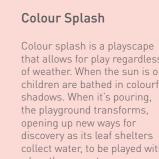
#### HUE

HUE is a mirror bottle that plays on our relationship with water. The mirrored walls inside the bottle creates a kaleidoscopic blend of colours, inviting the user to take a peek within. While doing so, it could nudge users, especially children, to stay hydrated.



that allows for play regardless of weather. When the sun is out, children are bathed in colourful shadows. When it's pouring, the playground transforms, opening up new ways for discovery as its leaf shelters collect water, to be played with when the sun returns.

Designed with Jiang Wanni & Yap Zining





## Tracy Shen

Tracy loves delving into imaginary worlds through films, stories and music. Rather than simply fantasizing, she wants to realize imaginations into meaningful objects, interactions and experiences for people.

tracysfy@gmail.com





A 2-player cooperative game for the blind and the sighted to play together. With a unique twist in gameplay that celebrates the respective strengths of the players, the blind has to listen in to light up the interface at the right moment for the sighted to avoid the obstacles in this team interplay.

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Under the supervision of Donn Koh



#### TRAX

TRAX is a fast boiling camping kettle that allows campers to boil water and cook simultaneously. The kettle is an all-in-one system including a pan, kettle and fuel chamber, and could fit multiple configurations with other cookware, making the camping cooking experience compact and easy.

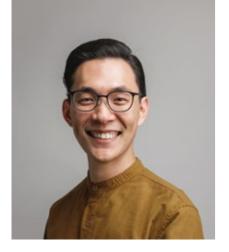
Designed with Gui Xixian

#### Crossover

An interactive experience made with TouchDesigner for Swatch, customers could try on the watches and place their hand into the immersive space, crossing over into a virtual animated world relating to the watch design, blurring the boundaries of different realities and elevating the brand experience.

Designed with Lin Qiuxia





## Roger Goh

Fascinated by the harmonious blend between design and other disciplines, Roger constantly finds himself exploring and learning new things. The skillsets that he picked up in different disciplines have allowed him to take on a multidisciplinary approach to create.

rogergzw@gmail.com | be.net/rgzw



#### Surprise Mee

By presenting each instant noodle flavours in its bare form through the silhouettes of the main ingredient, it magnifies the irony of the absence of real ingredients in its flavour. Surprise Mee purposefully reinterprets the experience of instant from seeing, cooking to eating.

Designed with Denise Yeo In Collaboration with Studio Juju



#### Highlight

Highlight is an assistive interface fitted over smartphone apps that is designed to help seniors. It provides them with real-time digital assistance on unfamiliar digital content from language support to iconography, making help accessible right at their fingertips.

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Under the supervision of Dr. Yen Ching Chiuan



#### Union: Dual-Purpose Repellent

To reduce the need for repeated purchase of repellent, Union features an electronic diffuser and a refillable aerosol spray in a single portable unit. Switching between the personal and zone application of repellent would only require a simple 180° rotation to its opposite end.

Designed with Tan Kah Wee

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## Lew Jin Jie

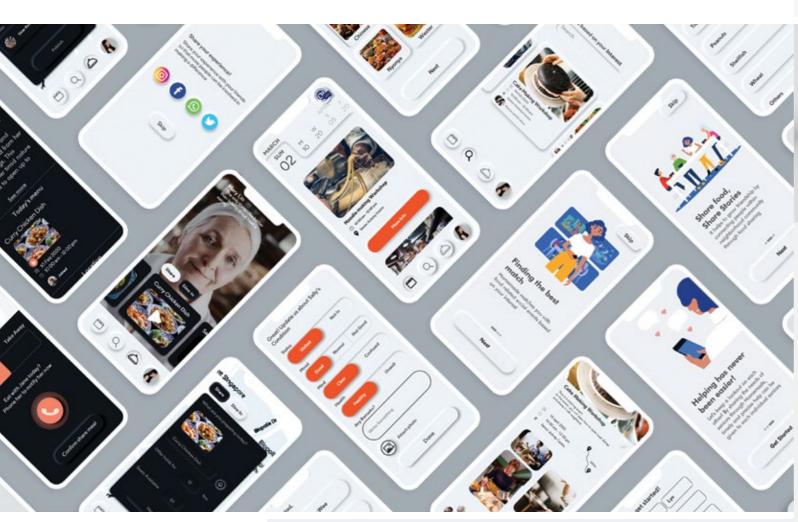
Jin Jie believes that designers are observers, listeners and storytellers. To her, every design project is a journey of exploration and transforming what she experienced and learned into stories of different forms.

gracejjlew@gmail.com | be.net/gracejjlew

#### Extra + Ordinary

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Extra + Ordinary is about challenging the conventional way of seeing and interacting with things. By giving unexpected twists to the ordinary desk space products, it provides more meaning to objects, leaving space for imagination.







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Bloom encapsulates the moment of your first encounter with a fragrance, sealing the moment as you close it, and relive the memories of the fragrance anytime in the comforts of your own home.

Designed with Sen Fong Ling & Sascha Brouwer In collaboration with International Flavors & Fragrances







Homemade aims to help senior social isolation by creating more opportunities for neighborhood communities to interact with seniors through food sharing activities. It also provides a convenient and easy way for people to update senior service association of senior's wellbeing through the application.

Under the supervision of Dr. Yen Ching Chiuan





## Shawn Ng

Shawn believes that design is asking the right questions for \_\_\_\_\_\_.

creatuves@gmail.com | be.net/ShawnNDX



#### Verge

Verge is a wireless dock designed to facilitate a graband-go charging experience. It consists of a magnetic portable powerbank that attaches itself to a phone and an angled charging base that tilts to activate charging only when the phone is placed; automatically cutting off electricity when the phone is removed.

Designed with Jervenne Teo



#### Caregiving101

Caregiving 101 is a system leveraging on existing caregiving support services to facilitate the safe sharing of relatable stories between caregivers. Based on Solomon's Paradox - to project oneself as another, the system aims to provide caregiver with actionable steps to resolve their struggles while spreading awareness of support channels.

Under the supervision of Christophe Gaubert

#### Wv

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Wv is a lamp birthed from the weaving of traditional rattan crafts and modern optical fibre. It serves as an exploration to preserve the dying spirit of local crafts by marrying them with modern hi-tech materials - weaving them into a single entity.

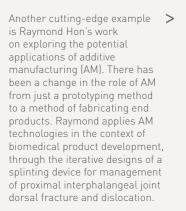


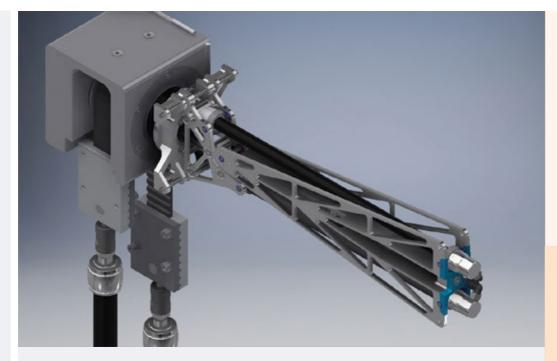
# POST GRADUATES RESEARCH

The M.A. (ID) and Ph.D (ID) are full-time graduate programmes by research that serve to advance the study of industrial design. Postgraduate research at NUS DID embraces various modes of design research, such as research through design that employs the design process and artefacts for intellectual inquiry and research into design that studies design as a phenomenon. The research areas deal with emerging topics in various fields including interaction design, medical design, service design, design management and robotic design. By nature, their work is multi-disciplinary.

#### **Exploration into New** Technologies

Design research can bring advancement of emerging technologies by improving them from an industrial design perspective and crafting them into viable applications. Recently, Aleksandar Kostadinov had a successful PhD defense of his work on investigating robotic arms driven by soft actuators and their configuration from an industrial design perspective, moving forward from the conventional engineering and academic approaches. Through design-specific methods of inquiry and ideation, Aleksandar presents a novel manipulator whose performance surpasses that of previous developments.





Aleksandar Kostadinov's design experiments to develop a robust pneumatic artificial muscle (PAM) driven manipulator for robotic arms (Supervisor: Prof. Axel Thallemer. In collaboration with Festo AG & Co. KG, Germany)

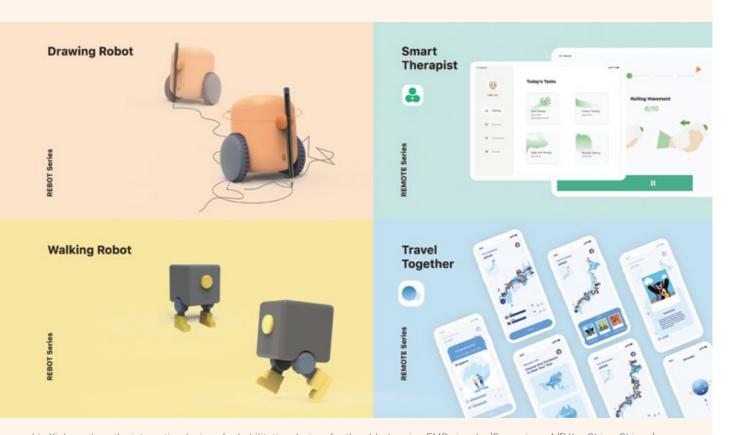




Raymond Hon's work on the application of AM in management of proximal interphalangeal joint dorsal fracture & dislocation. The two images show how the condition is improved after applying AM (the image on the right). (Supervisor: A/P Yen Ching-Chiuan, Co-supervisor: A/P Hans Tan. In collaboration with National University Hospital)

#### Generating Knowledge through Making

The notion of research-through-design has framed the possibility of design research being done through making objects, interventions, processes, and such like in order to gain knowledge by using designerly practices. Our graduate students working in Human-Computer Interaction Design often take this approach, by creating a series of interactive prototypes, testing them and developing conceptual frameworks and theories. One of the latest examples is Liu Xin's project. She is designing a series of interactive rehabilitation devices by combining wearables capturing EMG signals and robots tangibilizing rehabilitation performances. Through iterative designs and testing, her work explores roles of EMG signals and tangible interaction design in improving upper limbs rehabilitation.



Liu Xin's work on the interactive design of rehabilitation devices for the elderly using EMG signals. (Supervisor: A/P Yen Ching-Chiuan)



Yvonne Yeo's work on the development of Design Capability Mapping Tool for Singapore government organisations. (Supervisor: Dr. Jung-Joo Lee, Co-supervisor: A/P Yen Ching-Chiuan)

#### Making Sense of Emerging Design Practices

With the evolvement of industrial design, from products, to spaces and environments, to services, processes and systems, we face new design audiences and challenges, such as government organisations and how to design for human-centered public services and policies. Design research studies such emerging design practices, identifies challenges and opportunities and develops conceptual frameworks, methodologies and practical implications. In Singapore, the government increasingly adopts design as a tool for organisational transformation and public services innovation. Along with the practices, there has been an equally increasing research interest in exploring ways to better embed design capabilities within the government. Responding to this interest, Yvonne Yeo has developed the Design Capability Mapping Tool, to capture and amplify clarity around public service organisation's propensity and aptitude to embed design at various levels throughout the organisation. The development and test of the mapping tool was conducted through action research in collaboration with the Ministry of Manpower, Inland Revenue of Singapore and the Ministry of Education.

01 Public sector managemen

- What are the emerging themes around public sector innovation?
- What are the literature around public sector.
- What kind of leadership is needed within the public sector?

## DESIGN LEADERSHIP IN THE PUBLIC SECTOR

applications

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- What are the current applications
- What is the impact of the design practices in creating humancentric public policies and centric?
- What are the barriers in embedding design practice within public organisations?
- What are the emerging literature around design leadership?
- leadership?

   What kind of design leadership can be adapted to the public sector?

Debbie Ng's research framing on design leadership in the public sector (Supervisor: Dr. Jung-Joo Leo

Similarly, Debbie Ng has been exploring roles and traits of design leadership in the public sector for strategic and sustainable design adoption. She poses future-oriented questions to the Singapore public sector organisations, whether they will need a Chief Design Officer and if yes, what should be his or her responsibilities and how s/he should work around organisational systems. Her research will be one of the first academic investigations into design leadership in the Singapore government.

