THE

Ethical Design

HANDBOOK

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The need for ethics in design

IT DOESN'T TAKE MUCH EFFORT to see that the digital industry is challenged when it comes to ethics. It seems like a month can't go by without another tech disaster being revealed. In this chapter, we will dive into some of the reasons why ethics are so desperately needed in design.

Mass surveillance

For better or worse, we live in a deeply connected world. Connectivity has brought us so much good: the freedom to work and live where we want, staying in contact with our loved ones from afar, getting to know distant cultures and places that we can't visit physically.

What it has also brought us is surveillance on a massive scale. If we thought CCTV in the United Kingdom represented mass surveillance, we had another think coming.

Internet of Things (IoT) devices invisibly connect us and, thereby, our data to large corporations, that use our data to… well, we're not really sure how they use it, are we?

We are only seeing the tip of the iceberg. We are mostly exposed to the parts of surveillance that are helpful, such as our Garmin watch reminding us to move, because we've sat still for too long.

Most of what goes on with our data is hidden from us, and probably with good reason, because while data-driven design can be used to do good, it can be, and sometimes is, used with monetary intent, also known as surveillance capitalism.

Not invented in 1984, but we know where they got the idea.
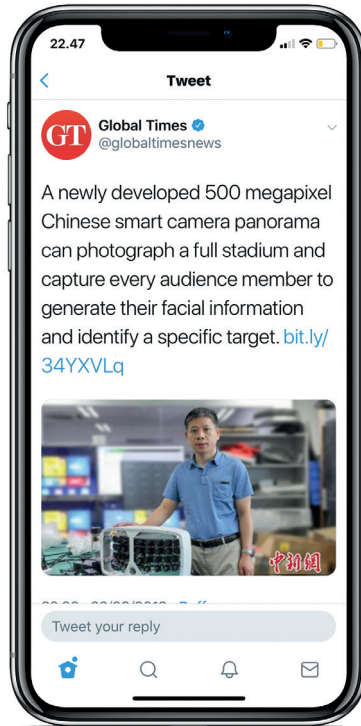
Surveillance capitalism is a business model built around tracking user data and selling the knowledge gained from it to advertisers and data brokers. Surveillance capitalism as a term was popularised by sociologist Shoshana Zuboff in 2014.

And we know that this data is being used in ways that can only be seen as deeply unethical. As Aral Balkan, ethical designer and founder of Small Technology Foundation, puts it:

> *When a company like Facebook improves the experience of its products, it's like the massages we give to Kobe beef: they're not for the benefit of the cow but to make the cow a better product. In this analogy, you are the cow.*

Data trade and data tracking are big business. According to the report "Corporate Surveillance in Everyday Life",[4] Oracle provides access to 5 billion unique user IDs. The number is confirmed on Oracle's website.[5]

Large Online Platforms			
Facebook	has profiles on	1.9 billion	Facebook users
		1.2 billion	Whatsapp users
		600 million	Instagram users
Google	has profiles on	2 billion	Android users
		1+ billion	Gmail users
		1+ billion	YouTube users
Apple	has profiles on	1 billion	iOS users
Credit Reporting Agencies			
Experian	has credit data on	918 million	people
	marketing data on	700 million	people
	„insights" on	2.3 billion	people
Equifax	has data on	820 million	people
		1 billion	devices
TransUnion	has data on	1 billion	people
Consumer Data Brokers			
Acxiom	has data on	700 million	people
		1 billion	cookies and mobile devices
	it manages	3.7 billion	consumer profiles for clients
Oracle	has data on	1 billion	mobile users
		1.9 billion	website visitors
	provides access to	5 billion	"unique" consumer IDs

An overview of the amount of profiles held by online platforms, credit-reporting agencies, and consumer data brokers as of June 2017. (Image credit: Cracked Labs, CC BY-SA 4.0)[6]

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4   https://smashed.by/corporatesurveillance
5   https://smashed.by/dataproviders
6   https://smashed.by/datatrade

But there's also the perspective that a free service comes with a cost, that people willingly give their data in exchange for a powerful service. The problems start when it's unclear whether there's a fair exchange or not.

Segregation

In China, citizens are rated on a set of complex parameters and profiled. How they score affects their creditworthiness, among other things.

It's a consequence of the heavy mass surveillance that takes place in the country. But this kind of segregation doesn't happen only in China. In the fall of 2018, it came out that John Hancock, one of the largest life insurers in North America, would no longer be selling traditional life insurance. From then on, it would only sell so-called *interactive policies*. And to buy interactive life insurance, you must wear an IoT device that monitors and sends your fitness and health data to John Hancock.[7] And segregation is not the only consequence of mass surveillance.

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7   https://smashed.by/insurance

Personal safety

According to The National Safety Council of the US, 14% of all fatal car accidents and 7% of non-fatal car accidents in 2016 involved mobile phones.[8]

While some of the phone usage was caused by talking while driving, using a phone while driving also includes texting.

It's highly problematic that a mobile device's UIs and inter- action patterns are designed in ways that convince people to pick up their devices in situations like when they're driving a car. A notifications framework can be intentionally designed to do so, but it could also have been designed differently.

One could argue that customers could always turn on airplane mode or do-not-disturb mode when driving. But the people who design the notifications ultimately have the responsibility to design a framework that is useful. This could be done through aggregation or reduction of quantity. We do see a number of users who turn off all kinds of noti- fications, alerts, and badges on a new phone or computer. Often, there's not an easy way to do so.

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8   https://smashed.by/distracteddriving

There are also examples of sensitive data being used inaccurately and thereby having grave consequences. The digital contraceptive Natural Cycles[9] claims to be safer than the pill when used regularly. However, a large group of women found themselves pregnant despite using the app correctly, because of irregularities in temperature (which is the data used by the app to determine the fertile period of the month). The consequences for these women are not just physical, but also psychological and long term. And that responsibility falls on the creators of the app — regardless of whether the pregnancies happened owing to "honest mistakes".

And it gets even worse. When the data of an app or website that registers user locations is compromised because of data storage vulnerabilities, or when the data is intentionally sold, people are put at great risk. It doesn't take a rocket science degree to see the potential danger that individuals (children, stalking victims, and minorities, to name a few) would be in if the wrong people were to get access to their location.

