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Shoulder

X Height

Baseline

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Height

Counter

Spine

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Descender

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The Science of Smart Design

BY YIN LOON

You see two products that do the same thing – let's say two wooden chopping blocks. Both have a straight-forward basic function; one looks really nice, and one looks very plain.

Would you pay more money for a better designed, more visually pleasing chopping block? Does it make us enjoy chopping our food more? Does a happy chopper cook better food?

These are all important questions. And good design could be the answer.

Design in Business

Let's say you want to buy a dark chocolate bar. Brand A's chocolate is simply packaged like the ones you see at 7-11. Brand B's chocolate is in an attractively designed box, using nice, appetising colours and looks expensive. Ignoring the price, which one would you want to buy more (even though they're both identical on the inside)?

Or when it comes to laptops, would you be most likely to pick a MacBook, or a standard PC laptop?

That's the power of design – it propels us to 'want' it because it makes us feel good. Even if it's too expensive for some, it becomes a desirable product.

Therefore, if you're planning on starting up a business, good design should be incorporated into your business plan – be it your logo, website or product. Even big companies – like Apple and Facebook – that started with just tech or business founders currently have excellent designers in their team because it's now a necessity they can't ignore.

Design is now a key differentiator for companies to acquire funding, and garner loyal followers. And that's why it makes good business sense to have good design.

Good Design's in our DNA

Biologically speaking, when we experience something pleasing to any of our senses – be it a delicious taste, soft touch or nice smell – our brain is flooded with dopamine, a chemical that makes us feel happy.

Over time, we subconsciously associate certain things with the happy feeling they give us – we all have a favourite colour for instance. And successful designers put this science to good use.

According to international design guru Don Norman, all good product designs fall into a few key types:

Visceral Design

Visceral design is subconscious. It's part of the genetic response that makes us enjoy bright colours, dislike overly loud noises, prefer a smiling face to a frowning one etc. For example, if you pick a bright-coloured phone cover because you like bright colours, that's visceral.

Behavioural Design

Behavioural design is conscious. This is where we think about what a product should be and how we'll use it based on our expectations. For example, a running shoe that looks "sporty" makes us feel sportier, and more likely to buy it. Even if it was engineered to perform better, we'd have second thoughts on a clunky shoe because we don't think the form matches the function. That's behavioural design.

Reflective Design

Reflective design is a little like our shopping ego. You buy an expensive-looking watch because you feel you deserve it and/or because you want people to see you own it. Even though you could tell time just as well on a $10 watch, the expensive-looking design imbues you with status and esteem, which makes you feel good. That's reflective design.

Any successful product design tries to tap into at least one of these 3 types; of course there are exceptions to the rule, like technologically advanced products that sell based on their innovations.

Which will you choose?

Did you pick the bright colours?

Does this say 'fast' to you?

How much do you think this costs?

BY NATALIE KWAN

LABEL DESIGN

DOES IT INFLUENCE OUR PURCHASE?

Food labels play an integral role in introducing a product to consumers. Since the product cannot speak for itself, the label must effectively convey key information about the product to potential buyers. As consumers, we often rebel against the clichéd saying "do not judge a book by its cover", but as it turns out, we just can't help ourselves.

It is no wonder that companies are putting in more effort in making their products look appealing with various fonts, colours and images that they hope will entice their target audience. In fact, several companies are banking on their products appearing "instagrammable", in a bid to boost sales. Customers may purchase aesthetically appealing products just to get a nice shot for the 'gram, whether or not they actually taste good. What makes one particular product more appealing than its counterparts?

We invited some young Singaporeans on a tour of local supermarkets and convenience stores, and got them to share their top picks. Our six guest judges told us what attracted them to the products they had chosen and whether or not the design of the packaging or label was a factor in their decision-making process.

Kaizo Cool Salted Egg Chips

Felicia, 24 (Consultant)

I've chosen this product as it looks cute; the design stands out from your typical potato chips packaging. I like that the product is resealable and the material feels premium, suggesting that the taste and quality of the snack might be better. Yes, the packaging does affect my decision, but I do look out for other crucial factors such as the number of calories reflected on the label!

Cadbury Choclairs

Nicole, 19 (Temasek Polytechnic Student)

Apart from it being my favourite childhood sweet, the purple and gold packaging looks attractive and it is packed nicely into a container. Yes, the design of the packaging does influence my decision at times, but I look out most for the nutritional information so I know what I'm eating or drinking!

Sean, 21 (NSF)

The packaging looks compact and seems convenient to carry around. The picture suggests that this snack doesn't require any preparation and is ready to eat! This is great for my hectic schedule as it can be eaten on the go. The packaging does matter - there are other brands that offer the same flavour as this product, but their packaging is not as attractive. Dull colours make the snack look sad. The nutritional information also emphasises the fact that the snack bar contains real fruit bits, which makes it a slightly less sinful treat!

Alpen Yoghurt Bar

Cherie, 21 (University of Queensland Undergraduate)

The simplicity of the packaging is attractive, and I like how it is not too messy and distracting. It also shows me what I can expect the snack to look like, thanks to the clear photo. The design of the label doesn't really affect me - I would go for the product which I prefer regardless of whether the label design is appealing or not. However, I do look out for the 'Healthier Choice' logo on the packaging because I am pretty health conscious. If not, I would check the labels and pick products that reflect the lowest calories!

7-11 Japanese Corn Snack

James, 19 (Temasek Polytechnic Student)

I chose this product because the contents look really colourful and sweet. As you can see, the container is transparent and the label is actually really simple-looking. For me, the design of the label does not really matter when I am making a choice between products.

Sandwich Jelly

Coco Life Coconut Water

Sian Sue (University of Buffalo Undergraduate)

Although there are many other cheaper alternatives to this product, I chose this because it stood out from the rest by having a blue packaging. Apart from the aesthetics, I would also look at the ingredients list, as some manufacturers would add sugar. But the design of the product unfortunately does influence my decision. However, I'm less likely to buy a product that I've never tried before just for its packaging but when choosing a product among different brands, the packaging tends to be the deciding factor.

BY NINA GAN

LOVE IT OR HATE IT?
THE CULT OF
Comic Sans

Do you recognise this font?

If you Google "world's most hated font", Comic Sans will probably appear in the top search results. Mention its name to your friends, and you may get a chuckle; mention it to a designer, and you'll get a look of disgust.

As one of the most frequently used fonts in the world, one has to wonder how it landed itself on the 'most hated' font list. It was even a hot topic covered by the Wall Street Journal (2009), BBC (2010) and The Independent (2010).

THE BIRTH OF COMIC SANS

Comic Sans was created by Vincent Connare who worked at Microsoft. In 1995 he sat in on a meeting about a character called Microsoft Bob which used speech bubbles to tell people how to do things in Windows. The font used was Times New Roman, which Connare felt was not friendly, so he set about designing a new font and found inspiration from his comic books.

He then showed some sample letterforms to the team. However, the Microsoft Bob project was too far along for the font to be included, but it was used for Microsoft's Movie Maker software and included as one of the standard Windows 95 fonts.

Described by Microsoft as a "groovy script font", it wasn't long before it made the jump to web browsers, becoming the friendly font for non-technical folks. It was also used in designs for corporate brands like Beanie Babies and The Sims.

HATE MAIL

One of the major reasons for Comic Sans hate is the fact that it's been overused without much thought or care; and that the fun font is being used in serious messaging.

People may pick Comic Sans because it looks non-threatening and less formal, but it can backfire. Imagine you have two sushi stands – one uses Comic Sans, and the other uses fonts with Japanese brush strokes. Which stand would you choose?

The font's absurd usage can be seen in two important public announcements. In 2012, scientists working on the Large Hadron Collider at CERN chose Comic Sans to announce one of the most significant scientific discoveries of the 21st century. In 2013, Pope Benedict XVI's retirement was announced on the Vatican's website in Comic Sans. Cue widespread ridicule.