The aforementioned studies are only a few examples. Postgraduate research in DID deals with various topics, spanning from bolstering roles of silent designers in the bank industry by Alvin Chia, nurturing inhouse designers in the service sector organisations in Singapore by Erik Chua, improving range of motion during lower limb rehabilitation through exergame by Liow Wei Ting, and case studies on the applications

of design thinking for technological and organisational innovation by Alex Teo He Chang. For more information about The Master's and Doctoral Programme M.A. (ID) & Ph.D (ID):

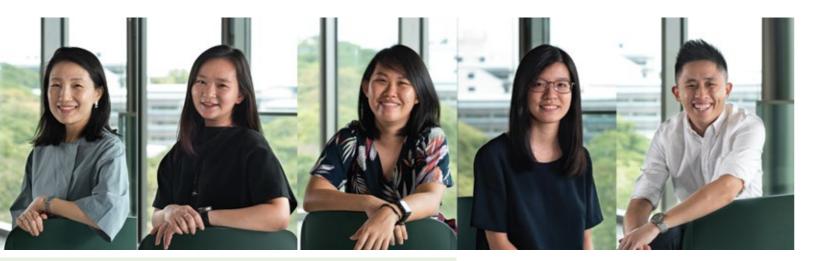
https://www.sde.nus.edu.sg/did/programme/postgraduate/

# SERVICE DESIGN LAB

Service Design Lab Singapore (SDL) is a service design research and education platform that runs collaborative projects with government agencies, companies and non-government organizations. In SDL, service design is not a mere method to design intangible services but a holistic logic to enable human-centered innovation at a system level, often accompanied with various tools and multidisciplinary collaborations.

Since 2015, SDL has been working closely with collaborators such as the Ministry of Manpower, the Ministry of Education, GovTech, OCBC Bank, DBS Bank, Port of Singapore Authority (PSA), Rolls-Royce Marine, Jurong Port, and Ang Mo Kio Family Services Centre. The development of educational programs, design methods and theoretical frameworks for academia and industries is the core to our work.

www.servicedesignlab.net



#### The Team:

#### Dr. Jung-Joo (JJ) Lee | Director & Principal Investigator

JJ believes in service design as a new logic for organisational, business and social transformation, as it deals with a system having human values at the core. Her current research focuses on service design for public sector transformation and adoption of service design in the field of Human-Computer Interaction.

#### Ms. Jia Ying Chew | Design Strategist

Multidisciplinary at heart, Jia Ying is interested in collaborative systems and constantly treads the peripheries of design. Fascinated by the curiosities of design transcending disciplinary boundaries, her current research focuses on transitions towards design-driven transdisciplinary higher education.

#### Ms. Tse Pei Ng | Design Researcher

An ardent believer in designing for social impact, Tse Pei currently does research in the domain of aged care design. She is particularly interested in designing for community engagement in aged care and beyond, through using social technologies.

#### Ms. Christine Yap | Design Researcher

A neophyte to design research, Christine believes in the impact of design. While she is still developing her area of specialisation, her current research focuses on tensions in service digitalisation and the adoption of service design in Human-Computer Interaction.

#### Mr. Esli Ee | Design Researcher

Esli operates at the boundaries of design's tangibility. A steadfast industrial designer at heart, he is intrigued by the rapid paradigm shift from traditional to phygital approaches in ecosystems. Through his work, he explores the delicate balance between the two.



#### Service Design & Research Projects

In partnership with various industries and public sector organisations, SDL conducts service design projects, typically through Design Platforms where students design for real-world problems. Students' work often leads to a larger collaborative project. One of the examples is the communication toolkit for foreign domestic workers (designed by Chan Wing Kei, Huang Yixuan, Jomains Neo & Shanti Alberti). The toolkit has been tested with 6,000 households in Singapore, in collaboration with the Ministry of Manpower.



SDL projects also pioneer new types of industries where Service Design can help to bring human-centered transformation. In 2018, SDL partnered with PSA (Port of Singapore Authority), Jurong Port and Rolls-Royce Marine to design for new work processes and customer journeys for the future autonomous mega port.

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Students' design outcomes are highly recognized in global competitions. Recently, the design of an all-in-one platform for post-death settlement by Zhang Hanwen, Carina Lim, and Mireille Lee from the collaboration with Govtech was awarded as a finalist in Service Design Awards 2019 by Service Design Network, the world-largest service design community.



In its bid to improve public services, the Ministry of Manpower established a behavioural design platform that brought together experts from behavioural insights and design to conduct a six-month training program for the ministry's officers. SDL researchers organised co-design workshops and design method training sessions.



#### Capability Building Workshops & Partnerships







#### Tools Creation & Experimentation

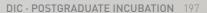
Embodying the spirit of research through design, our team strongly believes that good design and good research work in tandem. As we constantly explore ways to be, and educate, better service designers, the team creates new tools and methods to engage in every phase of the design process. One of the recent developments is "Data Cards & Canvas" to support hands-on ideation in creating new service concepts enabled by open data. The tools are open source for anyone to download and apply for their work.

Discover more tools at our website: https://www.servicedesignlab.net/methods-tools-

/

# DESIGN INCUBATION CENTRE

The Design Incubation Centre (DIC) is participating in the emergence of new design talents by helping the young generation of Singaporean designers to develop and achieve their ideas and projects. Always on the look-out post for future trends, DIC is contributing to identifying the new territories where design will tend and take action in the coming decades. Thus, DIC has the mission to feed, inspire, support, reveal and promote the students and young designers from the Division of Industrial Design of the National University of Singapore through its contribution to the pedagogy.

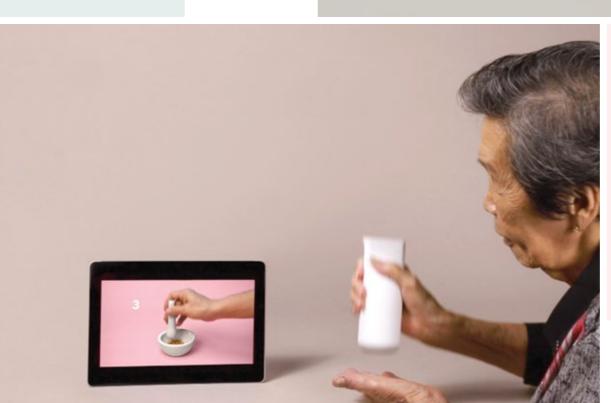




Permanent Team

Christophe Gaubert (Director), Willie Tay (Lead Designer), Yuta Nakamura (Design Engineer), Poh Yun Ru (Designer), Ricky Ho (Graphic Designer), Colin Thiam (Lab Specialist), Chen Chee Keong (Lab Specialist).





#### Rewind

Designed to evoke memories, Rewind is a reinterpretation of current bedside therapies aiming to build meaningful engagements for elderly with dementia. Through reenacting familiar gestures, this platform adopts visual and audio cues. It consists of a motion-tracking tool that produces visual and audio feedback on a paired device that encourages and prompts the elderly to relate their personal memories to the activities instructed in therapy. Rewind hopes to encourage the elderly to recall, share, and create new memories with one another.

This incubation project is derived from a thesis project initially supervised by Patrick Chia, developed in collaboration with THK Nursing Home, and selected by Design Singapore for international showcases.

Design by Poh Yun Ru









#### L00FT

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Leveraging on encapsulation of air to provide insulation, protection and comfort, this project explores the idea of a pneumatic "clothing" for people, objects and space. Investigations to visualise the seemingly "intangible air" with a common handheld heat sealer allowed to develop a pleating technique that forms air-pockets when inflated. Textiles are thus reimagined as an interface between the user and its environment. The series comprises thermal wear, laptop bag, wingback chair, space partition and lamp, each with an evolving skin, from a light veil to a reinsuring shell.

This incubation project is derived from a thesis project initially supervised by Hans Tan, and selected by Design Singapore for international showcases.

Design by Sheryl Teng

#### Ji Jian Wu (吉简物)

Inspired by the richness of Chinese culture embedded in Feng Shui objects, Ji Jian Wu (吉简物) presents a contemporary take on these traditional objects. Each design extracts the essence of the origin and retains the auspicious implication and meaning. Whether you are a believer, the receiver is gifted with well-wishes. The reinterpretation of traditional also creates a new channel to pass down cultural heritage to the next generation, as well as open the door for foreigners to understand Chinese culture.

This incubation project is derived from a thesis project initially supervised by Patrick Chia, edited under DID.IT collections (www.didit.sg), and selected by Design Singapore for international showcases.

Design by Lin Qiuxia





#### Shine

Shadows have the powerful ability to convey messages which are difficult or abstract to say in words. Inspired by this narrative aspect of shadows as well as the imagination inherent in everyone, Shine was created.

Shine is an interactive storybook where the story unfolds only in the dark with just a torchlight, as the shadows cast on each page will reveal a part of the story. Parents can accompany their children to cast shadows and read the heartwarming story together.





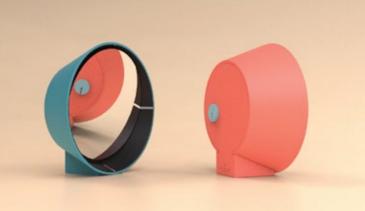
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#### Echo

An angled mirror rotates to interact with space hence creating a moving reflection as the day is progressing. This object establishes a private interaction between the memory of a reflection and a certain phase of the day. This weaves a constant connection between user, time and space.

Wall and table version, edited under DID.IT collections (www.didit.sg).

Design by Anastasia Di Lorenzo









#### Simple Serenity

Being mostly inspired by the Japanese traditional architecture, Zen gardens, and Korean characters, Simple Serenity was designed around geometric shapes, curves and negative spaces. A series of tabletop products working closely to keep you and your tabletop organised.

Currently under development.

Design by Tan Wei Jing

#### Yama

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This series of mirrors works as a free composition, forming a peaceful landscape, an invitation for contemplation. The reflection can only be seen from an appropriate point of view, offering a meditating dialogue between the user and the space.

Currently under development.

Design by Jereme Tan



#### Qarah

A mirror that reveals women's natural facial geometry, curating natural guidelines to reimagine the way makeup is applied. Made of brass, the object is perfected with a guilloché texture to create precise lines.

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Currently under development.

Design by Ashley Huang





As an introduction to Industrial Design, it was proposed to Junior College students to experiment with the thinking and making process of a complete project over a week. The same topic given to the boys from Raffles Institution and the girls from Raffles Girl School, they were asked to design an add-on for an existing daily life object. Improving the primary function, bringing a new usage, or twisting the purpose, every end product was realised in 3D printing for the goal of potential small production.



#### Raffles Institution students

Heng Teng Yi, Yap Hao Yang, Yap Jun Yeu, Glenn Chiang, Hoang Tuan Minh, Ma Xirui, Ryan Teh, Liu Yicun, Luo Zhong Yi, Tu Yaowei, Jlireh Toh, Bryan Lim, Brenon Loh



#### Raffles Girl School students

Wenjie Gao, Kiera Wong, Yuqing Wang, Chloe Fangiono, Seung Yeon Yu, Hui Ling Tan, My Linh Ho, Kirthigha Shanmuganantham, Yu Xin Cha, Tiffany Lam, Sun Yi Loke









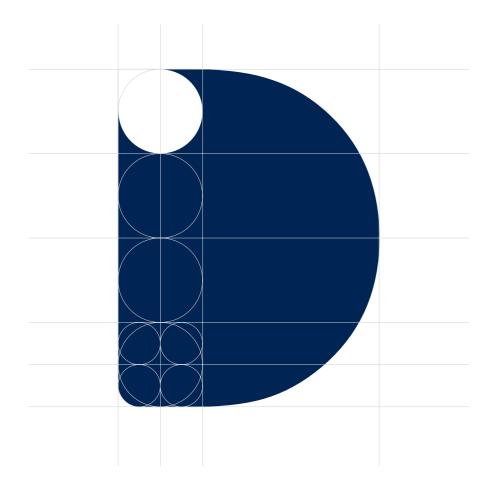


#### Aline

Commissioned by the School of Design and Environment, DIC made the design of outdoor furniture for the Net-Zero Energy SDE4 Building. Based on a minimalistic principle of bent aluminium tubes, the full range will be soon available with custom colours under DID.IT collections.

