Master's thesis

NTNU
Norwegian University of Science and Technology
Faculty of Architecture and Design
Department of Design

Eline Håkonsen
Amalie Damsgaard Jensen

Design for trust

How design practitioners can benefit from including trust in the design process

Master's thesis in Industrial Design
Supervisor: Martina Keitsch
June 2021

NTNU
Norwegian University of
Science and Technology

Eline Håkonsen
Amalie Damsgaard Jensen

Design for trust

How design practitioners can benefit from including trust in the design process

Master's thesis in Industrial Design
Supervisor: Martina Keitsch
June 2021

Norwegian University of Science and Technology
Faculty of Architecture and Design
Department of Design

NTNU
Norwegian University of
Science and Technology

Design for trust

- How design practitioners can benefit from including trust in the design process

Eline Håkonsen
Amalie Damsgaard Jensen

Acknowledgements

We would like to express our deepest gratitude to all the people who have helped us throughout this thesis, by encouraging us, guiding us, supporting us and enriching the project. First of all, we would like to thank our mentors at EGGS, Håvard Sjøvoll and Ingvill Hoffart, for their enthusiastic encouragement, the useful critiques and for letting us sit at their offices, spending time on mentoring us and helping us recruit test objects.

Furthermore, we would like to thank our supervisor, Martina Keitsch, for always being there for us with advice on the topic, theories and literature as well as the structure, layout and final result of the thesis. We really appreciate our discussions and your valuable critique, and that you always challenged us to look at the bigger picture.

Lastly, we would like to thank our friends and family for encouraging us and inspiring us to push forward and believe in ourselves.

NTNU
Fakultet for arkitektur og design
Institutt for design

Master thesis for Amalie Damsgaard Jensen og Eline Håkonsen

Designing for trust in (technology) products, services and businesses
Design for tillit i (teknologiske) produkter, tjenester og forretninger

Trust is important because it makes people try out new things, collaborate, share information and come to agreements. Trust drives society forwards, while mistrust impedes getting things done. For business trustworthiness is becoming a currency, and many companies are starting to realize the potential and value of designing for trustworthy products and services. However, it can be challenging to design and test for trust because the topic is complex and greatly influenced by societal and subjective factors that vary from context, users and the specific product/service being set forth.

The focus of this thesis is to explore how trust can be strengthened through design choices and design activities. The goal of the thesis is to present a comprehensive tool for designers that makes it easier to understand and improve trust in their product, service or business. EGGS Design is an external partner for this thesis and will assist in general advice and testing.

Proposed Activities

- Present a summary of previous findings in the field of trust and design
- Generate insights on what factors that strengthen trust/mistrust in a product, service or business
- Scope the task by identifying a specific trust challenge to be solved, and define what type of design tool to best tackle this challenge
- Translate insights into a prototype tool that makes is easier for designers to understand and improve trust in their product, service or business
- Test the prototype tool with designers at EGGS, evaluate results and improve the design concept through a build-measure-learn cycle
- Refine and develop the tool as a functional solution to meet the design for trust challenge.

This project is executed in accordance with "Retningslinjer for Masteroppgaver i Industriell Design"

Course supervisor (from ID): Martina Keitsch
Company contact: Håvard Sjøvoll
Starting date : 08/01/2021
Due date: 04/06/2021

Martina Keitsch
Course supervisor

Trondheim, NTNU, dato 06.01.2021

Ole Andreas Alsos
Institute leader

Abstract

Trust is a fundamental, yet fragile driver in society and a key contributor to innovations, collaborations, information sharing and economic development, amongst others. There are many incentives to explore how trustworthy behaviour can be systematically encouraged, influenced or nudged, and many disciplines such as psychology, sociology, economy and social psychology have discussed this topic widely. Still, the connection between trust and design is yet to be scrutinized and explored thoroughly. This thesis aims to provide design practitioners with a more general understanding of how trust can be earned when dealing with complex design challenges, where trust issues are bound to be involved. Moreover, we argue that designers who are able to include trust and bring it into business have an advantage, both from an economic and social perspective.

To strengthen cross-pollination of design theory and practice, the thesis will first discuss the connection between the scientific theories of trust and how they can be applied in the design practice. Further, we will sketch out how trust can be theoretically revisited and practically strengthened through design choices and design activities. Lastly, we present a comprehensive designer tool, Trustspiration.com, that employs theoretical insights for design practice, to influence trust in (digital) products, services or businesses. The tool, which is an open-source platform made accessible to all, has been developed by employing participatory design methods with EGGS Design as external partners. Conclusively, we discuss the learning experiences on combining design research and -practice, as well as potential effects and benefits of “designing for trust” from a micro and macro perspective.

Sammendrag

Tillit er en grunnleggende, men skjør, drivkraft i samfunnet - og en viktig bidragsyter til blant annet innovasjon, samarbeid, informasjonsdeling og økonomisk utvikling. Det er mange insentiver for å utforske hvordan tillitsfull oppførsel kan oppmuntres systematisk, påvirkes eller "dultes". Mange disipliner som psykologi, sosiologi, økonomi og sosialpsykologi har diskutert emnet bredt, men fortsatt kan det virke som om skjæringspunktet mellom tillit og design ikke er undersøkt og utforsket grundig nok. Denne oppgaven tar derfor sikte på å gi designutøvere en mer generell forståelse av hvordan tillit kan oppnås når de designer løsninger til komplekse utfordringer, hvor tillitsproblemer er tilstede. Videre argumenter vi for at designere som er i stand til å inkludere tillit og bringe det inn i virksomheten, har en fordel, både fra et økonomisk og sosialt perspektiv.

For å styrke skjæringspunktet mellom designteori og praksis, vil avhandlingen først diskutere sammenhengen mellom de vitenskapelige teoriene om tillit og hvordan de kan brukes i designpraksisen. Videre vil vi skissere hvordan tillit kan re-evalueres og styrkes gjennom designvalg og designaktiviteter. Til slutt presenterer vi et omfattende designerverktøy, Trustspiration.com, som bruker teoretisk innsikt for å påvirke og styrke tilliten til (digitale) produkter, tjenester eller virksomheter. Verktøyet, og som er en plattform gjort tilgjengelig for alle, er utviklet gjennom brukerinnvolvering med EGGS Design som eksterne partnere. For å samle trådene avslutter vi med å diskuterer læringsutbyttet ved å kombinere designforskning og praksis, samt hva de potensielle effektene og fordelene av å "designe for tillit" kan være fra et mikro- og makroperspektiv.

Table of contents

The people involved

Eline Håkonsen
Master Candidate
Industrial design NTNU

Amalie Damsgaard Jensen
Master Candidate
Industrial design NTNU

Martina Keitsch
Professor at Department of Design
Internal supervisor from NTNU

Håvard Sjøvoll
Creative Leader Digital Design Trondheim
External mentor from EGGS Design

Ingvill Hoffart
Creative Leader Service Design Trondheim
External mentor from EGGS Design

It is trust,
more than money,
that makes the world
go round.

Joseph Stiglitz

Winner of the Nobel Prize for Economics

This quote and all the following introductory quotes are collected from the site Quote Ambition (Finn, 2017-2021)

00
Introduction

In the introduction, we will explain why we have dedicated most of our time and resources the past year, to learn as much as possible on the topic of trust, as well as how it can be applied in the design practice.

Preface

We all have different ideas of what trust is and why it is valuable, but a common denominator is that trust is a fundamental force in society. It is essentially what makes people collaborate, come to agreements, share information and try out new things. Trust drives society forwards, while mistrust impedes getting things done.

Trust has been a widely discussed topic throughout history, and across multiple disciplines such as psychology, sociology, economy and social psychology, but the connection between trust and design is yet to be scrutinized. Although there exist many guides for identifying trust requirements in design processes related to specific domains, such as e-commerce (Nielsen, 2000), mobile vendors (Li et al, 2010) or for establishing trust in Virtual Healthcare Communities (Ebner et. al, 2004), there seems to be lacking a more general understanding of how trust can be earned when dealing with complex design challenges where trust seems to be lacking. Therefore we have dedicated most of our time and resources the past year, to learn as much as possible on the topic of trust, as well as how it can be applied in the design practice - and the result is synthesized in this master thesis.

Photo: EGGS Design

Joining forces with EGGS

Our exploration on the topic of trust was triggered by a very inspirational talk held by Håvard Sjøvoll, chief digital lead at Eggs Design during EXPO talks in 2019; *"We trust things that give us compassion".* In this talk, he touched on the topics of trust in emerging technologies, especially concerning autonomous vehicles. One of the hypotheses he put forward was that "people will not use products and services they do not trust". This sparked our curiosity, and raised many questions, like; what makes us (dis)trust a technology? How can we trust things we don't understand? Can we trust algorithms to make informed and ethical decisions? And is it possible to increase trust in seemingly obscure and complex technologies through design?

We contacted Håvard in Eggs to gain more knowledge, which ended in further discussions on the topic of trust and multiple emails sent back and forth. The idea of digging deeper into the intersection between trust, design and technology seemed alluring, and it turned out to be a mutual interest from both parties. So, what started as a simple fascination for trust, eventually led to a great collaboration with EGGS Design; first as an explorative research project (Håkonsen et al., 2020), and later as this master thesis.

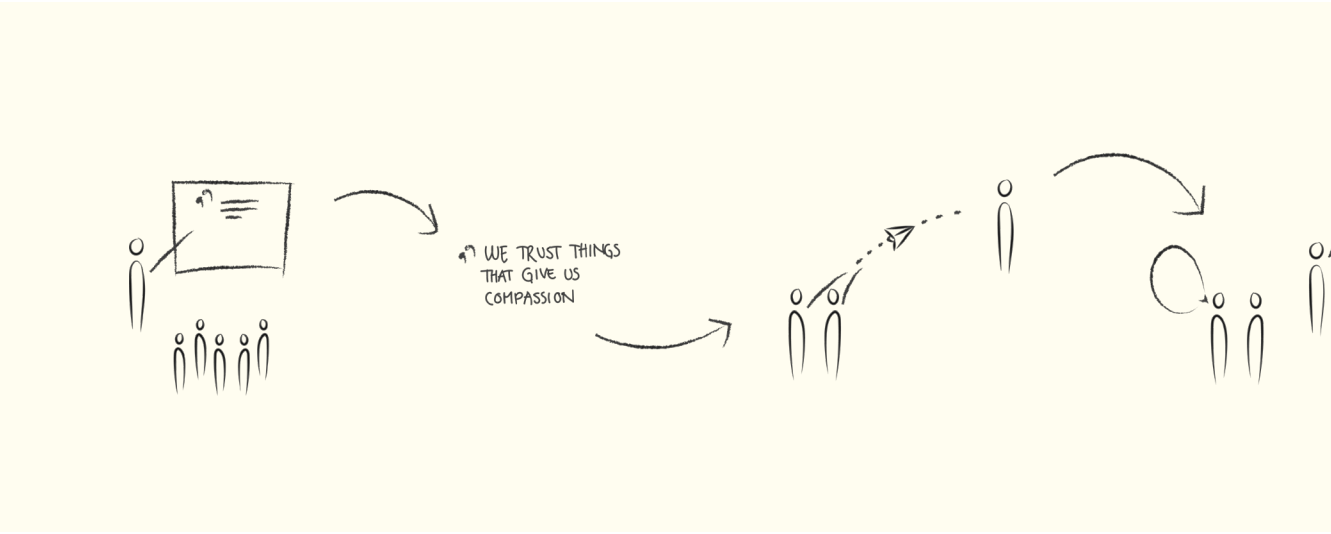


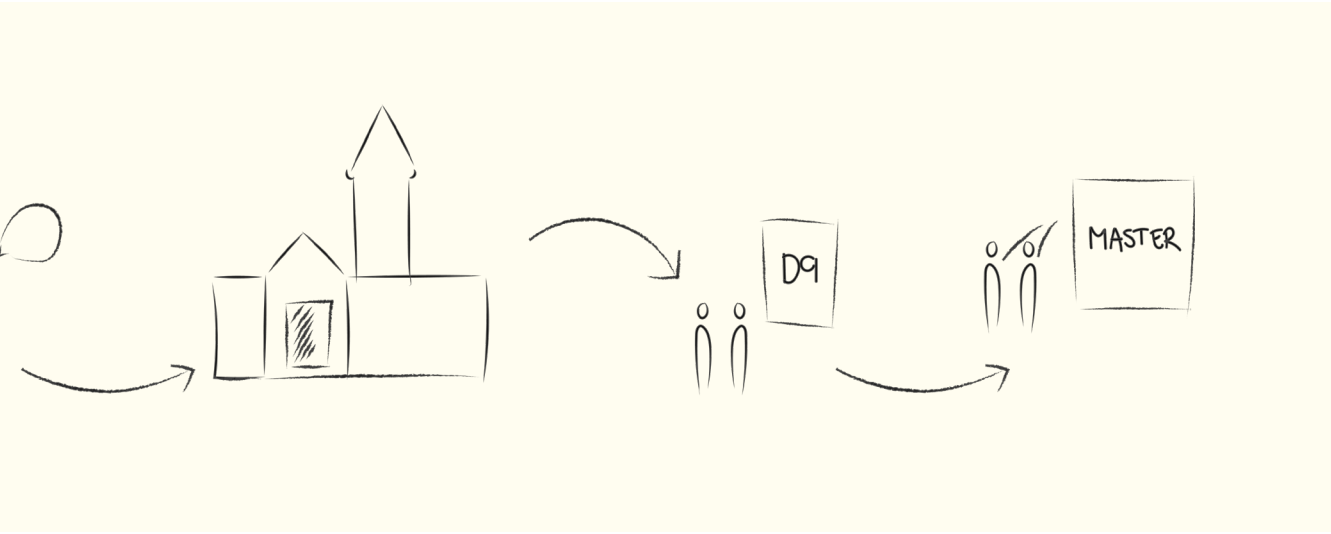
Illustration 1: "The process of choosing the topic of trust"

Motivation

The motivation for moving forward with this topic and collaboration was twofold.

First, we found the idea of working with trust very fascinating, because it is a fundamental force in society - yet not many seem to grasp the complexity and potential to its full extent. Trying to understand the psychology behind a phenomenon that relates to everyone and everything, could potentially result in insight that might prove helpful for designers in the future. By influencing the designers and engineers who develop and transform technology, products and businesses - to craft more trustworthy solutions, we hoped that we could contribute and inspire positive ripple effects that society can benefit from.

Secondly, the collaboration with EGGS, an independent innovation consultancy that helps clients craft new products, services and business transformations, would mean that we could get constant guidance and feedback from excellent designers. We would also be challenged as students and motivated to put extra effort into this project. Their slogan "*Let's craft lovable futures*" resonates well to us, and it is exactly what we are hoping to do - by contributing to a greater understanding of trust, as well as how we can build and strengthen trust in products, services, systems, businesses and technologies through design. We would however propose to change the slogan to "*Let's craft trustworthy futures*" instead.



Explorative research on trust

Initially, the collaboration was intended for the course Design 9 (TPD 4500) at NTNU, we were allowed to specialize in a chosen subject, while simultaneously writing a scientific article on the same topic to gain understanding and deeper knowledge. The topic we decided to investigate further was trust. Through an explorative research phase, where we touched on topics such as trust in emerging technologies, trust in emergencies and eventually trust as a design process. Through this collaboration, we deepened our theoretical insight on trust further, while realizing the societal and economic benefits of designing more trustworthy products and services. Our mission was to shed light on the topic of trust, while simultaneously giving designers the tools and inspiration they needed to incorporate and strengthen trust in whatever they were working on.

In the end, we ended up creating what we called the “design-for-trust process”, complemented by a prototype of a workshop kit and an Instagram account for inspiration. Our delivery was based on extensive research into the theory of trust and design processes, and we believed it had the potential to become something of value for designers under the precondition that it is developed, iterated and tested even further.

“Design-for-trust” became the starting point for this thesis, as we, both our mentors at EGGS and our mentors from NTNU agreed that it is a worthwhile topic, that they would support us in pursuing.

Design for trust

From our exploratory research, we found that there were many incentives to explore how trustworthy behaviour can be systematically encouraged, influenced or nudged through design. Therefore the focus of this thesis is to explore how trust can be strengthened through design choices and design activities. We will address the benefits of trust more thoroughly on page 43, but the focus raises an important consideration that we would like to address now; what does it mean to design for trust?

People and organizations often talk about building trust, as if it is something tangible that we can measure and demand. That is a common misconception, at least according to Rachel Botsman, a leading expert and author on trust in the modern world. She describes trust as a human feeling that exists between two parties; the trustee and the trustor. The trustor is the person who decides to give trust, while the trustee is whatever, or whomever, that receives this trust. Thus, it follows that trust can not be built, but must be continuously earned (Botsman, 2017). So, when we refer to the term "designing for trust", we do not imply that trust is a physical asset that we can easily measure or agree upon what is. We do however suggest that the trustor's decision to trust (or not) can be influenced or nudged,

which possibly leads to better chances of receiving trust.

Designing for trust is about understanding how trust is formed, and when, where and how it might be influenced. In her book *"Who can you trust?"* Botsman explains that we humans commonly share some psychological barriers and patterns when giving trust that are universal. We believe that if designers understand these patterns and help users overcome their biases, the chances of earning trust increases. In other words; we have a hypothesis that trust can be influenced or nudged through design.

Why design for trust?

It is a shared responsibility

Designers should become aware of their role as facilitators for social change

When choosing to trust something, one simultaneously chooses to trust the person who created it. In this sense, what designers craft, becomes a mediator of trust between end-users and products or services. The designers and engineers who develop and transform technologies, products, businesses or services, may express values and norms through what they make, which again might influence the behaviour of individuals or even the practices of society.

The timing is right

Designers should proactively meet the rise of new technologies

Technology affects every aspect of life, society and environment, and its development is constantly advancing and increasing in complexity. New technologies seem to be appearing everywhere, reshaping our lives, homes, environment and society as a whole. It is predicted that emerging technologies will impact almost every occupation within the next 10-20 years (Mitchell et.al. 2017) and that their opportunities, functionalities and capabilities will expand exponentially, way beyond traditional product boundaries (Porter et al, 2014). But while technologies are becoming smarter and more connected, they are also becoming more obscure and ambiguous, which raises some important questions related to trust. We need to design these smart, invisible, fancy and new technologies so that people trust them, and want to use them. We believe the timing for “trust-design” is right.

It has uncharted potential

Designers should aspire for trustworthy futures

Designers have the potential to have a real impact on someone's life since trust can influence how people behave and live. When seen from a bigger perspective, this can lead to change in social and cultural behaviour, and eventually systemic change. By making it easier for designers to understand the true potential of designing more trustworthy products and services, we hope to inspire them to craft more trustworthy solutions that contribute to positive ripple effects and better futures. Trustworthy design can have a real positive impact if done right.

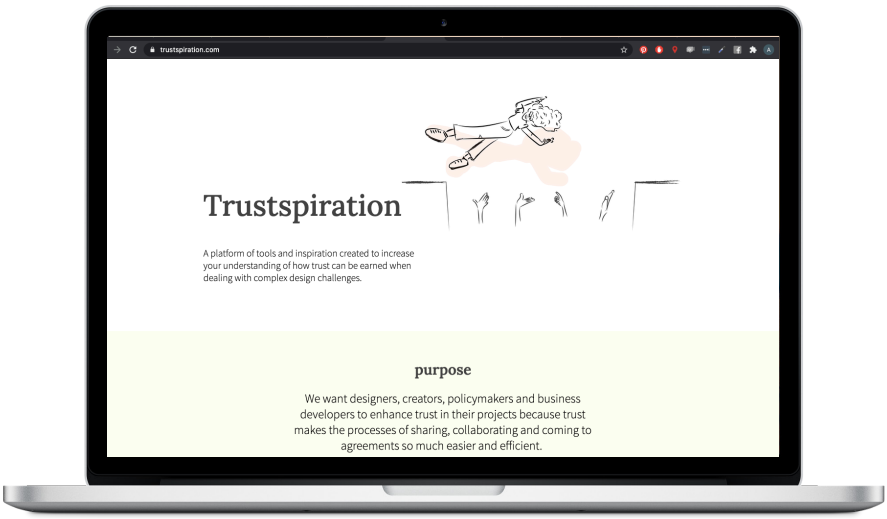
When working with trust, it is imperative to have an ethical backbone.

It feels good to do good

Designers should grow their ethical backbone

Humans are prone to make poor trust decisions, due to unrealistic optimism and several other illusions and biases. Unfortunately, virtually any indicator of trustworthiness can be manipulated or faked, making users vulnerable to abuse (Kramer, 2009). In the process of designing for trust, designers must take ethics into account, reflect upon the choices they make and ask themselves if they are simply manipulating a product or service to seem trustworthy? There is a huge difference between creating truly meaningful products, and misleading or overemphasizing trust-inducing factors through for instance advertising or PR (public relations) to make it seem trustworthy. When working with trust, it is imperative to have an ethical backbone, because the drawback of getting caught in lying or manipulation is very damaging for trust (Kutsyuruba et al., 2016). Designers must realize that more trust is not always the goal. The goal should be to influence people to place more trust in products, services and businesses that are truly worthy of trust.

Teaser of the solution



Trustspiration.com is a platform of tools and inspiration created to increase designers' understanding of how trust can be earned when dealing with complex design challenges.

Beware that the page has not been optimized for wide screen or mobile yet, reasons for which will be further discussed in " Possible future developments" in part 8. We recommend a 13 inch screen size.

In the end, you have to choose whether or not to trust someone.

Sophie Kinsella

English bestselling author

01

Theory, background and related work

In this section, the theoretical movements that lay the foundation for the transition from theory to application are introduced and explained. First, we dive into the classical theories from the last 50 years, before we move over to the complex relationship between trust and technology. Then we will triangulate, by taking a look at trust from a more modern and progressive perspective. Finally, we would like to present a proposed conceptual framework that facilitates the cross-pollination of design theory and practice as a model for understanding how trust works. This proposed framework is based on an analysis of the classical and modern trust theory models.

Classical trust theory

Defining trust

Researchers have widely explored the concept of trust for the past 50 years, examining its role and implications in society. It appears that psychologists analyzed the personal side, sociologists focused on the social and structural side, while economists tried to calculate the rational choice (McKnight et al, 2001). As a result, trust has become conceptually massive in terms of the meanings it conveys.

Notably, the word trust carries multiple meanings in everyday use, as well as in research. There exist more definitions of the word trust, than the terms "cooperation", "confidence" and "predictable" combined (Mayer et. al, 1995, McKnight et al 2001). However, one of the most successful and robust definitions of trust is arguably the one proposed by Mayer et al (1995), and later adopted by McKnight et al (2001):

"[Trust] is the willingness to take on risk and be vulnerable irrespective of the ability to control the outcome or trustee. All at once, it includes intentions, beliefs, behaviours, disposition and institutions as part of a dynamic phenomenon which changes according to the nature of risk and interdependencies of a situation."

This definition is comprehensive enough to cover the generalized concept of the word trust, without stretching its meaning into vagueness. First of all, it illustrates that trust is innately personal; a decision made of free will ("willingness"). It also highlights the contextual aspect; that trust can be influenced by external forces ("interdependencies of a situation"). Furthermore, and perhaps most importantly, the definition stresses the aspect of "vulnerability" and giving up control; to trust is to subject ourselves to risk and uncertainty at someone – or something – else's hands (Mazey, 2018). Many researchers go as far as to say that trust is only required in situations that are characterized by risk (Deutsch, 1958; Mayer et al., 1995; Corritore et al., 2003, Riegelsberger 2005): both the nature of the risk and the willingness to take on said risk. Therefore, it seems reasonable to conclude that trust is fundamental in situations where risk and uncertainty are bound to be involved.

In other words, the components "subjective", "contextual" and "risk" are imperative for a complete and coherent definition of trust, regardless of the research field.

"Trust is the willingness to take on risk and be vulnerable irrespective of the ability to control the outcome or trustee."

- McKnight et. al (2001)

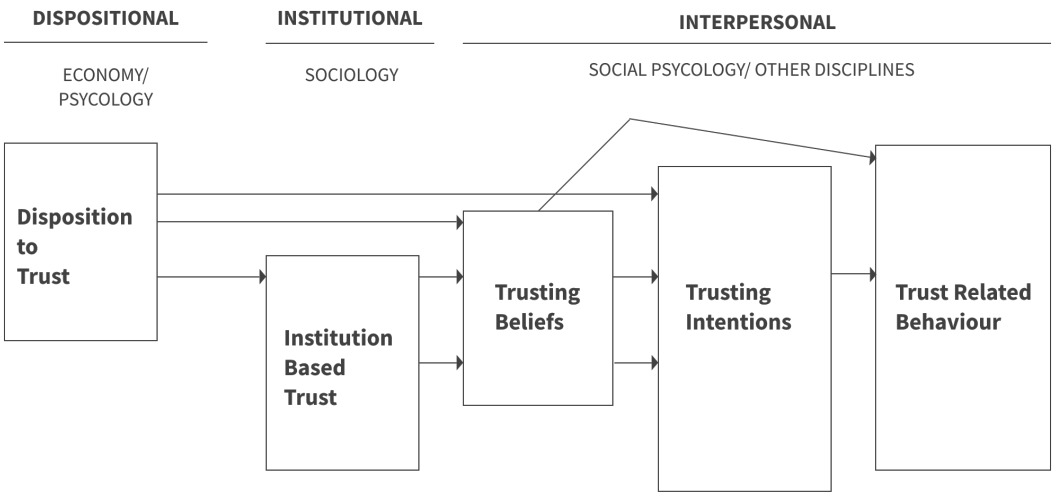
The interdisciplinary model of trust

The problem with having too many and too dissimilar definitions of trust is that it becomes harder for trust researchers to discuss and compare empirical results. Therefore, the much-cited duo McKnight & Chernvay (2001) took the challenge of creating a typology that would grasp all the known aspects of trust in one coherent and integrated concept of trust, based on the much-cited definition proposed on the previous page. The result was the "Interdisciplinary model of trust constructs".

The Interdisciplinary model of trust constructs, as modelled on the next page, is a cohesive set of conceptual and measurable constructs that captures the essence of trust across several disciplines. The five constructs: dispositional, structural, perceptual, intentional and behavioural are explained in the table, also on the next page.

The arrows on the model can be seen as links representing the "flow" of trust between the different typology constructs. It is interesting to note that trust only "flows'' in one direction. This means that dispositional trust affects all the other types of trust, while trusting intentions only affects trust-related behaviour. Although these links are based on empirical data, they are rather intuitive to read. It makes sense that, for example, trust-related behaviour is directly caused by trusting intentions and trusting beliefs, because people tend to translate their beliefs and intentions into actions. It also makes sense that one would have to trust people in general before you trust a specific someone to babysit your children, let a team of doctors do surgery on you or take advice from a colleague.

In other words, the theoretical developments of trust can be divided into five steps, or trust constructs, that build upon each other to create a visual and theoretical explanation of how trust is formed; from the general to the specific. From the conceptual to the behavioural.



Model 1: "The interdisciplinary model of trust constructs", McKnight et al. (2001)

DISPOSITIONAL	STRUCTURAL	PERCEPTUAL	INTENTIONAL	BEHAVIORAL
Disposition to trust	Institution based trust	Trusting beliefs	Trusting intentions	Trust related behaviour
Trust in general others	Trust in the situat-ion or structures	Trust in specific others	Willingness to depend	Accepting risk
Faith in humanity or people in general	*Government, companies, brands organizations etc.*	*People-related expectancies*	*Statistical risks, uncertainty, concerns etc.*	*collaboration, sharing information, agreements etc.*

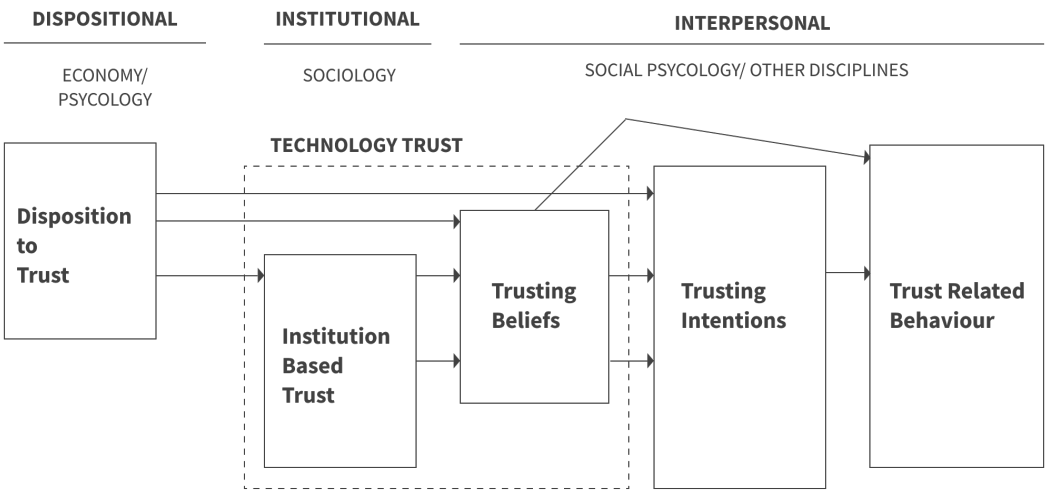
Table 1: "Explanation of the five trust constructs", McKnight et al. (2001)

Technology Trust

Up until now, we have presented some of the most recognized theoretical developments of trust literature. Although the principles and definition of trust remain the same, they arguably seem to be lacking the one evident factor: trust in technologies. More recent research has however begun to examine the role of trust concerning technology (McKnight et. al, 2011, Mazey, 2018), adding a new dimension to the trust typology; technology trust.

The term "technology trust" refers to a trust that is placed in technological objects or technologies, lacking both volition and moral agency (McKnight et. al, 2011). When seen in relation to the interdisciplinary model of trust construct, introduced in the section above, technology trust is encompassed by two trust constructs: institution-based trust and trusting beliefs (Mazey, 2018). Hence, technology trust is not only derived from the artefact itself but from the companies and organisations who develop, distribute and implement them.

In practice, this means that technology trust is twofold. First, you have to trust that the technology does as expected; meaning that it fulfils the three technology-related trust beliefs (McKnight et al., 2011). Secondly, you have to trust the organization that develops and transforms said technology. Since the people who work there become mediators of trust between the users and the technology, they must meet the people related trust beliefs to become trustworthy (Mayer et al., 1995; McKnight et al., 1998). Both the people-related trust beliefs and the technology-related trust beliefs have wide consensus across the trust literature. The traits are described in table 2.



Model 2: "The modified interdisciplinary model of trust constructs", Adaptation of McKnight et al. (2001) and Mazey (2018)

Technology related expectancies

Reliability: the ability to operate consistently without failing

Effectiveness: the ability to provide help when needed

Functionality: having the capabilities to do a task

People related expectancies

Competence: how capable the person is at doing something (skills, experience, knowledge, resources)

Reliability: being able to rely on the person to do what it says it will do (consistency)

Integrity; The quality of being honest and having strong moral principles

Empathy; The ability to understand or feel what someone is experiencing from within their frame of reference (benevolence)

Table 2: "Trust beliefs and expectancies", Mayer et al., (1995) and McKnight et al., (1998).

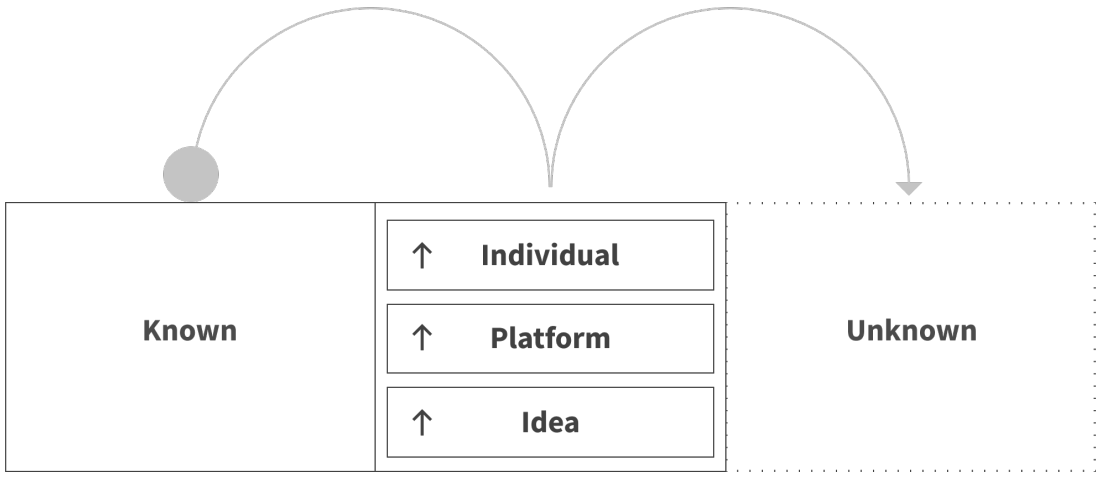
Modern trust theory

The trust stack model

To offer a more progressive perspective on the topic of trust, we would like to highlight the leading trust researcher in the modern world; Rachel Botsman, who aims to challenge and change the way people think about trust, especially concerning technologies. She has been one of the main inspirational sources for the concept development in this thesis.

In her most recent book "*Who can you trust? How technology brought us together, and why it could drive us apart*" Bostman proposes a simplified version of the trust definition, namely that; "trust is a confident relationship with the unknown."

To describe this relationship, she uses the trust stack model as a mental image of how trust is formed in three (or four) steps (Botsman, 2017).



Model 3: "The Trust stack model", Botsman (2017)

”The trust stack” is based on research of hundreds of networks, marketplaces and systems that reinvent the way something of value (a product, service or information) reaches people. Botsman argues that although there will naturally be many nuances and individual differences, there lies a common behavioural pattern people follow in forming trust. This means that whenever people are asked to take a risk to do something new or behave differently, trust needs to be earned on different levels.

To realize trust, you must overcome risk and uncertainty, but the only way of doing this is by climbing all the steps of the trust stack. The first step of the stack is the idea. First, you have to have trust in the fundamental ideas behind a concept. Secondly, you must trust the groups of people that work together to implement this idea (which is often an organization or a company) as well as the technologies that they use. This is what Botman refers to as the “organization” and “technology” steps, or the “platform”. Finally, you must trust the other person, machine or robot to behave as expected. It is the last step where real trust is realized, but you cannot get there without levelling up through the other steps.

As an example; For the service “Uber” to work, you must first trust the idea of getting into a car with a stranger. You must trust the idea of ”ridesharing”, even though we as children are told to “never get into a car with a stranger”. Then you must trust that the company, Uber, are honest and competent in implementing the idea: ”ridesharing” and that they have good policies and screen their drivers appropriately. Furthermore, you must trust that your payment goes through, that your data is kept safe and that the car arrives when it is estimated. Lastly, it is up to you to decide if you want to accept or decline your assigned driver - the specific individual who will be driving you home. It is when you accept the ride, that trust is realized.

In other words, the final trust choice is not a result of coincidence or blind faith, but a result of a decision-making process that can be identified, analyzed and most importantly; influenced (Botsman 2017, Hurley 2006).

A Conceptual framework for trust in design

A comparison of the different frameworks for trust

Since the main goal of the thesis is to present a comprehensive tool for designers that makes it easier to understand and improve trust, we realized that there was a need for a conceptual framework that could facilitate the cross-pollination of design theory and practice. It had to be both intuitive and theoretically correct, without expecting too much preparation and knowledge beforehand. This section discusses how we transformed the theoretical insights presented above into a proposed “design for trust model”

Our starting point was to compare differences and similarities between the Interdisciplinary model of trust constructs and the trust stack.

While the Interdisciplinary model of trust constructs is great to create a typology that grasps the myriad ways we define trust, it is perceived as theoretically heavy. The idea of flow is intuitive and great to explain how the different trust constructs relate to each other, but we realized that it would be challenging to convey the intangible theories of trust tangibly, without a considerable explanation of the specific trust constructs.

Since the original model does not include the aspects of technology trust, as Mazey (2018) proposes in the modified version, this would also have to be justified and explained.

The trust stack model, on the other hand, is much easier to grasp immediately - but lacks the strong support of empirical evidence that the interdisciplinary model offers. This model does however share some important similarities with the Interdisciplinary model, such as the idea of flow. Trust flows in one direction; from bottom to top; from the general to the specific. Furthermore, it deals with several aspects of trust, such as trust in general ideas, trust in the platform (can be divided into organisations and technology) and trust in specific individuals, which is not so different from the trust constructs proposed by Mcknight and Chervany(2001). The language is however written in terms that can be understood by the average user, without too much explanation.

To help connect the theories of trust with the design process, we wanted to make a mental orientation tool that preserved the idea of flow and steps,

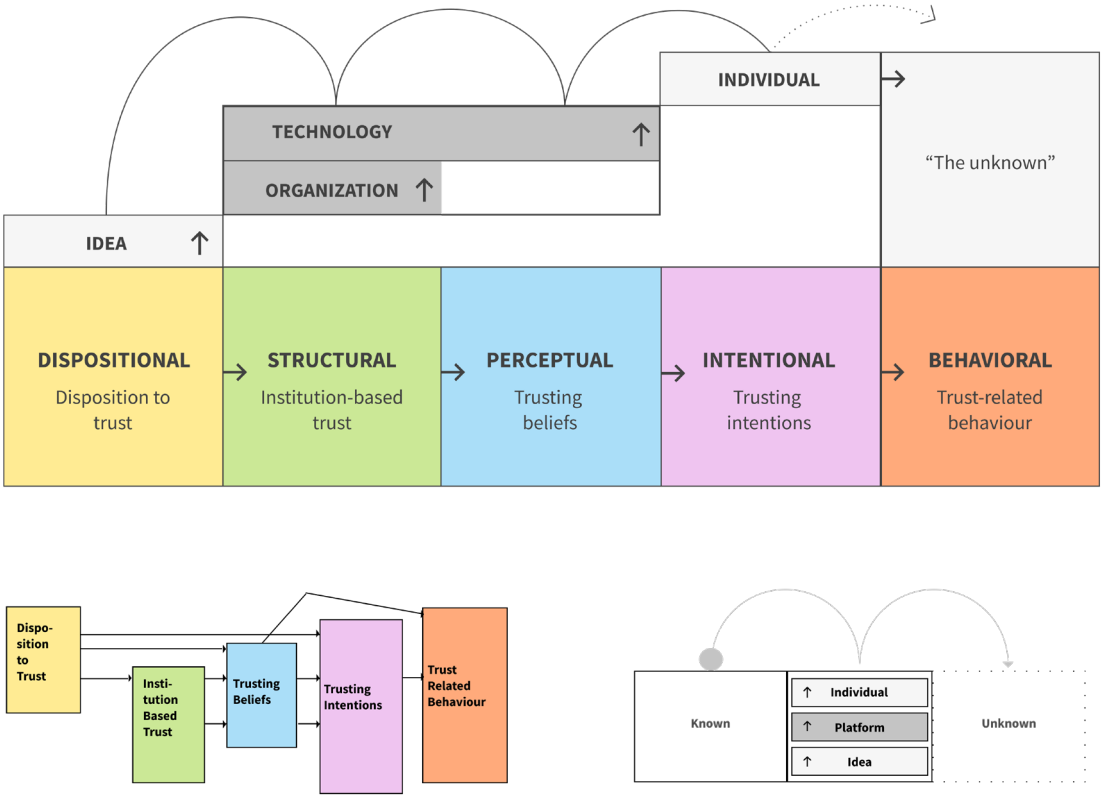


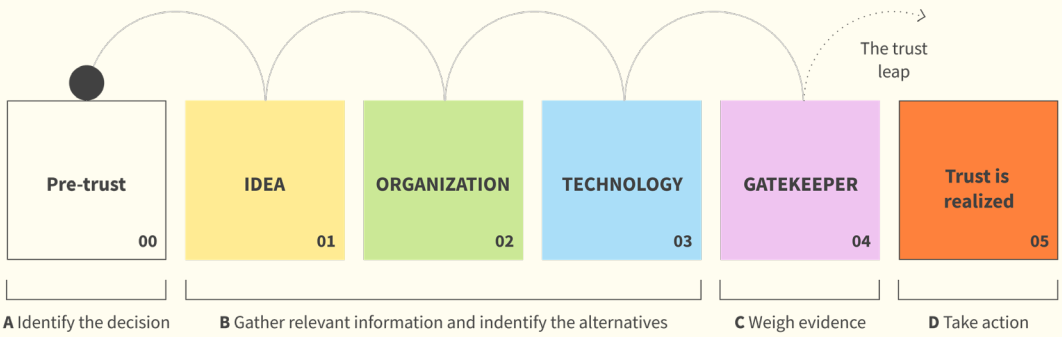
Figure 1: "Comparison of classical and modern trust models and analysis of flow between trust steps/constructs"

but used intuitive and clear language. We also wanted to make the connection between trust and the decision-making process stronger. The model above shows our attempt to compare how similar ideas of "flow" and "steps" can be shown through two different models.

Combining the best of both models, while visualizing the decision-making process, formed the basis for our proposed "design for trust model". The model is presented on the following pages.

The design for trust model

The design for the trust model can be used as a mental model to help explain how trust is formed in five steps. This model takes a systemic approach to trust as a decision making process, so that each step can be identified, analyzed and most importantly; influenced or nudged.



Model 4: "The Design for trust model"

What are the steps?

00 Pre trust

The pre-trust (before trust) phase is where you realize that you need to make a decision to trust, or not to trust. If there is a lot at stake, high uncertainties, a high likelihood of an unwanted event occurring or high consequences of said unwanted event taking place, it is likely that some amount of trust is required.

After the decision has been identified (**A**), the process of gathering information and assessing alternative solutions begins (**B**). The following three steps are mainly about gathering clues and trying to create an understanding of the trust situation.

01 Idea

Having trust in the idea means having to trust the fundamental ideas behind the concept. This step is about understanding what makes people confident with trusting a specific concept, such as ridesharing with strangers, getting on an autonomous ferry or eating insects. There has to be enough understanding and reduced uncertainty to make the users willing to try something new or potentially risky. Overcoming psychological biases and reducing uncertainty is important to influence trust in the idea.

02 Organization

Having trust in the organization means trusting the groups of people that work together to implement the idea. It could be an organization, a company, an interest group, an institution or even the government. Sometimes there is more than one actor involved, as stakeholders and collaborators, that might influence the reputation of the organization.

At this step, you have accepted the concept, but might not be convinced that the people behind are able to implement the idea satisfyingly. Therefore it is important to show that the intentions of the company are aligned with public and user interests. Capability, character and communication are important factors to consider.

03 Technology

Having trust in the technology means trusting a specific technology, or technological object, to do something on your behalf. While technologies are becoming smarter and more connected, they are also becoming more complex and their internal workings are often hidden, so-called “black box” (Oxford Learner’s Dictionary). High ambiguity and uncertainty make trusting more problematic, so it is important to give the user enough understanding to make an informed decision. They don’t need to understand precisely how the technology functions, but they need to rely on it to work.

Digital services and products need to be designed so users trust them and have a positive experience when using them. If the technology artefact acts inconsistently, unpredictably or erroneously, trust is likely to decrease, while trust is increased if the technology achieves the user's goal effectively. Trustworthiness can be strengthened through the three technology-related expectancies (Reliable, Effective and Functional) as defined above. We call it the REF principle.

04 Gatekeeper

Having trust in the Gatekeeper means trusting a specific someone, or something, that works as a mediator for trust decisions to do something. This can be a specific person, machine, robot or other types of interfaces that the user may interact with.

After collecting evidence from the previous three steps (**B**), it is time to compare the findings, evaluate the alternatives and decide; to trust or not (**C**). The interdisciplinary model refers to this step as "trusting intentions"; meaning that one is willing to depend on someone, or something, even though negative consequences are possible or uncertainty is present, based on a feeling of relative security or a prediction that the benefits will outweigh the risks. This step embodies the important aspects of vulnerability and willingness, as discussed in the definition of trust. Vulnerability, because it follows that control is given up. Willingness, because it is a conscious and voluntary decision with a feeling of relative security.

The "Gatekeeper"- name will be explained further on page 151.

The trust leap

It is when a person decides to take the trust leap, in the gatekeeper step, that trust is realized (**D**). But you cannot get there without levelling up through the other steps.

05 Realized trust

Trust does not only influence our decisions, but it influences the way people behave. Trusting behaviour implies an acceptance of risk , which is manifested through several actions, such as; collaboration, informal agreements, sharing personal information, reducing rules, allowing someone/something to influence us, granting autonomy or transacting businesses (McKnight et al, 2001).

Trusting comes with many benefits. It can make interactions smoother by prompting users to share personal information, come to agreements and collaborate, which again makes processes easier and more efficient. Moreover, trust can result in better performance for businesses, by making customers return, and driving conversions. It also makes people more susceptible to new innovations and unknown things, which is great given the increase of smart and complex technologies in our digital era. Lastly, trust is great for your reputation, because it makes people speak well or advocate for you.

There are in other words many incentives to explore how trustworthy behaviour can be systematically encouraged, influenced or nudged.

