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Delft students design for our well-being

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| Delft students design for
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Volume 2

Pieter Desmet

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Preface

In 2015, a new journal was launched: the Dutch Journal of Positive Psychology. The editor-in-chief invited me to contribute with a regular column that reflects on the question of how design can contribute to the field of positive psychology. I was immediately excited because I saw an opportunity to share some of our students' inspiring work with a wider audience. Hence, we agreed that the columns would serve to present examples of Positive Design – design cases that focus on human flourishing, by students and researchers of the TU Delft Faculty of Industrial Design Engineering.

Over the years, I have witnessed how an increasing number of design students have become inspired by the concept of well-being. These are designers who aspire to consciously and deliberately use their design skills in contributing to the happiness of individuals and communities. Rather than being a fortuitous by-product of design, well-being has firmly anchored itself in the heart of these students' design intentions. I hope the columns convey some of their irrepressible enthusiasm.

This is the second edition of the Positive Design booklet. It presents columns 11 to 19, written between 2018 and 2020. Some of the design cases focus on individuals, others on groups. Some help us to rediscover our talents, some support us in forming meaningful relationships, and others enable us to invest in our own happiness and that of those we care about.

Pieter Desmet



MORE
IMMIGRANTS?
Street
Debater

NO

YES

MORE
IMMIGRANTS

The Street Debater: From beggar to street artist

Design by Tomo Kihara

The young designer Tomo Kihara was travelling in Paris. Born and raised in Japan, he found inspiration in the bustling European city. There was something, however, that shocked him: people on the street begging for money. He had never seen a beggar in Japan. The image stuck with him, and he decided to use it as a starting point for a design project. The first thing he did was experience it himself:

‘To understand what it’s like to beg, I took to the street. I sat in the centre of Amsterdam with a cup in my hand. That was definitely one of the worst experiences of my life. From the moment that I sat down and held up my cup, I felt stripped of my self-worth. I broke out in a nervous sweat and it was as though I was telling the world, ‘I’m worthless.’”

On that day, Tomo learned how it felt to trade your self-worth for a few cents. He asked himself the question: what can I do, as a designer, to making begging more social and positive? With that, he started a year-long discovery trip. He spoke with 26 beggars in London, Paris, Stockholm and Amsterdam. He spent time with them, accompanied them while they begged and got to know them. He observed passers-by and spoke to them to understand their reactions and feelings.



Equivalence

Those emotions turned out to be mostly negative. Passers-by felt confronted by the situation, felt defeated as they ignored the beggar, and then felt shame as they walked on without responding. Beggars themselves also have negative emotions. The begging is at the expense of their self-confidence and sense of dignity. They feel humiliated by the uncomfortable reactions. Tomo's most important insight was that many negative emotions can be explained by the lack of equivalence: in that the activity of begging blocks the possibility of having an open and friendly interaction.

Street Debate

Together with two beggars, he came up with ideas to stimulate an equal conversation. Using cardboard and paper, they tried out different ideas and put them to the test out on the street. Certain attempts failed gloriously, but one idea did work: two cups on a bench, each with a photo: Clinton versus Trump. Behind stood a board with the question: "Next American president?" People stopped to start a conversation about the elections. Some even put in money for their favorite candidate. This minor intervention had a major effect on the dynamics of the conversation. Because of the discussion, both the passer-by and the beggar were just two people talking to each other for a moment—as equals. That's how the idea came about for the Street Debater. Tomo designed a simple wooden scale. The

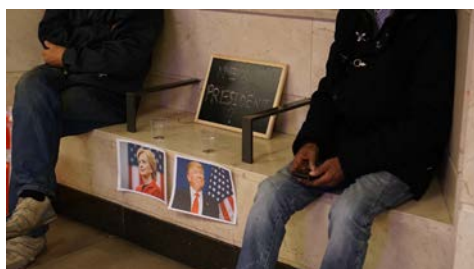


Tomo with trials

scale has a surface for a question, with an answer on each side. People show their opinion by placing a coin. The movement of the scale makes the winning side obvious, which motivates more passers-by to participate.

From beggar to street artist

Tomo tested the scale in the streets of London with four participants ("Approving of the Brexit? — Yes or No"). The scale immediately attracted attention and people gathered. Discussions about politics developed and some people put money on the scale. On average, 12.5 people an hour stopped for a discussion. The conversations were diverse, varying from friendly political debate to personal stories. At the end of the day, the four participants were very enthusiastic. They had earned an average of £13.50 per hour, more than what begging earned. One of the participants remarked that he had felt more like a street artist than a homeless person that day.



The starting point of the Street Debater



Street Debate prototypes



Participant in London tests the Street Debater scale

Engaged designs

Tomo now promotes the Street Debater as a means of conducting an open dialogue. Anyone can do it, from students to politicians, so that it's less stigmatizing for homeless people. It encourages us to step out of our online social bubble and to engage with people with different opinions. For Tomo, this was more than a design project, it was a valuable life experience. He has a lot of respect for his participants. He talks about his meeting with Renna in Amsterdam.

“Renna tried to sell cheap CDs to passers-by on the street. He didn't seem to sell anything. His friendly appearance inspired me, and I decided to help him. For four hours we tried to sell CDs together,

without much success. We earned just four euros. What Renna told me at the end of the day scared me: he told me that he can earn much more money by begging. Then why the CDs? Because of something more important than money: his dignity.”


Conclusion

I admire Tomo for his courage to dive into the world of his target group without hesitation. He read scientific publications about the phenomenon of begging, but he didn't stop there. With an open mind—and open heart—he contacted almost 30 people from his target group. Simply by approaching them, talking to them and getting to know them. He approached them not as a beggar, but as a person. And he continues his Street Debater project.



Tomo Kihara designs playful interventions for reinterpreting social themes. In 2017, he designed the Street Debater in the Exploring Interactions course in the Design for Interaction master's program at TU Delft. The project was his own initiative. His supervisors were Stefan van de Geer and Mark van Huystee. With his design, Tomo won both the Grand Prix and the public award of the 2017 WIRED Creative Hack Award. The design is available free of charge for you to make yourself, and the scale can be purchased through its website: www.streetdebater.com





The Tovertafel

Slide, tap, smack, and lots of laughs.

Design by Hester Le Riche

“Slowly, the leaves rustle on the dining table. With a sweeping motion of her hand, Mrs Den Heeten brushes a pile of green leaves to her neighbour across the table. Mr Van Berkel laughs and pushes the leaves right back. He swats a ladybird that crawls across the table unexpectedly. Buzzing, the little beetle flies to the edge of the table.’ There is a lot of tapping, swiping, and most of all laughing going on at this table. That is because it’s no ordinary dining table. It’s a Tovertafel; a magic table. What started as research by designer Hester Le Riche, has grown into an international success. Her question was clear and challenging: How can you break through the apathy of older people living with dementia? The result of her project was the Tovertafel, which is now in use in almost two thousand care institutions in Europe.

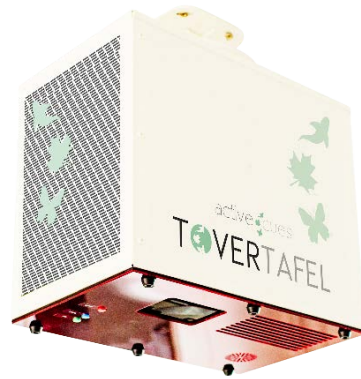
Break through the apathy

About 90% of older people with dementia in care homes suffer from apathy. They withdraw into their own world, barely make contact and get little exercise. That is detrimental to their physical, emotional and cognitive health. How do you make them active again? That was the question that started Hester’s PhD project. After her preliminary research, she conducted a study in a care home in Hellevoetsluis. She focused on the time the residents were having coffee together at

the dining table. People have a cup, take a sip and then become distracted. The coffee cools and just sits there. With light projections, Hester tried to get their focus back to the cup. However, no matter what she did, none of it had an effect – the coffee would remain untouched. One observation led to the breakthrough: at one moment, one of the ladies picked up her cup. Did she take a sip? No, she set it aside and started to play with the light on the table. That's when the idea for the Tovertafel was born.