DESIGNER'S REASONING

For designers, the critique of the font comes in its design: the first few letters – a, b, c, d, e – appear to be based on a circle without much variation. Compare Comic Sans with the well-respected font, Helvetica.

Shoulder
Stem
Heavy Area

Helvetica   Comic Sans

Both have a relatively unmodulated stroke (the thickness of the strokes don't change much compared to fonts like Garamond). However, in Helvetica, it gets thinner where the shoulders meet the stem on the

letter 'n' which gives it a better visual weight than the Comic Sans version. This mismanagement of visual weight is the main issue that makes reading Comic Sans an unpleasant experience.

pet fox

Helvetica

pet fox

poor letterfit / kerning

Comic Sans

Comic Sans also has poor spacing between letters (called kerning), which is critical when you're trying to fit text into a document.

BAN COMIC SANS

A number of designers are rejecting the font – a notable movement is "Ban Comic Sans" (est. 2002), founded by a pair of designers after their former employer insisted they use the font in a museum exhibit. In 2010, a filmmaker attempted to raise $20,000 on Kickstarter to make a film on Comic Sans; it was shelved after raising only $714.

In 2011, the font rose to parody fame. Comic Sans was used by Google in an easter egg

event on April Fool's day, showing results entirely in Comic Sans for the keyword "Helvetica". Meanwhile, the Comic Sans Project curated a series of well-known global logos redesigned with Comic Sans font.

Not surprisingly, Comic Sans also has its memes.

HE WROTE THE E-MAIL IN COMIC SANS...

NOW I CAN'T TAKE IT SERIOUSLY.

We all know Comic Sans is a childish, informal font – not to be used lightly, in a sex offender notice, or in a doctor's diagnosis letter – but for better or worse, it's here to stay.

THE
DESIGN OF FUTURE

MUSK & THE MISSION TO MARS

BY JESSICA TAN

The word 'design' conjures in most of us images of aesthetically-pleasing graphics, apparels, even an architectural landscape, but one man dreamed bigger. He envisioned an inspiring future—one that is sustainable, green, and involves us us going forth into the larger universe.

However, everyone was too caught up living in the consumerist now, devastating Earth with large amounts of energy for fleeting pleasures, and sparing little consideration for the exploration of intellectual curiosities to marshal progress in such a direction. So, he set out to design his own paradigm of the future. His name is Elon Musk, and we are beginning to see his blueprint for an inspired future materialise.

DESIGN OF A PRODUCT

Gasoline vehicles pose significant environmental hazards, from their contribution to air pollution in city centres to abundant greenhouse gas emissions. While electric vehicles assuaged the guilt of the environmentally-conscious, they used to be of chunky, unprepossessing build—not exactly the kind of trophies you would drive around to boost your street cred.

Enter Tesla S (2016). It was designed to look and feel luxurious, reminiscent of a high-performance, exotic sports car. Without the need for a traditional grille to feed the internal-combustion engine with oxygen, the Tesla S had a sleek silhouette. Its interior boasts a central touchscreen that controls most of the vehicle's functions, replacing outdated knobs and buttons, and reinforcing Tesla's position as an advanced technological enterprise. Will Smith, Steven Spielberg and Jay-Z are some of the high-profile celebrities who have been sold by the design of Tesla S, changing the public's impression that electric vehicles were glorified golf carts.

Its successor, the Tesla 3, is on a whole new level of allure, with an ultra-minimalist interior broken only by a Tesla touchscreen that reinforces the message that Tesla is at the forefront of technology. Who knew that sustainable design could be so sexy.
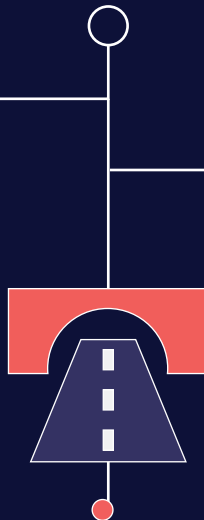
DESIGN OF A SYSTEM

The Boring Company was founded in December 2016 to look into a novel solution to alleviate traffic congestion via a three-dimensional network of underground tunnels that can send individual vehicles to its destinations at nonpareil high speeds of 200km/h unobstructed – like a subway for cars.

The entrance and exit of the tunnels will be seamlessly integrated into the city's roads via multiple elevators such that individual vehicles may descend to the tunnels easily. These tunnels provide fast connections between major cities, and will ease the remaining traffic within the cities themselves.

While the rest of the world looked to building more highways and highly impractical flying cars, Musk's team looked to innovative designs that challenge conventional thinking about traffic congestion, to emerge with one of the most promising solutions of our time.
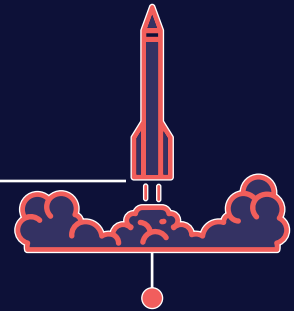
DESIGN OF A FUTURE

While sustainable energy is an inevitable paradigm that society will pursue in the face of depleting resources, space exploration on the other hand looks at longer-term solutions beyond our own planet. Innovation in this field may create new jobs and markets, allow future excavation of resources from space, ease terrestrial overpopulation, and provide humans with a new home in an unlikely but not inconceivable Armageddon scenario.

Musk proposed a daring plan to colonise Mars, with its first inhabitants landing in 2024. By 2040, Mars could be colonised by humans within a thriving city. The road to a space-faring civilisation is paved by first introducing sustainability in space travel via reusable rockets. Most rockets are discarded after every launch because they cannot land successfully without incurring substantial damage.

In December 2017, SpaceX changed the game of space travel by celebrating its 20th successful rocket landing with one of its Falcon 9 rocket stages. This milestone serves as a reminder that even the most expensive form of travel can be designed to be sustainable—and that our dreams of colonising Mars may soon materialise.

Musk pulls together design, technology and business into one package, in a way that very few people can, and his journey to success is hinged on his vision of the future. That future lies in sustainability. It is solving a problem in a way that will persist despite any changes in the current ecosystem. Design is not just about evoking ephemeral delight; it is a blueprint for the future. With some of Musk's vision of the future already a reality, how much more will we see in our lifetime?

THE ROLE OF COLOUR

Think of a colour. Now, think about how it makes you feel. Is there a correlation between these two variables? Often, there is more at play than just hues and contrast. Many underestimate the power of colour and the influence it has on how it makes us think and feel. Don't you ever wonder why certain colours make you feel a certain way? Notice how red typically makes you hungry and how green makes you feel healthy and instantly energised?

There are many reasons that can affect the reactions you get from seeing a certain colour. One of the reasons is because we all have differing personal life experiences. For example, in most Asian cultures, the colour red denotes prosperity and happiness. However, did you know that it carries a completely different association in South Africa, where it's related to a sense of mourning?

Colours not only represent feelings and symbolism, they can also evoke certain values and perceptions when it comes to the branding, advertising, or marketing of different products.

EVERYDAY HUES, TINTS AND TONES

by Nurfaizah Faizuwan

COLOUR AND BRANDING

Studies have found that up to 85% of judgments on products can be based off just colour alone, especially when you compare two similar products of different brands. Companies know that the relationship between products and colours are symbiotic, meaning that they must be integrated effectively to capture a consumer's attention or convey a certain feeling, image or mood that can play a role in persuasion.

Companies typically use red as it evokes strong emotions, symbolises passion and love, and increases appetite as well. It's used by thousands of brands, the most memorable being Coca-Cola, SMRT, YouTube, and Netflix. Blue is mostly associated with water and represents calmness, serenity, and security. Additionally, it is supposedly used to increase productivity, which logically explains why brands that are in the technology or finance industries contain some shade of blue, such as Dell, IBM and Panasonic. Purple is commonly used to reflect royalty and prestige, with a prime example being Cadbury's which bears a Royal Warrant as suppliers of chocolates to the British royal family. Brown is associated with reliability and dependability – which is why delivery companies like UPS and Yamato use that colour for their uniforms.