Benefits of trust

Smoother interactions

Trust influences our behaviour and decisions. Trust prompts users to share personal info, come to agreements and collaborate - making processes easier and more efficient.

Better performance

Trust drives conversions and boosts performance. Businesses are recognizing the economic benefits of designing for greater trust because it makes customers come and return.

Successful innovations

Trust makes us try out new and unknown things. It is often connected to a leap of faith. Could you get into a self-driving car, or allow an algorithm to diagnose you without trust?

Good reputation

Trust makes people advocate for you.
Trust makes users and employees speak well of you or leave good ratings - boosting your reputation.

part 01

Key takeaways

Trust is the willingness to take a risk and be vulnerable, even though you can't control the outcome. It can be seen as a confident relationship with the unknown, where the unknown is anyone, or anything, that trust can be placed in.

Trust is a word of many meanings that has a variety of definitions from several disciplines, however, they all agree that it is a complex and dynamic phenomenon that changes according to the **subject and context of the trust situation**, and is highly connected to **risk and uncertainty.**

In the process of deciding to trust, or not, people follow universal patterns. These **patterns can be identified,** analyzed and most importantly; influenced.

The final trust choice is not a result of coincidence or blind faith, but a result of a **decision-making process,** where the decision to trust is based upon gathering relevant information and identifying alternatives, weighing the evidence against each other and finally deciding to take action: to trust or not to trust.

There are **many incentives to** explore how trustworthy behaviour can be systematically nudged; such as smoother interactions, better business performances, more successful adoption of innovations and better reputations.

The design for trust model is our attempt to visually explain how trust is formed in five steps: from the idea, the organization, the technology and the gatekeeper to realized trust. It provides a mental model for how trust is formed, based on the trust decision process.

Supposing is good.
Finding out is better.

Mark Twain

American writer and humorist

02
Method

In this part of the thesis, the research objectives and questions will be presented. Then, we will explain what design methods were chosen, and why. Finally, we will outline a plan on how to address the research questions and meet our objectives, based on what seems reasonable and convenient given the relevant time frame.

Research objectives and questions

The main goal of this thesis is to present a comprehensive tool for designers that makes it easier to understand and improve trust in their product, service, or business. To reach this goal, we have generated a set of sub-objectives:

The objectives of this study is to:

Discover how, if possible, designers can generate trust between users and (digital) products, services or businesses. (knowledge)

Synthesize scientific theories to explain how trust is formed, in terms that can be understood by the average user (knowledge)

Identify and demonstrate the individual and societal benefits of designing more trustworthy products or services (attitude)

Develop and test hands-on activities to identify and prioritize trust issues and/or improve trustworthiness in products and services (skills)

Based on the objectives the following research questions were formulated in relevance to our own solution. These questions are meant for self reflection, to assess if we meet our own standards, and will be answered in part 8; “Evaluation and Reflection”:

How might we, if possible, influence trust decisions between users and (digital) products, services or businesses through design? (knowledge)

How might we synthesize scientific theories to explain how trust is formed, in terms that can be understood by the average user (knowledge)?

How might we develop and test hands-on activities to identify and prioritize trust issues and/or improve trustworthiness in products and services (skills)

How might we identify and demonstrate the individual and societal benefits of designing more trustworthy products or services (attitude)?

Plan

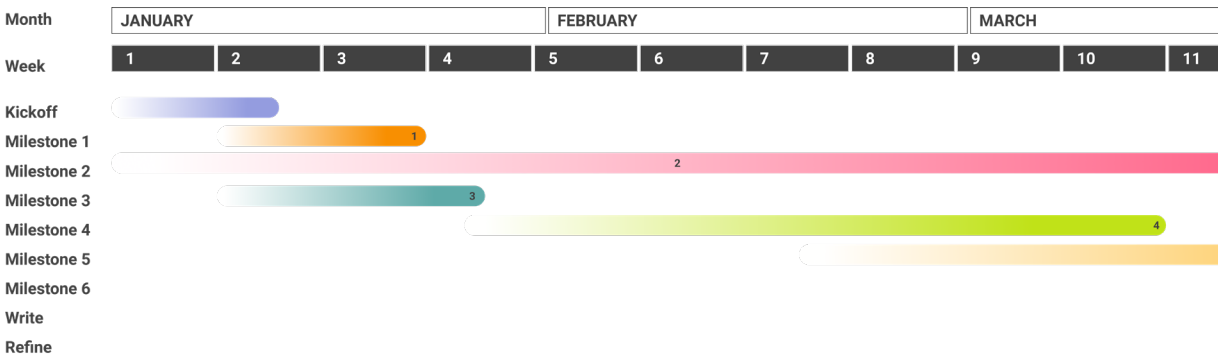
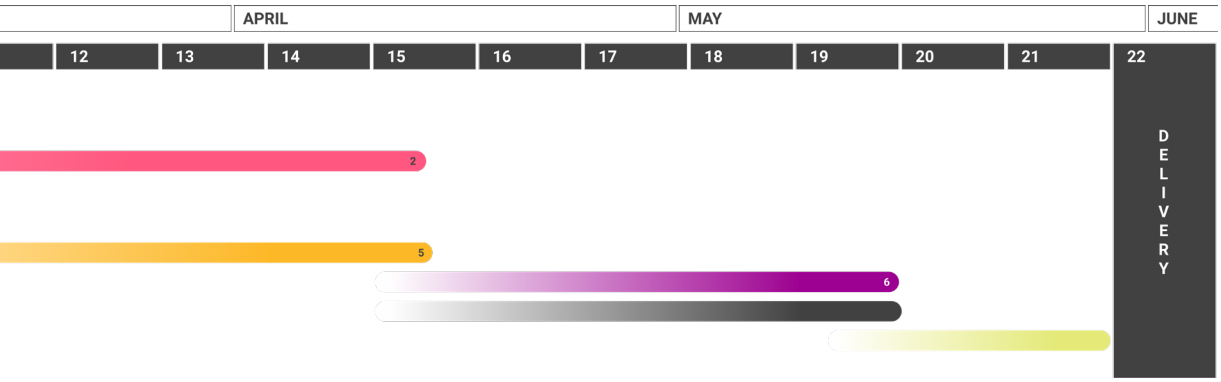


Figure 2: "Progress Plan", Adaptation of Gantt chart

At the beginning of the project, we prepared a timeline with proposed activities and milestones based on the project description and goals. To assist in planning and scheduling the project, we visualised our proposed workflow as a Gantt chart, which is a type of bar chart created with the intent of illustrating a project schedule. The plan consisted of an intro phase, followed by 6 milestones linked to the proposed activities, as well as a writing phase and a refinement phase.

The chart was a useful tool to simplify our project and reduce complexity. Additionally, it was a great way to get an overview of the time frame we had to work within. By allocating X number of weeks to each proposed activity, we knew that by the end of the project we would have everything covered; given that we stuck to the plan.

An important part of the plan was to get regular feedback, both from our mentors at EGGS Design and from our supervisor at NTNU. The counselling sessions were a great opportunity to report partial results along the way and get constructive feedback. Therefore we arranged for our supervision, with course supervisor



Martina Keitsch, to be scheduled every second week, so that we would have time to iterate or pivot between sessions, and provide her with written, or visual, material beforehand. Occasionally, we also had official mentoring sessions with the company contacts to ensure that their interests were taken care of. Since we were given the opportunity to share the workspace with the designers at EGGS once a week, we also had frequent, but informal discussions and clarifications with many of the in-house designers throughout the project, apart from the weeks when the office was closed due to covid-19.

The frequent meetings with our supervisor Martina and our mentors at EGGS, Håvard and Ingvill, ensured that we never got too far off track and that whatever we conducted would be feasible within the agreed time frame. Combined with the plan and proposed workflow, as described above, we were confident that we would be able to submit the master's thesis on time.

- **Intro [2 weeks]:** Get an overview of the master, make a plan and a supervision schedule. Decide research methods and begin to formulate objectives. Begin to read the book "*Who can you trust? How technology brought us together and why it might drive us apart.*" by trust researcher and expert Rachel Botsman.

- **Milestone 1 [2 weeks]:** Sum up results of findings in the field of trust from previous explorative research, and identify gaps in trust theory that need to be filled. Increase knowledge in the field of trust and design by reading articles and continuing with the book.

- **Milestone 2 [14 weeks] :** Generate insights on what factors strengthen trust/mistrust in a product, service or business. Since we anticipated that this would be an iterative process throughout the thesis, depending on scope and user insight, we kept this phase as an ongoing task. Write notes on partial results before every counselling session.

- **Milestone 3 [3 weeks]:** Scope the task by identifying a specific trust challenge to be solved, and define what type of design tool to best tackle this challenge. We allocated 3 weeks for this, as we might have to consult users and our mentors to decide what direction to take. Write down arguments for decisions consecutively.

- **Milestone 4 [7 weeks] :** Translate insights into a prototype tool that makes it easier for designers to understand and improve trust in their product, service or business. We wanted to start the prototyping early to iterate and test multiple times before the delivery. Write arguments for decisions consecutively.

- **Milestone 5 [5 weeks] :** Test the prototype tool with designers at EGGS, evaluate results and improve the design concept through a build-measure-learn cycle. Milestone 4 and 5 would naturally have some overlap.

- **Milestone 6 [5 weeks] :** Refine and develop the tool as a functional solution to meet the design for trust challenge.

- **Writing [5 weeks]:** We allocated 5 weeks to structure and write out the thesis. We gave ourselves short time to write, on the precondition that we wrote down arguments, decisions and partial results after every milestone.

- **Refining [2 weeks]:** Work on refining the form, structure, language and layout of the master. Double-check sources, spell check and cross-check language and flow with others.

Chosen methods

We used two main methods; Double Diamond as the design research method, and Participatory design as the design practice method.

Design research method

As a design research method, Double Diamond covers the whole design process, from the initial idea to the delivery of a service or product. It is often referred to as the "*simple graphical way of describing the design process*" and is one of the most widely used and preferred design research methods in design practice (Design Council, 2007).

Designers are trained to solve problems and make their users' lives better - and the double diamond framework forces designers to consider what "better" actually is. It includes understanding and defining the right problem through user research, then developing a plan to find the right solution to solve said problem, for a certain target group. We believe the Double Diamond method fits our project well, because of it's user-centred focus.

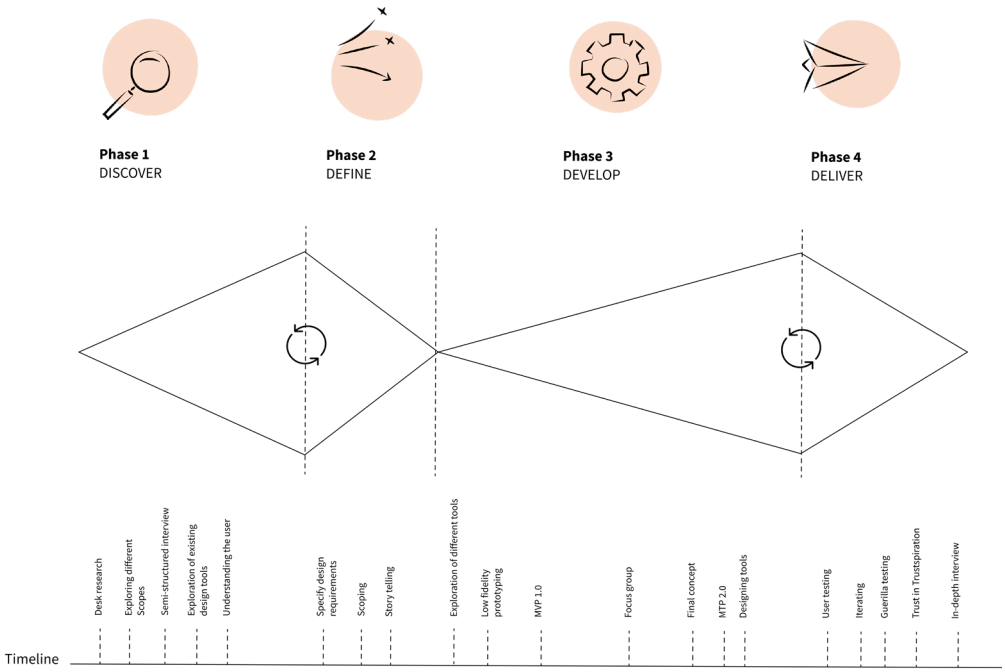
The diamond has two diverging phases, where the goal is to zoom out and explore an issue widely and from different perspectives, and two convergent phases, where the goal is to zoom in and take focused action.

The first part of the diamond is about discovering (divergent) and defining (convergent). Here the designer should focus on collecting insight, with a goal of understanding rather than assuming. Then they should list, and sort the information that was collected to help define the problem differently. *It is about finding the right problem to solve.*

The second part of the diamond is dedicated to developing (divergent) and delivering (convergent), with a focus on creating, testing, and finalizing. Here the designer should give different answers to the defined problem, before iterative prototyping, testing and developing a solution that eventually meets all requirements. *It is about finding the right solution to the right problem.*

It should be noted that the double diamond method is not a framework explaining exactly how you as a designers should work, but rather a guide to making the right choices as the design process unfolds. The steps in the model correspond well with how we wanted

to proceed in our project, but since we already had gathered relevant information and insights about the target user group and the design problem in our previous exploratory research, the model for our part had a slightly different scaling, with a greater focus on the second part of the diamond; developing and delivering.



Model 5: "Double Diamond Process", Adaptation of Design Council (2004)

Design practice method

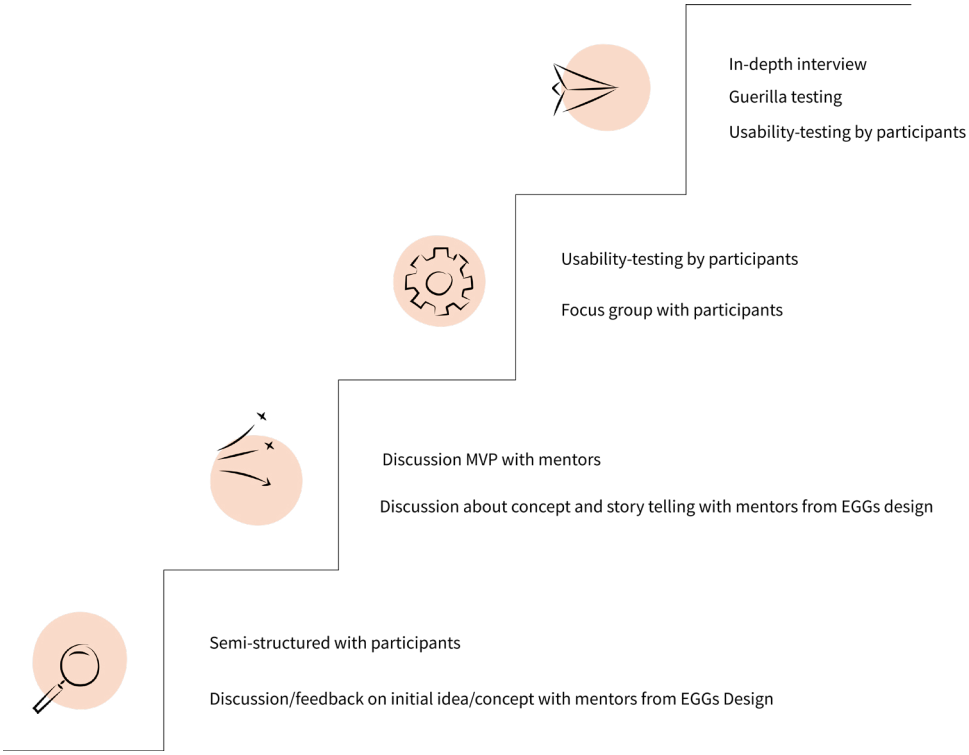
To create value, one must create dialogue and an understanding of what the end-user wishes for, needs, and prefers. Therefore, we saw it as important to include the target users throughout the design process. Considering that we had a specified group of end-users that we wanted to consult and create value for, namely design practitioners, we chose participatory design as our design practice method.

"*Participatory design is a human-centred approach advocating active user and stakeholder engagement throughout all phases of the research and design process, including co-design activities*" as defined in the book Universal Methods of Design (Martin et al., 2012). This approach is created to engage, inspire and actively involve users in activities in the design process.

Throughout this project, design practitioners at EGGS design were continuously included in both ideations, mapping out areas of scoping, focus groups, user testing and so on to help guide the design process.

The figure on the next page, referred to as "the participation ladder", shows the actions we have taken to support decision making in the design process, and to validate that the result both met the target users needs and that the solution became easy-to-use.

Note: all quotes from the target users (designers) included in this thesis stem from the participatory design activities.



Model 6: "The participation ladder", Adaptation of de Poza-Vilches et al. (2019)

Data generation and analysis

In this section, we introduce and explain the methods used for data generation and analysis. Due to the abstractness of the topic, we had an overall qualitative approach to capture the broad spectrum of interpretations. Therefore the main methods for data generation were semi-structured interviews, focus groups and user-testing with designers.

Semi-structured interviews

Interviews are a fundamental research method in social science with direct contact, face-to-face, with the participants. This qualitative research method is used to collect first-hand information about the potential user's opinions, attitudes, perceptions and so forth (Denscombe, 1995).

In the discover phase, we chose to conduct semi-structured interviews, because they have a moderately open configuration. We wanted to create a dynamic two-way communication, and this form of interviews allowed us to both give information and receive information. It also allowed the participants to influence the direction of the conversation, so that unexpected issues, topics and advice could emerge.

To learn as much as possible on the topic of trust, as well as how it could be applied in the design practice we needed to understand the perspectives and experiences of designers, and how they think about and work with trust. Before the interviews, we already had some assumptions about how designers perceive trust and how they work with this topic today, based on what we had read about trust, and what we had experienced through discussions with our mentors; Håvard and Ingvill. Therefore, we had to be especially careful when conducting the interviews, to not influence the respondent and bring (perhaps wrongful) assumptions to the table.

The aim of the semi-structured interviews was two-fold. First, we needed to dig deeper into the relationship between the topic of trust and the designer, to understand how they think about trust in design. Secondly, we wanted to get feedback on some concept ideas we were working on, to get some tips about what tools they use today and what tools they prefer to work with. The goal was to get a better understanding of what type of design tool they would want to work with, to increase trust in their design process.

The planning, conduction and analysis of the interviews will be addressed in part 3, "Discovering", as part of the insight gathering.

Focus group

A focus group is an exploratory research method that is frequently used as a qualitative path to boost in-depth understanding of the problem, by gathering insight. It can also be used to test and receive feedback or get into deep discussions on a designated topic. Whether the goal is to gain insight, depth or feedback, the method desires to collect user data to learn about opinions and guide future actions (Nyumba et al., 2018).

"The dynamic created by a small group of well-chosen people, when guided by a skilled moderator, can provide deep insight into themes, patterns, and trends"

- Universal Methods of Design (Martin et al., 2012)

A focus group consists of a thoughtful composition of participants, often 6-12 persons. It is important to consider the group dynamic of this composition, which is why we invited TADM (tech-as-design-material), a professional group of designers from EGGS, who all share a special interest in the intersection between technology and design, to a digital focus group at the beginning of March. By inviting the TADM group, we were confident that the participants would feel more comfortable in sharing their opinions as they already had a social environment for discussion.

In this phase of the project, we had developed the first Minimum Viable Product (see page 128), as well as the storyline and visualisation of the "Design for trust model", as presented in part 1. It was imperative to test and discuss the presentation of the concept to receive first impressions and feedback. While the interviews we had conducted beforehand sought to probe individual experiences and attitudes, the focus group aimed to boost our in-depth understanding and evoke emotions; to give a deeper understanding of the participants' wants and needs.

The aim of the focus group was two-

fold. First, we wanted to get feedback on ”the stack” (which we at the time used to describe the trust process) and the concept, to discuss if what we presented was understandable and followed a logical train of thought. Based on the feedback, we could prioritize what to focus on in the future and iteratively improve the pain points in our MVP-concept.

Furthermore, we wanted the discussion to give the participants a rewarding learning experience of their own, as part of the co-design process. By discussing and sharing ideas, we hoped the participants could establish how our concept could be relevant to them. We wanted to create interest and knowledge of our platform among target users, and by engaging interested designers in an in-depth discussion we aspired to create a “word of mouth”-effect around our project that potentially could contribute to trust in our final delivery.

The planning, conduction and analysis of the focus group will be addressed in part 5, “Developing”.

User tests

User testing is essential in every design process, to validate and generate user feedback. It helps designers stay user-focused throughout the process. Although the goal of user testing might vary, they usually include either identifying problems in the design, discovering opportunities and areas with room for improvement or obtaining knowledge about the user's attitudes and behaviour (NN-group, 2019).

User testing on potential users should be performed iteratively throughout the whole design process, and not just at the end; when you have a prototype that is about to be completed. Throughout this project, we have had a hypothesis-driven process; an iterative and experimental process, where we have frequently tested from start to finish. With the famous Silicon Valley mantra of "fail fast, fail often", we could ensure a process where we iteratively learned from our mistakes, as we tweaked and formed our solution (Ries, 2017). The real aim was never actually to fail, but to assure progress and make sure that the user's wishes and needs were covered.

Before conducting each test, it's important to have a clearly defined goal and intention, as this will ultimately lead to more value. It is also important to consider where in the design process you are, to adjust the prototype fidelity and testing method accordingly.

The user tests, in combination with several discussions with our mentors at EGGS Design, have given us insight into the value of testing ideas often and remaining user-centric. It has contributed to several adjustments and improvements, as well as the occasional re-evaluation or discarding of ideas. But most importantly; it has helped us progress and improve our delivery.

We have conducted user-testing in all the phases of double diamond, as described on the next page.

Discover

Goal: understand and specify context of use and users, and get feedback on initial idea/concept

Method: semi-structured interviews with participants and discussions with mentors and in-house designers

Define

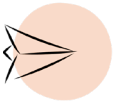
Goal: evaluate and get feedback on concept and story telling

Method: discussion on concept and story telling with mentors

Develop

Goal: Testing the concept with a low fidelity prototype (sketches) and testing how the information and theories are conveyed and understood (story line and visualizations)

Method: Focus group with participants and discussions with mentors and in-house designers



Deliver

Goal: Testing several iterations of prototype, evaluate design against requirements and reflect around the learning done in this project

Method: usability-testing, discussions with mentors, guerilla testing and in-depth interview

part 02

Key takeaways

We formulated the following research objectives

Discover how, if possible, designers can generate trust between users and (digital) products, services or businesses. (knowledge)

Synthesize scientific theories to explain how trust is formed, in terms that can be understood by the average user (knowledge)

Identify and demonstrate the individual and societal benefits of designing more trustworthy products or services (attitude)

Develop and test hands-on activities to identify and prioritize trust issues and/or improve trustworthiness in products and services (skills)

Design methods

We decided to use two main methods; **Double Diamond** as the design research method, and **Participatory design** as the design practice method.

The best way to find out if you can trust somebody is to trust them.

Ernest Hemingway

American novelist and writer

03
Discovering

The first phase of the thesis is characterized by two parallel processes; gathering insight to understand the user and context, while exploring different directions the solution could take.

In the exploration process, we will go broad and map out possible scopes for the thesis. While in the insight process, we will zoom out and try to understand, rather than assume, how designers think about and work with trust, or would want to work with trust.

The discovery phase comprises a mix of desk research and field research to gather insight and data that can help to learn as much as possible on the topic of trust, as well as how it can be applied in the design practice. The main goal is to understand the perspectives and experiences of designers, and how they would want to work with trust in the future. The desk research and field research results in personas, scenarios and a mood board.

The process of

Exploring different scopes

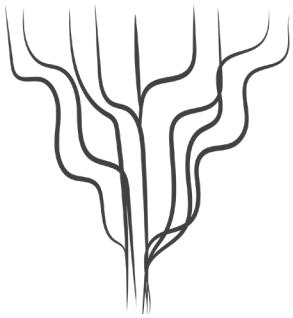
The starting point for this thesis was the ambitious goal of presenting a comprehensive tool for designers that made it easier to understand and improve trust in their product, service, or business. The goal was based on insight from our previous exploratory research and encouragement from the designers at EGGS, as well as our supervisors at NTNU. While the positive feedback and encouragement gave a real confidence boost, it also set the expectations high. The fear of trying to do too much by choosing a topic that was too big for us to deliver value on - made us reflect on whether there might be a need to scope or delimit the project.

We quickly realised that making a cohesive and exhaustive tool that covered all the different aspects of the phenomena trust, in relation to design, would prove very difficult given the complexity and vastness of the topic, and we knew that we might have to approach this topic more strategically. The challenge to respond to was:

How could we be comprehensive enough to deliver value, concerning trust, for multiple designers simultaneously, without becoming either too vague and shallow, or too overwhelming and complex?

In parallel with conducting interviews and gathering insight to reach a better understanding of our users, we needed to define for ourselves what type of concept would be realistic to pursue, while still meeting the original objectives. Although the scope would be decisive for the thesis, we knew that the project would benefit from clear boundaries. We also knew that it most likely would evolve and change direction along the way. Therefore, we set out on a mission to map out possible directions for the thesis.

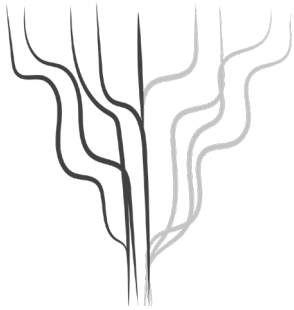
After brainstorming, emphasising our own interests and enthusiasm, societal development, users' thoughts, trends in the development of the design practice and what was actually feasible, we came up with 3 alternative ways to narrow down the task, as well as one more general approach. The full explanation of our scoping-process can be found in appendix A. However, a quick overview is presented on the following pages.



Trust in General (without scoping)

As one of the most important synthetic forces within society, trust is of great importance. But it can be difficult to design for trust because it is so complex and easily influenced by societal and subjective factors that vary from context, users, and the specific product/service being set forth. By deciding to not scope the task, we could zoom out and look at the big picture; how all trust factors and trust constructs are connected.

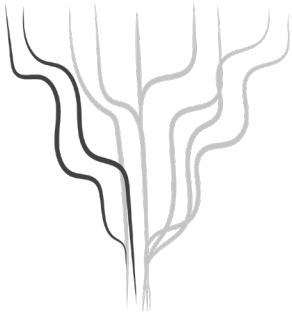
This alternative is comprehensive in a way that it gives an overview and is applicable in many cases, but it might not be able to give a good and detailed description on how to solve trust issues, as the solution might become too broad. It would lack both detail and depth as a result.

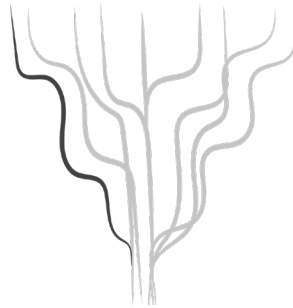


Trust in Technology

Technology is a massive term, that includes everything from cell phones, tv's and washing machines, to cloud storage or ATMs. By scoping the task to only include trust in technology, there are still many areas of application to be considered. This would make it easy to find relevant cases to test on. The link to NTNU would also, undeniably, be strengthened if we decided to focus explicitly on technology.

On the contrary, the scope might still be too broad to be able to deliver tailored value to all possible use cases, and it would probably lack both details and depth as a result.





Trust in Emerging Technology

We are in the midst of a digital revolution, and new technologies seem to be appearing everywhere, reshaping our lives, homes, environment, and society as a whole - yet few really understand what the technologies do, or are able to do in the future. Many new technologies, such as AI, Blockchain or IoT, fall under the category of “black box” solutions, which is defined as a complex system or device whose internal workings are hidden or not readily understood (Oxford Languages Dictionary). And since trust is affected by uncertainty and ambiguity, it is likely that trust in technology will change in the future.

Emerging technologies are a future-oriented topic that is very relevant because it is an area dependent on trust. While being more precise than just “technology”, it might still be difficult to cover all emerging technologies. Furthermore, since the technology is evolving so quickly, the tool might easily become obsolete. It would also be much harder to find relevant cases to test on.

Trust in AI

Artificial intelligence (AI) makes it possible for machines to learn from experience, adjust to new inputs and perform human-like tasks. AI is set to be a ”defining future technology”, that represents a significant shift of trust; we are no longer trusting the machine just to do something, but to decide what to do and when to do it. This trust leap introduces a new dimension that encompasses everything from smart programming to centuries-old ethics. How can we trust the intentions of technology?

Of all the scopes presented, this is by far the most specific and delimited option. This too is a topic that arouses interest already from the title. The business community’s interest in AI has skyrocketed, and a lot has been written about AI. There has, however, not been written as much in the intersection of design, trust and AI. This would make it harder to find enough research to create solid guidelines. It would also be difficult to find relevant cases to test on.

Ultimately, the decision focused again on how far we wanted to scope. Should we dig into a smaller scope and try to "solve" the trust problem, or should we try to grasp the essence of the general concept of trust, by taking something intangible and making it available to multiple designers?

There were pro's and con's with all the scopes, but eventually, we knew that we had to prioritize and make a choice. So we developed some selection criteria based on:

a Interest: which topic/scope we thought was most interesting to explore further

b Relevancy to users: which topic/scope we felt we had the most potential to improve how designers work with trust and drive the most value

c Accessibility of theory: which topic/scope we felt we had the best theoretical foundation to build upon

d Accessibility of test cases: Which topic/scope gave us the best opportunity to find relevant cases to test on.

To explore and prioritize among the criteria we had to strengthen our understanding of what our users found interesting, and what would be most relevant for them. Therefore, it was essential to gather user insights, before we could make a decision.

The process of

Gathering insights

Field research: Semi-structured interviews

One of the best ways of understanding a user is to speak with them, and we decided that semi-structured interviews would be an appropriate format. The interview aimed to get a better understanding of what type of design tool they would want to work with, to increase trust in their design process, as well as getting feedback on some scope ideas we were working on. Here is how we planned, conducted and analyzed the interviews:

Planning the interviews

We contacted several designers in companies and design disciplines we thought were interesting for our project. The interviewees consisted of in-house designers from EGGS Design, that Håvard advised us to contact, in addition to other designers we thought could contribute with useful information and inspirational thoughts. To avoid bias and get an interdisciplinary perspective, it was important for us to also interview designers that were not employees of EGGS. Therefore we contacted designers from other companies or firms that worked in the fields of design-psychology, marketing, branding and the design of autonomous technologies, to mention a few. We also prepared a consent form, to get permission to record the interview for transcription. All participants signed the form (appendix B) and agreed to have their name and occupation disclosed in the thesis.

Furthermore, we created a list with general topics or areas of interest and some suggestions for possible questions we could discuss with the participants. Based on this, we created an outline for an interview-script that was revised by our mentor and pilot-tested beforehand. Although we did not intend to follow the script to the letter, it created a flexible framework for conversation that covered the most important points. The interview script can be found in appendix C.

The goal of the interviews was to get information about:

Trust in general:
_ What they think about trust
_ What they believe to be potential trust drivers
_ What products, services or businesses they perceive as (dis)trustworthy

Trust as a professional designer/ the design practice
_ If and how they think about trust (explicitly) in their work
_ What they believe to be (potential) trust tools

Conducting the interviews
The duration of the interviews was between 30 minutes and 1,5 hours, and the interviews were arranged digitally, due to covid restrictions. Although we preferably would have wanted to arrange the interviews physically, the digital format had the advantage that we could easily arrange interviews with people located in other cities than Trondheim.

We recorded all interviews so that we both could participate in the conversation and not pay out attention to writing down important notes. This led to natural and interesting conversations that we have tried to synthesize and summarize. The summaries can be found in appendix D.

Analysing the interviews
The semi-structured interviews gave us new insight and perspectives on how designers experience trust, and work with it professionally. In the analysis part, we tried to evaluate the findings according to the framework of analysis presented in "A Practical Guide to Focus-Group Research" (Breen, 2006). To ensure continuity and make it easier to compare similarities and differences, we intended to use the same framework of analysis on the interviews, as on the focus group. Although the dynamic of a group conversation, versus an interview, is considerably different, Breen argues that the analysis of the data in both methods aims to achieve the same goal.

A formal analysis of semi-structured interview data should include a summary of:

_ The most important themes
_ The noteworthy quotes
_ Any unexpected findings

_ The most important themes

The most important themes were based on the goals and expectations set in the planning phase; meaning what the designers think about trust in general, as well as how they approach it professionally. After the interviews were conducted, we transcribed them.

Then the analysis was done by marking meaningful chunks of text, words associated with trust and assigning them to the following categories: (a) considerations, (b) words or (c) tools. Then we tried to list and sort the information that was marked as relevant to help define what themes occurred most frequently. By clustering our findings into the categories, we could begin to see patterns of similarities and differences.

Trust wordle

To represent the most important keywords extracted from the interviews, we created a trust wordle. A wordle, or a word cloud, is a visual representation of text data used to depict associations through single keywords. The importance of each word is shown through font size and colour. The most prominent words were; Emotions, transparency, branding and psychology. The wordle is represented on the following page.

Tools

The designers were also asked to reflect upon what they believe is, or potentially could be, tools for identifying and solving trust issues, or measuring the level of trustworthiness. The list is uncategorized and each suggestion does not weigh the same, thus it was used mostly for inspiration for when we were to decide the format of our proposed tools later on. Here follows the list of tools that were discussed: *archetypes, ambassadors, brand audits, case analysis, checklists, change management, ecosystem mapping, ethical compass, KPIs on trust, NPS (Net Promoter Score), scenario design, sniffing cards, trigger questions, tool kit, value drill, workshops*

Figure 3: "Wordle of keywords from interviews"

The most important considerations:
The interviews gave us useful information on several areas on the topic of trust, and by letting the designers comment and express what they believed to be relevant topics for consideration, the element of participatory design (co-design) was strengthened. The list below is an attempt to summarize the most important considerations, when designing for trust, according to design practitioners:

Decision support; providing sufficient information, transparency and verification to aid target users (designers) in trust-decisions.

Awareness-raising; setting realistic expectations to rationalize the trust-situation.

User Involvement; involving users and providing options to support decision-making or other considerations, as well as increasing the sense of individual professionality and competence.

Documentation; providing in-depth documentation and sources for findings and results.

Time; give end users time to mature and get accustomed to the situation and solution. Trust often comes after a passage of time.

Visual means; creating an experience where you show instead of saying.

_ The noteworthy quotes

What the interviewees say is important, but how they say it should not be undermined. By taking the extensiveness, intensity and specificity of comments into consideration while analysing, the importance of said comment might shift weight. Extracting quotes are a narrative tool to enunciate and illustrate particular themes.

"It must be true, and it must be trustworthy. I believe that trust is about fulfilling one's promises."
- Tonje Jæger, Leader of Try Design

"The projects I work on are often characterized by professional users and complex solutions, which in many cases require trust to be used."
- Paal Holter, Chief Experience Officer of EGGS Design

"I have a theory that trust is becoming more and more important as one actually has to put much of the reasoning into technology."
- Jens Fredrik Allworthy, Creative Director Digital Design of EGGS Design

" I would have considered thinking of two levels - a kind of methodology level if you are going to do it properly [...], and then I would also have made a type of 'light' level for when you have really bad time, but still would like to bring the aspect of trust into a creative workshop context."
- Paal Holter, Chief Experience Officer of EGGS Design

"I would like to point out that it is important not to force the user to have to use the tool, and that it may be a good solution to have a light version and a version that goes more in-depth."
- Jens Fredrik Allworthy, Creative Director Digital Design of EGGS Design

"There are a lot of pitfalls, but I think the biggest one is to underestimate how much it means when you do something that creates mistrust. So I want to flip it around; trust is about the absence of mistrust."
- Erling Hamsø, Stratig Designer at Okse Design

_ The unexpected finding

To identify the unexpected findings, we did a similar process as the analysis done when looking for words and important considerations, except this time we were on the lookout for surprising elements and dissimilarities. This is what we gathered from one of the interviews;

Trust in technologies does not need to be fancy explanations of how an algorithm functions, or making every detail transparent. Gunn Dogeset, CTO of Applied Autonomy, who works with creating autonomous vehicles every day, said that trust is first and foremost about the practical and obvious. In their autonomous busses, they prioritize safety at the highest level with a ”stop-always” strategy. In other words, there is little talk of ethics and smart algorithms, but rather how the buses take tiny steps towards a more autonomous world. It is about reducing risk and making the incremental steps from the known to the unknown small enough for a user to be willing to accept it.

This finding was unexpected, because it made us realize that trust in emerging technologies does not necessarily come from a result of many fancy and complex measurements, but simply making the transitions to “the new” small enough.

There were of course other topics discussed, but we did not consider them relevant, which is why they are left out of the unexpected findings.

Summary of analysis

In general, we felt that the designers were genuinely positive and interested in both the topic of the thesis, the scope of the project and the concept. By asking them questions, where they could influence the direction of our task, we got the impression that they became both engaged and motivated in co-designing the tool.

The key takeaways we were left with from the interviews was:

_ Designers agree that trust is important, especially in a world that has become more polarized and digitized.

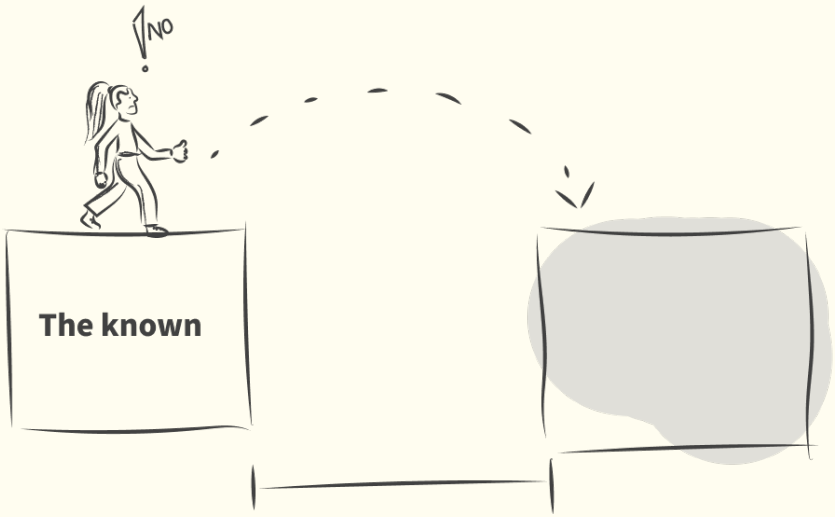
_ Designers see trust as the sum of many actions, not one separate and explicit delivery.

_ It is not realistic that designers will spare a lot of time to deep dive into a new topic or method.

_ Trust Tools are helpful and can, if designed right, create motivation for the designers to focus on trust, but they need to be simple and accessible.

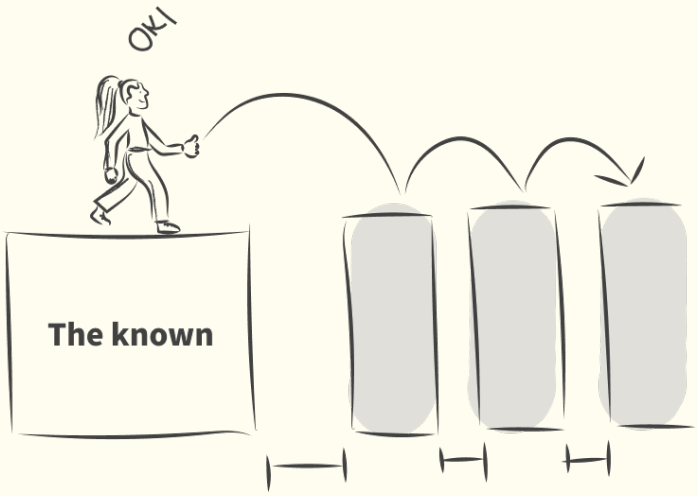
_ Trust in emerging technologies does not have to be a complex issue, as long as the solution is perceived as approachable and safe.

Fully transcribed interviews will be submitted upon request.



The end user is reluctant to take a trust leap if the gap to the ”unknown” is too big.

Illustration 2: “The trust leaps”



By reducing the gap, the end users are more willing to give trust.

Desk research:
An exploration of existing design tools

From the interviews, we verified that the designers were interested in the topic and that our suggestion of creating "Trust Tools" could be helpful and create motivation for designers to focus more explicitly on trust. The tools would however need to be simple and accessible, and we had to decide upon what type of format would best fit the objective of generating trust between users and (digital) products, services or businesses.

We also had to bear in mind that these indications were based on personal preferences of a selected designer group, rather than a common perception of what design practitioners generally want. Therefore we found it appropriate to investigate the topic further by conducting a small research on different types of designer tools that already exist. The goal of this research was to figure out what designers prefer to work with in their professional life, to pinpoint what type of format, or "packaging", our final solution could have.

In the process, the following questions arose:

Should the solution aim to improve, or perhaps challenge, the designers' skills, knowledge, attitudes or a combination?

Should the solution be digital or physical?
Examples digital: website, podcast, blog, app, movie-series
Examples of physical: cards-deck, booklet, game, workshop-kit, poster

To answer the questions, we started to search for general design tools on websites, blogs and commercial publications. We also consulted fellow students and colleagues at the office, to get a better understanding of what people generally consider valuable tools. Both digital and physical tools were considered, and they varied both in estimated time spent and how advanced the tools were. Our exploration resulted in the following shortlist of tools that we considered good sources of inspiration.

(references to the following tools can be found in the reference list)

Servicedesigntool.org
Is a website created by a team of designers, researchers and teachers, with a collection of Service Design tools and techniques accessible to everyone.

Deckofbrilliance.com
Is a card-deck, that exists in both digital and physical version, with 52 unique idea generation tools for creative professionals.

airbnb.design/anotherlens/
Another lens is a research tool for conscientious creatives to help examine how bias influences our worldview. The site consists of a set of guiding principles and exercises, framed as “trigger questions”.

Technology sniffing cards
A card deck made by a group of designers in EGGS, containing brief information concerning emerging technologies, and how they might be applied in projects. The cards trigger questions to awaken curiosity and provide a QR-code connected to relevant material, in case the content sparks curiosity to dig deeper. They exist in both digital and physical format, but since it’s an in-house tool cannot be found on the web.

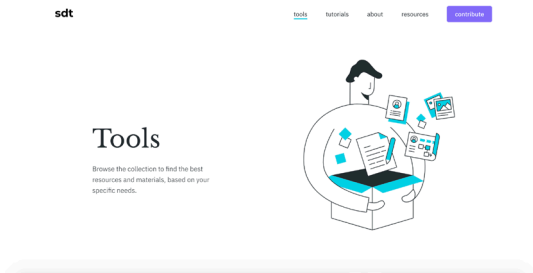
Sustainability card deck
Are physical card-decks made by designers in EGGS. The Sustainability card-deck has 17 cards with goals to transform the world, based on Unicef’s Sustainable Development Goals’s (SDG’s). For each card, one goal is presented along with examples of business actions and examples of indicators. They are meant to educate and inspire. This too is an inhouse tool.

To decide on what concept, or “packaging”, to move forwards with, we needed to include the people who ultimately were going to use it, as part of the co-design process. Through several discussions with our mentors at EGGS, we could agree upon a few things:

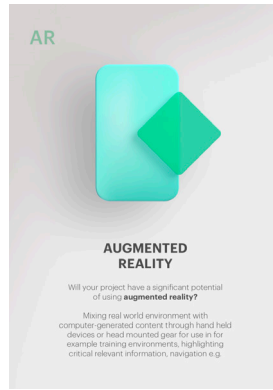
1 First, the solution had to be feasible. There is no value in delivering a concept that never is realized. Our goal was to deliver a tool that could actually be incorporated and used by designers, thus it would have to be realistically scoped. Meaning that it had to be attainable to prototype, test and develop the concept within the given time frame.

2 Secondly, the solution had to be accessible. Given the covid-19 pandemic and the restrictions, we had to keep in mind which concepts could actually be tested. In under a year, a whole world has had to adapt and change the way they work. Meetings, workshops and focus groups are becoming digital because businesses can’t meet physically anymore. We realised that we might have to adapt to this type of mindset as well. This meant that creating, for instance, a physical workshop kit or a game, was off the table because it would be too hard to test. Additionally, it would limit the audience considerably.

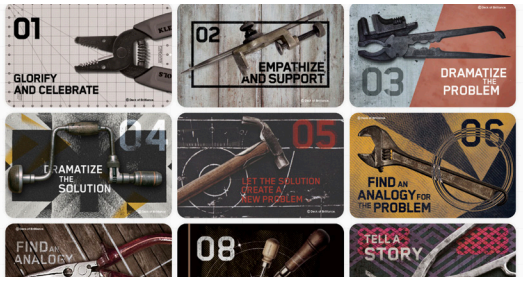
So, by conducting interviews, exploring different tools that already exist, consulting fellow students and colleagues, as well as discussing with our mentors, we had formed a basis for making a decision; **the solution had to be digital.**



Servicedesigntools.org

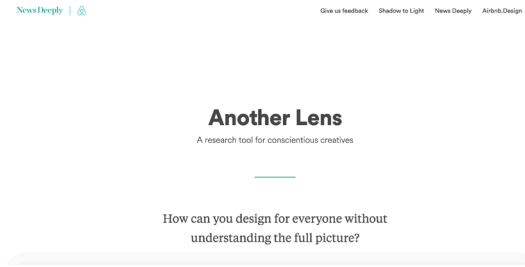


Sniffing cards (EGGs design)



Deckofbrilliance.com

Sustainability card deck



Airbnb.design/anotherlens/

Figure 4: "Mood board of existing design tools."

