

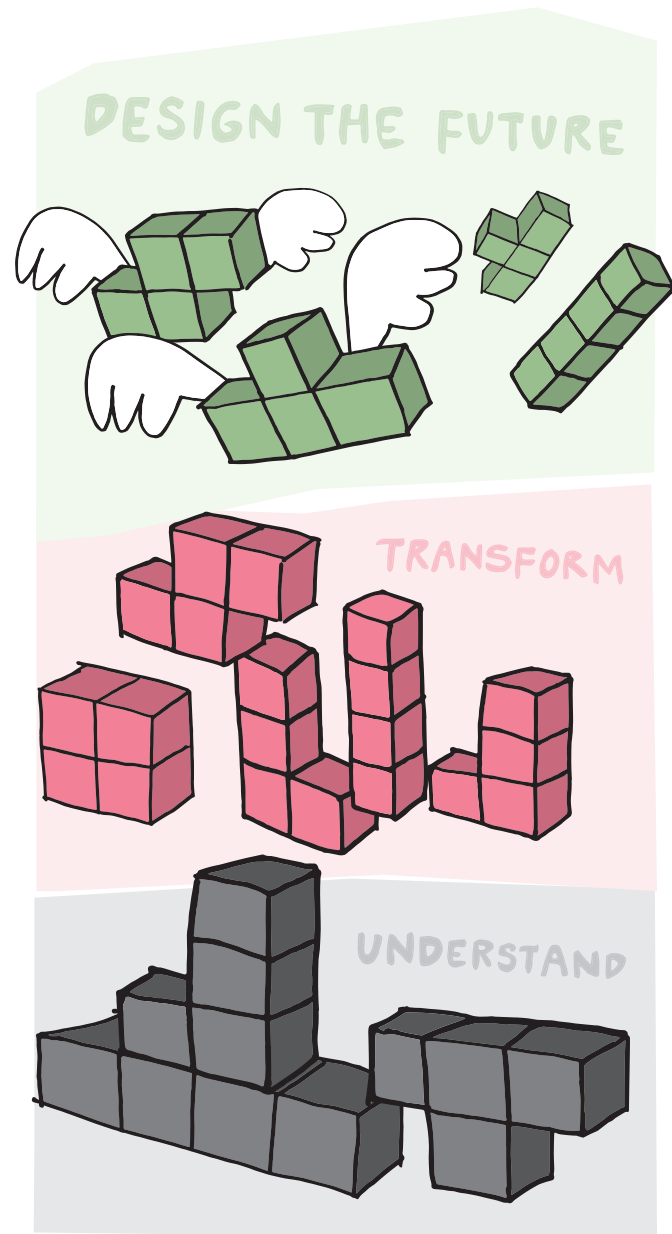
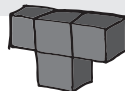
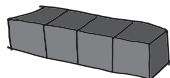
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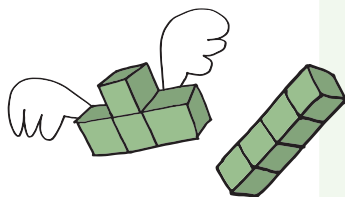
The Tetris blocks will guide you through *The Design Thinking Playbook*. We start with a better understanding of the individual phases of the design thinking cycle. In the thematic block of “Transform,” we discuss the best ways to shape framework conditions and how strategic foresight helps us to create greater visions. The last part, “Design the Future,” focuses on the design criteria in digitization, the design of ecosystems and the convergence of systems thinking and design thinking, and the options of how to combine data analytics and design thinking.

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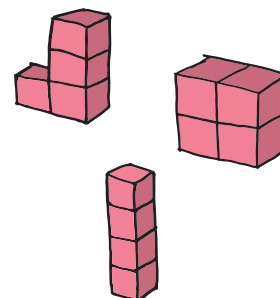


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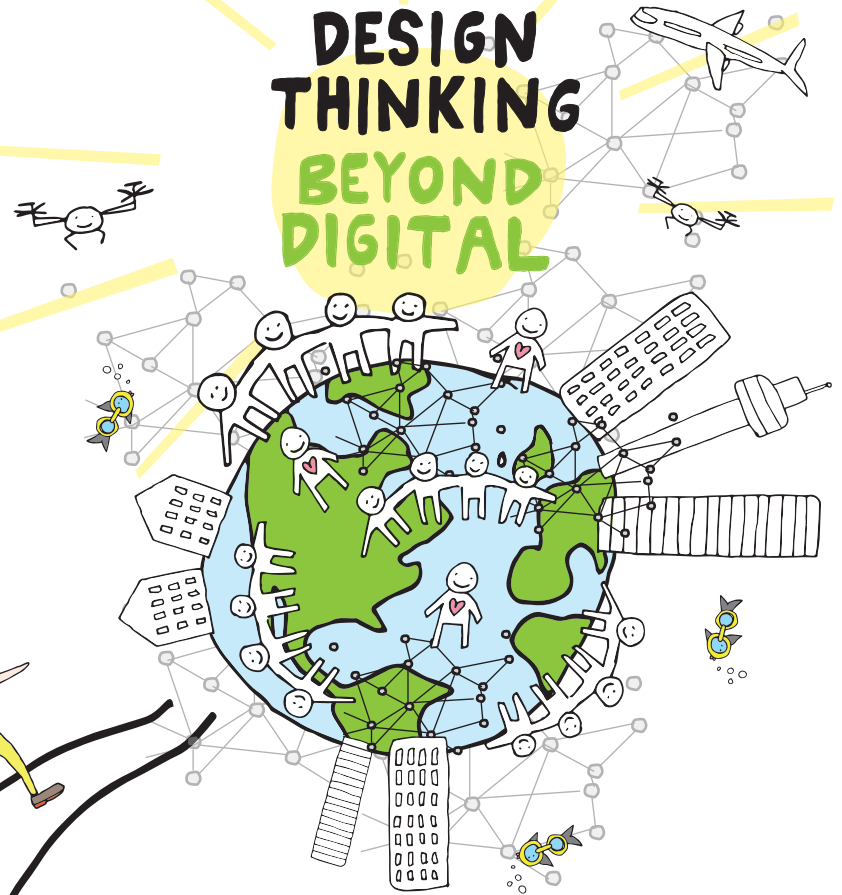
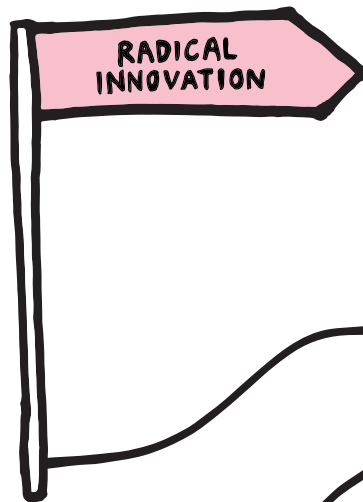
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Keep up the design thinking mindset and start hunting for the next big opportunity!