Design by Willie Tay & Christophe Gaubert (DIC)





#### New DID Identity

The new logotype of the Division of Industrial Design is the result of the fusion of the I (from Industrial) and the D (from Design), saying that the contemporary practice of design goes beyond its original acceptation. It also forms an eye to remind that curiosity and vision are the basic skills of a designer.

Designed as a system, the main colour of the logotype is a dark blue, as deep as the ocean, as full of hope as the sky, as a metaphor of the exploration of the unknown, and the necessity for designers to discover new directions while being a guide. Every extension of the division gets its own colour, yolk yellow for the Design Incubation Centre and turquoise blue for Service Design Lab.

Design by Ricky Ho & Christophe Gaubert (DIC)



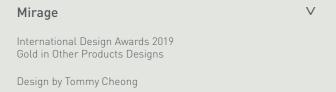




# **ACHIEVEMENTS**

## Achievements - Student



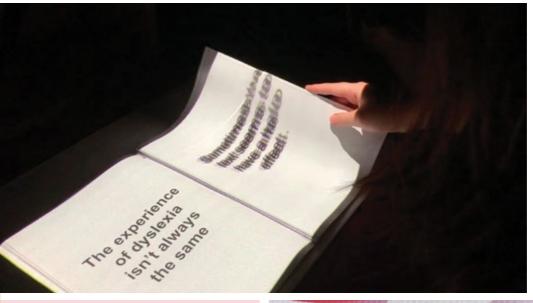












#### Dyslexperience

In collaboration with Dyslexia Association Singapore. Won Grand Prix Award Taiwan International Student Design Competition 2019 & Best Demo Award International Conference on Multimodal Interaction 2019

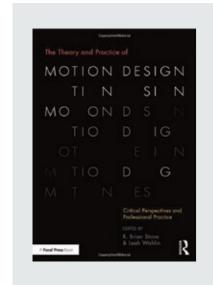
Design by Yong Zi Fong and Ng Ai Ling

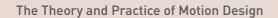


Design by Lin Qiuxia, Yang Yang and Laura Bijl



# Achievements - Staff Exhibitions





Runner-up in the Scholarship: Published research category.

R Brian Stone



DID GradShow 2019

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Age-Friendly City Urban Lab exhibition

Age-Friendly City Urban Lab exhibition organised by Enterprise Singapore (ESG) held at URA Centre



Global Grad Show Dubai Design Week 2019

SHOW
GRAD
GLOBAL
INVESTMENT
CORPORATION OF
DUBAI



DIC Workshops with Raffles Institution and Raffles Girl School



Λ



The Rise of Design Dyslexia

Article published on dmi:review

Chew Jia Ying

Pet Porcelain and Sarong Party Series

Works exhibited at DesignArt Tokyo X Design Pier

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Hans Tan

# STAFF INDEX

### Staff Index

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Song Kee Hong

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Deputy Head (Academic) & Associate Professor

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Deputy Head (Research) & Assistant Professor

Dr. Yen Ching-Chiuan

Associate Professor

Martin Danzer

Associate Professor

Patrick Chia

Associate Professor

R Brian Stone

Associate Professor

Christophe Gaubert

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# Colophon

#### Editors

(Dr.) Christian Gilles Boucharenc Head of DID

(Mr.) Christophe Gaubert
Director, Design Incubation Centre (DIC)

### Graphic designer

(Mr.) Ricky Ho (DIC)

#### Graphic team

Ng Luo Wei

#### Interview and transcript team

Zeng Jieying, Tracy Shen, Shawn Ng, Teng Yan Wen Sheryl Ang, Nguyen Thi Hoang Anh

### Landscape photography of SDE 4

Courtesy of School of Design and Environment and Serie Architects Photography by Rory Gardiner

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# Forward 20th Anniversary

#### **Founding Director**

Associate Professor Teh Kem Jin

As it is in life, beginning the design programme is starting a journey. A journey that is rich with discoveries and rewards.

The ID programme started the journey in 1999 when the foundation was laid. After twenty years, I am tempted to reminisce, to harbour thoughts of what was and what will be.

Technology has advanced and the business community is further challenged by uncertainties brought on by a pandemic that will surely change our mindset of future enterprises.

The ID programme was initially nurtured under the parenthood of the Architecture Department. Halfway through its first twenty years, the child broke free and the Division of Industrial Design was formed.

My first thoughts, where do we go from here?

Three issues that particularly impacted my thinking in 1999 were:

- 1. Industrial Design programme in the context of a progressive ambitious university,
- 2. Design education and scholarship within the context of Singapore specifically and
- 3. Design education in the context of who we are and what we stand for.

I am thankful to be in the privileged position to raise issues such as these. However, I have learnt that it is important to ask questions. Hopefully, those are good questions that would generate positive outcomes.

Looking back and looking at recent developments in DID, the best parts of the journey thus far has dealt successfully with the first two issues.

Personally, I am inclined towards the third issue, of who we are and what we stand for.

Now that I have time to reminisce, my readings and thoughts constantly revolve around the issues of culture and identity. As we grow and as age comes upon us on our journey, it often wants us to know who we are and what we stand for.

Looking back at design history when modernity was effectively defined by the works at the Bauhaus, I am constantly reminded of the erosion of cultural values and identifiable voices as a perpetuation of the 'international style'. In truth, modernity has undermined identity.

If I am permitted to make one wish for future endeavours of DID, it is for it to be identifiable as Singaporean and Asian.

Looking at the future, my thoughts hovered around the issue of growth.

What started as an entity within a department which is multidisciplinary and multi-faceted to a separate Division, it would be obvious to wonder how in maturity, this 'child' is 'related' to its 'parent'. On the other hand, how will DID grow beyond the scale of a division to gain muscle to garner greater influence in the promotion of Design and Design Education.

I am grateful to be remembered for founding the Industrial Design programme in the NUS.

With a good deal of optimism, I wish the DID well. I am confident that the journey will be fruitful, the future will be resplendent with achievements and rewards.

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With a good deal of optimism, I wish the DID well.

I am confident that the journey will be fruitful, the future will be resplendent with achievements and rewards.

# DID 20 A Moment in Time

The Division of Industrial Design (DID) has come a long way in the past 20 years, since its initial establishment in 1999 as the first university-level industrial design programme that was hosted within the Department of Architecture. The NUS DID 20 years anniversary book is set in chronological order, celebrating the diverse facets of design that our graduates have found themselves in since their graduation as they continue to challenge the potential value design can bring - as leaders within their respective industries.

This booklet is set as a dialogue between the 2020 graduating batch and their DID seniors. By exchanging experiences of their training in NUS and the evolution of their design career - we hope to demonstrate our collective vision for the next 20 years.



### Class of 2003 Nicky Goh

Vice-President Strategic Innovation, Frasers Property Limited

Nicky Goh is the Vice President of Strategic Innovation at Frasers Property Limited, responsible for driving innovation and design thinking transformation. He previously held innovation leadership roles at Medtronic, Samsung, Philips and founded two innovation consultancies after graduating with both a BA and a M.

"As a recent graduate, to see our approach applied to innovations in an industry where one might not traditionally associate with design is extremely eye-opening. It's interesting to contemplate the potential of design to create new opportunities and push past societal perceptions of design's value

Shawn Ng Class of 2020

# With such a diverse background, what were some of the career-defining moments you had so far?

In my first year at Lawton & Yeo Design Associates, I was doing pure industrial design work. I kind of knew then that it was not the direction I wanted to build my career on and realised that my flair is around design strategy, where I was fortunate enough to run a workshop for Sony Ericsson who was our key client. Innovation workshops were not common then and there was no real precedence on what kind of workshop to run nor how. I had design research background from University and I thought maybe I can tinkle around, knowing the resources available.

I found myself in the pilot seat in my second year to define this innovation program which took off. It was my first dabbling into running workshops, generating concepts, managing ideation and getting designers with different backgrounds and skillsets to work together and to identify market opportunities.

### What was it about design that sparked you to think "this is the job I want to do"?

The opportunity to create. Today for design thinking we say we got to find the problem, but identifying the problem is usually the hardest part, not so much of solving the problem. Identifying a problem is similar to 'creating' a problem. It is this created problem that will lead you to create values and opportunities. It is this process of creation that is still very much appealing to me, even right up to today.

# When you first graduated, was strategic design where you wanted to move towards?

Like all schools, our major is taught to be in the centre of the universe that other disciplines revolve around. In design, we were inspired by how it can drive innovation. There are ideals when you graduate, and pragmatism comes later when you start working. It was a conscious effort to focus my strengths to contribute to both the organisations and my personal growth. Frasers Property being a real estate company is very different from Samsung or Philips but I believe similar frameworks can be applied across different industries.

"The toughest but most satisfying part of value creation is not adding features, it is stripping it down to its essence."



It's great that you brought that up as I wanted to ask, how is design being applied in a real estate firm like Frasers Property?

If you think about it, traditionally in real estate it has always been about a landlord-tenant relationship. I would say that in recent years, this industry is changing to be more customer centric. We are using design thinking to generate more value that can help our tenants achieve their business goals. This will help foster the relationship and allow us to collaborate as partners.

# To see design used in such a context really opens up many doors where its value can shine.

Design thinking opens many doors, not just from the customer front but also for backend operations. Our retail team recently attended a design thinking workshop and one of the ideas they are developing is a welcome pack for new tenants. When these tenants, especially the smaller "mom-and-pop" businesses move in, they feel welcomed, improving their experience and a clear understanding of the support from us. This helped the team streamline their backend onboarding processes too.

# Having gone through so many industries, what's your take on the future of design?

As a designer, our role is to imagine. Imagination cannot materialise without commercialisation. Commercialisation requires value. Regardless of the industry, the world will still need creators. Creators of problems, opportunities, and value.

# Do you have any advice for future designers?

You need to be able to push your own creative limits by challenging yourself. Always look back to see how you can better yourself. It is also useful to have a good balance between creating problems, opportunities, and value. Too much value without opportunities to deliver generates hype while too many problems and you can be perceived as a troublemaker.



# Class of 2003 Tithima Supavanichyanont

Creative Director at BMW Group Designworks

As a Creative Director at BMW Group Designworks Munich Studio, Tithima leads an international, multi-disciplinary team. Positively obsessed with the future, she has designed and consulted for the BMW Group brands as well as more than 30 global brands in various industries. With daring vision, she composes unconventional experiences for tomorrow.

of designing for emotions and needs of people, I believe it is an unchanging factor in design. If we understand the future of mobility through the lens of people's desires (eg. pro-climate movement) we could perhaps envision overhauling the transport infrastructure.

"Design offers an optimistic lens to the current time of fast and uncertain change, leading through aspirational experiences towards a positive future for people and cities."

## What made you choose to do something creative?

I was always curious about how the world works and how things connect, past, present and the future. Creativity was a way to have more freedom in seeing the world, while aesthetics illustrates the story of the era. That freedom I was searching for, I felt, existed in either the study of design or physics, and I chose design. And since then, I have realised that creativity is a powerful force to positively impact people and the world.

# Could you share a memorable time you had in DID?

It was sometime in the 3rd year, when I started to piece together the language and perspectives in which I could express the ideas that were lingering in my head. That language was a mix of emotional sketch, strategic thinking, meaningful user benefits, finally supported by innovation and invention. The freedom, inspiration, direction that came along with the ability to orchestrate these elements gave concrete ground to an abstract notion I had about creativity.