Understanding the users

While the interviews with several designers and the exploration of design tools gave us a better understanding of the context of use, we still needed to specify the user- and design requirements. This section is dedicated to exploring our target users more in-depth, as well as the problems we were facing at the time. First, we will portrait 3 designer personas with a complementary user scenario to identify their perspectives and experience as to how they want to work with trust in the future. Lastly, we present a mood board to give a flavour of what emotions we want our solution to evoke.

Personas and scenarios

Since it is important to understand and sympathize with the target user, we decided to apply the information collected in the insight phase to create fictional characters, known as personas.

Personas are a good tool to evolve a user-oriented product or service, and a way to bring the users to life and resonate with them (Martin et. al., 2012). By discussing personal profile, role and backstory, we could form three personas that reflected "the design problem". The fictive persons had different goals they wanted to achieve, as well as reflections on the topic of trust related to their professional work-life.

However, since we also wanted to explore and understand how our future solution could melt into the designers' everyday work-life, we decided to create three different scenarios to accompany the fictive personas. The goal was to genuinely understand if, and how, they would likely engage and interact with our solution, and to do that, we had to place ourselves in their shoes.

"A scenario is a narrative that explores the future use of a product from a users point of view."
- Universal methods of Design (Martin et al, 2012)

There are several ways of working with scenarios, and we chose to make a user scenario within the personas. This is a visual and concise approach that makes the scenarios easy-to-read, while at the same time delivering all the information needed (Costa, 2020). Our motivation behind mapping out different scenarios was to (a) explore the possible future use of our solution, (b) to define the context of use and (c) to further define the target users needs, motivation or problems.

Through discussions with our mentors at EGGS Design, we defined three scenarios where designers possibly will use the solution:

1 You are in the process of designing X and you feel that you need to include more trust in the project, because of [Y , .. , Z]

2 You have already designed X and you want to check if you need to improve the trust in your product or service

3 You are looking for more knowledge because you are generally interested in the topic of trust, and believe it is beneficial to become more knowledgeable

Peter

Age: **33 years old**
Gender: **male**
Occupation: **designer at EGGs Design**

Experience: 8 years working experience
Background: Industrial design at NTNU

Characteristics: He prefers to design digital services and is particularly interested in fancy technology and smooth user experiences
Goals: His goal is to make desirable, viable, and feasible products that people trust
Working life (situation): he works as a consultant, with 3-4 ongoing projects and tight deadlines.
Opinion on trust: Agrees that trust is important but doesn't have the time or tools to deep dive into the topic

Questions he will ask:
_ Do I have to spend a lot of time on it, or is it simple tools that can easily be included in a workshop?
_ Can I get some sort of trust score on my project?
_ How can I evaluate if I need to incorporate a trust tool in my process?

#easy #trust score #pre check

Peters story

1 Peter is in the process of designing something...

Peter works on a project which comprises high risk factors for the technology in the product. This will impede the acceptance of the product by the end user. Peter is in the start-up phase of the project, and has been informed about a website that aims to inspire designers to include trust in the design process. There are supposed to be tools on this site as well, which can help strengthen trust in projects that possess technology.

Peter is interested in how designers work with trust, and he hypothesizes that if the user does not accept the technology in the product, it will not be used. The problem is that he has a very tight time schedule on the project, and can not set aside much time on these trust tools. However, curiosity wins him over this time, and with a little time to spare, he clicks himself into the page.

Surprisingly, this site is easy to navigate and understand. He quickly locates some tips and a tool he believes can help him in establishing trust in the technology, by informing the user about certain standards. When scrolling down, he discovers that there is a lot of theory on the side as well. It seems both promising and interesting, so he decides to take a deep dive into the details one day he has an hour to spare.

Later on, he occasionally visits the page when he needs inspiration or tools. He has also discovered that it is possible to decompose some of the tools , making it easier to include what he considers the most relevant aspects in workshops with customers.

Linda

Age: **55 years old**
Gender: **female**
Occupation: **in house designer**

Experience: has worked in the technology industry for the last 20 years
Background: tech and startup

Characteristics: She is a true perfectionist, always willing to go the extra mile and push the product even further.
Goals: Her goal is to make users love the tech performance in products and services.
Working life (situation): she works as an inhouse designer, focusing on one project at a time.
Opinion on trust: She doesn't believe that you can build trust, and will therefore not spend time on it. She believes that the design process is already helping to establish trust in the products they deliver

Questions Linda will ask:
_ What are the benefits of using it? What's in it for me and my users?
_ Is there a chance I can adopt only a few parts of the tools in my design process?
_ I feel that what I deliver already can be trusted, so what difference will the tools make?

#implicit trust #experienced

Linda's story

2 Linda has already designed something...

Linda has just completed a project that will be launched soon. She is happy with the delivery, but in the last user test they organized, she got the impression that some improvements could be made. The end user's trust in the product was one of the things that her team was not completely reconciled with.

Her team has a shared "tool bank" where all their "go-to" design tools are collected. When she enters this "bank", she doesn't find any tool that, in itself, focuses explicitly on trust. After inquiring a bit with other designers in her circle, she gets a tip about a page that focuses explicitly on trust in the design process.
Linda has years of experience, and believes that she already knows most of what she needs to know. Without much faith, she enters the site, because she feels like she has nothing to lose. There, she finds some tools that seem rather interesting, and picks out some questions and activities she can try out in a workshop with her team.

They conduct the workshop, and it gives good results, and even though it is difficult for her to admit - it was helpful with that site. She takes the good experience with her, and adds the selected questions and activities to her toolbox. But she does not think she will use the site much in the future.

Emma

Age: **26 years old**
Gender: **female**
Occupation: **designer at Nice Design**

Experience: 1 year working experience
Background: Interaction design at AHO

Characteristics: She has a special interest in the intersections between design and business development, making complex systems work at a human scale.
Goals: Her goal is to make value in society.
Working life (situation): She works as a design consultant, with several ongoing projects with tight deadlines.
Opinion on trust: She agrees that trust is important, but she feels that she already makes trustworthy products and doesn't have the knowledge to work explicitly with trust.

Questions Emma will ask:
_ Is there a chance I can further investigate the topic of trust?
_ Do I need to apply all the tools?
_ Can you add examples to the tools, so it is easier to understand?

#background information #learnable #knowledgeable #tool inspiration #examples

Emma's story

3 Emma is looking for more knowledge...

Emma is fairly new to work-life and is constantly on the search for tools and knowledge that can make her a better designer.

One fellow student from the studies has tipped her about a website for designers, which provides knowledge about trust and has a collection of tools that are designed to include trust in the design process. She definitely wants to check it out, because her impression is that designers, in general, could benefit from focusing on creating more trustworthy products and services.

One day after work she sits down to take a look at the webpage, and as she navigates around she finds out that all the tools have a background with lots of interesting information and sources. She becomes completely absorbed, and the hours just disappear.

She feels that she has learned a lot of new and valuable things that she can bring into her everyday work, and she has already planned to use several of the tools in workshops with clients.

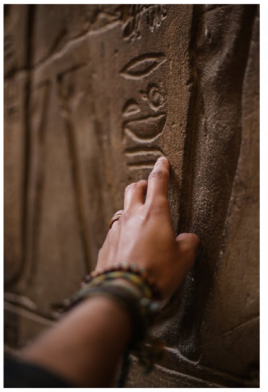
Emotional mood board

The mood board represents the feelings we want to evoke in designers in the meeting with our final solution. Not only do we want the designers to feel motivated, curious and inspired, but we want them to experience a sense of mastery and self-confidence when handling the tools. It should give them value and contribute to an improved skill set, rather than discipline or force information upon them.

Figure 5: "Mood board of feelings we would like to evoke"

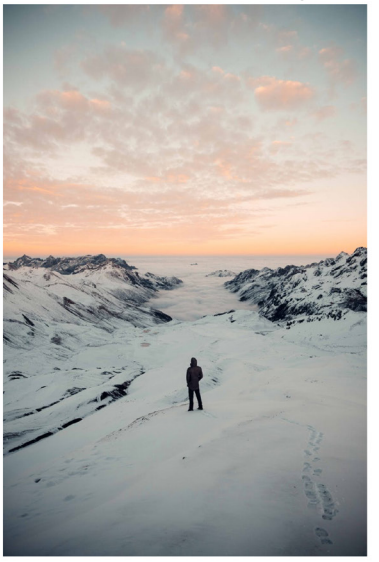
Skilled

Motivated



Curious

Inspired



part 03

Key takeaways

The discovery phase is all about zooming out and understanding the user and the context. By conducting interviews, desk research, creating personas, scenarios, a mood board and discussing our interpretations with both our mentors and other in-house designers, we were able to form an understanding of the perspectives and experiences of designers, and how they would want to **work with trust in the future.**

The insight process made it clear that designers generally seem interested in increasing their knowledge on how to generate trust between users and design solutions, but they had a few, rather fair, remarks:
_ It is not realistic that designers will spare a lot of time to deep dive into a new topic or method, so the solution has to be **easy to both understand and use**
_ Given the rise of remote offices, due to the global pandemic, the solution has to be **a simple online resource** to become **accessible to multiple users,** and make testing possible

In parallel, we were on a mission to **scope the thesis.** The question came down to how far we wanted to scope, and what we wanted to prioritize in our selection criteria. Should we dig into a smaller scope and try to give a deep understanding of a narrow field, or should we try to grasp the essence of the general concept of trust, without exploring every detail to the bone?

To conclude on how to scope the thesis and define a set of design requirements for our solution, it was time to zoom in again. These two upcoming decisions marked the transition into the definition phase.

Trust your hunches. They're usually based on facts filed away just below the conscious level.

Joyce Brothers

American psychologist and television personality

04
Defining

In the defining section, the goal is to zoom in and take focused action. Here, we will define a set of design requirements for our solution, based on a weighted decision between what is realistic to pursue, and what fits best with our newly gained understanding of what designers want and desire. Furthermore, we will explain what scope we decided to move forward with, and why. Before we will dive into the land of rhetorics to craft an emotionally explosive narrative for “the story of trust and design”.

Specifying the design requirements

After we had listed and sorted the information that was collected in the insight and exploration phases, we felt that we had strengthened our understanding of the context and the users' needs.

By combining this insight, with our already defined objectives (part 2), we were able to outline a set of design requirements for our solution. The requirements are an adaptation of the Moscow method to design, which is a prioritization technique used to reach a common understanding of what matters most(Hudaib et al., 2018).

Must

_ Be an online digital tool that is free and accessible to all.
_ Increase knowledge and skills on how to influence trust.

Should

_ Contribute to motivation and commitment to include trust in design processes.
_ Be relevant, informative and written in terms that can be understood by the average user.
_ Be easy to use and navigate.

Could

_ Show in-depth information and theoretical movement to substantiate the content.
_ Showcase examples and cases on how to generate trust between designers and products, services or systems.
_ Have a feedback system for suggestions on how to further develop the tools.
_ Have a system to rate and comment on the different tools.

Won't

_ Have a specific page devoted to inspiration, with for example blog-posts and a trust podcast (due to time consideration and capacity).

Scoping

Now the time had come to define our scope, based on the selection criteria we had outlined. Although all the proposals aroused our interest, we had to think about what type of cases designers work on today, as well as where there would be sufficient scientific research to support our arguments and proposals.

With a strategic approach, we tried to categorize and prioritize the alternatives, by rating them from 1-5, where 5 is best. The ratings were based on discussions with our mentors at EGGS, as well as our subjective, yet "well-educated", interpretations of the status quo.

For instance; *EGGS Design's areas of expertise are; ports & logistics, retail & consumer, banking & finance, startups, public services, health, mobility, connected world and open space (EGGS Design, 2021).* By looking at what they work with today, and discussing with both our mentors, we concluded that it might be difficult to find relevant test cases in the field of "emerging technologies" and "artificial intelligence" since they have few cases in their customer base that it would be appropriate to test on.

Furthermore, we had identified a lack of relevant literature in the intersection between trust, design and emerging technologies and artificial intelligence, which would make it more challenging to find relevant arguments with a strong theoretical foundation. We saw it as a more ambiguous and assumption driven direction.

At this stage of the project, we had also gained a better understanding of the topic of trust, by acquiring more insight into the scientific field. From both the classical and modern theoretical movements, as presented in "Theory, background and related work" it became clear that trust is formed by several constructs, or steps, and it is part of a subjective and contextual decision-making process. Thus, our assumption that it was possible to improve trust in one specific step, such as "technology", was a contradiction to the findings presented throughout trust theory.

Realizing this was a great discovery; It is not possible to scope the task down to one step because to realize trust you need to work on all levels.

	a Interest	b Relevancy to users	c Access to theory	d Access to test cases
Trust in General	4	5	5	5
Trust in Technology	5	5	4	5
Trust in Emerging technologies	4	3	3	2
Trust in Artificial Intelligence	5	3	2	2
Scoping criteria				

Table 3: "Ranking of the scopes"

Based on our insight, analysis and scientific theory, we concluded that it was better to increase general understanding and skills for designers to influence trust than to narrow down the task. **Therefore, we had to continue to focus on trust in general.**

The following sections presents some arguments that substantiate this decision:

1 Trust varies from context to context and is influenced by, among other things, social and subjective factors. This means that a user's trust in a technical product is affected by a totality of trust factors, such as the user's perception of the brand behind the technology, the context, their abilities, the reputation of the technology and so on. Trust in technology is not only influenced by principles that specifically address said technology. For instance, if you were to get into an autonomous car, you don't just trust the smart algorithm - you must trust that the physical car is constructed safely and you have to trust that the team of programmers, engineers, scientists, designers and other stakeholders that work to realize this car has done their job in a safe and satisfying manner.

This can be associated with "The trust stack", as presented by Rachel Botsman - where ultimately all the components of the stack contribute to the user's trust in the product or service for example in the case of autonomous cars.

2 EGGS design practice, like many other design firms, ranges through a variety of design approaches. Opting for a too narrow scope could potentially limit our target user group considerably. Which, we realized, would challenge our goal of making the solution accessible to multiple users.

3 The decision to influence how designers think about and work with trust in general, would be offering knowledge and tools that could be applied in many different projects and situations. This alternative was comprehensive in a way that it gave an overview that captured the essence of how trust works and is formed, but it might not be able to give a good and detailed description on how to solve specific trust issues, as the solution might become too broad and without depth. It could contribute to a solution lacking in both detail and depth. Nonetheless, the potential gains outweighed the risk.

We found the theme of trust, in general, extremely interesting, because it affects

everyone and everything, and by trying to give an overview of the very essence of trust and its benefits, we hoped to motivate and encourage commitment to include trust in design processes. We wanted to transform the intangible theories into a tangible and practical solution. We wanted to take something as complex and abstract as trust, and render it easily digestible for designers to work with, and motivate them to make their own. And isn't this what design often is about: *taking a complex task, breaking it down and transforming it into something meaningful?*

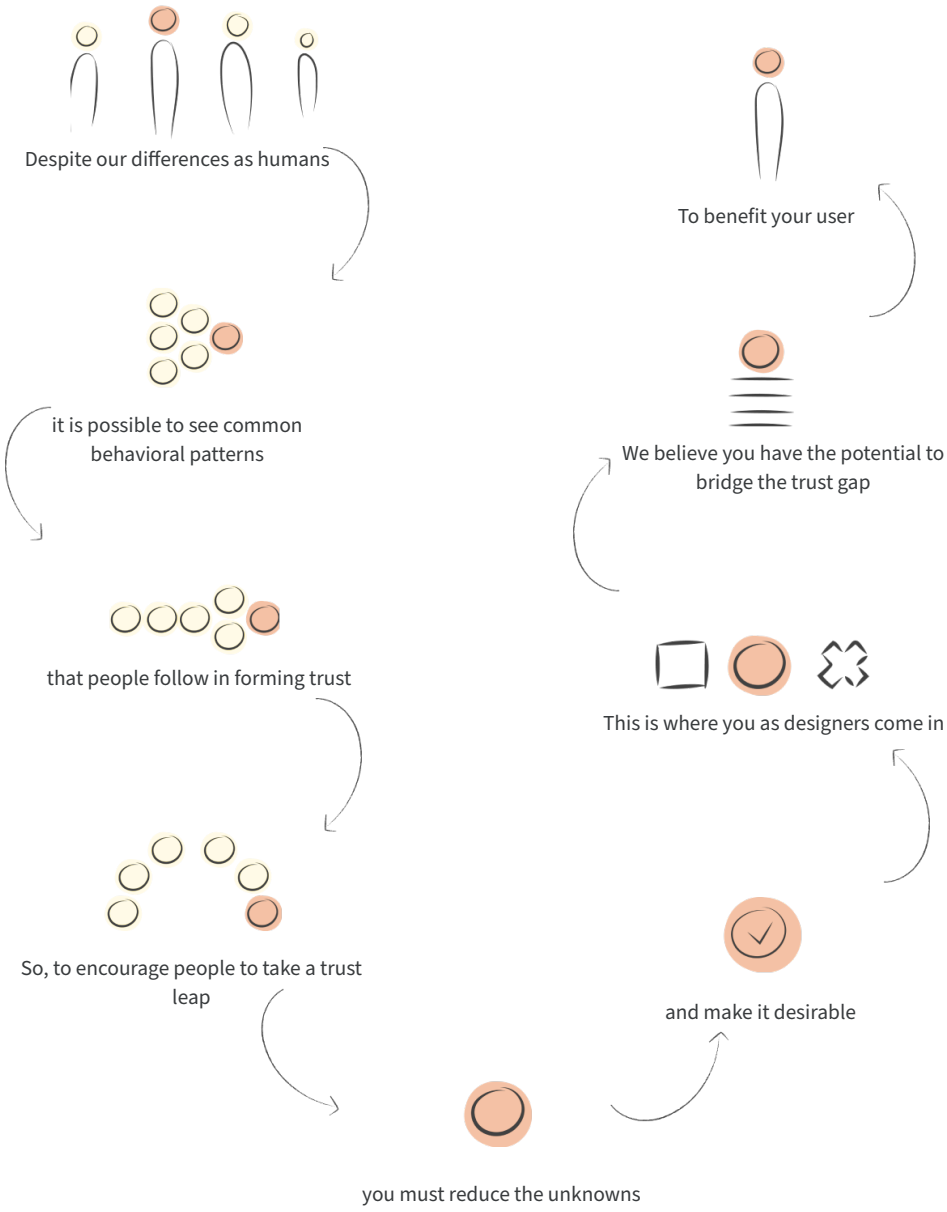


Illustration 3: "Excerpt from story line"

Storytelling

Storytelling and rethorics
- the trust pitch

We all have ideas of what trust is and why it is valuable, but since it is such a complex and dynamic phenomenon, our ideas will naturally vary. Therefore we decided that we needed to find a common way to talk about trust, that people can recognize and understand. Something emotional, that manages to touch and engage people. Storytelling is described as a powerful way of building empathy and reaching users emotionally (Foundation of Interaction Design). This led us to the idea of telling "the story of trust and design" in an understandable and powerful way.

Also storylines must be tested and refined, to ensure that the message is clear and recognizable. Therefore we intended to test our "Trust pitch" in both a focus group and with our mentors. This led to several adjustments and improvements, ultimately resulting in the final pitch, which can be found in appendix E.

We decided that the pitch could be presented as an animation because dynamic visuals are a powerful tool in triggering emotions, and a great way to capture the users' attention and make them interested. Secondly, it was practical to be able to convey a message digitally, since it was supposed to be used on a website.

Multiple and complex ideas conveyed visually are considered more effective in representing meaning, than just a mere verbal description (Ware, 2008). Therefore the animation was created by using illustration in combination with text, which resulted in us not having to explain the message orally. The visuals were also effective in conveying the story, which stems from the idea that seeing something is better for learning than having it described (Bobek et al., 2016).

The animation was threefold, with different themes to understand the message of trust

1. What is trust (an explanation of the trust stack and the trust leap)

2. Why is trust important? (an introduction to the individual and societal benefits of trust)

3.Can we use design to understand and improve trust? (a reflection between the difference of building and earning trust)

part 04

Key takeaways

In the defining phase, the goal is to zoom in and take focused action based on the insight gathered in the previous phase. For us, that meant **specifying the design requirements and reframing the scope of the task to figure out the right problem to solve**. In this phase, we learned a few surprising things that helped us stake out a more concrete direction to move forward with.

Most importantly, we were surprised to learn that our assumption that it would be easier to narrow and delimit the topic was inconsistent with what we had learned from the theoretical movements. This relates especially to the fact that by narrowing down the trust topic many important aspects get lost. **Trust is the sum of many factors, and by just focusing on one "step", you will never be able to grasp the full picture.** Although scoping the thesis would result in a less overwhelming and more in-depth solution, it would ultimately result in comparatively little value for the end-user, as they would have no idea on how to improve trust in the remaining "steps". Therefore it was better to give a brief, but complete, overview of all the steps of trust. **For us, this was a huge insight: *It was not possible to scope the task down to one step, because to realize trust you need to work on all levels.***

Moreover, we wanted to focus on how to make the topic and theory of trust more alluring and comprehensible, by talking about it in a way that people can recognize and understand. By writing and visualising an emotionally explosive narrative for "the story of trust and design", we hoped we could engage our users to think about and work with it in a new way.

In the process of zooming in, two main focus areas were identified and defined;

1. Making the theory of trust alluring and comprehensible, which relates to the designers' knowledge and attitudes. This comprises of:

_ Making knowledge available and accessible to multiple designers.
_ Make designers become aware of how important it is to consider trust-factors in the design process.
_ Make designers become aware of their role as facilitators for social change in the process of creating trust in contexts, relationships and specific objects or services.
_ For us as designers and developers it was in this context important to take ethics into account and reflect upon the choices we make; Are we truly contributing to greater trust in products/ services we design, or are we simply manipulating them to seem trustworthy?

2. Facilitating for designers to understand how to improve trust, which relates to the designers' skills. This comprises of:

_ Facilitate for designers by giving them the tools and inspiration they might need to incorporate and strengthen trust in whatever project they were working on.

Realizing that our solution would have to be in the intersection between the two focus areas, marked the transition into a new, and important, phase of the project; developing.

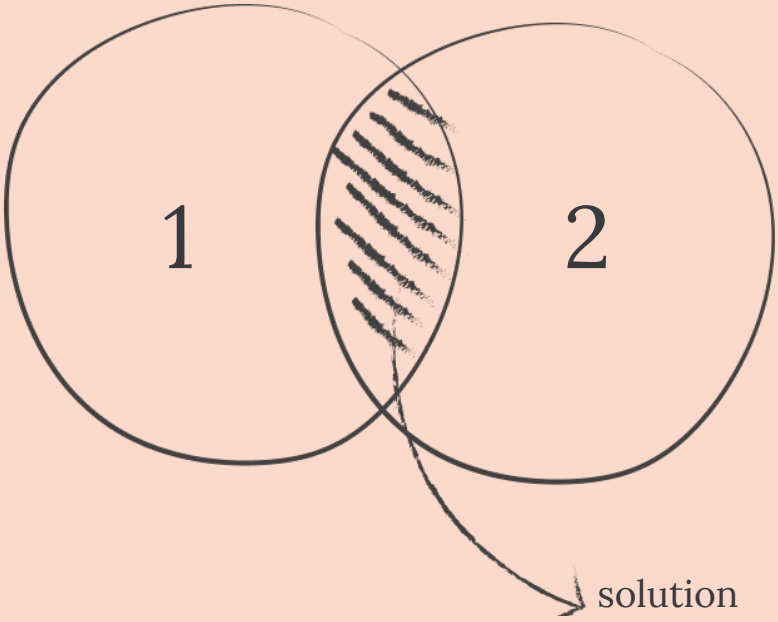


Illustration 4: "Focus area for the solution"

Wise men put their trust in ideas and not in circumstances.

Ralph Waldo Emerson

American philosopher and poet

05
Developing

The developing phase defines the beginning of the second part of the double diamond model, which is entirely dedicated to developing and delivering, with a focus on iteratively creating, testing and finalizing. In the developing phase, we will outline our process from brainstorming and ideation, low to high fidelity prototyping and ultimately; the plan for our final concept.

In support of the participatory design method, and to ensure that the target users' needs and wishes are taken care of throughout the design process, it is crucial that we in all stages of the design process include our end users' opinions and feedback. This is, perhaps, especially true for the development phase, since it is characterized by iterative prototyping and user testing.

In this section, we will take you through several iterations, a focus group and user tests. Along the way, we will emphasize the adjustments and decisions that were made, to make it easier to follow our train of thought.

Exploring the tools

Researching design tools

Looking back at the requirements outlined in the defining phase, we had already decided that our tool had to be digital, to become both feasible and accessible to multiple users. However, we had not brainstormed around what content this digital platform should include, and how the design of each tool should be.

After almost five years of design studies, we felt that we already had a relatively good idea of what design activities are being used today. But as far as we were concerned, none of the tools had the explicit aim of creating or facilitating trust. This finding substantiated our assumption that there seems to be a lack of a generalized understanding of how trust can be earned when dealing with complex design challenges. However, the field of design is evolving quickly and new tools might pop up without us realizing, therefore we saw it as sensible to get a brief overview of what tools are being used today.

So, we googled, consulted colleagues and classmates and dug into our own, "personal" toolboxes. Eventually, we could make a shortlist of some of the most known and used tools in the design practice, as presented in this wordle:

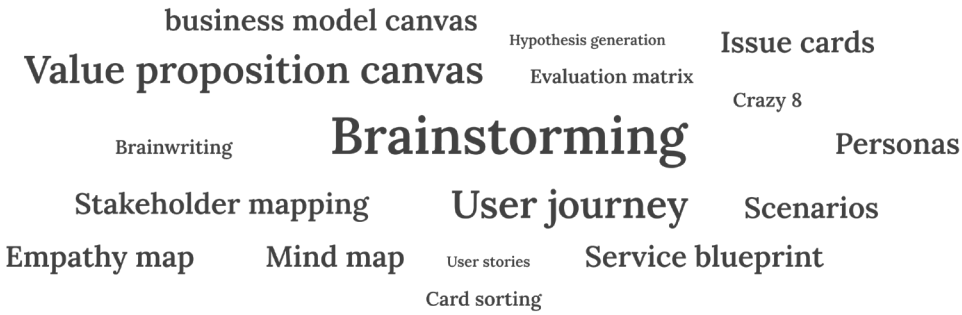


Figure 6: "Wordle of commonly used design tools"

To facilitate for designers to understand and improve trust, we knew that we would have to craft a toolbox of our own, based on a combination of trust theory and design principles.

The big question was, should we develop these tools completely from scratch, or should we take a starting point in already established tools and rather modify them to include trust?

The idea of

Reframing design tools

Through guidance and responses from the interviews, we learned that every designer has a favoured way of working around problems or obstacles. So, we didn't want to expect too much preparation beforehand to be able to use and understand the tool. Neither would we want to force designers to use the tools we had designed in their design process. Both findings indicated that it would be smart to relate the tools to something that could be understood, something familiar; because then users would transfer the expectations they had built around one familiar product to another that appears similar (Nielsen, 2020).

For the designers to adopt and accept our solution, we realised that they should be granted the freedom to figure out for themselves when and if they want to include the tools in their design process. To do this, it became important to inspire, motivate and clearly show the benefits of using the tools.

Moreover, we realised that the time spent on each tool and the level of insight needed beforehand was also very dependent on the situation, the project and the individual designer. In other words, one tool does not fit all. Perhaps we needed to craft several different tools, each with its own specific trust goal?

"When it comes to trust, we don't like something completely new, we like the familiar done a little differently."

- Eyal (2015)

"Design tools can be used to start reflecting and do not necessarily need to give a clear answer. Giving tips on how to think about trust would be a good start."

- Ingvill, mentor and designer at EGGS

In one of the guidance sessions with our mentors at EGGS, we were reminded of the role of design tools. The tools didn't necessarily have to give a clear answer or provide a solution to the trust problem (which would be nearly impossible given the subjective and contextual variances that apply in the decision to trust or not). We realized that tools could also be used for reflection, identifying problems or giving tips. This suddenly opened up a world of infinite possibilities. A specific tool, or method, could be everything from asking the right questions, making checklists or offering tips and tricks, to more advanced workshop activities. We could even include use cases, good and bad examples, blogs, articles or videos for inspiration.

To sum up:

_ There should be a wide selection of tools to choose from.
_ The tools should vary in difficulty, depth, incentive/goal, number of participants and duration.
_ The tools should be "strangely familiar", meaning that they should be based on familiar concepts, but flipped and reframed into something with a new meaning.
_ The tools had to give feedback or start a process of reflection.
_ The tools had to be "hands-on" and practical.
_ The tools should, if possible, work for both individuals and groups.

Trustspiration

is an online platform with tools and inspiration created for designers to understand and improve trust in their product, service or business.

From this, the idea of Trustspiration was born. The name is a portmanteau, formed by combining two different terms, trust and inspiration, to create a new entity. The solution encompasses the complex, yet vital, term “trust” and the expressive term “inspiration”, to grasp the duality of the solution. By combining something intangible, but treating it in a playful and inspiring way, we hope to meet our users on a plane they can understand and resonate with. Trustspiration is an attempt to set trust back on the designer’s agenda.

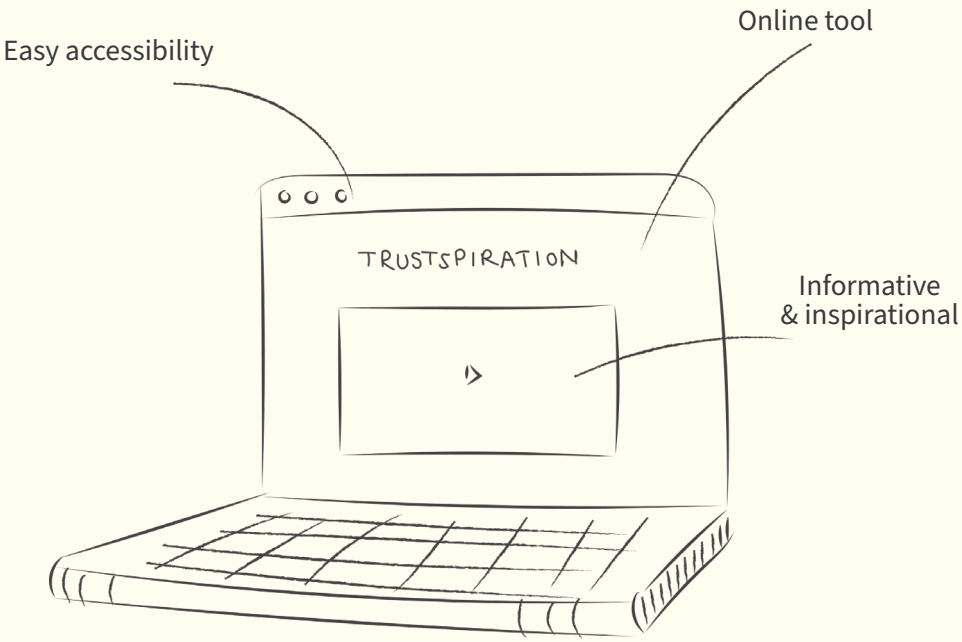


Illustration 5: "First outline of the concept."

Structuring the tools

In parallel with exploring tools, we needed to establish a structure for how we should present the tools, or the methods, of working with trust. How should we capture the attention of the user, while preserving the theoretical aspects AND hinting towards the content behind?

Asking how to categorize, structure and frame our content, we did several brainstorming activities and eventually, we arrived at these four suggestions:

1 Framing the tools as "important questions to consider"

Categorize and divide the content as "important questions to consider" when in the process of designing for trust. The idea, inspired by anotherlens.com, was to present an alluring question to capture the interest of the target user, and provide them with an instant answer and suggested activities once they had clicked on the question.

2 Suggesting tools following the design process

Categorize and divide the tools according to where in the design process they should be used. This would make it easier for designers to choose the correct tool. Additionally, we could hopefully be able to suggest the appropriate advice, and activities, at the best fitting time. This idea was inspired by our research done on "the design for trust process" (Jensen & Håkonsen, 2020).

3 Sorting tools after type of trust-problem

Categorizing and dividing the tools according to different types of “trust challenge archetypes” that designers are likely to face in projects requiring trust. This idea was based on what we call a “problem-first” approach. This could potentially be very valuable, but only in situations where the designers’ problem and our proposed trust-problem matched.

4 Categorizing tools after each step of the stack (with important questions)

Categorize and divide the tools according to the 4 steps presented in Botsman’s trust stack (idea, organization, technology and individual). Then we could divide every part of the trust stack to create subcategories within each part of the stack, with associated questions. These questions would essentially be framed as in suggestion one, only sorted differently.

While reflecting on our two focus areas, to make the theory of trust alluring and comprehensible (knowledge and attitude) and facilitate for designers to understand how to improve trust (skills), we realized that the suggestion that was most in line with theory and the ability to captivate the user simultaneously was suggestion four. So we concluded to move forward with the idea of asking the right questions (1) and categorically linking them to the associated step in the trust stack (4), combining the “best” of both suggestions. The brainstorming of questions can be found in appendix F.

Structuring the content

Light vs heavy version

After deciding how to structure the tools, we needed to go one level deeper and decide how the content within each tool should be presented. We knew that we would have to ground our decisions and reasoning in scientific theory to be taken seriously. However, we didn't want to overwhelm the designers with too much information, as that might scare them off from using the idea.

Through the early research, several of the designers suggested that it would be beneficial that the trust tools could have some sort of "light" and "heavy" version. The reasoning behind this request was that designers, and especially design consultants, often have many ongoing projects at the same time - where there are tight budgets, and thus few hours left to focus specifically on trust. This means that in project settings, designers will often prefer a quick and "light" tool, although they admitted to occasionally wanting to pursue a more in-depth, or "heavy", version if time stretched**.**

As one designer, Paal Holter, pointed out;

" I would have considered thinking of two levels - a kind of methodology level if you are going to do it properly [...], and then I would also have made a type of 'light ' level for when you have really bad time, but still would like to bring the aspect of trust into a creative workshop context."

Since the "light" version was what we interpreted as the most useful and valuable for designers, we visited the idea of focusing solely on that, as it would save us some time to develop an even better product.

The problem with this was that by simply designing a website with "easy-to-use" tools, we would not be true to our concept description and the value we wanted to generate. It would lack the depth and theoretical foundation that we believed was essential to be taken seriously by our users. Therefore, we saw it necessary to provide what we refer to as the "heavy version" as well.

While the light version would offer the path of least resistance, the "heavy version", would be a methodical framework, with the theoretical background and argumentations for the choice of tool, as well as references to enlightening sources.

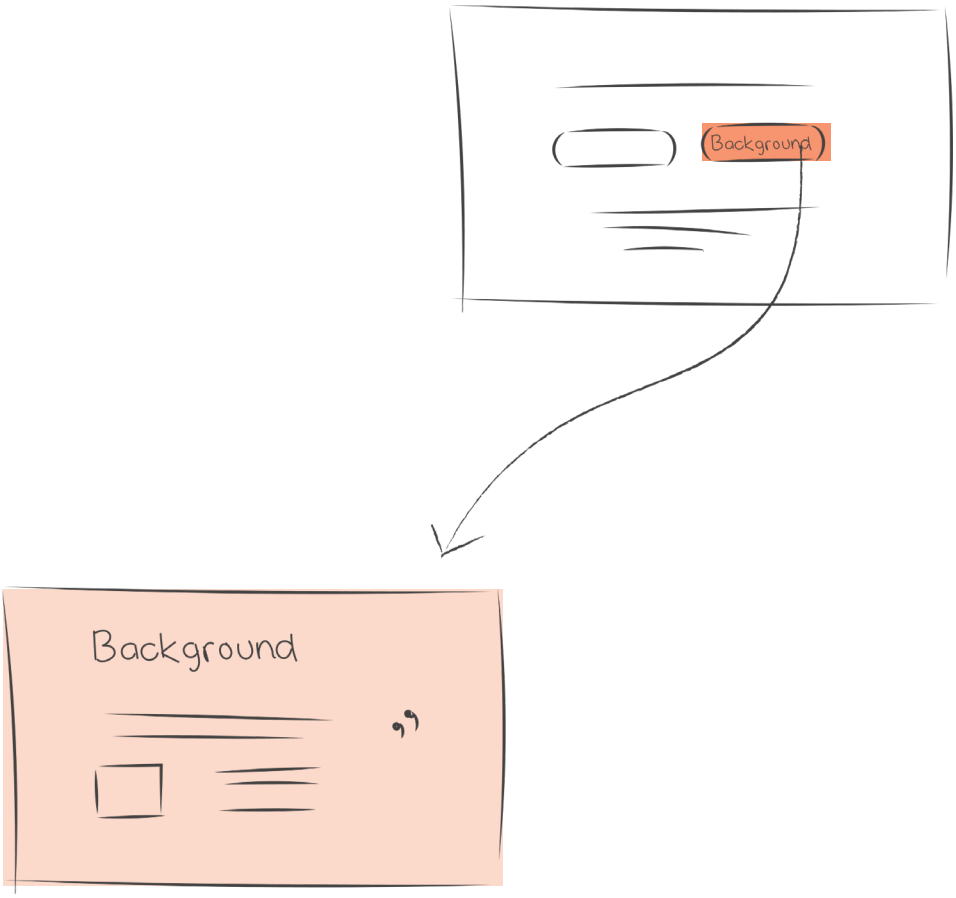
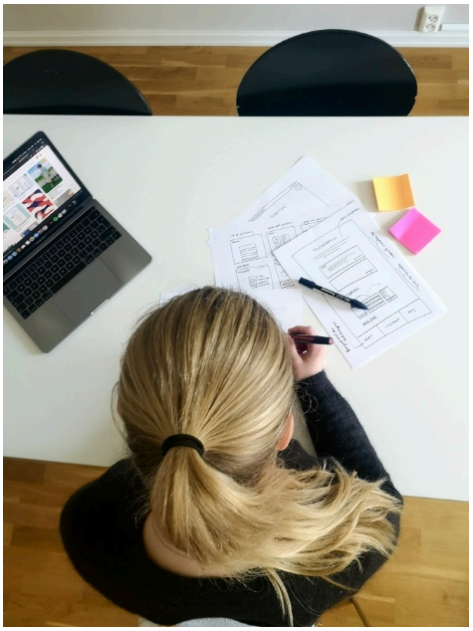


Illustration 6: "The background layer"



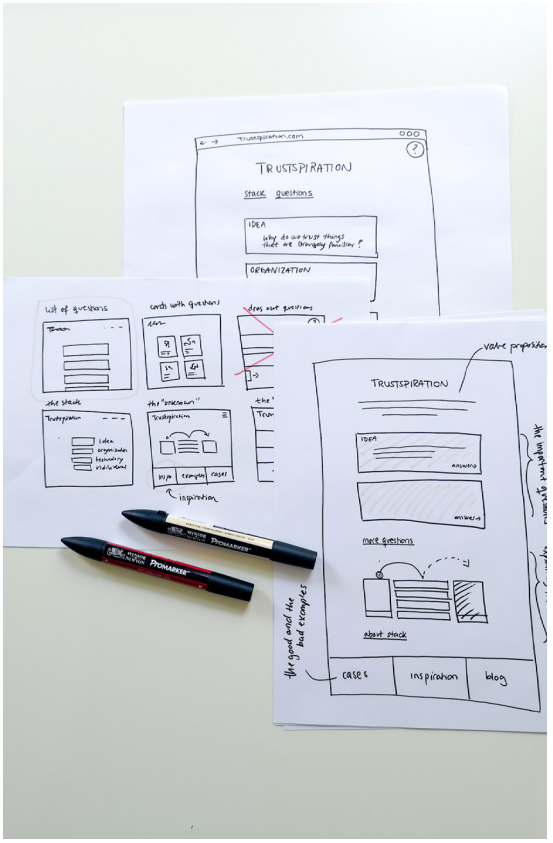


Image 1: "Wireframing the website layout."

Low fidelity prototyping

Sketching wireframes

After deciding a starting point for how to enter and structure the tools and content, we started to sketch up the architecture behind the page. The sketching activity was done early in the development phase. This was before any of the content, tools or visuals was actually created or added, because we knew that our starting point might be adjusted and improved considerably anyway. The purpose was to get an idea of how the site might function and how the flow between content could be in the future, as well as locking out any big logical flaws before presenting it to the users.

While sketching wireframes, we tried to reflect about:

_ How to incorporate the theory in an interesting and motivating way.
_ What should be exposed or emphasized
_ How to guide the users to the tools.
_ What is essential to know about the tools before digging into specific tools.

Minimum Viable Product 1.0

A minimum viable product, or an MVP, is a technique from the Lean-Startup methodology that through iterations accelerates understanding about the product-market fit (Ries, 2017). It goes through three phases, build, measure and learn, that matches well with the design methodology or prototyping, testing and gaining understanding. An MVP is essentially the version of the solution that requires the least effort, but still manages to maximise the learning and feedback from users. We decided it would be advantageous to create an MVP for testing, as it is designed to accomplish the feedback cycle quickly, and thus be in the spirit of our participatory design methodology.

Our first MVP was a clickable prototype created in Figma, based on the wireframe sketching. To test such a low-fidelity prototype, lacking both colour and emotion, made it easier to criticize and/or validate the concept, rather than the content, which was what we aimed for at this stage.

"Prototyping is the tangible creation of artifacts at various levels of resolution, for development and testing of ideas within design teams and with clients and users."

- Universal Methods of Design (Martin et al., 2012)

To uphold the principles of co-designing and cycling rapidly through the feedback loop we were swift to test the MVP, even though there were several aspects not thoroughly thought out. First, we tested with our supervisor and mentors, then, after some adjustments, we presented the MVP in a focus group.

From our mentors, we received feedback that the specific tools should ideally be "shown" with a short description; including the goal, how to use it and why you should use it, as well as how much time would be needed. They also suggested that we should show if the specific tool was supposed to be assessed alone or in a group.

In the process of prototyping, we occasionally had to remind ourselves of

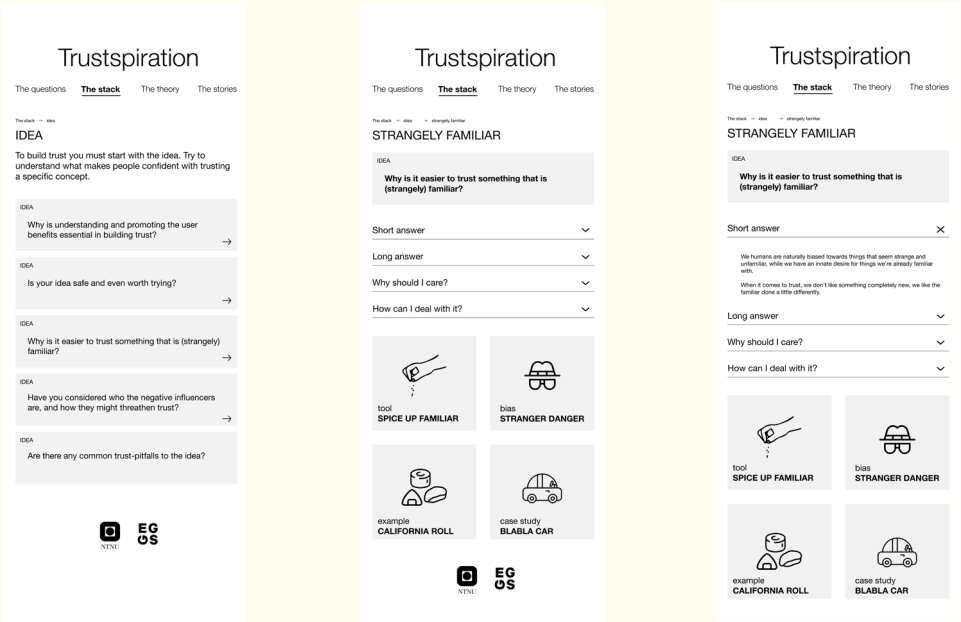


Image 2: "MVP 1.0 - Wireframes from Figma"

who we were designing for. Since the target users were design practitioners, who have broad experience in using design tools and facilitating, for instance, workshops, they might easily be discouraged and frustrated by too many details and a wall of text. Perhaps it would be enough to lead them in the right direction?

We allocated quite a lot of time to work on how people could enter the page and how we make it more interesting and appealing. We needed to keep the rhetoric and principle of delivering value in mind all the time. Therefore, we were eager to test both our narrative and the initial thoughts on our MVP in the upcoming focus group.