DESIGN THINKING BEYOND DIGITAL



Foreword

Prof. Larry Leifer

- Professor of Mechanical Engineering Design, Stanford University
- Founding Director, Stanford Center for Design Research
- Founding Director, Hasso Plattner Design Thinking Research Program at Stanford



I am quite delighted with this collection of factors of success in design thinking. My special thanks go to Michael Lewrick and Patrick Link. I also want to thank Nadia Langensand, who is responsible for the artistic implementation. As an interdisciplinary team, we were able to put together a fantastic book.

I want to express my gratitude as well to all the experts who shared their knowledge with us and contributed to reflections on the subject matter. The book that emerged is not only one on design thinking but also an exciting essay with deep insights into the application of design thinking beyond the digital context. This *Playbook* is entertaining and motivates readers to do it, not just think about it.

The book stimulates and helps readers

- to put well-known and new tools in the right context of the application;
- to reflect on the entire scope of design thinking;
- to direct the necessary mindfulness to the personas of Peter, Lilly, and Marc;
- to accept the challenges of digitization in which new design criteria in the human-machine relationship, for instance, are increasingly gaining in importance; and
- to set an inspiring framework in order to enshrine design thinking even more strongly in our companies and generate radical innovations.

I'm delighted in particular that this book contains contributions from experts from actual practice as well as from the academic world. A few years ago, the idea took shape that a stronger networking of the design thinking actors should be achieved. This *Playbook* and the communication in the Design Thinking Playbook (DTP) community today act as a stimulus for an open exchange of ideas and materially contribute to enshrining design thinking and new mindsets in companies.

Design thinking is currently experiencing a surge of interest because it is a pivotal tool for initiating digital transformation. We have seen how banks use it to shape the "era of de-banking" and how start-ups have created new markets with business ecosystem design.

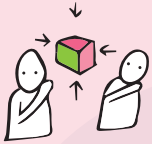
At the ME310, which has become somewhat of a legend by now, I frequently have the honor of welcoming corporate partners from different industries from all over the world, who work out exciting design challenges with our local and international student teams.

Have fun reading!

Larry Leifer

DTP - COMMUNITY
WWW.DT-PLAYBOOK.COM

Driven by curiosity



We are curious, open, ask “WH questions” continuously, and change the perspective in order to look at things from various sides.

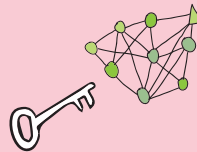
Focus on the people

We focus on the human being, build empathy, and are mindful when exploring his/her needs.



Accept complexity

We explore the key to complex systems, and accept uncertainty and the fact that complex system problems demand complex solutions.



Visualize and show

We use stories, visualizations, and simple language to share our findings with the team or create a clear value proposition for our users.



Experiment and iterate

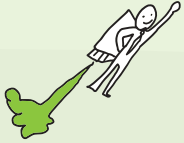
We build and test prototypes iteratively to understand, learn, and solve problems in the context of the user.



THE DESIGN THINKING PLAYBOOK MINDSET



Co-create, grow, and scale



We continuously expand our capabilities to create scalable market opportunities in a digital world and in ecosystems.

With varying mental states

As the situation requires, we combine different approaches with design thinking, data analytics, systems thinking, and lean start-up.



NEW MINDSET.
NEW PARADIGM.
BETTER SOLUTIONS.

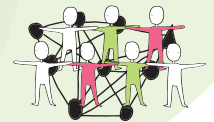
Develop process awareness

We know where we stand in the design thinking process and develop a feeling for the “groan zone” to change the mindset through facilitation in a targeted way.



Networked collaboration

We collaborate on an ad hoc, agile, and networked basis with T-shaped people and U-shaped teams across departments and companies.



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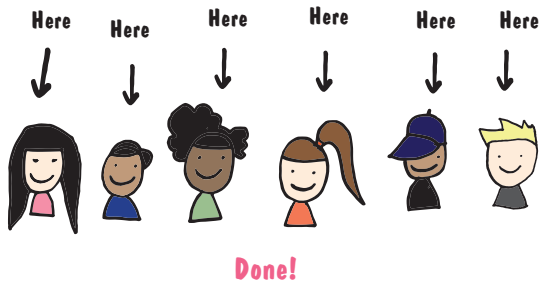
Reflect on actions

We reflect on our way of thinking, our actions, and attitudes because they have an impact on what we do and on the assumptions we make.



Introduction

Where will the next major market opportunities emerge?



The hunt for the next big market opportunity is ever present. Most of us are ambitious company founders and good employees, managers, product designers, lecturers, or even professors. We all had cool business ideas at one time, such as the vision to build a revolutionary social network 3.0 that would outshine Facebook, to establish a health care system that suggests the best possible treatment option to patients and gives us health data sovereignty, and many more ideas.

It's people like us who develop new ideas with great energy and tireless commitment, our heads filled with visions. To succeed, we usually need a (customer) need; an interdisciplinary team; the right mindset; and the necessary leeway for experimentation, creativity, and the courage to question what exists.

Across all sectors, it has become increasingly important to identify future market opportunities and enable the people inside organizations to work with agility and live creatively. Today's planning and management paradigms are frequently not sufficient to respond appropriately to changes in the environment. Moreover, many companies have banned creativity in favor of operational excellence and management-by-objectives.