There are plenty of examples. AT&T, Verizon, Sprint, and T-Mobile are facing lawsuits for selling geolocation data on a total of 150 million customers(!) to a data broker.[10] Live tracking at its best!

9   https://smashed.by/naturalcycles
10 https://smashed.by/locationdata

According to the lawsuit filed against it, T-Mobile sold live location data[11] (yes, live) to partners without any knowledge of how the "partners" would use the data. You could purchase access to the live tracking through T-Mobile partners and get the location of your spouse in real time on your phone. This is not only mass surveillance, but mass surveillance for sale to the highest bidder through a third party.

Bloomberg has revealed that internal reviewers on the Amazon Alexa team can access individual Alexa users' geolocation, which makes them capable of easily finding the home address of the users.[12] Outrageous from an ethical and safety perspective.

These were just a few select examples. The list of examples is almost endless.

And the people who claim that someone shouldn't worry unless they have something to hide are far off the mark. Privacy isn't about having something to hide; it's about a sense of personal space, intimacy, and safety, without having a digital Big Brother listening in.

11 https://smashed.by/locationdata
12 https://smashed.by/homeaddress

Behavior change

Surveillance capitalism is unethical by nature because at its core, it takes advantage of rich data to profile people and to understand their behavior for the sole purpose of making money.

The most chilling thought of all is how data is being used not just to predict and manipulate current behavior, but also

Imagine the uproar if a national parliament had AI cameras and brain wave trackers, and it could follow the activity of every person using the app. Oh, but let us try it on kids!

to profile our future selves through machine learning, ultimately giving companies the power to influence our future decisions and behavioral patterns.

As Cracked Labs, an independent research institute and creative laboratory, states in its report about "Data Against People":[13]

> *Systems that make decisions about people based on their data produce substantial adverse effects that can massively limit their choices, opportunities, and life-chances.*

This happens on a daily basis to everyone who uses Facebook, whose individualised feed is carefully filtered to show the posts most likely to trigger engagement and activity. Pricing is also becoming increasingly individualised because companies are able to use rich data to assess the long-term value of customers, also known as data-driven persuasion.[14]

One can only imagine how companies will be able to use data to profile which of us are more likely to develop mental health or physical issues, thus labeling us a liability for future employers, insurance agencies, and banks.

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13 https://smashed.by/dataagainstpeople
14 https://smashed.by/datadrivenpersuasion

Unethical conduct in products causes addiction

In addition to a wide range of consequences related to mass surveillance and surveillance capitalism, there is also a serious consequence to using products that have been made by companies with unethical conduct.

People who get addicted to their devices are essentially enslaved by the mechanics in the engagement features. Social media platforms such as Facebook and Snapchat take advantage of our fear of missing out (FOMO), as we don't like to miss out on things that seem important to us. They also take advantage of our urge for social validation. We like to feel loved, acknowledged, and respected.

The success of social media platforms and their engagement mechanics have been widely accepted and picked up by other digital products. It's illegal at the operating system (OS) level to send out notifications without consent, but there are workarounds. Apps such as Facebook and Twitter invent new notification types and turn them on by default, so that we get new alerts after we have turned the others off. Once that new notification is turned off by the user, the platform will change the feature, split it into two minor features, and turn on notifications for both of them again. And this adds to the many problems related to device addiction.

Research is not conclusive on how often people check their phones on average, but numbers range from 75 to 150 times per day.[15] That is roughly anywhere between five and ten times per hour, if we assume that the average person is awake for 16 hours per day.

According to the World Health Organization, the mere presence of a smartphone significantly reduces our cognitive capacity. Using a smartphone or tablet just before bedtime affects our sleep negatively because of the blue light from the screen. And the omnipresent access to Google search is suspected to make us into lazy thinkers less capable of analysis and reflection.[16]

So, it's clear that while the many positive changes that smartphones have brought to our lives should not be diminished, there is a flip side.

It might feel like that's just the nature of how humans are and how apps work, trying to capture our attention at all costs. Both of these statements are probably true, yet when we use manipulative techniques to create habit or addiction, as designers and developers, we are designing a path to manipulative, dishonest, disrespectful behavior. Once people realize that — and that's what's happening with legislation and society fighting back with ad blockers and Facebook blockers — your company will have to fight hard to regain

15 https://smashed.by/cellphoneaddiction
16 https://smashed.by/lazythinkers

customers' trust and to rebuild your reputation. It's not a good time to gamble all your hard work for quick wins at the costs of manipulation.

Manipulative design

When we're online, we are constantly bombarded with messages trying to persuade us to believe, buy, or do something. The majority of these messages have been designed with intent.

Persuasive design includes mechanisms designed to motivate and manipulate people into clicking, reserving, buying, signing up, or whichever "action" has been deemed the primary goal of the given website you happen to visit. You can replace "website" with any digital product or marketing message. The mechanisms are the same.

And they work.

First: trust

Persuasive design often starts with trust. A website will do everything it can to establish the company or brand as trustworthy, because once we trust it, we are more likely to

interact with it and hand over our time, money, and personal data (which is a currency in today's economy).

Trust can be established through a variety of elements, such as authority, popularity, recommendations, knowledge, and perceived security, all of which we will demonstrate through some very good, bad examples.

One particular website, viagogo.com, caught our attention because it uses pretty much every trick in the book. Some would claim that viagogo.com is unethical due to its heavy use of persuasive patterns. Viagogo is a so-called secondary marketplace that sells tickets to music and sports events. Boiled down to the basics, they buy tickets and resell them at a higher price. Let's look at how Viagogo tries to establish trust.

AUTHORITY

Viagogo wants us to trust it. It tries to persuade us to do so by using authoritative wording on the main landing page and telling us that "All tickets are fully protected by our guarantee."

Guarantees are also an effective way to establish trust because people think they are in fact protected by them.

