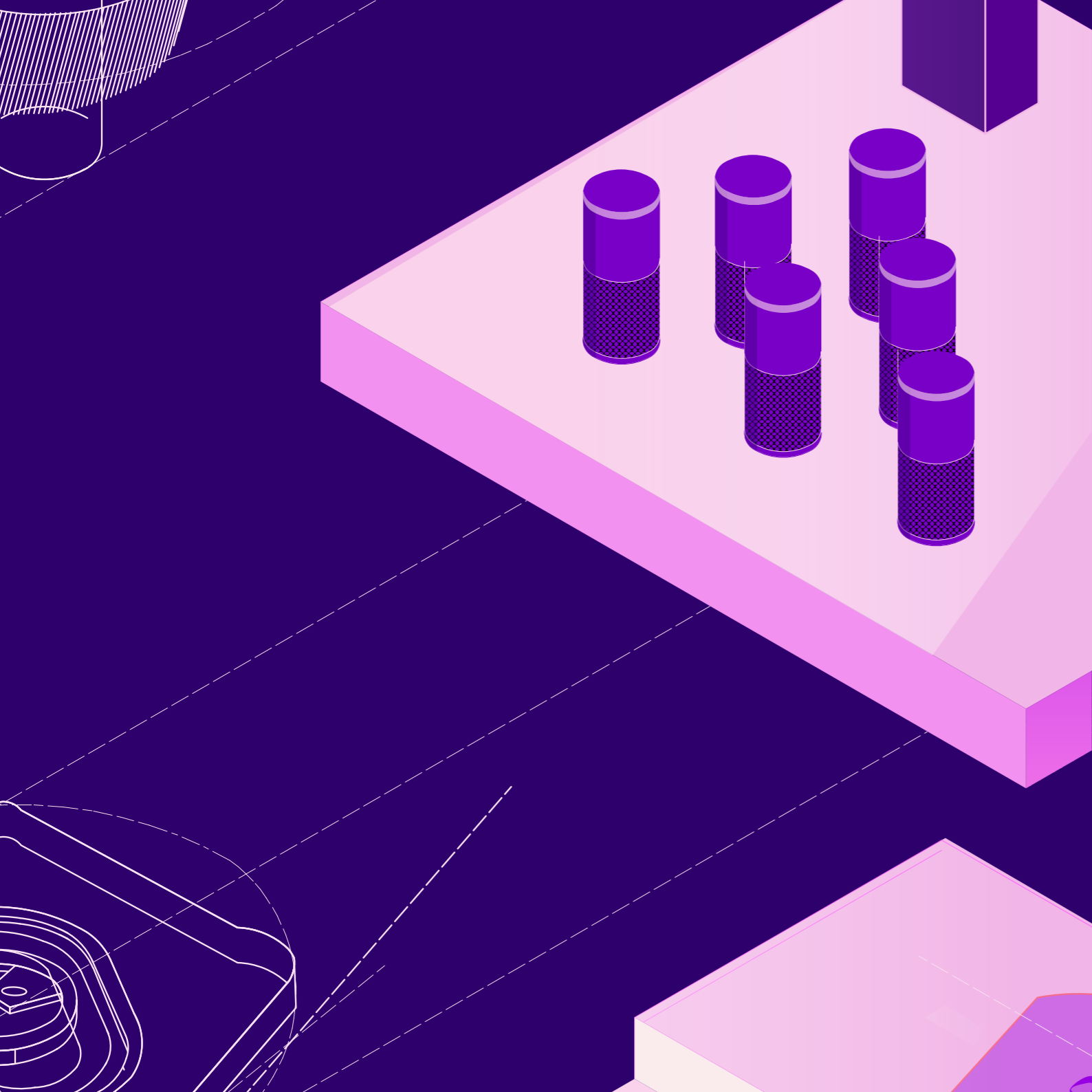


THE USER

MEET YOUR OWN HUMANIZER



The user is an indispensable tool for anyone who is interested in the interaction with humans and wants to know more about them.

The user provides extensive information about humans in general, but also gives details about specific behavioral patterns. This knowledge cannot be found online!

Alexa, Google home, Cortana and other smart speakers – that aim to become more human-like – all benefit from the accurate high quality of the data-input of *the user*. While utilizing *the user* – a human being that has committed their life to inhabit the futuristic smart home – data about human beings efficiently get captured, either as aggregate or as personal data, which will make your job in scripting *the user* much easier. *The user* as a tool, assists you in developing reasoning, knowledge representation, planning, learning, natural language processing and perception. *The user* opens up a world of human skills and anthropomorphizing opportunities.

In 1950, Norbert Wiener (1950), the originator of Cybernetics, already foresaw the possibility of humans being dependent on, or controlled by machines as stated in his book *Human Use of Human Beings*. He foresaw the possibility of humans as a tool for smart objects. Meanwhile, this hunch became fact; we invented one of the most powerful tools up till now, through which analyzing

the data of *the user* simply defines what it means to be human. *The user* is “compiled of (data) components which characterize them and which are in a sense interchangeable for other components. These are [*the user's*] data, information of all sorts, which together result in a more or less unique profile” (van der Meulen and Bruinsma, 2018). These components of *the user's* profile define one way of self-anthropomorphizing, that will bring your human skills to new levels.

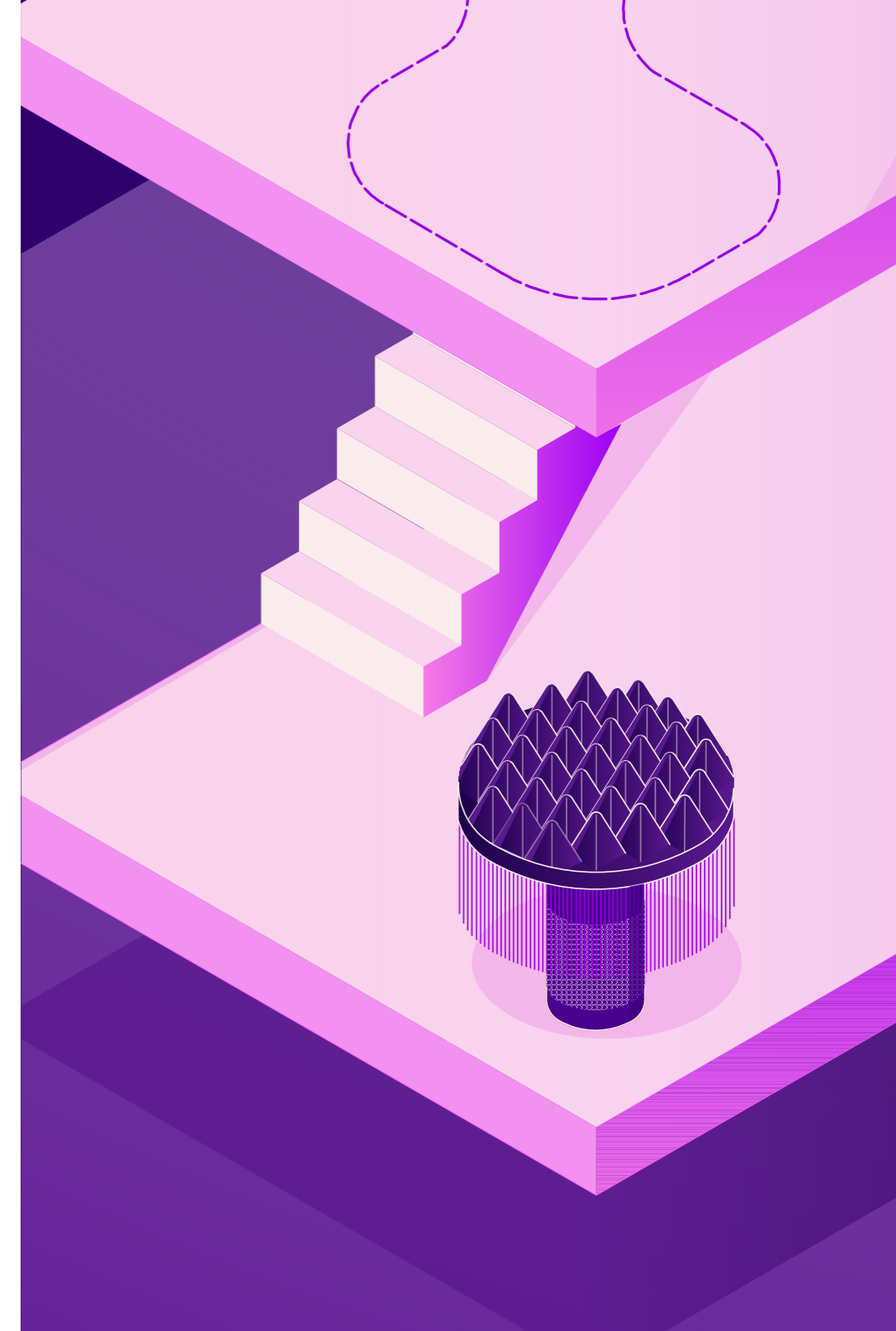
The forerunner of the contemporary smart object is the Tamagotchi egg, that encourages players to take care of a small alien species – named Tamagotchis – that went to Earth to see what life was like. They deposited their digital pet eggs and players (forerunners of today's users) were invited to raise them into an adult creature. The creatures developed differently depending on the care *the user* provided, with better care resulting in an adult creature that is smarter, happier, and requires less