Focus group

After brainstorming, ideating, sketching and prototyping we were eager to talk to some designers, apart from our mentors, to gain more feedback. This time, we decided to conduct a focus group, as they are often referred to as a way of getting people to "buy into" new ideas before they are implemented (Breen, 2006). The idea of pitching "the story of trust and design" as well as our newly outlined MVP 1.0, "Trustspiration", was a bit frightening, but we knew that it was imperative to receive input before we grew too fond of our concept. So, we planned and conducted a focus group with TADM, as explained initially. Then we analysed the input, with the hope to guide future actions. We decided to keep the comments from the participants in the focus group anonymous but have nevertheless listed some important quotes here:

"I think I would use this tool in the beginning, and then I will hopefully not use it anymore, because then I will kind of brain fuel myself to a point where this is a part of my "ryggmargsrefleks" and I will bring it into my projects."
- male, digital designer

"If we had all the money in the world, we would of course design for trust, or design for enabling trust in all projects. But I don't think we are going to do that, so we need to identify those projects where trust is crucial and find some methods of doing it. At least that is my view on it."
- male, digital designer

Planning:
Before arranging the focus group it was crucial to know what we wanted to achieve and how we were going to achieve it, therefore we made a plan with different topics and points we wanted to discuss and get feedback on. Later, this plan evolved into a digital presentation, that we held in the focus group. We needed to carry out the focus group online due to covid-19 restrictions. Although there are many drawbacks to conducting a digital focus group, we chose to focus on the upsides. For starters, the presentation was a good option to share the agenda and highlight important talking points. In retrospect, we actually felt that it made the flow of the discussion easier since all

the participants could follow our visually represented line of thought from their respective home offices.

Before conducting the focus group, on March the 5th, we finalized the presentation, which can be found in appendix G.

The presentation included our animated narrative of "the story of trust"; describing what trust is, how it can be influenced, and how it is formed as a stack with four steps. We used examples, among other things, to help the participants understand the theory and substantiate our story. Furthermore, it included a description of the concept "Trustspiration", a digital prototype of our first MVP and perhaps most importantly; several questions for discussion.

A focus group aims to gain new and constructive insight. So, while doing preparations, we focused on formulating questions that could create engaging discussions with the participants, but still drive productive feedback. We strived to keep the questions open and unbiased. We also defined clear time intervals for each discussion point, to provide room for healthy debates and reflections, without going overtime.

To keep track of the time and manage the discussions, we made a time-schedule with buffers. We also distributed roles of engagement, so that we had a plan for who would be the moderator and observer at all times throughout the focus group. Two days before the planned focus group, we conducted a pilot test with our supervisor from NTNU, to get feedback, and reflect on the planned progress plan and content.

Together, we agreed to initiate the focus group by encouraging the participants to ask questions, both to remove the potential barriers the participants may have and to establish a space where all comments are welcomed(Martin et al., 2012).

"Pay attention to stories they tell, the metaphors and analogies they use, and how they describe their experience, preferences and memories"

- Universal methods of design (Martin et al., 2012)

The goal of the focus group was to:
_ Get feedback on the presentation of design theories ("the story of trust and design")
_ Discuss the three main topics "What is trust", "The trust leap" and "Trust & psychology"
_ Stipulate a conversation around questions: Why is trust important? When do you need trust? (How) can we build trust?
_ Get feedback on the concept "Trustspiration"
_ Get feedback on the first MVP

The participants
The participants we invited were all designers from EGGS Design, who work in different branches of the design world, have different backgrounds and different skills. What they all have in common is that they are above average interested in technology and trust in design practice, and belong to the special interest group TADM - Technology-as-design-material. In total there were 6 participants, all designers, who for the sake of privacy will be kept anonymous in this thesis.

Conducting the focus group
The duration of the focus group was 1,5 hours. We got permission to record the session so that we both could participate, facilitate and moderate the conversation without paying attention to writing down notes. This led to natural and interesting group discussion.

Analysis
In the analysis part, we tried to follow the same framework as presented in the analysis of the semi-structured interview, so that we could ensure continuity and make it easier to compare our findings.

The formal analysis of focus group data should include a summary of:
_ The most important themes
_ The noteworthy quotes
_ Tny unexpected findings

After the focus group was conducted, we transcribed the recording to text. Then the analysis was done by marking meaningful chunks of text, words and assigning them as relevant, or important, themes, noteworthy quotes or unexpected findings. Then we tried to list and sort the information that was marked as relevant to help define what themes occurred most frequently. By clustering our findings into the three categories above, we could begin to interpret the new insight.

_ The most important themes

The most important themes were based on the goals from the planning phase; to get feedback on our storyline, concept and MVP. We marked everything that was of interest regarding the most important themes, for further iterations, and summarized them in the following points.

General understanding of the trust stack and the storyline

Opinion: the animations were an appealing way to create a shared mental model of trust.

In the discussion between the participants, it became clear that the theory behind the trust stack was both understandable and interesting, thus we felt that we had achieved the goal of conveying “the trust story” clearly and understandably. Several of the participants agreed that animations, as well as visual images and models, would be helpful to create simple mental models to understand the otherwise complex theory.

Suggestion: we should replace or change the word “individual” .

There were some concerns related to the naming of each step in the stack, and they alluded that not all names made sense. The problem applied first and foremost to the last step of the stack, which we at the time had decided to call “Individual”, as Botsman had named it in her model. This led to an idea generation among the participants, where they brainstormed different alternatives. In the end, they agreed that “Touchpoint” described the ulterior motive and purpose better, as it grasped the technological aspects of machines, robots and digital surfaces better.

“I think if you call it a touchpoint, the individual [person] will also become some sort of Touchpoint.”

- Female, creative director

General feedback on the concept “Trustspiration” and the MVP

Opinion: trust is relevant in most projects

In general, we received promising feedback on the concept, and the designers agreed that trust is relevant in most projects. One of the participants substantiated this by explaining that, in an ideal world, designers should enable trust in all projects, but realistically that is not possible due to scarce time, resources and money. Therefore, the participant argued that designers need a method to identify the projects that are dependent on trust and some sort of method to deal with it.

Opinion: The MVP needs to be more attractive and interactive

After showing a video of the prototype, we received constructive criticism and helpful opinions from the participants. Among them were; that the site should be more attractive and task-oriented. They also proposed that we should make the page more interactive, by letting people share their experience and comments, or perhaps rate the tools. Lastly, they suggested we implemented more real-life cases and examples; use the power of good and bad examples, and show how trust can be influenced, and what positive effect that might drive in society.

_ The noteworthy quotes

"Sometimes the trust loop, or leap as you called it, is by accident"
- female designer

"I think that we as designers like to think that we can influence trust, and sometimes we can't. And that's why I am so curious about the contextual considerations of the trust relations. It is super cool"
- female designer

"The visual part, or the visual nudging, or the way the solution is presented is quite important for building trust. Designers need to think about the way the technology is presented. The technology can be super top notch, but that doesn't help if the way it is offered doesn't build trust."
- male designer

_ Unexpected findings

To identify the unexpected findings, we did a similar process as the analysis done when looking for similarities and important considerations, except this time we were on the lookout for surprising elements and dissimilarities. This is what we considered the most eye-opening:

Confusion: Do I always need to deal with all the layers in the stack?

We had a very instructive and interesting learning lesson when we uncovered a big misunderstanding that arose during a discussion. One of the participants wondered if he always had to include all trust tools from all steps of the stack. This indicated that we must provide clear information that you as a designer do not always have to go through all the parts of the stack. The feeling of being forced through all the steps would work against our purpose and aim - and would only lead to dissatisfaction and little commitment. Thus, we had to make sure to underline that each tool could be used separately.

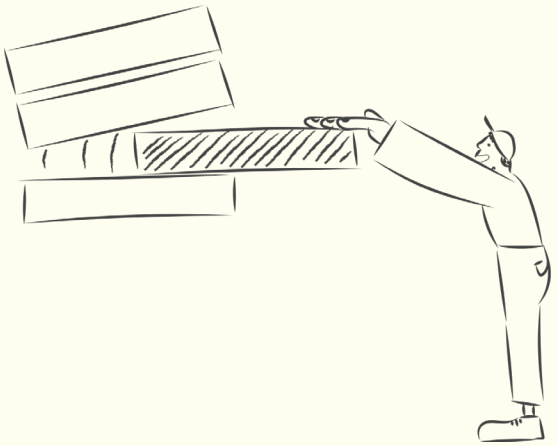
Consideration: Perhaps you should flip the focus to reducing distrust, rather than improving trust?

An interesting remark was made by one of the participants that made us reflect upon the difference between trust and distrust. He suggested that instead of focusing merely on building trust in products or services, we should try to change our frame of reference; perhaps we should focus more on reducing distrust?

Opinion: It will make me a better designer in general, it can make a change

One of the participants said that having a trust tool in her method toolbox, could probably make her a better designer. Having a designer come to this realization herself, both warmed our hearts and supported our objective to “demonstrate the individual and

societal benefits of designing more trustworthy products or services". This comment was followed by a discussion about the value of the concept, and here the participants formulated that although the performance target is making "something", the effect target is to make a change. **These comments captured the essence of what we were aiming for; changing the way designers think about and work with trust.**



You don't need to work your way through all the steps. If there doesn't exist a trust problem just skip it!

Final Concept

After gaining valuable and occasionally surprising feedback in the focus group, we felt confident in moving forward with our concept. So we continued our iterative cycle by adjusting and improving the MVP to meet the design requirements and our objectives. We developed version 2 of our MVP, which was tested frequently through different types of user testing and co-design methods. However, we decided that our MVP should be renamed MTP, for "*Minimum Trustworthy Product*" instead, as we wanted to test the trustworthiness of our solution as well.

Trustspiration 2.0

In short, Trustspiration is a digital platform containing tools and inspiration to increase the understanding of how trust is earned, or nudged, by looking at some of the common behavioural patterns that people follow in forming trust.

These important decisions were made:

We decided to preserve:
_ the structure; to divide the tools by the levels of the stack.
_ the idea of having a "light" and a "heavy" version of the tools.

We decided to change:
_ the name of the steps in the stack to idea, organization, technology and touchpoint.

We decided to discard:
_ "the important questions" as the path/ entrance to the specific tools.

We decided to introduce:
_ WiX; for the implementation of our platform.
_ Miro; for the implementation of our tools.
_ a menu structure; consisting of introduction, tools, background and about.

Minimum Trustworthy Product 2.0

At this stage of the project, we had collected a lot of feedback on things that should be changed and improved. The feedback generally concerned how to convey content, the structure and the landing page, and now the time had come to go more in-depth on content. We needed to figure out what each tool should contain, how it gave value, how it should be used and so on.

We started to prototype in the software WiX, because it allowed us to create a HTML5 website, with simple online drag and drop tools, without delving into complicated code. We did the prototyping directly in WiX, because the interface was rather intuitive, and it would spare us from doing “double work” by first designing a prototype in Figma, and then transferring it into a high fidelity prototype in WiX. Another incentive for choosing WiX was that we would be able to deliver a highly functional website that could actually be used, rather than a clickable prototype that just a few people could access.

One of the unfortunate drawbacks of WiX was that it wasn’t responsive, making it look odd if you had a very slim, or very widescreen - or were on mobile. Therefore we decided to desktop-optimize the website, as the designers we talked to were the most positive to this alternative. They rarely worked from their mobiles anyway.

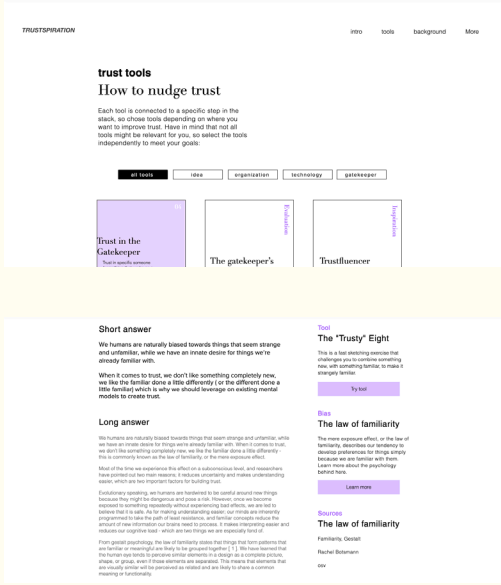
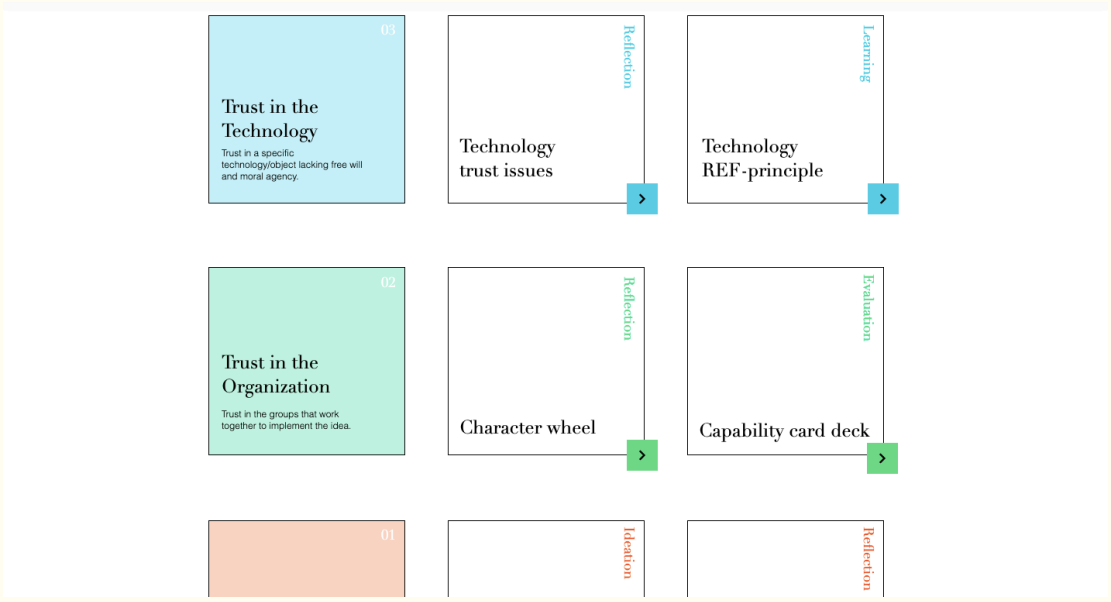


Image 3: ”Wireframing early iteration.”



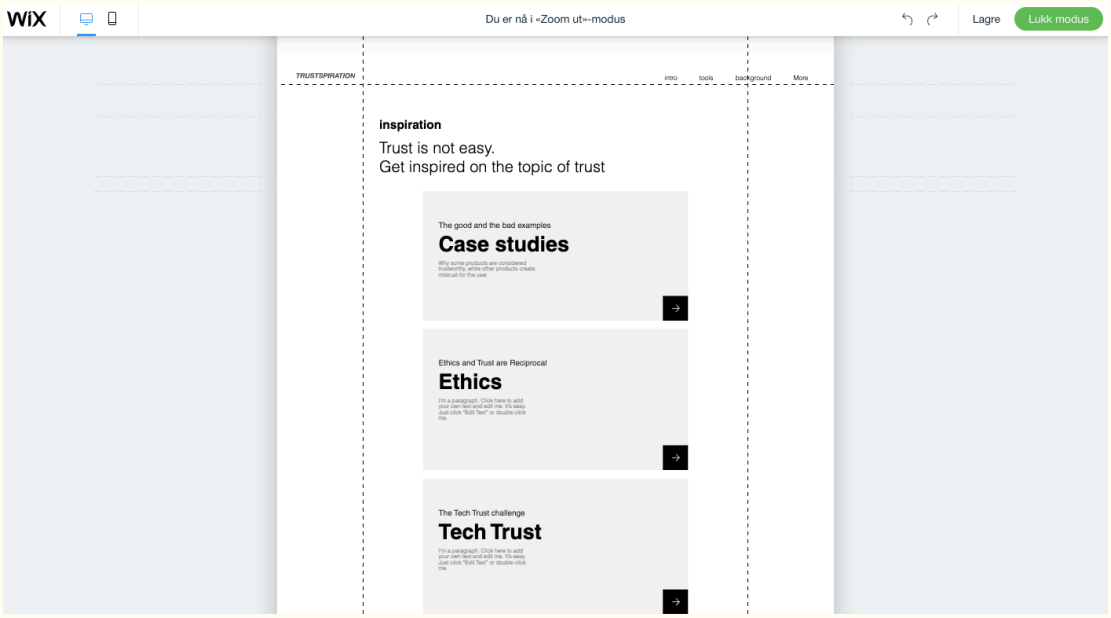


Image 4: "MTP 2.0 - Wireframes from WiX."

Designing the tools

In parallel with developing the prototype in WIX we started to dig ourselves into designing the specific trust tools. This part of the project has by far been the largest, and most time-consuming part, and has been going on throughout the project.

The choice to dividing the tools according to the steps in the trust stack, made it easier to create tools because they could be based on theory. This gave us both content to the specific tools and references to theory, which on a meta-level actually contributed to creating trust in our platform; Trustspiration.

Initially, we had a goal of creating a tool-box consisting of approximately 20 tools, 5 for each step. However, we quickly realized that this was a major overestimation of both time and skills. Therefore we decided that it was better to have a few good tools that could actually deliver value, than trying to do the impossible. After several rounds of brainstorming, we outlined **nine specific trust tools** that we believed were feasible to develop and deliver within the given timespan.

After outlining the aim of each tool, we decided to create the tools in Miro, which is an online collaborative platform that enables distributed teams to work effectively together (miro.com). During the covid-19 pandemic, we observed that many designers were forced to change the way they work, and they had to find digital solutions to otherwise physical activities. As far as we were concerned, the designers at EGGS typically use Miro to solve this problem - so we decided to do the same when we were to craft our own trust-tools and -activities.

Pre trust check: a tool to assess if it is necessary for designers to include trust or not in their project, based on an evaluation of risk, concern and uncertainty.

Strangely familiar Ideation: an ideation activity that helps designers re-frame their offering to something more relatable, and thus trustworthy.

Discussing the trust balance: a reflection activity created to give an overview of the trust-equation, by anticipating what users might consider trust-issues or trust-drivers.

The company character wheel: a workshop activity to facilitate a constructive conversation between stakeholders on how to define and seek towards a more trustworthy character/identity and strengthen the company reputation.

The capability self-assessment: a checklist activity with trigger-questions to assess if a company has the characteristics that are commonly considered trustworthy.

The REF principle: a braintool (a tool to enhance knowledge and understanding) exercise to get acquainted with the REF-principle, that is imperative knowledge to have when facilitating technology trust.

Mitigate tech trust issues: a workshop exercise intended to break down complex technological issues and guide designers in prioritizing which challenges are important to tackle, and which are superfluous.

Design triggers for trust: a braintool with relevant trigger questions made for reflections. It is created to make designers become aware of how the final touches and details might influence the users' trust significantly.

The power of social proof: a braintool with tips and tricks to implement social proof, as a way to influence a significant change in the way people do something or set new social norms, and therefore influencing trust.

part 05

Key takeaways

The concept "Trustspiration" was outlined as a platform with tools and inspiration created for designer to understand and improve trust in their product, service or business.

When developing the concept, **we decided to create a wide selection of tools to choose from**, that varied in difficulty, depth, incentive/goal, number of participants and duration.

The tools should be **"strangely familiar"**, meaning that they should be based on familiar concepts, but flipped and reframed into something with a new meaning.

The tools should be **sorted by the levels of the stack**, to maintain a strong reference to the theory and the decision making process of trust.

We chose **WiX** for the implementation of the website, and Miro to implement the tools.

We decided to name our MVP (minimum viable product) for **MTP (minimum trustworthy product)** instead, to underline the importance of applying the "trust principles" on ourselves as well.

We held a **focus group** to test the MTP and the storyline of the concept, to include users and gain valuable feedback - in support of the participatory design method.

We began designing the tools and finalizing the content of Trustspiration.

Trust leads to approachability and open communications.

Scott Weiss

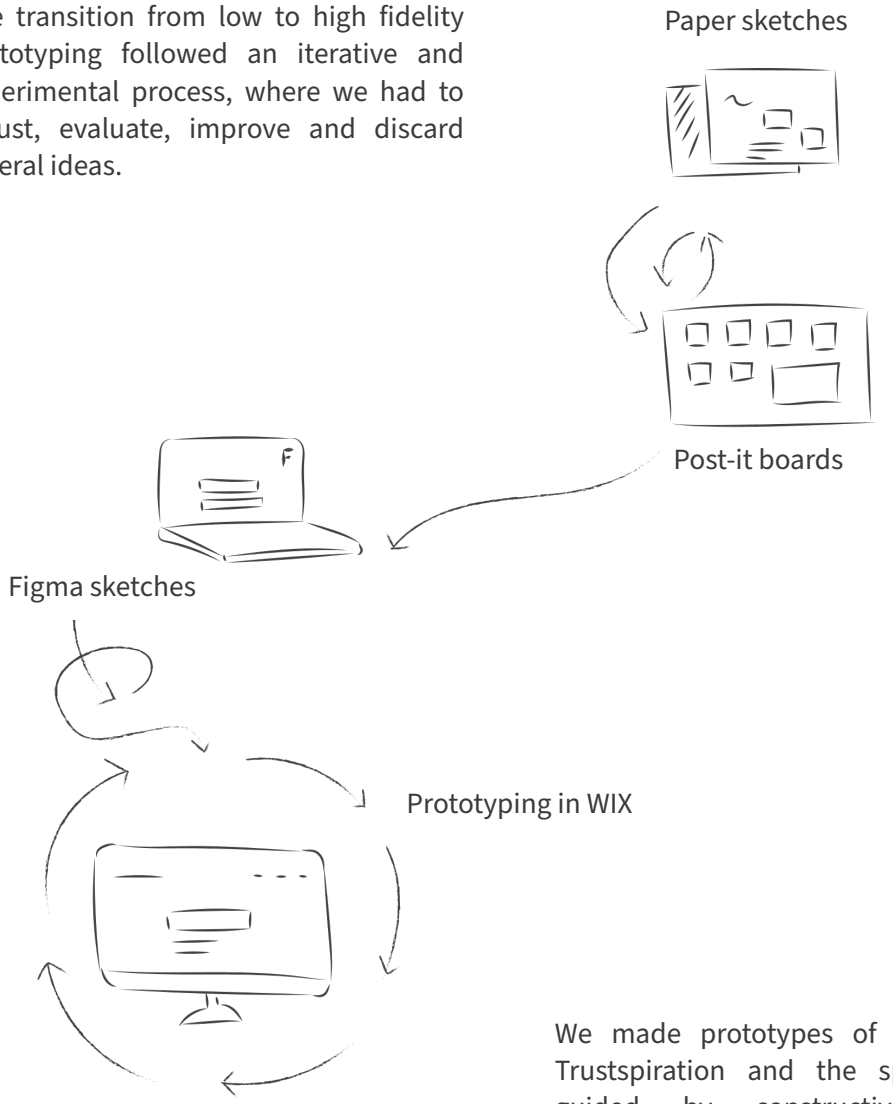
American venture capitalist

06
Delivering

The last part of the double diamond process is the delivery phase. Here the goal is to develop a solution that eventually meets all requirements, through refining, adjusting and improving the solution step by step. In this phase, we will describe how we took our concept from a low fidelity prototype to a high fidelity prototype. We will include the most valuable learnings from user testing, which contributed to shaping the final version of “Trustspiration”.

High fidelity prototyping

The transition from low to high fidelity prototyping followed an iterative and experimental process, where we had to adjust, evaluate, improve and discard several ideas.



We made prototypes of the platform Trustspiration and the specific tools, guided by constructive criticism, suggested improvements, wishes and needs from the target users. How and what we tested will be explained in the next section.

Illustration 7: "The process of prototyping"

Usability testing

We had already experienced that the testing gave us valuable insight into our solution and how it was perceived by the designers, but we were still a bit concerned that our selection of test objectives was too narrow, and that we had just been "lucky" with our feedback. Therefore, we wanted to broaden our test scope, and include designers that had never seen or heard of our concept before. Although this was a bit frightening, we believed it was necessary to get feedback from some fresh pair of unbiased eyes. To do that, we were put in contact with several designers who were not affiliated with us, or our project, in any way. All the tests were conducted digitally, and the test objects will remain anonymous.

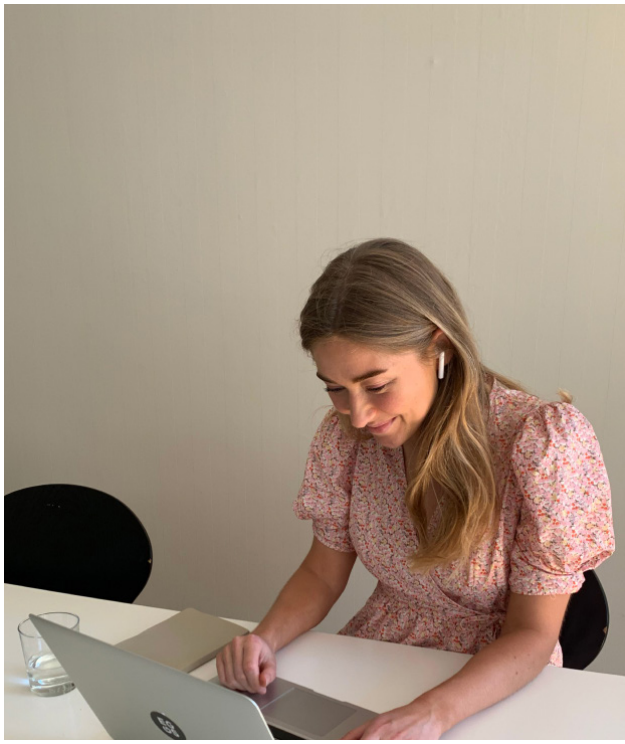


Image 5: "Usability testing"

"Usability testing focuses on people and their tasks, and seeks empirical evidence about how to improve the usability of the interface"

- Universal Methods of Design (Martin et al., 2012)

Planning the tests

The Trustspiration website does not only need to contain necessary information and meet the needs of the target user, it also needs to be easy-to-use and focus on the user experience. Therefore, we decided to combine usability testing of the platform and testing of the specific tools.

To get the information we needed, we invited 7 designers to conduct a combined usability- and tool-test. The test objects were all a part of the EGGS Design team, but they were located at different offices, spread throughout Norway. In addition, we made sure that they had different roles, experience and background, since we wanted our selection of test objectives to be heterogeneous within the design field. The testing objects had the following positions; *Creative Leader, Senior Designer, Designer and Junior Designer, with professional expertise in the fields of UX, UI, service design and digital design.*

Before conducting the tests we planned what we wanted to achieve and get information about. Since the goal was to test the usability of "Trustspiration" and the tools, we formulated specific tasks and scenarios to be carried out.

Such as; *"you are a designer working on a project involving a brand that seems to have some problems with trust among the general public. How would you go forward in order to influence the organizational trust of this brand?" or "If you want to assess whether your project needs to actively include trust or not, what would you do?"* and so on.

To not influence the users to solve the problems in a specific way, we wanted them to share their screen and think aloud while performing the tasks. In this way, we could observe and learn from them, rather than guide and interfere. The main goal was to reveal any obstacles and logical flaws that we were not aware of, as well as figuring out if the specific tools served their intended meaning.

Key takeaways

This is what we learned:

It needed to be easier to understand what **“Trustspiration”** was at first sight. The designers should not have to scroll far to grasp the **intent** of the platform.

The **long paragraphs** were considered **stressful**, which stems from the fact that people don’t read, they scan for information.

In general we interpreted some elements as more **eye-catching** and **relevant** than others

The word “Touchpoint”, as the name of the fourth step in the stack, became a source of **confusion**, at least for the service designers. We realized that it was shortsighted to have a word with plural meanings

This is what we changed as a result:

→ We needed to be more **precise** and re-evaluate our **value proposition**.

→ We should **minimize text**, improve wording and **group information** in smaller sections throughout the whole site.

→ We should **change the order** of several items and **emphasize** the most interesting **examples**.

→ We should change the word “touchpoint”. However, since the previous word “individual” also had led to confusion, we tried to come up with a third alternative, which eventually led us to the final name **“Gatekeeper”.**

The gatekeeper analogy stems from the fourth step being the “gatekeeper” of trust, since it is there the decision to trust or not essentially is be taken. It was also more fitting as a gatekeeper could be either physical, digital or human.

This is what we learned:

Several of the designers pointed out that the **“Stack”** (which we initially used to describe the process of trust), was **confusing**. First of all, the word “Stack” didn’t say anything to them.

They also pointed out that it was essential to **understand** the stack **before** accessing the tools, since the tools were sorted after the steps in the stack.

Lastly, it was suggested that the stack should be **horizontal** rather than vertical, as people (at least in western cultures) scan things from left to right.

This is what we changed as a result:

We should consider changing the word “Stack” to something more **intuitive**. Since we wanted the stack to represent the trust-process of design, it led us to creating and replacing it with the **“Design for trust model”,** as a conceptual framework for trust, as descibed in the **theory** part.

We should **encourage** the user to understand what the stack is, before they access the tools. As a consequence we should change the order of the navbar and **guide users to the introduction** of the stack first.

We should consider **“flipping”** the direction of the stack from vertical to horizontal. This would also make the analogy of bridging the trust gap more **visual** and easier to explain.

This is what we learned:

This is what we changed as a result:

For some of the **tools** it was a bit **unclear** when, who or what it was intended for. →

We should include the **purpose**, desired **outcome**, **duration** of activity as well as who the intended **participants** (individual , team, team/client, stakeholders, users etc) needed to be in every tool.

Several of the designers pointed out that it would be helpful to know approximately **where in the design process** the specific tools were intended for. →

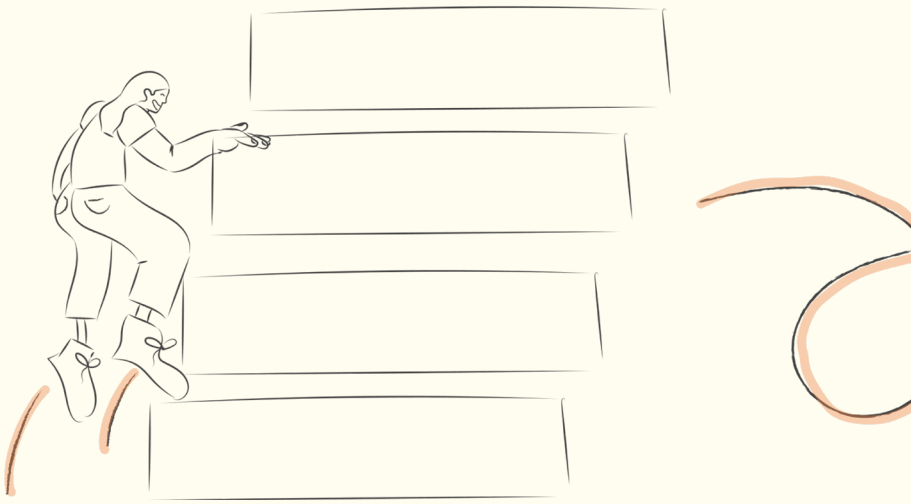
We should revisit our idea of sorting tools after where in the design process they should be used, as it would make it easier for designers to choose the **correct tool** at the **correct time**.

Some of the tools had **confusing names** which didn't make the designers "buy in to it". →

We should **re-name** the tools so that it would be easier to understand more of what it was related to and what it aimed to achieve from the name.

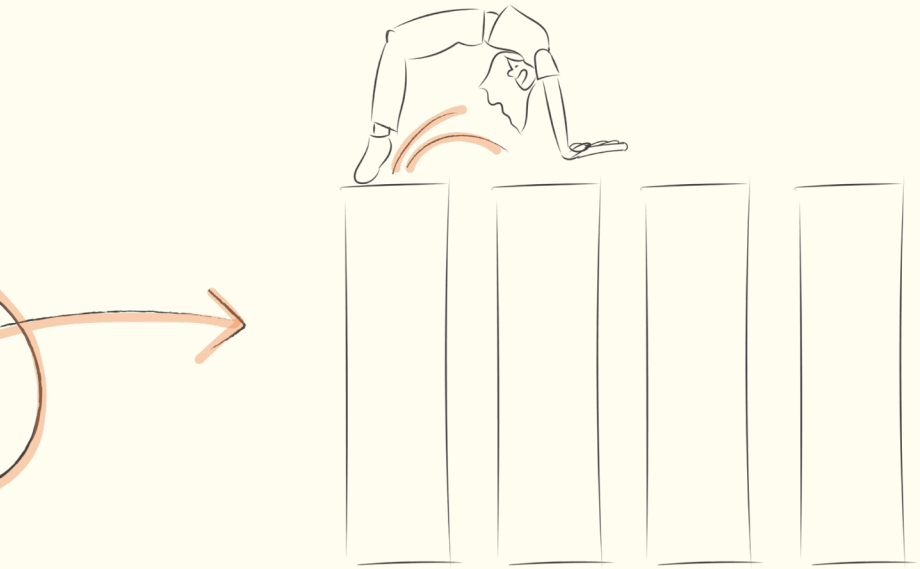
Some of the content was perceived as **"stating the obvious".** To our amazement, they were **pleasantly surprised** by this and said that it was **good** to be reminded of things explicitly, as it is easy to forget even the seemingly obvious things.

It was from this moment on, that we began to use ”The design for trust model” as the visual representation of how trust is formed.



Trust can not be built, but has to be earned continuously over time.

Illustration 8: ”Flipping the stack”



So, we flipped the ”stack” to better represent the decision-making journey of trust.

Designing the aesthetics and visuals

Through interviews and focus groups several of the target users mentioned that they believe aesthetics, visuals and "tone of voice" are important factors to consider in the process of creating trust for the end user. Up until now, we had only used borrowed illustrations and stock photos to convey the message in the prototypes, because our focus had been on the development of the platform, the content and the specific tools. However, after receiving valuable feedback on these focus areas, we decided it was time to dive into the aesthetic and the visual, and give "Trustspiration" a needed "facelift". Our goal was to create an expression that created trust for the end user, aroused interest and supported the nature of the message.

Tone of voice

The tone of voice is not about what you say, but how you say it - and the impression this has on your user. It is the way you articulate your brand or platform through words, both written and spoken. When we, as two students, were to decide how we should address professional designers, we knew that we had to think thoroughly through our choice of words and how we framed ourselves; thus we had to define our tone of voice.

As we saw it we had two choices; to be an anonymous sender, or to be transparent in who we were. With support from our mentors, we chose the latter; to be a transparent sender, because the word "transparency" had been emphasized throughout the whole process, as clearly represented in our interview word cloud. In other words, we wanted to be personal; open, friendly and honest.

In order to be taken seriously, we had reflected on our language several times but we still received the feedback that we were "a bit too proper and elaborate" and that we should aim to be "a bit more to the point and inviting". Even though we wanted to convey scientific theory, we did not want to appear instructive or "know-it-all". We realized that we needed to change our aim; to be taken seriously, without being too serious. By applying an informative, yet humorous, tone we hoped to be perceived as more inviting and youthful.

Still, we needed to find a balance. In order to be seen as trustworthy it is imperative to show knowledge, skills and capability. We wanted our users to know that we did not take lightly on the task we had given ourselves. Therefore, we still wanted to keep things professional and sharp, despite a more youthful tone.

We wanted to be honest, use humor and arouse interest, while keeping things simple and professional.

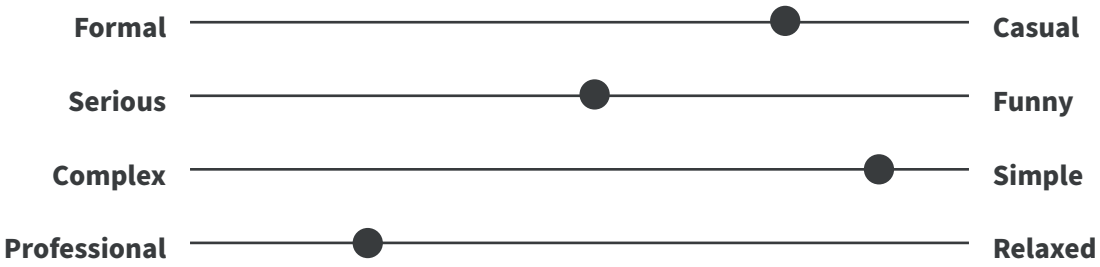


Figure 7: "Tone of voice map"

Illustrations

An illustration is a decoration that has the potential of explaining wording, processes or theory. Since an illustration can be used to tell a story and catch people's attention, it became important when we were creating a visual language that could arouse interest and support the nature of the message (Oxford Learner's dictionary).

We wanted to use illustrations to achieve two things; first, we wanted to explain our content better, and secondly, we wanted them to evoke certain emotions and reactions as described in the mood board on page 96.

To pinpoint how our visualisation technique should be, we created a second mood Board with different visualization styles, for inspiration.

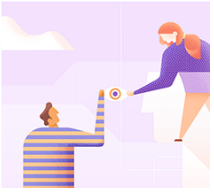


Figure 8: "Mood board of illustration techniques"

The visual language was meant to;

… arouse curiosity by drawing abstract illustrations that were a bit rough around the edges, because the use of humor and sketching, allows people to use their imagination to interpret the understanding themselves - something that can suit our target user group well (designers are stereotypically curious, headstrong and creative-minded).

… take advantage of the power of body language and facial expressions, because we figured out that faceless illustrations can appear as cold and anonymous - the opposite of trust, friendliness and openness, which was what we wanted to communicate.

… use the power of loose scribble drawings in contrast to colour surfaces, because this would make the expression a bit casual, while it would be easier to create many similar illustrations without spending too much time on detailing.

… engage the target audience by creating likeable illustrations that could contribute to an understanding of what Trustspiration is.

Colour coding and fonts

The use of color does not only contribute to a visually appealing expression; it actually has a practical cause in our solution. Colors, amongst other features such as size, orientation, motion and so on, can be used to create visual distinctness. This means that if you want to make something easy to recognize, or find, it has to be made different from its surroundings (Ware, 2008). Using color coding to distinguish between topics is an effective navigational action to provide the user with a "mental map" that can help them understand "where they are" when maneuvering the site. Based on this principle, it became clear that we needed to use colours to map the different steps in the "design for trust model".

We figured out that we needed at least four different colours, preferably five; one for each step in the "design for trust model", as well as one for realized trust. Picking colours was not easy, as people have different associations to different colours, which are affected by culture, social norms and, of course, personal preferences. However, through some desk research on the subject, we came over an interesting finding.

A study from the Department of Psychology, University of California, Berkeley did a research on human colour preferences, and found that people generally prefer colors with strong associations to objects they like (such as nature, blue skies, green planes, pink flowers to name a few), while they dislike colors strongly associated with things they dislike, such as rotten food. With inspiration from the study, we chose 5 colours from different parts of the color spectrum, so that they should be mutually distinct - as shown in figure 8 on the next page. We chose colors that we generally believe are associated with positive experiences (Palmer et al., 2010).

"Color preference is an important aspect of visual experience that influences a wide spectrum of human behaviors: buying cars, choosing clothes, decorating homes, and designing web-sites, to name but a few"

- An ecological valence theory of human color preference (Palmer et al., 2010)

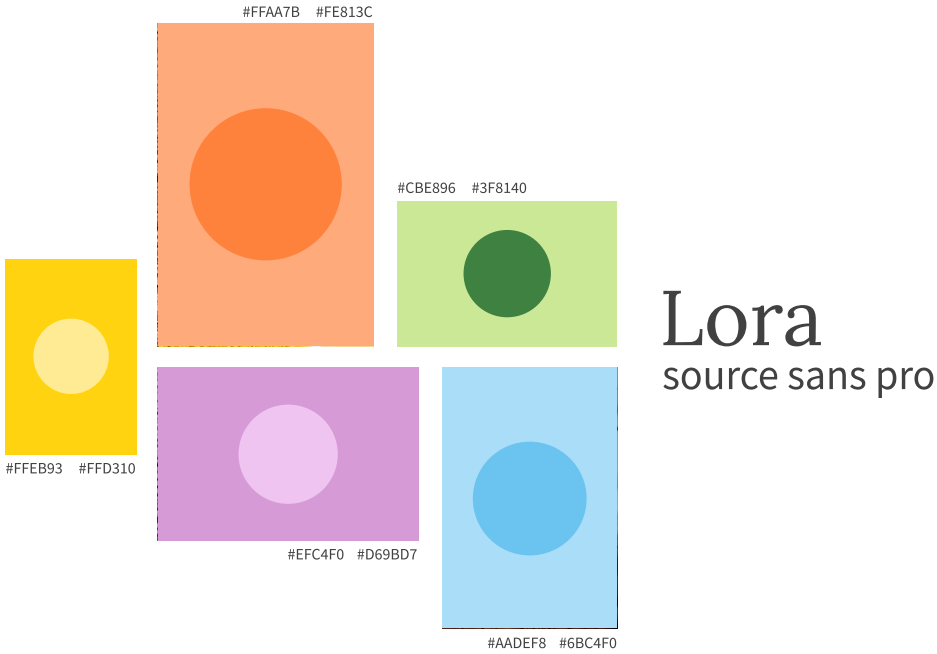


Figure 9: "Colour coding and fonts"

As for the choice of font, we chose Lora, a well-balanced contemporary serif font with roots in calligraphy, for headlines, titles, highlights and quotes to emphasize the youthful and simple expression. The brushed curves and soft lines made it appear friendly, supporting our desired tone of voice (Google Fonts).

For the larger bodies of text, we chose a versatile typeface that has been optimized for user interfaces and readability. As opposed to many other gothic fonts, Source Sans Pro, has been designed with generous width and a focus on making similar characters clearly distinct from each other. This results in a font that creates a pleasurable reading experience in longer text passages. In addition, we thought the combination of Lora and Source Sans Pro managed to capture the balance between playful and professional - which we aimed for (Google Fonts).

Guerilla testing

Until this phase of the project, we had completed testing of tools and usability testing of Trustspiration, but we had not tested the visual and aesthetic impression. Therefore we decided to do guerilla testing on some acquaintances who are not designers.

Since we had already spent a lot of time on user testing, in addition to all the arranged interviews and the focus group earlier in the design process - we wanted to do a more rapid test to save time (compared to an arranged user test) - by going out in the field, directly to potential participants. Another reason why we wanted this testing format was that we wanted to find people who had no knowledge of Trustspiration or had seen our design beforehand, as this would ensure immediate first impressions and unbiased feedback.

We conducted five digital guerilla tests. Three females and two males, in the age span 24-55, with different backgrounds from the fields of marketing, technology, innovation, law and architecture.

A summary of what we learned follows:

Their first impression was that the page was clean and nice. Several of the participants commented on the "airy" feeling, and thought it looked complete. One of the participants, a law student, said:

"This looks neat, or professional. It is at least not something unserious".

All liked the illustrations, and described them as "cool", "cute" and "fun". They thought it was clever to use illustrations, because it becomes both easier and more interesting to follow.

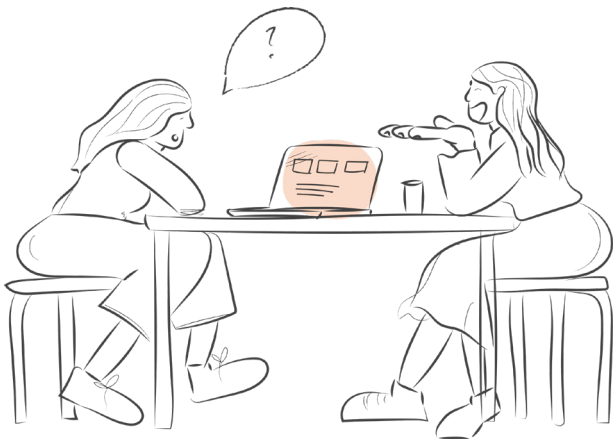
They also seemed impressed by the "background" button, and liked that they could read more to understand what each tool was based on. Few of them did however take the time to read thoroughly but only skimmed through. To underline this, the technologist actually said "*The text that is emphasized seems more important, so I am going to skip the other bits for now.*" which only underlines this point; the text was nice to have and contributed to building credibility, but it might be reserved for those particularly interested.

A few of the participants overlooked the intro, and became confused as to how the tools were sorted as a result. Perhaps it would be smart to emphasize the intro even more, some of them suggested in the discussion afterwards.

The colorful boxes underneath each tool, describing what the tool was intended for, what value it drove and when to use it was well received. It was perceived as essential information, and they enjoyed that it had been highlighted.

The “design for trust model” was also well received, and several of the participants seemed to grasp the idea of how trust is formed. The marketing advisor said “*It describes the steps well - as if systemizing a pattern of thought or action*”, which matched well with the message we aimed to send.

“ It describes the steps well. As if systemizing a pattern of thought or action”



The meta challenge

Creating trust in our solution

The meta challenge of this project was that we had to create trust in our own platform amongst the target group; designers. Our credibility and character would essentially speak to the trustworthiness of the solution we delivered, and thus we had to apply the trust principles on ourselves to create trust in Trustspiration.

During our exploration on the topic of trust, we came to realize that when choosing to trust something, one simultaneously chooses to trust the someone who created it; which in this case was us.

So, as designers of the platform "Trustspiration" (and all the tools it contains), we needed to find a way to convince our users that we were worthy of their trust.