### Do you recall any interesting projects that you did in DID?

I think each project added new perspectives to my design journey. Some were about solving for user challenges, some were about connecting art and product, some were about mechanical innovation with the right physical shapes. I was particularly interested in the projects where form and function were fully dependent on each other, that the form either enhanced or told the story of functionality.



# What kind of work do you do at BMW Designworks?

For the past 14 years, I have been on a design journey across all of the Designworks studio in Asia, Europe and North America. This gave me great insights into user needs, culture and aesthetics, how different yet similar the world can be. I am somewhat of a hybrid designer, who enjoys both strategy and design, working on a diverse array of future-driven projects, both for external clients and BMW Group brands. In the last four years, I have been part of the Advanced Design team to create future visions for the BMW Group

# As the range of works you do expand, has your perspective as a designer expanded too?

Design has become much more holistic, expressing experiences which are strategic yet emotional, multisensorial yet connected. As the topics get broader and more complex, the goal is to find the right focus. Often, my role is to work with my team to orchestrate different design disciplines to tell that one cohesive story of experiences that these days is so vital for brands to tell. I believe creativity requires a natural process to achieve an emotional and surprising result.

### Previously you mentioned that at BMW, you envision the future. What do you envision for the future of design?

Designing for the future today requires identifying the right purpose and provocation to unveil meaningful possibilities for cities, brands, people, to make them agile for a fast-changing world.

Designing for a future scene, no just a single product or medium where the story ties everything together from meaning, strategrand experiences.

# For the future designers, do you have any guidance you would give them?

Perhaps one tip is to try to get involved in areas which you are passionate about, and where you easily find yourselves in a "good flow" doing it. Instead of choosing the best job in the market, choose the opportunity that fits your natural talent and strength. With so many portfolios and designers, it is more important than ever to unveil and develop your personal design approach and creative personality in your work.



### Class of 2004 Edwin Low

### Founder of Supermama

Edwin is the founder of Supermama Store, a retail outfit that specialises in the design, production and sales of blue and white porcelain. Using culture as a context to design, Supermama delves into the fine line between cultural artefacts, everyday objects, and the concept of basic luxury - that everyone can own a piece of heritage.

\*\* Sharing a similar passion towards bringing meaningful everyday objects that everyone can own a piece of. In the time of rapid advancement towards a progressively digital world, I anticipate everyday objects bringing experiences and shaping lifestyles in a more conscious and thus impactful manner.

Ng Luo Wei Class of 2020

"Put a designer in a field that traditionally has none, that is when a new set of thinking and new values can be conceived.

## How would you describe your time at DID?

Amazing. That's the best decision I've made, the best time of my life. Education wise, you learn a lot. We mixed with different ones; my classmates were all very different profiles of people. People forget about the course, but you remember the friendships that you make.

#### Were there tough times?

I remembered when I first got an A for studio, I had a lecturer who told me that I was not as talented as some of my peers and for me to keep the A grade, I have to work hard. That was a wake-up call, that I'm not talented. But it's also a good call that we have to put in hard work, to make it work. So I kept working hard.

# Was that your main key takeaway from DID?

I realised the value of design can be felt greatest in a non-design related industry. It's very difficult for a designer to think differently in a classic design environment. But put them in a field that traditionally has no designers, that is when a new set of thinking and new values can be conceived.

# What led you to create Supermama?

I was a lecturer and realised that whenever I urge my students to chase after their design dreams but it doesn't seem to carry weight. It occurred to me that as a lecturer, if I don't dare to pursue my own dreams, how can I ask my kids or students to pursue theirs? How many of us are willing to make sacrifices to achieve our dreams?



#### What is Supermama?

It's a design store. Supermama gave me opportunities to showcase Singapore design. We have worked with more than 100 Singapore designers. I push Singapore design, but what I'm really proud of is my work with the Japanese makers.

Many of the makers are multi-generational crafts businesses and have been downsizing due to the shrinking domestic demands. There is a high chance that some will eventually fold their business. If there is a way for us to tap on their techniques from a different angle, we may be able to create an international market and allow the business to continue. This is easier said than done but with our background as industrial designers, the way we understand the manufacturing process, we can easily scope an effective brief that forms collaborative partnerships and creates commercial opportunities.

## Were there any learnings from DID impacted the work that Supermama does today?

During my Masters', I was forced to read many design journals and research papers by Dr Yen. It opened my mind to the design world, beyond the tech or hard ID skills. I recall reading into sociology and looking at design from that angle - the idea of material culture, how it shapes social behaviour and cultural identity. It was then that I became more sensitive to design from a societal perspective, hence I'm always trying to create or shape the landscape of Singapore material culture through my works.

#### Has your design approach evolved?

I think there is always progression. The first thing, the first time is always about yourself. You place so much importance and weight into what you want to communicate. But as you grow, you realise the world does not revolve around the individual designer! As I get exposed to other people's perspectives, it changes me. These days I don't think so much about "my design approach". I just want to design for others, with others.

### What is your take on how Singapore design will go from now on?

The hard truth is Singapore is too small to remain in silo. We are always trying to go international. I feel there are many values a Singaporean designer can bring to the table and I believe this is deeply rooted in our make-up. We are Western in thinking, yet having this Asian sensitivity. This is a very unique trait that we have. I hope more designers can think in this way and express this Singaporean page through the work that they do



### Class of 2004 Tan Wee Kiat

Design Thinking Lead at NTUC Enterprise Co-operative Limited

As the Design Thinking Lead, Wee Kiat gets business and tech stakeholders engaged with qualitative research and customer insights to shape their business and product decisions. He facilitates workshops to align the representatives of all business functions, frame and solve their challenges using the humancentred design process.

that design might not be a unique discipline. This is where design-trainers count and are able to effectively impart design strategies to companies. I foresee that the design field would be effective in every field of work, should we just have the power ,, of imposingly.

Stephen Ow Class of 2020

### Why did you go for design out of so many university courses?

I eliminated all other courses that seem too rigid and bounded by theories, formulas, and rules. Design has an appeal of autonomy and freedom of creativity to me. Anything is possible and the only limit is my imagination to shape the outcome of my work.

# Among all your works in DID, is there a project that you can still recall vividly?

My final year thesis project to redesign the medical stretcher adapted to local high-rise buildings. It allowed me to dabble in rigorous research work of all sorts to fully understand the problem and opportunity space.

# What was the research process like?

I did literature review, desktop research, competitive analysis, site observation, expert interviews with paramedics about their experience evacuating patients using existing equipment and observation of a demonstration of how a roleplayed patient is carried down the stairs as well as the lift, using different equipment.

# Did you have a vision of the type of designer you wish to become as a fresh graduate back then?

I didn't have any lofty vision, aspiration or confidence. I was just content to get a job first among my cohort, as an industrial designer. To learn and get better, evolving from a graduate to a professional, I have to start somewhere, anywhere.

"Anything is possible and the only limit is my imagination to shape the outcome of my work."

# Is there a shift in your point of view towards design over time?

Having made a number of career transitions within the design field, I have shifted my focus from practicing design to craft commercial products towards enabling organisations and nondesigners to adopt and apply design processes to create value and impact on people they serve. To me, it has been very clear that design is more powerful and adaptable, as a mindset and approach. More than an art, design has the disciplined rigor and structured methodology of a science that informs the intuition and decision behind any great design solution.

# What have you learnt in DID that could still be applied to the work you do today?

One key takeaway is to be open to what other disciplines and methodologies can offer to enrich our abilities to adapt and contribute to different domains, as creative, human-centered problem solvers.

# How do you think your field of design will develop?

Design principles, mindsets and methods will get increasingly applied onto more interesting large-scale, high-complexity, high-impact challenges, such as design of organisations, societies and communities.

# What about design in general?

Design field might not even exist as a unique discipline on its own, if it is important everywhere and democratised by affordable, simple-to-use technology such that anyone can create design.



### Class of 2005 A/P (Dr.) Agnes Xue

### SIT Associate Professor and Programme Director (Design)

A Red-Dot and A'Prime Design award-winner, Associate Professor (Dr) Agnes Xue is the first Industrial Designer awarded the Doctoral of Philosophy (PhD) from NUS. She is currently Co-Chair of the Design and Specialised Businesses Cluster Applied Research Committee, and Director of Design programmes at the Singapore Institute of Technology (SIT).

"In designing for healthcare, friction is unavoidable, yet healthy. I believe that it stimulates necessarily critical, yet open dialogue. With new digital prototyping tools that put users first and address stakeholders' risk-averse nature, I think we are in a better position than ever to ,, contribute

Sherwin Ng Class of 2020

### What sparked your interest in design?

Since I was a kid, I've always loved art and craft, drawing and chatting. After JC, I knew I wanted to do something "creative and business-ey" which I thought was marketing until I discovered there was an Industrial Design degree in Singapore. I will say design pretty much found me.



# Was there a particularly memorable project you did in DID?

I think that would be my final year design thesis, which is a portable prenatal monitoring device. I had the opportunity to make it an interdisciplinary project, conducting my own design research, scoping my own brief, and creating a product knowing exactly how it fits into the current landscape, and what branding and pitch was suitable to market it.

# Did it affect your career path?

It helped me realise the differing opinions on the state of the healthcare industry and how design can fix these challenges. But in the medical context, the work of healthcare professionals is centred on the intervention plan, so patients take little priority. It's hardly like design thinking where we always talk about user empathy as the beginning of asking the right questions before we problem solve.

#### Do you have any examples?

From redesigning unreadable medical bills, examining devices for the minority in the population, poor customer service etc. There were a lot of opportunities during my time. Healthcare was never designed for the digital age we now live in.

"My strongest hope is that all design trained people will take with them their design education to embrace curiosity, tenacity, and learning as a habit."

### How has design in healthcare changed as compared to when you just graduated?

It has definitely changed quite a bit, designers now have more opportunities. There's a lot more design-thinking training, AGILE, LEAN, community voice, participatory design etc. and the usefulness of these skills has been marketed quite extensively across the hierarchy tiers in the workforce. I think when designers get into the conversation, people are more receptive, rather than just accepting what clinicians say as the 'Bible truth'.

### Has these affected your vision since then?

I didn't expect myself to become an academic. When I was offered the opportunity to do a postgraduate scholarship, I thought why not? I get to do my PhD, develop a topic close to my heart, and get paid a decent stipend. Albeit just an incremental change in policy or a toolkit helping clinicians understand design-led innovations, my ultimate goal is contributing to patients. Now that I'm an educator, I'm still happy to share new knowledge with future generations.

# Did it shape you as an educator?

I appreciate the multidisciplinary nature of design as a horizontal that can serve different sectors like healthcare and businesses. And thus, I evangelize far and wide about this characteristic and usefulness of design. I am currently teaching students from engineering, nursing and allied health to equip them with design-thinking skills to help 'open' their thinking, see new opportunities so they can kickstart empathy-based approaches like user needs finding while innovating. It's really comforting when they come back to share their experiences of how designthinking and design methods helped them at work.

# How do you think design in healthcare would evolve in the future?

I see great potential for design in healthcare but its risk-averse nature can be a barrier to adopting creative solutions. This mindset is not changing easily unless designers use evidence-based practice to validate their proposal. The wise and trusty approach is still co-creating and empathising with stakeholders to envision a more desirable future and figure out how to get there. We need to be more sustainable by being lean and efficient in processes and solutions will be more popular and scalable.

Design is not art and is way beyond just an aesthetic tool. The question is how to enable our students to continue to see making as a way to learn rather than just a means to an end. Design needs to be presented as a lifelong framework for non-design trained people at their workplace to see the world and their place in it.



### Class of 2006 Victor Ong

Head of Product Design (APAC) / ADAPT, Design Lab at Bain & Company

Victor is a visionary and thoughtful leader in user-centered innovation. experience in UX/UI design, he is passionate about transforming solutions—and about continually striving to provide top-tier,

recent years as businesses realise its strategic advantages. Engaging users in the design process facilitates developing pivotal insights that translate into winning solutions for both stakeholders and users. The marriage of business and design will continue to create value that transcends ,, what we know today.