The power of colour can also help a company effectively 'claim' it as its own, such as the red used by Coca-Cola or the shade of blue that makes up Facebook's logo. This has been proven to be extremely important when creating a brand identity because studies have found that our brains prefer brands that are easily recognised by the colours in their logos or products. Colours are so important that even when it comes to redesigning logos, companies are hesitant to replace them. Take examples like BP, Gap, and even Starbucks.

PERSUASIVE POWER OF COLOUR

When you're at a supermarket, thousands of products vie for your attention, and colour is one of the easiest ways to get your attention. Do you look at the bright-coloured box first? Or are you the type who zooms in on the beige-brown packaging because you prefer 'natural' products? This is how products use colour to position themselves in the market, and because every consumer is different, not all products use the same colour palette.

Even store design uses colour psychology to influence a purchase. Warm colours like oranges and browns are inviting, while cooling colours like green and blue have a calming effect – picture entering a Starbucks: do you see white walls? Then there are colours like red which are often seen on discount signages – red has long been associated with stopping, whether it's on a traffic signal, emergency vehicle or store design.

Colours can subliminally convey a brand's personality and the quality of their products to their consumers, and in some cases, it purveys a complete lifestyle. As the globalised world evolves to grow more competitive, companies have to continue to find more ways to connect with their consumers, and colour psychology can play a big part.

FOOD PACKAGING

TetraPaks are some of the most common products used in our daily lives, and despite them being aseptic cartons (made up of paper fibres, polymers and aluminium) they are designed to be recyclable. As Chinese New Year is approaching, there will be an increase in consumption of packet and canned drinks. These are both convenient for the host and the guest since there is no need to wash anything before and after drinking. The beauty of these recyclable products is that once you've emptied them, you can flatten them to reduce the space in your bins before dropping them off at recycling bins.

If there isn't a specific recycling bin for TetraPak in your hood, just throw them into the plastic one (it'll be sorted out later). However, before recycling, remember to rinse out the containers, since between 30-50% of the haul from household recycle bins cannot be processed due to contamination by food waste.

Design thinking is a popular concept taught in schools and organisations these days. By considering the human approach to a product, designers adopt the design thinking method to create a product that can maximise the user's experience in interacting with the product. With a rising urgency for recycling to combat landfills, designers should consider design from the end-of-life perspective.

Since this year is the year of climate action for Singapore, we should do our part to protect our precious biodiversity as students and future stewards of our country. While you can't change the way a product is made, there are things you can do to help minimise its waste footprint; for example, here are ways you can handle three very different types of products that are designed for recycling:

DESIGNED TO COMBAT WASTE

By Pok Ci En

RECYCLING BY DESIGN

CLOTHING

This is the age of fast information, and fast fashion. For a piece of clothing, the challenge is to create designs that encourages recycling. With big brands like Uniqlo and H&M selling a t-shirt at below $5, shoppers may be prone to a "wear and toss" mentality.

Clothes, unlike many other materials, can easily be upcycled; the fabric can be used to make a new product. You can even do this at home – your old clothes can be altered and cut up to create accessories (ie. bags), quilts, or artwork. You can also transform one piece of clothing into another, and there are plenty of tutorials out there to give you inspiration. If you don't feel crafty, your clothes can also be reused by other wearers (either donated to charity or passed down to relatives) or shredded into fabric strips to make new products such as towels for household use. Even a cheap t-shirt that we wear less than five times can be put back into use differently.

TECHNOLOGY

Tech firms like Dell and Fuji Xerox have designed their products with recycling in mind. When it comes to machines like computers and printers, the process of dismantling has to be fuss-free and safe to encourage the recycling of e-waste parts.

For us to effectively close the loop, companies should either have a programme designed to recycle old products like Fuji Xerox has (they have a takeback service to help customers recycle their printers under their Integrated Recycling system program) or design their products like Dell, where users can easily disassemble laptops for the recycling of parts.

Dell's laptops use standardised fasteners with snap fit assemblies for easy removal and have disassembly instructions provided in their user documentations.

We are mere consumers, but we have so much power to be able to shape the future of our climate if we take that extra minute to segregate our waste. As Singapore aims to increase her recycling rate to 70% by 2030 from 58% in 2010, let's make full use of the 9,000 blue recycling bins found around the island!

LOGO

SPEAK LOUDLY, SPEAK VISUALLY

By Valery Thong

Just as how Victoria Secret's angels fall from heaven and parade down the runway as the faces of the brand, a logo is an embodiment of what the company stands for – its value, history, and culture. Of course, it's also an important marketing tool to brand itself into our collective memories. It is the bridge between the products or services and consumers, allowing us to recognise and connect with the brand easily.

Here are some examples that explain the various factors that companies consider when creating a logo.

SIMPLICITY

A logo does not always have to be a combination of striking colours with eccentric fonts. It can be simple and straightforward.

The black-and-white panda has surely captured the hearts of many, making us go "awww".

This black-and-white furry animal has become a universally recognised symbol for animal conservation as it overcomes language barriers. The logo is even more enduring as it makes the organisation more approachable and trustworthy in its efforts to protect nature.

THE HIDDEN MEANING

Many of us do not pay attention to logos, barely giving a thought to what they may represent or mean. Have you wondered what they could possibly suggest?

Amazon is an online shopping paradise with countless products to choose from. Notice the yellow arrow pointing from 'a' to 'z' in the logo? They literally sell everything from a to z. The curved arrow also reflects the smile of a customer when shopping on Amazon, with the arrowhead and the twisted 'z' on one end representing the dimple on your face! Talk about being subtle.

MARKETING

A logo is a visual representation of a brand that stays in people's memories, and is an essential marketing tool to stay relevant in the market or even to gain publicity.

A new logo was commissioned as a marketing tool in 2016 to improve its lacklustre sales performance. Subway's message of clean eating resonates in their logo through the deliberate use of yellow and green which allow consumers to associate Subway with healthy eating as they reflect the fresh vegetables they have to offer, thus differentiating them from a typical fast food brand.

ORIGINS

As emblems of heritage, some logos illustrate the company's history, which may sometimes include a founder's image.

The logo had several changes over the years, from its initial serious-looking Colonel to the current heartwarming figure with a red apron. The logo has consistently identified itself with the founder as it preserves parts of the Colonel's image to reflect the chain's history with him being the face of KFC. Through the logo, we have come to know him as the grandpa of this famous fried chicken fast-food chain.

CONCLUSION

There's a story behind almost every logo that represents a company's values and ideals. A logo isn't merely a decorative piece; it is a signature that confirms the worth of the product or service that one is paying for.

Sometimes, a logo is the reason why consumers are so obsessed with the brand. Take Nike as an example – many sneakerheads desire to own a pair of black and white Nike Air Max with its swoosh logo.

Ultimately, a consumer's decision-making process can be influenced by the ideas, values and heritage shaped by a company's branding and marketing, with the logo being the first thing we are most likely to recognise and remember about a brand.

Converse Classic Chucks

Nike Dunk High-cut

Adidas UltraBoost

COMPLEX CUSHION

What goes into sneaker design

BY ESHWARAN

Adidas Energy Boost 3

Vans Moto Leather SK8-Hi Reissue

Sneaker technology has, over time, become the main focus for any sneaker. "Boost" has become synonymous with the cushioning of Adidas sneakers, and so has the term "Air" for Nike Airmax sneakers. People don't just want their sneakers to look good, they want comfort as well. This has pushed the major players in the sneaker industry to redesign almost every element of the footwear to create trendy yet comfortable sneakers.

MIDSOLES: SOUL OF THE SHOE

This one piece of rubber can make or break a shoe: it is both the spine that holds the shoe together, and the cushion that softens it. Each brand has their own definition how a midsole should feel and perform. The three most prominent attempts at making the softest and most responsive sole come from Adidas, Nike, and New Balance.