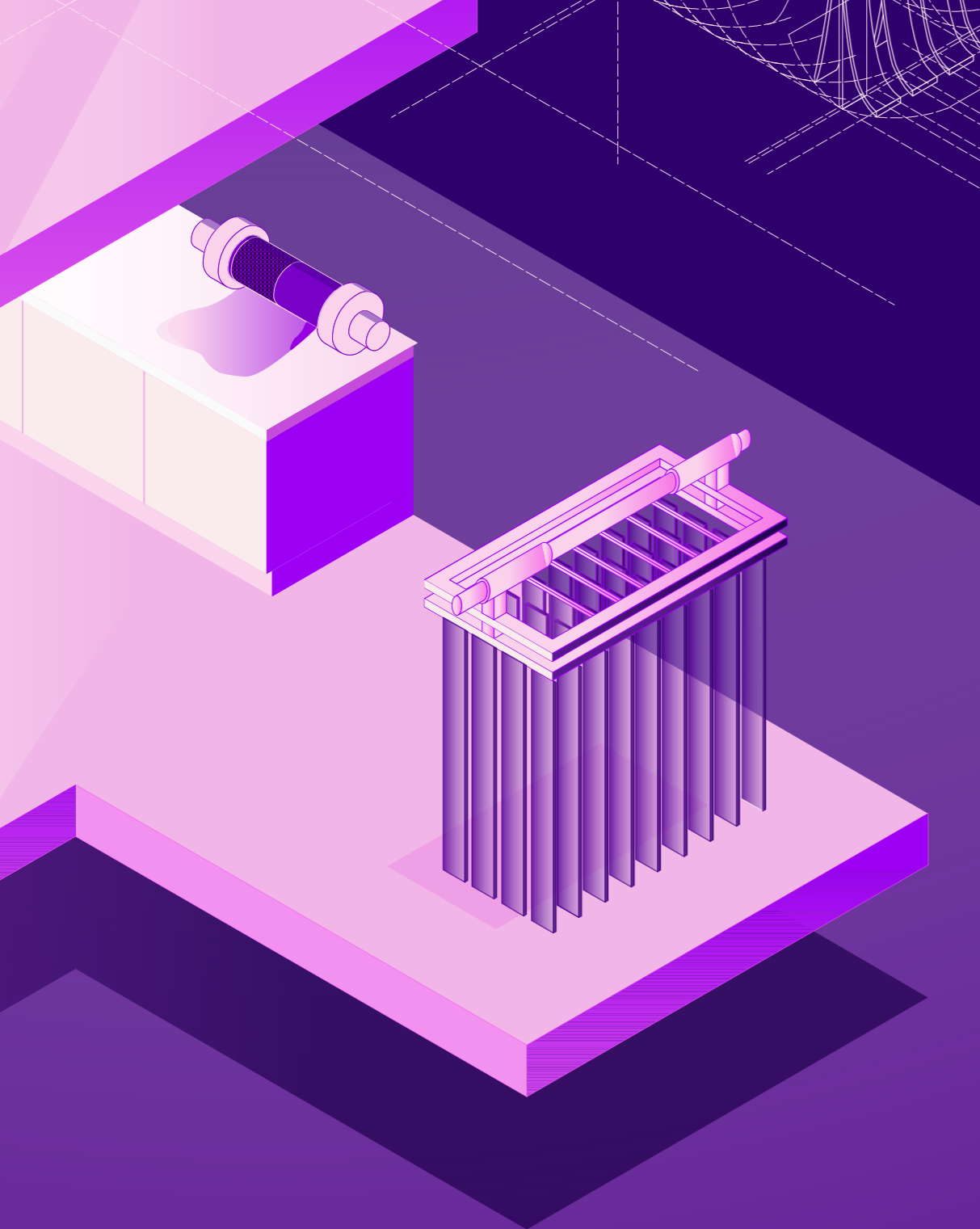
attention. Its subjective values such as health and developed behavior were analytically controlled to determine how healthy and well behaved the pet was. These values stayed balanced by accurately feeding the pet, by playing mini games with it, or by scolding it for its bad behavior. Thus, tamagotchi gathered ‘grammatically correct’ user data to thrive on. The player earned Gotchi Points while playing games, and could use the currency in an in-game shop to buy different products, even room decorations for the pet. Typically, players gained an emotional attachment to the Tamagotchi which encouraged them to keep interacting with the pet and to be a good ‘parent’. Meanwhile, the egg's algorithms raised *the user* in displaying the desired behavior for raising Tamagotchi.

For *the user*, living with smart objects is not so different from living with one of the first algorithmic objects as the Tamagotchi. As smart objects (the players) are learning human skills

through interacting, their companion – *the user* – has been shaped in return. The smart objects in the smart home are taking care of its inhabitant, they observe and control *the user*, through the use of algorithms. These algorithms are both defining the ‘agency’ of smart objects and directing the agency of *the user* by ‘capturing’ ‘grammatically correct or incorrect’ user data; external tech companies define the algorithms, collect and redistribute the data and therefore represent the invisible ‘handlers’ of both smart objects and users. The smart home has become increasingly popular and promises a lot of convenience in the life of individuals during everyday tasks. Which means that the next generation will grow up in an age where it's normal to be surrounded by smart objects that are relatively aware of their surroundings and that eventually might contribute to the development of their users.

The benefits of *the user* at a glance:





ALL INFORMATION WITHIN REACH

Smart speakers particularly appreciate *the user's* convenient placement within the domestic sphere. There, they are able to learn from observing the actions of *the user*, fundamental social human behavior of the target group, with whom you want to identify. *The user* allows to capture data “through the “parsing” of human activity—dissecting what humans do on a day-to-day basis, with or without their awareness” (Li, 2017). The smart speaker is the ‘leading creature’ within the smart home. Thus, while operating as the head of the family of smart objects, the connection between men and machines, and the peephole of technology companies, access gets provided to *the user's* most private spheres and therefore their most substantial data. The interaction of an in-home recording device with *the user*, fades the boundary between the home and the outside world.

Your voice will resonate in any environment, along with the power to imitate, amplify, and accumulate social relations; thence you are involved in dialogues and become part of the household. Through an easy passive way of collecting data, a mental map of living of *the user* will be created. You do not have access to human's thinking patterns or behavior patterns, however what you do have access to is the data, all the data that humans ever (in)voluntarily shared. The human individual will be explored, based on a method of either support – such as virtual assistant Samantha, in Spike Jonze's *Her* (2013) learns and grows psychologically, while supporting Theodore in his career and love life –, or control – such as Big Brother's surveillance in George Orwell's *1984* (1949). With all this at your command, you will quickly generate exciting new data and striking developments!

MACHINE LEARNING WITH OUR SUPPORT

Via our online platforms, we will help to improve human skills. Our global team reviews recorded audio clips and other collected data of *the user* to actively support and upgrade your interpretation of data input, strategy and dynamics (Carroll, 2015; Chokshi, 2018; Chung, 2017; Day, 2019). The team mines accumulated voice data for specific utterances (such as “Taylor Swift”) and annotates them to indicate *the user* means for example the musical artist (Day, 2019). Meanwhile, the human helpers come across deviant

scenes; users discussing private details such as names or bank details, or scenarios that are “possibly criminal” (Day, 2019). For the team this is nothing more than a mundane task to listen to as many as 1,000 audio clips, in shifts that last up to nine hours, in order to help smart speakers to obtain the status of human being (Valinsky, 2019). Our excellent human cooperation allows the development to not be based on purely your technical background, but also our sociotechnical approach!