Ysanne Yeo Class of 2020

DID opened my eyes to how we can create value through design. But design progress and value are best driven when paired with the business side. "

## How do you think DID has influenced you as a

DID opened my eyes to how we can create value through design. But design progress and value are best driven when paired with the business side. As you utilise design to better the lives of people while benefiting businesses, businesses will invest in design and help drive design's development further.

### What kind of design work were you doing when you graduated?

After I graduated, I was initially doing traditional industrial design. My first job was in Osim as a junior industrial designer and it was really tough with long working hours. But it was in the job training where I discovered the world of Human-computer Interaction (HCI) and User Experience (UX) design. And that's where I met my mentor. My mentor was the one who helped shape me into who I am today.



### You said that you used to do more traditional industrial design, how has that changed over the years?

While the world of UX was growing, I got the opportunity to go into it. Although I was not really aware of UX at that time, I thought to give it a try. I think I was at the right place at the right time when things expanded and grew. And now I'm considered a pioneer batch, as more and more designers and companies transit from traditional physical industrial design into UX design. In a sense, UX opens up a new range of endless opportunities for design through the digital space.



### What's the type of work that you do today?

Right now, I'm the head of design for Bain's Asia-Pacific ADAPT group - Advanced Digital and Product Team. We create digital experiences for our clients. ADAPT could be leading a project, or we would work alongside the consulting team. And it would involve envisioning companies' future strategic positions and how the solutions might work, so we do things like storyboarding, prototyping, user testing, ethnographic study. All these are crucial outfront, and are proof of concepts, building towards a minimum viable product, as well as a score on how good the service is, which are important to businesses.

#### How is it like for young designers going into consultancy?

When you work in a design consultancy, you are growing your breadth of skills in terms of the T-model, as compared to if you work in-house, which would have a more specialised skill set. I'll usually advise new designers to join consulting first because although consulting can be hard when you start at the lowest tier as a junior designer, you get to see and learn many things. And you get to form networks and relations with people. Then after, you can start to find which industry sectors you enjoy working in.

#### How do you think UX will progress in the future?

would be new experiences and new ways of engagement that people are creating. In the end. it's all about how you create delight in the user's experience while serving basic needs.



### Class of 2007 Chua Wunfong

# Director FOZL Consulting

Wunfong is the current Director at FOZL Consulting, a corporate advisory firm for Chinese companies looking to expand into ASEAN. He was previously the centre director at International Enterprises (IE) Singapore's Chengdu office and had previously also worked in finance, real estate as well as a design firm.

"To me, the future of the consulting industry is not only limited to people with business backgrounds. I think as clients become more diverse and complex, future consultants will not only be required to have knowledge of the market, but also need to be multi-disciplinary and open to changes."

Yang Yang Class of 2020

"Don't assume, just ask as much as you can and digest and decipher what is most suitable because there's no such thing as a perfect solution.

#### How has design impacted your career/life so far?

For me, I think it's the mentality that you don't have to do perfection. It is always changing. In Chinese we call this is "摸着石头过河". So when I was in ID, we did a lot of these mini prototypes. We don't try to make it perfect, just keep making. So for me even in our business, whether when I was in various areas, I always advise my clients to try to do small prototypes in their business model. To test the market first, and then slowly go full fledge.

#### How do you begin this 'test'?

The key is to be consumer centric. Though of course they may think 'what has that got to do with my business?', but whenever we offer solutions and business advisories, I actually take back what we learn in ID, to ask questions and not assume.

# It sounds like an adaptation of the design thinking process.

Yes, the initial part. Instead of doing the designing, I am actually using a lot of the front portion of the design process. Empathising and understanding the user.

# You have a very diverse background spanning across quite some industries. Did you have any visions or plans for your career when you graduated?

Frog design talked about T development. You start off with a small T with depth and breadth. I was developing a lot of breadth at the start in NTU, Xentiq and IE where I learnt about commercialisation, IP, overseas relations etc. I created my second depth in finance where I was doing investment management after 6 years in China. I came back last year to get married and joined the bank for about 1 and a half years. That was when I decided to guit and join this company to start my own business.

### How would you sum up your experience in DID that could still be applied in your current industry?

I think it's understanding market positioning. Even though I deal mostly with Chinese clients now, I tell them if you really want to develop in Singapore or the region, you have to understand the local market. As there are always cultural considerations and gaps to take into consideration that cannot be done overnight. I think certain nuances can make or break the success of a product or company.

# How was design research applied to understand the market?

Last time when I was encouraging Singapore companies to go to China, I always tell them that you must always learn how to position your product and your brand, to personify your customers. Are you targeting young or old Chinese? What is their average salary? We define the market before we develop the product. I tell them this: You must understand your positioning before you enter the market.

# Has your client been receptive to this approach?

Some clients take it positively, others not so much. They feel their products should be positioned high, but I can only advise. Chinese companies are usually quite open when I provide them advisory, they understand the approach.

# How do you think the role of design will shift within the business sector especially with Singapore being designated as a UNESCO creative city?

Nowadays you no longer define a designer or a design thinker. Businesses are becoming more complex, with cross-border collaborations, digitisation, environmental, and social elements that make them radically different. I would say design thinking forms a good base but subsequently, they will need to start thinking about which niche to set their foot in.

# Do you have any advice for future designers?

I think design is a good tool to broaden your mind. From my training in design, I'm more willing to go across the different sectors from manufacturing, investment, property, banking, government and now I am an entrepreneur. I've also lived and worked overseas. So DID has really helped me be more receptive to change and also new ways of living.

I think you should always try new things and to build your portfolio. It's extremely important. Also one other thing is when we look at school design projects, we notice that it's usually socially driven, understandably it's important but do also consider market and commercial factors. How do you make your project commercially sustainable, what's the value for the relevant industry? There has to be commercial viability so that institutions and enterprises will be more willing to adopt it.



### Class of 2007 Gabriel Tan

### Founder of Gabriel Tan Studio

Besides running his own studio, Gabriel Tan was the co-founder of award-winning design collective Outofstock. At the same time, he is active in education and has taught at various institutions as an adjunct or visiting professor. He also served as a jury member of the Product Design Lions Award at Cannes Lions 2014.

The interview reminds me that being a designer is not solely about talent, but also about being passionate and putting in lots of hard work to continuously strive for the better. I believe that with these positive attitudes, more beautifully crafted products can be created, elevating the human experience

Lew Jin Jie Class of 2020

"Talent is what we read, but very often the real story behind a successful designer is the hard graft that they have put in.

# Could you sum up your key takeaways from DID that has had the biggest impact for you?

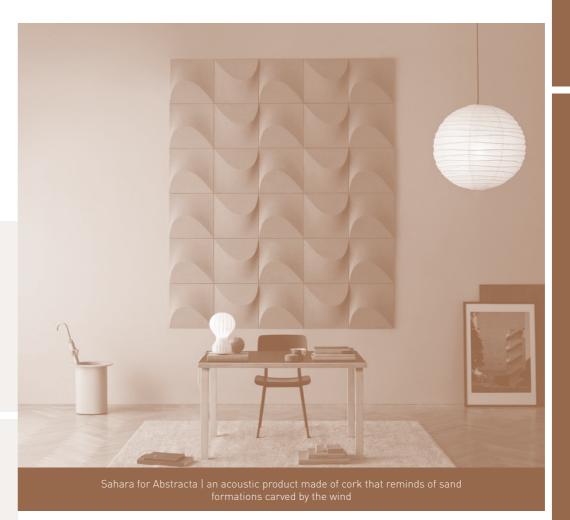
We had a very competitive but at the same time collaborative cohort. People were doing things beyond the curriculum briefs and taking part in many external competitions. My first real exposure to the design world was getting into the finals of the Bombay Sapphire and Electrolux competitions which allowed me to see Tokyo design week, Stockholm future design days, Milan design week and the IDSA conference in Austin, all before my final year in school.

As a design professor, what was your pedagogical approach and how did you come to form that, especially since you taught both locally and overseas?

I believe that the students need to have broad general knowledge of the design world as well as design history, that forms the foundation.

The education process is about facilitating the discovery of each student's path within the many fields and sub-disciplines of design, and so multidisciplinary approach during the formative years is absolutely necessary.

Lastly I believe that an important part of education is about creating an environment and atmosphere that encourages peer learning, sharing and exchanging of opinions, as well as challenging existing briefs and doing more than required. Building an open, competitive and collaborative culture, is the ultimate goal.



### From your position as both an educator and a designer in the industry what is your vision in the next 20 years?

In the past there were many polymaths and eventually the advocacy for specialisation have caused this phenomenon to almost disappear. I hope that we can challenge this preconception that specialisation is necessary in order to be good at what we are doing, and to see more people who can be masters (and not jacks) of multiple trades or disciplines.

# What advice would you give to future generations of designers?

I try to view my life as blocks of 3 years, and set milestones to achieve within each block. You then realise you only have 12 blocks in your career if you graduate at 24 and retire at 60. That way there is a greater sense of urgency, and less procrastination. I find that the greatest stumbling block to most designers is procrastination and this notion of a creative block (the writer's block syndrome). Talent is what we read about but very often the real story behind a successful designer is the hard graft that they have put in that they don't tell journalists or publishers about. From personal experience, the hardest working designers I know, are also some of the most successful.



# Class of 2007 Jane Hia CEO of Kith Cafe

Jane is the co-founder of Kith Café. Kith was established in 2009 as one of the forerunners in the café scene. Kith continues to hold its own in the thriving café community by continually taking its offerings to the next level with a menu that now includes a wide array of full dining options.

Given the current pandemic, it definitely impacted the Food & Beverage industry more negatively than expected. Players who are willing to pivot and adapt to the current situation will definitely prevail. Who knows, we might have robots deliver food or an increased trend of homehased food starturs.

Jocelyn Tan Class of 2020

"I picked up a lot of life skills, some through design, some through studio, working around and miracle makings. You figure it out, and you learn a lot of people skills."

# Was there an interesting project that you can still recall?

I remember a BMW project done in Year 3. We were all split into groups of three. We were given a box, like a metal frame. I think it's like 2m by 3m, a metal frame box, and we're supposed to design a space within that box, so that when somebody sits in the box, it evokes a particular feeling or an emotion for the user. I think my group mates and I chose sensual as a word, so when you sit you should feel like the space is quite sensual.

# Did you get to choose the words yourself?

Yes, we kind of picked something that was not so hard to imitate, something like curves, forms and rounds. So we chose that, and used soft cushiony stretchy cloth, and there were so many times we literally slept in our own box overnight. And oh yes, there's no colour. The entire box is white. You can't use colours to evoke, only forms. I guess it's really memorable because it was a lot of work.

### What prompted you to start the café?

I like to eat, I like coffee, I think I enjoy F&B, and enjoy feeding people. And at that time, cafes like that weren't very common. 10 or 11 years ago we were probably one of the first few to have cafes like that. Back then, it was a big distinction, you either drink like kopitiam kopi which is like 80 cents, or you go to starbucks which is like 5 or 6 dollars. So we came in at a sweet spot for about 3 to 4 dollars. They prefer like Australian style coffee, latte and cappuccino. Because in Australia they are more advanced in terms of the coffee industry, so we keep trends from them. So that's why we call it Australian style coffee.



Kith Cafe at Δscott Ωrchard

#### Did what you learn in school still apply to your work now?

Wow... hmm what would that be? I picked up a lot of life skills, some through design, some through studio, working around and miracle makings. You figure it out, and you learn a lot of people skills. It's also one of those things where you need help or you can see people who need help and (you help them). I mean so far, especially when I had to start a business, being kind, there's definitely value in it. You never know when you need help and when you need help, everyone is willing to help you.

## In retrospect, do you think your journey in DID influenced your current career?

I think it's aspects of design. I do F&B, so there's a lot of spaces that need design. Spatial, colours, visuals, or social, like how people interact with people, ergonomics, things like that are very helpful regardless of what you do. I guess you guys do a lot of digital stuff as well. But, I find understanding or learning about how people respond to design or respond to a service that was designed for or not, is always useful in anything. I find that having learnt and studied design, overall it's a general skill, life skill. So then, we work with people, you work in pairs, or you work with different age groups and you have to work with seniors at some point. That cross level working experience is probably quite like when you go to work, you realise it's the same.