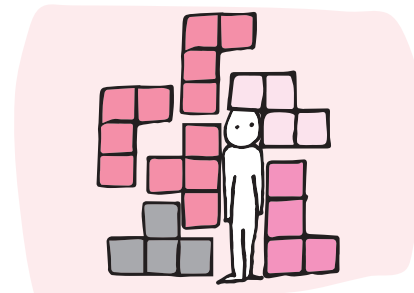
The old management paradigms must therefore be dissolved. But they will dissolve only when we allow new forms of collaboration, apply different mindsets, and create more room to develop and find solutions.

What are the three things that are important to us?

1) Keep your personality!

"No one needs to mutate into Karl Lagerfeld just because we have creativity and room for development at our disposal!"

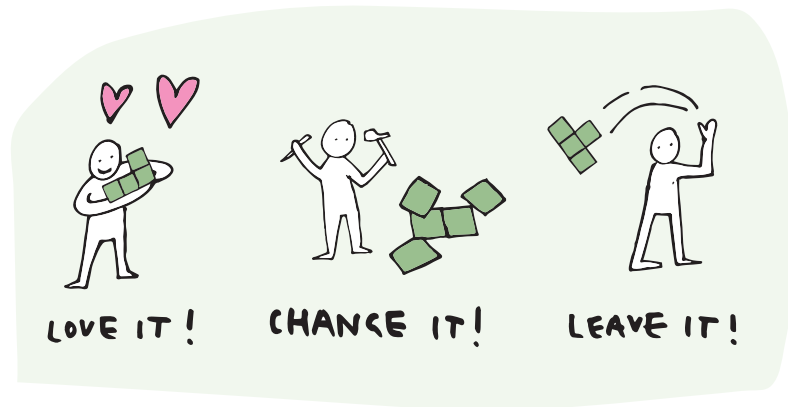
Because we are people with different personalities, it is vital we remain who we are today and continue to trust our experience and intentions in order to implement what we have gotten off the ground so far. And if there is one thing we have learned from Tetris, it is the fact we too often try to fit in somewhere—with the unfortunate consequence that we then disappear!



2) Love it, change it, or leave it!

"Use the concepts and tips that you like and adapt them to your needs."

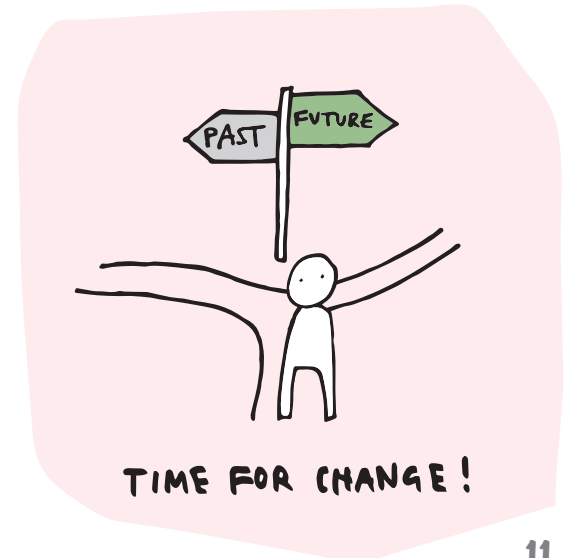
We decide on our own which mindset fits our organization, and whether we like the expert tips in this book or find them absurd and want to change them or adapt them to our situation. It would be a shame if all organizations were a clone of Google, Spotify, or Uber. Each company has its own identity and values. Even in Tetris, we have the possibility of turning things around at the last second so we're successful in the end.



3) Don't do it alone!

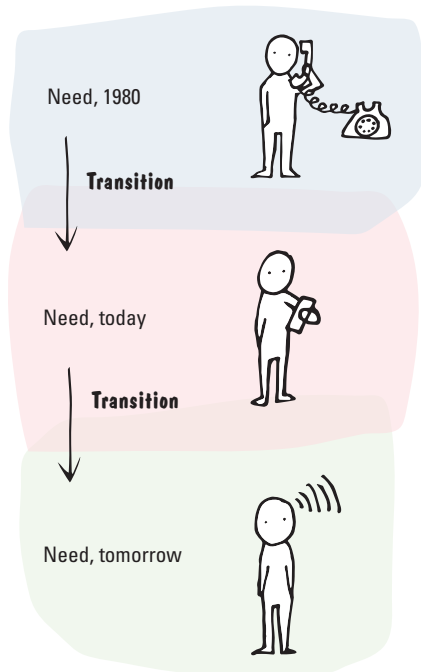
"Get the necessary skills, technologies, and attitudes on your teams to be successful and think in business ecosystems."

We cannot develop products today with the mindset, design criteria, and needs from the past. Both users' needs and the way we work together have changed, and we must have the necessary freedom and the skills to develop products and services, business models, and business ecosystems with agility in a digitized world. If we do not transform our organization, failed growth initiatives will pile up.



What should you expect?

The Design Thinking Playbook will help you in the design of your transition to a new management paradigm. We all know such transitions from our customers' needs. Let's take as an example the transition from analog telephony to the smartphone all the way to a mindphone. While in the 1980s we only occasionally needed to take work calls at home, today we need to be reachable everywhere and anytime. In the future, we might want to control simple communications directly through our thoughts in order to eliminate the inefficient manual-entry smartphone interface. Successful companies have also created business ecosystems in which they closely integrate customers, suppliers, developers, and hardware manufacturers.



In this *Playbook*, we make the world of design thinking palpable—and we want to see you a little happier at the end! Because design thinking also creates happiness. And when you as readers are happy, we have been successful!

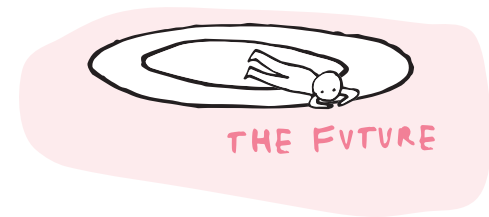
What was the biggest challenge?