Through an ideation workshop and a discussion with our mentors at EGGS we found several suggestions as to how we could strengthen the trust in our concept. Some of the suggested measures to influence trust in Trustspiration are listed on the following pages.

How might we convince our users that we are worthy of their trust?

Completed

Not completed

Endorse the platform

- ✓ Get designers to “buy into” the concept through focus groups, interviews and discussions
- ✓ Keep designers we talked to in the loop, through co-design methods, so they feel some kind of ownership to the end delivery
- ✓ Arrange a final presentation at EGGS, to give a summary of the concept and make the designers aware of it’s benefits?
- ✗ Write a blog post on EGGS’ website to promote our platform
- ✗ Create a teaser commercial to promote our platform

Build credibility

- ✓ Refer to articles and other external sources in the background section of each tool, to create an understanding of what theoretical movement each tool was based on
- ✗ Implement social proof, such as quotes or recommendations from target users
- ✓ Test the tools on real projects to deliver value up-front
- ✓ Create trust in “us”, the senders, by writing an about page with a brief explanation of the project, it’s background and out motivation
- ✓ Leverage on partners, such as NTNU and EGGS Design, to “borrow” trust from already established and reputable organizations.

Focus on ”ease of use”

- ✓ Minimize the theoretical and principle-based language and break the content up in smaller sections to make it easier to scan for relevant information
- ✓ Create a jovial and funny appearance by using visual language and tone of voice as tools to emphasize an honest an empathic character, with ethical intentions

In-depth interview

Since our exploration on the topic of trust was triggered by a very inspirational talk held at EGGS, we thought it was appropriate to end things where they started; by talking to the one who inspired us to go down this path in the first place; Håvard Sjøvoll. Throughout this project, our mentor has shown support and interest in our immense trust project and as we approached the end of the journey, we decided that it was time to get his honest opinions and reflect a bit upon the process.

We wanted to explore his perspective in several areas, including what he thought about the future of Trustspiration and what role it may play for design practitioners, to learn whether or not we could justify that Trustspiration was a wanted and useful asset for design practitioners, as we aspired for. To do that, we planned an open in-depth interview where we formulated several questions for reflection, which can be found in appendix H.

In our talk, Håvard admits that trust was a way bigger, more complex and compound topic than he thought initially. He says that this project has helped him to think about trust differently, which is something he will bring with him later on.

He had hoped for a "concrete recipe" for trust, but he didn't get that. "There is no simple solution or answer to trust - and that is perhaps the most valuable insight and learning lesson here."

"There is no simple solution or answer to trust - and that is perhaps the most valuable insight and learning lesson here."

Still, he thinks we have attacked the topic of trust thoroughly, and managed to find a structure that makes sense - with different facets of trust.

"You have found and highlighted a structure in a rather fuzzy topic, and it all makes more sense now."

As for the future of "Trustspiration", Håvard believes it has potential and can be used in the daily work of designer - perhaps mostly as an encyclopedia where designer can look up things to use in workshops. There is still room for improvements, which will be discussed more in depth in "Evaluation and Reflection", part 8.

When it comes to the question of whether trust can be considered the next "big thing", he is not so sure. Everyone has topics that they are deeply passionate about, and wants everyone to focus on. If trust, and "Trustspiration", will get the hype it deserves, he simply does not know. There is a lot of competition out there, and many topics, such as sustainability to mention one, fighting over the designers' attention. It is difficult to "break though".

Still, Håvard believes that trust will continue to play an important part in the designers work, especially given the rise of emerging technologies and a shift in the industry. He thinks the designer's work has become more and more complex. It's no longer just about polishing the surface and making things look nice and work. Suddenly designers are in the boardroom with CEO's and making decisions and strategies. It is about understanding how the users feel. Design is closely related to emotions and experiences and the industry has started to realize this. They have more courage and have realized that it takes more to succeed than just to make a cheap and solid product.

"People must want to use it and dare to trust it"

part 06

Key takeaways

We took our concept **from a low fidelity prototype to a high fidelity prototype** and conducted **usertesting** to ensure usability and understanding.

We decided that the tone of voice should be **honest**, use **humor** and arouse interest, while keeping things simple and **professional** .

The **visual language** was meant to:

1. Arouse **curiosity** by using humor and **abstract sketches**, where the view could use their imagination to interpret the understanding themselves
2. Be perceived as **friendly and open**, through peaceful body language and facial expressions
3. Contribute to an **understanding of what trustspiration was** by using visual language as a way to illustrate and support the content.

We used **color coding** to create **visual anchors** between the tools and the steps in the “design for trust model” to make it easier to navigate.

We met the **meta challenge** of creating **trust to Trustspiration**, by implementing several of the trust principles on our own site.

The **MTP was iteratively improved** to meet the needs and requirements of the designers, through several user tests.

Eventually, we **finalized “Trustspiration.com”** and arranged **an in depth interview** with our mentor, Håvard, to reflect upon the future of Trustspiration and what role it may play for design practitioners.

Trust is earned when actions meet words.

Chris Butler

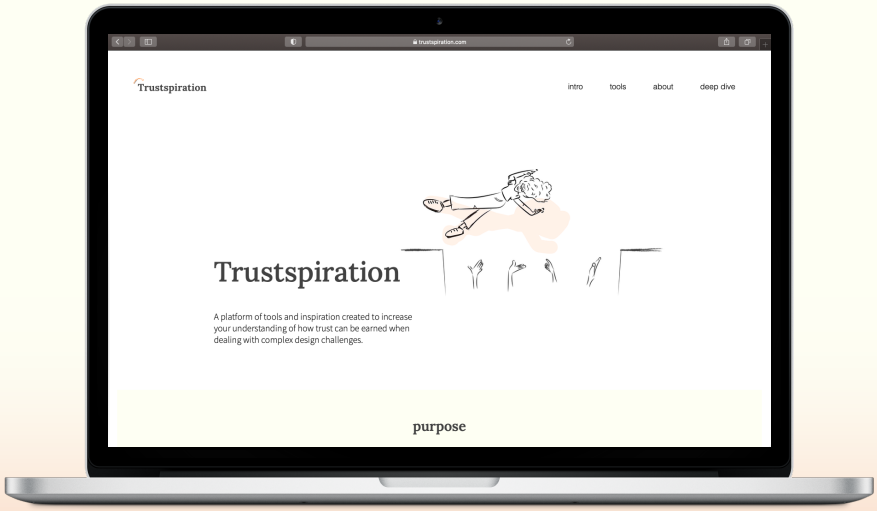
English artist, writer and director

07
Concept

In this section we will present the final concept, Trustspiration.com

Trustspiration.com

a digital platform of tools and inspiration created to increase designers' understanding of how trust can be earned, or nudged, when dealing with complex design challenges.



A new way of thinking about trust

On Trustspiration we share a new perspective on the complex and dynamic phenomena of trust, by channeling theoretical insights in a sincere and simple way. We will explain the common behavioural patterns that people follow in forming trust, to give a better understanding of how designers might influence their user's decision making processes. Through a number of trust inducing activities, we hope to inspire designers to craft more trustworthy solutions that contribute to positive ripple effects throughout society.

Description of concept

Who it is for?

The target users of Trustspiration are design practitioners.

“Trustspiration” is created to give designers the tools and inspiration they need to understand and improve trust in their design - while maintaining an ethical backbone.

Although this tool is made primarily for designers, we can also imagine that creators, policymakers, business developers and other societal stakeholders could benefit from using this tool, or at least applying aspects of it in their work.

When to use it

Trustspiration is to be melted into the design process.

We want to make it easier for designers to understand and improve trust in their projects. Therefore we have tried to “melt” trust into the designer’s current ways of working. This makes trust an interesting and valuable dimension, instead of an attempt to challenge the current design thinking processes.

We do not want to force designers to use the tools we have designed in their design process. Designers need to assess for themselves when, and if, they need to include the trust tools in their project, therefore our focus is to inspire, motivate and show the benefits of using, rather than impose. The best possible outcome is that the tools become a part of the designers personal toolkit; that they know about their existence.

How to use it

Trustspiration acts self-evident and guides you on how to use it through instructions.

We have designed the platform to guide the users on how to use it, through well-worded instructions. The specific trust tools are structured into “Use it to”, “What’s in it for you” and “When to use it”. All the tools also contain an in-depth background with theoretical evidence.

Every designer has a favored way of working around problems or obstacles, and Trustspiration guides them on how to work with the topic of trust. It starts with a trust leap, by daring to explore the uncharted inspiration and insight found on site.

Why use it

Use it to increase the trust in products, services and businesses.

The fundamental purpose of Trustspiration is that we want designers to enhance trust in their projects because trust makes people share information, collaborate, come to agreements and try out new and unknown things. It makes processes smoother, while boosting performance and reputation (McKnight et al. (2001), PwC (2015), Botsman (2017)). There are in other words many social and economic incentives to explore how trustworthy behaviour can be encouraged, influenced or nudged.

But without a systematic way of approaching trust, a designer risks leaving the outcome to chance. Trustspiration provides valuable understanding of how designers can influence the user’s decision making processes, through simple step-by-step methods for nudging trust. We might not give designers a bullet proof recipe to “build” trust, but we can certainly increase the knowledge they need to understand how it is formed and earned.

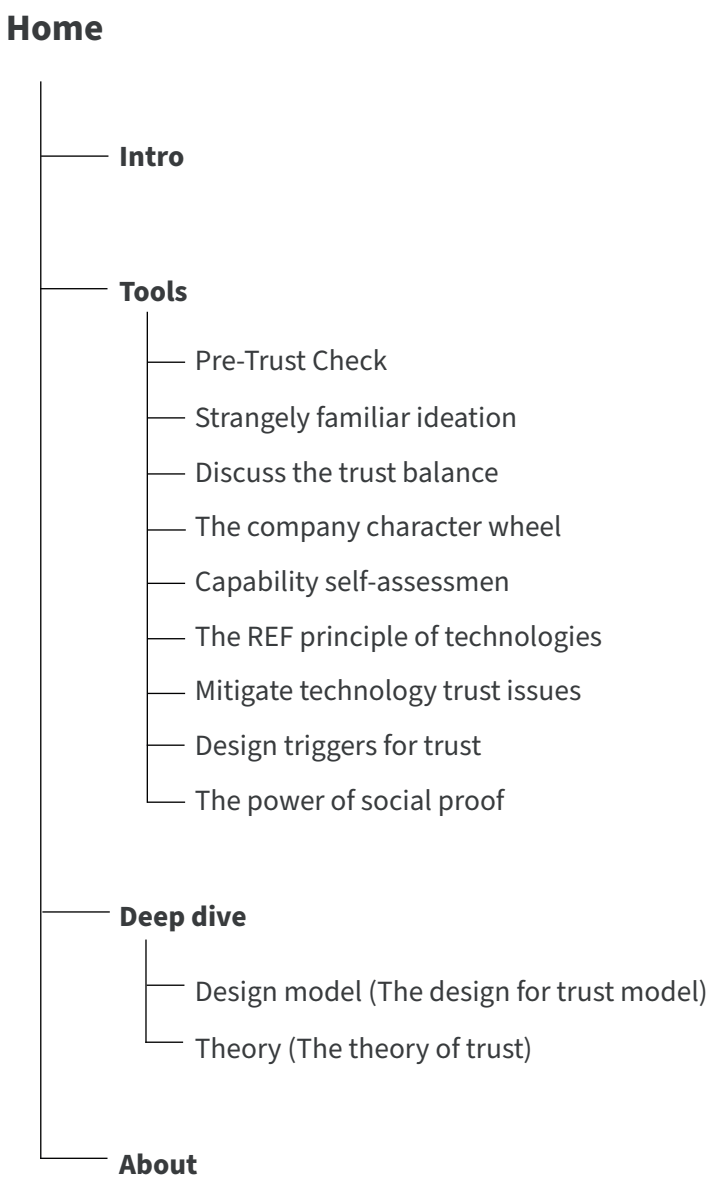


Figure 10: "Website structure diagram"

Description of pages

Trustspiration contains 5 pages; the landing page (**home**), an introduction page (**intro**), a page collecting all the tools (**tools**), a theoretical page with information about the topic of trust and design (**deep dive)** as well as an "**about**" page with a description of the platform and why it was created.

A brief explanation of each page follows:

Trustspiration

intro tools about deep dive

Trustspiration

A platform of tools and inspiration created to increase your understanding of how trust can be earned when dealing with complex design challenges.

purpose

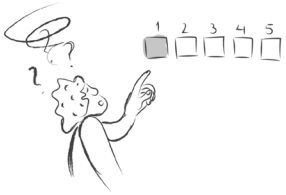
We want designers, creators, policymakers and business developers to enhance trust in their projects because trust makes the processes of sharing, collaborating and coming to agreements so much easier and efficient.

more benefits of trust

Intro

Without a systematic way of approaching trust, you risk leaving the outcome to chance. Before you begin, we suggest you get familiarized with how trust is formed in 5 simple steps.

Go to intro



Pre trust check

Trust is (only) required in times of risk and uncertainty. Check if you need to design explicitly for trust in your product, service or business.

pre trust check

Tools

Nudging trust is challenging, and it might take time to see the effects - but we have created some tools that can make it slightly easier to get started.

browse all tools

NTNU EGGS

Home

trustspiration.com/

The landing page's main intention is to highlight what Trustspiration is and how it drives value for designers. To avoid sidetracking people, we have tried to create a simple flow, with plenty of white space, that keeps the user on track while we try to answer the questions of what, why, when and how.

What: The value proposition, which is the first thing you see on the page.
"Trustspiration: A platform of tools and inspiration created to increase your understanding of how trust can be earned when dealing with complex design challenges."

Why: The purpose statement with link to benefits of designing for trust.
"We want designers, creators, policymakers and business developers to enhance trust in their projects because trust makes the processes of sharing, collaborating and coming to agreements so much easier and efficient."

Onboarding: A way of encouraging our users to get acquainted with how trust is formed in five steps, through a short intro.
"Without a systematic way of approaching trust, you risk leaving the outcome to chance. Before you begin, we suggest you get familiarized with how trust is formed in 5 simple steps."

When: Link to one of the tools (pre-trust check) that assesses the trust situation connected to a project, to determine whether it is necessary to include trust explicitly or not.
"Trust is (only) required in times of risk and uncertainty. Check if you need to design explicitly for trust in your product, service or business."

How: Link to all the trust tools and activities that contribute to influencing trust in (digital) products, services or systems.
"Nudging trust is challenging, and it might take time to see the effects - but we have created some tools that can make it slightly easier to get started."

Intro

trustspiration.com/intro

The intro-page can be seen as a guide to understand how trust is formed in four steps. Since humans commonly share some psychological barriers when giving trust (Botsman, 2020), it is possible to learn the behavioural patterns that influence trust-decisions. On the intro-page we briefly explain this concept, as well as each step in the "Design for trust model", as proposed on page 38. To make it easier to resonate with, we begin the description with the Uber example, before we go into each step and try to explain what is important to consider and understand in respect to the specific steps. We believe that this brief onboarding is essential to provide the user with the minimum of knowledge required to understand how the tools are sorted and relate to trust.

Idea: Trust in the fundamental ideas behind the concept.

Organization: Trust in the groups that work together to implement the idea/concept.

Technology: Trust in a specific technology/ object lacking free will and moral agency.

Gatekeeper: Trust in specific someone /something that works as a mediator for trust decisions. Can be a specific person, machine, robot or other interface that the user may interact with.

Realized trust: The trustworthy behaviour that comes into play once the decision to trust has been made. This implies an acceptance of risk.

Trustspiration

intro tools about deep dive

intro

A guide to understand how trust is formed in five steps

Illustrated with an example

01 Idea

Would you get into a car with a stranger?

For the service Uber to work, you must first trust the idea of getting into a car with a stranger. You must trust the idea of "Ridesharing"

02 Organization

Do you trust the people behind Uber?

Then you must trust that the company, Uber, are honest and competent in implementing the idea: "ridesharing".

03 Technology

Are you confident that the technology will work?

Furthermore, you must trust that your payment goes through and your data is kept safe. Do you trust that the car comes when it says?

04 Gatekeeper

How do you feel about "Ron" driving you home?

It is in the last step where you compare the findings and evidence from the previous three steps, evaluate the alternatives and decide; if you want to accept or decline your assigned driver.

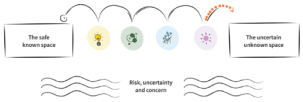
05 Trust

Did the benefits outweigh the risks?

Once you decide to accept the driver trust is finally realized. We call this a trust leap, because it implies an acceptance of risk and leads to trustworthy behaviour.

The decision-making steps of trust

People follow behavioral patterns when forming trust



What are the steps?

01 Idea

Trust in the fundamental ideas behind the concept.

Try to understand what makes people confident with trusting a specific concept. Is there enough understanding and reduced uncertainty to make my users willing to even try out this idea/concept?

02 Organization

Trust in the groups that work together to implement the idea/concept.

Try to show that the intentions of the company are aligned with public and user interests. Does the company's reputation convince my users that we are able to implement the idea in a satisfying way?

03 Technology

Trust in a specific technology/ object lacking free will and moral agency.

Try to create an understanding of the technology and its internal workings. Can the users trust that the technology, algorithms and mechanics does as it is supposed, without failing?

04 Gatekeeper

Trust in specific someone /something that works as a mediator for trust decisions. Can be a specific person, machine, robot or other interface that the user may interact with.

It is the last step where the decision to trust or not happens, but you cannot get there without leveling up through the other steps. So if your user has trust in the idea, organization and technology behind, but still hesitate to give their trust the gatekeeper might be the problem.

The trust leap

Whenever people are asked to take a risk, do something new or behave differently, trust needs to be earned on all these levels. That is when trust is realized.

05 Trust

Once the trust leap, or the decision to trust, has been made, trust is officially realized. This implies an acceptance of risk and influences the users' behaviour.

Trusting behaviour is manifested through several actions, such as; collaborating, coming to (informal) agreements, sharing personal information, reducing rules, allowing someone/something to influence us, granting autonomy or transacting businesses.

Do you want to dive deeper into the relationship between trust and design? Or deep deep dive into how trust is formed?

deep dive | deep deep dive

NTNU


Trustspiration
intro
tools
about
deep dive
trust tools
How to nudge trust
All tools
Activities
Checklists
Braintool
BEFORE
Activity
Pre-Trust Check
IDEA
Activity
Strangely familiar ideation
IDEA
Activity
Discuss the trust balance
ORGANIZATION
Activity
The company character wheel
ORGANIZATION
Checklist
Capability self-assessment
TECHNOLOGY
Braintool
The REF principle of technologies
TECHNOLOGY
Activity
Mitigate technology trust issues
GATEKEEPER
Braintool
Design triggers for trust
GATEKEEPER
Braintool
The power of social proof
Do you have any tools you would like to add in the trust-toolbox?
Submit a suggestion
NTNU
EGOS

The tools

trustspiration.com/tools

The purpose of the tool page is to collect and display all the specific trust tools that can be found on Trustspiration. The page can in many ways be seen as a direct answer to the objective “Develop and test hands-on activities to identify and prioritize trust issues and/or improve trustworthiness in products and services” which is intended to improve the designers skills.

The tools are presented in chronological order according to the design for trust model; starting with the pre-trust check, then the “idea” trust tools, the “organization” trust tools, the “technology” trust tools and lastly, the “gatekeeper” trust tools.

Furthermore the tools can be sorted in the groupings (a) All tools, (b) Activities, (c) Checklists and (d) Braintools, depending on what type of activity the designer wants to conduct.

In an attempt to engage with the users, we have inserted the opportunity to come with suggestions to other trust tools or activities through a call-to-action button.

Deep dive

trustspiration.com/deep-dive

The deep dive page is an attempt to give designers a deeper understanding of the relationship between trust and design. The page explores both the psychology and the science behind trust, and how it relates to the design practice. On the page we try to answer the following questions:

What is trust from a design perspective?
Here we explain what trust is, as defined in theory, and how it relates to an emotional and human decision making process. We try to emphasize that trust can't be built or forced, but has to be earned or nudged continuously, and that this can be done by helping users overcome their psychological barriers and convincing them that the offering is worthy of trust. We do not go thoroughly into each psychological barrier, as these are explained in the background of each tool. The goal is ultimately to make designers confident that they can learn the patterns of trust, and thus influence their users' decisions - and earn trust.

Why should I care about trust in my design?
In this section, we highlight the many benefits of designing more trustworthy (digital) products or services, as explained on page 43. By demonstrating the benefits of combining design and trust, we hope to inspire more designers to include aspects of our tools and knowledge in their work.

When is it relevant to design explicitly for trust?
To give the designers a better understanding of when trust is essential, we have dedicated a whole section to explain why trust is imperative whenever there is risk and uncertainty, or a potential loss that matters to the user involved in the product, service or the context where said product or service will be applied. To make it more relatable to design projects, we list up several factors, often seen in design projects, where it is especially relevant to design for trust.

The page also links to *the design for trust model* and *the theory of trus*t, which are two "deep-deep-dive" pages that explore the theoretical movements of trust more thoroughly. We will not explain these pages here, as they are already represented in part 2.

Trustspiration

intro tools about deep dive

deep dive

A deep dive into the topic of trust and design

We all have an idea of what trust is and why it is valuable, but few know how to systematically encourage (or nudge) trustworthy behavior. This page explores the psychology and science behind trust, and how it relates to the design practice.

What is trust from a design perspective?

Why should I care about trust in my design?

When is it relevant to design explicitly for trust?

What

Trust is the willingness to take a risk and be vulnerable, even though you can't control the outcome

McKnight & Chervany - 2001

... Trust can't be forced

Trust is a human feeling that must be continuously earned. Designers can't "build" trust, but they can nudge people (or encourage them) into giving it.

... Trust is decision making

The trust model gives designers a mental image of how trust is formed, as a reminder of the decision-making considerations that apply when people decide to trust or not.

... Trust has some barriers

We humans commonly share some psychological barriers and patterns when giving trust. Designers can learn these patterns, and helps users overcome their biases.

In short, trust is a confident relationship with the unknown

Rachel Botsman - 2017

Why

The benefits of trustworthy products and services

Smoother interactions

Trust influences our behaviour and decisions

Trust prompts users to share personal info, come to agreements and collaborate - making processes easier and more efficient.

Better performance

Trust drives conversions and boosts performance

Businesses are recognizing the economic benefits of designing for greater trust because it makes customers come and return.

Successful innovations

Trust makes us try out new and unknown things

Trust is often connected to a leap of faith. Could you get into a self-driving car, or allow an algorithm to diagnose you without trust?

Good reputation

Trust makes people advocate for you

Trust makes users and employees speak well of you or leave good ratings - boosting your reputation

When

Trust is (only) required in times of risk and uncertainty

Designing for trust is imperative whenever there is risk and uncertainty, or a potential loss that matters to the user involved in the product, service or the context where said product or service will be applied.

Health concerns

Loss of privacy

Financial instability

Damage to (personal) assets

damage to ego or reputation

loss of autonomy or freedom

While risk is largely about statistics. Fear is about psychology (and how you perceptually estimate the risk) and emotions (how you feel) about the risk. As a designer you need to consider both.

Do the pre-trust check

Get more knowledgable

Without a systematic way of approaching trust, you risk leaving the outcome to chance. We might not give you a bullet proof recipe to create trust, but we can certainly increase the knowledge you need to understand how trust is formed and earned. The

The design for trust model

The theory of trust

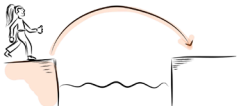
NTNU EGOS

Trustspiration

intro tools about deep dive

About Trustspiration

Trustspiration is a digital platform containing tools and inspiration to increase the understanding of how trust is earned, or nudged, by looking at some of the common behavioral patterns that people follow in forming trust.



A collaboration with NTNU and EGGS

The site is a part of a master thesis in industrial design at the Norwegian University of Science and Technology, with Eggs Design as external partners and mentors. To ensure usability and accuracy, the site has been tested on several inhouse designers, and the theoretical insight can be traced back to reputable sources .

View litterature list

objective

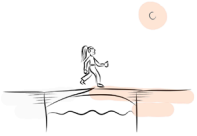
We want to present a comprehensive tool for designers that makes it easier to understand and improve trust in their product, service or business. We will achieve this by:

01 Discovering how (if possible) designers can influence trust between users and (digital) products, services or businesses.

02 Identifying and demonstrating the individual and societal benefits of designing more trustworthy products or services.

03 Synthesizing scientific theories to explain how trust is formed, in terms that can be understood by the average user.

04 Develop and test hands-on activities to identify and prioritize trust issues and/or improve trustworthiness in products and services.



Our motivation

Although trust is *intangible* and complex, we find it fascinating to work with, because it is essentially what makes us try out new things, collaborate, share information and come to agreements. Many businesses have come to realize the societal and economic benefits of designing trustworthy solutions, but to achieve this, we must first understand how trust is formed and earned.

Therefore we have dedicated all our time and resources the past year, to learn as much as possible on the topic of trust, as well as how it can be applied in the design practice - and the result is the site you are now visiting; "*Trustspiration*".

A great challenge

Admittedly, we have set out on a great challenge, because trust is not something you can see, or touch or demand - it has to be earned. By reducing risk and encouraging trusting behavior, we believe that it is possible to learn how to earn trust. We cannot guarantee that the processes we propose will succeed every time, or that you will see a swift change in user behavior straight away. Still, we hope that the insight and activities found here, can be a nice inspiration and incentive to incorporate trust in your design practice, as well as in your everyday life.

Although we might not untangle the complex phenomena of trust completely, we hope that "*Trustspiration*" can be considered one step in the right direction. So we humbly ask you to trust us, by daring to explore the inspiration, insights and trust inducing activities we have collected for you. What do you have to lose?

The authors behind

Eline Håkonsen

Industrial Design NTNU

Eline is a bold and dedicated designer hybrid. With a special eye for aesthetics and detail, you can count on her to go the extra mile and push the pixels and product even further. She is an empathic designer, that loves to make things work at a human level.

Connect with Eline

Amalie Damsgaard Jensen

Industrial Design NTNU

Amalie is a positive and efficient designer, with a bottomless source of ideas. As a true visionary, she brings a healthy dose of craziness and future optimism to the table. She embraces change and loves when things move at fast pace!

Connect with Amalie

NTNU EGGS

About

trustspiration.com/about

The deep dive page is an attempt to build credibility to the platform. Here we explain that the site is a part of a master thesis in industrial design at the Norwegian University of Science and Technology, with Eggs Design as external partners and mentors. We also make sure to emphasize that the site has been tested on several inhouse designers, and that the theoretical insight can be traced back to reputable sources to ensure usability and accuracy. Moreover we present the objectives of the site as well as who we are as authors and why we became motivated to take the challenge of creating Trustspiration.

All tools

Activities

- Pre-Trust Check
- Strangely familiar ideation
- Discuss the trust balance
- The company character wheel
- Mitigate technology trust issues

Checklists

- Capability self-assessment

Braintools

- The REF principle of technologies
- Design triggers for trust
- The power of social proof

Description of tools

The following section describes the nine trust-tools/activities we have created. Although each tool is unique in form and function, they share a common denominator: to help designers generate trust between end-users and (digital) products, services or businesses. In addition, all of the tools have been tested by several in-house designers, as described in the section “Testing tools and usability” on page 151, to ensure usability and accuracy.

Some of the tools are based on well grounded scientific theories, while others have been shaped through a participatory approach with designers, where their needs and suggestions have been taken especially into consideration. To build credibility and transparency in our own solution, each tool has a dedicated background page where we delve into why the tool was created, and what principles or findings it builds upon. However, due to page consideration, we have only included the background for three of the pages in this section - to give a taste. The rest of the “backgrounds” can be found in appendix I, or underneath each tool at trustpiration.com.

Pre trust check

Trustspiration

intro tools about deep dive

Pre trust check

Assess if you need to “design for trust”

do the pre trust check | background

back to the tools

Activity Individual

As a designer, you need to assess if risk and uncertainty are involved in your project or the context of use, and how likely and severe the consequences of said risks are. You must also figure out if your project might cause the user to feel personal vulnerability, uncertainty, or fear. The pre trust check helps you make a decision.

Use it to

Aid decision making

Harvest the motivation you (and your stakeholders) need to move forward with focusing on trust in the design process.

Whats in it for you

Get a risk assessment

It is most relevant to design explicitly for trust in projects or situations where risk, uncertainty or concern is bound to be involved.

When to use it

Insight phase

Use the pre trust check in the early stage of your project, determine if you need to explicitly include trust, or should focus your energies on other factors instead.

Why this activity?

Since trust is required in situations characterized by risk and uncertainty, we needed to give designers a simple way to assess if risk and uncertainty were bound to be involved in their project, and how likely and severe the consequences of said risks were.

Designers should also figure out if these risks might cause their user to feel personal vulnerability, loss, uncertainty, or fear - as this ultimately would affect all levels of trust. Simply put, the pre-trust check helps designers make a decision: do they need to include trust explicitly in their project or not?

> While risk is largely about statistics, fear is about psychology (and how you perceptually estimate the risk) and emotions (how you feel) about the risk. As a designer, you need to consider both.
>
> Excerpt from Trustspiration.com

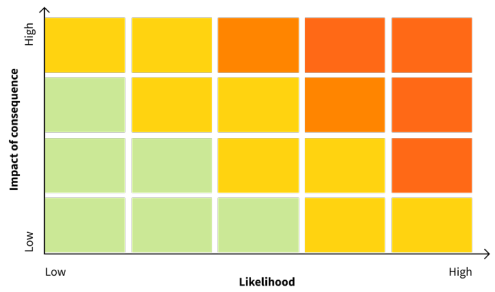
For further information about background and tool visit
trustspiration.com/pre-trust-check

Background

Since trust is required in situations characterized by risk and uncertainty (Deutsch, 1958, Mayer et al. , 1995, Corritore et al., 2003, Riegelsberger, 2005, Mazey, 2018), we need to assess if risk and uncertainty are involved in your project, and how likely and severe the consequences of said risks are. We must also figure out if these risks might cause the user to feel personal vulnerability, loss, uncertainty, or fear - as this ultimately will affect all levels of trust.

The pre-trust check is a systematic approach to reviewing your tangible and intangible assets and the perceived risk, from a user-centric perspective. It is not intended to give a detailed view of all possible risks involved, but rather increase the visibility of user concerns, and assist decision-making. In other words, the check is supposed to give you a quick indication of whether you should take trust explicitly into consideration in your design process, or not.

The pre-trust check is inspired by a risk assessment matrix, RAM, which is a tool intended to increase the visibility of risks and assist decision-making (Talbot, 2018). The main difference is that the assessment is done from a user-centric perspective, instead of a solely statistical perspective. It is therefore essential to have a rough idea of what your users might fear or worry about before you start the test. In practice, the RAM is a useful approach where either the probability or the harm severity cannot be estimated with accuracy and precision.



Model 7: "RAM (risk assessment matrix)", adaptation of Talbot (2018)

The RAM defines levels of risk by considering the likelihood of an unwanted event occurring, against the severity of the consequence. However, we have decided to combine likelihood, severity, or concern under one scale, to make the assessment less elaborate and easier for designers and clients to fill out rapidly. This makes the test less accurate, but since the intention first and foremost is to assist in decision making, we believe it is justified to make some simplifications that still preserve the main intent of the tool; to assess if trust is likely to be affected.

Health concerns

Loss of privacy

Financial Instability

Damage to (personal) assets

damage to ego or reputation

loss of autonomy or freedom

Situations, where you should be especially observant, are if you work on designs that directly, or indirectly through the context of use, might lead to these concerns:

- Threats to health or life
- Threats to privacy
- Financial instability
- Damage to (personal) assets
- Damage to reputation/ego
- Loss of autonomy/freedom

By answering eight questions, the test makes a quick assessment of whether risk and uncertainty are bound to be involved, or not, and thus estimates the “need for trust”. We will assume that there is a correlation between CUR (risk, uncertainty, concern) and “the need for trust”. Based on this we will calculate a relative score to indicate whether your project has a high, moderate, or low need for trust.

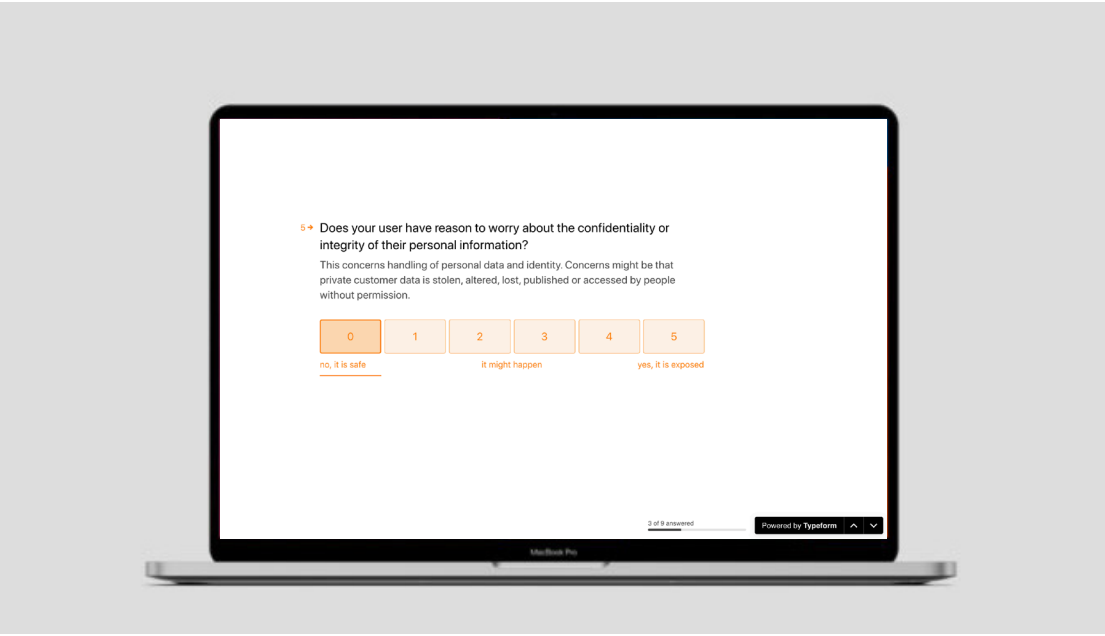


Image 6: "Pre-trust check question five"

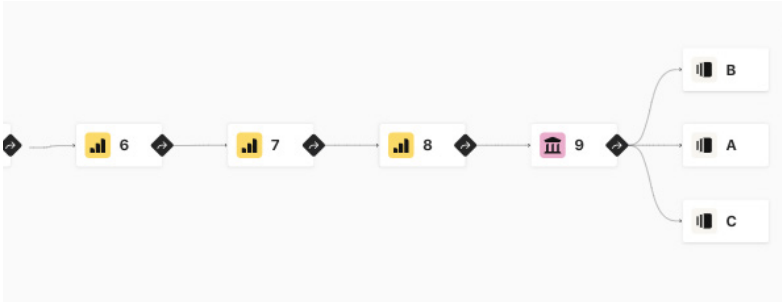
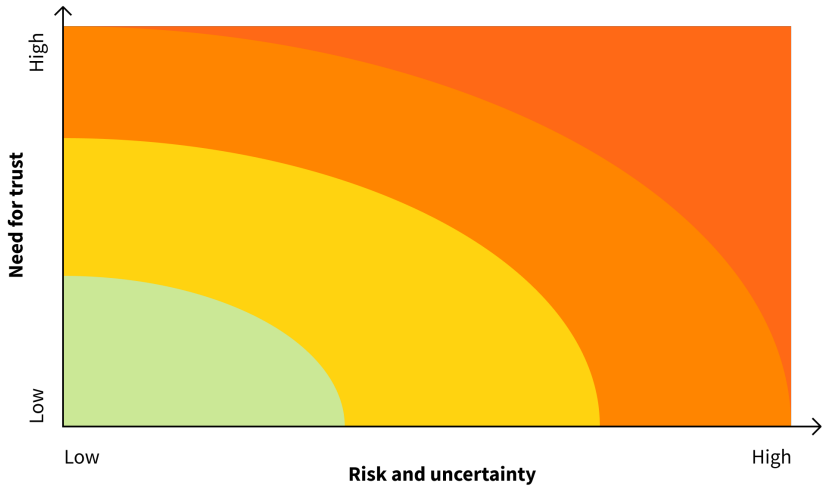


Image 7: "From the development of pre-trust check - advanced logic and variables"

How the tool was made

The tool was made in Typeform (typeform.com), which is a service company that specializes in online form building. We were recommended by our mentors to use this software, as it creates dynamic forms that are easy to use. In addition, it can send people down different paths depending on their answers, by using simple logic and branching. This made it possible for us to give our users different results and recommendations, depending on their trust score.



Model 8: "Trust Assessment matrix"

Interpreting the results

Orange zone - Risk and uncertainty is high
If many of the answers raise trust-concerns, the user will receive a high trust-score and the advice to start including trust explicitly in their project.

Yellow zone - Risk and uncertainty is moderate
If some of the answers raise trust-concerns, the user will receive a moderate trust-score and the advice to consider including trust explicitly in their project.

Green zone - Risk and uncertainty is low
If few of the answers raise trust-concerns, the user will receive a low trust-score and the advice to focus on other tasks in the design process instead.

01 Idea

Strangely familiar ideation

Trustspiration

intro tools about deep dive

Strangely familiar ideation

Shake up your thinking

fill out in Miro background

back to the tools

10 min Individual or team Pen and paper

When it comes to trust, we don't like something completely new, we like the familiar done a little differently. This quick ideation activity will definitely shake up your thinking, and help you reframe your offering!

Use it to

Reframe your offering

Use this tool to quickly generate ideas that challenge you to flip your concept from something strange and unfamiliar, to something safe and familiar.

Whats in it for you

Borrow positive associations

Relating the idea to something that can be understood, users will transfer expectations users have built around one familiar product to another that appears similar.

When to use it

Ideation / Pivotation

If your (current) product or service isn't earning enough trust, you might need to fundamentally change the direction of your idea by making it more relatable.

Why this activity?

When it comes to trust, we don't like something completely new, we like the familiar done a little differently. To help designers shake up their thinking and reframe their offering, we realized there might be a need to make them start reflecting on how they could make their product or service a little more trusting, by leveraging on users' existing mental models.

The "strangely familiar ideation" activity is designed to do just that: by forcing designers to flip their concept from something strange and unfamiliar, to something safe and familiar in only eight minutes. It is an ideation activity, suitable for workshops.

The goal of the strangely familiar ideation is to find a balance that captures the user's interest without scaring them off.

Excerpt from Trustspiration.com

For further information about background and tool visit
trustspiration.com/strangely-familiar-ideation

Background

As humans, we are naturally cautious and biased towards things that seem strange and unfamiliar, while we have an innate desire for things we're already familiar with. When it comes to trust, we don't like something completely new, we like the familiar done a little differently (Eyal, 2015) - This is commonly known as the law of familiarity, or the mere exposure effect.

Most of the time we experience this effect on a subconscious level, and researchers have pointed out two main reasons; it reduces uncertainty and makes understanding easier, which are two important factors for earning trust (The Decision Lab).

Evolutionary speaking, humans are hardwired to be careful around new things because they might be dangerous and pose a risk. However, once we become exposed to something repeatedly without experiencing bad effects, we are led to believe they are safe. Our minds habitually tend to take the past of the least resistance, and familiar concepts reduce the amount of new information our brains need to process. It makes interpreting easier and reduces our cognitive load - which are two things we are especially fond of (Kramer, 2009).

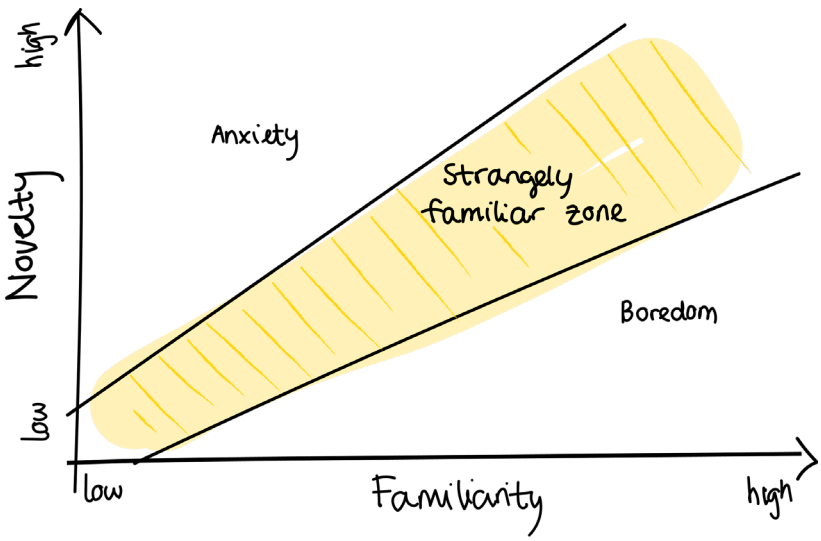
This idea of familiarity is consistent with knowledge-based trust theory, which states that the less knowledgeable individuals possess about a trust object, the greater uncertainty, and risk they will perceive, therefore causing decreased levels of trust (Gefen, 2000, McKnight et al., 2011, McKnight et al., 2014, Wingreen et al., 2005).

So while the unfamiliar might cause distrust, the familiar will create trust, because users will transfer expectations they have built around one familiar concept, product, service or business to another that appears similar (Nielsen, 2020).

Simply put, it is easier to trust something familiar. You might have experienced this yourself, in your daily life, or in your professional life. For instance in sales, the more familiar a prospect is with the sales representatives, or their company, the more likely she will accept and return their calls and open their e-mails, and ultimately do business with them. It is in the sales professional's best interest to invest time and effort to build familiarity because it makes the prospect's decision to give her time, and resources, feel less risky. Familiarity lubricates trust.

However, you must be aware of boredom. People are inclined to be lazy, and as a result, products that require people to learn new things routinely fail. However, if something becomes too familiar it easily becomes boring instead - and people will not see the point. The goal is therefore to find the balance between too unfamiliar and too boring - as this will make things “strangely familiar” and create an “optimal experience” between novelty and familiarity where just the right amount of trust is required. Rachel Botsmann, a world-leading trust researcher, describes this well through her familiarity-flow diagram (Botsman, 2020).

To sum up, reducing uncertainty and increasing understanding are important factors for creating trust. As designers, we can leverage on existing mental models to create superior user experiences in which the users can focus on their tasks rather than on learning new models; this is not only time-efficient, but it is trust-efficient.



Model 9: ”Flow Theory (Mihaly Csikszentmihalyi)”, Adaptation of Botsman (2020)

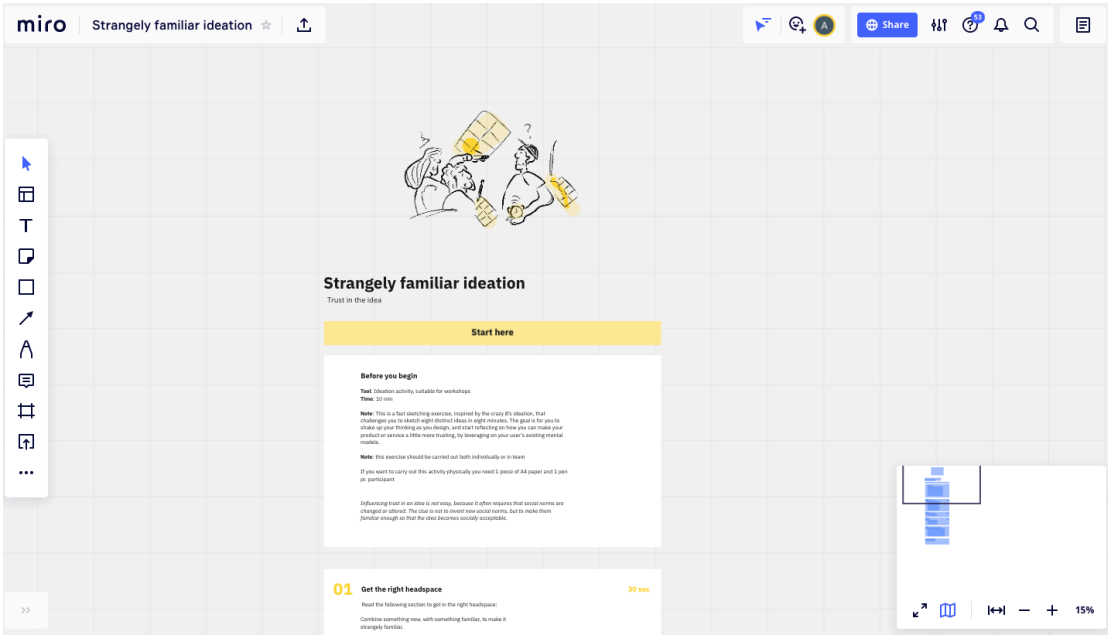


Image 8: "Strangely familiar ideation - Miro board"

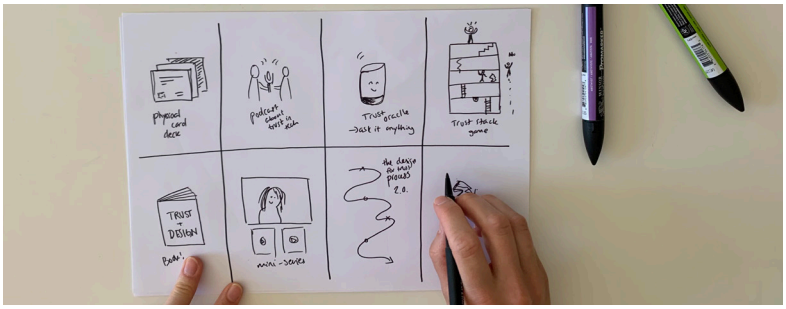
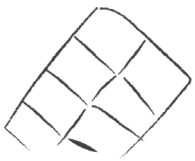


Image 9: "Testing the Strangely Familiar tool"

How the tool was made

The tool was made in Miro (miro.com) for several reasons, as discussed on page 141. It is a fast sketching exercise, inspired by the crazy 8's ideation, that challenges the participant to sketch eight distinct ideas in eight minutes. The goal is for to start reflecting on how to make a product or service a little more trusting, by leveraging on the users' existing mental models.