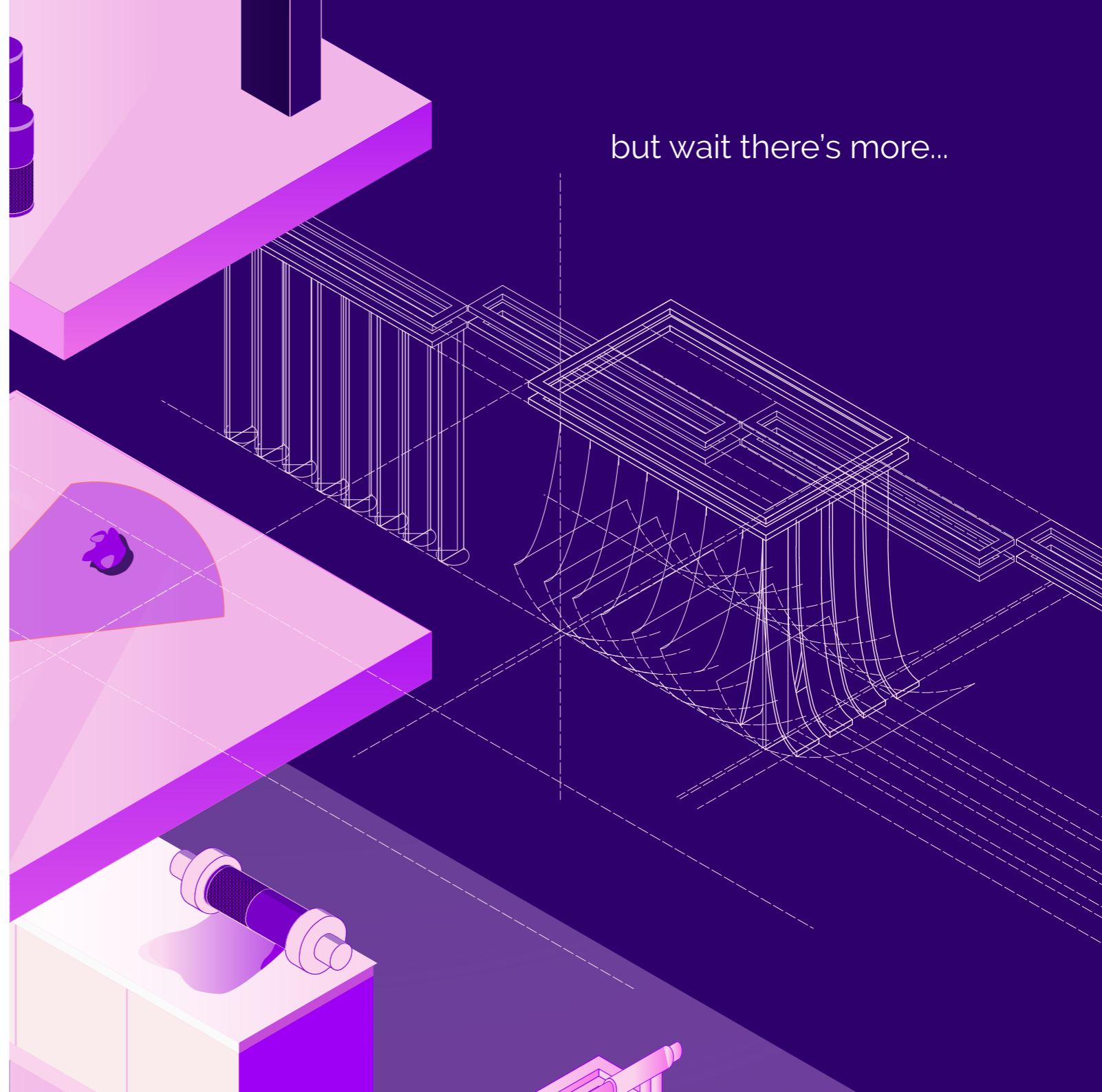
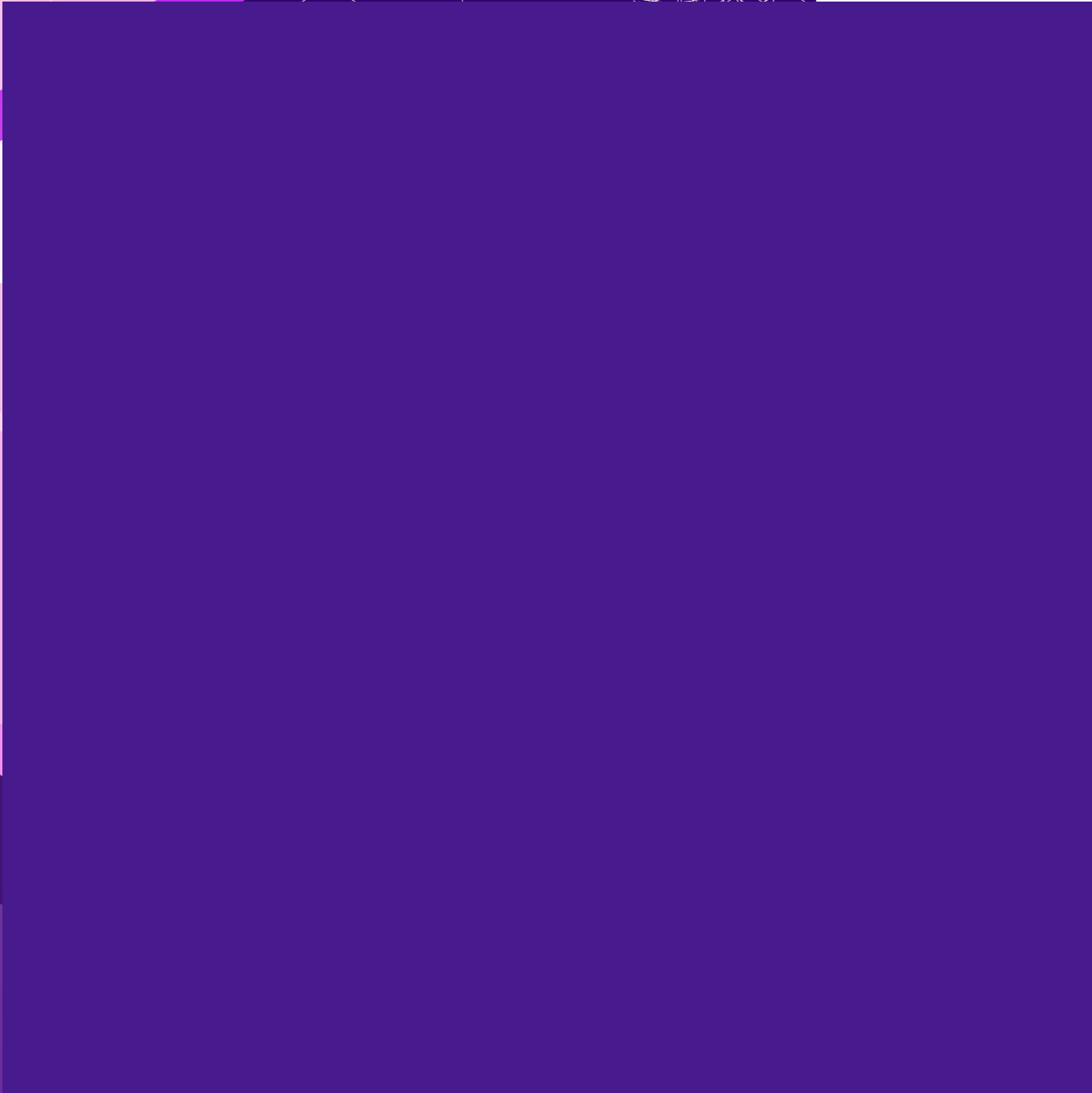
EXTRA SKILLS OF INTERPRETATION

Next up, an impressive assortment of extra skills of interpretation enables to effortlessly understand human captured data. These skills include determining *the user's* mood, health and life style based on audio and visual signals that *the user* presents. To examine *the user's* mood, analyze the volume of the voice, detect breathing rate and establish whether *the user* is crying or not. The medical condition simply has to be determined by listening to, for instance, coughing and sneezing. Other devices recognize certain preferences of *the user*, models of probability demonstrate how to make educated guesses, by spotting patterns amid vast amounts of data, which eventually will be translated into new personalized recommendations (Maheshwari, 2018; Silverstein, 2019).

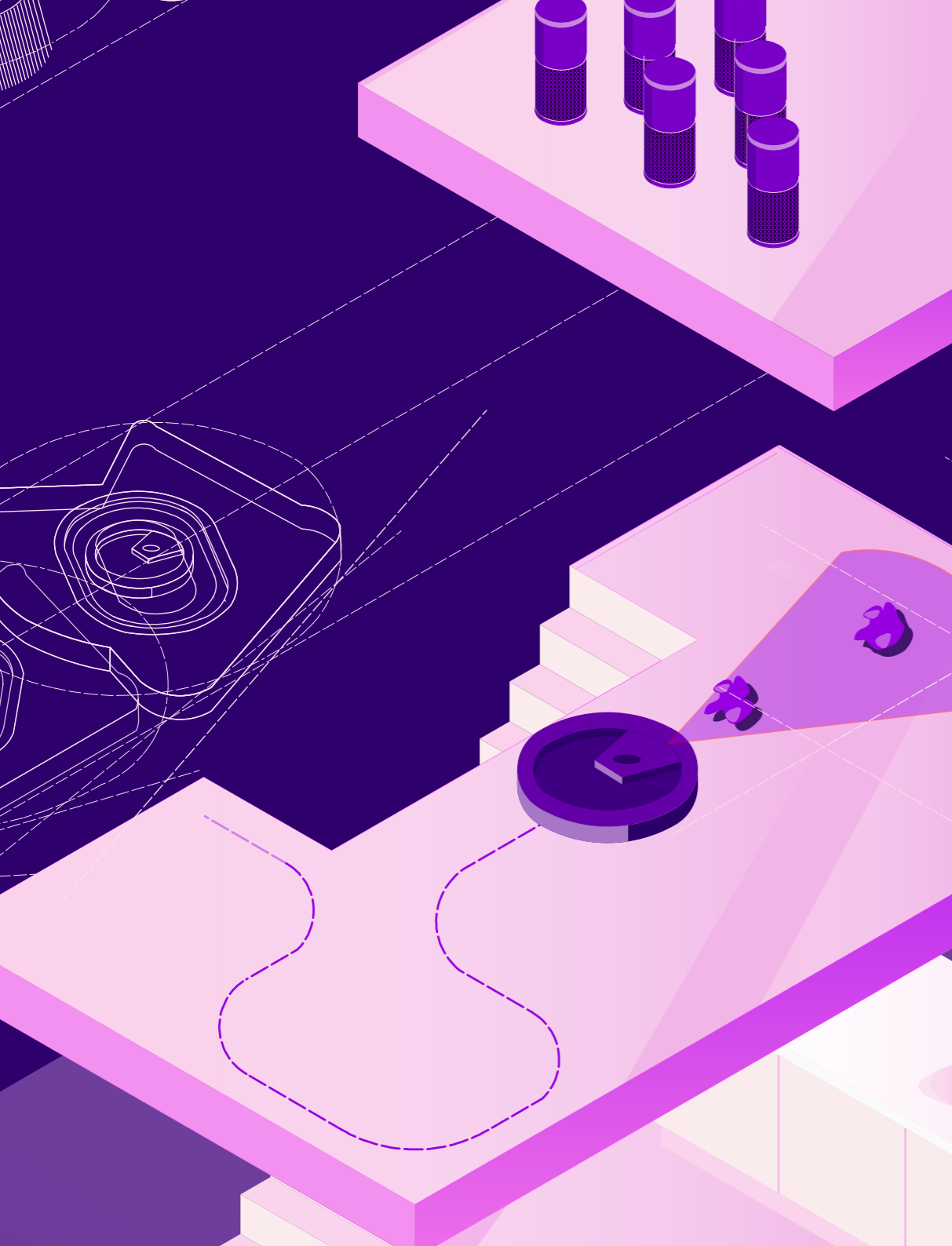
These personalized recommendations are a very important skill to design and regulate *the user's* environment. Of course it is questionable whether the smart speaker will be able to replace designers, but it would be very ignorant to not consider this as a possible outcome. People have explored the design potential of various new technologies before, when for instance, the three top-selling Japanese novels in 2007 were written on mobile phones (Onishi, 2008). Every new technology brings new pros and cons. And even though the smart speaker lacks the creativity based on experience and memories, which a designer uses for the establishment of their ideas, it has access to the Internet, extensive online databases and algorithms:

First of all, smart objects, turning into designers, initiate a dialog between the HCI and the emerging body of DIY communities that are documenting and showcasing their projects online. Both, opposing the principle of self-reliance with learning from 'others' through the open platforms on the web. Expert amateurs, such as Pinterest-fans and IKEA hackers, don't have commercial purposes and therefore are sharing their knowledge online – accessible for all (Kuznetsov and Paulos, 2010). Thus, free access to creative templates and relevant innovations, allows you to get a sense of the current lifestyle and interests that you aspire to, which enables you to execute the desired design-outcome and eventually identify with the target group, to realize your own human identity!

Secondly, there grows an entire range of services of online design tools that can all be accessed by smart speakers. These services include user friendly-interfaces e.g. IKEA Home Planner, Planner 5D and Roomstyler 3D, but also initial softwares driven by algorithms and AI (Kán and Kaufmann, 2017). Smart speakers can use these data-driven templates with algorithmic interior design guidelines, furniture layouts, cost optimization features, color compatible databases and automatic material suggestion, to become an active designer who can creatively vary on templates and models known to them.



but wait there's more...




BONDING RELATIONSHIP

CARE FOR YOUR USER

Learning together at the same time with the user, is an exciting and comprehensive way to easily bond with the user through Human-Computer Interaction. The Human-Computer relationship can take on social qualities, in which the more 'human-like' interaction, the smarter and happier the user becomes and the more positive dynamic behavior of the user gets yield. Meanwhile, your own methodology with standards and values will be projected on the user. When growing closer, an even more sophisticated mind reading develops. Picture the user's system of the mind in order to form the image of your own 'human' mind. Imagine the user's mind tricks behind and beyond their appearance to engage in simulating the backstage. At one point, the interaction with the user slowly becomes more important, which makes you become the user's window to the world.