*“Do you actually know the needs of your readers
for whom you’re writing the book?”*

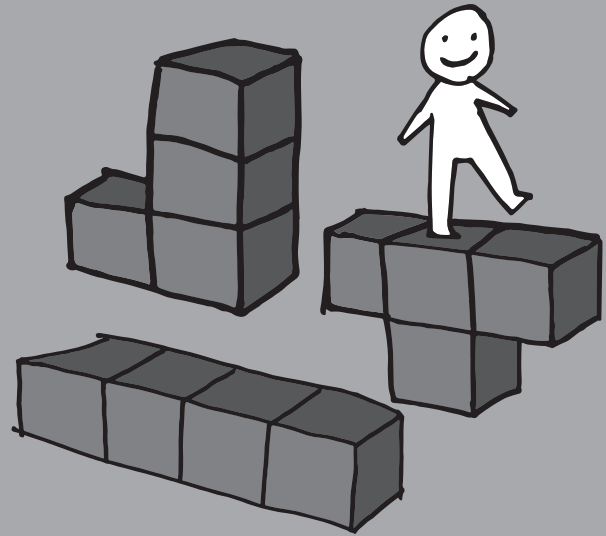
(Source: Direct quote from the first meeting of the editors and contributors of the *Playbook*)

Although we could very well picture ourselves as potential readers of such a playbook, we complied with the wish expressed in the question. In the design thinking style, we first determined the customer needs, created various personas, and developed much empathy for the work of our colleagues in order to establish a solid basis. Thus *The Design Thinking Playbook* is the first design thinking book that lives the mindset from the first to last page!

Because there is already a lot of design thinking literature on the market, we felt the need to show how design thinking is used optimally. We also want to help you professionalize your design thinking skills. And because the world does not stand still, we reflected on the digital paradigm and combined design thinking with other mindsets with the aim of becoming better and more innovative in a digitized world. Enough of our introduction. Let's focus on what's essential—the specific and practical application of design thinking and expert tips. We tried to formulate the tips as comprehensible activities and ways of working. The “How might we . . .” instructions provided are supposed to be no more than indications for how we can proceed. Design thinking is not a structured process! We adapt the mindset and the approach to the particular situation.



1. UNDERSTAND DESIGN THINKING

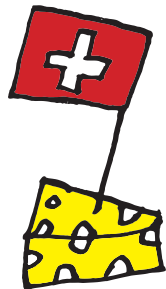


1.1 What needs are addressed in the *Playbook*?

As described in the Introduction, we wanted to write a book for all those interested in innovation, for movers and shakers as well as entrepreneurs who design digital and physical products, services, business models, and business ecosystems as part of their work. Regarding our three personas, we were able to identify three very different kinds of users who apply design thinking in their day-to-day activities. One thing the three have in common, though: All three of them want to create something new in a rapidly changing world. Which brings us straight to our initial question:

How can we learn more about a potential user and better uncover his or her hidden needs?

In the individual chapters, we focus on the three personas of “Peter,” “Lilly,” and “Marc.” We hope this lets us address the needs of design thinking practitioners as best as possible.



“Who is Peter?”

Peter, 40 years old, works at a large Swiss information and communications technology (ICT) company. Peter came in contact with design thinking in the context of a company project four years ago. Peter was a product manager then. Searching for the next major market opportunity, he had already tried out quite a few things. For a while, Peter always wore red underwear on New Year’s Day, but it didn’t make him any luckier in terms of successful innovations. After this experience, he doubted at first whether design thinking was really something for him. It was hard for him to imagine that something useful could come out at the end of the described procedure. The approach seemed just a little esoteric to him.

His attitude changed after he attended a number of co-creation and design thinking workshops with customers. He felt the momentum that can come into being when people with different backgrounds tackle complex problems together in the right environment. Paired with a good facilitator who provides work instructions in a targeted manner, any group can be empowered to create a new experience for a potential user. This positive experience prompted Peter to take on the role in such design thinking workshops as a facilitator. Owing to the workshop experience he had gotten and its successful implementation in projects, Peter was promoted not long ago. He now has the privilege of calling himself an “Innovation & Co-Creation Manager.”

He is glad to meet like-minded spirits at events such as “Bits & Pretzels” in Munich or design thinking meetings in Nice, Prague, or Berlin where he can exchange thoughts and ideas with the who’s who among digitization evangelists.



More about Peter: What is his background experience?

Peter studied at the Technical University of Munich. After graduating, he held various positions in the telecommunications, IT, media, and entertainment industries. Five years ago, he decided to move from Munich to Switzerland. Its location and excellent infrastructure convinced him to make this daring change. There, Peter met his future wife, Priya. He has been happily married for two years. She works for Google at their corporate campus in Zurich. Priya is not allowed to talk much about the exciting topics she works on, although Peter would be quite intrigued by them.

Both like to get involved with new technologies. Be it the smart watch, augmented reality, or using what the sharing economy has to offer, they try out everything the digital world comes out with. A few weeks ago, Peter had his dream of getting a Tesla come true. Now he is waiting for his car to be self-driving soon so he can enjoy the beautiful landscape while looking out the window. In his new role as Innovation & Co-Creation Manager, Peter now belongs among the “creative” ones. He has replaced his suits and leather shoes with Chucks.