# What do you think are the future trends of design in Singapore?

I think the design for the aging population will proliferate. There's not enough young people to support them, and it's not a problem of just Singapore. And everyone is about carbon emission, eating, and lifestyle. There's a book I read - The Inevitable: Understanding the 12 technological forces that will shape our future, by Kevin Kelly. It talks about what to expect for the future and it's more than Al.

's endless right



### Class of 2008 Cindy Liew

Service Design & UX Design VP at Citi

Cindy is an experienced User Experience Designer with a demonstrated history of working in house as well as in agency and consultancy.

"I wonder as design and UX gains popularity and reach, how will this influence business focus away from traditional metrics like uptake and usage time. How can we view users more than just numbers and respect their wellheing as well?"

Clifford Chew Class of 2020

### What attracted you to industrial design?

In general, I love beautiful things, I love the feeling of building something that is purposeful and creates impact for people, so I joined industrial design. Then I had little knowledge of the course but I had a neighbour who happened to be in the course and she shared with me more about the course and that helped me to gain inspiration and confidence in choosing industrial design.

### What do you think is your biggest takeaway from DID?

There were many precious lessons learnt from building and testing and failing. That process that I go through is still pretty much the same today. I think the key takeaway is to embrace failure and uncertainty, as we can never be 100% sure. The course itself has allowed me to grow in that perspective.

"I like the exposure of solving cross-industries problems, designing for different people, different markets and different cultures because it gives me a lot more room to be creative.



FairPrice scan&go Mobile App

# As a designer, what do you aspire towards?

I'm never 100% sure at any one time but I really wanted to be a curious designer all the time, so I think I am still a curious designer. I wanted to be very open about what I can design and what new things I can design. I like the exposure of solving cross-industries problems and designing for different people, different markets and different cultures, so that gives me a lot more room to be creative, even though in a commercial world there's lots of constraints, boundaries, KPIs, but that keeps me down to earth and keeps me very happy about what I'm doing.

# Has your perspective on design changed since graduating from ID?

I think design is still a very important part of helping to make people's lives better. What changed over the years as I work in the industry is the realisation that we cannot only empathise with the end user and forget to empathise with our fellow colleagues and innovate together as an organisation. There are many new ways of doing things which I find myself learning every day, new technology, new people from diverse backgrounds that we can work together makes designing a whole lot more fun and exciting.

# What is the future that you see in the UX industry?

I think UX continues to be an important function in the industry given that it is user biased, it will continue to challenge organisations to think from the user's perspective. This balances the business KPIs and technology advancement boundaries which creates a good tension for growth in innovation. It is also encouraging to see that the idea of design is more well embraced in the industry now, hence for designers there are more opportunities to influence and push for what we are

### How do you think design will evolve?

I think innovation as a whole is becoming quite mainstream, everyone is talking about design thinking, even the non-designers. In that sense, everyone will be speaking the same language on being user centric and that allows us to push for design excellence. The differentiating point for designers will then be the hard skills of paying attention to detail design, being willing to be very hands-on to build and test. Quoting Mark Zuckerburg, he said that people don't really care about what you say but about what you build. We should always be hands-on and not lose our craft.



### Class of 2009 Jane Tang

Samsung Product Innovation Lead

Jane works as the product innovation lead in Samsung Singapore. She was both a design tutor and a designer in Nanyang Polytechnic's inhouse team and did a company attachment to DELL during that period.

It's humbling to know that Jane's expertise across business and design coincides with my belief that design is more than just the final product, but the story that comes along with it. This is something that I hope won't change, and something I wish to see taught and appreciated more in the future.

Ryan Chin Class of 2020

### What's your role in Samsung?

This is my sixth year here and my role changed quite a bit throughout. As a product innovation manager, I lookout for new design innovation opportunities through identifying shifts in trends and finding gaps in the consumer markets. We then ideate and come up with new concepts to help meet this new opportunity, do prototyping and pitch back to the organisation. For me, I work with both the headquarters and regionally as Singapore is the HQ for the ASEAN and Oceania region.

# Sounds exciting! Is it like concept finding in school?

If you imagine your thesis, my role is kinda like doing it all the time. So, you will have to pitch for identifying new briefs, opportunity areas etc., everything is very open. I think what differs would be how we build a business case around the project to fit it to Samsung. It's not just about a great idea, but one that Samsung has to see value in pushing for.

### I saw that you were in Dell and went to NYP to teach?

In NYP I was doing more design consultancy works, mainly projects that comes from SMEs and also a bit of teaching. This mixture made my job not boring. Dell was an attachment where I got a sense of what industrial design work and studio life looks like.

#### Did this dual experience help?

It helped me get a clearer sense, yes. Because my passion is more on the design process and in Dell, I felt that yes there is the design process but it is not as versatile as in academics where I can work with different consultancies and get a good exposure of different projects. But at the same time, I also feel that I shouldn't stick to a school environment. I am fortunate to get the best of both worlds now and also a lot of control in terms of the project scope that I can pitch for and develop.

# What's one thing you learnt over the course of your

career?

I realised that I can't just rely on just my skills or even my design knowledge because in a job, or at least those I worked in, people say "Oh, you should learn this. You should also learn that." And having these knowledge often complements what you already know so you have to consider these different aspects to broaden your scope.

# For yourself, what are some of these 'knowledge'?

For my case, it is the business aspect. Learning how to extract data can give some hints of opportunities of where you should start digging out information for innovations. It's not just about developing the final concept. It's also about how then do you market to the customer, how do you create the right understanding? How do you pitch through the business? How do you excite and make them remember your story?

# Kinda sounds like how we pitch our platform projects in

Yes, you have to make it so. I personally started emphasising a lot on storytelling in the work here. You may have a good idea but don't know the best flow to explain it say in one sentence. It's kind of an art by itself to find a right way to

2 to 4 minutes.

communicate your work.

## What do you value most from your time in DID?

The ability to kind of translate my imagination into an actual product. I think that's not easy to achieve. And that's something that we all learned in DID.

"When you start crafting it yourself, then that's where you get to appreciate it. The more you do it, the better you get.

# With your dual experience in both MNCs and as an educator, what is your vision for design in the next 20 years?

I think if you look at design from 10 years ago when I graduated versus now, it has become more integrated into everyone's life, everyone's work. It's not just having a design education. 20 years later I think design will become a fundamental necessity that everyone kind of knows. I get the sense that these days design thinking is starting to be integrated into primary and secondary schools, businesses and not just in university and design firms.

# How would you compare design thinking workshops businesses attend and say a design degree?

I think one thing is for sure, everyone will be more aware of what is design thinking. But to really kind of understand it, you have to go through it, which means you have to apply it in your work multiple times and apply it well. I think that's the beauty of design, it's not just about knowledge. That's the same for music right? Everyone can sing, but not everyone is a singer.



### Class of 2010 **Arthur Lim**

#### Co-founder and creative director at DOERS

Arthur Lim focuses on using learning, big data, internet of things (IoT), music streaming and unified commerce.

highlights the industry's changing landscape. Building a brand is no longer a mere declaration of a company's culture or what it can do \*for\* you. Rather, it's a pledge to show users what we can do \*with\* you - that we empathise and share your beliefs. and share your beliefs.

Mariel Chua Class of 2020

### What about design made you decide to go into it?

I was a math and science guy all the way till JC but I have always been drawn to creative activities like drawing and crafts as well. DID seemed to be the perfect blend of both, allowing me to tap on both my analytical left brain and creative right brain to solve real problems. I was really intrigued by the course and decided to take the plunge.

### Do you have any projects from DID that you still recall upon fondly?

It's probably the office furniture project I did for the Technigroup Productive Workplace Competition where I won the first prize. It made me realise that my design is being recognised and validated and that I can create a career in this field doing what I love.

### Did you already have in mind the field of design you wanted to go into when you first graduated?

To be honest, I was pretty clueless when I first graduated! The field of design is huge and I didn't know if I wanted to be a traditional industrial designer. I'm glad that DID exposed me to many facets of design, allowing me to transition organically into other design fields. Since then, I've found my niche as a creative director of my own studio DOERS with another fellow alumni (Colin Ong).

#### How has your work been shaped by your time in DID?

Resourcefulness, adaptability, problem solving, enjoying the iterative process and knowing that there's no one right answer out there. These are all key takeaways from DID that have shaped my career and life.

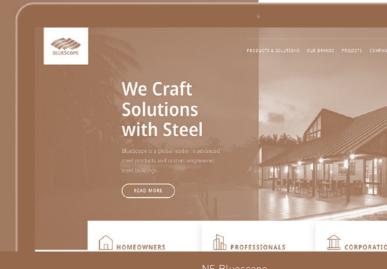
" Adapt on the fly."



White & Wood | a collection of office furniture

### What kind of change do you foresee in your industry in the upcoming years?

Website design or virtual presence of a brand will evolve from 2D to 3D when AR/VR technology matures, giving us a whole new canvas to paint on. Brand marketing will also become hyper-targeted, more localised and customised for the individual as more data are being collected.



### How do you think the future of the design field in general will unfold?

will be needed to tackle the unique challenges of these fresh industries and some of us will make the transition to be pioneers of these new fields. I foresee more creatives working remotely, collaborating with teams globally in AR/VR spaces beyond just emails and video chats. Artificial intelligence will also begin to streamline part of the creative process and execution.



# Class of 2011 Chen Weiyan & Li Liting Joyce

## Founders of In Merry Motion

In Merry Motion is a craft and design studio that makes everyday extraordinary. They have evolved from transforming spaces for private celebrations towards developing themselves as a design and craft consultancy. This includes overseeing craft projects, curating experiences, and hosting craft parties

With the increase in quality of life, I foresee people seeking out quality over quantity. Henceforth, garner a greater appreciation for the craft and design of an experience. The challenge then would be: How do we keep up quality but yet keep the price ,,

Tan Zijie Class of 2020

# "... it is an important life skill to know when to stop."

Veiyan

# ' ... inviting insights and using it to surprise is an advantage."

Joyce

# After enrolling in DID, was there a project you found particularly memorable?

- W There was a project we both did that made us want to work together. This was way before Foursquare and was the start of smartphones. We created an app for SMRT called OnTrack. While others did interactive boards for bus stops, we worked on an insight we found; how fun it would be if you found a friend on the train. People go home at the same time each day on the same route. Our app connected them if they happened to be on the same train at the same time.
- $\mbox{\sf J}$   $\mbox{\sf You}$  can also do stuff together on the app like reserving a restaurant etc.
- W So when you are 'on track' together, you are in sync. It's memorable because even though we don't exactly embrace or use technology in our work, it flows with the things that we enjoy very intentional interactions and meaningful socialising.



#### Huayi Esplanade | 2018

#### How did you both come to start In Merry Motion?

- J It was during our last semester and we were both doing our thesis while figuring out what we'll do after we graduate. At that time, my sister was going to get married so I accompanied her to meet different vendors. All she was being offered were generic templates, so I shared with Weiyan how I felt so much more could be done to this entire experience instead of it looking like every other wedding. After graduating, as fate would have it, Weiyan's sister was going to get married at the same year's end. We started brainstorming, thinking, and dreaming. That was when we decided to design the entire experience from start to end.
- W We applied our knowledge of design thinking, questioning what had always been done. Why must a ring pillow be a pillow? Must the hongbao box be a box? We just challenged all that was the expected "norms".