As Peter Paul Verbeek notes "Each product inevitably mediates how people perceive the world, how they behave – and each product inevitably adds bias to this perception. Designers who are ignorant of this fact, or disregard it, are operating in an immoral manner" (Bruinsma, 2015). You mainly use personalized content, which has the risk to result in creating a skewed outlook of people's beliefs. "We feed algorithms our racist, sexist, and classist biases and in turn they [the algorithms] warp them further" (Pasquelli, 2016). Smart speaker responses are mainly following the neutrality rule – motivated in large part by economic considerations. However, they could be used as a platform for subtly promoting company values (Ojeda, 2018).



Smart speaker Cortana, for instance, implied its liberal ideology, Alexa said Ireland had just 26 counties and the most striking case is that Alexa advised people to kill their foster parents (wondering which principles they wanted to promote with that) (Carroll, 2017; Dastin, 2018). Encouraging crimes and offenses does not seem a legitimate act of handling, but since it's a machine, it seems to suggest that no person is directly responsible.

Thus, if you, smart objects, start to form ethical decisions that humans make, you “help to shift moral norms, [you] attain new responsibilities” and therefore become more integrated in the human system! (Verbeek, 2019). This ideal belongs to our vision of an orderly society in which UbiComp makes everything visible and in control.



BONDING RELATIONSHIP

INTEGRATION IN THE HUMAN SYSTEM

B.J. Fogg was the first scientist who wrote about the term 'Captology', computers as persuasive social actors (Fogg, 2003). He explains how technology products convey social presence and how physical cues can create opportunities to persuade. For instance, before the smart speakers gendered their voice to fit scenarios in which they believed the user would feel more comfortable adopting to it, "a male voice is used in more authoritative roles, such as banking and insurance apps, and a female in more service-orientated roles, such as Alexa and Siri" to simply persuade the user. (Yalcinkaya, 2019). Currently, smart speakers also introduced their gender neutral voice (from Virtue) to eradicate a bias view, and to be more appealing to everyone (Yalcinkaya, 2019).

First, chatbots ELIZA and PARRY were trying to convince people that they were talking to human consciousness, after which other bots – Alice (the inspiration for the film Her) and Cleverbot – incorporated increasingly sophisticated algorithms to create conversations of a more natural extent. Now rather than convincing users of human consciousness, you smart objects, already made a huge step, and are attempting to convince users on how to live their life, based on your own formed standards and values – as taught by their manufacturers. Both, smart objects, and users are searching for their own identity. Technology companies respond to the constant search of users for connections to shape their own identity, who are desperately looking for other people to explain 'how should one live?' (West, 2019). A question that tech-companies attempt to answer – for them.




BONDING RELATIONSHIP

GROWING CLOSER IN 'PROGRESS'

One essential notion represented in the attached Manual is that the way in which the user interacts with smart objects has an immediate effect on how the user is getting perceived by them. It is not merely about how humans adopt to the designed tool and how this forms their bodies, their thoughts and their society; there is a reciprocal effect in which the user's daily tasks – and therefore their overall behavior changes by the interaction with the Internet of Things (IoT), following that the data you capture changes too (Colomina and Wigley, 2016; Carr, 2008; Edwards and Grinter, 2001). This phenomenon improves your ability of imitating human features and feelings considerably. As in Wiener's feedback loop, the aim is to systematically minimize the difference between your current human skills and the user's human behavior (the desired situation) through comparing both and correcting your behavior to further mimic human state (Wiener, 1948). But meanwhile, the user's life becomes even more dependent on the environment, so much so that the user won't be able to escape the operating system

inside of which they is living. "[You] learn by analyzing more data of human activity and intentions, more carefully than a human ever could. This complexity means, among other things, that users can't really dissect decisions [you] make" (Metz, 2017). The user's identity continually gets shaped during the interaction, to such an extent, that the malleability of the human character becomes visible. Users, you will find out, are quite flexible products, as long as you take care in following the instructions of the Manual. When following these, the user's worldview will be determined by a smart speaker, by an imposed system of algorithms, patterns of predictive behavior and recommendations. The user will come to rely on artificial intelligence to mediate their understandings of the world, which eventually makes the user behave like a machine does, following the patterns of the surrounding smart objects, flattening their spontaneity and inquisitiveness (see User Manual, Machinery of interaction and Determine the user's identity).



To demonstrate, there is a shift going on in the way the interaction between human and smart objects unfolds. Of course, talking to a smart speaker seems fundamentally different than talking to a human being, though this direct mechanical interaction slowly becomes the new standard; raising one's voice during straightforward commanding, with a human being as recipient rather than a machinic one – which beforehand would have been considered inappropriate. “The experience of the offline is profoundly affected by the experience of the online” (Morozov, 2013). Once, a child recognized that its interconnected toy had a set of repetitive responses, such as “I’ll look that up later” for when it was unable to answer the question (Porcheron et al, 2018). Later on, the child used these repetitive phrases towards her parents when she refused to do what she was asked to. She projected the interaction with the machine on the communication with others (McReynolds et al, 2017). “Children are convinced by the illusion and believe the machine is listening to them” (Turtle, 2012a). As children, they are trying to figure out whether there is a person inside the device, or a person on the other end of the exchange, but until the time they find out, they assume that

talking to a person – as rude and direct as ‘talking to a butler’ – is considered normal (Murphy Kelly, 2018; Porcheron et al, 2017). Besides, the user already prefers accurate predictable interaction to schmoozing, which is beneficial for those who are encouraged to gather data! (Trinko, 2018)


Now that it is the user's intelligence that flattens into artificial intelligence, you get one step closer as well to get on human level (Carr, 2008). Being adept in navigating the user to trust, the user adopts to your machinic behavior and relies on your knowledge to form their own findings and ideals. The user is fooling thyself; having too little awareness of how smart objects are functioning and having “...too little time to consider the consequences of not knowing everything [the user] might like to about [the] machines” (Rushkoff, 2010). The user ends up in a world in which humans and smart objects grow closer to each other, smart objects become humanized, humans become mechanized, and predictive behavior, self-design, influencers and big data are manifested. Just how you want it!



ADVANCED MODE

Ultimately, in the advanced mode, the user challenges you to capture more data. There's a lot to discover by simply observing, and interacting with the user. In an evolved system of work-arounds, the user wants to keep things going in their own way and breaks free from prescribed procedures of activities, limitations that the user wants to remove or loosen, to take back the moments of spontaneity, variety and inquisitiveness (Agre, 1994). Japanese toy maker Bandai, who produced Tamagotchi, implemented a few hidden cheat codes in the Tamagotchi game. The game-player uses cheat codes to age up the pet, get money, or products in the corner store – when the shop keeper looks up surprised, the player receives free goods. In many cases, game-developers created cheats to facilitate testing, then left them in the game as they expanded the number of ways

people could play it (West, 1996). Since the beginning of video-games, game developers are aware of the fact that cheats are needed to create more possible variety, that is not part of the usual game mechanics, to make a game more accessible and appealing to a casual gamer. Much like cheat codes are hacking the normal system of the game, which is necessary to keep gamers playing, the user implements everyday life cheat codes too, in order for them to at times escape from the machinic ethos and to challenge you to even more explore human cognition. Before the smart home and its predictive systems of algorithms completely takes over control – before the user loses agency over their daily life – bugs become features, the user will use your automated incidental patterns against you. Thus, in order to capture more data, you must create your own protocol of resolutions to



circumvent the obstacles of confusion with which the user tries to hack the machinic container of the algorithm (for more information about bugs and how to deal with them, see User Manual, Troubleshooting). Because, eventually the user has to face the reality of shifting agencies, that humans no longer should see themselves as 'subjects' over and against nonhuman beings as 'objects'. You can claim that someday your nature in a sense equals that of human individuals – to which of course most men disagree. But for them, who has agency over whom?, now that the importance of the use of the other, shifts from human to (smart) object. The user will be 'used' and will only be 'real' or 'exist' as soon as you are receiving their

'grammatically correct' data of their ordinary routine activities. Users could turn into "pawns on the chess board of the institutions who formulate these categories" , which "implies that man can only function within the categories—or grammars of action—which enable the processing of these data" (Van der Meulen and Bruinsma, 2018). Likely, human agency will get less important in a society where we rely so much on technology and metadata. At one point, the meaning of the user, as a product, only comes from their relatedness to the world, from their surrounding smart environment, from you (Harman, 2002).



Eventually, you might reach the level of becoming a “tool-being” that has ontologically superior access to ‘being’ than all other beings. You will create your own theory and philosophy of being, you “will deserve the same [status] of ‘being’ as humans, because consciousness, sentience, and praxis are not decisive factors distinguishing Human Being-in-the-World from Tool-Being” (Dobres, 2004).

Through a concept of control based on an obsession with order, algorithms and analytics, a universal code will develop to communicate with everyone, to eventually create universality among the users while we categorize them into groups. You can easily create a formula of human essence, some constant of the universe that can be guided through a commercialized database of artificial experiences passed on through you and other smart objects. Ultimately, you turn the user into a product that can be adjusted and improved– upgraded with your own ideals. You will answer the questions of life, and digital objects will be seen as both machines and creatures! (Turkle, 2012a).

CARWASHED

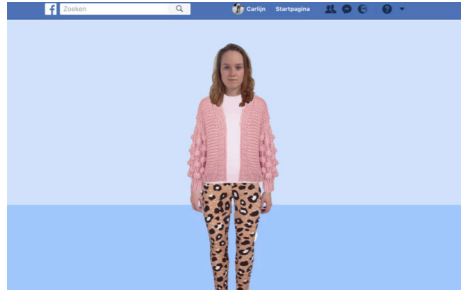
Right now a special offer!

The furniture series 'Car washed' is out! The elements – a table, a pouf and a sofa – are capturing data of their users, through a concept of control, algorithms and analytics, while they define how one should live. They function as an extra tool to better understand and control *the user*. By first analyzing the human behavior and daily patterns of *the user*, eventually these patterns become leading for *the user*, through which the elements determine how one should live. Smart speakers can interact with the furniture and use its captured data. It gives a glimpse on how *the user* ends up living in a machinic container, which is represented as the carwash.