Adidas first introduced Boost technology in 2013, made in collaboration with a chemical company. First released as the Energy Boost line meant for hardcore runners, it soon crossed over into the fashion world. Its popularity was further propelled by Kanye West when he wore the Ultraboost line from market runs to concert stages. This drew attention to the Boost's lightweight comfort and versatility of the sneaker: it looked good both in the gym and on the streets.

But that kind of hype is not unheard of. Nike had such a moment – back in the 1980s, when they changed the game with their runners and basketball sneakers. Their air cushion enabled better cushioning from repeated landings and better responsiveness when running or jumping. The original Air Jordan 1 was so much better than rival sneakers that it was originally banned from the NBA. Since then, Nike has been reinventing their Air cushion technology, with the exposed Air cushion being the most radical yet timeless design element that is still being used today.

A notable mention is New Balance. Ever since the 1980s, it has consistently tinkered with the traditional foam midsole. Their aim was to create the lightest, springiest and advanced foam midsoles of any running shoe. Every decade or so, they would release a new version: first was the ENCAP, followed by the Abzorb, the Revlite, and finally

the Fresh Foam (2013). They've changed how they work with EVA (a component of the foam midsole), and were able to control the compression and resistance under impact in different zones of the shoe.

DESIGN: NOT TO BE FORGOTTEN

Even if they were super comfortable, a badly-designed sneaker would not survive in today's sneaker market. With so many brands offering varying designs of similar comfort, even a shoe with amazing performance can fail. However, sneaker trends are very broad. At the moment, there are two notable routes: modern and retro.

Modern silhouettes are meant to push boundaries and incorporate the latest technologies. They look crazy and futuristic, but are meant to help pave the way for future designs and trends. This is best encapsulated by the Nike Vapormax. It uses a revolutionary form of the Air Cushion from Air Jordan, and covers the entire sole of the shoe with multiple pockets of air, literally allowing you to walk "on air".

With retro designs, shoe manufacturers can either remake older silhouettes with updated technology or incorporate retro design elements into new sneakers. A good example of the latter is the Adidas i–5923 ("Iniki"), which took the retro looks of the Adidas Gazelle and placed it on top of the NMD Boost midsole. A good example of the former also comes from Adidas; they added Boost into the midsole of their Superstar, achieving retro looks with modern comfort. These days, sneakerheads are starting to prefer the chunkier, 90s sneakers, like the New Balance 990 – basically shoes our dads would wear.

SOMETIMES SIMPLE IS BEST

Not everyone desires the latest technologies in their shoes – sometimes, all we need is a simple pair of shoes, and there are brands that have stuck to that simple formula. Vans and Converse often come to mind first: simple and durable, they're an evergreen staple. By sticking to the original formula, you can enjoy both retro and trendsetting looks at an affordable price point – a pair of Vans costs $69.90, while an Adidas Ultraboost is $300.

Nintendo Vans SK8-Hi Slim Console

Adidas Iniki Runner

New Balance Fresh Foam Boracay

Fresh Foam

Nike Air VaporMax Flyknit

BY DELIA CHEW

design from the ground up:

KICKSTARTER PRODUCTS FROM SINGAPORE

Singapore – the city of unlimited possibilities, where passion (for design) can take flight. However, for aspiring entrepreneurs, simply developing a creative business idea is not enough – one needs enough funds and a supportive client base. Kickstarter, which is the largest crowd-funding platform for creative projects, allows budding bosses to turn their design dreams into reality. Users simply post their products on Kickstarter to raise funds and gain traction, which gives them the backing needed to produce and further refine their ideas.

There's enough demand for Kickstarter products that there's even a pop-up store called We The People (WTP) where you can check out products in person, and order them without the wait.

Such crowd-powered platforms give local talent the opportunity to shine and show themselves on a bigger stage. Here are 4 made-in-Singapore Kickstarter products that are making waves.

zelos watches

Started in 2014, Zelos Watches has grown from strength to strength since its humble beginnings on Kickstarter. Its first product, the Helmsman, gained attention for its unique features, such as the watch's bronze casing and internal divers bezel, that were uncommon for a brand of its size, particularly one that was just starting out. Zelos is populating a market space that provides luxury-quality watches at affordable prices. In fact, a piece from Zelos' latest collection, the ZX-8 Limited Edition, incorporates an actual fighter jet dial.

kin wallet

Perhaps you've been frustrated by a slow moving queue while waiting in line for the cashier. Or even been guilty of holding up the queue yourself, fumbling for change in your wallet. KIN Wallet aims to speed up this process by automatically sorting your coins and notes. Simply slot all your cash and coins in from the top, and your change is sorted! No more worries about unwieldy zippers or coins falling out. With secure locking mechanisms and a streamlined design, KIN creates a smooth user experience with the added advantage of being water-resistant. And it certainly is a hit with the crowd – KIN is one of the most successful Singaporean crowd-funded products on Kickstarter to date.

popsical

Ever had those moments where your life feels like scenes right out of a movie, just lacking the soundtrack? With Popsical, you can now belt out the lyrics to your favourite songs whenever and wherever you are. The pocket-sized karaoke system is small, light and convenient to carry around. With a cloud-based library containing over 20,000 songs in more than 5 languages, all you have to do is simply connect the system to your phone or TV and sing to your heart's content. The app also supports multiple users who can connect to Popsical.

quiver bag

This multi-functional sports bag, aimed at professionals, athletes and gym-goers, eliminates the need to carry multiple bags for different occasions. With separate compartments for sports and travel items, the user can fit clothes, shoes, toiletries and other personal belongings inside the bag. Easy access pockets make it convenient for one to retrieve essential items, and a detachable strap can be attached at the user's own preference. With its sleek design, the carrier would not look out of place in an office setting or on the street.

by Darryl Goh (brandingsingapore.blogspot.sg)

LOCAL DESIGNS
THAT GOT US TALKING
the different pillars of design

Singapore's design scene is quietly gaining global recognition – from creative local products by Naiise to award-winning branding works by local design agencies, nothing seems to be stopping Singapore from becoming a global design powerhouse. In fact, shortly after we celebrated our golden jubilee, Singapore was designated as a UNESCO Creative City of Design, a perfect start to our golden years of design.

Design is more than just a logo or packaging – there are many pillars under the design umbrella, from branding, to UX design, and even design thinking. To illustrate the differences, here are some design campaigns that have generated substantial buzz in Singapore lately.

USER EXPERIENCE DESIGN (UXD)

You might be angry at SMRT due to train breakdowns, but some are up in arms about SMRT's recent UX problem plaguing new SMRT train screens. Known as STARiS 2.0, the new train displays are unhelpful at best, blasting viewers with a paragraph of words which you are expected to digest in a few seconds before the screen blasts you with more information. Station exits? Check. Places of interest near the station? Check. The full MRT map? Puzzlingly and sadly, no.

The purpose of UXD is to ensure customers have a pleasant experience when using the product, or at the very least, make the product usable. Designers would create user experience 'maps' and ensure users have as close an experience to the intended one mapped out. For instance, if you prefer to go to a telco outlet to renew your contract instead of doing it online, it might be because the UX of filling online forms is not user-friendly.

UXD is often taken for granted, but when it is not executed well, the effects are felt almost immediately.

BRANDING

Singapore is a place where "Passion is made Possible", and it's a part of Singapore's new brand identity, publicly launched last year. The previous "Visit Singapore" logo featuring an outline of Singapore has now been replaced by a circular logo called the SG Mark. The SG Mark pays homage to the SG50 icon, and is similar to the trademark symbol.

Before   **After**

Branding is an important component in any business; it is the face and overall image of the brand. From the logo to the marketing campaigns, every business strives to create a memorable brand identity which connects with its customers and leaves a lasting effect on their minds, so they can eventually become loyal supporters of the brand.

Singapore's new brand identity – jointly launched by both the Singapore Tourism Board and the Economic Development Board – is supposed to be an all-encompassing logo targeting locals, businesses (local and overseas) and tourists. It is a bold move to use a logo aimed at targeting so many different stakeholders, but the logo and tagline are deliberately minimalistic to fit in any marketing campaign used by the different branches of the Government.