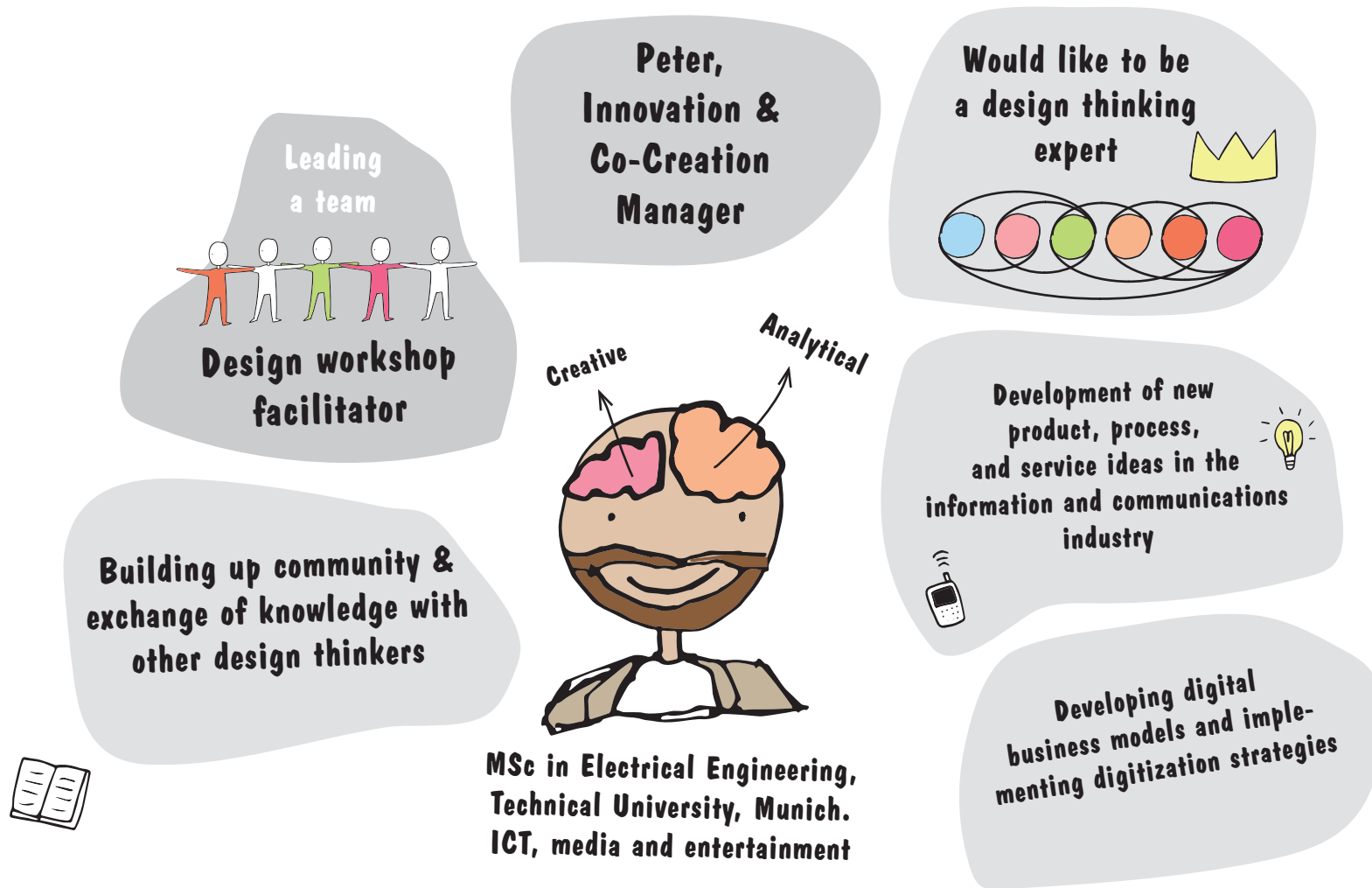
Peter tried to resolve the last crisis in his relationship with a little design thinking session. Priya was very aloof with Peter all of a sudden. Peter took the time to listen to Priya and better understand her needs. Together, they discussed ways to bring more oomph into their relationship. During the brainstorming, Peter had the idea that wearing his lucky red underwear might save the relationship. But in the meantime, he had developed so much empathy for Priya’s concerns that he quickly dismissed the idea. In the end, they came up with a couple of good ideas for their relationship. Priya did wish, though, that Peter would use a different method to learn his needs besides design thinking.

Up to now, Peter had used design thinking in various situations. He learned that the approach sometimes worked very well for reaching a goal, but that sometimes it wasn’t right. He would like to get a couple of tips from experienced design thinkers to shape his work even more effectively.



Visualization of the persona

User profile of an experienced design thinker from actual practice:



Pains:

- Peter's employer does not invest much in the further training of employees.
- Although Peter feels quite competent by now in dealing with design thinking, he is still convinced he could get more out of the approach.
- Peter has noted that, while design thinking is a powerful tool, it is not always used optimally.
- Peter frequently wonders how the digital transformation might be accelerated and what design criteria will be needed in the future to be a success on the market.
- Peter would like to combine other methods and tools with design thinking.
- Peter is faced with the challenge of having to impart to his team a new mindset.
- He would like to exchange ideas with other design thinking experts outside his company.

Gains:

- Peter has a lot of leeway in his daily work to try out new methods and tools.
- He loves books and all tangible things. He likes to use visualizations and simple prototypes for explaining things.
- What he would really like to do is establish design thinking in the whole company.
- He knows various management approaches he would like to link with design thinking.

Jobs-to-be-done:

- Peter has internalized the design thinking mindset, but sometimes, good examples that would help to change his environment don't come easily to him.
- Peter enjoys trying out new things. With his engineering background, he is open to other approaches to problem solving (whether quantitative or analytical).
- He would like to become an expert in this environment as well. He is looking to connect with like-minded individuals.
- Peter experiments with design thinking.

Use cases:

A book in which experts report on their experience, in which tools are explained by way of examples—such a book would be just the thing in Peter's eyes. A book he could recommend to his company at all hierarchical levels. A book that expands the framework of inspiration and makes people want to learn more about design thinking. He would also like to know which design criteria will be needed in the future, in particular for the development of digital products and services.

"Who is Lilly?"

Lilly, 28 years old, is currently working as a design thinking and start-up coach at Singapore University of Technology & Design (SUTD). The institute is one of the pioneers in design thinking and entrepreneurship for technology-oriented companies in the Asian region. Lilly organizes workshops and courses that combine design thinking and lean start-up. She teaches Design Thinking and coaches student teams in their projects. In tandem with that, she is working on her doctoral thesis—in cooperation with the Massachusetts Institute of Technology—in the area of System Design Management on the subject of "Design of Powerful Business Ecosystems in a Digitized World."