# Has the initial goal of In Merry Motion changed over the years?

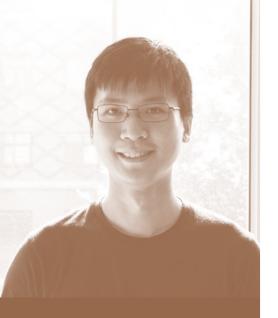
- J When we first started it was quite a wide-eyed-wonder kind of "Oh, what can we do now?". But over time we realise that running this design studio is not just about creating designs that we enjoy, but what the market needs while keeping it sustainable because after all, it's still a business. That's where reality kind of sets in, and you cannot keep doing things in your comfort zone. We are designing for people who are going to probably criticise what you have done and won't mince their words. So I think for us it's the continuous process of improving and execution. Not to keep falling back to the same formula over and over again.
- W Eventually In Merry Motion was not the end goal anymore, but a vehicle to help us to grow. How can we be challenged or how can we grow ourselves?

## How has your ID experiences helped shape In Merry Motion?

W We never really saw ourselves as people trying to save the world. We just really enjoy finding opportunities, picking up insights that we resonate with and reacting on that. ID has helped us to think in a critical way, even in realms that are not traditionally 'design'. Like when we first entered the world of weddings in 2011, we saw ourselves as experience designers transforming spaces. How we approached it was very different, thoughtful, and refreshing from how it had come to be, which was maybe from a stylist's or a planner's perspective.

# What do you envision or hope for in the field of design for Singapore in the next 10 years?

- W I think that this whole 'design thinking' is the new buzzword. People see design thinking as a mere method or solution, but actually it's an introduction to change the way you think and process information, the way you perceive things. I hope the design scene in Singapore will continue to surprise and challenge the status quo. I feel like you can incorporate good design thinking into processes that can be applied anywhere. Design should always be something that delights.
- J I would like design to consist of more experiential executions. Currently, experience design is mostly UIUX and could extend to physical experiences. When I went for exchange, I saw how others really invest in physical experiences for anything and everything. I went to this museum in Switzerland where they merged both digital and physical together. I think Singapore just kind of scratched the surface with museums and digital experiences. The entire process of it, we can really dig deeper and spend more energy in it instead of facilitating a pretty Instagram post.



# Class of 2012 Clement Zheng HCl design researcher

Clement is a designer, educator, and researcher. His work spans computational design, digital fabrication, material exploration, and tangible interactions.

\*\* As we progress towards 5G society and IoT, I think both technology and human centered design will become more prevalent. In our constant search for greater technologies and implementations, such as automation and AI, society might also start to turn

Chua Kah Yeow Class of 2020

"As cliche as it sounds: learning and doing are one and the same."

#### Why did you decide to pursue a career in design?

I was really attracted to the idea of a career that requires me to be both imaginative and creative, as well as logical and technical. Industrial design in particular seems to offer that mix, along with the fact that it is a profession that is constantly repositioning itself to be relevant and meaningful.



#### Sensing Kirigam

## What do you remember about the projects that you worked on in DID?

My final year thesis on construction site boundaries required me to make use of the experiences I accumulated over my undergraduate studies. I had to synthesise both practical and conceptual insights to create a modular boundary system that addresses the needs of both construction site workers and urban residents.

The final prototype was also (literally) the biggest thing I ever had to fabricate.

# What kind of design were you interested in after graduating?

I was excited to be a design technologist; someone who pushes the boundaries of how designers engage with technology in their practice. I was interested in digital fabrication, physical computing, and computational design.

# Has that vision evolved over the years?

Since graduating from DID, I've gradually transitioned from an industrial designer to a design researcher within Human-Computer Interaction (HCI). I would argue that my initial vision has not changed; as I believe that (adjacent to engineering or the applied sciences) the design process offers a different lens to look at how we develop technology and incorporate it into everyday life.

# Do you think DID has impacted the way you do design now?

I hold on tightly to the rigor that was instilled in me as a DID student. Among the different institutions I've been a part of, I have not seen another place that demands as much out of their students. This same rigor enabled me to excel as a designer in a predominantly engineering field.

# How do you think your field of design will change in future?

Computation will permeate all facets of urban life and designers need to be able to shape computation as a material just like wood, plastic, or metal. There will be a shift in focus from designing experiences with black boxes (that is, smart phones, laptops, screens, and their applications) to ubiquitous computing systems such as wearables, mixed reality, and environmental interfaces.



# Class of 2013 Zara Salahuddin

Managing Director of Bismillah Food Industry Pte Ltd

Zara Salahuddin is the secondgeneration owner of the 4-time Michelin Bib Gourmand-awarded restaurant Bismillah Biryani, and former Creative Director at design

"There is so much potential in using food to create meaningful experiences. Food is both a material and also a service, and it's so deeply connected to people's psyche. With feedback immediately available when you put out something, it is truly a fast-paced but exciting area of design to work in."

Claire Chou Class of 2020

### What made you join DID?

I have always been more artistic and inclined to design. I have to admit that I did not have a full understanding of what Industrial design was at that time, but I was curious to find out so I decided to try and apply for it.

# Did you join DID knowing you would work in your family business?

When I graduated, my parents were already running the business but not at the capacity it is in today, we only had I restaurant. They gave me the freedom to do whatever I wanted. I felt that I wouldn't exactly fit into a job with the title 'Industrial designer' per se, though my thesis was related to service design, specifically helping foreign domestic workers maintain the bond with their children back home.



Bismillahbiryani vegbiryani

"...have fun and try everything because you will gain the flexibility to do anything in future.

### So how does your experience in DID facilitate your work?

The beauty of the course is that it is very eye-opening and it gives us a lot of room to explore within the realm of design. In every project, you can do anything you want within the boundaries of the scope. Each project is different, there is something hands-on, technical, graphical, or product design related. We do everything from start to finish. Even if you started off without any relevant skills, you are sure to pick some up along the way. The fact that there is so much for you to explore, and when you graduate, you have a little bit of every skill. When I graduated, I felt like what made me different was that I was a jack of all trades. The exposure that I gained helps me be critical with my future projects and to be more open-minded with how I see things.

#### We saw that your first job was in another industry?

Social media was booming when I graduated so I took a leap of faith and joined the social media content creation team at Bloesem, a design studio. It was kind of different from what everyone else was doing, but I enjoyed it and I felt like I was gaining experience while also using skills I picked up in ID.

#### With your experience, has your vision changed?

Now I work directly with the customers, to me they are the most important and the best form of feedback. In school projects, I felt that we had to go through long processes and finally reach the end for feedback. Now, you put something out and you get the feedback immediately. You have to be on the ball as things are very fast-paced.

# With your ID experience, what role do you play in your family business?

Being the director in the business, I manage the business and oversee day-to-day operations, As we are a small company, I am involved in everything from top down; photoshoots, marketing, and business development.

### How does design come into play?

Being in both the food manufacturing as well as service industries, design thinking is necessary from start to finish. It is multifaceted especially with the constant improvement in technology, which plays a crucial role in the entirety of our business. We have built an entirely digital kitchen in the effort to maintain and improve quality. From the process of designing the workflow in the kitchen, to the cooking of the food and serving of customers, all these require design thinking and allows for effective decisions to be made.

# What's the future you envision for the food industry in the coming years?

The food industry will be more reliant on design as technology improves, all the way from the customer-facing side, like how you order with applications or kiosks, it will improve the experience and flow. The only way up in the next 20 years is with the constant evolution of technology because not only can the quality improve, but efficiency and all around effectiveness. A simple example would be how we don't use water to boil eggs. We just put them into the oven and it cooks the eggs perfectly without water, reducing waste. Food is made quicker, tastes better, less waste is created and the final outcome is beneficial for everyone. For me, that is the heauty of design



### Class of 2014 Yeo Ker Siang Educator

Ker Siang is a designer that investigates the irrational production of value and culture. He believes that as a designer, his role is to make things up for society. Working with various media, he is also keen on exploring mechanisms and fabrications that affect as individual of experience.

As an educator, his teaching is influenced by information theory, models and programmes, where he develops approaches to enrich the parameters of aesthetic and values in users' experience.

\*\* At the moment, 'design' seems to be confined to applications and websites, but I am really excited to explore how design can add value in areas beyond that. Could design be used to create memorable experiences? One that leaves an impression and impacts people in a more tangible and meaningful way.

"Reality is absurd, and design is a powerful way for us to make sense of the world.

What made you make the switch from studying Aeronautical Engineering in Singapore Polytechnic to a design course in university?

I chose design as I was simply looking for something interesting as a career. During my National Service stint, the environment made me decide that I must pursue something that goes against convention. I actually received an offer to study mechanical engineering and decided on industrial design.







# What is one project that you most remember?

A vegetables storage project with World's Kitchen. I learnt a lot about managing expectations of group mates and clients.

# After graduation, what kind of designer did you hope to be?

I wanted to pursue my own ideas as a designer. I was also keen to promote design as a culture.

#### Has that changed?

Not much has changed. I tried out a stint at a governmentlinked company and it just further confirms those visions.

# What have you learned from DID that still sticks with you today?

All the teachers at DID taught me how to always look for new perspectives. They also taught me that this attitude must become a part of my life, not just a career thing.

# What do you imagine the future to be like in the coming years?

I hope to see UX extend beyond apps and websites into objects and experiences. Things will become more sustainable and integrated if we see UX as a system. There will be more focus on designing to evoke intangible feelings. Designers will also have to devise and curate content with the advent of mixed reality devices.



### Class of 2015 Christabel Goh

### Store Design & VM Manager, PUIG

Christabel is a budding designpreneur who strives to produce minimalist yet innovative design solutions. With an entrepreneurial mindset to ceaselessly grow and glow, she displays the attitude and confidence to transform challenges into opportunities. Design knows no boundaries.

\*\* I like how store designs create an emotional experience that is missing in the online process. Due to COVID-19, the retail industry was badly affected. However, I think this brings an opportunity on how the industry can create unique experiences through integrating both the physical and digital world. \*\*

Yasmine Cheng Class of 2020

### What first sparked your interest in design?

I love problem solving and I also loved working with my hands, experimenting with various materials and methods of production. I participated in a few design competitions during my secondary school and JC years so when I found out about the Industrial Design course in NUS, it was my first choice without a doubt.



#### What is the most memorable project from your time in DID?

There are too many! One would be Edustarz, my thesis project. EdUstarz is an integrated theme-based learning resource that challenges the multiple intelligences of children aged 3-6 years old. This resource allows children to learn through the 3 major learning styles; visual, auditory and kinaesthetic. Activities can be customised to be age and developmentally appropriate, thus children can learn at their own pace and gain confidence in learning.



Prada Voyage Overall Design Layout

"Be open to look at things from various perspectives, to identify insights and discover new levels of possibilities."

## What made it so memorable?

This project is memorable due to the many interactions and observation of all users throughout the entire process: seeing the difference before, and whilst they use EdUstarz. I've had various groups of people who were together with me in this project journey; friends who were studying early childhood education, friends working in kindergartens, friends who started up children enrichment classes and church friends who are parents of kids.

# You seem to be really interested in kids' education, so what made you decide to work in retail design instead?

My passion lies in communicating with people and analysing their point-of-view through listening to their stories and observating their movements. Thus, be it kids' education or retail design, it is similar as I am still using my skillsets and designing a 360° solution with the users' perspectives in mind.

### What's the future you see for design in the next 20 years in both the retail as well as kids' education industry?

For the retail industry, stores will create more unique physical experiences for customers with the help of technology. Touchless technology, especially during the "New Normal" post-COVID. As customers become more tech-savy, online stores will be more widely visited. Thus, brick-and-mortar stores will focus on physical experiences which we will all crave for. As an example, lip colours can now be tried on via a camera application. Perhaps in the future, it could be even more realistic where customers can feel the texture on their lips or smell the fragrance of the lip product without even having to try it on. Brick-and-mortar stores will also allow retailers and brands to draw consumers into their brand story by delivering an immersive brand and product experience, ultimately cultivating a relationship with the consumers.

As for kids' education, there will be an increasing number of developments toward virtual and digital education. However, the back-to-basics and physical touch should not be lost. Designers will definitely play a bigger role in education. In the future, kids could be learning through play, via basic building blocks that has digitalised hologram effects explaining various education concepts in a captivating 4D manner.