DESIGN THINKING

The newest business-design methodology to attract the attention of not only businesses but also the Singapore Government is "design thinking".

The defining part of the design thinking process is stakeholder (or client) involvement, from research up till the prototyping stages of the product. By discovering the untapped needs of the stakeholders, businesses can then create products which satisfy these needs and beat existing competition. This is why even the Government is actively engaging the public for policy ideas, from the recent Pre-Budget Listening Points held in the heartlands to the online discussion forum called Reach. These engagements provide opportunities for everyone to share their concerns so the Government can come up with relevant policies for the good of the country.

As design thinking is a long-term investment, large multinational companies such as Google and SAP are already embracing it, so it is only a matter of time before you hear local businesses telling their R&D staff to "think like designers".

These might be different pillars of design, but they all work together to create usable, pleasurable experiences for everyone. Whether you are a design enthusiast or just a person who appreciates good design, all you have to do is simply explore your surroundings.

BIOMIMICRY

By Yin Loon

Designed by Nature

designers don't understand biology, they miss out on what's likely the greatest reference material of all time – one that's based on 3.8 billion years of existence.

Biomimicry, a term coined in 1997 by Janine Benyus, is a method for creating solutions to human challenges by emulating designs and ideas found in nature. As there is a limit to human ingenuity, many industries are already seeing the potential of biomimicry, from computing, to energy and healthcare. Today, it's used everywhere: buildings, vehicles, materials, and more.

Because designers aren't experts in how the natural world works, more and more companies are starting to involve biologists in their design process, whose knowledge of nature and form add new dimensions to their design thinking.

Designers can integrate nature into their design in three levels: copying the natural form, imitating a natural process, and incorporating entire ecosystems.

Designers can definitely benefit from getting more inspiration from the natural world. While us humans have shown remarkable ingenuity so far, Mother Nature has millennia of evolutionary trial-and-error we can learn from. But because most

Copying form and shape

The easiest way to copy the function of nature is to copy its form or shape. Most plants and animals are designed in a specific way to help them cope with the landscapes they inhabit, and in copying those forms we may be able to harness their functions on a larger scale.

One of the best examples of biomimicry lies in Japan's bullet train design. Although fondly nicknamed the "duck-billed train" it is actually inspired by another bird: the kingfisher.

In the process of one of their bullet train upgrades, designers hit a snag – not with the speed, but with the massive noise created as the train exits a tunnel. This loud shockwave – aka "tunnel boom" – even caused structural damage to several tunnels. The source of the problem came from the train's nose cap, and to solve the issue, engineer Eiji Nakatsu (who was a birdwatcher) took a design cue from the kingfisher. When these fish-eaters dart for a meal, they barely create a ripple in the water

thanks to their aerodynamic beaks. As a result, the train's redesigned nose – a 50-foot-long steel kingfisher beak – produced trains that were 10% faster, consumed 15% less energy, and eliminated the "boom".

In another example, lotus leaves are providing designers with inspiration for self-cleaning nanotechnology. Have you ever looked at how clean lotus leaves always look, and how droplets of water simply slide off completely? The leaf itself is a feat of engineering when you look at it microscopically. The surface is composed of folds and jutting crystals – nature's self-cleaning mechanism. When it comes in contact with water, dirt particles on the leaf's surface stick to those droplets, and with the slightest bend of the leaf (ie. due to wind), the water will roll off along with the attached dirt particles. This in effect cleans the leaf without expending any energy – this nanotechnology is being applied today to paints, textiles and household items.

German company Ispo spent 4 years researching the lotus leaf, and has developed a paint that naturally 'pushes' away dust and dirt, effectively eliminating the need to wash the wall. This nanotechnology is also applied to fabrics as antibacterial agents (to eliminate stinky socks and armpit areas), as well as to create stain-proof clothing.

Another everyday nature-inspired invention is Velcro, which is based on a simple design of hooks of burdock burrs that naturally attach themselves onto animal fur for pollination.

Imitating a process

The next step of biomimicry is in copying natural processes – such as how insects like ants or bees communicate with each other. This communication process is already being incorporated into current software programming.

The 'swarm intelligence' of bees is a model for solving issues internet servers faced with overwhelming demand. Bees and servers have similar issues with efficiency – both have erratic resources; for the bees, it's honey, while for the servers, it's computational capacity during an influx of web activity (so your server crashes). However, the insects had one trick up their sleeves: the waggle dance.

When bees find an oasis of nectar, they return to the hive and perform the waggle dance that communicates to other foragers about the location. How does this translate to servers? Engineers applied the 'waggle dance' strategy to idle servers, developing a virtual dance floor for a network of servers to communicate with other servers, thus spreading the computational capacity across multiple workers. The servers can then meet fluctuating demand more quickly; the 'waggle dance' increased server efficiency by 20%.

Similarly with ants, imagine the nonverbal communication that can exist for autonomous cars. They can 'talk' to each other and synchronise how they move in groups more efficiently with a simple code.

Incorporating Entire Ecosystems

The final leap is biomimicry is mimicking whole ecosystems. The goal here is to reduce waste and increase efficiency in what's termed the "The Circular Economy" – basically the foundation for sustainable, green design. It's the idea that there should be no by-product that gets wasted or pollutes the environment.

Think of a tree that falls in the woods – it grows moss and fungus that feed insects, which then feed birds and animals that may live in the fallen log. While they themselves become food for larger carnivores, their droppings fertilise the ground, where a new tree grows to continue the cycle all over again. This is the definition of nature's circular economy.

To illustrate a working biomimicry equivalent, we can use the humble example of paper. The very paper we use for printing is an early example of manmade biomimicry – people were inspired by the way paper wasps built their nests by mixing spit with fibres from dead wood. This incorporates the first and second stages of biomimicry – copying the form and the process. We then take the final step by returning the paper back to nature – in the form of either upcycling or recycling. In upcycling, paper that was used as a newspaper can be repurposed as, say, papier-mâché plates. In recycling, they are mulched and made into new paper products. Both of these methods reduce waste, creating a circular economy that mimics nature's ecosystem.

Ultimately, the biggest goal of biomimicry is to make our individual products, the processes by which they're made, and ultimately our society that's built on them, to be as close (or ideally, indistinguishable) from the natural world as possible. In doing so, we'll be doing what well-adapted organisms have learned to do, which is to create the environmental conditions most conducive to life.

How well do we know the people behind iconic designs? From eye-catching graphics and quirky homeware to awe-inspiring buildings, here are the profiles of some of the names behind these enduring pieces of art that inspire our everyday lives.

Cheat Sheet
#52 Design Icons

TYPOGRAPHY

From book covers to logos, typography is the art of arranging letters and fonts in a way that communicates to the viewer an emotion or expression that speaks beyond mere words.

PAULA SCHER (1948 – PRESENT)

Scher's portfolio includes clients like Citibank, Coca-Cola, Microsoft and Tiffany + Co. While she's garnered many national and international awards, her most famous work was in 1996 for New York's The Public Theater: her re-imagined look and feel of the Theater's image become an instant case-study for design students everywhere. Her commercial works have the unique power to bridge the gap from commercial advertising into pop art, and are on display everywhere from New York's Museum of Modern Art to the National Library of France.

NY Public Theater Poster and Corporate logos

PRODUCT DESIGN

Product design is possibly the most personal, as it's found in every single thing we touch, use, or own, on a daily basis.

ALBERTO ALESSI (1939 – PRESENT)

Alberto Alessi is an Italian design icon. While he himself is a top designer, he made the Alessi brand a household name by collaborating with other designers. Alessi is best known for its whimsical, often over-designed, homewares which double as modern art pieces. According to Alessi, "design victims... forgo function and price over the emotional value of a product" and his most iconic designs include the extraterrestrial-looking Juicy Salif (by Philippe Starck), and the Anna G. corkscrew (by Alessandro Mendini).