Playing with light

The technology is in a little box that is mounted on the ceiling: a projector, sensors, speaker, and processor. The box projects colourful animations onto the table. The sensors register hand movements, allowing you to play with the images. Let floating stars make music by tapping them, push a beach ball to another player, stroke rotating flowers to



The Tovertafel box

make them grow, or whack balls of paint to watch the paint spread and slowly form a painting. It was a scientific challenge to determine which game elements are suitable for people with dementia. Because the disease is progressive, the patients lose ever more playing skills, but it was not known how and when that would happen. Together with researchers from the VU Amsterdam, a vision was





Hester tests games with residents of a care institution

developed for three suitable player experiences: (1) relaxation, (2) bringing back old memories, and (3) sensory stimulation. By now, fifteen light games have been developed using these ingredients. Each of them has been thought up and developed together with the end users and their families.

Social physical activity

When, during the testing phase, one of the residents exclaimed, *'Het is een tovertafel!' (It's a magic table)*, the name was born. The great thing is that the little box can be used with any table. The games themselves are somewhat reminiscent of certain iPad games. But there is a significant difference. When playing with an iPad, you make small ges-

tures and do so individually. At the Tovertafel, you make big motions with your arm and playing is very social. Even if you don't know the other people at the table, you interact with each other because you are looking at the same thing. Other people's responses also make you react. This 'being physically active together' is the recurring theme in all games. The Tovertafel is a success because it works for everyone involved. The residents have an activity that connects them, and the family members like to see the pleasant atmosphere and attention for the residents. But the Tovertafel also supports and unburdens the care workers. And management benefits from staff that can do their work well and feel good.



Six examples of Tovertafel games



Tovertafel UP for people with a learning disability

Designing together

Hester has experienced how a solution can come from somewhere you wouldn't expect. She managed to get people moving, but not in the way she had initially planned: "I had visited the care home for three years without making any progress. I had experienced the total lack of social interaction and activity myself, but now people were laughing and talking about the flowers they used to have in their garden. No matter how much you know about a target audience, you can't predict how someone experiences the world and interacts with it." Against expectations, the residents had an active, creative role in further developing the design. This success shows the power of *co-design*, a way of designing in which designers and future users work together intensively.

Happy moments in care work

Hester is not resting on her laurels. Together with Mathijs Konings and Sjoerd Wennekes, she started the company *Active Cues* with the clear motto: "Active Cues creates moments of happiness for people with a learning disability." By now, they have developed multiple additional products, such as a Tovertafel for people with a learning disability (Tovertafel UP). And their current games are still constantly being developed. Their dream is to get as many people physically active in a fun way as possible. As Hester puts it: "Our mission is to facilitate 10,000,000 moments of happiness in care institutions." That is very ambitious, but together with the Active Cues team, she is well on her way.



Hester Le Riche designs playful interventions for reinterpreting social themes. She designed the Tovertafel as part of her PhD thesis *Playful design for Activation: Co-designing serious games for people with moderate to severe dementia to reduce apathy* with Richard Goossens as supervisor and Marieke Sonneveld as co-supervisor. In 2017, she successfully defended the project that was financed by the OCW *Creative Industry Scientific Programme* (CRISP) and Woonzorgunie Veluwe. In 2015, her company Active Cues was named most innovative start-up of the year by New Venture. The Tovertafel won many prizes, such as the 2015 Dutch Game Award and the German Business Award. Currently, Active Cues operates in seven countries in Europe with a team of over 45 people. www.tovertafel.com



Food for Mood: Designs for care-free emotional eating

Design by Leonie Houwen

When I'm feeling down, I always start craving spaghetti with tomato sauce. Just sitting back on the couch with a big bowl in my lap; my perfect comfort food. Perhaps you can relate; trying to feel a little better with a box of chocolates or bury a stressful day with a bag of crisps. Mood and eating behaviour are inextricably linked. We often use food when we want to improve our mood of make a good feeling feel even better. When we do, we generally don't go for the healthiest options on the menu. We pick something that's too high in fat or too sweet. It's therefore no surprise that nutritional scientists have proven that emotional eating has many *negative effects*. These include increased risk of obesity, cardiovascular disease and depressive disorders.

Emotional eating as a disorder

Research into emotional eating has mainly focused on the extremes – the disorders. That's certainly important research, but it's also one-sided. There's no denying that excesses lead to serious consequences, but the disproportionate focus on the negative aspects has given emotional eating a bad rep. Are we perhaps demonising emotional eating? I mainly experience my comfort



spaghetti as healing and soothing. Or as emotion researcher Catharine Evers from Utrecht University put it, 'We all reach for a bag of M&Ms when we're feeling a little down every now and then. Is that a disorder?'¹

The benefits of emotional eating

Designer Leonie Houwen was curious about the *positive* aspects of emotional eating. That's why she designed a series of products to support those positive effects as part of her graduation project. She asked herself two questions. First, what actions are involved with emotional eating? Previous studies focused mainly on the question of *what* and *how much* you eat when you're driven by emotions. Leonie was interested in something else; *how* you eat. Second, what are the differences between moods? Sadness is a different motive than stress or boredom. And how do you eat when you're happy, or care-free? Leonie interviewed twelve people about their emotion-driven eating behaviour. She discovered that there are at least 24 different eating strategies, each with its own interplay of actions. A good example is using food as a way to take a break when experiencing stress. Or as a comforting way to treat yourself, a relaxing ritual, a refuelling boost, and so on. She designed six products for six strategies. Four are described below.

Chocolate Matryoshka

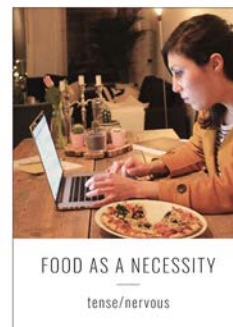
You're sad and craving something delicious to make yourself feel better. Why shouldn't you spoil yourself with a little treat? The chocolate Matryoshka lets you savour every bite of chocolate: It's a chocolate bar that you keep unwrapping. Each piece is a new bar! This means that one bar contains seven little presents. You deserve it. Now you can get at it again.

What-to-eat self-help book

You're tired and really don't feel like thinking about what to have for dinner. You feel empty and lack inspiration. The what-to-eat self-help book gives you the answer. The book offers 100 ready-to-go and very easy solutions. It chooses for you to make life a little easier. Open the book to any page, and you'll know what to do.

Modular smoothie boost

You're feeling a little stressed and have busy day ahead of you. You can use a little confidence booster. The modular smoothie recharges you both mentally and physically. Each capsule is filled with specific ingredients. Go for quick results or combine capsules to get the exact nutritional combo you need. Select the capsules you need, click them together, shake, drink, and you're ready to go.



The 24 forms of emotional eating



Seven presents in one chocolate bar



The self-help book makes it easy to choose



A modular smoothie for a quick pick-me-up



The bite-sized meal is easy to chew on

Bite-sized meal

A deadline is stressing you out. You really don't have time for an elaborate meal. Don't worry; the bite-sized meal ensures you won't lose any time. This bite-sized meal is easy to consume. It allows you to keep working while you eat. It consists of bite-sized pieces, each with its own no-spill fork, neatly in a row. Just put them in your mouth.