How it works



01 Get ready and set the timer
Each team member folds their piece of paper into eight sections. The facilitator sets the timer for 8 minutes.

02 Sketch
Individually, each team member sketches one strangely familiar idea in each rectangle, trying their best until all sections are filled. The more ideas you generate, the better the chances of nailing the big one - so try to get down all eight!

When the timer goes off - all pens down!

03 The road ahead: decide
The goal of this ideation activity is to push beyond your original idea by generating a wide variety of 'strangely familiar' solutions to your challenge. After the ideation exercise, you must take your time to discuss the results.

Each participant should share their sketches. The team must then discuss the new ideas and their potential. It is smart to move forward with the idea that has the most potential, and least effort, as this is easier to implement and test rapidly. Use, for example, an action priority matrix to find a balance between effort and reward!

For the full activity and detailed descriptions visit the website: Trustspiration.com

01 Idea

Discuss the trust balance

Trustspiration

intro tools about deep dive

Discuss the trust balance

Balancing out the trust equation

fill out in Miro background

back to the tools

10 - 30 min Team (+ client) Post'its and pen

Since weighting benefits against risk is an important step in the decision-making process of trust, you should stay one step ahead and try to anticipate what your users might consider pains and gains. We call it balancing out the trust equation.

Use it to

Identify and reframe trust issues

Determine realistic worst-case scenarios by visualizing what issues your idea is facing, and comparing it to the value it generates.

Whats in it for you

Understand trust in your design

The exercise can help you acquire a deeper understanding of how loss aversion and value generation might affect the trust in your design.

When to use it

Iteratively

Ideally, the trust balance needs to be continuously monitored and tuned. We recommend you begin in the ideation phase and iterate.

Why this activity?

Since weighting benefits against risk is an important step in the decision-making process of trust, designers should stay one step ahead and try to anticipate what their users might consider pains and gains in relation to trust. By discussing and visualizing the trust balance, designers can acquire a deeper understanding of how loss aversion and value generation might affect the trust in their design.

We believe this activity is one of the keys to understanding how trust in a product, service or business is influenced. For a person to trust, there has to be a correct balance between the perceived risks and the benefits. Therefore we call this activity “balancing out the trust equation”.

The key takeaway here is that we must offer our end user a solution where the benefits hugely outweigh the negatives or the risk.

Excerpt from Trustspiration.com

For further information about background and tool visit
trustspiration.com/the-trust-balance

Background

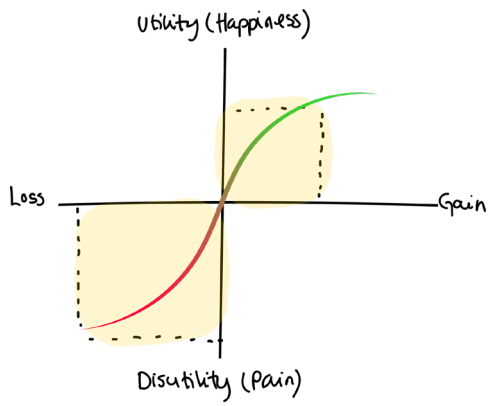
Since weighing benefits against risk is an important step in the decision-making process all users go through before they decide to give trust or not, it is smart to stay one step ahead and try to anticipate what they might consider pains and gains.

In fact, understanding and promoting the benefits and value of your offering is essential in trust nudging, because end users are reluctant to use and trust it unless the benefits hugely outweigh the negatives or the risk. This is because the pain of losing is psychologically twice as powerful as the pleasure of gaining.

The theory behind this human behavior stems from a cognitive bias called “Loss Aversion”. Loss aversion is often associated with the famous “prospect theory”, first coined by cognitive mathematical psychologist Amos Tversky and his associate Daniel Kahneman in the late seventies (Kahneman et al., 1979). Both these theories have had a huge impact on behavioral economics, but they are also imperative to understand trust.

This means in practice that humans will do almost anything to guard themselves against potentially huge losses, even though this means agreeing to smaller, yet sure losses. Insurance companies are experts at capitalizing on this bias. On their website, they might for example display a long list of unlikely, yet costly outcomes that we may encounter should we not buy insurance. This list primes us toward avoiding these large losses and makes us forget about the small, but a regular payment that we would make indefinitely for ensuring insurance coverage (Harley, 2016).

Prospect theory explains several biases that people rely on when making decisions, and it is important to understand these biases in order to convince the user that your offering is worth their trust. The key takeaway here is that since loss overshadows gain, we must offer our end user a solution where the benefits hugely outweigh the negatives or the risk (Botsman, 2017).



Model 10: "The Value Function (Kahneman & Tversky)", Adaptation of Botsman(2020)

Image 10: "Example of the trust balance"

How it works

Each team member has two piles of post-its in different colors, one color for issues and one color for values. First, the participants should create as many post-its as they can with all the user benefits regarding the idea. Try to come up with reasons for why the user might value the idea. Then, they must create as many post-its as they can, with all the user issues, or potential losses regarding the idea. The goal is to uncover the user's concerns and fears connected to risk and loss. Try to come up with reasons for why the user might not place trust the idea.

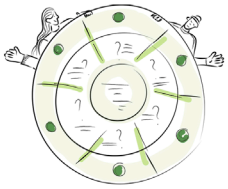
When filled out, is time to set up the trust equation. Place all the value cards above the horizontal line, and all the issue cards below. This is the current trust balance: is it good, bad or ok?

For the full workshop and detailed descriptions visit the website: Trustspiration.com

The company character wheel

Trustspiration

intro tools about deep dive



The company character wheel

Navigate your brand personality

fill out in Miro background

back to the tools

30 min Team and client

To be seen as open and trustworthy, it is essential to not only project a perfect front, but be human and openly address challenges and concerns and acknowledge mistakes. But how do you navigate towards a more trustworthy character?

Use it to

Mitigate trust issues

Facilitate a constructive conversation between stakeholders on how to define and seek towards a more trustworthy character/ identity.

Whats in it for you

Enhanced organizational trust

The character wheel can serve as a reminder of the decision-making considerations that apply in nudging a trustworthy reputation.

When to use it

(Re)branding

A reflection exercise used whenever you seek to change the way people perceive your organization or brand; to influence your reputation.

Why this activity?

To be seen as open and trustworthy, it is essential to not only project a perfect front, but be human and openly address challenges and concerns and acknowledge mistakes. Occasionally the need to change the way people perceive an organization or brand arises, but how can designers navigate towards a more trustworthy identity?

The “company character wheel” is a workshop activity intended to help designers navigate towards a more trustworthy organizational character, together with their stakeholders or clients. Influencing a reputation is not a quick fix. This activity is not meant to solve all organizational trust problems, but make designers and clients more aware of them.

The responsibility of an organization’s reputation concerns the entire system and its performance. It is in the day-to-day conduct of all employees that trust starts to become real.

Excerpt from Trustspiration.com

For further information about background and tool visit
trustspiration.com/ the-company-character-wheel

Capability self-assessment

Trustspiration

intro tools about deep dive

Capability self-assessment

Use trigger questions to deep dive into the organization

fill out in Miro background

back to the tools

Check list activity Team (+ client)

In order to be perceived as trustworthy, companies have to demonstrate their skill and prove that they are capable and committed to delivering their promise. We have collected some trigger questions to check your trustworthiness: Can you answer “yes” to them all?

Use it to

Check your trustworthiness

Use these cards to assess if you have the characteristics that are commonly considered trustworthy

Whats in it for you

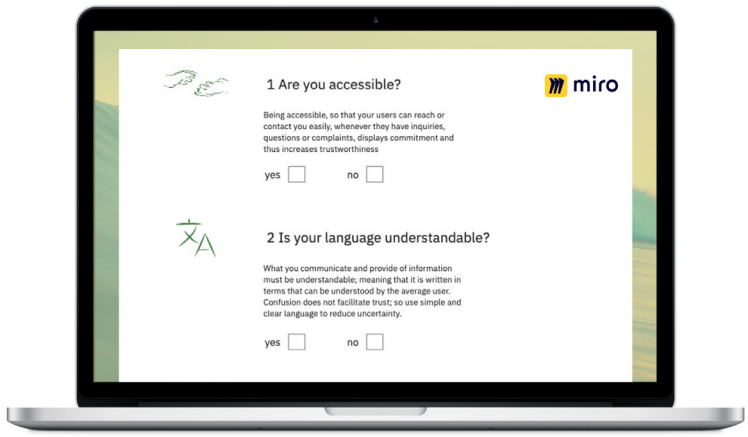
Get your priorities straight

This checklist can advise you on what to prioritize and act upon, in order to be perceived as trustworthy.

When to use it

Iterative

Competency and responsiveness can always improve. Therefore, you should check your status occasionally!



Why this activity?

In order to be perceived as trustworthy, companies have to demonstrate their skill and prove that they are capable and committed to delivering their promise.

The capability checklist was created to make it easier to assess if the company had the characteristics that are commonly considered trustworthy, in regards to how something is conducted. Although there exist several guidelines with measures organizations might follow to be perceived as trustworthy, this tool is a collection of several trigger questions that we believe captures the essence. The goal is for designers to be able to answer ”yes” to them all.

> For an organization to be perceived as capable, they have to show that they have the capability (meaning knowledge, skills, and experience) to do something and that they are reliable (meaning on time, effective, and are consistent) while doing it.

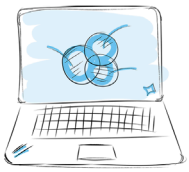
Excerpt from Trustspiration.com

For further information about background and tool visit
trustspiration.com/ capability-self-assessment

The REF principle of technology

Trustspiration

intro tools about deep dive



The REF principle of technology

Understand the mechanisms of technology trust

back to the tools

background

Inspiration Individual

Digital services and products need to be designed so users trust them and have a positive experience when using them. The REF principle builds upon mechanisms that can help us design trust into digital services and products. This tool helps you understand the mechanisms of technology trust.

Use it to

Adopt the REF-principle

Learn the REF-principle by studying cases and examples that might affect trust in digital services and products.

Whats in it for you

Inspiration

This exercise is a quick way to get acquainted with the REF-principle, which is imperative in facilitating technology trust.

When to use it

One off

This exercise takes substantial effort, but there is a valuable return in learning the REF-principle by heart - and you only need to do it once!

Why this braintool?

Digital services and products need to be designed so users trust them and have a positive experience when using them. The REF-principle builds upon mechanisms that can help designers design trust into digital services and products.

“The REF-principle of technologies”, as we have decided to name this tool, is a braintool that aims to increase designers’ knowledge on the subject of “technology trust”. The tool is based on the literature found on the topic of “technology trust”, which states that an individual’s trust in a technological artifact, product or service, depends on its “reliability”, “effectiveness” and“functionality” simultaneously, hence the name “REF-principle”.

Although there are several ways of achieving this golden intersection, there is no simple quick fix or bulletproof recipe. But by looking at some (un)successful cases of technology trust, we hope designers will adopt the REF-principle and get inspired.

For further information about background and tool visit
trustspiration.com/the-ref-principle

Mitigate tech trust issues

Trustspiration

intro tools about deep dive

Mitigate tech trust issues

Pick your battles

fill out in Miro background

back to the tools

40 min Team (+ client) Post'its and pen

Society is immersed in technology, and people seem to be trusting them - but whilst technologies are becoming smarter and more connected, they are also becoming more obscure and ambiguous. So how do we cope with technology trust issues?

Use it to

Pick your battles

Do this exercise to break down complex technological issues. It is meant to guide you in prioritizing which challenges are important to tackle, and which are superfluous.

Whats in it for you

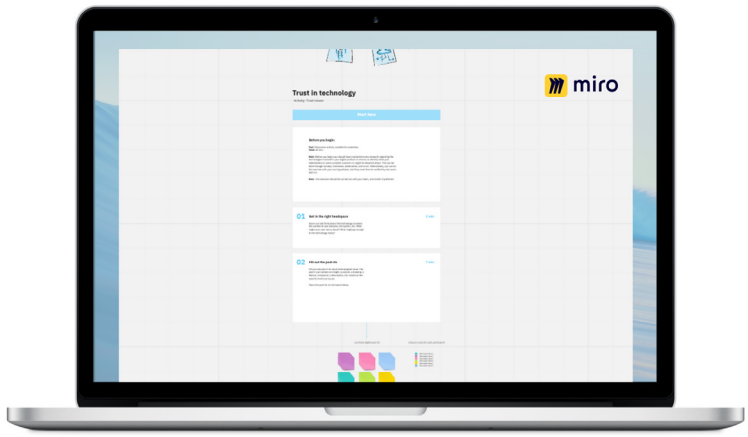
Get your priorities straight

Defining a set of specific trust challenges that you can work on improving is useful, especially for designers on a tight time budget.

When to use it

Ideation and early innovation

Major trust issues need to be identified and fixed at an early stage. We recommend you begin the work as early as possible, preferably in the ideation phase.



Why this activity?

Whilst technologies are becoming smarter and more connected, they are also becoming more obscure and ambiguous. So how do designers cope with technology trust issues?

Through co-design, we learned that several designers do not necessarily think explicitly about how the technology used in a product or service can affect the end user's trust. Therefore, we created this tool - to engage designers to reflect on or mitigate "the tech trust issues" and how that can help them to design an even more trustworthy end product.

This tool intends to break down complex technological issues, through a simple brainstorming activity. It is also meant to guide designers in prioritizing which challenges are important to tackle, and which are superfluous.

How do we cope with technology trust issues with the rise of smart and emerging technologies?

Excerpt from Trustspiration.com

For further information about background and tool visit
trustspiration.com/technology-trust-issues

Design triggers for trust

Trustspiration

intro tools about deep dive

Design triggers for trust

Influence trust through well known design principles

back to the tools

background

Braintool

Individual or team

In the final step, users weigh different bits of information to decide if whatever, or whomever, they interact with really is trustworthy. Trust in the gatekeeper can be refined through well-known design methods, and this page provides you with some of the most effective triggers.

Use it to

Remember trust in the final stage

Become aware of how the final touches and details might influence your users trust more than you might be aware of.

Whats in it for you

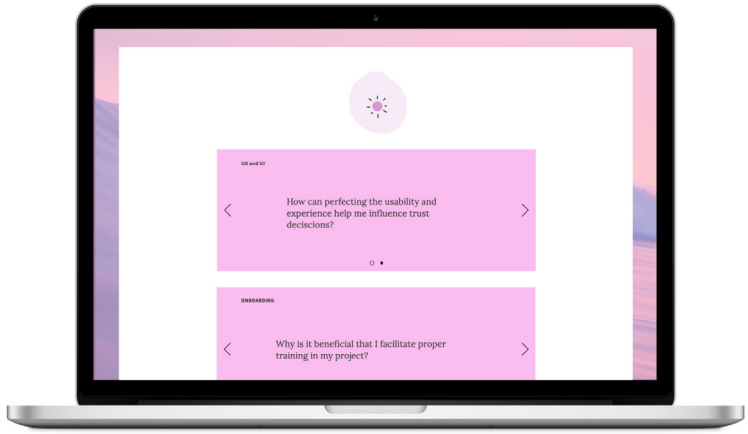
Make the final touches

This information may be perceived as obvious, but they are certainly useful to influence the users' trust.

When to use it

Develop and deliver

This reflection exercise is useful in the final stage when you develop and deliver your design.



Why this activity?

In the gatekeeper step users handle different bits of information to decide if the person, machine, product or service they interact with is trustworthy.

The aim of this tool is not to present one specific recipe for trust, as this would be impossible given all subjective and contextual variables that affect the trust decision. Rather we argue that trust in the fourth step can be seen as the sum of “the whole” - it is a very emotional and subjective decision that can be influenced through not one, but several design principles. When it comes to trust: the final details, aesthetics, visuals, and emotions matter more than one might think, and might prompt the users to trust!

This braintool is simply a collection of arguments and tips that designers can use to refine their design in the final phases.

Designing for a great user experience will increase not only trust, but also overall satisfaction and confidence. A win-win-win!

Excerpt from Trustspiration.com

For further information about background and tool visit
trustspiration.com/triggers-for-trust

The power of social proof

Trustspiration

intro tools about deep dive

The power of social proof

Use social proof to drive trust

back to the tools

background

Braintool Individual or team

Social proof can disproportionately influence a significant change in the way we do something and set new social norms. When we are unsure how to behave, we are likely to look and accept the actions of others as correct. This braintool is filled with social-proof-inspo to get you started.

Use it to

Choose the right social proof

Browse and identify the trustfluencers that will benefit your offering by helping the user make a decision.

Whats in it for you

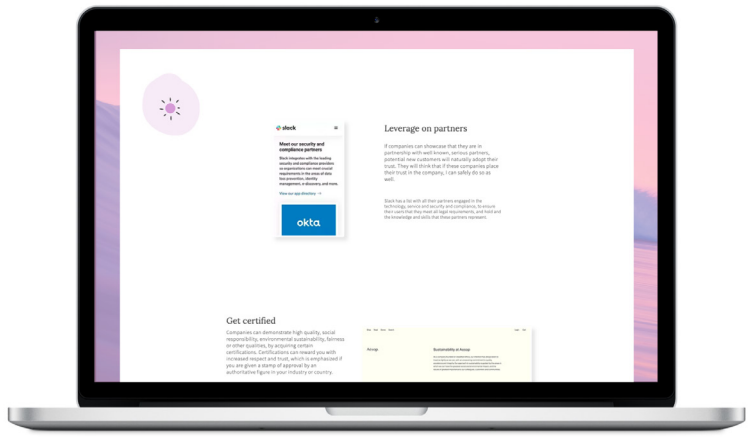
Take inspiration from others

We have collected a bunch of social proof methods so that you don't have to do the work yourself!

When to use it

Develop and deliver

Consider implementing one or more of these in the final stage, when you develop and deliver your design.



Why this activity?

The final decision-making process is often influenced by the people around us and the socio-cultural structure we are part of. In fact, “social proof” can disproportionately influence a significant change in the way people do something and set new social norms. When people are unsure how to behave, they are likely to look at and accept the actions of others as correct.

This braintool is filled with a bunch of social-proof-methods and inspiration to get designers familiar and confident with the idea of using social proof to nudge trust. We have tried to gather a representative collection that we consider relevant, but there might still exist several other good options not presented here - therefore it should first and foremost be seen as food for thought!

> We seem to assume that if a lot of people are doing the same thing, they must know something we don’t.”

The theory of social proof, Cialdini (1993)

For further information about background and tool visit
trustspiration.com/social-proof

Trust starts with truth and ends with truth.

Santosh Kalwar

Doctor of Science in Human-computer Interaction

08

Evaluation and reflection

The focus of this thesis has been to explore how trust can be strengthened through design choices and design activities, where we have aimed to present a comprehensive tool for designers that would make it easier to understand and improve trust in their product, service or business. Our solution was the platform Trustspiration. Now the time has come to reflect upon the process and the final delivery.

First, we will evaluate and critique the solution, by answering the research questions, to establish whether or not our objectives were met. Then, we will assess how the chosen methods, Double Diamond and Participatory design, helped us progress and improve our delivery while maintaining a user-centric perspective.

Additionally, we will delve into the possible future developments, and make a comment on how the solution might make contributions to research and education. Before zooming out and looking at “trust and design” from a bigger picture, where we reflect around the individual benefits, the societal benefits, and the cultural limits of designing for trust.

Evaluation of solution

At the beginning of this project, we formulated the ambitious goal of presenting a comprehensive tool for designers that would make it easier to understand and improve trust in their product, service, or business. For nearly 20 weeks we delved into the topic of trust in relation to design, in order to present what we believed was the key to more trustworthy businesses, products, and services - and the solution is Trustspiration.com.

Eager, and perhaps a bit naive, we aspired to give designers a simple way of nudging trust, because we believed the societal and economic value of "cracking the trust code" would be enough incentive to include trust in all relevant design projects. However, given all subjective and contextual variables that affect the trust decision, we quickly realized that it would be verging on impossible to present a specific "recipe" for trust. We could simply not cover all aspects of the topic without becoming too complex, overwhelming, or shallow, not within the given timeframe, or perhaps at all. As our mentor Håvard said, at the end of the project:

"I hoped for a concrete recipe for trust, but I didn't get that. Because there is no simple solution or answer to trust - and that is perhaps the most valuable insight and learning lesson here."

- Håvard, EGGS Design

Still, we were highly motivated to find a structure that made sense and share it with designers. Even though we could not “solve” all trust challenges, we were confident that we could render the topic more digestible by offering knowledge and helping them to identify, prioritize and mitigate at least some trust issues. We could help them understand that designing for trust is not a cause-effect relationship that always leads to trust. It follows that we can not guarantee that any of the tools will result in end-user trust. Nevertheless, we appeal that understanding and working explicitly with trust, through design, can increase the likelihood of earning it. In this sense, Trustspiration, may be helpful.

At the beginning of the project, we formulated several research questions, meant for self-reflection. Now the time has come to establish whether or not our objectives were met, or at least to what degree.

How might we, if possible, influence trust decisions between users and (digital) products, services, or businesses through design? (knowledge)

This question relates to a learning objective with the aim to enhance the designers' knowledge, on how (if possible) designers can generate, or influence, trust. The precondition "if possible" is important here, because it alludes that influencing trust is not necessarily attainable. As the clinical psychologist, Doris Brothers succinctly put it, "*Trust rarely occupies the foreground of conscious awareness. We are no more likely to ask ourselves how trusting we are at any given moment than to inquire if gravity is still keeping the planets in orbit*." (Kramer, 2009). After reading and gathering insights on trust and the psychological patterns and barriers related to it, we came to the conclusion that it is possible to influence trust, but it will most likely happen subconsciously and not necessarily with guaranteed success.

As to the question of "how", things become more obscure and complicated. Since trust is highly related to risk and uncertainty, as well as subjective and contextual variables there does not exist one specific way or recipe to influence trust that works for all. Rather, trust can be seen as the sum of many things that together make up the foundation for the trust decision. From science, we can say something about how trust commonly is formed, what factors typically drive trustworthiness and what psychological barriers people often meet. Combined, these findings can give an abstract idea of how to influence trust in a product, service, or business. Yet, ultimately, influencing trust, depends on factors such as interest, skills, time and projects, and last but not least on the designers ability to transform this knowledge into actions. In other words, we can provide the designer with the best possible conditions to understand how trust can be influenced, but ultimately they have to do the job themselves.

How might we synthesize scientific theories to explain how trust is formed, in terms that can be understood by the average user (knowledge)?

This research question measures our ability to convey complex theories in a tangible way. Since trust is a huge topic, with a variety of definitions, we needed to find a clear and simple way to talk about trust. The "Design for trust model", was perhaps the most important initiative to break the complex process of trust down to something visual and comprehensible. We have tested the model on several designers, and it seems that our model meets the requirements of our objective; to explain how trust is formed. The visual language and tone of voice, used throughout the site, substantiates the transformation we want to achieve: from complex to simple. From intangible to tangible.

In the in-depth interview at the end of this project, our mentor Håvard pointed out that even though the topic was way bigger than any of us had imagined, we had attacked the topic thoroughly and targeted, and eventually managed to find a structure that made sense. "*You have found and highlighted a structure in a rather fuzzy topic, and it all makes more sense now.*" This underlines that we were able to meet our objective and our own standards.

How might we develop and test hands-on activities to identify and prioritize trust issues and/or improve trustworthiness in products and services (skills)?

The first part of this question relates to our process of developing and testing the tools, which we in section “Designing the tools” (page 141), described as one of the most time-consuming activities throughout this project. Our strategy was to make familiar design tools a starting point, and flip their focus to include trust. To ensure usability and correctness, the tools were based on a combination of well-grounded scientific theories as well as co-design principles. By testing each tool on designers and reflecting around how the tool could relate to their projects, we got feedback both on the structuring of the tool, as well as how it would drive value in the respective project - both important to enhance the integrity and confidence in the tool.

The second part of the question related to how the tools could identify, prioritize or improve trustworthiness in products and services. Again, the train of thought from the previous objective emerged; we could not guarantee that our tools would, in fact, achieve the goal, but we could do our best to facilitate trust, by providing the designers with well-worded instructions and incentives to use the tool. We argued that if designers could understand what the tool could be used for, what value it drove, as well as when it would be appropriate to use, the likelihood of success was higher - but still not a given.

How might we identify and demonstrate the individual and societal benefits of designing more trustworthy products or services (attitude)?

This research question had a two-fold incentive to influence the attitude of designers. The motivation to uncover and convey the benefits of trust and design was, first of all, a good way to get designers to "buy into" our solution. In any product or service, it is essential that the user understands the value or benefits of a said product or service, or else there is no reason for them to use it. So, we understood that in order for design practitioners to want to use our solution, they had to understand what it could give them.

Secondly, and the main reason why we wanted designers to use our platform, was that we truly believed it had the potential to make a difference in people's lives or even society. By sharing our fascination for the topic of trust, and its uncharted potential with more designers, we could motivate designers to take their part of the responsibility and craft more honest trustworthy solutions. We believe that the motivation to include trust in the design process has been sustained throughout this thesis, through several initiatives such as "the purpose statement" on the front page with links to more benefits, as well as a "What's in it for me" section underneath each tool demonstrating the benefits of that tool.

Evaluation of process

After reflecting over the final solution, we wanted to look back on the process; at the driving forces, decisions, and detours that made Trustspiration what it is today. Our choice of methods, both design research method and design practice method, were important considerations for the final outcome. Therefore we will discuss how each framework worked, as well as what we learned from using it.

Double diamond – design research method

The double diamond method was central in guiding us on where in the design process we were, and what we should focus on in the different phases. Having a strategy with specific targets helped us attain the desired progress, without losing track of our aim, or time.

The double diamond is not a linear process, so it can be adapted. We did this by adding iterations, loops and adjusting the scaling - by enlarging the second diamond. In addition we incorporated the Progress plan into the model to reassure that the time schedule was followed and that all desired activities and milestones were implemented. This taught us that while working on such an extensive project, over a longer period of time, the double diamond is valuable to maintain an overview of the project. It gave us a visual flow to relate to, and enabled us to be conscious of everything we wanted to accomplish to reach our final goal.

We also learned that divergent and convergent thinking, in their respective phases, made it easier to decide the right testing methods and activities to implement. Since the zoom in- and zoom out-phases had different goals, with a different set of requirements for the gathering of information and knowledge, the diamond helped us stay true to the process.

Further, we learned that the double diamond was great for communicating the design process; to describe and explain where we were in the process and what we wanted to achieve. It created a combination of clarity and flexibility, which was needed in the concept development, since working with trust is not a straightforward decision-making process but rather making a choice of what trust tool matches best to the project at hand.

Participatory design - design practice method

The participatory approach was fundamental for developing Trustspiration and meeting the needs and wishes of the target users. It reminded us of the importance of including the "stakeholders" and the target users in every stage of the design process, which truly benefited the design process and the end result.

It also made us aware that it was not our own wishes and desires which were important to consider, but the ones of the target users. Since we were given a problem statement by EGGS Design, where we desired and intended to deliver real value, it was essential for both parties to meet occasionally and agree upon a mutual vision that we could work towards. We learned that these frequent discussions contributed to an iterative process, where the concept was under constant review, which gave us informative "reality checks" and enabled us to validate possibilities, and make thoughtful and reasonable decisions. This contributed to an open dialog, with room for both constructive criticism and potential for improvement.

Moreover, the participatory approach contributed to generate transparency of the development of this solution which in turn facilitated that the involved designers developed trust in our solution. It contributed to creating ownership and enhancing the view that Trustspiration was useful and applicable.

Possible future developments

“The potential of Trustspiration is there, but there is also room for improvement.”

- Håvard, mentor at EGGS Design

We had decided to deliver a functioning solution, and not only a description of a concept, therefore we needed to make some hard prioritizations and discard some ideas along the way. Since we considered the trust tools and ”The design for trust model” as most imperative to achieve value, this was ultimately where we put most of our energy. However, if we had more time, and resources, we would have designed for extended user involvement, added a page dedicated to inspiration, made the site responsive and made printable versions of the tools.

Include the users through immediate feedback

The idea of adding a functional design for extended user involvement was highly wished by target users. By them the opportunity to give feedback on the trust tools, recommend activities from their own toolkits or share interesting trust articles, the website Trustspiration would become more inviting, inclusive, and trustworthy in its character and presentation. However, this desired functionality would be both time-consuming to keep within the scope of the project. It would also introduce the aspect of privacy and security, as users would perhaps have to leave a name or a mail address. Furthermore, since WIX does not have any pre-programmed widgets for quick feedback or suggestions from users, it would become difficult to implement for us, without better coding skills or technical support.

"I think the biggest potential is to expand the site with more editorial content, but also open up for more user involvement."

- Håvard, mentor at EGGS Design

Expand the site

Further, we discussed extending the website with more tools, theory, and inspiration. We thought about having a page dedicated to inspiration, for encouragement and motivation. Early in the development phase, we even brainstormed what this page could contain, and we got feedback and wishes from target users through participatory design activities. In this process, we concluded that case studies on real projects, blog posts, and links to interesting trust articles would be preferable. This would have given the page a new dimension, and the fulfilled "inspiration" part of the portmanteau "Trustspiration". However, due to the already big scope, we had to discard this idea.

Make it responsive

As design students, it is obvious to us that Trustspiration should look spectacular and be easy-to-use on all devices, also on mobile phones and wide screens. However, since we had to prioritize the time we used against the value it delivered, we concluded that making the site responsive would take too much time and perhaps not deliver as much value. Ideally, both mobile and desktop should be optimized, but since we knew that designers more frequently would use their computers when working anyway, we decided to focus on designing the webpage for computers (optimally 13"). Another argument for desktop optimization is that Miro is optimized for computers and tablets, thus it would be more appropriate and convenient to access Trustspiration and its belonging Miro boards, on a computer than a mobile.

Printable versions of the tools

We prioritized designing the tools in Miro, and decided to not include printable versions of the tools on Trustspiration as a result. This decision was made with support from our mentors at EGGS Design, backed by the argument that designers work mostly remotely and digitally today.

Secondly, since Miro has a built-in function that easily makes it possible to export boards to pdf, we thought the designers would be able to execute this action themselves and print it out if they preferred a physical version.


WHO
CAN YOU
TRUST?

Research and education

As described in part I - Theory, background, and related work, trust is a highly discussed topic among different disciplines, but as far as we know there does not exist an extended theoretical framework for trust in the design practice. By presenting ”The design for trust model” we have introduced a “new” way of handling, or understanding the topic of trust, in relation to the design practice.

Further, among the exploration of existing tools, we did not find any tools or activities to be used by design practitioners, focusing explicitly on trust in the design process. Therefore Trustspiration could hopefully deliver something new or even original to the design practice. Combined, ”The design for trust model” and Trustspiration provides a more general understanding of how trust can be earned when dealing with complex design challenges, where trust seems to be lacking and specific measurements need to be done.

Although Trustspiration does not mean to force knowledge on its target users, we hope that designers can become educated on the topic of trust, on their own initiative - with a healthy dose of self-interest and commitment. We also hope that the delivery of this master thesis can spark someone’s interest and perhaps contribute to further research in the future - as this topic is not nearly explored enough.

“In the last 10 years trust has become more and more important in the field of design.”

- supported by our own experience, by the interviews, and also from literature.

The contribution of designing for trust

Considering the multi-faceted aspects of trust, we have zoomed in and out multiple times throughout our design process. We have zoomed in to take focused action; learn about requirements, test multiple solutions, and spent hours designing and detailing. Then we have zoomed out again to think about our work more strategically; explore our issues from multiple perspectives and force ourselves to look at things with fresh eyes. One has to zoom in to be able to zoom out - the two cannot exist without each other. So, we decided it was time to zoom out one last time; to look at "Trust and design" from the bigger picture and see what innovative contributions it could make.

When choosing to trust "something", one simultaneously chooses to trust the "someone" who created it. In this sense, designers have the potential to have a real impact on peoples' lives. The individual effect of designing for trust can be to get people to try out new things, collaborate, share information, and come to agreements. It can make people get into self-driving cars, allow algorithms to make diagnoses, or let robots handle your groceries - making the individual quality of life better.

Seeing a bigger picture, designers may actually express values and norms through what they make - which again can lead to change in social and cultural behaviour, and eventually systemic change. Imagine a society where all products, services, and businesses are genuinely trustworthy; where businesses are judged first and foremost by their honesty, integrity, reliability, empathy, and capability.

From an organizational and structural point of view, Norway is a good example of trust in organizations and the government. Norway has been ranked the most trusting country in the world. Norwegians trust each other more, and they trust the authorities more than people in other countries, as pointed out by host Harald Eia in the NRK series "Sånn er Norge" (Eia, 2020). Trust is here expanded from a technical area towards social, political and cultural values. Most Norwegians trust their government to be fair and have the common good in mind when making decisions. At the same time, Norway is ranked one of the happiest and richest countries in the world - and the same patterns can be seen in the other Nordic countries, such as Finland and Sweden (Oritz-Ospina et. al., 2016). This may suggest that there is a relationship between trust and satisfaction.

But trust is also tied to social aspects and issues, in and among groups. According to

Edelman's Trust Barometer 2020, distrust is being driven by a sense of inequality and unfairness. There is a general perception that institutions, organizations, and the government are only serving the interest of the few (Edelmann trust barometer 2020, 2019). Both Edelman and Botsman argue that the way we trust has changed. Apparently, a trust shift is going on, where people suddenly are more prone to trust their fellow equals than the governing institutions (Botsman, 2017). This has given a boost to the sharing economy, amongst others, but it has also changed the norms of trust considerably - making "design for trust" more relevant than ever.

Designers should adapt to the trust shift for several reasons. First, to better facilitate trustworthy products of the future, which can contribute to employees being more proud of their work, as well as customers being more willing to try out new things. Second, the trust shift, combined with other global megatrends, such as digitalization, AI and environmentalism has led to a change in society's expectations of businesses. Society has become more demanding, which affects how organizations are perceived and valued. In a research done by PricewaterhouseCoopers, they found that a lack of trust in business is seen as a threat to growth prospects (PwC, 2015). At the same time, it seems that businesses that, for example, stand up against racism and care about the environment are considered more trustworthy (Edelmann trust barometer 2020, 2019). In this sense, designers, who are able to include trust and bring it into business have an advantage, both from an economic and social perspective.

This is especially relevant in the digital age, where the design practice, like the rest of society, is frequently being introduced to smarter and more black-box technologies that are prone to uncertainty and ambiguity. Since trust, by definition, largely is affected by risk and uncertainty, it is likely that the users' relationship with trust in these technologies might change. Consequently, designing for trust can be a way to help designers proactively meet the rise of new technologies.

However, trust has its limits and drawbacks. Throughout our existence, trust has been a survival mechanism that has served our species well: trust is part of the human condition but it is also culturally and socially developed. This implies on the downside that virtually any indicator of trustworthiness can be manipulated or faked, making users vulnerable to abuse (Kramer, 2009).

The power to influence trust can be exploited to manipulate someone's behaviour or deceive them. Therefore we argue that it is imperative to have an ethical backbone when working with trust and to understand and evaluate what is beneficial for humans, and society and what is destructive.

In all honesty, designing for trust is and will be challenging and it might take time to see the effects. Still, if done responsibly, designers can use their newfound skills and knowledge to elicit the benefits of trust; such as making people try out new things, collaborate, share information and come to agreements. By designing explicitly for trust, they can encourage change in social and cultural behaviour while at the same time increasing overall satisfaction in their product, service or business. Trust drives society forwards, and designers have the potential to influence the direction it takes.

At last, we hope that more designers will come to this realization, by daring to explore the topic of trust and design through Trustspiration. In fact, if what we deliver through this thesis can contribute the slightest to incorporating and strengthening trust in the work of designers, we would be extremely grateful. So our final appeal to all the designers out there; ***"let's craft trustworthy futures".***

“Trust has to be earned, and should come only after the passage of time.”

- Arthur Ashe

References

Aribnb.design/anotherlens, accessed 21 May 2021, https://airbnb.design/anotherlens/

Ball J., (2007), Design Council, accessed 21 May 2021, https://www.designcouncil.org.uk/news-opinion/double-diamond-universally-accepted-depiction-design-process

Bobek E., Tversky B.,(2016), Creating visual explanations improves learning. Cogn. Research 1, p. 27

Botsman R., (2017), Who Can You Trust? How technology brought us together - and why it could drive us apart, Penguin Business UK, ISBN: 978-0-241-29618-9

Botsman R., (2020), The strangely familiar principle, accessed 16 February 2021, https://www.linkedin.com/pulse/strangely-familiar-rachel-botsman/

Breen R., (2006), A Practical Guide to Focus-Group Research, Journal of Geography in Higher Education, 30:3, p. 463-475

Corritore C., Kracher B. , Wiedenbeck S., (2003), On-line trust: concepts, evolving themes, a model, International Journal of Human Computer Studies, p. 737–758

Costa R., (2020), How to design user scenarios: best practices and examples, accessed 10 May 2021, https://www.justinmind.com/blog/how-to-design-user-scenarios/

de Poza-Vilches M.F., Gutiérrez-Pérez J., López-Alcarria A. (2019) Participation and Sustainable Development, Encyclope dia of Sustainability in Higher Education,Springer

Deckofbrilliance.com, accessed 21 May 2021, http://deckofbrilliance.com/

Denscombe M., (1995), Explorations in Group Interviews: An Evaluation of a Reflexive and Partisan Approach, British Educational Research Journal, Vol. 21, No. 2, pp. 131-148

Deutsch M., (1958), Trust and suspicion, Journal of Conflict Resolution 2, No. 3, p. 265–279

Edelmann's Trust Barometer 2020,(2019), accessed 24 May 2021 https://www.edelman.com/trust/2020-trust-barometer

EGGS Design, Areas of Expertise, accessed 13 May 2021, https://eggsdesign.com/expertise

Eia H., (2020) "Sånn er Norge", episode 6: Tillit, accessed 15 January 2021, https://tv.nrk.no/serie/harald-eia-presenterer-saann-er-norge/sesong/1/episode/6/avspiller

Eyal N.,(2015), People Don't Want Something Truly New, They Want the Familiar Done Differently , Entrepreneur Europe, accessed 21 May 2021, https://www.entrepreneur.com/article/247467

Finn A., (2017 - 2021) Quote Ambition, accessed 22 May 2021, https://www.quoteambition.com/trust-quotes/

Gefen D.,(2000). E-commerce: the role of familiarity and trust. Omega, Vol. 28, No. 6, p. 725-737.

Harley A., (2016), Prospect Theory and Loss Aversion: How Users Make Decisions, accessed 24 April 2021, https://www.nngroup.com/articles/prospect-theory/

Hudaib A., Masadeh R., Qasem M., Alzaqebah A.,(2018), Requirements Prioritization Techniques Comparison, Modern Applied Science 12(2), p. 64-64

Hurley RF., (2006), The decision to trust, Harvard Business Review Magazine, accessed 05 May 2021, https://hbr.org/2006/09/the-decision-to-trust

Håkonsen E., Jensen AD, (2020), «An exploration on the topic of trust», TPD4500 Design 9, Norwegian University of Science and Technology

Kahneman D., TverskyA., (1979), Prospect theory: An analysis of decision under risk. Econometrica, 47, p. 263-291.

Kramer R.M., (2009), Rethinking trust, Harvard Business Review Magazine, accessed 19 May 2021, https://hbr.org/2009/06/rethinking-trust

Kutsyuruba B., Walker K., (2016), The Destructive Effects of Distrust: Leaders as Brokers of Trust in Organizations, The Dark Side of Leadership: Identifying and Overcoming Unethical Practice in Organizations, Emerald Insights, p. 133-154

Lewicki R.J., Tomlinson E.C., Gillespie N., (2006), Model of interpersonal trust development: Theoretical approaches, empirical evidence, and future directions. Journal of Management, Vol. 32(6), 991-1022

Lora, Google Fonts, accessed 21 May 2021, https://fonts.google.com/specimen/Lora#standard-styles

Martin B., Haningron B., (2012), Universal Methods of Design, Rockport Publishing Inc

Mayer R.C., Davis J.H., Schoorman F.D., (1995), An Integrative Model of Organizational Trust, Academy of Management Review 20, p. 709-734.

Mazey N., (2018), Initial trust in emerging technologies and the effect of threats to privacy, 2018, p. 1-16

McKnight D.H., Cummings L., Chervany N.L., (1998), Initial trust formation in new organizational relationships, Academy of Management, Vol. 23, No. 3, p. 473-490

McKnight D.H., Chervany N.L., (2001), Trust and Distrust Definitions: One Bite at a Time, Trust in Cybersocieties, Springer-Verlag Berlin Heidelberg, p.27–54

McKnight D.H., Carter M., Thatcher J.B., Clay P.F, (2011), Trust in a specific technology: An investigation of its components and measures, ACM Transactions on Management Information Systems, Vol. 2(2), p. 1-25.

McKnight D.H., Liu P., Pentland B.T. ,(2014), A cognitive process model of trust change, International Conference on Information Systems, Auckland, New Zealand.

Nielsen J., (2020), Jakob's Law of Internet User Experience, accessed 24 May 2021, https://www.nngroup.com/videos/jakobs-law-internet-user-experience/

Nielsen Norman Group, (2019), "Usability testing", accessed 13 May 2021, https://www.nngroup.com/articles/usability-testing-101/

Nyumba T.O., Wilson K., Derrick C.J., Mukherjee N., (2018) The use of focus group discussion methodology: Insights from two decades of application in conservation, Qualitative methods for eliciting judgements for decision making, Vol. 9, No. 1, P. 20-32

Oritz-Ospina E., Roser M.,(2016),"Trust", accessed 23 May 2021, https://ourworldindata.org/trust#citation

Oxford Learner's Google Dictionary, "Black box", accessed 19 October 2020, https://www.oxfordlearnersdictionaries.com/definition/english/black-box

Oxford Learner's dictionary, "Illustration", accessed 10 May 2021 https://www.oxfordlearnersdictionaries.com/definition/english/illustration?q=illustration

Palmer S., Schloss K., (2010), An ecological valence theory of color preferences, Proceedings of the National Academy of Sciences, University of California, Berkeley

PwC, (2015), Trust insight - Understanding the value and drivers of organisational trust - Trust insight, PricewaterhouseCoopers publication, p.2-4

Riegelsberger J., Sasse M.A. , McCarthy J.D, (2005), The mechanics of trust: a framework for research and design", International Journal of Human Computer Studies, p. 381-422

Ries E., (2017), The Startup Way: How Modern Companies Use Entrepreneurial Management to Transform Culture and Drive Long-Term Growth, Random House Audio Publishing Group, ISBN: 9781101903209

Servicedesigntool.org, accessed 21 May 2021, https://servicedesigntools.org/

Source Sans Pro, accessed 21 May 2021, https://fonts.google.com/specimen/Source+Sans+Pro

Storytelling, Foundation of interaction design, accessed 13 May 2021, https://www.interaction-design.org/literature/topics/storytelling

Talbot J.,(2018), What's right with risk matrices, accessed 19 May 2021 https://www.juliantalbot.com/post/2018/07/31/whats-right-with-risk-matrices

Trustspiration.com, last edited 03 June 2021, https://www.trustspiration.com/

Typeform.com, accessed 10 May 2021, https://www.typeform.com/

The decision lab, «The mere exposure effect», accessed 21 May 2021, https://thedecisionlab.com/biases/mere-exposure-effect/

Ware C., (2012), «Visual Thinking for Design», Elsevier Science & Technology, ISBN: 9780123708960

Wingreen S.C., Baglione S.L., (2005), Untangling the antecedents and covariates of e-commerce trust: institutional trust vs. knowledge-based trust, Electronic Markets, Vol. 15, No. 3, p. 246-260

List of models, tables and figures

Models

Tables

Figures

Illustrations

Images

Appendixes

Recommended: The backgrounds can also be found underneath each tool at trustspiration.com

Appendix A

Scoping the task

1.

2.