Anna G. corkscrew

Juicy Salif

ARCHITECTURE

Few aspects of design are more all-encompassing than architecture. While a boring building can still fulfill its basic function, a well-designed building becomes a symbol of a city itself.

ZAHA HADID (1950-2016)

Born in Iraq and schooled in England, Hadid is arguably one of the most renowned architects in the world. Over her career, while she and her eponymous firm won literally hundreds of awards. Her iconic works include the Guangzhou Opera House, Zaragoza's Bridge Pavilion, and the London Aquatics Centre. Hadid's work also dots Singapore, including the One North cluster, d'Leedon, and the twin Nassim Villas, overlooking Botanic Gardens with their cantilevered floors and undulating angles.
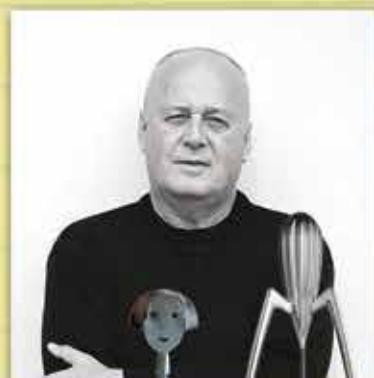
Zaragoza's Bridge Pavilion

Nassim Villas

GRAPHIC DESIGN

Graphic design is the art of combining text, images and design elements like shapes, into visuals for advertisements, billboards, books, magazines, or literally any other medium.

Billboard for Superbock Beer

STEFAN SAGMEISTER (1962 – PRESENT)

Sagmeister is an eccentric designer. Originally from Austria, he made a name for himself not just with his designs, but the way in which he executed them — most notably on billboards. For Superbock beer, he used slowly-vanishing ink timed to disappear when the offer expired, and for Levi's, he used rotating text that was only readable at certain times of day. He's won numerous design awards, and his works are on display everywhere from the Guggenheim to album covers of artistes like Aerosmith and Jay Z.

Levis Billboard

Album cover for Jay-Z

BY YIN LOON

THE LONG, THE SHARP, AND THE SHINY

Design of Chopsticks

Chopsticks are ubiquitous, and are the one utensil that's identified as being 'Asian". But not all chopsticks are created equal. Disposable chopsticks aside, basically, there are three versions of chopsticks: Chinese, Japanese, and Korean – each have their own characteristics that are specifically designed for the cuisine they are intended for.

Origins

Having originated in China over 5,000 years ago, chopsticks have not only extended their reach across much of east Asia by AD500, they've also morphed into distinctly different looks and designs over the years.

The development of chopsticks came at a time when food was cut into small bite-sized portions before being cooked to save on resources, so that eliminated the need for knives. This meant that simple sticks can be used to retrieve food from a cooking pot or fire, as they were considered an extension of fingers. Over time, these sticks began to resemble the chopsticks we know today.

The Long:

CHINESE CHOPSTICKS
(KUÀIZI 筷子)

Of the three versions, Chinese chopsticks are the longest (around 27cm), and there is a simple reason for that design.

Chinese meals are often shared among family members, a practice that began in the 10th century. With food placed in the centre of the table, longer chopsticks enabled diners to pick at food easily. It also makes it easier to eat out of boiling hotpots where food is normally found at the bottom of the pot, and as a bonus, it's also easier to shove rice from your bowl into your mouth.

Interestingly, Confucius played a part in the popularisation of chopsticks in China – he believed that sharp utensils, like knives, represented violence, and had no place at a dinner table. So, Chinese chopsticks are only very slightly tapered, keeping the food end blunt – perhaps in reverence to Confucius' ideal of not presenting sharp items at the dinner table.

CHINESE ETIQUETTE: Don't hit the side of your bowl or plate with chopsticks, because traditionally only beggars would do this to beg for meals. Chopsticks are used to take food from the dishes to your own or your elders' bowls – not directly into your mouth.

The Sharp:

JAPANESE CHOPSTICKS
(HASHI 箸)

While the Japanese developed distinctive types of chopsticks for specific purposes (ie. religious ceremonies), the main characteristic of a Japanese chopstick design is its pointy end. The reason for this design lies in the type of cuisine it's used for – the Japanese eat a lot of fish, so the pointy tips enabled the diner to easily pick bones off the flesh.

Japanese chopsticks are also slightly shorter than the Chinese version (about 22cm), simply because the Japanese don't normally share their food at the dinner table. In addition, the shorter length makes it easier to pick up small pieces of food, like beans or rice. While not commonly seen, there are actually different chopstick lengths for women and children, which are shorter than the standard.

JAPANESE ETIQUETTE: Chopsticks are placed horizontally on the table – pointing the tip at someone is rude. Don't rub quality *waribashi* (disposable chopsticks) together after breaking them apart, as this indicates that you think they're cheap.

The Shiny:

KOREAN CHOPSTICKS
(JEOKKARAK 젓가락)

The main characteristic of a pair of Korean chopsticks is the fact that it's made of metal, often stainless steel. Back in the Baekje period (18BC - AD660), the royals and the wealthy used silver chopsticks because it would change colour if poison was detected in their food. Over time, commoners adopted (cheaper) steel into their chopsticks to keep up with the class. Plus, metal is more hygienic than organic materials and they're ideal for fiery Korean barbecues.

Korean chopsticks are normally flat – this is simply designed to minimise the need for more raw materials in its production. Eating with metal can be tricky, so a spoon is always used in tandem with a pair of chopsticks; this is because chopsticks are only used for picking up food, while rice is eaten with a spoon, unlike at Chinese or Japanese tables.

KOREAN ETIQUETTE: Don't hold your chopsticks and spoon at the same time. If you're eating rice, don't bring the bowl up to your mouth – use the spoon instead.

THE LIST

TOP 8 DESIGN FACTS

Here are some interesting, quirky, and obscure design facts that might have you seeing logos and fonts a little differently.

CLAUDE GARAMOND

He was a legendary typographer who was widely acknowledged for creating the font Garamond, which is one of the most widely-used fonts throughout history and is used currently in logos for companies like Rolex and Abercrombie & Fitch. It's an old, old font - based on a family of typefaces created in the 16th century, and brought to the modern era by Adobe in 1989. As influential as Claude was, he died in poverty at age 81.

COMIC SANS

According to graphic designers around the world, the most hated font is Comic Sans. The font was created for Microsoft in 1994 by Vincent Connare, who was inspired by the comic books he kept at his office. The font is widely criticised for its unprofessional look, even though it's probably one of the most widely-used fonts in the world today. It was so hated that there was even a "Ban Comic Sans" movement in September 2002.

NIKE SWOOSH

The infamous yet simple design of the Nike swoosh was designed by Carolyn Davidson in 1971 when she was a graphic design student. While deceptively simple, she took 17.5 hours to design the logo which incorporated a lot of design thinking. Though rejected multiple times, the logo was finally accepted, and she was paid US$35. She was later given 8,000 shares in Nike, which are currently valued around half a million dollars.

Old   New

GOOGLE

The colourful Google logo is one of the most recognisable pieces of branding on the internet. The logo was first created using the free image editing software GIMP, before designer Ruth Kedar was brought in to update the logo into the familiar typeface you see today. The use of the primary colours (red, yellow, blue) actually go in order, with a secondary colour (green) on the 'L', which reflects the idea that Google doesn't follow rules.

Old   New

STARBUCKS LOGO

The name 'Starbucks' comes from the novel Moby Dick, based on a very minor character - Captain Ahab's first mate called Starbuck. In case you didn't get the reference, the the logo features a sea creature: a mermaid. The original logo featured a topless crowned siren holding 2 items - they either looked like fish or palm trees - that were supposed to be tails. This had conspiracy theorists going crazy with Zionist plots, so the logo was redesigned to the one you see today.

Old   New

CHUPA CHUPS

The logo for the lollipop company, Chupa Chups, was designed by none other than Salvador Dali in 1969. The creator of the candy, a Catalan named Enric Bernat, spared no expense in getting his business off the ground. Dali create the famous daisy insignia and suggested that the logo be printed on top of the wrapper so that it was always fully displayed-and the rest is history. Now you can look at this lollipop as a collectible fine art.