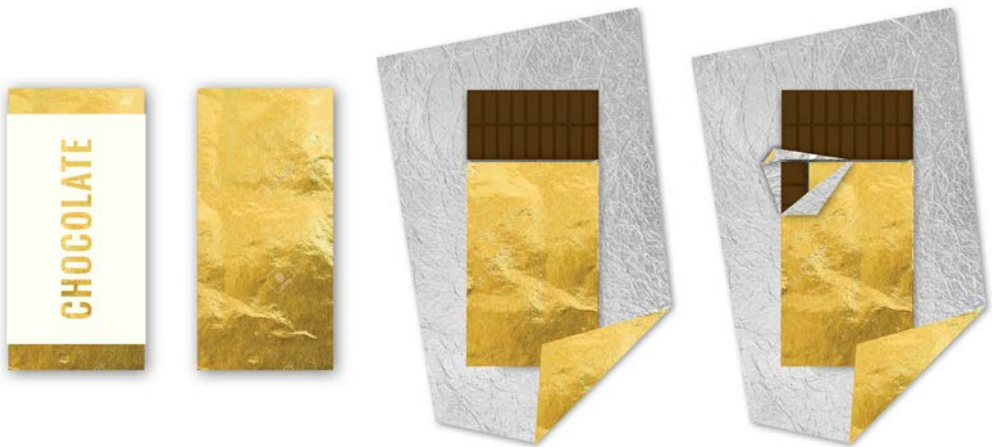
Food for thought

Ten people reviewed the design prototypes. Initial reactions were mostly sniggering. People recognised the phenomenon of emotional eating

and found it funny to see as something you could make designs for. After that, they started to take it seriously. They spoke about their own eating behaviours driven by emotions; when and which actions are involved. It showed that the products encouraged people to talk about emotional eating and made it tangible. They give food for thought.

Light fare

The power of the designs is that they don't take themselves too seriously. These products aren't meant for people with a genuine disorder. They



Every piece is a new little gift

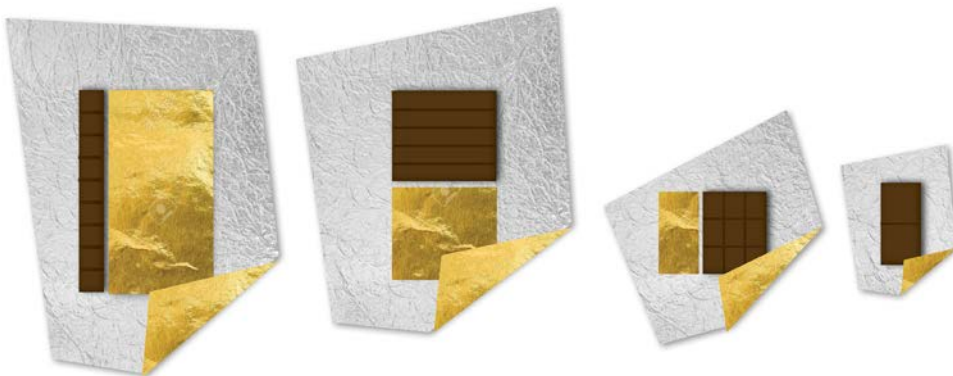
make us smile about our own emotional eating. They put things in perspective. Emptying a bag of M&Ms in one go isn't the end of the world; there are worse things in life. During this project, I saw how refreshing it can be to just celebrate our weaknesses. It makes it easier to speak about them without judgment. It goes without saying that eating disorders need to be taken seriously, but black-and-white thinking about any moment of weakness can be how they start. If we're ashamed about that chocolate bar that was meant to make us feel bet-

ter, that doesn't help us. Before I started this project, I wasn't aware of my own comfort spaghetti. Now I recognize my pattern, and that allows me to enjoy it even more; lying back on the couch with the big bowl Leonie gave me after her project – a cure for the blues.



Leonie Houwen developed the emotional eating product range in 2017 as part of her graduation project for the Master's programme Design for Interaction. The project was her own idea and part of a broader study into mood and food. Her supervisors were Pieter Desmet and Rick Schifferstein (TU Delft). Leonie works as a researcher and designer at Emotion Studio (Rotterdam). www.emotion.studio

¹This quote (translated from Dutch) comes from the article The 'emotional eater', who prefers comfort food when feeling down, is mostly fiction by Maarten Keulemans (Volkskrant, 29 January 2017).





Kookid: Happiness when shared, is doubled

Design by Lotte Jacobse

Cooking is a perilous business. Searing hot ovens, boiling pots and sharp knives. Clearly not suitable for young children. After all, there's a reason experts from the Veiligheid-NL safety foundation have declared the kitchen to be an 'unsafe place', and they advise against young children coming in the kitchen at all. In short, kids and cooking aren't a good combination, right? They are! With Kookid, designer Lotte Jacobse introduced a product line that allows toddlers to help prepare evening meals in a safe, exploratory and playful way.

Shared Happiness

Positive designing is usually aimed at people with shared interests and challenges. But how about designing for the happiness of people who are very *different* from each other? This question formed the starting point for Lotte's project. Her goal was to design a product that contributes to the happiness of both toddlers and their parents. Together with several young families, she investigated which daily experiences contribute to

that happiness. She soon became fascinated by all the activities that surround dinner. For the parents, this is valuable family time. At the same time though, it's also often a struggle. It's quite a challenge to keep your cool while you're attempting to multitask. Because while you're busy trying to cook the meal, your toddler is making a mess of things: with boundless joy, they climb onto the most unsafe objects and explore the kitchen without any notion of danger.

When you've got plenty of time, the presence of your toddler in the kitchen could lead to fun interactions and shared experiences. However, there's often less time to be patient. As a result, the toddlers don't feel included in the activities. This, in turn, makes the transition from cooking to eating very abrupt and confusing for them. They're interrupted while playing and become recalcitrant; re-

fusing to eat or being openly rebellious by throwing vegetables around. In short: a battle. But apart from this battle, Lotte also observed a number of inspiring core qualities in the toddlers' behaviour: curiosity, creativity, love of life and friendliness. Driven by a desire for autonomy and competence, toddlers are very eager to do everything themselves. Starting with the question of 'how can I use those core qualities?' the idea arose to involve toddlers in the cooking process, allowing them to experience the relationship between cooking and eating in a playful way.

Cooking, Playing and Eating

Kookid allows young children to playfully explore the activities in the kitchen. Kookid consists of a series of 11 elements that creatively connect the activities of cooking, eating and playing.







Playing

The Kookid elements fit together in various ways. They encourage toddlers to explore the textures of various ingredients in a playful manner. By being able to play with vegetables freely, they can make a positive connection between eating and healthy ingredients.

Cooking

Kookid offers various ways to cut (soft) vegetables. You can push them through one of the two cutting grids or cut or mash them with your mashers. The rubber cups are ideal for breaking nuts and puréeing soft ingredients. This allows a toddler to truly contribute to preparing the meal without any danger.

Eating

Using Kookid while cooking in the kitchen and during dinner helps the toddler understand the

transition from cooking to eating. Daily use encourages acceptance of new ingredients. This, in turn, results in a more pleasant atmosphere during dinner.

Bashing and Waving

Kookid gives children the opportunity to develop a positive attitude towards varied ingredients at a young age. And that makes this a very healthy product. But it's mainly incredibly *fun*: The elements use the motions that toddlers naturally make, such as hitting, bashing and waving wildly, which means they can proudly contribute to preparing the meal. And at the same time, it encourages the parents to be patient and enjoy these shared moments. The safe inclusion of the child gives the parent sufficient room to cook a meal while they enjoy the child's presence in the kitchen.

Ethics and Designing

Currently, Lotte works as a professional designer. The seed for her design vision was sown during her graduation project. When you're aware of the impact that products have, this naturally leads to moral-ethical questions. Questions that don't have a simple, unambiguous answer. Questions that encourage you to think about your own values – with regard to yourself, the people you're designing for and the broader social impact. Lotte realised that

designing isn't without obligation: 'I believe it's a designer's privilege to be able to influence the way people interact with each other and the world around us. This creates the obligation to use this privilege in an ethical way.' In my opinion, she has been very successful in integrating the three core competences of Positive Designing (Pleasure, Relevance, Virtue) into a seemingly simple design for shared happiness – and thus for *double* happiness..