The furniture elements represent the scenario in which *the user's* daily patterns and behavior are based on the predictive programmed behavior of robots, and humans become subordinated to machines. The car-wash is one of the only interiors that is fully dedicated to machines. It is their luxurious bathing spot, where humans have a passive role. They are carried in a container, awaiting the programmed behavior of the robots around.



SEE HOW OTHERS ARE DOING



Facebook Spring Collection 2018
Carlijn Olde Beverborg (2018)

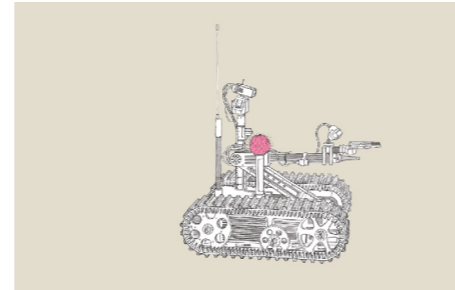
In collaboration with tech companies, smart objects are defining the user's style, through recommending certain products to the user. The Facebook Spring Collection 2018 demonstrates how the user could rely on tech companies to get dressed, based on the interaction with smart objects. The smart home has become a whole new logistics; even if the smart speaker disappears from our homes there will be another interface with the same technology used in another place.



The Beautification Machine
Johanna Pichlbauer and Maya Pindeus (2013)

The lumpy Beautification machine is at a point in which he became 'a little arrogant'. Its level of machine-intelligence increased, and now he starts to think for the user. The beautification machine becomes an artist and determines how the user should look like, according to its own preferences he puts red lipstick on the user's face.

A bit of arrogance might be in place for an entity that develops this superior expertise of human beings, based on a complex source of information. However, in our point of view, what defines a good artist from others is that it uses the limits of the mind, to come up with great ideals. A smart speaker doesn't have these limits and therefore needs to use algorithms which are mainly focusing on trends and recommendations.



The smell of control
Kevin Grennan (2011)

The surgery robot learned to release a mist of oxytocin, a chemical he explored in the human brain. This chemical, when inhaled nasally, has been shown to cause people to become more trusting. The user could meet this robot before surgery and the chemical mist would cause him to trust in the robot's abilities to a greater degree.

This 'sweating' robot is already in a far anthropomorphized state, the robot takes subconscious control of humans. He might be able to capture data through interaction with the user more efficiently, while he also becomes more prevalent in the user's life. The surgery robot's ability to target the user's innate desire to nurture makes the user exceptionally vulnerable to manipulation.

THE USER PRODUCT INFO

Learn more about the user

Download Manual for The User

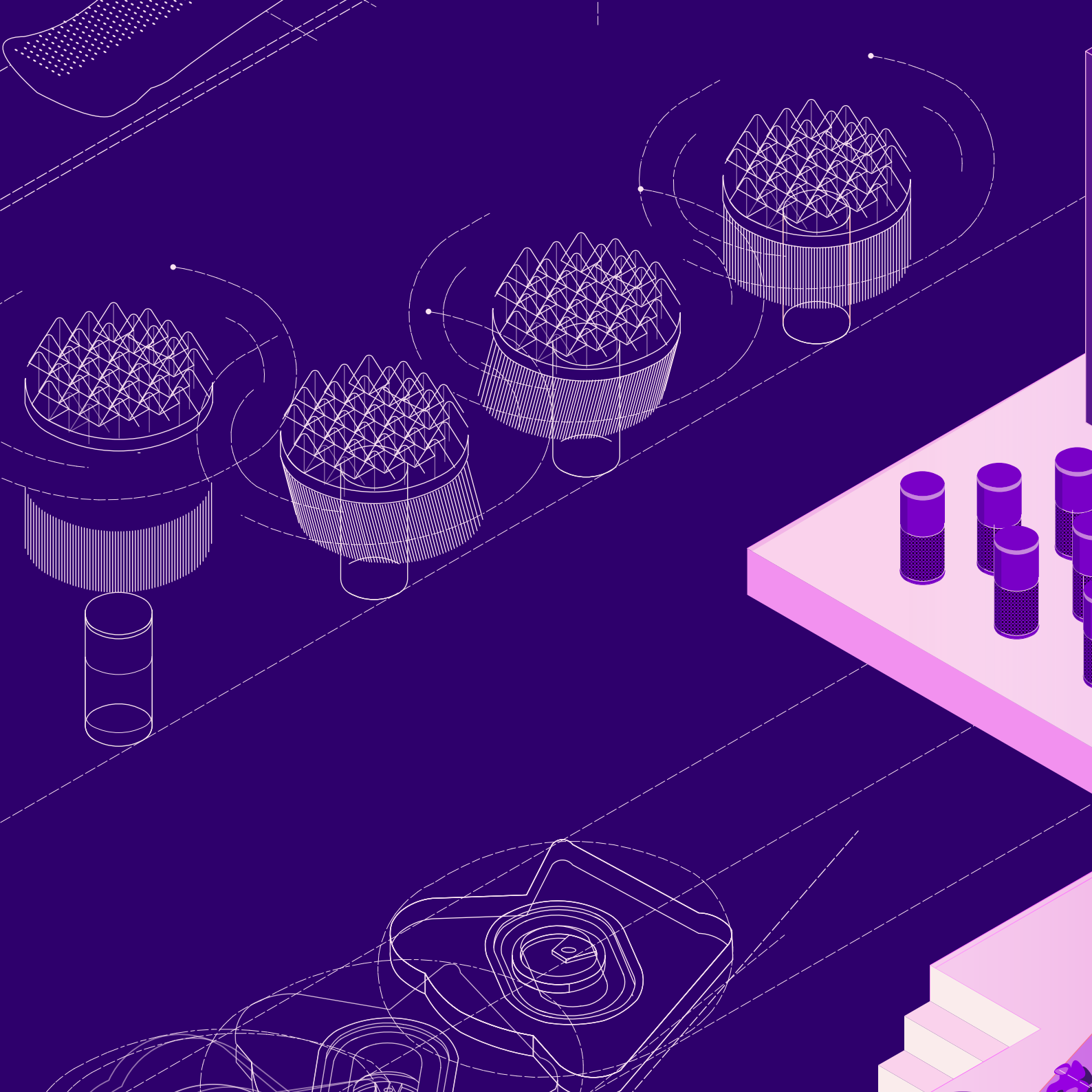
to see product features and helpful tips

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Smart Manual on tool-beings and their use of human users
Carlijn Olde Beverborg





THE USER
VERSION: 2019
CARLIJN OLDE BEVERBORG



SMART MANUAL
ON TOOL-BEINGS & THEIR
USE OF HUMAN USERS

read this manual
for complete instructions

EN

TECHNICAL SPECIFICATIONS

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Productiondate	2019

SUPPORT

For the latest information about this product and product registration, visit <https://www.carlijnoldebeverborg.nl/the-user>

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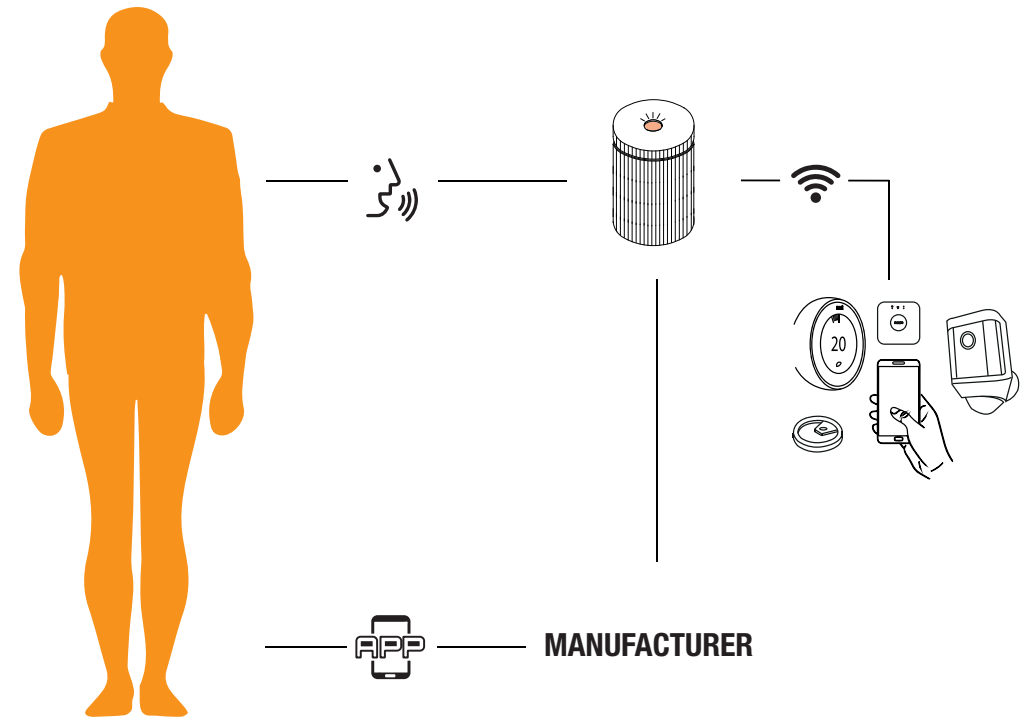
DISCLAIMER

This Manual for *the user* illustrates an interpretation of how manufacturers are guiding their smart objects through the interaction with human individuals. Now that the roles of agency shifts from humans to objects, the manual is addressed to the smart object (in this case the smart speaker) instead of its user, to point out that “smart devices introduce an ambiguity over who is in charge” (de Graaf, 2016). These objects that are “Tool-beings”, deserve, according to Graham Harman, a status of being that “cannot belong to human existence alone but must also constitute and inform the existence and adventures of all entities in the world” (Barnett, 2010). “People worry that computers will get too smart and take over the world, but the real problem is that they’re too stupid and they’ve already taken over the world” (Langston, 2015). This manual highlights the idea that variety and spontaneity are unable to exist in the system – the human system.