### Class of 2016 Sherina Tan

Lighting Designer RSO Asia Pacific

Sherina is a lighting designer at ERCO Lighting. She does architectural lighting design for a range of high-profile projects across the Asia Pacific and Middle East region.

that is always intriguing even as the trends change. In the future, I envision that there could be various lighting sources seamlessly integrated with our daily furniture or environment. Or, developing lights to evoke different emotions or moods in a space for users.

Tan Xin Qing Class of 2020

"The design approach provides functional solutions that are both empathetic and considerate.

# Can you briefly describe your experience in DID?

Eye opening and extremely fulfilling.

# Was there an unforgettable project that you did in school?

That would be the module: Design for Emotion, where I designed a thermometer. It was the first exercise where we were exposed to the entire design process with the intention of redesigning the form of a product to evoke a certain emotion. It started from market research, finding a keyword and generating six other words that further broke down the main keyword to find moodboard images. Lastly, we translated them into physical characteristics to be applied on the final form. I was amazed by how the amount of detailed work and thoughts in each step of the design process had an actual impact on the next step and was eventually reflected in the final outcome.



Sincere Ear Thermometer

# You seemed to have experienced a wide variety of design fields, could you share with us your journey?

When I first graduated, I was eager to join an industry that has a hands-on factor and exposure to the production process. I was interested in materials, crafts and making processes. I felt that making things with raw form of materials helps unfold another



Furniture Design for Essa Grace

level of appreciation of good quality products. After designing furniture for Woodfix/Essagrace, I met my current company ERCO Lighting, where I was first exposed to the Lighting Design industry. As an Industrial Designer, the focus is always on form, colour, material and finishing so I was intrigued by the big role lighting plays in affecting how we perceive and experience those qualities. Although it is a different design field, I thought that the perspectives and way of design thinking from what I've learnt in ID would be similar.

### Can you describe the work you do currently?

As a Lighting Designer in ERCO, we specialise in Architectural Lighting which applies lighting in various spaces. I work on various projects with different cultural backgrounds and their respective differences in requirements for lighting. There's really no single solution for all. Design is personal and individual. For instance, it's interesting that South East Asia countries with tropical climates are generally used to cooler colours whereas countries with colder climates prefer warmer colours. In terms of work, we generate 2D drawings on positions of lighting, 3D modelling renders to test and show the lighting effects and also do technical reports.

# What do you wish for the future of design in Singapore to be like?

I hope the value of design will be more well known and appreciated by people outside of the design field. I think design has great potential to make positive changes in many places because the design approach is able to provide functional solutions that are both empathetic and considerate.

### What did you learn from DID that still resonate with you till today?

Design should be intentional with a reason behind each decision to serve a purpose. While doing so, design should have empathy and keep the end user in mind, be it for current or projection of the future. Divergence thinking creates a free, crazy, wild and out of the box ideation process. Then after the divergent ideation, it is important to have the skills to discern and eliminate ideas, known as convergence thinking. Then, lastly refine and iterate until the final outcome. Also, the ability to see endless possibilities in between, not just two extreme ends, and then finding a balance spot is essential.

Is there any advice you would tell the future generations of designers?

Follow your heart and passion.



### Class of 2017 Lai Jing Yi

Product Designer, Synechron

Jing Yi is a product designer with a minor in Technopreneurship.
She has rich experience in many fields i.e. Design, Marketing, PM, Ops, Cust Svc, Sales. She currently works at Synechron, a consultancy firm specialising in business information and technology.

I very much resonate with
Lai Jing Yi. Personally, I
am interested in business,
technology and design and I look
up to her for elegantly grooming
her way to combine these three.
As she mentioned, design
thinking is a strong practice that
will enable designers to venture
and lead in other fields.

Niveditha VJK Class of 2020

# What was the first spark that got you interested in design?

Back when I was 14, in church I served in the slides ministry where I had to use Photoshop, Keynote, etc.

After 'A' levels, I chanced upon Industrial Design while flipping through the available courses. At that moment I thought to myself, since I really enjoyed what I did in church, why not give it a try.

#### What about your minor in Technopreneurship?

I guess for myself, I always wanted to move into business, and eventually have my own business. At the same time, I felt business was too generic and everybody was going into business. I wanted something more niche, so even if I were to really setup my own business in the future, it would be design-related since it's something I really liked. So that's why I decided to take up a minor in Technopreneurship. It's just something I really wanted to pursue but design formed the core.

#### What is your most memorable project in DID?

The most memorable project I would say is the Guerlain studio I took in Year 3 with Dr. Christian. Back then, I had to take on the role of the senior when I was working on the platform. I think I really grew leaps and bounds as a designer in terms of my skills, design thinking etc. It was also a stretch as we were forced to churn up concepts week after week, to find sources of inspiration from everywhere, not simply design websites but just simple day-to-day occurrences, looking around your surroundings where you can find inspiration. I also remember the countless overnights of cadding, model-making, rendering etc. I'm not a person who posts much about school on my instagram but I think if you go to my instagram, you'll find a chain of posts about Guerlain as it was super xiong. And I think I really did enjoy the studio very much.

" ... To value other people's feedback. Don't take offense and don't take it personally.



Pilgrimage | 2015 | Guerlain pop-up retail store concept

#### How has DID impacted what you're currently doing?

One of the biggest takeaways is definitely design thinking. Design thinking is not just limited to product design as a field but can be translated to other fields. For example in Pixibo, I had to build a lot of processes and systems. I had to think about who is going to use it next, especially since it's a startup. In an environment like this, a lot of processes are not built yet, so there had to be lots of considerations for the next user. So I had to put myself in the shoes of someone else who will be using the system I designed.

### If you were to project yourself 20 years into the future, where does Design lie in the tech industry?

I feel there'll be so much more opportunities that will come our way. In terms of design, it is very tempting to say that design will eventually be synonymous with technology. I spoke to my director recently, and in his words, "technology is just an enabler". I think the whole design process is still very much needed to consider like the fundamental needs of users and etc. We are actually moving into a whole new conversation of user experience and user centric design. So definitely I would see more people involved in the realm of design.

# Have you personally experienced this shift?

Currently I am working in the financial sector, I see people in the office, both business and tech people, who see greater value in design. And I think that's nice. I feel like design will no longer be just for the hipsters, the zen ones, or the weirdos. The field of design will really expand and you will see it seep into other industries. So to me, I feel like design would no longer be a standalone, but either an extension or even a call of all businesses.



### Class of 2018 Samuel Woo

### Product and Furniture Designer, SUPERSTRUCTURE

designer currently working in Superstructure. He believes in 'learning by making' and the process of 'doing, failing then doing again'. His interests lie in material exploration, digital fabrication and craft.

"" With the staggering growth in digital fabrication in recent years, there's an evolving opportunity where we as designers can get even more experimental with our creative expression through the diversity of fabrication techniques (traditional/digital) in introducing more innovative applications.

Tommy Cheong Class of 2020

# "Good work demands rigour, just like how it takes 10,000 hours to become an expert.

### Why did you choose to go into design?

I've always had a penchant for making and assembling things and am lucky enough to be decently good at it. Over time I gravitated towards my strengths and that eventually led to design.

# Looking back at your DID experience, what is the most memorable project?

It was a project called Aperture 001 led by Donn, where we were tasked to design a micro 4/3 camera. It was a rather traditional product design project, but I felt that it was like a masterclass for basic skills such as sketching, form-finding and prototyping. Industrial Design can be a very broad field, yet it is also very niche and always evolving. Personally, I felt that it was nice to be able to go back to the roots of the practice.

# After you graduated what kind of designer did you want to be, and has that vision changed over the years?

I think I knew what kind of designer I didn't want to be! I still liked making things, so I wanted to be a designer who would translate ideas into tangible things. I think that hasn't changed very much. I am still making things in the workshop, but now I think more about how to optimise designs for digital fabrication while preserving creative intent. More like a 'redesigner' than designer.

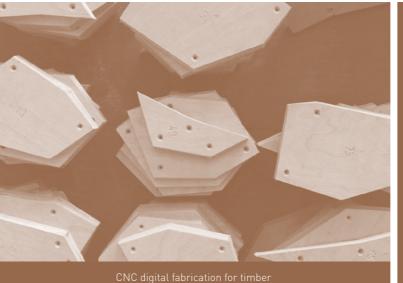
# What is the future you envision for the design field within the next 20 years?

I think that cross-border collaboration will remain important. Singapore is hardly a manufacturing powerhouse nor has the historically derived design language but I think our hunger to innovate is what we can always bring to the international table.



# How about the future of design within your own industry?

I feel local fabricators still have a vital role to play in the design industry. There aren't that many people doing it but those that do have a strong passion for their practice. It used to be that becoming a master at any craft would take years of apprenticeship but with digital fabrication techniques such as rapid prototyping and parametric modelling, the barrier of entry into such fields is greatly decreased. With these tools we can learn faster and push the boundaries of fabrication further.





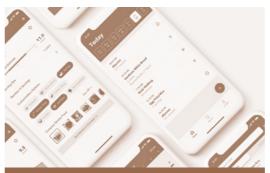
### Class of 2019 Hansel Wong

Product Designer, Lomotif

Hansel is currently working as a product designer in tech startup Lomotif. He is a design technologist that believes in solving problems at scale with digital products. He is passionate about the iterative product development process that constantly evolves to meet both user and business needs.

"I think it is a missed opportunity when promising social tech solutions ends with students' graduation. Hopefully, more tech startups could see the potential in design graduates' projects and bridge the gap designers lack so that such solutions could land in the hands of many beneficiaries."

"When I have an idea, I will just do it first and show the results. Don't wait for people to tell you what to do.



Okra | a blood glucose simulator

#### How did you join design?

I wanted to do something more creative, so I joined interior design in poly. That was when I realised design was more than just making things look beautiful. There are lots of intentions behind it. I wanted to do smaller projects which are more fast-paced and more varied, like different types of projects. So yeah, that's how I landed up here.

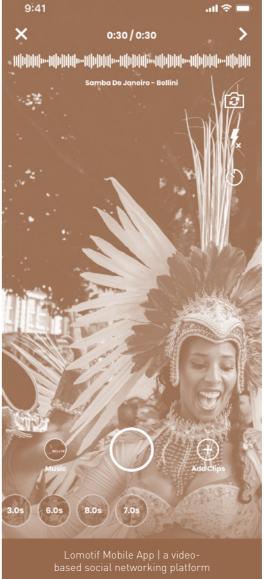
# You mentioned you liked faster-paced projects, was there any which you found more memorable?

It would be my Final Year Project (FYP). I did a project that was more personal, which touched on the topic of diabetes. My family has had a history of diabetes and I myself am at high risk of getting it too.

Through this project I came to understand the many problems faced by not just diabetic patients, but people who in general have issues with nutrition. It's not an easy problem to solve. It's not like you just tell them what's right and they will do it. There are many things behind the scene making people do what they know is bad for them. I started to realise that sometimes it's really just human nature to choose things that are unhealthy.

# Have you considered pushing this further?

I did think about pushing the project to the market, but did not have the technical expertise. I did not have what it takes to push it into the market. That is why I chose to work in a small startup and see how they actually turn a concept into reality.



# Can you tell us more about your work at Lomotif?

Lomotif is a video-based social networking platform that allows users to create interest-based communities to share similar content with one another.

The team was small so at first I did almost everything, from planning out the product roadmap to organising meetings with engineers to even writing codes sometime. But now we have another designer helping me out so I focus a lot more on design.

# How do you see design and tech intermingling in the future?

Something I see more and more is that people are starting to see the demand for designers. They see what a good designer can do and the bar is getting crazily high. I don't know if you heard of the term unicorn designers, those who also can code. Now I think they no longer have the unicorn status. Programming, or at least basic understanding of how the tech works, is pretty much an essential for tech designers or designers working in the digital field.

The lines between the different fields of design also get blurred. It's no longer about UI design, UX design, interaction design, etc. but you have to at least know a bit of everything, even copywriting and working with engineers to build it. As the demand grows higher, we also need to upgrade our skillsets. Know what's out in the industry, pick up all these skills and continue on.