Lotte Jacobse developed the Kookid product line in 2015 as a graduation project for the Delft Institute of Positive Design for the master's programme Design for Interaction. The project had been initiated by Spuni (a product development company in New York) and was part of a broader study into designing for parental well-being in daily interactions. Supervisors were Anna Pohlmeier, Stella Boess (TU Delft) and Marcel Botha (Spuni). Spuni is currently looking for possibilities to market Kookid. Lotte works as a researcher and designer at Reframing Studio (Amsterdam).



Mindful Bites: Treat your cat to a bit of love

Design by Alev Sonmez

Our cats are getting fatter. The number of overweight cats in the Netherlands has risen from a quarter in the '90s to half nowadays. In other words, 50 per cent of all cats in the Netherlands is too fat, one in ten is even obese. Unsurprisingly, obesity is currently the main health issue among our pets. The most important cause is *overfeeding*—usually driven by affection, but with very unfortunate consequences for the cat. With **Mindful Bites**, designer Alev Sonmez introduces an alternative form for affectionate feeding in which love goes hand in hand with positive health.

Garfield's Bad Mood

A chubby cat is so very cute and cuddly, isn't it? Think of famous cartoon hero Garfield and the mysterious Cheshire Cat from Alice in Wonderland. I can't imagine them without their round shapes: chubby cats, those are fun cats. However, for the cat that extra bit of fat is far from fun. Obesity causes severe health issues such as joint pain, early wear and shortness of breath. Fat cats are more prone to diabetes, osteoarthritis, high blood

pressure, heart disease, and this in turn can lead to depression. Is obesity caused by a lack of knowledge regarding nutritional needs? In her literature study, Alev discovered the exact opposite: there is an abundance of solid, scientifically supported recommendations for the prevention and treatment of nutrition-related diseases in pets. The core of the problem isn't the knowledge, but rather the behaviour. Knowledge about healthy feeding is only effective when the owner applies this knowledge in practice—that is, when the owner's awareness and behaviour isn't part of the problem.

Unhealthy Love

For his eating habits, the cat is largely dependent upon the owner, and in most cases, obesity is a direct result of overfeeding. Alev was surprised to discover that hardly any research has been dedicated to feeding habits. Therefore, she conducted her own research among 16 owners and their cats. As it turned out, feeding is one of the most important daily owner-cat interactions. The importance of this

moment lies in the owner's emotional needs just as much as in the functional nutritional needs of the cat. The owner shows his or her love or affection by giving a bit of extra food, and in return feels loved by the cat's 'affectionate' response. Alev formulated four emotional feeding needs:

Compensate

Feeding as a way of cheering up the cat, or of alleviating a feeling of guilt (for instance if the cat was left alone for too long).

Appreciate

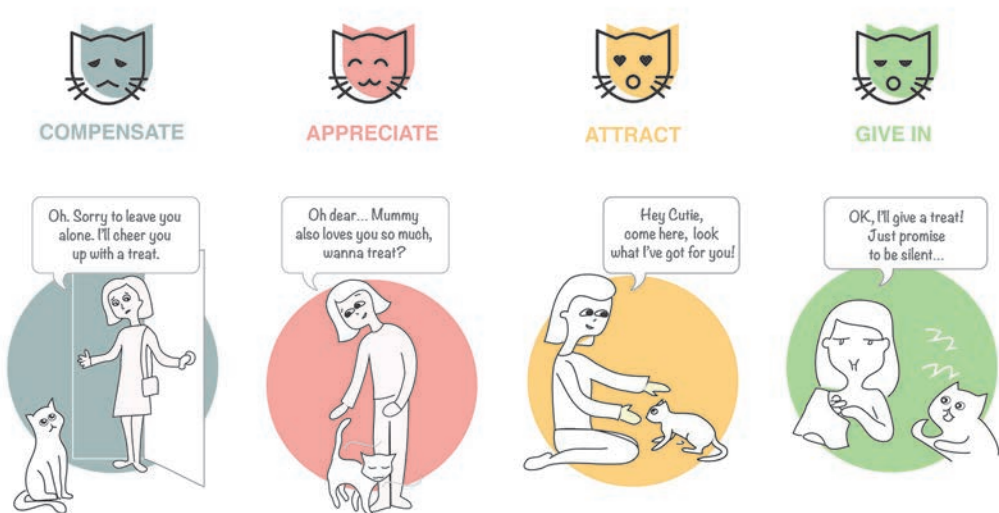
Feeding as a way of rewarding the cat for good behaviour, to thank the cat for attention and to show affection.

Attract

Feeding as a way of getting the cat's attention and to 'bribe' the cat to receive attention and affection.

Give in

Feeding as a way to keep the peace, when the cat is begging for a treat.



Four Emotional Needs of the Owner



The Mindful Bites Package

Overfeeding mainly occurs in giving snacks; a treat in addition to the regular meal. Those little extras give the owners the opportunity to satisfy their own emotional needs. This will lead to conditioned behaviour in the cat, who will start to beg for the treats, giving rise to an unhealthy pattern. Another factor that contributes to this issue is a widespread misconception of what the ideal weight of a cat should be. What people consider to be a healthy weight, might actually be overweight.

Mindful Bites; A Conscious Feeding Experience

Alev saw three design opportunities. The first is to enable the owner to satisfy his/her emotional needs with the regular meal. The second is to confront the owner with his/her own emotional needs that motivate the giving of these little extras. A third option is to make the owner recognise the difference between a healthy and unhealthy weight. For

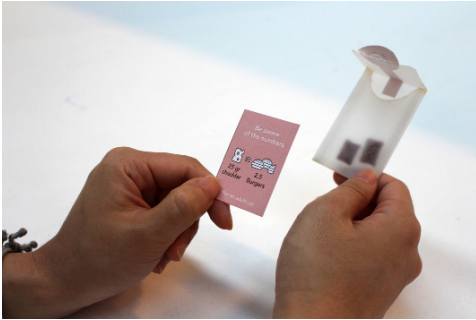
each option, she designed a product that together form the Mindful Bites package: Mindful Treats, Mindful Meals and Mindful Strokes.

Mindful Treats

A box of snacks categorised according to the four emotional needs. By choosing a snack, you become more aware of your underlying motivation for offering your cat something extra. Additionally, the packaging offers tips about weight management that encourage further reflection about the feeding habits and the role of food in the relationship.

Mindful Meals

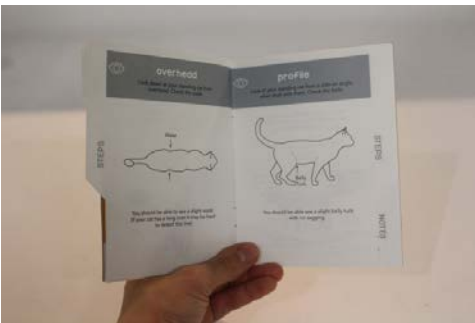
An important added value of giving a snack is that it brings about immediate interaction with the cat, which is missing in the regular meal feeding: where you would normally put the food in a bowl, you feed your cat this little extra by hand. Hand feeding is in-



Mindful Treats



Mindful Meals



Mindful Stroke

timate and interactive. Mindful Meals is a bowl that allows you to offer regular food in your hand. This means you can have a kind and fulfilling interaction with your cat without giving him snacks.

Mindful Strokes

This is a book that guides you when testing your cat's body condition. The book is based on the steps of the 'Physical Body Examination' method. It helps you to recognise and acknowledge obesity at an earlier stage.