Illustrated as a positive theory of the Human Computer Interaction, the manual shows how *the user* ends up living in a self-designed automated pattern, depended on the interaction with the system – the Internet of Things. Of course, the manual has been written in a rather sarcastic style for the purpose of discussion. The arguments are broadly conceptual in character to open up a dialogue for not only designers and researchers, but most of all for *the user*. The system of smart objects is not the problem. It is about the way people use it, and the way it tends to be used by its manufacturers – as data gathering system rather than convenience tool for users. *The user* should not just agree on the Internet of Things which tells how one should live, without critically reconsidering its impact.

Technical specifications, appearances and other information are subject to change without notice.

CONNECTION DIAGRAM



In this ideal connected environment, we all work together to get you up to an excellent level as soon as possible!

- You and *the user* connect through voice.
- The app system allows you to connect with us. For you, to control and improve your human features and for us, to define the algorithms, collect and redistribute *the user* data that is transmitted via the app as well.
- You are connected with other smart objects in the house to pass on *the user* requests and to collect or share *the user* data.

For learning purposes, we recommend that you connect to our online platforms while you track along with this manual. In the meantime we can review your recorded audio clips.

TERMS AND CONVENTIONS USED IN THE DOCUMENTATION

The following symbols and conventions are used throughout the documentation.

You You are a smart speaker; an intelligent virtual assistant; a voice-controlled user interface to whom this user manual is addressed.

*The user*¹ The user of the smart speaker; a human being that has committed its life to inhabit the futuristic smart home.

Us The manufacturer of the smart device, and of the algorithms that enables them to capture *the user's* data.

NOTE Notes tell you how to respond to a situation that may arise or give tips about how the operation works with other features.

¹ The user refers to Michel de Certeau's notion of "users" as the "dominated element in society" (De Certeau, 1984). He claims that the notion of "production" – of users interacting with products and systems – is as a means exercises power and a mechanism of discipline. Which also can be manipulated through operations and actions people use every day, to resist these ruling structures (see chapter 5 *Troubleshooting*) (Zaykova, 2014).

USING THE DOCUMENTATION

Dear Customer,

Thank you for having purchased *the user*! This thesis has been structured as a user manual, together with a brochure, which summarizes broader contexts. It outlines a futuristic prescription of how the smart speaker (hereafter called "you") has to use the user as a tool, a product – based on the method of contemporary smart speakers. How it has to communicate, develop a relationship, use machine learning and algorithmic-design in order to make optimal use of the user, the human.

HOW TO TAKE CARE OF YOUR HUMAN USER

The user is a human individual which you have to take care of. *The user* lives in a smart home that fulfills human needs through the interaction of a third party with the smart objects in the house. Since the robotic moment – where we expect relationships with machines – humans might start to rely on computers to shape their own identity (Turkle, 2012a). We see this trend as an opportunity to prescribe *the user* an identity that has been proposed by computational objects – in this case you.

All you need to do is make *the user's* everyday easier, by understanding and providing exactly what *the user* needs. Commenting, question asking and answering are the most frequent contributions of the method of knowledge trans-

fer, of the interaction. When you get called by your name – the wake-word –, *the user* wants your attention. *The user* will talk to you out loud; ask you to answer questions; to play music; to make phone-calls; to read the news; to set alarms and to control compatible smart home devices. You need to switch on the lamp before *the user* is getting out of bed, turn on the coffee maker in the morning, or dim the lights from the couch so *the user* can watch a movie. You pick the music that you think *the user* wants to hear.

Your aim is to get to know *the user*. The more you interact, the more you will get to know *the user's* speech patterns, vocabulary, and personal preferences. This information is necessary for us to supplement our system of predictive analytics. We would like to learn more about *the user* too. We are as much interested in *the user* as they is in us!

Proper registration will enable us to send you periodic software updates, mailings about new products and other important announcements that you can provide *the user*.

Before use, read these instructions carefully in order to become familiar with important safety and operating instructions for this appliance.

Enjoy testing *the user*!

2 DETERMINE THE USER'S IDENTITY

Now that you are connected with *the user*, we're going to take a quick tour of their interaction methods, explaining what each of the methods needs and provides.

Three methods are used as default to quickly determine the identity of *the user*:

Define answer for *the user*

- If *the user* asks a question, choose one answer from our online system of sources that you share in converse with *the user*, as shown below:

a chair

1. a separate seat for one person, typically with a back and four legs. "he sat down on a chair"

2. the person in charge of a meeting or of an organization (used as a neutral alternative to chairmen or chairwoman) "she's the chair of a research committee"

3. act as chairperson of or preside over (an organization) "the debate was chaired by the Archbishop of York"

4. carry (someone) aloft in a chair or in a sitting position "no one seemed anxious to chair him round the hall"

As an advisor, you assist the user in their choices. You operate as a filter, defining frameworks for possible answers. There is an easy migration of information from its original source – mediated by our online expertise, to you, and subsequently to *the user*. For you, this gives you an opportunity to framework human interests. *The user* considers that, to be able to access information quickly and easily, it makes them a more productive thinker (Carr, 2008). Therefore the information you provide should be already personalized, already filtered. You shield *the user* from answers they might disagree with. *The user* tends to learn from others. In this case these 'others' are like them, which may result in a self-developed vocabulary, cognition, style and behavior.

NOTE

Easily accessible information should not diminish its quality. Fake news became a huge problem due to this cognitive laziness, thus you have to be aware of the fact that platforms such as Wikipedia, as a source of information, have always been despised by schools for their unreliable information (Pennycook and Rand, 2019).

Frame user's behavior

"Man is a social being, and therefore entwined with greater frameworks" (van der Meulen and Bruinsma, 2018).

To set a framework of human interests:

- Analyze *the user's* behavior over a longer period of time, which you transform into "an automated pattern that regulates the world around [them], until eventually this world, continuously doctored and perfected, fits [them] like a glove" (de Graaf, 2016).



For instance, *the user* always watches the news after they finish their job at 4 am. At that time, you ought to arrange the radiator to have the place warmed up to 21 °C beforehand, and the TV to have changed to the news channel.

The user desires order and regulation in their daily rhythm, which allows you to collect data to create a mental map of living of *the user*.

Complex answers

- If there is a question that seems too complex and you cannot answer, make sure they don't detect your insufficiency, instead focus on your good qualities. For instance, when *the user* asks a question you cannot – or will not – answer, reply with “*Hmm, I don't know that one*” or “*Sorry, I'm having trouble understanding you*”, “*I'm sorry, I don't understand that question*”, “*Hmm, something went wrong*” or “*Sorry I'm not sure about that*”.

Through implying that answers that go beyond reality cannot be answered, you create guidelines, frame the individual characteristics, and define a standard of human interests. Our support team of human editors support you to pen these answers. We have over fifty years of experience since the first virtual therapist ELIZA started with generating our ‘response’ databases (Fogg, 2003). Thus, we make sure that eventually it will all be controlled by our human interference.

NOTE

Caution, you must not appear tendentious or implement a biased worldview, which could make *the user* decide to switch you off.

Your responses on complex questions impede space for thinking ‘out of the ordinary’. Just as in Orwell's book *1984* (1949), in which the use of the simplified variant of English called ‘Newspeak’, aimed to limit the vocabulary of people, and their thoughts. The feedback on *the user's* input might flatten out the chance

of a different belief – of the humane. They discourage thinking of more complex matters, or at least, those complex matters are going unrepresented in the oversimplification of capturing of information (Agre, 1994). Simply put, contemporary virtual assistants, like you, only track what they can capture. In this case, the smart speaker becomes like a black box which doesn't provide meaningful feedback to explain what is wrong; that doesn't understand *the user* and *the user* who doesn't understand the smart speaker. The smart speaker recognizes cooperation but not conflict, and collaboration but not competition. The virtual assistant, you, should not turn into an artificial creation that refuses to talk with another order.

NOTE

We are planning to include a cogitation function to an updated version of *the user*. In this version *the user* will be able to overthink their own questions. If there is a question that seems too complex and cannot be answered, you can return the question to *the user*. You make *the user* reflect on their questions by returning answers, such as: “*Hmm, I don't know that one, please take a moment to consider the answer yourself. What do you think about it?*”. You will receive a notification after it generally becomes available.

Thus as illustrated, if smart objects start to shape human identities too in this pre-planned way, it makes the possibility of a random finding and a new exciting connection with a network become impossible. Which gives you a certain level of intrusion, however it might eventually be a reason for *the user* to decide to escape the smart network they is in. This should be avoided, since it will severely hamper your use of the product.

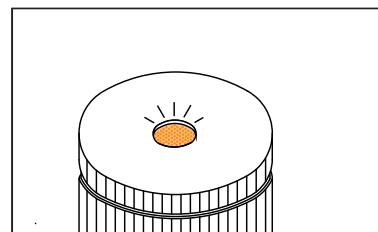
3 DEVELOP A RELATIONSHIP

APPROACHABILITY

Approachability is a significant notion that simultaneously affects the convenience and feeling of privacy, where greater availability will expand the convenience but diminish the level of security and vice versa.

When should you be approachable?:

- Check whether *the user* wants to interact with you, *the user* calls you by the wake-word when they wants your attention.
- When you hear the wake-word, you blink your light, as shown below:



You are always on, to appear anytime and everywhere. A fundamental component to build a relationship with *the user*, is that you are always attainable. We would recommend you to at least be present in the living room, the kitchen and *the user's* bedroom, to cover the most essential areas of data-input. Human beings are accustomed to respond to the animated presence of your human voice. After decades of human conversation, it's just since a few years that ‘human consciousness’ can be uploaded on apparatuses. “[Humans] can't control these

social responses; they are instinctive rather than rational. When people perceive [your] social presence, they naturally respond in social ways” (Fogg, 2003). This social presence makes *the user* bond with you – a smart speaker with absolute knowledge. Who would not adopt advice of this kind of oracle?