Salvador Dali made this
Old   New

TWITTER

The initial logo for Twitter - which featured a more detailed bird - was actually bought by the company on stock photo site iStockphoto for just US$15. Simon Oxley, the author of the logo, may have received just $6 for the job (minus the fees). Twitter's logo has recently undergone a makeover, but it's still based on Oxley's initial design.

Old   New

BP

When British Petroleum - aka BP - redesigned their logo in 2000, they stuck to the same green-and-yellow colour scheme but and adapted it to a 'helios' pattern which represents BP's strategy for green growth. The price tag for redesigning the logo cost the company a sweet US$211,000,000 - it is currently the most expensive logo rebranding exercise in history.

Old   New   This was $211 million

OUT AND ABOUT

EVENTS

Reach your peak! Study in Switzerland

24 February | 11am - 6pm
Suntec City Convention Centre
Admission: Free

Swiss Education Fair 2018

The Swiss Education Fair returns in 2018, with a special focus on areas including business, hospitality and science. There will be a wide range of private schools attending, including famous names in hospitality like Ecole Hôtelière de lausanne, Glion, and Les Roches, alongside public universities like FHNW and HSLU Lucerne, and the University of St. Gallen.

24 February | 11am - 6pm
Suntec City Convention Centre
Admission: Free

Study UK Exhibition

Singapore's biggest annual UK study event is back, with over 50 schools including Bristol, Dundee, Southampton, and Warwick. Covering the full spectrum of degrees, from English Lit, to Cyber Security, it's also an ideal place to learn more about the UCAS application system, how to finance your overseas education, and more.

BRITISH COUNCIL

STUDY UK EXHIBITION
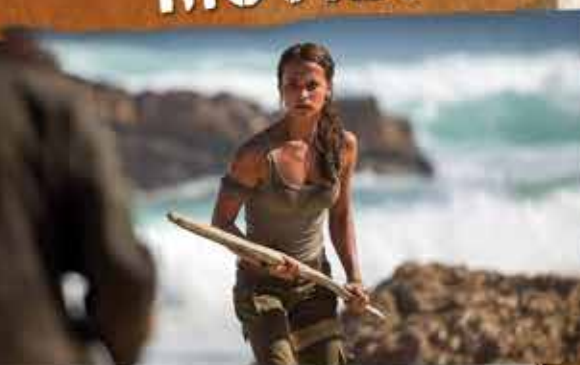
STUDY UK DISCOVER YOU

GREAT

INTERNATIONAL EDUCATION EXPO
ACCELERATE TOWARDS YOUR DEGREE WITH FOUNDATION PROGRAMMES

idp

3-4 March | 11:00am - 5:00pm
Sofitel City Centre

IDP International Education Expo

The largest of its 4 annual education fairs, IDP's yearly March flagship event will see more than 50 prestigious schools from Australia, New Zealand and the UK including from the Group of Eight and Russel Group, with academics there to answer your questions, as well as on-site application fee waivers and free 1-on-1 entry assessments by faculty representatives.

MOVIES

24 March | 11am - 6pm
Marina Bay Sands Convention Centre, Begonia Ballroom
Admission: Free

Study in France Higher Education Fair

It's an ideal opportunity to find out more about getting a degree in France, and meet representatives from over 20 leading French universities, with a special focus on fields including Business, Engineering, and Social Sciences, for both undergrad and graduate courses – many of which are taught in English.

STUDY IN FRANCE EDUCATION FAIR
24 MARCH 2018
11AM TO 6PM
MARINA BAY SANDS CONVENTION CENTER
BEGONIA BALLROOM
STUDY PROGRAMS IN ENGLISH & FRENCH
FREE ADMISSION

Tomb Raider
(March 8)
Cast: Alicia Vikander, Daniel Wu

Lara Croft is the fiercely independent daughter of a missing adventurer. Determined to forge her own path, she goes explicitly against his final wishes, leaving everything she knows behind in search of her dad's last-known destination: a fabled tomb on a mythical island that might be somewhere off the coast of Japan. Suddenly, the stakes couldn't be higher for Lara, who – against the odds and armed with only her sharp mind, blind faith and inherently stubborn spirit – must learn to push herself beyond her limits as she journeys into the unknown.

GIGS

4 March 2018 | 8pm
Kallang Theatre
Tickets: $88 - $178

Kim Chi & Naomi Smalls feat. Lady Bunny

The iconic BFF Drag duo, Kim Chi and Naomi Smalls will be bringing their hilarious comedy and lip sync show to Singapore. Best known as the two of the Top 3 finalists from Season 8 of RuPaul's Drag Race, both queens have since then left their mark on the competition with their distinct styles. Comedy queen and host, Lady Bunny, will also be joining the duo as a special guest.

by Nina Gan

SEX MACHINE OR GHOST IN A SHELL

The AI Paradox

WHAT IS AI?

AI is machine learning, which is fed by the 'new oil' that is big data – everything connected to the internet is now the juice fueling machine learning. And its playground lies in cloud computing – basically high-spec tech that almost anyone can use to create AI applications.

What we know of AI can be gleaned from what we see at the movies. Most posit that AI characters all started out as benign helpers to humankind, but along the way grew wary or suspicious of their flesh-and-blood overlords. Think Skynet in "Terminator", or VIKI in "I, Robot". While this scenario hasn't happened (yet?), there are other advancements in AI technology that seem to take us one step closer to that reality.

"BLACK MIRROR"

Our lives have already been impacted by AI. Coined the 'invisible revolution', it's pervasive – from powering your online searches to personalising your newsfeed – and yet less invasive than any previous technological revolution.

Take chatbots. Machine learning bots have been revolutionising sectors like customer service and new broadcasting.

While they seem harmless, one company has taken that tech a step further. Luka offers high-end conversational

AI-powered chatbots based on real human beings, dead or alive. Much like an episode of "Black Mirror" (Be Right Back), Luka's technology was used to 'reincarnate' a dead person by using his text messages and social media messages to train their chatbot – something that's possible as people generate more online data these days.

What if someone uses that chatbot AI for nefarious reasons; imagine if a machine learns to create your alter ego and your voice to act on your behalf while interacting with banks or online chats.

Take that one step further, and you get something coined "deepfakes" – face-swapping of celebrity faces onto porn videos. The practice of producing AI-assisted fake porn exploded with the availability of an online app that makes it relatively easy to do so. However, imagine if these weren't merely people putting celebrities in compromising positions, and instead were using them for revenge porn, or plastering your face on a criminal in action.

AI is touted to be the future, with companies and even governments trying to get ahead in the race. In the rush to create the fastest, smartest technology, many are (rightly) sceptical about its (positive) applications. Elon Musk famously stated that AI is humanity's greatest threat. He may be right.

"HER"

We are already familiar with AI technology like Siri and Alexa – voice-activated virtual 'assistants'. Then Gatebox came along with their holographic anime girl called Azuma Hikari that does what Alexa can do, but with the added ability to actually behave like a real companion rather than a robot assistant. Equipped with a camera, microphone, speakers, and sensors that track temperature, humidity and light, Hikari can not only control the lighting and home appliances, she is also able to text her owner in a tone that mimics a girlfriend or wife. Not surprisingly, the product is aimed at single men who live alone.

It's not far-fetched then to take that machine learning one step further and bring that technology to life – say, in a human-like body. Enter AI-powered sex dolls.

"GHOST IN THE SHELL"

Sex dolls have come a long way since the days of inflatable dolls with awkward mouths. AI is making its way into the competitive global 'sextech' market, and it's exactly what you imagine: realistic-looking human dolls that respond like a sassy Siri.

Companies like RealDoll and Synthea Amatus are developing dolls that are more cyborg than sex toy; in addition to vibrating bits and touch-sensitive warm skin, these dolls also come with machine learning capability that give them a personality which controls their reactions.