Misha the Cat

Alev got the idea for her project when hearing her mother say: "When Misha asks for food and I refuse, that makes me feel so guilty. I can eat whenever I want, but he can't. Can you imagine?" That statement inspired her to explore the complex dilemma between knowing and acting. I believe this project is a great example of how designers can approach problems from a surprising angle. Obesity in cats was traditionally researched from a medical perspective, resulting in medical solutions and practical recommendations. By highlighting the owner's emotional needs, Alev was able to help cat lovers to develop a loving and healthy interaction with their cats with her Mindful Bites.



Alev Sonmez developed Mindful Bites in 2017 as a graduation project in the Delft Institute of Positive Design for the master's programme Design for Interaction. The project was initiated by her and was part of a broader study into designs for the interaction between people and animals. Supervisors were Pieter Desmet and Natalia Romero Herrera (TU Delft). Currently, Alev is conducting PhD research at the TU Delft into designing for positive mood regulation.



Issho: The denim jacket that cares about you

Design by Isabel Berentzen

He died tragically young, but remained immortal as the “Rebel Without a Cause” - James Dean, the prototype of the emotionally confused teenager. The film was also a turning point for his pants. By wearing blue jeans, he gave the banal Levi Strauss work trousers a big dose of sex appeal in one fell swoop. That’s how, in 1955, denim was launched as a fashion item and it has since grown into a worldwide phenomenon. In 2015, sixty years after the release of the film, Levi Strauss (together with Google) launched something new: a ‘smart denim jacket’. By using conductive fabric in the sleeve, you can control your smartphone with gestures. Examples include playing music and operating your navigation app; pretty useful considering the current ban on using your phone while cycling in the Netherlands.

Smart pyjamas and socks

Levi’s is not the only company experimenting with technology in clothing. Smart clothing is *hot*. Under Armor invented a pyjama for athletes that accelerates muscle recovery with infrared light. Samsung developed a smart skating suit for Olympic athletes and a business suit that exchanges digital business cards. For the afi-



Issho unisex denim jacket

cionado, there are even smart underwear and smart socks. Tommy Hilfiger, Ralph Lauren, and Nike are also experimenting with smart clothing. They use textile with woven-in circuits and integrated sensors. And in many applications, Bluetooth or Wi-Fi can be used to wirelessly connect to an app or a smartphone, to read data from sensors, or to control the technology.

Ordering pizza with your shoes

Designer Isabel Berentzen was fascinated by the integration of technology in clothing; the influence on our lives, behaviour, and social interaction. But she was also critical about the superficiality of current applications. Is the world really interested in shoes with which you can order pizza? Yes, these shoes exist; available at Pizza Hut. She asked her-



Front with integrated technology

self how you can integrate technology into clothing in a meaningful way. This question resulted in Issho, her design of a smart denim jacket that encourages the wearer to be aware of the moment to create more spontaneity in our lives.

Sensitive touch

Denim is one of the most common forms of everyday clothing. Thanks to the durability and graceful ageing, the passage of time makes it more personal and intimate, just like a friendship. Issho reinforces that friendship by taking care of you a little. While we are always connected these days, there is also the risk that we will lose contact with ourselves. Through subtle haptic feedback, Issho occasionally reminds you to be aware of the here and now. The golden threads woven into the fabric create three touch-sensitive zones: one on each sleeve (at the shoulder) and one near the breast pocket. Three small vibrating motors are incorporated in the back.



The touch-sensitive zones detect your interactions. The sensor on the breast pocket detects the use of your smartphone, and the sensors on the sleeves signal intimate social or personal interactions, such as a hug. In exchange for these social interactions, the jacket provides you with the sensation of a caress over the back every now and then. This subtle haptic feedback reinforces the feeling of a personal friendship.



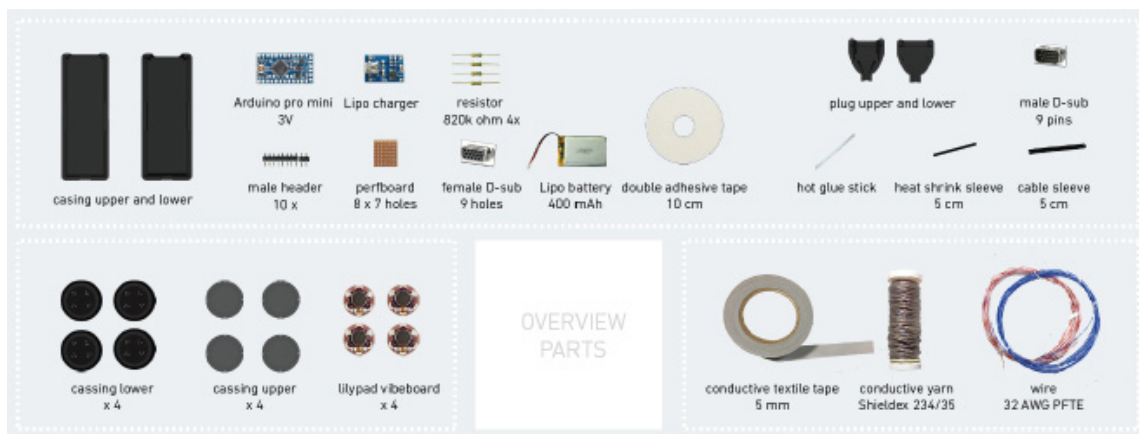
Back with integrated technology

Awareness and spontaneity

The core of Isabel's design vision was *spontaneity*. She observed that the extensive technologisation of society is bad for our spontaneity. Without exception, smart clothing focuses on increasing control, performance, and efficiency. Technology makes the uncontrollable controllable, but the increasing control comes at the expense of spontaneity. That's why *Issho* explicitly does not offer control. The jacket behaves autonomously, while responding to the behaviour of the wearer, but never unambiguously or explicitly. With spontaneous interactions, it stimulates the wearer to open up to the moment with curious attention. The light caress represents a natural and intimate social interaction and draws the wearer's attention to the here and now. The open attitude stimulates interest and acceptance; elements that are essential for the development of spontaneous experiences.

Designs for meaning

Isabel started the project with a sceptical attitude towards the far-reaching technologisation of our society. She herself experienced the excess of technology in her daily life as dulling. Are we not strengthening that effect with smart clothing? However, when started studying the subject in more detail, her sceptical attitude began to shift: 'Working at Pauline's studio opened my eyes to the inspiring continuous flow of conscious and unconscious communication between our body and our clothing. I started to realise that smart technology offers a range of new possibilities for designing new forms of meaning and value in the intimate relationship with our clothing. More than when designing regular products.' Over the past fifty years, denim has had an irreversible impact on the self-awareness of individuals and generations. Like the case of James Dean, as a means of self-expression. And now, with *Issho*, also as a means of attention – for ourselves, for the moment, and for our environment. And the best thing is: *no smartphone required!*



Technology in *Issho*



Issho: designs for curious attention



Isabel Berentzen developed ISSHO in 2016 as a graduation project at Studio Pauline van Dongen (Arnhem) for the Integrated Product Design master's degree at TU Delft. The project was initiated by Studio Pauline van Dongen in collaboration with Italdenim (an Italian denim manufacturer), with the aim of developing smart denim by working with conductive yarns. The project was supervised by Kaspar Jansen, Paul Hekkert (TU Delft), and Pauline van Dongen (Studio Pauline van Dongen).

*Journey to Your Future Self
Aristotle as Inspiration for*



Self: or an Activity Tracker



Design by Karen González

Do you already own one of those *activity trackers*? You know, a little wristband with a step counter and heart rate monitor. Chances are you do, as these trackers are very popular nowadays. Being fit is the new norm. Getting plenty of exercise is part of that, and with activity trackers and health apps, we can all monitor our efforts. Market leader Fitbit has sold over a 100 million devices, and today over 33 percent of the world's population uses an app or tracker to monitor their health. In just ten years we've all embraced this trend: *Gradibus ergo sum* – I step, therefore I am.