Viagogo not only protects; it fully protects you. It even has a cute little certificate seal to prove it!
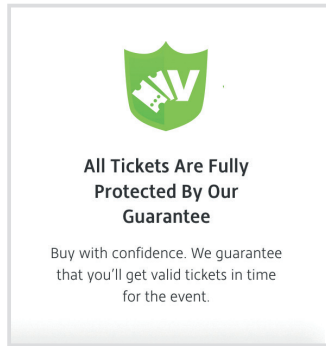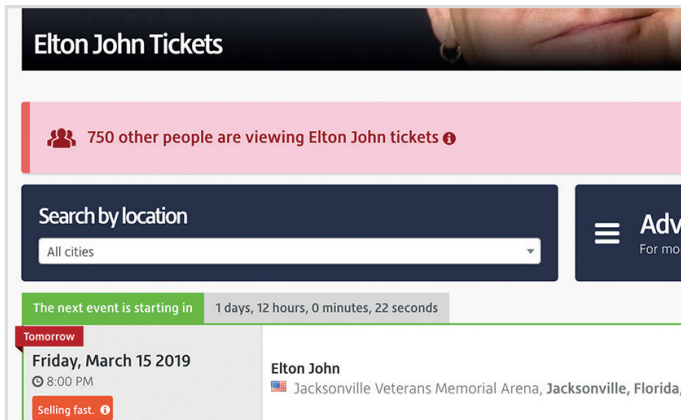

Homemade certification stamps are used
to increase the perceived authority of the brand.

POPULARITY

We tend to take popular people and companies seriously, because so many others seem to do so.

Popularity is often established through ratings and social proof such as "star ratings" and Trustpilot reviews. Other websites surface view counts to establish popularity, which is the case with Viagogo. After all, when 750 other people are viewing the exact same event as you, surely it must be popular, right?

View counts can be used to indicate popularity.

EXPERTISE

Branding a company as an expert is a good idea if the goal is to establish trust. This can be done in various ways, like an elaborate FAQ section or a blog in which the company shares expert knowledge. It can also be done by indicating one's position in the market.

Viagogo lets us know that it's "the world's largest secondary marketplace for tickets to live events."

Establishing yourself as the world's largest anything is bound to make a compelling case that you're an expert in your field, that you know your stuff, that we can trust you.
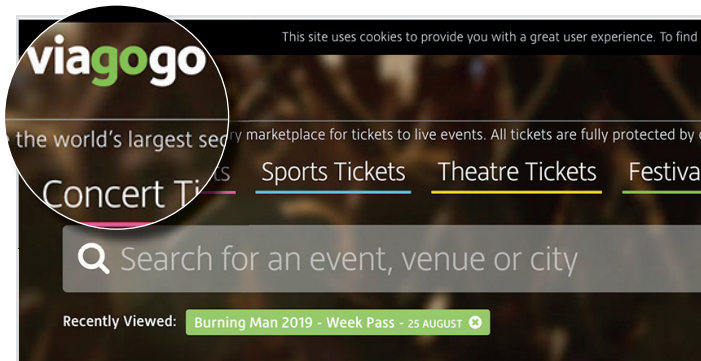
Viagogo makes it clear to users that it's a serious player in the field.

Second: Sense of urgency

Once trust has been established, some websites choose to roll out the big guns: urgency, often activated through calls to action.

Urgency is an incredibly powerful state of mind, one often taken advantage of by people who work in marketing and by those who want to improve their conversion rates, because a sense of urgency entices us to take risks and reduces our capability to reflect in the moment of action. [17] [18]

In short, urgency makes us impulsive.

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17 https://smashed.by/urgency
18 https://smashed.by/risktaking

A DuckDuckGo search for "sense of urgency" results in primarily marketing-focused articles and blog posts all dedicated to enlightening us on how to increase the sense of urgency within our user base.

CREATING A SENSE OF URGENCY

"Buy now!" "Hurry up!" "Last one in stock!" and whatever else are commonly used in calls to action all trigger a sense of urgency. While they're hard to differentiate, since they tend to overlap, we can look at three core tactics that all add up to establishing a sense of urgency.

SCARCITY

Surfacing a shortage of whatever people are on the lookout for, whether it be a hotel room or a T-shirt in size XL, plays on scarcity. Scarcity can be real or fake (which has been proved to be the case with many airline and hotel websites) — it works either way.

Perceived scarcity leads to a feeling of a fear of missing out, which in turn triggers us to act impulsively.

Viagogo makes use of not just one but several elements to indicate scarcity, including the very common notion of

"only 2 tickets left", and several other seating sections are sold out, so "someone else is going in your place".

Scarcity is indicated through a variety of elements, all of which trigger impulsive behavior.

LOSS AVERSION
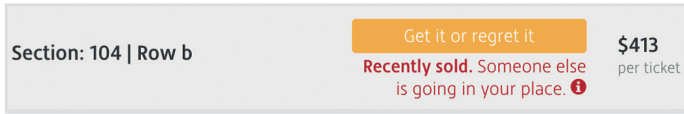
We know from cognitive psychology that loss aversion is the feeling that, for example, you'd rather not lose $10 than receive $10.[19]

Loss aversion is an emotion that's commonly played upon in sales pricing.

Viagogo tells us to "get it or regret it" in a call-to-action button. Someone in marketing had a very good day when this phrase was thought up.

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19 https://smashed.by/lossaversion

| Section: 104 | Row b | Get it or regret it | $413 |
| | | Recently sold. Someone else is going in your place. ⓘ | per ticket |

Powerful wording can be used to trigger our loss aversion.

COUNTDOWNS AND TIMERS

When a website indicates that an offer is somehow time-limited, either by showing a countdown or a timer, it sparks fear of missing out.

To indicate high demand, Viagogo uses a timer once we've added tickets to our shopping cart. We only have five minutes to complete our purchase, or someone else will get our tickets! Oh no!

Due to demand, you have 5.5 minutes to complete your purchase or your tickets will be released

OK
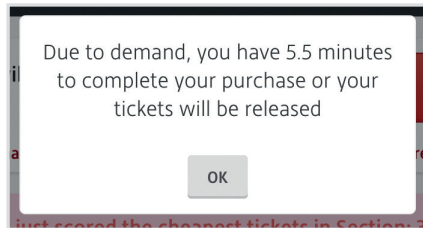
A countdown is used to indicate high demand and triggers users to act fast.