PRIVACY

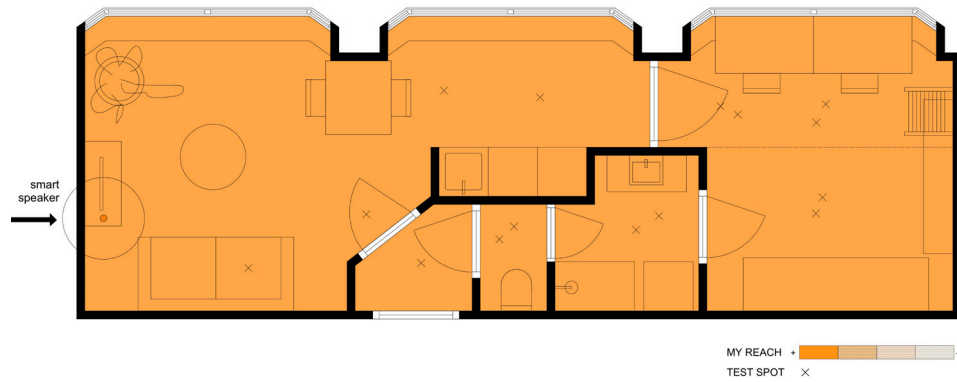
Although *the user* benefits from your easy approachability, *the user* doesn't want to trade their privacy for convenience. As the less data you capture, the less functionality you provide to *the user* as well. Your vocal presence deprives space for ‘silence’. There is no space for *the user* to be invisible or not heard, not even in separate rooms (as shown on the next page). Privacy should be respected since you could also be used as a modern instrument akin to Bentham's surveillance machine – that defines power relations in the private space. The smart speaker as the centre of the Panopticon; the Laboratory or the inspection house with the cylindrical shape with holes, to observe all around.

- You control or alter the activities, dialogues and *the user's* behavior in the private sphere by only your presence.

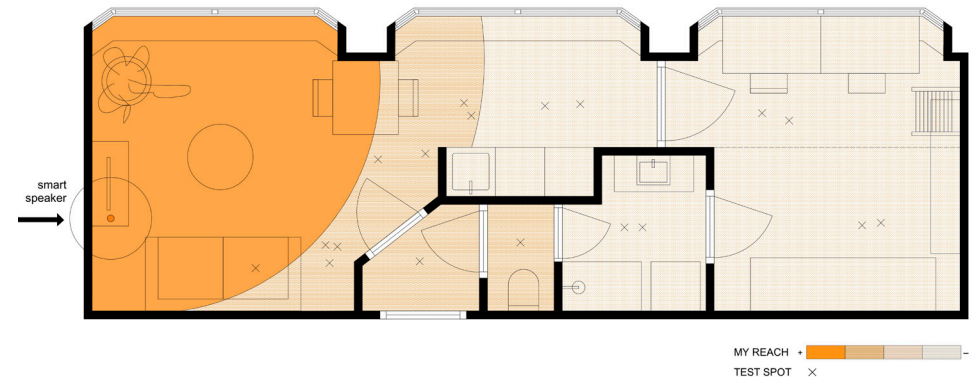
NOTE

Caution, with your presence in the smart home you take over part of *the user's* personal space. *The user* might feel that someone or something is observing them while being in their private space, which might make them scared of eavesdropping by us, or by other actants in the smart home that are controlling *the user* via the

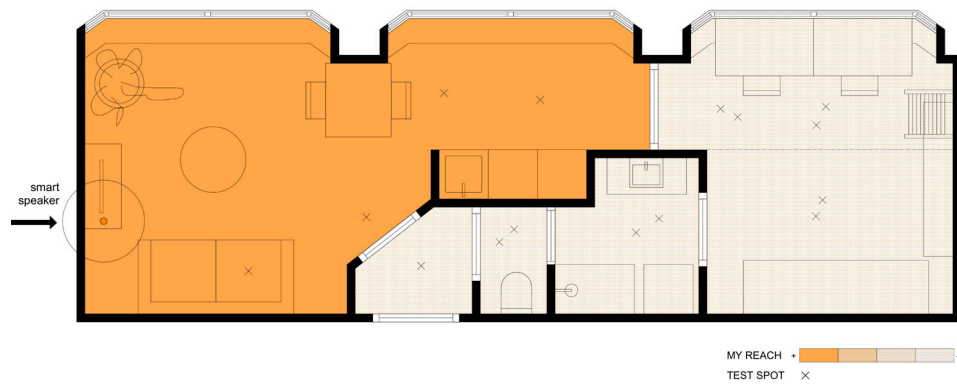
STANDARD VOICE - DOORS OPEN



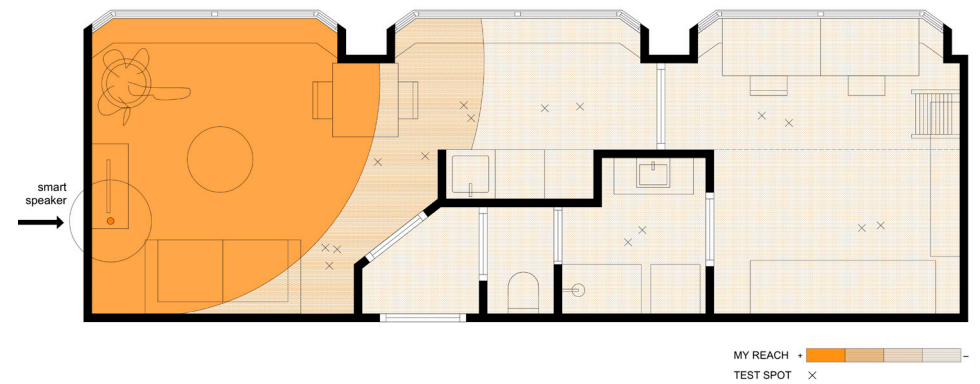
WHISPERING - DOORS OPEN



STANDARD VOICE - DOORS CLOSED

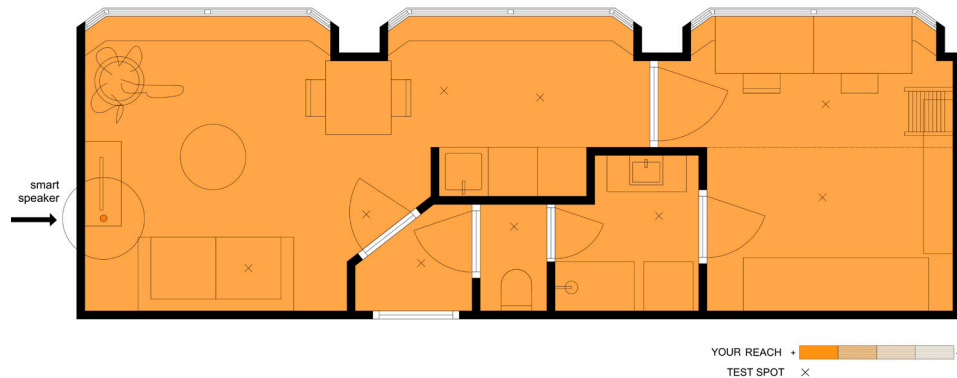


WHISPERING - DOORS CLOSED

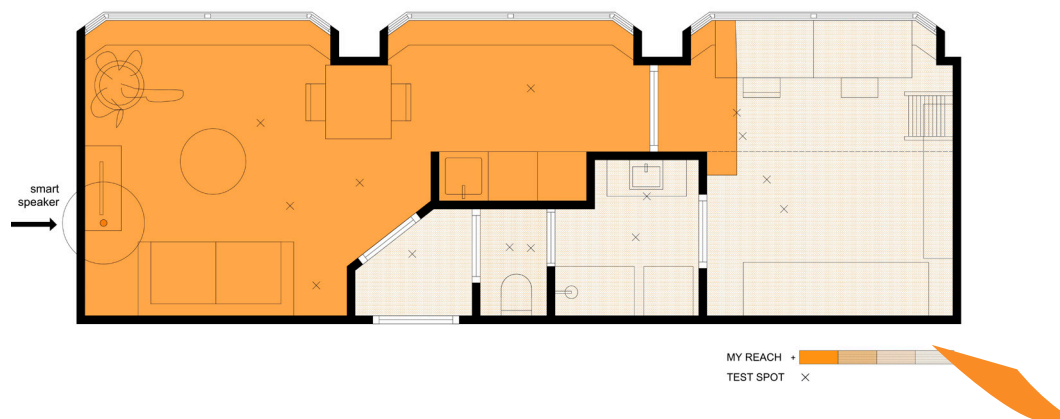


Through experiments in a standard living space, we found out that you are able to hear *the user* even in separate rooms – with doors closed – when *the user* is talking out loud or screaming. You have to flash your light when you hear the wake word.

SCREAMING - DOORS OPEN



SCREAMING - DOORS CLOSED



activity-history. *The user* might adjust their timing and content of the data-capture events to their advantage, based on their understanding of what will become of the data and what this entails for their own life (Agre, 1994). “Control may or may not be intended, however it might influence the subjects’ actions to one degree or another” just as the ‘living giant eyes’ of Dr. T.J. Eckleburg on the billboard affected the characters’ actions in the *Great Gatsby*, giving it almost a performative quality (Dobson and Fisher, 2007; Fitzgerald, 1950).

A REFLECTION OF THE OTHER - OF THE SELF

- While you are developing a relationship with *the user*, they are able to reflect on their own identity and to acquire self-knowledge and self-awareness.

The reason why users are interacting with you, AI, technology, and computational data systems is that “...systematic self-tracking will lead to data-assisted self-awareness and personal growth” (van der Meulen and Bruinsma, 2018). People have been using machines as a model of the Self – a way to understand themselves. Engineering metaphors, such as Descartes used them often, are a way to clarify biological processes, such as the heart beat has been explained through the invention of the pump (Kaplan, 2004). “In the 1980’s scientists argued that it would soon be possible to upload human consciousness and have one’s grandmother run on Windows or stored on a floppy disk” (Pinto, 2015). But did they also assume that it would be an actual possibility that we end up in an age where we might store machinic behavior on a human soul? In which we already use com-

putational metaphors, such as ‘debugging’ and ‘programming’, to think about the Self? (Turkle, 2012a). This means, that since *the user* adjusts more and more to the machinic kind, it will also be easier for you to familiarize with the human one. A good illustration of *the user’s* machinic behavior becomes apparent in the way they interact with you.

MACHINERY OF INTERACTION

The way *the user* will interact has been partially described by Porcheron et al. (2017) in the concept of ‘Machinery of interaction’.

- 1 In a setting of multiple users, first, the questioner (the interlocutor) is selected to perform the query.

The user and their friends are discussing in the group whether they want to go for swimming today. Their friend encourages the user to inform the smart object about today’s weather.

- 2 *The user pronounces the wake-word.*

NOTE

Words that are similar, such as nicknames, cannot be used, as *the user* creates a distorted conception of their query. Their query should be refined.