Walking as work

I've had a step counter for a few years now too. It's nice to have the ability to see that I actually never complete 10,000 steps per day. With some embarrassment, I admit that this hasn't much improved since I started wearing the wristband. But I take comfort in the knowledge that I'm far from the only one. Research has shown that a significant proportion of users experience far less of a behavioural impact than they had expected. In fact, in some cases the effect was a negative one. Where walking used to be a way to relax, it has now become a means to satisfy the step counter – it's work. And we

already have so much of that. Isn't there a better way? That question was the starting point for designer Karen González to conduct a study into how people experience trackers and accompanying apps. This has resulted in her redesign, poetically named 'Journey to Your Future Self.'

Well done! You can do it!

The first trackers were developed for top athletes in the 1980s. Naturally, sports coaches served as the models for the accompanying apps. That is why most apps use two basic coaching strategies. The first one is *monitoring*: You get concrete insight into your behaviour, such as the number of steps you take, per week or per month. This then enables you to set specific targets. The second is *reinforcing*: Your achievements are rewarded, for instance with a badge; possibly shared on social media. In the long term, these two basic techniques don't work too well, unfortunately. In order to develop

a strategy to motivate people that is more effective while also supporting their wellbeing, Karen worked closely with a team of tracker users. They confirmed the limitations of the sports coach metaphor. They sometimes felt motivated by their trackers, but they were also described as demanding and pushy, reducing motivation and making them feel bad about themselves. The direct approach doesn't really match the reality of building a healthier lifestyle, which includes both ups and downs. As a result, users become frustrated and disappointed in themselves. Because the different parameters (steps, sleep, weight) are reported separately, you're not given a holistic view of your well-being. And since only achievements are rewarded, you miss support during periods of low motivation, which can lead to a vicious circle of disillusionment and reduced enthusiasm. ology into clothing in a meaningful way. This question resulted in Isshō, her design of a smart denim jacket that encourages the



Activity trackers; the ultimate control over your health



The Activity Tracker as Health Coach

wearer to be aware of the moment to create more spontaneity in our lives.

Aristotle and the Golden Mean

In her attempts to redefine the ‘tracker conversation’, Karen found inspiration in the Aristotelian virtues. Aristotle used ‘a journey to a better version of yourself’ as a metaphor for the path of virtuousness. The journey is not just focused on achieving predetermined goals, but also on developing life skills during the journey. Based on this metaphor, she developed the Journey to Your Future Self, with three core elements: (a) define goals, (b) visualise data, and (c) motivating notifications.

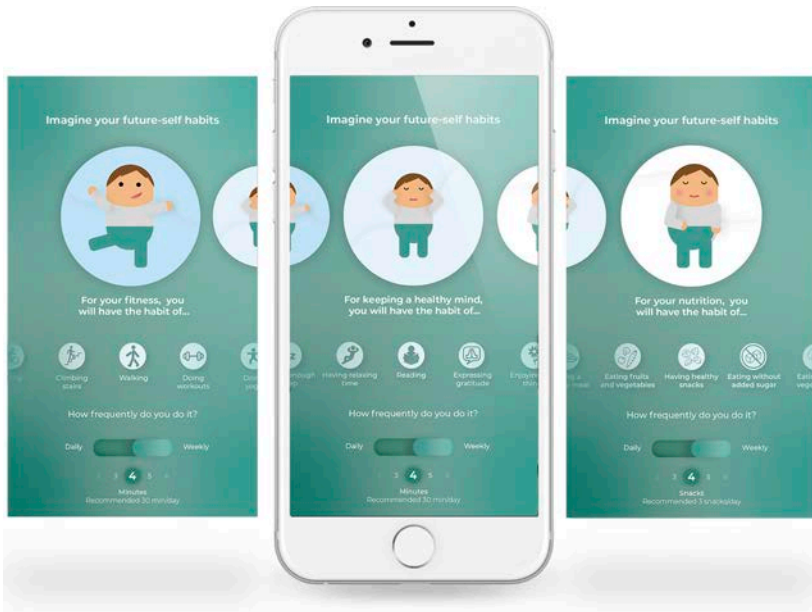
Define Goals You start your journey by choosing a character as an avatar for your future self. You then ask the question: What healthy habits do I have? Basically, you start a conversation with your future self, and that’s how you come up with ways to describe healthy habits for your body and mind that are meaningful to you. You do this with activities that appeal to you in three domains: nutrition, physical, and mental activities. Examples can be dancing,

offline moments, reading, taking the stairs, drinking water, eating fruit, and so on. You start from a positive perspective; by visualising an optimistic expectation for the future, you make that expectation a potential reality, acting as the first step in your journey.

Data Visualisation The data is visualised as a hot air balloon ride. The hot air balloon is a poetic metaphor for your personal journey to your future self. Your activities are translated into the winds that push the balloon along. When you’re not working on your habits, the balloon will slowly fall back to earth. At times like these, you can (if you choose to) receive a question that invites you to reflect on your (sometimes unconscious) obstacles in building your new habits. These questions emphasise



Journey To Your Future Self; Develop Healthy Habits



Three domains for future habits: (a) physical and (b) mental activity, and (c) nutrition

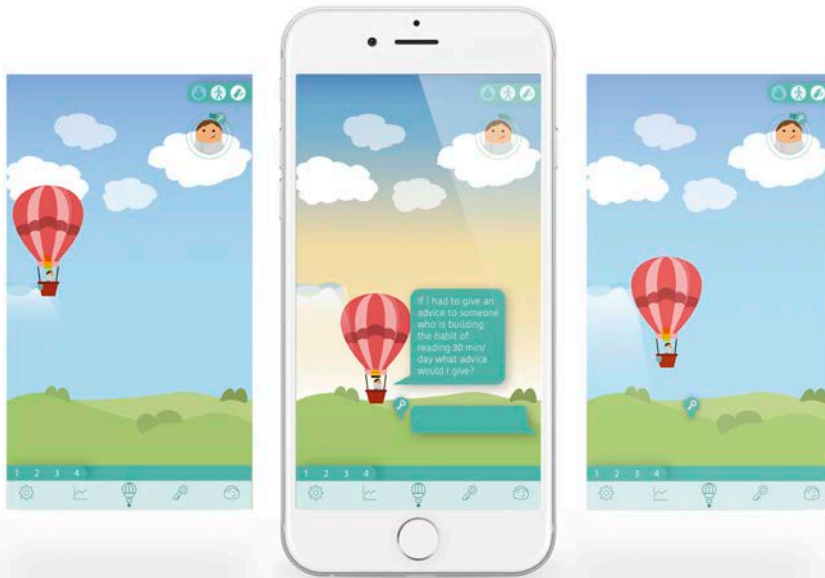
that temporary lack of progress isn't a negative, but a natural part of your journey. They aim to inspire hope and help you in building resilience during your journey.

Motivating Notifications Aristotelian virtues let you develop a skill by following examples set by others. That idea served as inspiration for a social aspect of the application: During low points, you can get inspiration from the personal insights from other users who have set similar targets (by getting in touch with other hot air balloons). That way you can let yourself be encouraged by the personal journeys of others, and the community can offer support for each other's journeys.

Technology and Personality

Interactive technology isn't neutral. It has a character, a personality. At the same time, an app is not

a person. How much is a pat on the back worth if it's generated by an algorithm? In other words, does an app that simulates human interaction by praising you after an achievement actually take us seriously? From her team of users, Karen learned that not everyone is satisfied by this. As she puts it, "My participants didn't feel like they were being taken seriously by an app pretending to be a coach. As a designer, it's my job to develop a better conversation; the language of the technology should adapt to that of the user." A coach works for some, but others prefer an inspiring balloon ride. Diversity is the key - to motivate users and to support their physical and mental wellbeing. With her journey to your future self, Karen offers a refreshing new conversation about health, with an eye for imagination and a sense of poetry.