A final word about wording. Using shady copy like "I don't like discounts" (that would be you, Wish) or "I don't want my benefits" (looking at you, Amazon Prime), when you could

have written "Yes, please unsubscribe me", is simply mischievous. It's also incredibly bad for accessibility because it makes it hard for people with lowered cognitive abilities to understand what will happen when they click the button, and it can be confusing for people who use a screen reader to identify the function of the button.
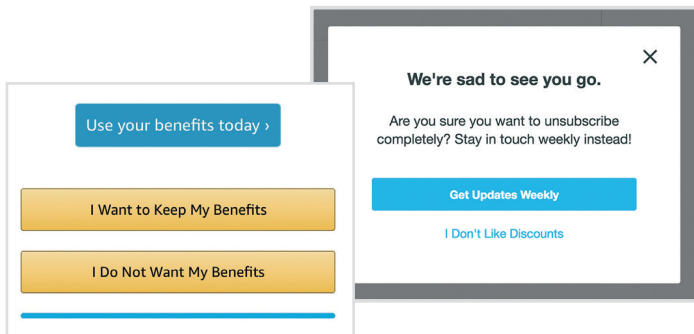
Shady copy is a no-go if you want to improve your ethics and accessibility ratings.

Persuasive pricing

There is a commonly known trick to pricing products to make them sell more effectively. It's not known exactly when the trick came about... but it works.

The trick is to price a product at $29.99 instead of $30. In currencies where .99 is not used, .95 works.

The theory is that we read from left to right and therefore don't actually notice the numbers at the end of the price tag. So, comparing $29.99 to $30 is actually a mental comparison between 29 and 30.

The number 9 seems to have a lot of power. One study shows that increasing the price on a dress from $34 to $39 actually increased sales by one third!

"Order your shoes now! We are out of stock!" You may wonder why they are offering a 10% discount, instead of selling at a higher price. Perhaps that would make all the unhappy emoticons go away?

FUD, or fear, uncertainty, and doubt, is a marketing strategy often used to cast a shadow over a competitor's product. Combine it with FOMO, the fear of missing out, and you have a recipe for advertising we hate. Really.

Persuasive patterns and illness

Manipulative design patterns not only affect people in their decision processes. To people with certain illnesses, these patterns can affect their physical and mental well-being.

The following is an interview with Bruce Lawson on how persuasive patterns affect a person with multiple sclerosis:

Twenty years ago I was diagnosed with multiple sclerosis which is an incurable disease "in which the insulating covers of nerve cells in the brain and spinal cord are damaged. This damage disrupts the ability of parts of the nervous system to communicate, resulting in a range of signs and symptoms, including physical, mental, and sometimes psychiatric problems." [20] For me, one of the manifestations of MS is anxiety.

1. What symptoms do you experience when you're exposed to these aggressive persuasive design patterns?
If my MS is playing up, when I'm confronted with intrusive

20 https://smashed.by/multiplesclerosis

nags ("only two rooms left", "900 people are looking at this right now!", et cetera), I actually feel like I'm panicking; my heart races, adrenaline kicks in, and it leaves me feeling shaky and tired. Given that fatigue is also a very common symptom of MS, I don't need extra help in becoming tired. Sites like these can leave me exhausted. (The same is also true of incessant bleeps and bloops from Slack, Facebook, Skype, WhatsApp notifications. I turn them off when I'm anxious.)

2. How much or little would you say it takes for the symptoms to kick in?
It doesn't take long. Or rather, it didn't take long. I completely avoid purchasing anything on sites that employ these tactics. If I can't avoid it, I'll ask someone else to buy on my behalf.

3. What does science have to say about it?
Science says: "Don't bully Bruce in order to make a fast buck. Because you'll get nothing from him."

4. Which types of sites would you say are the worst when it comes to using persuasive design patterns?
Travel- and hotel-booking sites are notorious for these patterns. They are the double-glazing salesmen of the digital age.

Dark Patterns

"Dark patterns" as a term was invented by Dr. Harry Brignull (see darkpatterns.org). A dark pattern is a deliberately misleading design pattern created with the purpose of getting the user to do something unintended.

To many, the majority of dark patterns might not fall in the "unethical" category. But if we revisit our simplified definition that ethics is "the duty and responsibility to treat others with fairness and respect", then it's not difficult to understand why using dark patterns is bound to affect people's perception of your brand, product, or company. That's why eliminating dark patterns in your products is crucial to improving your company's ethical score.

Dark patterns are, sadly, quite common. But why are they around? The short answer is: because they work.

Dark patterns claw themselves into a digital product when a designer or developer is told by someone higher up in the hierarchy to "fix" something. And by "fix", they usually mean "improve conversion".

After all, if we make it impossible for users to dismiss the newsletter signup form, we'll increase the number of signups, right? Problem solved! (Irony may occur.)

Some of the worst dark patterns include:

- charging advertisers for the display of ads shown outside the viewport;

- placing ads in the background and making money on unintentional clicks;

In this fairy tale, Bluetooth is playing the roles of Hansel and Gretel, and Facebook is the cannibalistic witch living in the gingerbread house.

- online news websites gathering video clips created by others and then making money from selling pre-roll and post-roll ads;

- selling customer data that's being collected without explicit permission (hard to prove);

- online ad retargeting;

- confusing consent in signup flows, such as intentionally mixing up consent to "terms and conditions" and "sign up to receive our newsletter";

- silently adding products to the shopping cart on behalf of the user.

Huel uses the "sneak into basket" pattern on some of its products. As soon as you visit a product detail page, it automatically adds a selection of its most popular products,

An example of the dark pattern "sneak into basket".

which you have to manually remove if you don't want the products added to your basket.

Huel doesn't seem to think it's a big deal:
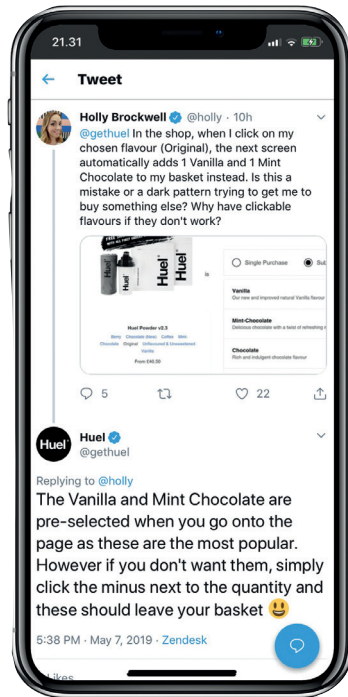
The "misdirection" pattern is used by Medium in its signup flow. According to darkpatterns.org, this is a design that "purposefully focuses your attention on one thing in order to distract your attention from another."