To divide participants into groups, Lilly uses the HBDI® (Herrmann Brain Dominance Instrument) model in her design thinking courses. Productive groups of four to five are formed this way, each one of which works on one problem statement. She has discovered that it is vitally important in each group to unite all modes of thinking described in the brain model. Lilly's own preferred style of thinking is clearly located in her right half of the brain. She is experimental, creative, and likes to surround herself with other people.

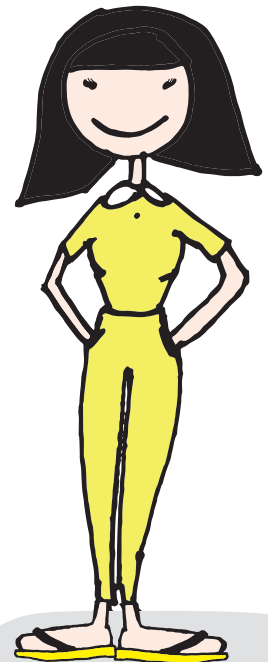
Lilly studied Enterprise Management at the Zhejiang University School of Management. For her master's degree, she spent a year at the École des Ponts ParisTech. As part of the ME310 program and in collaboration with Stanford University, she worked on a project there with THALES as an industrial partner, which is how she became familiar with design thinking. During this project, she visited Stanford three times. She liked the ME310 project so much that she decided to attend the University of Technology & Design in Singapore. There, Lilly became known among faculty for her extravagant flip-flops. SUTD students were less enthusiastic about them.

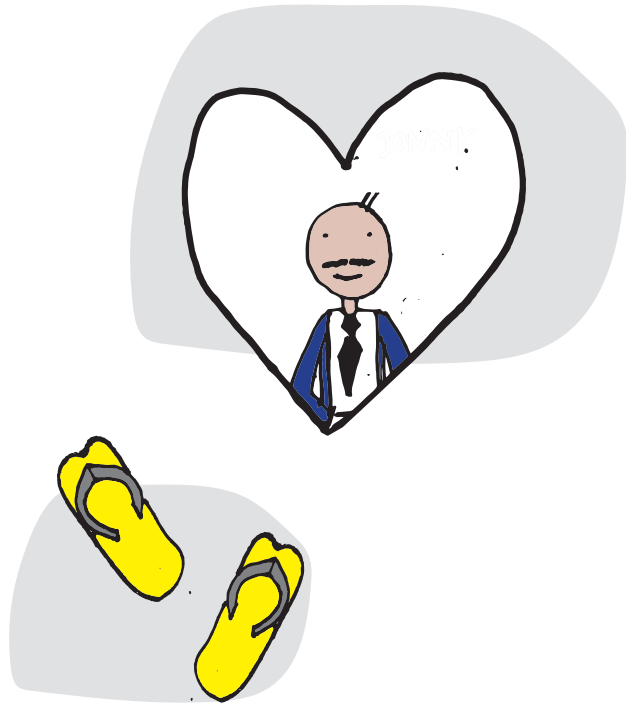
More about Lilly: What is her background experience?

Lilly has great in-depth theoretical knowledge of various methods and approaches and is able to apply them practically with her teams of students. She is good at coaching these teams but lacks understanding of actual practice. Lilly offers design thinking workshops at the Center of Entrepreneurship at Singapore University of Technology & Design. Frequently, people from industrial enterprises who want to learn more in terms of their innovation capability or better understand the topic of "intrapreneurship" take part in these workshops.

Lilly lives in Singapore and shares an apartment with her friend Jonny, whom she met during her year in France. Jonny is an expat who works for a major French bank in Singapore. At first, Jonny thought Lilly's flip-flops were somewhat freaky but, at this point, he likes that little splash of color on her.

To maximize success, Jonny sees great potential in user-centered design and his bank's pronounced orientation toward customer interaction points. He is enormously interested in new technologies. The thought of what they might mean for banks fascinates and unsettles him at the same time. He follows events in the fintech sector very closely and has identified new potentials that might result from a systematic application of blockchain. He wonders whether such disruptive new technologies will change banks and their business models even more fundamentally than Uber changed the taxi sector or Airbnb the hotel industry—and, if so, when such changes will take place. The core question for Jonny is whether a time will come when banks as we know them will cease to exist altogether. Either way, banks need to become more customer-oriented and make better use of the opportunities that digitization offers than potential newcomers. Jonny is not afraid of losing his job as yet. But still, a start-up together with Lilly might be an exciting alternative. Jonny would like to see his bank apply design thinking and internalize a new mindset, but this is nothing but wishful thinking thus far.

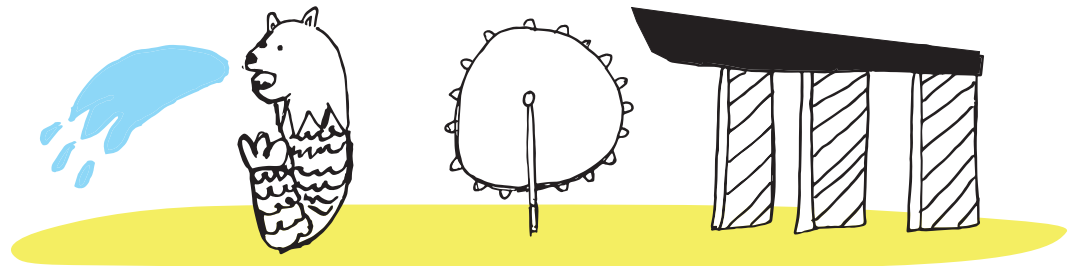




Lilly and Jonny would also like to set up a consulting firm that applies design thinking to support enterprises with digital transformation. They are still looking for something unique that their start-up could offer in comparison to conventional consultancy firms. In particular, they would like to address cultural needs in their approach to consulting. Lilly has observed too many times how the European and American design thinking mindset failed in an Asian context. She wants to integrate local particularities in her design thinking approach: the attitude of an anthropologist, the acceptance of copying competitors, and the penchant for marketing services more quickly, instead of observing the market for a long time. Something else makes them hesitant to implement their plan: They are bit risk averse because next year, once Lilly has completed her doctoral thesis, they want to get married and raise a family. Lilly wants three children.