Focus and goal

Trust is important because it makes people try out new things, collaborate, share information and come to agreements. Trust drives society forwards, while mistrust impedes getting things done. For business trustworthiness is becoming a currency, and many companies are starting to realize the potential and value of designing for trustworthy products and services.

The focus of this thesis is to explore how trust can be strengthened through design choices and design activities. The goal of the thesis is to present a comprehensive tool that makes it easier for designers to understand and improve trust in their products, services or business.

3.

Proposed Activites

Present a summary of previous findings in the field of trust and design (TBD)

Translate insights into a prototype tool that makes is easier for designers to understand and improve trust in their product, service or business

Generate insights on what factors that strengthen trust/mistrust in a product, service or business (throughout the whole period)

Test the prototype tool with designers at EGGS, evaluate results and improve the design concept through a build-measure-learn cycle

Scope the task by identifying a specific trust challenge to be solved, and define what type of design tool to best tackle this challenge

Refine and develop the tool as a functional solution to meet the design for trust challenge.

4.

The challenge

In design 9 we looked into trust as a general concept, and how designers could strengthen trust at an early stage of innovation. Moving forward, we want to present a comprehensive tool that makes it easier for designers to understand and improve trust in their products, services or business. But this is challenging, because, in the search for a new design tool, we must find a delicate balance. The resulting trust-tool must be:

- Comprehensive enough to deliver value for many designers and products, services or businesses.

- Not so large and complex individually that it becomes vague, shallow or overwhelming.

- Easily accessible and easy to both understand and use

5.

Scoping the focus

We have concluded that it might be beneficial to scope down the project. But what should our area of interest be?

On the following pages, we present 3 alternative ways to narrow down the task, as well as one more general approach. We will try to present the benefits and drawbacks of each case.

01 Trust in General (without scoping)

02 Trust in Technology

03 Trust in Emerging Technology

04 Trust in AI

TRUST IN GENERAL 01

As one of the most important synthetic forces within society, trust is of great importance. But it can be difficult to design for trust because it is so complex and easily influenced by societal and subjective factors that vary from context, users and the specific product/service being set forth.

By deciding to not scope the task, we are able to zoom out and look at the big picture; how are all trust factors and trust constructs connected?

This alternative is comprehensive in a way that it gives an overview and is applicable in many cases, but it might not be able to give a good and detailed description on how to solve trust issues, as the solution might become too broad and without depth.

Pros
- Creates a valuable overview
- Is applicable in all cases
- It is easy to find relevant cases to test on
- Can include a full design for trust process

Cons
- Might only be able to scratch the surface
- Might lack details and depth, in order to overlap all categories
- The title might be percieved as a little vague

TRUST IN TECHNOLOGIES 02

Technology is a massive term, that includes everything from cell-phones, tv's and washing-machines, to cloud storage or ATM machines. By scoping the task to only include trust in technology, the areas of application are still considerable.

When trusting a technology, our trust is mainly based on the technology's functional reliability, how predictable it is (remember REF?). In other words, trust in technology is the confidence that the technology will **do** what it is supposed to, or expected to do. So, do there exist some common elements that all trustworthy technologies inherit? And how can we reduce the risk of using the technology when we know the outcome?

Pros
- Natural to focus on technology, since we are a part of NTNU
- Large "area of application" including all technology related or digital projects
- It is easy to find relevant cases to test on

Cons
- Might lack details and depth
- Might still be too broad to be able to deliver tailored value to all possible use cases
- The title might be percieved as a little vague

TRUST IN EMERGING TECHNOLOGIES 03

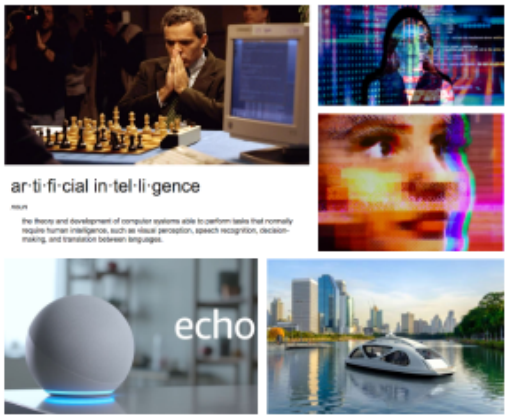
We are in the midst of a digital revolution, and new technologies seem to be appearing everywhere, reshaping our lives, homes, environment and society as a whole. The word “emergent” is defined as “the process of coming into being, or of becoming important and prominent”.

Emerging technology includes everything from Artificial intelligence, Virtual reality, Blockchain, Drones, Internet of things, Robotics, to VR, AR, 3D printing and more. The problem is that many new technologies are controlled by algorithms, or have complex internal workings that we cannot see. They are so-called “black box” solutions, which may be hard to trust. So how can we trust something we do not understand?

Pros
- Very relevant, but more precise than just “technology”
- Up and coming/ future-oriented
- An area very dependant on trust
- An area where design and trust is not so preeminent yet

Cons
- It might be difficult to cover all emerging technologies
- The technology is evolving so quickly that the tool might become obsolete quickly
- It might be harder to find relevant cases to test on

TRUST IN ARTIFICIAL INTELLIGENCE 04



Artificial intelligence (AI) makes it possible for machines to learn from experience, adjust to new inputs and perform human-like tasks.

Artificial intelligence (AI) is set to be a “defining future technology”, that represents a significant shift of trust; we are no longer trusting the machine just to do something, but to decide what to do and when to do it. This trust leap introduces a new dimension that encompasses everything from smart programming to centuries old ethics. How do we trust the intentions of technology? How do we encourage trust leaps?

Pros
- It is a hot topic that arouses interest already from the title
- The business community’s interest in AI has skyrocketed
- It’s tangible and concrete, making it easier to deliver value
- A lot has been written about AI

Cons
- Might become obsolete quickly
- Might be difficult to find relevant cases to test on?
- Might be harder to find enough research to create guidelines?

10.

“How might we...”

How might we use design (as a tool) to understand and improve trust in products, services or businesses?

How might we empower designers to understand and improve trust in products, services or businesses?

How might we use design to understand and improve trust in technology?

How might we empower designers to understand and improve trust between humans and emerging technologies?

How might we empower designers to understand and improve trust in products possessing artificial intelligence?

How might we use design to understand and improve trust between humans and artificially intelligent machines?

11.

Possible interesting questions

When is it relevant to **design for trust**?

What are typical **trust drivers**?

What factors impede **mistrust?**

How do we encourage **trust leaps**?

How do we trust the intentions of **technology** (AI)?

(this list will be extended)

Appendix B

Interview consent form

1.

CONSENT FORM FOR INTERVIEWS

You have been asked to participate in a study titled **"Design for trust in (technology) products, services and businesses"**

The focus of this thesis is to explore how trust can be strengthened through design choices and design activities. The goal of the thesis is to present a comprehensive tool for designers that makes it easier to understand and improve trust in their product, service or business. The study is supervised by Martina Keitsch at ID, NTNU and Håvard Sjøvoll and Ingvill Hoffart at EGGs design as external superiors.

We will describe the study to you in further detail and answer any of your questions during your participation.

What the study is about
The purpose of this interview/study is to collect information in the research phase of a Master Thesis, to gain a better understanding of how design practitioners think about trust and work with trust today.

What we will ask you to do
We will ask you questions about trust in general and how trust influences you as a design practitioner.

Audio Recording and transcription
This study involves the audio recording of your interview with the researcher. Only the research team, consisting of Amalie Damsgaard Jensen and Eline Håkonsen, will be able to listen to the recordings to extract useful information and insights. A summary of the insights may be reproduced in whole or in part for use in presentations or written products that result from this study. The tapes will be transcribed by the researchers, and the transcription may be submitted to the sensor of the thesis upon request.

The recordings will be deleted after the delivery of the Master thesis (4th of June 2021) and the transcriptions will be deleted after the censorship (autumn 2021).

If you have questions
If you have questions please contact:
Amalie Damsgaard Jensen (amalie.d.jensen@gmail.com)
Eline Håkonsen (haakonsen.eline@gmail.com)

2.

I have read the above information, and have received answers to any questions I asked. By signing this form, I consent to take part in the study and allow the researchers to audio tape me as part of this research.

Your Signature Date

Your Name (printed)

Signature of person obtaining consent Date

Printed name of person obtaining consent

3.

I have read the above information, and have received answers to any questions I asked. By signing this form, I consent to take part in the study and allow the researchers to audio tape me as part of this research.

Your Signature Date 21.05.2021

Your Name (printed) Jens Fredrik Allworthy

Signature of person obtaining consent Eline Håkonsen Date 6.5.2021

Printed name of person obtaining consent ELINE HÅKONSEN

4.

DocuSign Envelope ID: 25559475-83C7-4072-8D82-EE9AC8EEE0D0

I have read the above information, and have received answers to any questions I asked. By signing this form, I consent to take part in the study and allow the researchers to audio tape me as part of this research.

Your Signature Date 5/7/2021

Your Name (printed) Gunn Helene Drogset

Signature of person obtaining consent Eline Håkonsen Date 6.5.2021

Printed name of person obtaining consent ELINE HÅKONSEN

5.

I have read the above information, and have received answers to any questions I asked. By signing this form, I consent to take part in the study and allow the researchers to audio tape me as part of this research.

Your Signature Date

Your Name (printed) Jonas Asheim 7.5.2021

Signature of person obtaining consent Eline Håkonsen Date 6.5.2021

Printed name of person obtaining consent ELINE HÅKONSEN

6.

I have read the above information, and have received answers to any questions I asked. By signing this form, I consent to take part in the study and allow the researchers to audio tape me as part of this research.

Your Signature Date 21.05.2021

Your Name (printed) Paal Holter

Signature of person obtaining consent Eline Håkonsen Date 6.5.2021

Printed name of person obtaining consent ELINE HÅKONSEN

7.

I have read the above information, and have received answers to any questions I asked. By signing this form, I consent to take part in the study and allow the researchers to audio tape me as part of this research.

Your Signature Date 06.05.2021

Your Name (printed) ERLING HÅMSØ

Signature of person obtaining consent Eline Håkonsen Date 6.5.2021

Printed name of person obtaining consent ELINE HÅKONSEN

8.

I have read the above information, and have received answers to any questions I asked. By signing this form, I consent to take part in the study and allow the researchers to audio tape me as part of this research.

Your Signature Date 21.05.2021

Your Name (printed) Tonje Jæger

Signature of person obtaining consent Eline Håkonsen Date 6.5.2021

Printed name of person obtaining consent ELINE HÅKONSEN

Appendix C

Interview Script

Semi-strukturert intervju / Semi-structured interview

Demografi / Demographics
Navn / Name
Alder / Age
Profesjon / Occupation

01 Tillit for deg / *Trust for you*

Hva betyr ordet tillit for deg?
What does the word trust mean to you?

Kan du beskrive tillit med 3 ord?
Can you describe trust with three words?

02 Tillit i produkter, tjenester og bedrifter / *Trust in products, services and businesses*

Nevn et produkt/tjeneste/bedrift du har høy tillit til. Hvorfor stoler du på den?
Name a product / service / company you have high confidence in. Why do you trust it?

Tilsvarende, nevn et produkt/tjeneste/bedrift du har lav tillit til. Hvorfor stoler du ikke på den?
Similarly, name a product / service / company you have low confidence in. Why don't you trust it?

Tillits-drivere er faktorer som bidrar til å øke tillit. Kan du nevne noen faktorer du mener bidrar positivt til å øke tilliten i et produkt, en tjeneste eller en bedrift?
Trust-drivers are factors which help increase trust. Can you name some factors which you think contribute positively to increasing confidence and trust in a product/service/business?

Tilsvarende, hva skal til for at du mister tillit til et produkt, en tjeneste eller en bedrift?
Similarly, what does it take for you to lose trust in a product, service or business?

03 Tillit som profesjonell / *Trust as a professional*

Føler du at du har et bevisst eller ubevisst forhold til å skape tillit i prosjektene dine?
Would you say that you have a conscious or unconscious relationship to building trust in your projects? Why?

I rollen som profesjonell [profesjon], benytter du deg av noen spesielle verktøy eller metoder for å forbedre tilliten i produktet eller tjenesten du jobber med? Hvis så, hvilke?
In the role as a professional [occupation], do you use any special tools or methods to improve confidence/trust in the product or service you work with? If so, which ones?

Vi har en hypotese om at tillit ofte kan bli nedprioritert i prosjekter med et trang (tids-) budsjett. Samsvarer denne hypotesen bra eller dårlig med din oppfatning?
We hypothesize that trust can often be downgraded in projects with a tight (time) budget. Does this hypothesis correspond well or badly with your opinion? In which ways?

Hva er, etter din mening, de største fallgruvene når det kommer til å bygge tillit i et produkt, en tjeneste eller en bedrift?
What, in your opinion, are the biggest pitfalls when it comes to building trust in a product, service or business?

Vi ønsker å lære mer om hvordan tillit (a) bygges, (b) vedlikeholdes, (c)repareres eller (d) mistes. Hva tror du er vanskeligst av a,b,c og d? Hvorfor?
We want to learn more about how trust can be (a) built, (b) maintained, (c) restored or (d) lost. What do you think is most difficult for a designer a, b, c or d? Why?

04 Tillit til et spesifikt case / *Trust to a specific case*

Denne delen omhandler et bestemt case (produkt/tjeneste/forretningsområde), fra nå av kjent som X, som respondenten har stor kjennskap til, og/eller jobber med
This section deals with a specific case (product / service / business area), from now on known as X, which the respondent has extensive knowledge of, and / or works with

I jobbsituasjonen din, har du noen gang kommet over et prosjekt hvor tillit har vært sentralt eller essensielt for at produktet/tjenesten i det hele tatt skal bli brukt? Hva handlet prosjektet om?
In your job situation, have you ever come across a project where trust has been central or essential for the product / service to be used at all? What was the project about?

Tillit fremmes når sannsynligheten for et uønsket resultat er lav. Hva er de potensielle uønskede resultatene du frykter mest i [X]?
Trust is fostered when the likelihood of an undesirable outcome is low. What are the potential undesirable outcomes you fear the most in [X] ?

Appendix D

Interview Summary

Here follows a summary of the 6 interviews conducted with designers in the early phase of this project. The participants all signed a consent form, giving us permission to record and transcribe their interviews. They also agreed to disclose their names and working titles.

The participants were:

Paal Holter | Chief Experience Officer, EGGs Design Oslo
Gunn Helene Drogset | CTO and Applied Autonomy
Tonje Jæger | leader in TRY Design
Erling Håmsø | Strategic Designer in Okse
Jens Fredrik Allworthy | Creative Director Digital Design - EGGs design
Jonas Asheim | Senior designer in Nice

A full transcription of the interviews can be submitted upon request.

From light-trust to deep-trust

Paal Holter | Chief Experience Officer, EGGS Design Oslo

We were advised by Håvard, our mentor in EGGS, to contact Paal. Paal is Chief Experience Officer at EGGS, and has been in the industry for many years. He has a lot of knowledge at the intersection of design and technology. The projects Paal works on are often characterized by professional users and complex solutions, which in many cases require trust to be used. The projects often have a tight time budget, which means that not so much time is set aside to prioritize trust explicitly - it is nevertheless an important part of the delivery, which he is very aware of. In the conversation with Paal, we got into topics such as automation, responsive design, adoption and rhetoric. When it comes to incorporating trust to a greater extent in his projects, Paal agrees on its importance. However, he suggests going for a visual and simple solution, which means that it does not require too much of a designer to use the tool. The dream scenario is to have a ”light” level for those who need quick awareness, and a “deeper” level as a more methodical framework for those who have the time and interest to dive deeper into the matter.

Micro trust steps and the power of example

Gunn Helene Drogset | CTO and Applied Autonomy

We contacted Gunn Drogset, as we were curious to hear how they work to create trust in a technology that is as new and unknown as autonomous vehicles still are to many. Gunn is the CTO of Applied Autonomy, a company that provides knowledge, solutions and services for sustainable autonomous transport. The company offers services for piloting and testing autonomous vehicles, and develops the necessary control center systems for the implementation and operation of autonomous traffic. They are best known for their self-driving buses, which have been piloted in Trondheim, Kongsberg and at Vippetangen in Oslo. In the conversation with Gunn, we learn a lot about what Applied Autonomy is working on, and what strategies they have implemented to create trust in the technology. We quickly learn that it is about the practical and obvious, and that they prioritize safety at the highest level with a ”stop-always” strategy. In other words, there is little talk of ethics and smart algorithms, but rather how the buses take tiny steps towards a more autonomous world. Applied Autonomy has in many ways succeeded in introducing a new and exciting technology to society through small steps, information campaigns and the power of example.

Truthful branding and emotional explosives

Tonje Jæger | leader in TRY Design

We were advised by Amalie's father, Partner in the TRY house, to contact Tonje who is the head of the Design department there. Tonje is an art director and graphic designer, and has worked mostly branding, strategic design, identity design, name processes and packaging design. In the conversation with Tonje, we focused in particular on trust in brand building, and how they work actively to include trust throughout the process by involving users and measuring the brand's reputation. Although Tonje and the team does not explicitly think of trust as a separate delivery, they consider it an essential part of the delivery. Of the four things that are most important to them; relevance, emotionality, recognizability and truth, trust is most prominent in the latter. It must be true, and it must be trustworthy. She believes that trust is about fulfilling promises and being truthful.

Linking trust and emotions

Erling Håmsø | Strategic Designer in Okse

We contacted Erling after reading about his ongoing book project "Design and Psychology", because we wanted to talk to someone who had the knowledge of how psychology affects design and especially trust in products and services. Erling started Okse together with Knut Erik Hæhre in 2016, and he now works as a strategic designer in the design company. He has 3 podcasts and now he is writing a book on design and psychology. Erling has no formal education, but he has learned a lot himself and has earned a broad competence in the field. Erling connects trust to our human qualities and our emotional life, and talks a lot about how our emotions affect the trust we gain in a product or service. He also points out that design is change, and how change management, design, trust and emotions are really the same "things".

The importance of trust in technologies

Jens Fredrik Allworthy | Creative Director Digital Design - EGGS design

We were advised to contact Jens Fredrik Allworthy by our supervisor Håvard. Jens is the creative director for digital design and drives the digital professional development in EGG's design. He has worked as a digital and interaction designer for 16-17 years, and in recent years has been interested in the importance of technology. Now he is working on a professional venture in EGGs called tech-as-design-material (tadm).

Jens talked a lot about the importance of trust, especially linked to projects that have new technologies, in the design world. He has a theory that trust only becomes more and more important as one actually has to put much of the reasoning into technology. Through the conversation, it emerges that Jens thinks a lot about trust, subtly, in his projects and he gives several examples of how trust has affected projects. Among other things, he talked about the importance of having a ”good tone of voice” in hardware construction, how gamification can manipulate users and that the wisdom of creating the right solutions for users is more valuable than quick money.

Jens also spends a lot of time reflecting on how a tool for creating trust in projects can be packaged. He uses examples from EGG’s toolbox, among other things, and draws from sniffing cards and value drills, and he emphasizes the importance of asking the right questions. Jens also points out that it is important not to force the user to have to use the tool, and that it may be a good solution to have a light version and a version that goes more in depth.

The value of keeping things simple

Jonas Asheim | Senior designer in Nice

We were advised to contact Jonas Asheim by our supervisor Ingvill. Jonas is a senior designer in Nice design, and a former student and lecturer at Ipd. Jonas has broad expertise in the design discipline, everything from digital design to innovation of services. Jonas has worked with several projects where the importance of trust has been the focus area, both in the design process and in the delivery. He is very interested in the topic and had a lot to offer, among other things he told about several projects that have been dependent on trust. In a project he called AI UX, he talked about how the intersection of advanced technology, design and trust can be both difficult and demanding.

Furthermore, we came up with suggestions for tools we should check out, including the design department for airbnb’s tool Another lense. Jonas emphasized that a tool for promoting trust in the design process must be simple and easy to understand in order for him, and designers in general, to be willing to use it.

Appendix E

Trust Pitch

Why is trust important?
- It is trust, more than money, that makes the world go round.
- Trust is essentially what makes us try out new things, collaborate, share information and come to agreements.
- Trust drives society forwards, while mistrust impedes getting things done.
- So if you want to design lovable and trustworthy futures..
- ..you should design for trust

What is trust?
- We like to think about trust as a confident relationship with the unknown.
- But to gain trust, you must encounter risk and uncertainty
- By taking a “trust leap”..
- .. so that the unknown, becomes the new known
- Trust in new innovations doesn’t happen by accident.
- It is ”trusts leaps” that drive change.

How is trust formed?
- Despite our differences as humans..
- .. it is possible to see common behavioral patterns..
- .. that people follow in forming trust.
- So, to encourage people to take a ”trust leap”..
- .. you must reduce the unknowns and make it desirable.

Can we use design to understand and improve trust?
- This is where you as designers come in.
- We believe you have the potential to bridge the trust gap..
- ..by designing trustworthy services..
- ..that benefits the user

Solution
- We want to make it easier to understand and improve trust through design..
- .. by offering a comprehensive design tool
- We hope to inspire designer to craft more trustworthy solutions..
- .. that contribute to positive ripple effects in society.
- It is after all trust, more than money..
- ..that makes the world go round.

Appendix F

Brainstorming important questions

In the ideation phase we defined several "themes" for exploring questions, among them were; Uncategorised, categorized (the stack), workshop kit, ethical compass and trust words. Furthermore, we sat down separately and worked individually on formulating "the important questions" - so that we would not influence each other. This was a creative process, where no suggestions were either stupid or misguided, and we let the creativity unfold.

After individually creating many interesting questions, we sat down together to discuss, cluster and create a system that resulted in the following categories:

I Trust

[Theory of trust , The value of trust, The characteristics of trust, The evolution of trust, The trust leap, global concerns and mega trends]

II Designing

[When to design for trust, Manipulation/misplacement of trust, Trust issues/problem with trust, risk and human concerns/fears, the user, the designer, designing for change, design and ethics]

II The trust stack

[Trust in the idea, Trust in the platform / company / sender (?), The Technology, Trust in the individual/users/people]

I Trust

The theory of trust
What is trust?
How does it work?
Why do we need it?
What types of trust exist?
What is initial trust?
Where is trust built?
Where is trust especially needed?
How is trust built? How is trust broken? How is trust repaired?
Why is trust contextual?
Why is trust so difficult to build but so easy to break down?
What are the macro aspects of trust?
What are the micro aspects of trust?
What are trust signals?
How can gameplay be used to define trust?

The value of trust
Why is trust important?
What makes trust so valuable?
What is the difference between whether you must, should or could build trust in your product/service?
Are trustworthy products smart and profitable - is it worth it?

The characteristics of trust
What is the difference between trust and trustworthiness?
What are the characteristics of a trustworthy person? (persones/individual)
What are the characteristics of a trustworthy thing? (idea)
What are the characteristics of a trustworthy technology? (technology)

The evolution of trust
Why are humans naturally predisposed to trust?
What are the implications of the current trust shift?
Why is trust shifting in today's society?
Why is trust in governments decreasing all over the world?
How is trust in ideas influenced by culture? (idea)
How is trust in ideas influenced by our society? (idea)

The trust leap
What is a trust leap?
What does it take to make a trust leap?
What are history's most common trust leaps?
Global concerns and megatrends
Is the solution sustainable?
How is trust and megatrends connected?
What are drust drivers?

II Designing

When to design for trust
When is trust needed?
When is trust important?
When is trust a necessity?

Manipulation/misplacement of trust
Why are humans naturally predisposed to trust?
Why do humans often make poor trust decisions?
Why can trust be so easily manipulated?
Why chose the trustworthy path, when it might seem easier to cheat and manipulate?

Trust issues/problem with trust
Does your product have a trust problem?
How can you know if your project has a trust problem?
What are trust issues?
What are the most common trust issues?

What are the most common trust pitfalls?
What type of biases do we humans have that typically gives us trust issues? (stranger danger bias etc) (trust in the idea)
Can you define a set of specific trust challenges?

Risk and human concerns/ fears
Is there any risk associated with the design?
Does the product or service I design challenge the human fears?
Is the user group risk averse?
Is there fear in the picture?
What is the worst case scenario?
Why are trust and risk so connected?
Why is risk assessment important in identifying trust issues?
Is there a possibility that the solution could harm the environment?
Is there a possibility that the solution may damage the assets involved?
Is there a possibility that the solution could damage the reputation of the company or the brand?
What are trust blockers?

The user/customer
Who are the archetype users?
Do people want trustworthy products?
Does the solution affect people's well-being, health, finances ...?
Does the customer want to prioritize trust?
Is it important that the user trusts the solution?
Is it important that the user trusts the technology in the solution?
The user's disposition to trust? People, themselves, technology?
Is the user group open to change?
Is there acceptance for change?

The designer
Why is it difficult to design for trust?
Can we use design to build trust? If so, how?
And will it work every time?
Do I just confirm my assumptions, or do I challenge them?
Do you design something you yourself do not trust?
Can I stand for what I design?
What are you doing well? The potential for improvement?
Will your project have a significant potential of using trust?
Would you recommend it?
How do you approach such a big topic as trust?
As a designer, do you focus on creating trust in what you design?
How is the confidence in similar products?
Are you clear about your intention?
How can emotional design be used to strengthen trust?
Are you comfortable with the context?
Do you trust your communication?
Do you stand by your strategy?
Do you appear to be encouraging?
Is security important to you? Do you show it?
Do you deliver impact?
Who can disagree with what I design?
Who can be negatively affected by what I design?
Who am I nervous about talking to about this product / service?
What would the skeptic say?
Does the solution have opponents?

Designing for change (cooperation, confidence habits)
Will trust boost cooperation? If so, how?
When does trust become a habit?
Does trust in a product/system enhance confidence?
How is trust and self-confidence connected?
Impact (the big why and the little why)

Design and ethics
Is it ethically correct?
How can ethics be taken into account when designing for trust?
Ethics, can it be justified?
Law, is it legal?
Economically, does it work out?
Identity, is it us?
Moral, is that right?
Reputation, what does that do to the credibility?
Are there any ethical decisions?

III The trust stack

Trust in the idea
What is the idea?
What does it take for someone to trust an idea?
Why is trust in an idea the first step of building trust?
What are drust drivers?
Why is the "California roll"-principle important in building initial trust?
Why is it easier to trust something that is (strangely) familiar?
What is a trust influencer, and why are they important?
Who are the negative influencers? Who are the positive influencers?
What's in it for me? What's in it for them?
Why is the "what's in it for me"-principle so important for trust?
How can you convince the general public that your idea works?
Do you think the user trusts the idea?
Are there any pitfalls to the idea?
Why should the user trust your product or service? Can you compare the idea with something familiar for the consumer?
How do we make people "get" the idea?
Is your idea safe and worth trying?
Do I understand the idea and what's in it for me?

Trust in the platform
How can you build trust in a platform or a brand?
How does a company establish a strong brand?
What is the difference between brand and reputation?
Who can promote the tool (ambassadors)?

The reputation
Why use Social Proof?
Why is it important to keep your promises?
Why is the ability to deliver promises essential for trust?
Is it possible for a company/platform to craft a trustworthy reputation?
What is the difference between trustworthiness and reputation?
Why is social proof so effective in building trust?
Which details are not transparent? Unclear? Hidden?

The sender
What does it take to become a credible sender?
How can you as a company become a more trustworthy platform in society?
How can you as a company increase trust in society?
What is the ethical role of a platform when it comes to creating trust?
How can you become a more trustworthy company?
How can you make people trust you as a facilitator of X service/business?
Can you trust from a company that follows you and the movements eat at any one time?

Can you trust a company that monitors you and your movements at all times?

The Ecosystem

What is a trust ecosystem?
Why is trust between the players in a platform ecosystem essential?
Who are the most important players in a trust ecosystem?
Why is it important to strengthen trust between stakeholders?
Who is in the trust ecosystem?
Do you understand / empathize with the people system (ecosystem)?

The Technology

What does it take to trust a technology?
What are the most important traits of a trustworthy technology?
What are the biggest uncertainties associated with the technology?
What are the pitfalls of technology?
Is trust the problem of technology not being used?
How can you trust technology not to fail when you need it?
Are the "thing" functional, reliable and effective?
Transparency
Which details are not transparent? Unclear? Hidden?
New technologies (black box)
How is trust and autonomy connected?
Why are people often skeptical of new technologies?
How can you trust something / someone you can not see?
How can you trust something you don't understand?
How can you trust an algorithm that makes thousands of decisions you are not aware of every second?
Why are so many people suspicious of new technology?
How might we make more people trust in new technologies?
How can you trust something that only exists virtually?
Technology and ethics
Can we trust a machine learning algorithm to make ethical choices on our behalf?
Can you trust technologies to be ethical?
Who is responsible for the algorithms' decisions?
Are machines credible senders?
How can machines, robots and technology become trustworthy?
Who can you really trust in the digital age?

Trust in the individual/users/people

Who are generally considered trustworthy?
Who can not be trusted? Who can be trusted?
What does it take to make people feel comfortable enough to transact with an anonymous user or machine/robot?
Why is verifications important for trust?
How can I know who is real and who is a scam?
Why should people trust complete strangers?
What does it take to make people feel comfortable enough to transact with an anonymous user? Do I trust this person?
Do you feel that the company has a conscious or unconscious relationship to create trust in its projects?
How competent is your brand to solve the consumer's problem?
How reliably does it solve the problem, time after time? Is your brand authentic?
How much does your brand care/empathise with the problem that it promises to solve?
People may believe that your idea works, but do they trust you to facilitate it?
What does it take to become a credible sender?

Appendix G

Focus group presentation

What is trust?
Why is it important?
Can we build trust with design?
If so, how?

Anaïs Dorsquand Jensen + Eline Håkonsen

What is trust?

Anaïs Dorsquand Jensen + Eline Håkonsen

About us

Both born and raised in Bærum (1995 + 1996)

Industrial Design NTNU 2018

Exchange Milano 2019/20

Pre master project EGGS, 2020

Master's thesis EGGS

what is trust?

Did you know that ...

trust has more dictionary definitions than the similar terms 'cooperation', 'confidence', and 'predictable' combined?

Anaïs Dorsquand Jensen + Eline Håkonsen

Agenda

13 00 Introduction
Background and motivation

13 10 About trust
What is trust and why is it important?
The pre-trust check: When do you need trust?
Discussion

13 40 Trust and design
Can we design for trust ? If so, how?
The trust stack: how is trust constructed?
Discussion

14 05 The psychology of trust
Psychological barriers and principles
Discussion

14 20 Our concept
A designers guide to design for trust
Discussion

14 30 Thank you!
We finish off and say our goodbyes

Anaïs Dorsquand Jensen + Eline Håkonsen

what is trust?

Definition

trust is the willingness to take on risk and be vulnerable irrespective of the ability to control the outcome or trustee.

McKnight & Chervany, 2001

Anaïs Dorsquand Jensen + Eline Håkonsen

ABOUT TRUST

Anaïs Dorsquand Jensen + Eline Håkonsen

what is trust?

Definition

trust is the willingness to take on risk and be vulnerable irrespective of the ability to control the outcome or trustee.

McKnight & Chervany, 2001

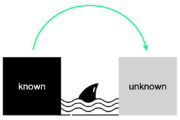
Anaïs Dorsquand Jensen + Eline Håkonsen

what is trust?

To sum up...

Trust is highly subjective and contextual
Trust changes dynamically
Trust relates to risk and uncertainty
Trust needs to be earned

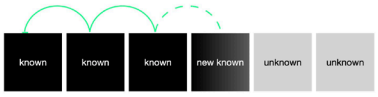
A short animation will play now



By taking a «**trust leap**»

So that the unknown, becomes the **new known**

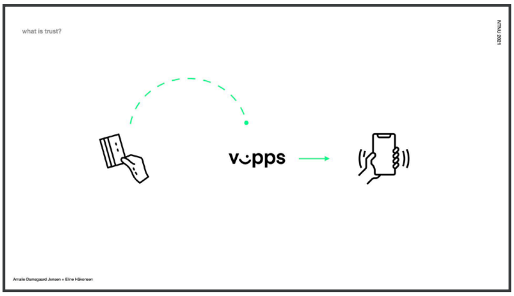
We like to think about trust as a confident relationship with the **unknown**



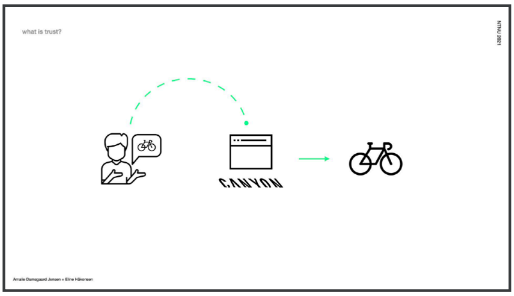
It is **trust leaps** that drive change

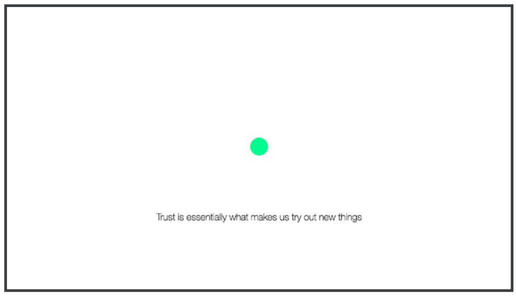
But to gain trust you must encounter risk and **uncertainty**

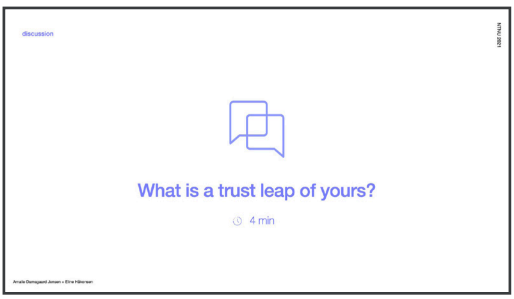
This is an example of a trust leap

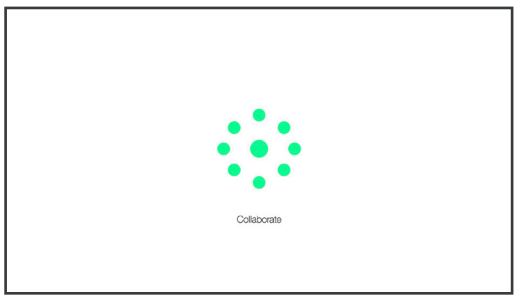

what is trust?
vipps
Amalie Damsgaard Jensen + Eline Håkonsen


A short animation will play now
Amalie Damsgaard Jensen + Eline Håkonsen

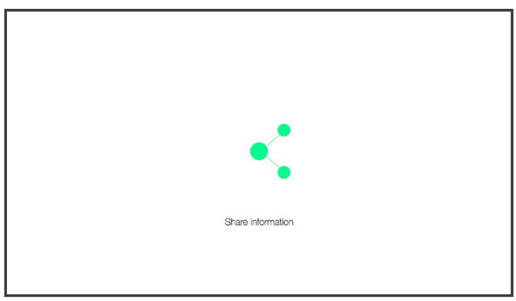

what is trust?
CANYON
Amalie Damsgaard Jensen + Eline Håkonsen

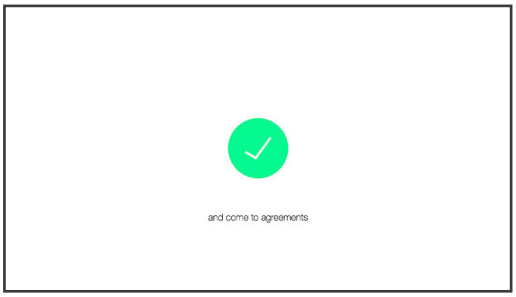

Trust is essentially what makes us try out new things

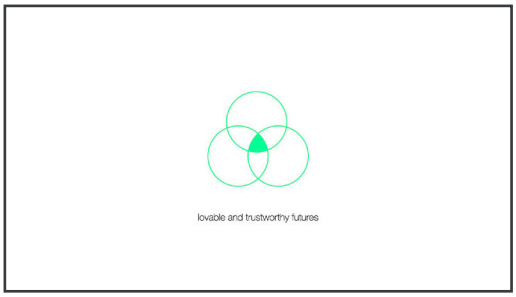

discussion
What is a trust leap of yours?
4 min
Amalie Damsgaard Jensen + Eline Håkonsen

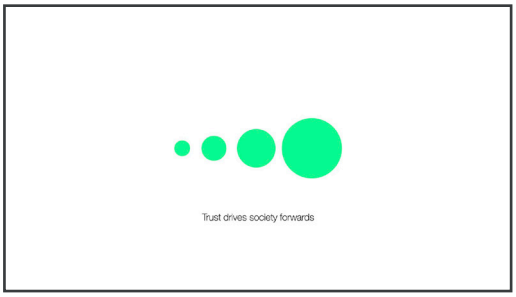

Collaborate

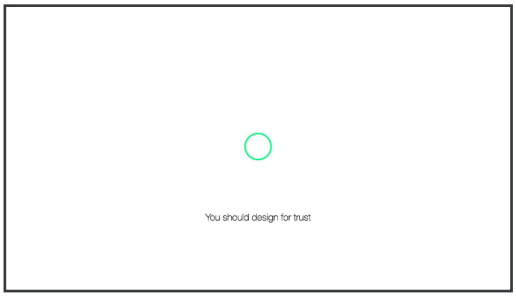

Why is trust important?
Amalie Damsgaard Jensen + Eline Håkonsen

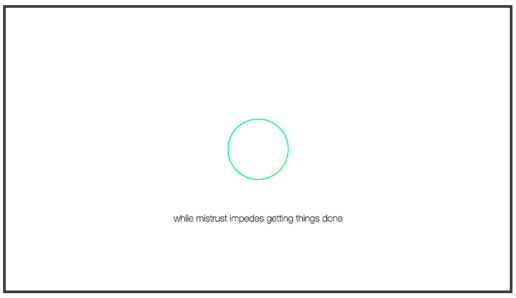

Share information


and come to agreements

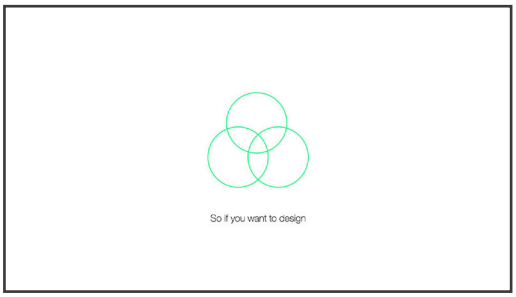

lovable and trustworthy futures

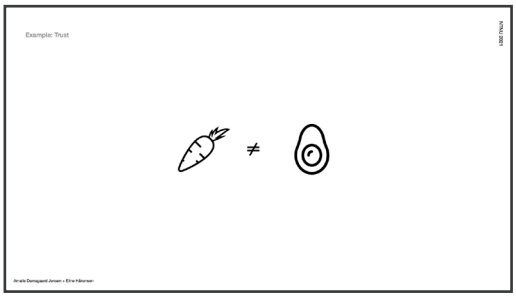

Trust drives society forwards

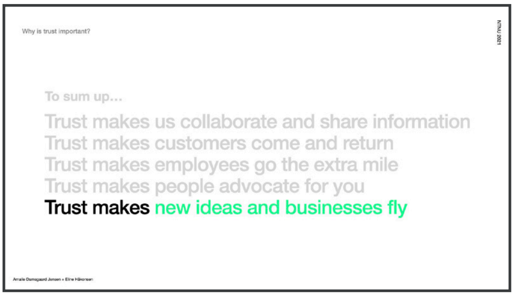

You should design for trust


while mistrust impedes getting things done


Why is trust important?
“It is trust, more than money, that makes the world go round.”
Joseph Stiglitz, Nobel Prize in Economic Sciences


So if you want to design

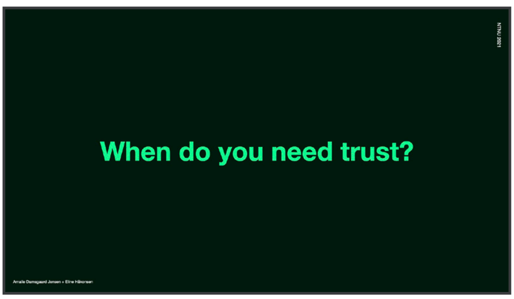

Example: Trust

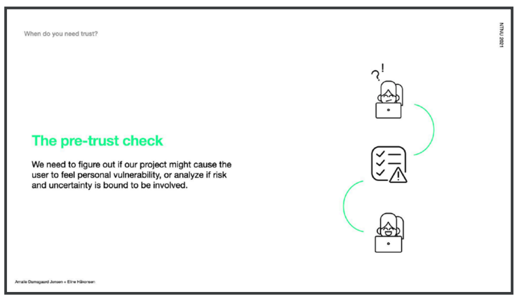

Why is trust important?
To sum up...
Trust makes us collaborate and share information
Trust makes customers come and return
Trust makes employees go the extra mile
Trust makes people advocate for you
Trust makes new ideas and businesses fly
Amalie Damsgaard Jensen + Eline Håkonsen

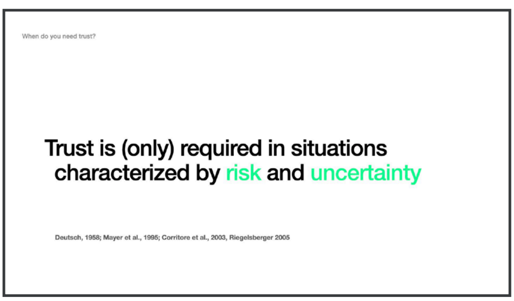

When do you need trust?
Risk and uncertainty
Trust is required in situations where you are exposed to uncertainty, with a potential loss that matters to you.
strategisk risk severity matrix
Low risk
Medium risk
High risk
Likelihood
Severity
Amalie Damsgaard Jensen + Eline Håkonsen

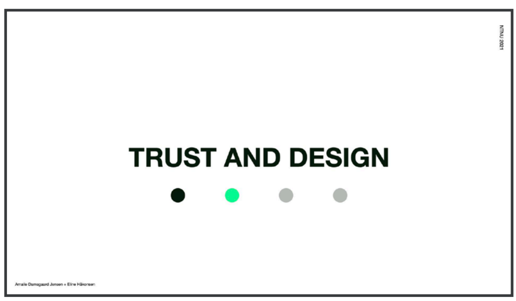

discussion
Are there situations where we are especially dependent on trust?
5 min
Amalie Damsgaard Jensen + Eline Håkonsen


Examples of personal vulnerability
Health concerns
Eg. contracting covid-19 or your child being sick
Loss of privacy
Eg. hacker and cyber attacks or surveillance
Financial instability
Eg. financial crack or loss of job
Damage to personal assets
Eg. extreme weather due to climate change
Damage to reputation
Eg. lack of professionalism, bad attitude
Amalie Damsgaard Jensen + Eline Håkonsen

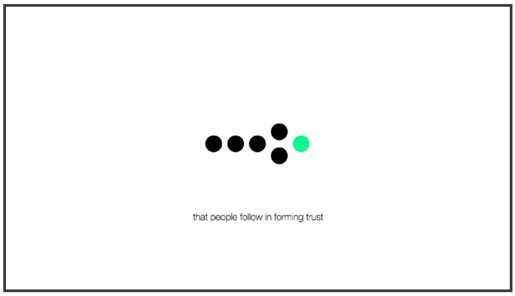

When do you need trust?
Amalie Damsgaard Jensen + Eline Håkonsen


When do you need trust?
The pre-trust check
We need to figure out if our project might cause the user to feel personal vulnerability, or analyze if risk and uncertainty is bound to be involved.
Amalie Damsgaard Jensen + Eline Håkonsen

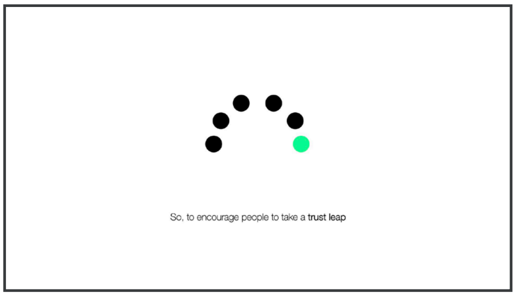

When do you need trust?
Trust is (only) required in situations characterized by risk and uncertainty
Deutsch, 1958; Mayer et al., 1995; Corritore et al., 2003, Riegelsberger 2005

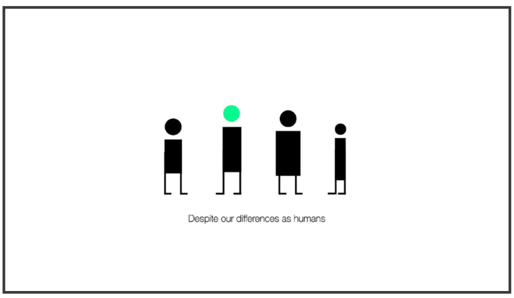

TRUST AND DESIGN
Amalie Damsgaard Jensen + Eline Håkonsen

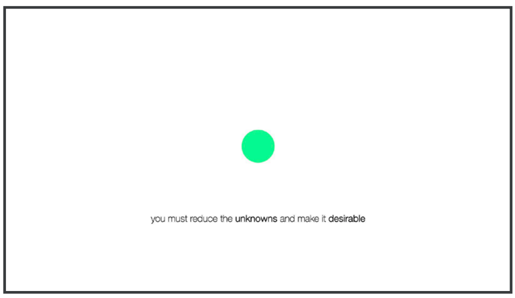

NTNU 2021
Can we use design to
understand and improve trust?
Amalie Damsgaard Jensen + Eline Håkonsen

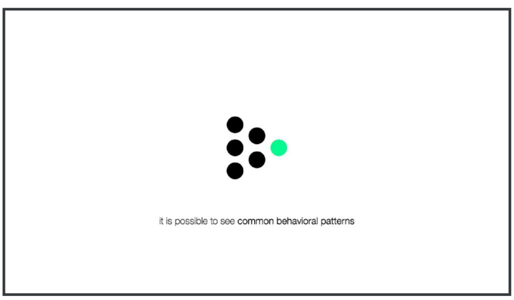

that people follow in forming trust

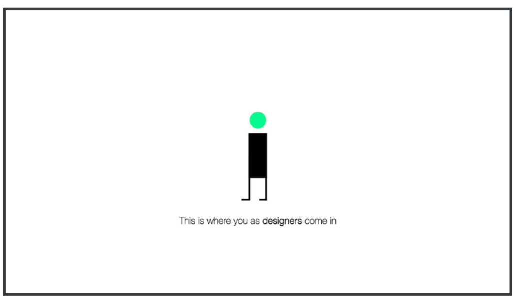

NTNU 2021
A short animation will play now
Amalie Damsgaard Jensen + Eline Håkonsen

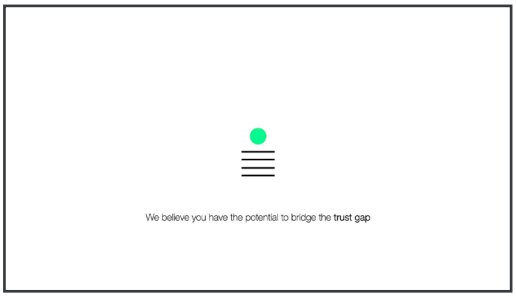

So, to encourage people to take a trust leap

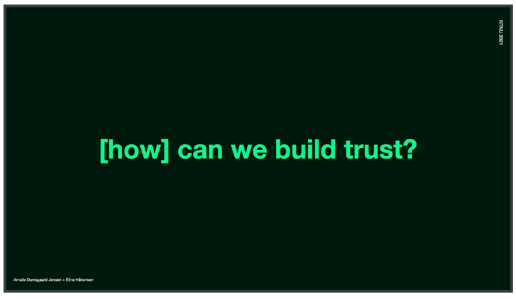

Despite our differences as humans

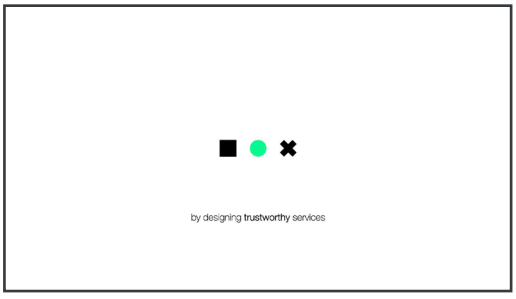

you must reduce the unknowns and make it desirable


it is possible to see common behavioral patterns


This is where you as designers come in

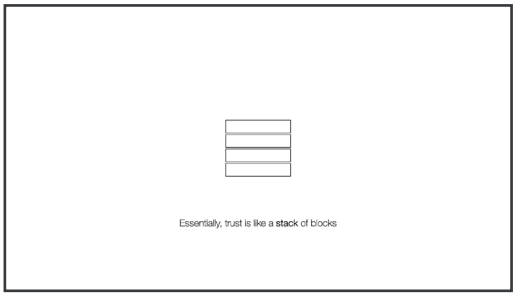

We believe you have the potential to bridge the trust gap

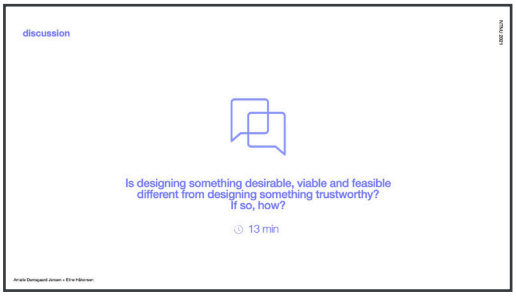

[how] can we build trust?