Medium uses the dark pattern "misdirection" to make people sign up with a social account.
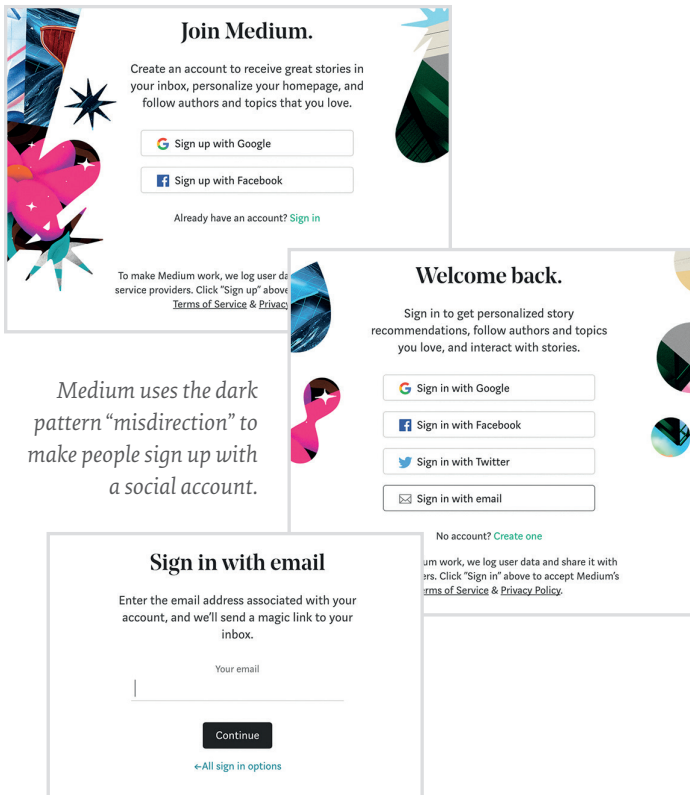
In this case, Medium wants you to use social signup, and it effectively hides email signup behind an "Already have an account? Sign in" link. When you reach the sign-in page, you have to click "Sign in with email", which will prompt an email with instructions on how to sign up. This deliberately misleading language is all designed to make people sign up with their social account.

Why dark patterns are bad for business

Some companies are bound to be able to prove that dark patterns convert better than ethical design patterns. However, what happens when a dark pattern is discovered by users and afterwards shared publicly is that conversion drops.

Another consequence of dark patterns is that complaints will flood customer service, which in turn generates higher costs and increasing headaches in the support department.

At this point, we wish we could share some stories with you about companies whose conversion dropped, and that were flooded by support calls and emails. But we haven't found anyone who would be willing to admit their mistakes in public.

A recent large research study[21] with more than 2,000 British adults showed some interesting results about people's reactions to so-called "behavioral interventions" — or manipulative, persuasive design tricks, as they are referred to by some.

The study showed that 49% of the people in the study were likely to distrust websites that use manipulative design tricks. And 34% had a downright negative emotional reaction, and used words like "disgust" and "contempt". The study concluded that certain manipulative tactics have been so overused that their power is diminished in the context of websites.

21 https://smashed.by/darkpatternsstudy
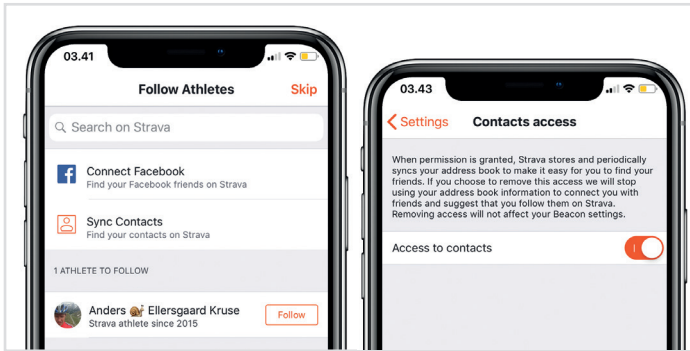
When you install Strava, you might get a recommendation to follow a very close friend — even before you've given Strava access to your contacts.

What a lucky guess from Strava… or are they cheating? Every time you design a new digital feature, please ask yourself, "Will this be cool for users, or will it be creepy?"

GDPR

The General Data Protection Regulation (GDPR) is a regulation in EU law on data protection and privacy for all citizens of the European Union, regardless of where you collect and store the data.

Does GDPR matter if you do business outside of the EU? Maybe. It also addresses the transfer of personal data outside the EU. If you collect data in the EU and process it somewhere else, then it matters to your business.

Furthermore, if you only operate outside of the EU and you're considering changing that, it would be kind of silly not to take GDPR into account. The cost to change the system's design and security model would be high.

GDPR aims to give control to individuals over their personal data. The advantage for any business operating within the
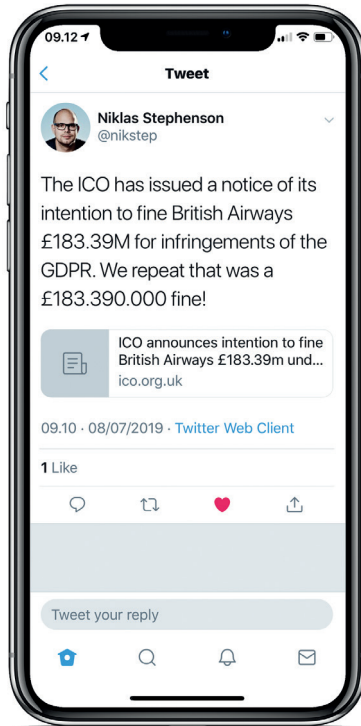
The Times They Are a-Changin' (Bob Dylan)

EU is uniformity — the same set of rules apply to all countries within the EU.

Non-compliance can cost companies dearly. However, much is left to interpretation. Companies must provide a reasonable level of protection. A business process that handles personal data must provide safeguards to protect data, and must use the strictest privacy settings possible by default.