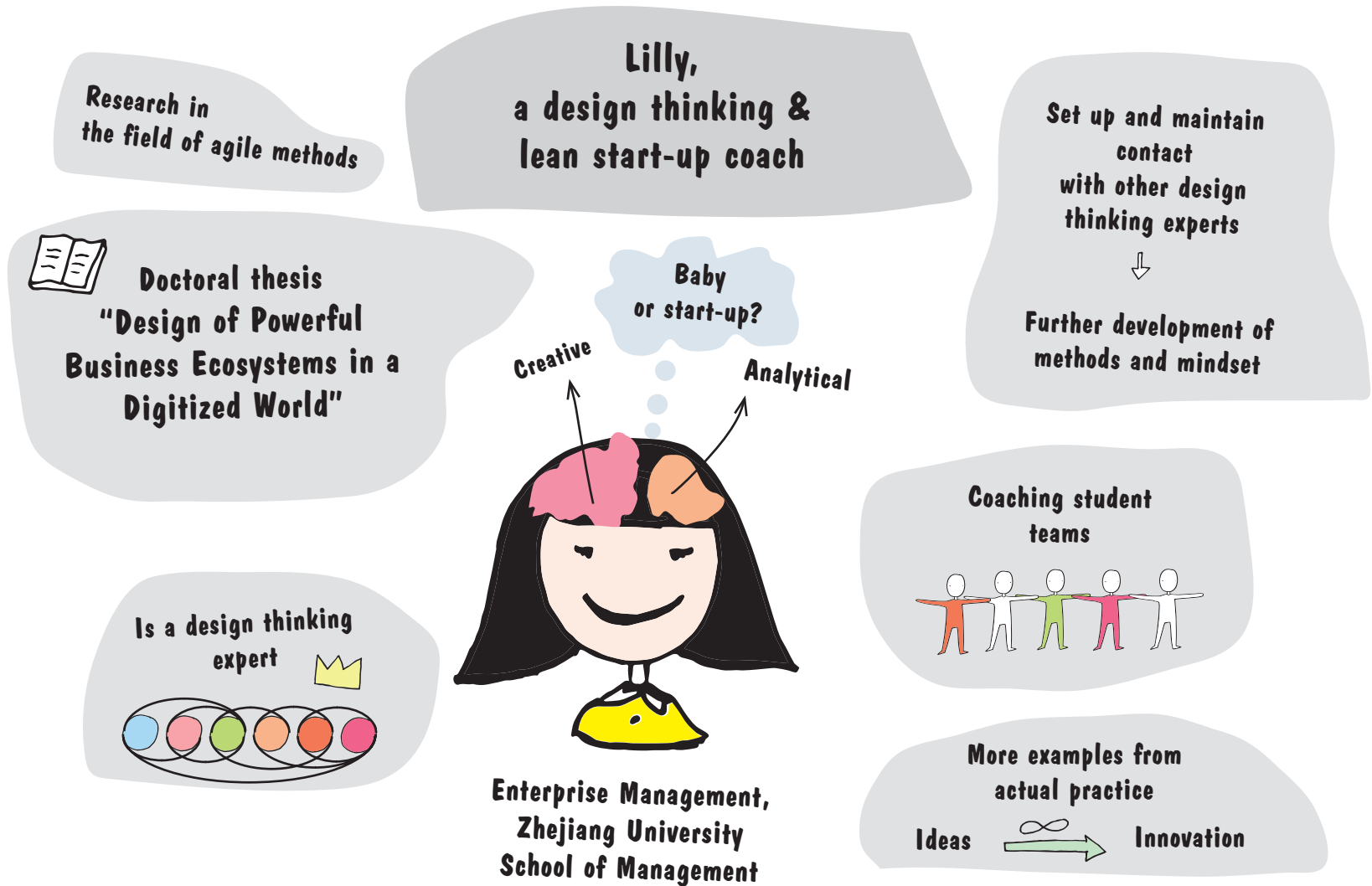
In her free time, Lilly is active and creative. She often meets with like-minded people she knows from the SkillsFuture program, which is a national program that provides Singaporeans the possibility to develop their fullest potential throughout life, regardless of their starting points; or from events such as “Innovation by Design,” which was funded by the DesignSingapore Council. They develop concepts for, among other things, adapting the space and the environment of the country to the needs of people. Lilly is especially intrigued by digital initiatives and hackathons that come into being through real-time data from sensors, social media, and anonymized motion profiles of mobile devices. Singapore is a pioneer that brings the design thinking mindset actively to the entire nation, not least with the “Infusing Design as a National Skill Set for Everyone” campaign.

DESIGN THINKING IN SINGAPORE



Visualization of the persona

User profile of an experienced design thinker from the academic environment:



Pains:

- Lilly is uncertain whether she wants to begin a family or a start-up after she has finished her dissertation.
- Lilly would like to work as a professor in the area of design thinking and lean start-up in Southeast Asia, preferably in Singapore, but no such position exists there yet.
- She feels confident in design thinking both in theory and in her work with students, but she has a hard time establishing its importance for actual practice and convincing partners in the industry of its power.
- Working with colleagues from other departments is difficult, although design thinking could be combined well with other approaches.
- Lilly would like to exchange ideas with other design thinkers throughout the world in order to enlarge her network and make contact with industry partners, but has not yet found a platform to do so.

Gains:

- Lilly enjoys the possibilities offered by the intense contact with students she has as a coach. She can easily try out new ideas, and observing of her students has yielded many findings for her doctoral thesis.
- Lilly loves TED Talks and MOOCs (massive open online classes). She has already attended many courses and talks revolving around the topics of design thinking, creativity, and lean start-up, and has thus acquired a broad knowledge base. She would like to integrate new findings and methods in her courses.
- Lilly wants to bring her knowledge to a community and cultivate contact with other experts, to advance methods, publish, and do research together.
- Through the exchange with those involved in actual practice, Lilly can test and improve new ideas.