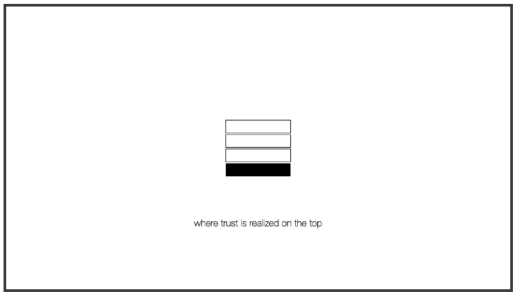

by designing trustworthy services

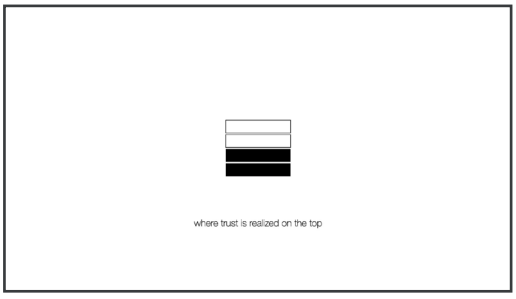

A short animation will play now

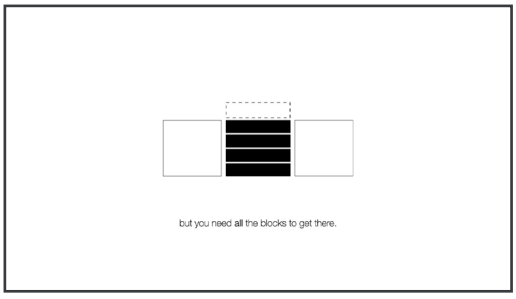

That benefits your user

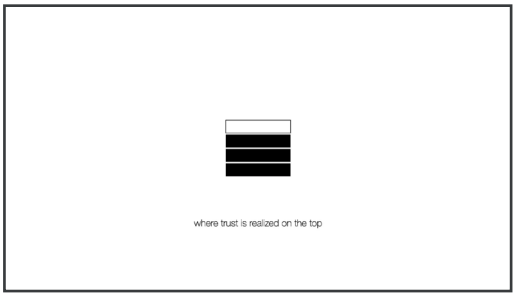

Essentially, trust is like a stack of blocks

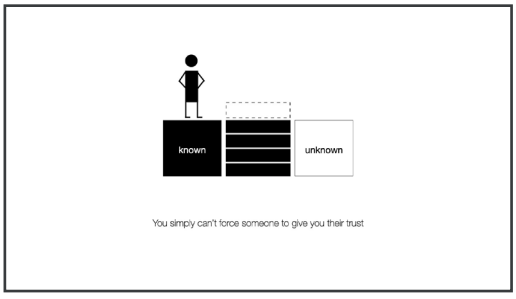

discussion
Is designing something desirable, viable and feasible different from designing something trustworthy? If so, how?
13 min

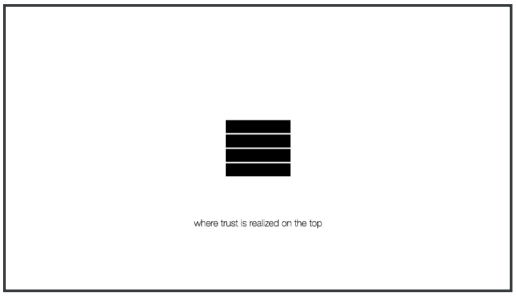

where trust is realized on the top

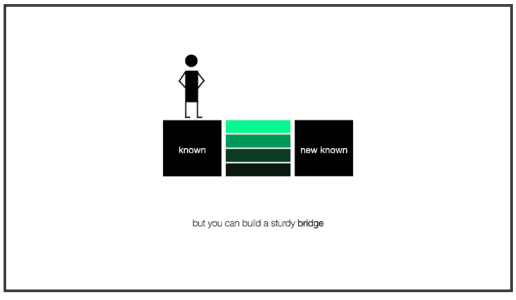

where trust is realized on the top

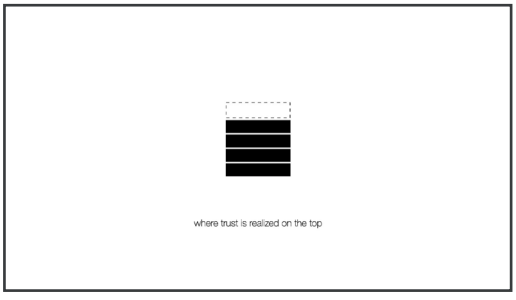

but you need **all** the blocks to get there.

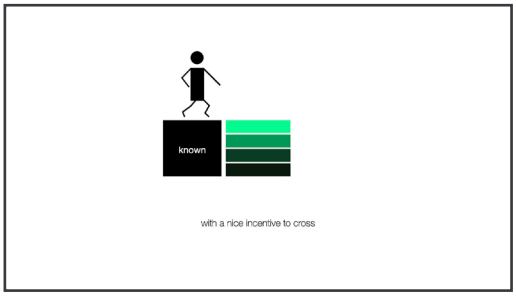

where trust is realized on the top

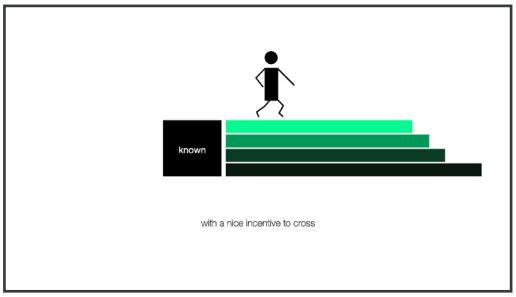

known
unknown
You simply can't force someone to give you their trust

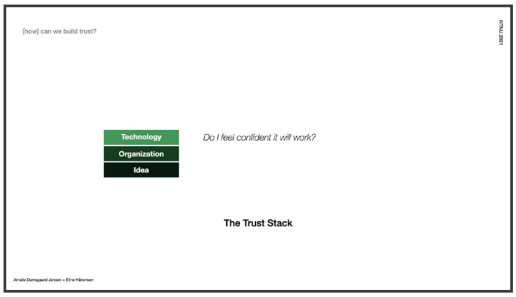

where trust is realized on the top

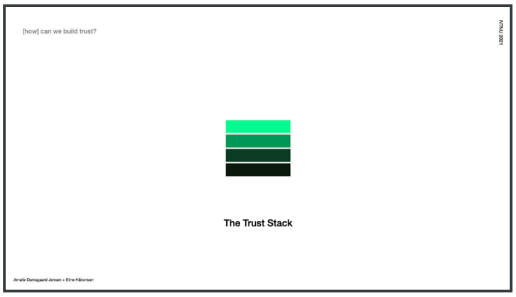

known
new known
but you can build a sturdy **bridge**

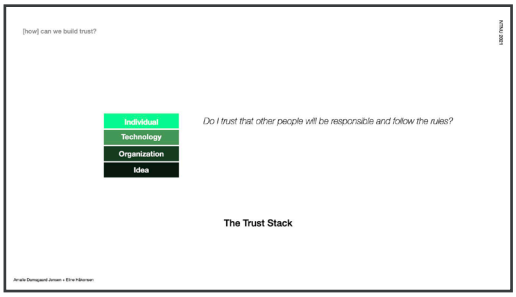

where trust is realized on the top

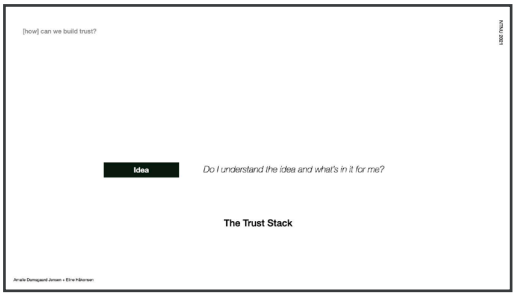

known
with a nice incentive to cross


known
with a nice incentive to cross

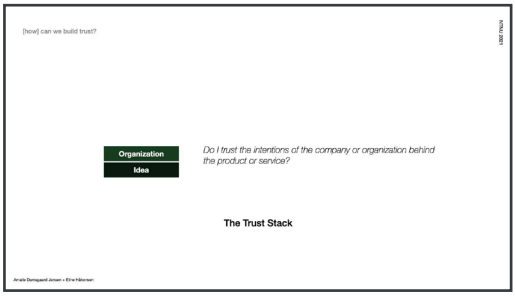

[how] can we build trust?
KUNU.DEEP
Technology
Organization
Idea
Do I feel confident it will work?
The Trust Stack
Anaïs Domqaard Jensen + Elina Håkonsen


[how] can we build trust?
KUNU.DEEP
The Trust Stack
Anaïs Domqaard Jensen + Elina Håkonsen


[how] can we build trust?
KUNU.DEEP
Individual
Technology
Organization
Idea
Do I trust that other people will be responsible and follow the rules?
The Trust Stack
Anaïs Domqaard Jensen + Elina Håkonsen


[how] can we build trust?
KUNU.DEEP
Idea
Do I understand the idea and what's in it for me?
The Trust Stack
Anaïs Domqaard Jensen + Elina Håkonsen


Example: Airbnb and the Trust stack
KUNU.DEEP
Trust in the idea
the idea of letting strangers stay in your house
Trust in the organization
the stakeholders, the brand, the business and the people involved
Trust in the technology
the platform, app and payment solution
Trust in the individual
the strangers that are staying in your house
Anaïs Domqaard Jensen + Elina Håkonsen


[how] can we build trust?
KUNU.DEEP
Organization
Idea
Do I trust the intentions of the company or organization behind the product or service?
The Trust Stack
Anaïs Domqaard Jensen + Elina Håkonsen


discussion
KUNU.DEEP
Do you have any success stories where you have been able to bridge the trust gap?
5 min
Anaïs Domqaard Jensen + Elina Håkonsen

TRUST AND PSYCHOLOGY

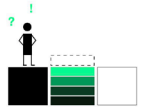
How to deal with it?

We don't need to understand precisely how the technology or service functions, but we need to grasp what it can do for us. We need to know what we gain by using it.

WIIFM
principle

What do I gain?
Why should I care?

Psychological barriers
01 loss aversion
02 the law of familiarity
03 social proof



If you order a Uber you ....

don't need to drive the car, so you can work or play candy crush

don't need to find a parking space in the rush hour

don't need to walk to the buss stop in the rain

01 loss aversion

WIIFM principle

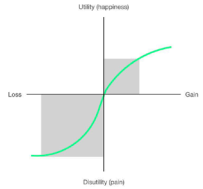
02 the law of familiarity

strangely familiar principle

Loss aversion

We usually do not want to use an invention until we understand it, unless the benefits hugely outweigh the negatives or the risk.

psychology, prospect theory

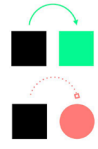


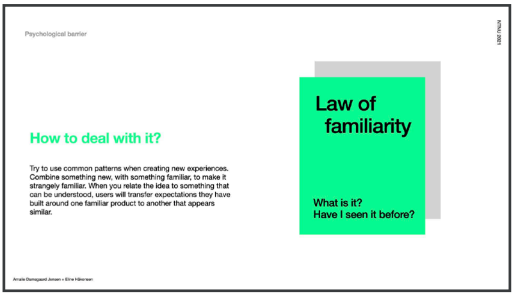
Law of Familiarity

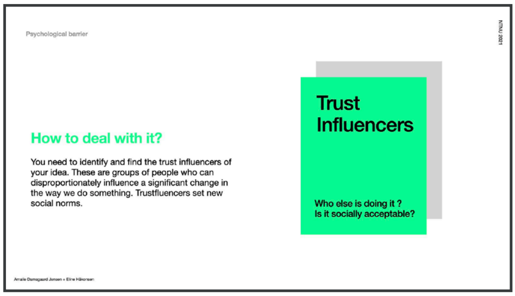
We humans are naturally biased towards things that seem strange and unfamiliar, while we have an innate desire for things we're already familiar with.

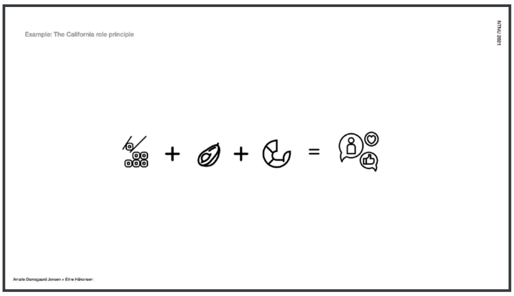
When it comes to trust, we don't like something completely new, we like the familiar done a little differently.

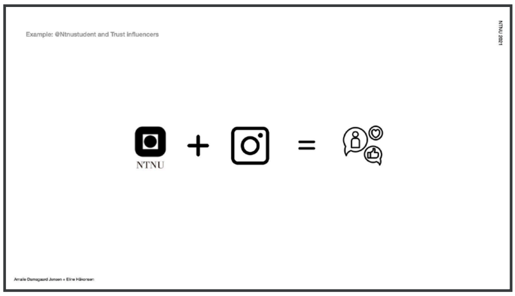
psychology, availability heuristic



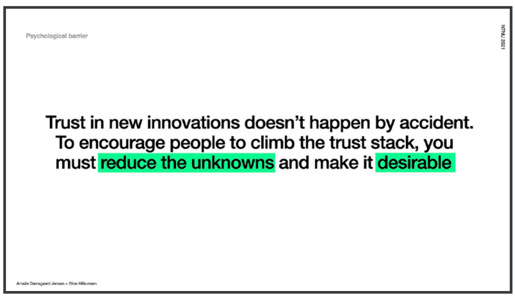

Psychological barrier
How to deal with it?
Try to use common patterns when creating new experiences. Combine something new, with something familiar, to make it strangely familiar. When you relate the idea to something that can be understood, users will transfer expectations they have built around one familiar product to another that appears similar.
Law of familiarity
What is it?
Have I seen it before?

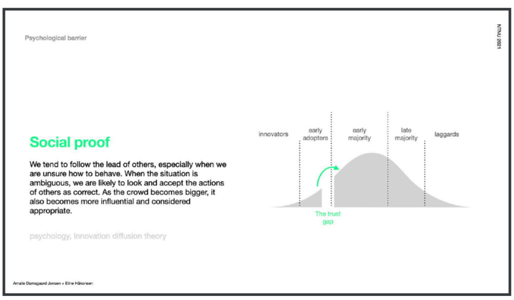

Psychological barrier
How to deal with it?
You need to identify and find the trust influencers of your idea. These are groups of people who can disproportionately influence a significant change in the way we do something. Trustfluencers set new social norms.
Trust Influencers
Who else is doing it ?
Is it socially acceptable?

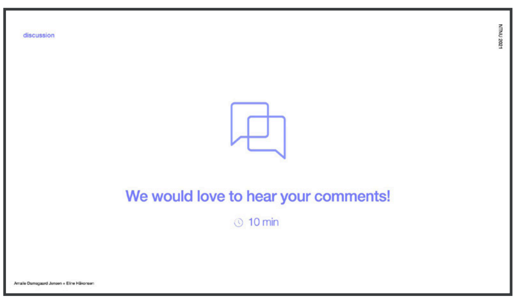

Example: The California role principle
+
+
=


Example: @Ntnustudent and Trust Influencers
NTNU
+
=


03 social proof
trust influencers


Psychological barrier
Trust in new innovations doesn't happen by accident.
To encourage people to climb the trust stack, you must reduce the unknowns and make it desirable


Psychological barrier
Social proof
We tend to follow the lead of others, especially when we are unsure how to behave. When the situation is ambiguous, we are likely to look and accept the actions of others as correct. As the crowd becomes bigger, it also becomes more influential and considered appropriate.
psychology, Innovation diffusion theory
innovators
early adopters
early majority
late majority
laggards
The trust gap


discussion
We would love to hear your comments!
10 min

CONCEPT

discussion

Would you use this tool?
Why (not)?

Preliminary concept

What

+ physical card
+ website

discussion

... do you have any projects that it would
be relevant to test the prototype on?

03 social proof

trust influencers

discussion

We would love to hear your comments!

10 min

Preliminary concept

Trustspiration

The questions The stack The theory The stories

Thanks for your time!

And remember, the probability of damaging your car
is less if you use the automatic parking function.

Appendix H

In-depth interview questions

Now that it's over, what are your first thoughts about this overall project?
Nå som det er over, hva er dine første tanker om dette prosjektet?

If it's positive/negative, what comes to mind specifically?
(Hvis det er positivt/negativt) hva kommer tenker du spesielt på?

How do you feel that the solution "Trustpiration" relates to real-world situations and problems? Do you think it will be used? in which projects is this most likely?
Hvordan føler du at løsningen "Trustpiration" kan relateres til situasjoner og problemer i den virkelige verden? Tror du den vil bli brukt? I hvilke prosjekter er dette mest sannsynlig?

What do you consider the most interesting discoveries made from this project?
Hva anser du som de mest interessante funnene gjort i dette prosjektet?

As a mentor, what do you consider the most challenging about this project?
Hva synes du, som mentor, har vært det mest utfordrende med dette prosjektet?

Can you describe a (powerful) learning moment? What made it so powerful?
Kan du beskrive et (sterkt) læringsøyeblikk? Hva gjorde det så sterkt?

As a design practitioner, what is the most important thing you learned?
Hva er det viktigste du lærte som designer?

What is the most important thing you learned personally?
Hva er det viktigste du lærte personlig?

Have you learned something new about trust, or designing for trust?
Har du lært noe nytt om tillit, eller om det å designe for tillit?

What do you think are the biggest areas for improvement for Trustspiration?
Hva tror du er "Trustspiration" sine største forbedringsområder?

What do you think are the biggest areas for improvement for us as designers?
Hva synes du er våre største forbedringsområder, som designer?

If you were to approach the topic of trust again, what would you do differently?
Hvis du skulle gå løs på temaet tillit igjen, hva ville du ha gjort annerledes?
Do you have any thoughts on how trust will affect how designers work in the future?
Har du noen tanker om hvordan tillit kan komme til å påvirke hvordan designere jobber i fremtiden?

Will you use what you have learned in the future? If so, how?
Vil du bruke det du har lært i tiden fremover? I så fall, hvordan?

Appendix I

Backgrounds (tools)

The background for all tools can be found on trustspiration.com (underneath each tool), with a better formatting and reading experience (recommended). The three first tools ”Pre-trust check”, ”Strangely familiar ideation” and ”Discuss the trust balance” are also explained in the thesis. Here follows the ”background” explanation for the remaining tools.

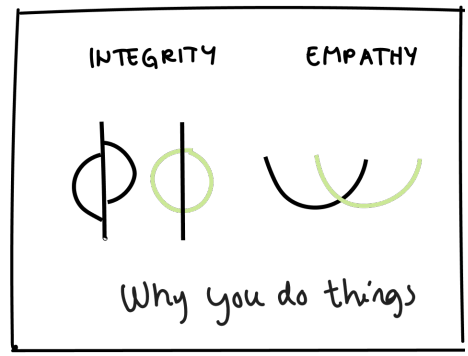
The company character wheel

Navigate your brand personality

To be seen as an open and trustworthy organization, it is essential to not only project a perfect front, but be human-centred and openly address challenges and concerns and acknowledge mistakes. But how do you navigate towards a more trustworthy character?

Whenever a user makes the choice of trusting a product or a service, they simultaneously make the choice of trusting the groups of people who create and implement said product or service. Therefore it is important to nurture the organizational trust; which is defined as the dynamic trust relationship between an individual or an institution, organization, company, or brand [1].

Trust in organizations can be influenced, and it often boils down to whether or not the organization keeps its promises, meets the stakeholder’s expectations, and whether or not the stakeholder and the organization share common values [2]. This is commonly reflected through trustworthy traits, also referred to as trusting beliefs. Rachel Botsmann, a world-leading trust researcher, defines the trustworthy traits as how the organization does things (their capability) and why the organization does things (their character). To be perceived as trustworthy a company or organization has to have both capability and a trusting character [3].



Model: Trust traits, Botsmann (2020)

The character trust traits

The character wheel was created to make it easier to navigate and understand the decision-making considerations that apply in nudging a trustworthy character. Botsman describes that this can be reflected through the company’s ability to show empathy and integrity.

Integrity

The quality of being honest and having strong moral principles that you refuse to change. Integrity is about honesty and often comes down to intentions, morals, and fairness.

- Intentions: the extent to which the organization wants and plans to do something because it is right and reasonable
- Honesty: the quality of being honest, ie telling the truth and not lying.
- Fairness: the quality of treating people equally or in a way that is right or reasonable.

Empathy
The ability to understand or feel what someone is experiencing from within their frame of reference. It often means to be benevolent, of a caring, considerate nature with intentions of goodwill.

- Sociability: the extent to which the organization is perceived to care about the impact its activities make on society as a whole.
- Commitment: the quality of being devoted and giving a promise or firm decision to do something
- Individualization: is the stakeholder's perception that the organization treats them as an individual, and sees and understands their needs and desires.

The moral test for trust

Being trustworthy and being perceived as trustworthy are two very different things, and unfortunately, it has become a common tendency amongst companies to rank themselves as more trustworthy than they actually are, by selling a glossy and polished version of the truth. This poses a big trust problem, and a moral issue, if the actual truth comes out.

Reflecting on morality, companies have to reflect among others on empathy. Some of the questions found in the character wheel are inspired by the philosopher and Hume scholar, Annette Baier's, moral test for trust. Her test states that if gaining knowledge about what other parties do with our trust in them would lead us to stop trusting, then that trusting relationship is immoral. In other words, if knowledge about what the organization does with their users' trust would give them a reason to stop trusting them, the organization fails the moral test [4].

Influencing trust in organizations and institutions that is on a structural level is not easy because the responsibility of an organization's reputation concerns the entire system and its performance. It is in the day-to-day conduct of all employees that trust starts to become real.

Identifying the dissonance between a company's own self-image, and how others experience and perceive them is perhaps the first step in crafting a genuinely trustworthy character. The character wheel can help facilitate a discussion on the topic, and make organizations aware of inconsistencies between perceived trustworthiness and actual trustworthiness.

In the end, understanding that the integrity and empathy of a company actually might nudge user's into giving their trust, can help cultivate healthier, more trusting relationships with many benefits.

[1] McKnight, Chervany, (2001), Trust and distrust definitions: one bite at a time Trust in Cyber-Societies: Integrating the Human and Artifical Perspectives (Vol. Vol. 2246, pp. 27- 54): Springer Berlin Heidelberg

[2] PwC, (2015), Trust insight: Understanding the value and drivers of organisational trust

[3] Botsman (2019), Being More Trustworthy: The Basics https://medium.com/@rachelbotsman/being-more-trustworthy-the-basics-6354e504917f#:~:text=They%20are%20called%20the%20traits,(why%20we%20do%20things

[4] Brennan, (2020), Trust as a Test for Unethical Persuasive Design, Philos. Technol. (2020). https://doi.org/10.1007/s13347-020-00431-6

Capability self-assessment

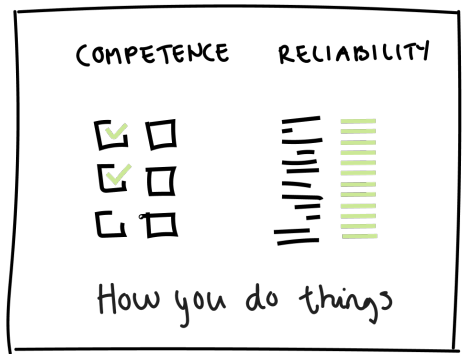
Use trigger questions to deep dive into the organization

In order to be perceived as trustworthy, companies have to demonstrate their skill and prove that they are capable and committed to keep their promise. But how do you convince your users that you have the skills, knowledge, and expertise required to solve the problem?

First of all, having trust in an organization means that you trust the groups of people that work together to implement an idea, or solve a problem in a satisfying way. This could be an organization, a company, an interest group, an institution, or even the government [1]. Sometimes there is more than one actor involved, as stakeholders and collaborators, that might influence how users choose to trust, both positively and negatively.

Trust in organizations can be influenced, and it often boils down to whether or not the organization does as it promises, meets the stakeholder's expectations, and whether or not the stakeholder and the organization share common values [2]. This is commonly reflected through trustworthy traits, also referred to as trusting beliefs. Rachel Botsmann, a world-leading trust researcher, defines trustworthy traits as how the organization does things (their capability) and why the organization does things (their character). To be perceived as trustworthy a company or organization has to have both capability and a trusting character [3].

In this tool, the focus will be on improving the capability trait.



Model: Trust traits, Botsmann (2020)

The capability checklist was created to make it easier to assess if you have the characteristics that are commonly considered trustworthy, in regards to how you do something. Botsman describes that this can be reflected through the company's ability to show competence and reliability.

For an organization to be perceived as capable, they have to show that they have the capability (meaning knowledge, skills, and experience) to do something and that they are reliable (meaning on time, effective, and are consistent) while doing it.

For an organization to be perceived as capable, they have to show that they have the capability (meaning knowledge, skills, and experience) to do something and that they are reliable (meaning on time, effective, and are consistent) while doing it.

Both the word ”competence” and ”reliability” encompasses a multitude of meanings, and there exist several guidelines with measurement organizations might follow. Therefore, we will not delve into all the details in this “background” section, but we have strived to

capture the essence of what "capability" is. Based on our analysis of the words competence and reliability (from sources 1,2,3,4), we propose the following rationale:

Trustworthy capability trust traits

Competence
The quality of possessing the required skills or qualifications. It shows how competent the organization is at doing something, X. It often boils down to whether the people behind have the skills, experience, knowledge, resources, etc. to do X?

- Expertise: a high level of knowledge or skill.
- Transparent/understandable: the quality of being easy to see through and understand. Is about the perceived accuracy and truth of the organization's communication. The information* must be honest and correct.

**Information could include the name of providers, the goal, purpose and target groups, data sources, feedback mechanisms, quality assurance procedures, cooperations, financing, sponsoring, and labeling of advertised content, as well as the actuality of the information and the use and protection of data.*

Reliability
the ability to be relied on or depended on. Speaks to how reliable the organization is while doing something (XXX). It is about being able to rely on the groups of people to do what they say they will do, which is largely about responsiveness, accessibility, and consistency.

- Responsiveness: is about whether the organization listens to what its stakeholders say and makes improvements accordingly.
- Accessibility: the fact of being able to be reached or obtained easily, or the quality of being easy to understand.
- Consistency: the quality of always behaving or performing in a similar way, or of always happening in a similar way:
- Accountability: the state of being liable or answerable, in case something goes wrong
- Secure: is about being safe, not exposed to danger

[1] McKnight, N.L. Chervany, (2001), Trust and Distrust Definitions: One Bite at a Time, Trust in Cybersocieties, Springer-Verlag Berlin Heidelberg, p.27–54

[2]PwC, (2015),«Understanding the value and drivers of organisational trust - Trust insight», PricewaterhouseCoopers publication, p.2-4

[3] Botsman, Rachel (2017), "Who can you trust? How technology brought us together, and why it might drive us apart", Penguin Business UK, ISBN: 978-0-241-29618-9

[4] Nielsen, R. Molich, S. Snyder, C. Farell, (2000). Ecommerce user experience: Trust, Nielsen Norman Group

The REF principle of technologies

Understand the mechanisms of technology trust

Technology affects almost every aspect of life, society, and environment, and its development is constantly advancing and increasing in complexity. We have seen a boom of new and disruptive technologies that are becoming smarter and more connected. As a result, their opportunities, functionalities, and capabilities expand exponentially, way beyond traditional product boundaries [1]. Many of the products and services designed today are affiliated with (new) technologies in some way. This means that you, as a designer, might need to think twice about whether or not the technology poses a threat to trust in your product or service for the end-user.

"The REF-principle of technologies", as we have decided to name this tool, is a braintool that aims to increase your knowledge on the subject of "technology trust", and it builds upon mechanisms that can help you design trust into digital services and products.

Table: Technology related expectancies, McKnight et al. (2011)

Reliability	the ability to operate consistently without failing
Effectiveness	the ability to provide help when needed
Functionality	having the capability to do a task

The tool is based on the literature found on the topic of "technology trust". The theory, which is well documented and has profound interest among researchers, states that an individual's trust in a technological artifact, product or service, depends on its "reliability", "effectiveness" and"functionality", hence the name "REF-principle". These three traits, the technology-related expectancies, are fundamental for creating trust in technologies [2].

In practice, this means that if a technological product or service is perceived as reliable, functional, and effective it necessarily becomes trustworthy as well [3]. This tool is our attempt to outline a guideline for designers on how to achieve "technology trust". The tool is based on several case studies combined with theoretical movements, but it has not been scientifically proven. The examples in this tool should therefore be seen as food for thought and inspiration, more than a recipe.

[1] Porter, JE. Heppelmann,(2014), How smart, connected products are transforming competition, Harvard Business Review, Retrieved from https://hbr.org/2014/11/how-smartconnected-products-are-transformingcompetition , Accessed 10/09/2020

[2] McKnight, M. Carter, JB. Thatcher, PF. Clay, (2011), Trust in a specific technology: An investigation of its components and measures, ACM Transactions on Management Information Systems, Vol. 2(2), 1-25

[3] Mazey, (2018), Initial trust in emerging technologies and the effect of threats to privacy, p.1-16

Mitigate technology trust issues

Pick your battles

Through co-design, we learned that several designers do not necessarily think explicitly about how the technology used in a product or service can affect the end user's trust. Therefore, we created this tool - to engage designers to reflect on or mitigate "the tech trust issues" and how that can help you to design an even more trustworthy end product.

This tool intends to break down complex technological issues, through a simple brainstorming activity. It is also meant to guide designers in prioritizing which challenges are important to tackle, and which are superfluous.

Artificial intelligence, Virtual reality, Blockchain, Drones, the Internet of things, robotics, VR, AR, 3D printing, and so on, are currently being introduced to consumers. With the introduction of complex and "black box" technologies, there will of course arise many issues. Among them, several are related to trust.

Although there are many subjects to address, we have decided to highlight the much discussed topic, privacy and security, because it has become particularly relevant in the digital age.

Privacy and security in emerging tech

Privacy and security have become a major topic of concern in the world of emerging technologies, and it is important that sensitive data is not accessed by the wrong people, corrupted, misused, or lost - as this essentially will damage trust for the end user. A company or organization, whether they are connected to healthcare decisions, emergency response, or other domains, should always follow the rules and conducts for data privacy such as GDPR and other national regulations. The following points can be seen as recommendations or suggestions to improve security:

1) Offer a guarantee of privacy and security.
An important precondition for information exchange between inter-organizational networks is trust, hence it is important that classical information security features are in place.
Therefore you need to be transparent by providing information about how data is stored and accessed, and that rules and guidelines for information security are followed righteously.

2) Identity verification
It is important that only righteous and qualified people get access to sensitive data. With various levels of permission, the data owner can determine who has the right to access and alter data, and who doesn't. This contributes to making data distributions safe and flexible.

It is predicted that emerging technologies will leave a prominent impact on the socio-economic system, be radically novel, ambiguous, and grow fast - and even though these new technologies might acquire different degrees of trust, studies are already showing indications of emerging technologies that are able to automate trust in physical, digital, and human assets. PWC, which ranks as the second-largest professional services network in the world, anticipates that blockchain, in

combination with other emerging technologies, i.e artificial intelligence or IoT, will be able to automate trust completely. By verifying identities, providing safe transactions, and authenticating data, they can ensure that only the right people are granted access to data. This is important in all cases dealing with i.e. sensitive data, personal information, or healthcare decisions [1].

For instance, by combining IoT sensors with AI-powered facial recognition, one can verify an individuals' identity and offer a confirmed record of their qualifications. Blockchain technology can then record each of these verifications, creating a work history. Combined, these emerging technologies can offer safe, real-time insights into supply chains, employees, and operations in almost every domain - and improve trust as a result.

[1] Likens, K. Kersey, (2019), Automating trust with new technologies, Strategy + Business, TECH & INNOVATION, Retrieved from https://www.strategybusiness.com/article/Automating-trust-withnew-technologies?gko=7e5a3 , accessed 24/10/2020

Design triggers for trust

Engage in meaningful reflections

The aim of this tool is not to present one specific recipe for trust in the last step, as this would be impossible given all subjective and contextual variables that affect the trust decision. Instead, we will rather argue that trust in the last step can be seen as the sum of "the whole".

It is in this step where the user decides if they are willing to depend on someone, or something, even though negative consequences are possible or uncertainty is present. This step embodies the important aspects of vulnerability and willingness. Vulnerability, because it follows that control is given up. Willingness, because it is a conscious and voluntary decision [1]. In other words: contemplating to trust, or not, is a very emotional and subjective decision that can be influenced through not one, but several design principles.

Using well-known design principles to enhance the experience and evoke positive emotions in the user has a positive impact on trust. In fact, Don Norman, often referred to as the father of user experience, argues that the feeling of satisfaction can contribute to an overall positive emotional response that supports trust [2]. Additionally, a good user experience can lower feelings of uncertainty by designing a predictable interface with clear feedback, hence building confidence in the application [3]. It, therefore, seems that designing for a great user experience will increase not only trust but also overall satisfaction and confidence. A win-win-win.

"The design triggers for trust"-tool is placed in the Gatekeeper step - which means it is the

last step before a user decides whether or not to place their trust in your design. This phase is highly connected to how the user experiences your design, which is closely related to the user's emotions, which again places links to the term Emotional design - a design approach that evokes emotions that result in positive end user experiences [4].

Emotional design

There are several ways to increase the level of emotions in your design, but we urge you to always have the three levels of cognitive response in mind because combined they form the entire product experience, which affects both satisfaction and trust.

Visceral: Concerns itself with appearances. The users' gut reactions to or their first impressions of your design are automated and innate reactions that might be hard to anticipate. Use colors, shapes, symbols to create uncluttered and simple designs that tug your user's emotions at a subconscious level.

Behavioral: Has to do with the pleasure and effectiveness of use. Users subconsciously evaluate how your design helps them achieve goals effectively. This relates to the practical and functional aspects of a design and is often referred to as usability. Designing for the behavioral level will lower feelings of uncertainty and help build confidence in the application, product, or service.

Reflective: Considers the rationalization and intellectualization of a product. After they encounter your design, users will consciously judge its performance and benefits, including value for money. It is the reflective layer that makes users think "What will my friends think when they see me using this product/ service?". The reflective level is therefore very much influenced by self-actualization, status, and social proof.

Remember that emotional design in itself is an enormous research area in itself, hence this tool will not address how to evoke emotional responses, but rather remind you of the importance of addressing and considering all three layers throughout the design process, as its connection to trust is so prominent.

Ultimately, designing for trustworthy or trust promoting products, services of businesses demands that trust is taken into account in every step of the design process, from early ideation and value statements, through development and user-testing to market launch and implementation. Trust is not something that can be turned around and established in the blink of an eye - it must be used, remembered, and improved through the design process, which is why we consider it is important that we remind you (designers) that the final details, aesthetics, visuals and emotions matters when it comes to trust!

When it comes to trust: the final details, aesthetics, visuals, and emotions matter!

[1] Mcknight, Chervany, (2001), Trust and Distrust Definitions: One Bite at a Time, Trust in Cybersocieties, Springer-Verlag Berlin Heidelberg, p. 27-54

[2] Norman D. (2004), "Emotional Design: Why we love (or hate) everyday things", New York: Basic Book

[3] Sutcliffe, (2006), "Trust: From Cognition to Conceptual Models and Design", Springer-Verlag Berlin Heidelberg, pp-3-17

[4] Interaction design foundation, 2021, "Emotional Design", https://www.interaction-design.org/literature/topics/emotional-design , accessed 22/04/21

The power of social proof

Use social proof to drive trust

We like to believe that all our actions are consistently determined by our own individualistic thinking, but is this the truth? Research shows that the final decision-making process is often influenced by the people around us and the socio-cultural structure we are part of.

"We will use the actions of others to decide on proper behavior for ourselves, especially when we view those others as similar to ourselves."
- Cialdini (2009)

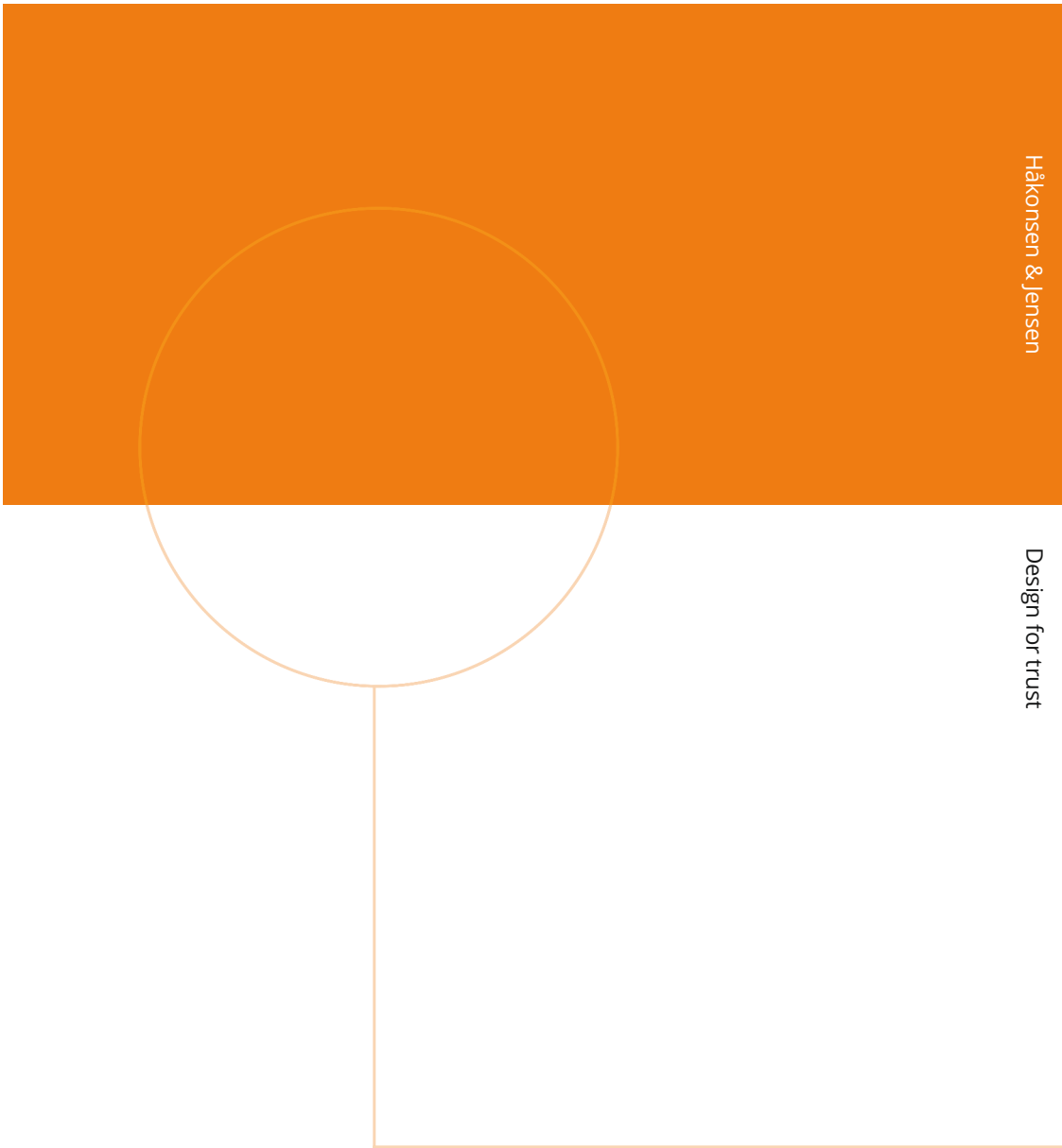
Trust and social norms are tightly connected, with backing from the theory of social proof stating that people tend to follow the lead of others, and are willing to place an enormous amount of trust in the collective knowledge of the crowd [1]. This is especially true if the user is skeptical or uncertain.

This means that while designers can, and should, use social proof to drive trust effectively, they have the responsibility to use this power wisely. "The Power of social proof" tool, is a collection of social proof methods, for you to browse and get inspired.

"First, we seem to assume that if a lot of people are doing the same thing, they must know something we don't." - Cialdini (1993)

This tool, "The Power of social proof", is based on a combination of participatory design methods, as well as desk research of several blog posts, articles and websites. We have tried to gather a representative collection of social proof that we consider relevant. That means that there might exist several other good options not presented here. Therefore the suggestions found on this tool should only be seen as an inspiration.

[1] Cialdini, R: (2009), Influence: The Psychology of Persuasion
[2] Cialdini, R. : (1993) Influence: Science and Practice (1993: 131-132)



Håkonsen & Jensen

Design for trust

NTNU

Norwegian University of
Science and Technology