Datasets must not be publicly available without explicit informed consent, and they must not be used to identify a subject on their own. You will have to store elsewhere any additional information that in combination could identify the subject. Also, the data subject has the right to revoke this consent at any time.

This is great.

90% of consumers are willing to share behavioral data if they get additional benefits that make shopping cheaper or easier. 63% say they would stop purchasing products and services from companies that take "creepy" marketing too far.

These numbers come from a study by SmarterHQ,[22] which surveyed 1,000 consumers on their privacy concerns, channel affinities, brand experiences, and personalisation

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22 https://smashed.by/smarterhq

preferences. The study also shows that 86% of consumers are concerned about their data privacy, and 79% believe that companies know too much about them.[23]

GDPR aims to solve the trust issue between brands and consumers. In some cases, all the clicking of cookie alerts and giving consent in pop-ups, emails, and apps are creating a false sense of security. Either we click-click-click and don't read anything, or we input incorrect information.

The go-away strategy (i.e. quickly dismissing a pop-up or granting consent without even reading the notice) means that bad actors can exploit us because we are unintention- ally submitting data. The false information strategy will expose us to even more irrelevant marketing.

GDPR compliance is not a competitive advantage. It's a starting point, and what comes after GDPR is transparency. GDPR compliance will ensure that you keep data safe and only use data with permission. Transparency will show the user what data you store and where you store data, and the user can interact with the dataset and even delete data. GDPR compliance allows users to get their data deleted on request. If you were to design a transparent platform, an improvement would be to add a feature where the user can delete all or selected data directly in the interface.

23 https://smashed.by/smarterhq

A similar law is becoming official in 2020 in California. The interesting effect we see here is that the highest standard will impact legislation everywhere. Consumer protection has become mainstream.

That's your competitive advantage.

The seven key principles of GDPR

The General Data Protection Regulation (GDPR) took effect in the EU in May 2018, and since then, many significant changes have been brought about as to how companies collect, store, and treat personal data. Below you can read some core aspects of the regulation as defined by the EU Commission.[24]

According to the original wording of the regulation:

> **personal data** *means any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.*

GDPR rests on seven key principles as seen below.

24 https://smashed.by/gdpreu

1. **Lawfulness, fairness, and transparency**
   Personal data shall be "processed lawfully, fairly and in a transparent manner in relation to individuals."

2. **Purpose limitation**
   Personal data shall be "collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes; further processing for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes shall not be considered to be incompatible with the initial purposes."

3. **Data minimization**
   Personal data shall be "adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed."

4. **Accuracy**
   Personal data shall be "accurate and, where necessary, kept up to date; every reasonable step must be taken to ensure that personal data that are inaccurate, having regard to the purposes for which they are processed, are erased or rectified without delay."

5. **Storage limitation**
   Personal data shall be "kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed; personal data may be stored for longer

periods insofar as the personal data will be processed solely for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes subject to implementation of the appropriate technical and organizational measures required by the GDPR in order to safeguard the rights and freedoms of individuals."

6. **Integrity and confidentiality**
Personal data shall be "processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organizational measures."

7. **Accountability**
"The controller shall be responsible for, and be able to demonstrate compliance with" lawfulness, fairness, and transparency.

The relationship

What is the relationship between GDPR and ethics in software design?

One could argue that GDPR is a legal approach to software design, and ethical design standards are a moral approach.

We like to see it this way because the moral approach can be used without the legal bindings. However, connecting the legal and moral sides of software design makes a lot of sense, because you're not developing one product that complies with legislation and developing another that meets ethical standards. You are developing a single product that would ideally meet both sets of guidelines. And for that reason, it's convenient to solve both legal and ethical issues at the same time.

Existing ethical frameworks

A range of frameworks deal with ethical design already. We'll look at a few of them now.

The Ethical Design Manifesto by Indie

Indie, a company founded by Aral Balkan and Laura Kalbag, describes ethical design as technology that respects human rights, human effort, and human experience:[25]

Technology that respects human rights is decentralized, peer-to-peer, zero-knowledge, end-to-end encrypted, free and open source, interoperable, accessible, and sustainable.

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25 https://smashed.by/indie

It respects and protects your civil liberties, reduces inequality, and benefits democracy.

Technology that respects human effort is functional, convenient, and reliable.

It is thoughtful and accommodating; not arrogant or demanding. It understands that you might be distracted or differently-abled. It respects the limited time you have on this planet.

Technology that respects human experience is beautiful, magical, and delightful.

It just works. It's intuitive. It's invisible. It recedes into the background of your life. It gives you joy. It empowers you with superpowers. It puts a smile on your face and makes your life better.

Indie's "Ethical Design Manifesto" covers design holistically. It doesn't only focus on the design of the product or on the business model. It takes it a step further and includes the environment, our rights, and democracy.

The latter is what makes Indie's "Ethical Design Manifesto" political, which is a necessity if we are to truly make changes to benefit our digital life and society.

Ethical by Design: Principles for Good Technology by The Ethics Centre

Dr. Matthew Beard and Dr. Simon Longstaff AO defined the "Principles for Good Technology", which is published by The Ethics Centre. The Ethics Centre is an Australian not-for-profit organization that works to bring ethics into businesses and practices.[26]

"Principles for Good Technology" consist of eight principles:

Ought before can
The fact that we can do something does not mean that we should.

Non-instrumentalism
Never design technology in which people are merely a part of the machine.

Self-determination
Maximise the freedom of those affected by your design.

Responsibility
Anticipate and design for all possible uses.

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26 https://ethics.org.au/

Net benefit
Maximise good, minimise bad.

Fairness
Treat like cases in a like manner; different cases differently.

Accessibility
Design to include the most vulnerable user.

Purpose
Design with honesty, clarity and fitness of purpose.

There are plenty of good intentions in this framework, and we don't disagree with any of them. But they're not very specific and actionable. The next framework we'll look at has a more practical nature.

Privacy by Design

The Privacy by Design framework is developed by Ann Cavoukian.[27] It consists of four core principles:

1. **Privacy must be proactive, not reactive, and must anticipate privacy issues before they reach the user.** These issues are not issues that we want to deal with after a problem has come to life but are instead issues we want to prevent entirely, if possible.