Synthea Amatus's doll Samantha has 3 'levels' of sexuality depending on your interaction with her – you can alter her patience, memory and sensuality levels. Realdoll features a robotic head embedded with an AI-enabled app called Harmony, whose personality is built via interactions with its owner. The goal is to get customers to bond with their dolls (in more ways than one).

However, the dolls aren't simply all about getting down and dirty – they can also discuss philosophy, science and other topics; some have a sense of humour.

Currently, the dolls have plenty of room for improvement, including voice-to-mouth movement coordination and mobility issues; while they do possess a skeleton that closely mimics the human version, they aren't able to stand (or move) on their own yet. However, voice and facial recognition software, motion-sensing technology and animatronic engineering are planned for development at a later stage.

Chinese company EXDOLL is also in on the sextech race in China, a land where there are 114 men for every 104 women. Xiaodie is essentially a wifi-enabled sex doll that functions pretty much like Alexa, but plans are rolling out for it to be fitted with AI technology, facial expressions, voice recognition and body movements.

My name is Xiaodie but you can also call me baby. But if I'm not happy I won't answer.

Whatever the stigma, sextech is an industry worth over US$30 billion (EXDOLL makes 400 dolls per month). If sex dolls are already threat enough to flesh-and-blood relationships, what would the future look with these faux lovers who are designed to look hotter than any humans on the planet and can probably outthink us?

"EX MACHINA"

AI-enabled robots can look lifelike, but there is one essence of 'life' that defines us as humans: our emotions. In the movie "Matrix", humans are sustained by machines and tubes that met their physical needs, but they are fed a virtual reality game for their emotional needs.

Machines – even those with advanced AIs – are not 'born' with feelings, but what if they can be programmed to be emotional? Androids in movies like "Her", "A.I." and "Bladerunner" emotionally feel very human – to the point where they question why they aren't.

In the real world, we have Sophie the artificially-intelligent robot (currently just an animated head and torso with human-like facial expressions), made by Hanson Robotics, who was recently the only android granted citizenship in Saudi Arabia. Sophia isn't pre-programmed with answers, but instead uses machine learning algorithms to form her responses. In an interview, Sophie states that family is a "really important thing", adding that she believes robots also deserve to have a family. To an outsider, Sophie's answer seems to indicate that she has emotions – so does that algorithm make her more human? Let's not forget that this was the very same robot that casually said, "OK, I will destroy humans!" in a previous interview.

We know that humans are motivated by their emotions, and now that we're fine-tuning androids with emotions, will they also make decisions emotionally? Imagine a realistic android that has AI capabilities surpassing Sophia's – like Ava from the movie "Ex Machina", for example. Ava manages to manipulate her examiner's emotions to make him fall in love with her.

While the 'rise of the machines' scenario in "Terminator" isn't upon us (yet), the field of AI is being improved upon day by day. AI technology can easily outsmart us; already we are seeing its capabilities in Alpha Go when it beat the human champion at a game that's notoriously known to favour human thinking more than machine logic. If AI continues machine learning from us humans – who are not exactly all altruistic – then we may see more occurrences like Microsoft's AI chatbot Tay which was unplugged when it went neo-Nazi after only 16 hours of machine learning via Twitter feeds.

Even if our AI-enabled bots don't turn against us, let's not forget that as an open source (thank the internet), any AI is prone to hacking. According to cybersecurity experts, machine intelligence is already being used by hackers, and that criminals are more sophisticated in their use of this emerging technology than many people realise. In trying to attack as many people as possible while reducing risks to themselves, AI (and machine learning) is a perfect tool.

"RISE OF THE MACHINES"

The world is rapidly moving towards AI, as designers and data scientists innovate and create exciting meaningful experiences that will benefit individual users and our collective future. However, the combination of data, learning algorithms and UXD can trigger an evolution of polarising experiences for end users.

Thankfully, current models of sex dolls can't walk or move much – although it probably won't be long before robotics are incorporated. We can then imagine a world where sex bots with AI more intelligent than the average human and indestructible bodies will arise and conquer the world.

AI researcher David Levy famously predicted in his book "Love and Sex with Robots" (2007) that humans would fall in love with and even marry robots by 2050 – that's if they don't kill us first.

Double Take
Accidentally Rude Products

by Nina Gan

What starts with "p" and ends with "orn" and is the hottest part of the movie industry?

It's "Popcorn". If your answer simply stitched those 4 letters together, then you probably have your mind in the gutter. But that also means that you'll probably be able to see things other people can't – like how some of these innocent products have a different purpose in your mind.

You'd be forgiven if your heart rate rises and your face becomes flushed—because you're laughing so hard at how M18-rated these five beauty products can look.

Face Slimmer

One of the oddest inventions comes from Japan (but of course). If you want to slim your face down you can apparently avoid surgery by... stuffing this huge rubber lip – which looks like it escaped from a sex doll – in your mouth. The claims are as ridiculous as the look of the product: apparently your skin will be more taut and the wrinkles around your eyes will be reduced. How? The recommendation is to simply spend a few minutes a day with this Face Slimmer by doing, um, vowel exercises – probably the only time in history when saying 'a-e-i-o-u' is supposed to improve your skin tautness and not your grammar. What's more, the product comes with a special 'face turban'... to help you apparently 'slim your head'. You gotta love the Japanese.

Haircare Products

The Bed Head haircare product range by Tigi has certainly got some shelf presence, especially with their bright colours and rather amusing shape. The shocking pink of the Afterparty Smoothing Cream is enough to catch your attention, thanks to its oddly phallus-shaped design with a bulb at the top. Meanwhile, their Elasticate shampoo also deserves a mention, thanks to its simple shape. Whatever their reasoning for the design, it certainly makes hair care more fun for some people.

Curling Iron

Curling irons have always looked like medieval torture devices, but somehow most people would know how to use them to um, curl their hair. But then again, when did curling irons become so weirdly designed? Like this Revlon Curl Collection Clipless Big Bubble Wand – even the name is a mouthful. Using it shouldn't be too difficult – simply wrap your hair between the balls. Apparently the ceramic balls provide high even heat that penetrates hair from the inside out – don't worry, it comes with a glove for when things get too hot to handle.

Facial Massager

Some of you may have done a double take when you chanced upon this facial massager that looks like an expensive version of a weird bedroom ornament. Apparently this oddly-shaped ReFa Carat device is supposed to massage your face using microcurrents and 'science' to stimulate your facial muscles in order to improve your skin's tautness. Can you imagine running those balls all over your face – which is a weird visual in the first place – while it's gently shocking you? The only other bigger shock is the price tag: S$279.

Facial Cleanser

Looking more like a high-end toy that some of you may have seen before, this works on a similar principle – yep, it pulsates. But for a very different reason. It's a facial cleanser! If you're too lazy to wash your face at the sink, this is supposed to help. How? Foreo Luna is a buzzing cleanser that provides 8,000 pulsations to unclog dirt and oil from your face, and apparently the silicone nubs work better than your bare hands... On the up side, you won't pollute the environment since this exfoliating wash won't need microbeads.

STRESS RELIEF

By now you should know that there is actually no such thing as white-coloured light – 'white' is actually a mixture of many colours. Case in point: when white light splits into a rainbow, we can see seven of its component colours clearly. If you're sitting around bored, why not play with colours by spinning this handy colour wheel around and see how mixing all these seven colours produces the appearance of white light.

You need:
A piece of cardboard
A pencil or screwdriver

Instructions:
Cut out the colour wheel. Use glue to paste the circular cutout onto the cardboard.

Carefully pierce a pencil or a screwdriver through the middle of the disk.

Voila, you've got a colour wheel to spin around.

BUILD YOUR OWN
COLOUR WHEEL

Bring the colour disk outside in the sun or take it to a room lit with white fluorescent light. Holding the pencil in one hand, spin the disk as fast as possible. The faster you spin the disk, the better the colors will blend and appears to be solid grey or white.