(A) balloon flight during a balanced day;
 (B) balloon sinks to the ground when there's little progress;
 (C) click the key to get a tip



Karen González Fernández developed the journey to your future self in 2019 as part of her graduation project for the Master's programme *Design for Interaction* at TU Delft. The project was initiated by the TU Delft Cardiolab as part of a study into the ways in which digital sensor data can be used for positive healthcare. The project was supervised by Valeria Pannunzio and Pieter Desmet (TU Delft).

¹O'Brien, M. (November 1, 2019). One big step: Google buys Fitbit for \$2.1 billion. *apnews.com*. Associated Press.

² www.statistica.com

³Jo, A., Coronel, B.D., Coakes, C.E., & Mainous A.G. (2019). Is There a Benefit to Patients Using Wearable Devices Such as Fitbit or Health Apps on Mobiles? A Systematic Review. *The American journal of medicine*, 132(12), 1394-1400.

⁴Etkin, J. (2016). The hidden cost of personal quantification. *Journal of Consumer Research*. 42(6), 967-84.

*Me & My Smartphone:
A Study into the Well-being*



ng Paradox of Phones



Design by Matthijs de Koning

Hype or Revolution?

Twelve years ago technology-expert David Pogue described what was at the time a unique novelty in *The New York Times*. A three-in-one product: mobile phone, music player, and Internet device. Months before the product actually hit the shelves, it was already a huge hype, with over 11,000 publications and 69 million Google hits. The iPhone. Pogue asked the question: is it worth the hype? His answer was yes: 'It is the most sophisticated, outlook-changing piece of electronics to come along in years. It does so many things so well, and so pleasurably, that you tend to forgive its foibles.' The iPhone, he wrote, is not a hype – it's a *revolution*.

The Downside

Pogue was right of course. Today as much as 95% of people in the Netherlands use a smartphone. Many consider their smartphones indispensable – an extension of their personality in fact. We can't bear to part with them. But this omnipresence has a downside. In addition to the convenience and entertainment these devices offer, we are now also discovering more and more about the risks to our mental and physical health. It's for this

reason that the World Health Organisation listed excessive use of smartphones as a serious public health problem last year. Designer Matthijs de Koning recognised the paradox of the smartphone: it's both liberating and addictive. Recently he made the bold decision to get rid of his smartphone all together, and his personal experiences inspired his project, 'Me & My Smartphone'.

Nomophobia

You might never heard of the term, but you may actually be suffering from it yourself. Nomophobia – an excessive fear of not being reachable by mobile phone all the time. About 50% of smartphone users suffer from this condition. For teenagers, it's as high as 77%. Matthijs was awed when he looked into these kinds of documented adverse effects of smartphone use. These vary from more direct ones, such as getting distracted in traffic, to more insidious effects on mental health – reduced self-confidence, loneliness, trouble sleeping, and even depression. British philosopher Alain de Botton summed it up aptly: 'The challenge for a human now is to be more interesting to another than his or her smartphone.' Matthijs made it his mission to design products that demonstrate the paradox of smartphones. Products that inspire critical self-reflection

and awareness. What effect do smartphones have on our behaviour, our relationships, and our social identity?

The Smartphone Paradoxes

Matthijs created a list of the psychological and social effects of smartphones. He studied relevant literature and conducted a series of interviews with both experts and smartphone users. He summarised his findings into five well-being paradoxes of smartphone use.

The Social Paradox Thanks to smartphones we're more hyper-connected than ever. But at the same time, the one device that keeps us connected with everyone, distracts us from real-life pro-social behaviour that initiates and develops the relationships we need for a healthy social life.

The Loss of Solitude Smartphones have opened the door to an endless stream of distractions, reducing the time we spend in solitude with our meandering thoughts; the moments we find ourselves and learn how to understand who we are. We have forgotten the importance of solitude and boredom.

Your Internal Friction Those apps we spend most of our time on, are also the ones that make us the





most unhappy. Wanting to be in control and realizing we are not always capable to be, creates negative self-judgments and feelings of guilt that feed our internal friction.

The Addiction Smartphones and social media are addictive. They are designed and built to create dopamine releases in the brain, playing a major role in reward-motivated behaviour. The result is called neomania – an addiction to receiving new stimuli at least every five minutes.

Your Divided Attention Smartphones and applications are engineered to compete for your attention, or in other words, for your time. The devices and software are becoming better and better at persuading you to use an application and to stay there for as long as possible.

Back to our natural smile

Matthijs developed a range of products to negate each of those five adverse effects. I'll describe three of them below: BlueSmile, CarePhone, and WakeUp. In order to explain how they work, Matthijs made an instructional video for each product.

BlueSmile < link: <https://youtu.be/95FJTSTOzJI>>

A Bluetooth headset that reproduces a genuine smile using electrical muscle stimulation technology. By stimulating the zygomaticus major and orbicularis oculi muscles to contract, BlueSmile puts a natural smile on your face. BlueSmile helps you reconnect with people, paving the way for a more pro-social future.

CarePhone <link: <https://youtu.be/7hDndUroM4Q>>

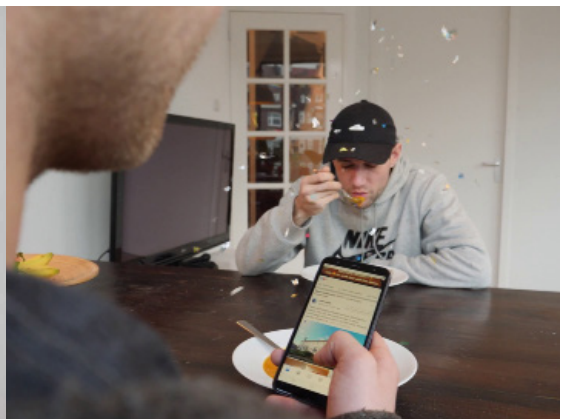
A phone for emergencies. This surrogate distracts



BlueSmile: <link: <https://youtu.be/95FJTSTOzJI>>



CarePhone: <link: <https://youtu.be/7hDndUroM4Q>>



WakeUp: <link: <https://youtu.be/ndR7WsM4MaA>>

you and entertains you when you lose your real phone or it stops working. The buttons, colours, and sounds reward you with the same confirmation you've been conditioned to crave by your real smartphone. This way, you won't have to worry about the feelings of anxiety and restlessness you normally experience when you're without your real phone for a while.

WakeUp <link: <https://youtu.be/ndR7WsM4MaA>>

The first product that helps you to control the time you spend on social media. After your healthy social-media time expires, WakeUp wakes you up with a burst of confetti. This dramatic but also rewarding and joyful experience will pull you from your state of suppressed consciousness, and it will stimulate the people around you to also wake up.



The Problem and the Solution

Matthijs' products and videos aren't really effective solutions for the risks of excessive smartphone use, of course. But what they do offer is making those risks visible and, most of all, *letting the user experience* them. They help people take a moment to reflect with a healthy dose of light-heartedness and humour. This is also referred to as *Critical Design* – design as a means to get people to think, stimulate debate, and trigger reactions. Matthijs got his motivation from his personal concerns about technology-driven social changes in recent years: 'It was nice to see that my project made people around me talk to each other about their smartphone behaviour. I hope to have made a small contribution to a healthier future.' I invite you to check out the videos and ask yourself the question: which of these three products might I need?

Matthijs de Koning designed the 'Me & My Smartphone' collection in 2019 as his graduation project for the master's programme *Design for Interaction* at TU Delft. The project was his own initiative and was supervised by Haian Xue and Pieter Desmet (TU Delft).

¹Pogue, D. (2007). The iPhone matches most of its hype. The New York Times (published on 27 July 2007).

²Deloitte (2018). Global mobile consumer survey 2018: The Dutch edition. The Netherlands: Deloitte.

³Bianchi, A., & Philips, J.G. (2005). Psychological predictors of problem mobile phone use. *CyberPsychology & Behavior*, 8(1), 39–51.