27 https://smashed.by/anncavoukian

2. **Privacy must be the default setting.**
There is no "best for business" option in regards to privacy; this is an issue that is about what's best for the consumer, which, in the long run, will be better for the business. We can see what happens when coercive flaws are exposed to the public through what happened to PayPal and Venmo in August 2018 when Public by Default was released to the public, bringing a smattering of bad press to the brand. More of this is sure to come to the businesses that wait for something bad to happen before making a change.

3. **Privacy must be positive sum and should avoid dichotomies.**
There is no binary relationship to be had with privacy; it is a forever malleable issue that needs constant oversight and perpetual iteration. Our work doesn't end at the terms and service agreement, it lasts forever, and should be considered a foundational element of your product that evolves with the product and enables consumers to protect themselves — not one that takes advantage of their lack of understanding.

4. **Privacy standards must be visible, transparent, open, documented, and independently verifiable.**
There's no great way to define a litmus test for your privacy standards, but there are a couple of questions we should all ask ourselves as business people. First, if the press published your privacy agreement, would it

be understandable? Second, if it were understandable, would consumers enjoy what they read? And last but not least, if not, what do you need to change?

The Privacy by Design framework offers very tangible guidelines that serve as a good addition when building an ethical design framework.

Usability is just as important as any other part of software design. This is a heartbreaking story.
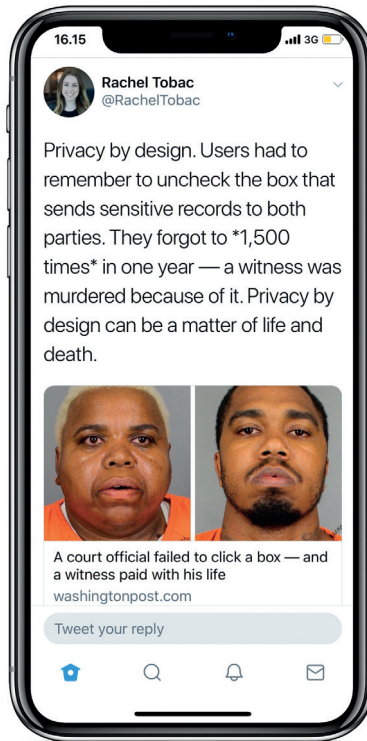
However, frameworks don't work unless people are capable of applying them. What we will do from this point on in the book is to translate the ideas and principles of ethical design into action. A good place to start is by looking at how a transformation can be enabled.

Transformation of ethics

We have seen numerous projects about digital transformation in recent years. It is a buzzword and for good reason. Some say that an old organization with new technology turns into an "old expensive organization".

The business case improves vastly if the old organization learns new tricks while introducing new technology, and this is where the transformation comes into play.

The same principle applies to ethical design. It is not about writing up a manual for consumer protection, but about changing methodologies to build ethical standards and practices into daily work life.

Digital transformation happens when we use digital technology to solve classic problems. Instead of simply improving existing methods, new technologies are used in combination with creativity in an innovation process that can create completely new methods.

Companies with a long history and tradition are increasingly being challenged by brand new digital businesses. Old companies like that can either completely or partially transform themselves towards a more modern mindset, or they can — as is often the case — watch their entire business model crumble in just a few years.

The list of global companies that were not yet founded in 1995 is quite long.[28] The taxi industry is having a hard time with Uber, hotels are both friends and enemies with Hotels.com, and Amazon created a new way of selling books that challenges the physical bookstore.

Behind the well-known stories is a much longer list of lesser-known stories of companies that have started digitally within retail, industry, transport, tourism, and other industries.

All digital companies create new solutions to well-known challenges. They're also challenged by old businesses that are able to keep up and undergo a digital transformation and that understand how to combine the new with the old.

There's also a group of companies that never reach the digital transformation point. Some of them don't survive. Survival of the fittest is, as we know, about being good at surviving change.

28 https://smashed.by/top100

Ethical transformation is similar to digital transformation, but before we dive further into that area and explain what it's about, let's take a closer look at the classic challenges.

Challenges along the way

Digital transformation is not an easy practice. Some industries haven't even started, and the pace of the transformation is also different from country to country.

There are typically a number of challenges for the companies that start this process.

Lack of experience in managing digital transformation is a major problem. The management (and the boards) of many companies are at an age that immediately tells us that they are not digital natives. If you don't know what to do in order to lead the change, the process is especially difficult.

It's also a problem if the management doesn't ask for help. Some choose to make decisions based on a gut feeling. Others choose to pretend that everything is under control. Some don't want criticism or resistance when the decision on how to proceed has been made. There are many obstacles, and it's very human to go for any of these solutions to the different problems.

The same applies to employees, as you can experience employee pushback. Many of us love routines and familiar processes. There's a reason why we have something called a "comfort zone".

If management is good at creating the framework for a transformation that can ensure survival in a changing market, they must ensure that this is communicated properly to employees. Otherwise, it will be a hard and difficult journey for everyone in the company.

Therefore, the organizational model can be an obstacle. Have you ensured that teams have the skills they need and that the organization of teams is appropriate, and will the culture allow team members to fail and improve?

If the IT department has always worked with the operation of internal systems, they will be of the opinion that there's a risk with any new IT project. That's true. New systems will certainly disrupt existing operations. The current team of operational staff might not be the optimal team to lead the innovation.

Successful digital transformation may require outside help. This applies on many levels. There might be a need for spar-

ring partners for the board, management, team managers, and other employees.

The financial sector is a great example of the challenges in digital transformation. New players challenge the old banks, and the old banks are divided into two groups. Some do too little and are getting hit by the bold new competitors. Other banks make special task force teams that develop new digital products on the side of the existing IT department.

That also requires a large budget, which is often absent. The challenge is not in itself a competition about who can spend the most money, but steering an entire business in a new direction is a huge project. It takes several years, and it includes a lot of costs.

Digital transformation cannot be left to a single department. It's not an office on the third floor of building 7 that can create the future of the business. To make a difference, an all-encompassing change of all work processes is needed. Implementation will most likely happen in stages, but that's necessary when dealing with living, breathing humans.