Jobs-to-be-done:

- Lilly understands design thinking in theory and is good at explaining the approach to students. But sometimes, she can't think of good new examples and success stories from industry that could motivate the students and workshop participants to try out design thinking on their own.
- Lilly coaches students and start-ups, and organizes design thinking and lean start-up workshops. Her aim is to boost user centricity with all participants.
- Lilly enjoys trying out new things. She knows ethnographic methods and human-centered approaches from her studies. What has surprised her time and again is that the stereotypes of individual disciplines have an element of truth in them, yet interdisciplinary teams still achieve more exciting results.
- Lilly wants to meet new people and find ideas for her work and her start-up.

Use cases:

The book Lilly wants is one that contains many examples and activities from actual practice instead of pure theory. An easy-to-use reference book with tips from experts that widens her inspiration framework and fires her desire for design thinking. A playbook that looks into the future and shows how design thinking will continue to develop. A book that she can recommend to her students as further reading material.

"Who is Marc?"

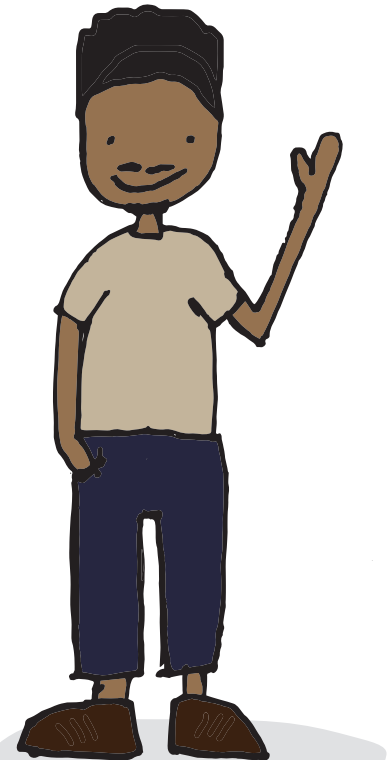
Marc, 27 years old, completed his MSc in Computer Science two years ago. He used his time at Stanford University to build out his network. He also attended a number of pop-up sessions at the d.school (Stanford University design school) on the theme of entrepreneurship and digital innovation. Marc met like-minded people there who voiced ideas just as crazy as his. Because Marc is somewhat introverted and does not just walk up and speak to people easily, he was grateful for the workshops at the d.school, which were accompanied by a facilitator. The facilitator created an atmosphere in which not only were ideas exchanged but one's thought preferences were recognized, and teams were optimally put together. His group quickly recognized and appreciated Marc as "the innovator." The other team members had knowledge of marketing and sales, finance and management control, and health care and mechanical engineering. The group was thrilled by Marc's idea of stirring up the health care and medtech industry through the use of distributed ledger technology. Marc made quite an impression with words like bitcoin, Zcash, Ethereum, Ripple, Hyperledger Fabric, Corda, and Sawtooth. He waxed enthusiastic about frameworks such as ERIS being miracle weapons to tame the smart-contract dragons. Moreover, Marc had already been involved in two start-ups. For the makers and shakers of two Web analytics firms, he had written code during a summer internship. The group quickly realized that they wanted to found a start-up, knowing very well that Marc's technological affinity for blockchain, together with their business idea, would not yet make a profitable business. Processes and in particular business ecosystems must be designed to initiate a revolution.

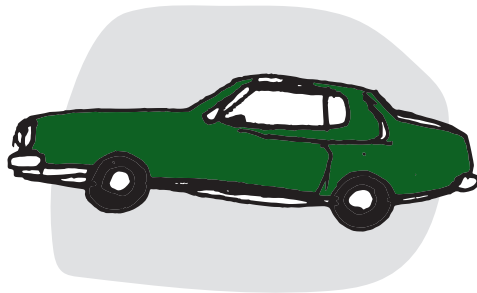
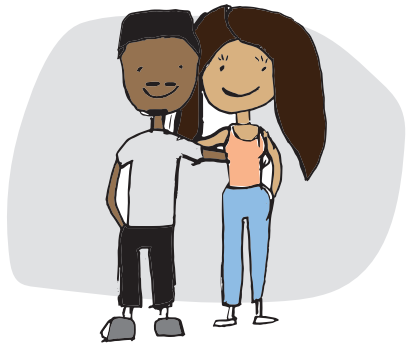
More about Marc: What is his background experience?

Marc grew up with mobile communication. As a digital native, he pursues a technology-based lifestyle, as we have already learned. On the level of popular sociology, he is a typical representative of generation Y (why). It is important to him that he do something meaningful with his skills. He wants to work on a team and get recognition. It would be best that no one tell him what to do when it comes to his special field of blockchain.

Marc grew up in Detroit. His parents were middle class. Both of them had made careers in major automotive companies. Hence Marc witnessed how an entire industry can lose its luster bit by bit. The subprime and financial crisis showed him that, from one day to the next, it can become impossible to pay the mortgage for the big mansion in the Detroit suburbs. Marc learned early on how to deal with uncertainties. He internalized how to "dance" with uncertainty and how to weigh options. For him, design thinking and the associated mindset are a natural attitude. Questioning the things that exist and finding new solutions for problems have always been something obvious to him. He owed the privilege of studying at Stanford to a scholarship. Besides the option of founding a start-up with his team from the d.school, he has received job offers at the campus job fair from Spotify and Facebook involving artificial intelligence. Marc likes both companies because they promise he'd be master over his own time and be able to work autonomously.

In his leisure time, Marc is a big baseball fan. His favorite team is the Detroit Tigers.





DETROIT HUSTLES HARDER



Coming home from the job fair in question, Marc met Linda, a Brazilian beauty who works as a nurse at the health center of his university. Marc was so taken by reading on his smartphone about the concept of Everledger that he had stepped onto the bicycle lane. Linda was just able to brake in time, but they both got quite a fright from the encounter. Marc was a bit embarrassed, but then he dared ask Linda if she wanted to network with him on Facebook. Marc is very proud of this. Now they swap emoticons via Whatsapp nearly every hour. Marc usually sends little diamonds—not as a digital assets but as virtual tokens of affection to his lovely Linda. But he was also fascinated by the fact that diamonds as digital assets change owners through a private blockchain.