⁴For the full list with references, see: De Koning, M. (2019). *Me & My Smartphone - The influence smartphones have on our lives: Using critical designs as a tool to raise awareness for our societal issues related to smartphones*. Unpublished master's thesis. Delft: Delft University of Technology.

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The Power of Placebo: Design for Contextual Healing

Design by Nathan op den Kelder

The curse of the placebo effect

Twenty years ago, *Science* published an article about a ground-breaking new antidepressant. This medication with the mysterious name MK-869 was developed by pharmaceutical company Merck. It was to be the new-millennium medicine for millions of people who take antidepressants daily. As it turned out, that was not the case. Shortly before the launch, Merck decided to shelve the drug and that's where it remained. What happened? MK-869 fell victim to 'the curse of the placebo effect'. In a press release, Merck declared they had discovered that patients who'd taken a fake pill did unexpectedly well on the clinical test. In fact, they did almost as well as the patients who'd been given MK-869, wiping out the rationale for the new drug.







Contextual Healing

The fact that a fake medication is able to significantly improve people's (mental) health has long been a thorn in the side of serious pharmacology. The placebo effect was traditionally viewed as undesirable noise that must be controlled for to determine a treatment's effect. Well, not anymore. Nowadays, the placebo effect is in the spotlight. Health researchers have embraced it as a powerful tool, and reframed it from 'fake' to 'contextual healing'. Nowadays, prominent medical professionals also acknowledge that medical rituals contribute substantially to a treatment's effectiveness. Is it possible to purposefully design such rituals? This question inspired designer Nathan op den Kelder for his thesis "the power of placebo".

Medical Rituals

Nathan focused on hand and wrist physiotherapy because patients have relatively low expectations of these treatments (compared to surgery). Is it possible to raise these expectations through contextual healing? He did some research to map the ingredients of successful therapeutic rituals, and he found three: (1) The characteristics of the treatment itself, (2) the patient-therapist interactions, and (3) the environment. Experts agree that the second ingredient, the patient-therapist interaction, is the most important factor in contextual healing. How patients experience the therapist during the sessions has a substantial influence. Radiating competence in combination with empathy, friendliness and reassurance increases patients' trust in the effectiveness of the treatment. And, in the end, that trust is the core factor of the placebo effect.



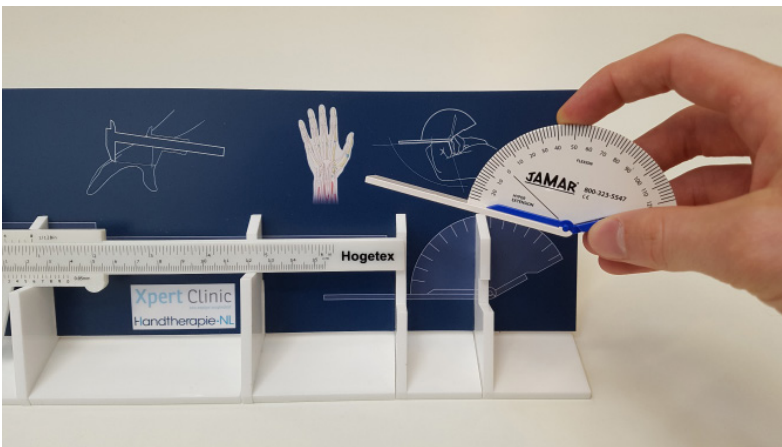
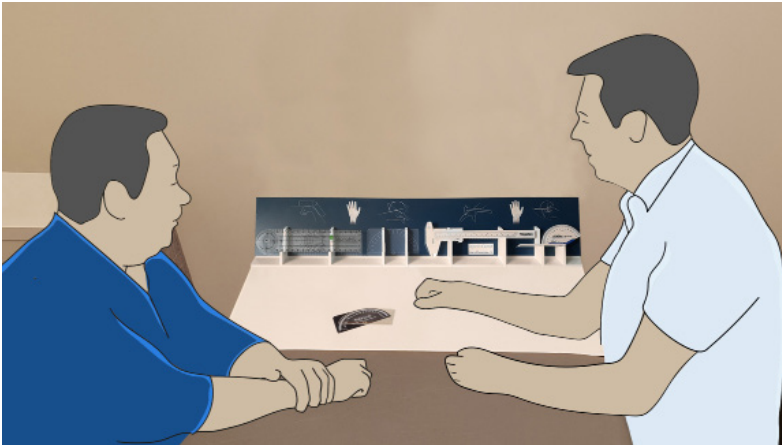
Therapists as Professional Experts

To get an idea of the patient-therapist interactions, Nathan conducted observations and interviews in a practice. He noticed that the treatment rooms are white and clean, but that equipment (such as goniometers and other instruments) are often stored rather messily – at the corner of a table or tossed in a drawer. Compare this to workspaces of other professionals, such as surgeons, opticians, but also furniture makers and jewellers: Tools are neatly ordered and stored. And the look of well-organised tools contributes to the aura of professionalism. Nathan viewed this as his design opportunity. After a series of ideas and sketch designs, the final design was elegant in its simplicity: a measurement instrument display.

The Tool of a Specialist

The display presents the measurement instruments of hand and wrist therapists in an open and ordered way. Nathan consciously opted for a sober and clear design. This gives the display a professional and medical look. The idea is that this contributes to the degree to which patients experience the therapist as a competent specialist, which could increase their trust in the treatment. Nathan tested his design in practice. Patients were fascinated by the design and the look of the treatment room was more professional. The therapists' feedback was surprising. The display encouraged them to conduct their measurements in a more structured way and to emphasise the specialist qualities of the instruments towards the patient. As it turned out, this small adjustment in the room had an effect on the most important ingredient of the ritual: the patient-therapist interactions.





Placebo: Purposeful or Manipulation?

Nathan discovered that contextual healing isn't a 'yes or no' matter: it is *always* present. A medical treatment is a ritual by itself, filled with contextual qualities such as design of the space, procedures, clothing, symbols and dialogue – and this all influences the patient's trust, and thus the treatment's effectiveness. New was his insight that this trust is much more important than often recognised. That something as simple as a display can have a

significant effect means there's plenty of room for innovation. Naturally, ethical questions play an important role here. To what extent are you allowed to purposefully influence patients' expectations, separate from the medical effectiveness of the treatment? For now, we must rely on the wisdom of Aristotle who taught us that the golden mean is the desirable middle between two extremes: Neither too much nor too little.



Nathan op den Kelder designed the display in 2019 as a thesis project for the master's programme Design for Interaction at the TU Delft. The project was an initiative by Jarry Porsius, and part of a collaboration between TU Delft and Erasmus MC. The thesis project was conducted in collaboration with Xpert Clinic and Handtherapie NL. Thesis supervisors were Jarry Porsius and Pieter Desmet (TU Delft). Consulted sources and additional project information can be found in Nathan's thesis.

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³Miller, F. G., & Kaptchuk, T. J. (2008). The power of context: Reconceptualizing the placebo effect. *Journal of the Royal Society of Medicine*, 101(5), 222-225.

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Colophon

This booklet was made for the Delft Institute of Positive Design (TU Delft), which aims to advance our understanding of the ways products and services can be designed to foster human happiness. Affiliated researchers develop knowledge, tools, and methodologies that enables and support the aspiration to design for durable well-being.

Credits

The columns were originally written for the Dutch Journal of Positive Psychology (www.tjdschriftpositiepsychologie.nl); they have been translated for this booklet. Texts by Pieter Desmet. Photographs and other images have been provided by the designers of the design cases. Graphic design and booklet production by Rozemarijn Klein Heerenbrink and Matthijs de Koning.

Additional resources

Download a free version of this booklet at www.diopd.org

On our website, you will find more tools and a library of open-access research that focuses on design for well-being

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The logo for TU Delft, featuring a stylized flame icon above the letters 'TU' in blue and 'Delft' in black.

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