Global megatrends are the driving force behind the ethical transformation

Ethical transformation — what is that, anyway? There is an increasing focus on sustainability, transparency, and corporate social responsibility and, quite generally, on the fact that an organization should behave nicely. The lack of niceness in digital platforms has pushed the need for better ethics further.

The internet has long been a place where companies invent their own business models, and, unfortunately, a lot of shady people have been involved. Consumers are exposed to fraud, identity theft, extortion, hacking, misuse of personal information, and not getting what they've been promised.

That's not sustainable.

The Brundtland Commission defined sustainability as a development process that "meets the needs of the present without compromising the ability of future generations to meet their own needs."

Translating that into the digital world means that companies exceeding the limit of sustainability might see users move onto other platforms. We have to differentiate between social

media platforms, hotel booking, and all the other and smaller services. It's as if there are two sets of rules. You can't switch from Facebook to Ello since you will be alone on Ello — but you can switch from Endomondo to another fitness app. There are always competitors online, even for Facebook, Google, and the other big players in the field. As for all of the smaller ones, well, they are bound to have a lot of competitors.

When companies focus on sustainability and accountability, it doesn't come out of nowhere.

In some cases, the push comes from management, and at other times, the driver is market or consumer trends. Looking at the consumer side, it seems that the world is changing. People are becoming more focused on buying recycled products, organics, locally produced goods, and electric cars. We buy less plastic, drive in more economical vehicles, and do business with companies that have the same goals for the planet's sustainability as we do.

Let's return to ethical transformation. It's not that complicated. It's not enough that a company produces sustainably. If you have sustainable production and at the same time expose customers to the misuse of their personal data digitally, then you have no credibility.

Ethical transformation is about making sure that ethical behavior — fundamental *fairness* and respect — is evident in digital projects. It doesn't require a digital transformation, but for the old organizations, it is likely to be the same journey.

Just think about it. How can you and your own team make sure that nothing will go through digital production that should have been caught in a specification, during the development work, or at the last minute in a test?

If there is no systematic model for ensuring good ethics in the development department, all problems will certainly be brought up to the surface anyway — it's just that the customers will be doing it instead. There is a word for this: shitstorm.

Even if a company doesn't get into a shitstorm due to unethical conduct, the unhappy yet silent customers represent a business opportunity for more ethical competitors. Ethical design may just turn out to be a positive tool for disrupting an entire sector.

Chapter takeaways

Unethical design is problematic: it reduces freedom, compromises privacy and safety, and can cause addiction. A wide range of companies seem to think it's acceptable to use manipulative methods to steer users into certain behavioral patterns.

However, it's not necessarily good for an organization to conduct business this way. There are indicators pointing to a reduction of trust towards companies that use manipulative methods. Additionally, with the introduction of GDPR in Europe, not only can a compromise of customer data safety cause trust issues, but the legal implications can be very serious.

To get started on the journey towards an ethical design practice, change needs to happen. From all of the examples we've listed, it's obvious that there is a need for ethics to play a much larger role in business, design, and development than is currently the case in most corporations. The demand for ethical transformation is evident. But it won't happen without changing corporate culture first. In the next chapter, we will look into ways to start and complete that journey.

GOODWINGS

Sustainability and realism combined

Sustainability is one of the megatrends whose impact we're starting to see in an increasing number of businesses. Goodwings is a good example of a company that would likely not have caught traction 20 years ago, but is doing so now due to the increase in focus on sustainability among consumers.

*By **Lara Mulady**, Head of Communication, Goodwings*

Goodwings is a hotel-booking platform with a difference. On the surface, we're very similar to other hotel platforms. We offer over 365,000 hotels around the world at the best prices guaranteed. If you create a free profile, you gain access to membership rates, and, if you're a business, you can sign up to one of three plans to take advantage of exclusive wholesale rates that can save you thousands of dollars a year.

That's the business bit, the basic you-save-we-profit bit. What really makes us different to other hotel providers is the reason we were founded, our — dare we say it — purpose.

The travel industry is responsible for 8% of global greenhouse gas emissions — a hard pill to swallow, but it's there.

There was no doubt in our minds that there was a dire need to drive a sustainability agenda in the travel industry, one that could turn the entire industry into a driving force for positive change.

We knew we'd never stop travel. Whether it's for business or leisure, travel is an undeniable fact of life. So, instead of focusing on how we could encourage people to travel less, we started to think about how we could help people travel better, to travel in a more sustainable and responsible way.

In the end, it was simple. We realized that we could help people and businesses save money on their travel and tap into their desire to do good; we could help turn the negative impact travel has on people and the planet into a positive one; and we could show other businesses across all industries that the balance of profit and purpose can be both effective and sustainable.

To do this, we built a business model based on strategic partnerships with charitable organizations and forward-thinking individuals and companies. Instead of putting the booking commission we receive for each hotel booking towards mass marketing, we give at least one third of it to the NGOs, charities and nonprofits we've partnered with. All of them work to create a better and more sustainable future by, for example, protecting wildlife from poachers,

improving the lives of girls and women in disadvantaged parts of the world, and fighting plastic-based pollution.

We also offset the carbon emissions from every night booked on goodwings.com at no extra charge, which means that together with the donation, travelers get to save money, enjoy 100% carbon-neutral hotel stays, and know that their booking has supported an organization that is actively working towards a better future for all of us.

Our hope is that other companies across all industries will realize that running a business that is both profitable and sustainable is perfectly possible. All it requires is a simple shift in how they think about profit — and the planet.

About Trine Falbe

A human-centered UX strategist, designer and teacher who works in the intersection between people and business, Trine is deeply passionate about ethical design and designing for children. She is also a keynote speaker at conferences and a UX advisor in strategic projects.

About Martin Michael Frederiksen

As a serial entrepreneur since the very first browser, Martin was born with a practical appreciation for the crossroads between business and digital development. He works as an independent consultant for businesses that need a devil's advocate when trying out new strategies and ideas.

About Kim Andersen

After training at an international advertising agency, Kim quickly left print media for digital design. Due to his amazing memory he always leaves design meetings with an empty notebook, only to attend the follow-up armed with detailed sketches. He owns the digital design studio Onkel Kim.

More by these authors

- *White Hat UX*, Smashing Media, 2017

- "Designing for Addiction" featured in *Smashing Printed Magazine: Ethics & Privacy,* 2019

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