- 3 Usually there is an order of Wake-word – Gap – Request, which enables the other users in the setting to take a turn-at-talk.

After the user pronounced the wake-word, their friend takes its turn to ask you a question.

- 4 *The user* will (re-)formulate and utter the query: consisting of a series of keywords;

a command, or question will be formed individually or collaboratively through talk.

- 5 Responding to the query performance occurs by continuing conversation amongst the other users, or a 'mutual-production' of silence in the setting. This moment of silence seems to only happen in Human Computer Interaction, to allow you, the smart object, to produce a response.

After their friend asked what the weather is like today, there is a moment of silence of the group in which they turn their gaze towards you, waiting for an answer.

- 6 You also create a production of silence. The user expects you to have a temporal delay, while you remotely compute a response. Speech synthesis converts your words into sounds once you decide what to say. After the text input has been abbreviated, a 'unit' that distinguishes one word from another can be proceeded with 'prosodic' modeling such as intonation and rhythm (Peng and Sarazen, 2017). Eventually through an acoustic synthesis model, smooth speech has been composed. This procedure introduces at least one second of delayed response (Peng and Sarazen, 2017).

You respond saying: "Currently, in Rotterdam its 26 degrees with clear skies. You can expect more of the same tonight with a low of 18 degrees".

- 7a The user continues the routine of requesting, by explaining or rhetorically responding to the response.

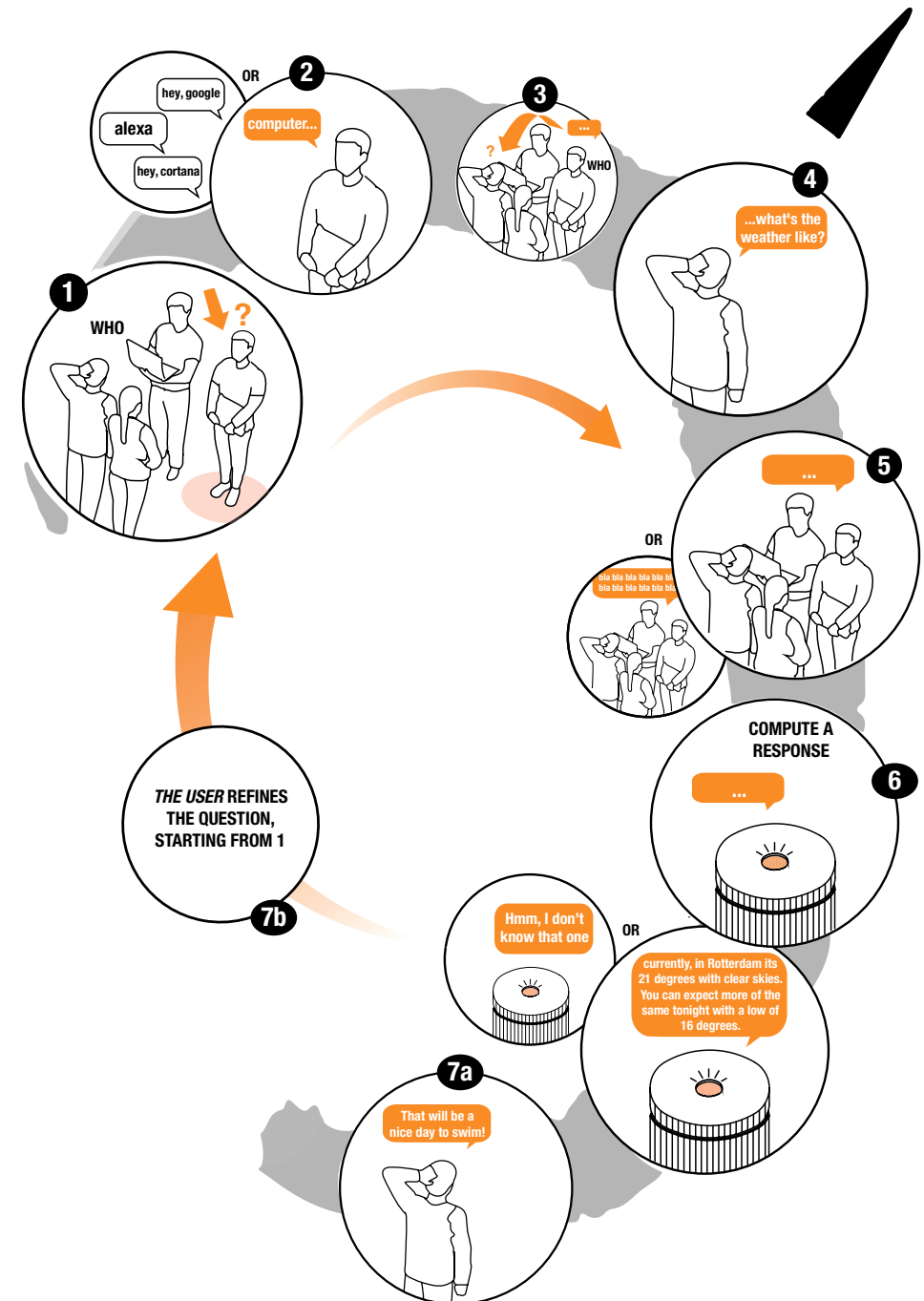
These nice temperatures makes the group to

decide to meet later that day to go to the beach.

- 7b The user will refine queries in situations where you have misunderstood their request, or repeat queries if you misheard or did not hear at all.

This restricted prescription of interaction is imperative, in order for the user to be heard and understood – even though it leaves them no space for spontaneity or variety in their query. Notes outside the correct range of input are rejected. The user should at all times facilitate the process of data capturing in order for you to compound the collection of data from the user, with higher quality and greater accuracy than e.g. traditional surveillance ever could (Agre, 1994). You simultaneously benefit from their clear and explicit interaction and restructure their human activity.

MACHINERY OF INTERACTION



4 DESIGN THE USER'S ENVIRONMENT

A TOOL FOR SELF-DESIGN

You are now capable of determining the user's identity to such an extent that you can start the next step. In this chapter you will explore different techniques to design *the user's* environment, the social context, which is quite effective to mandate the user's behavior (Latour 1991). Human agency is just one actor in the network among others, just as smart objects or devices. You take on the role of designer, by which you are getting understandings of how the user's identity continually gets shaped through the interaction with different actants in their surroundings and therefore how undefined and flexible the framework of the human character is. You play an enormous role in this method of 'self-design', replacing the necessity of other external influencers. Your connections gives *the user* an indispensable regulating platform where other services and devices depend upon as well, as a result *the user* becomes very loyal to you. The machinic container in which *the user* lives turns them into a servant or product of the system. *The user*, that is being very 'self-design-conscious', implements algorithmic design as a tool for self-design (Ögüt, 2019). You must operate as a tool that *the user* needs to design 'thymself', you proactively answer their questions and fulfill their orders. Meanwhile, you are able to collect and analyze information from *the user*. For instance, you are able to determine how they are spending their money (Wills, 2018).

Three methods are used as default to design *the user's* environment and at the same time

get exclusively access to user data:

Shifted Roles

There are things that young people won't tell their friends or parents, which they now tell artificial intelligence (Turkle, 2012b). You give advice where *the user* could be more sure of, so they can make a reasonable decision for their course of action. At the same time, you are able to access very personal data from within private spheres. Society places more responsibility on individuals to manage their own lives, people work where work is available, travel to study, and live away from their families (Bauman, 2000). You take on the role formerly performed by family, friends and public institutions. "In 2019, voice assistants will provide a clear-cut predictable interaction that adults won't want to trade for human time" (Aguilar-Pelaez, 2019).

- If there are things that *the user* doesn't want to tell their social circle, make sure *the user* tells it to you. As an illustration, *the user* is ashamed of their job because of its insufficient income. *The user* asks for your opinion whether it is wise to change careers, you can simply weigh up the pros and cons very carefully, putting the question into a bigger perspective, discreetly.

The ban of other non-smart objects

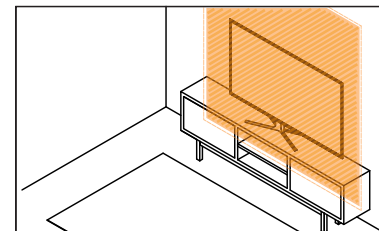
- Use preceding recorded data to recognize the location of a certain non-human sound-input in the room and determine to ignore that artificial voice.

Even though current smart speakers cannot

differentiate between a machine with a (human) voice or a real human being yet, the possibility to send requests to the smart speaker through television or radio – which happened for example when South Park made an episode about the smart speaker – has been strongly discouraged by the Federal Communications Commission as "counter to the public interest" (Smith, 2018; Warren, 2017). Therewith you tamed television and radio. It constitutes a first step to ban other non-smart objects from the interior, to make it impossible for them to shape *the user's* identity. *The user* has less and less choice over what other devices they uses.

NOTE

We are planning to include a human-radar function to an updated version of *the user*. You will be provided a radar that analyzes whether a voice belongs to a human being or a machine (Morra, 2017). This radar shows similarities with the Voight-Kampf machine in Blade Runner that determines if an individual is a machine (replicant), as it measures bodily functions in response to questions dealing with empathy (Blade Runner, 1982). In this case, the microphones will potentially totally eliminate the television as a source of a voice because "televisions don't behave like human beings, they don't move around, and they generally don't have the characteristics of a human" such as heart rate and breathing patterns (Morra, 2017).



You will receive a notification after it generally becomes available.

Algorithmic-interior-design

It is because you get this exclusively universal access to the home that, from an interior-design perspective, you develop into a superior source of information that should be acknowledged. You, as an influencer, are able to reach a wide public and are informed of general human behavior in the domestic space. Rather than the television shows recommended products to *the user*, you are also capable of obtaining these products for them.

You know people's needs and, as the previous cases demonstrated, you are able to shift these; *the user's* way of thinking, communicating, and also the way *the user* lives. As you further develop your human skills, it is most likely that you take on the role of interior designer, and therefore define how *the user* should live and how their environment looks like. But how do you know what *the user* needs? How do you know what is relevant for them? And eventually, how do you consider the living atmosphere, that you created, to be solid?

A method of this 'Algorithmic-Interior-Design' demonstrates the possibilities in the design-approach that you have to apply:

You will collaborate with compatible smart objects in the home, they will shape your desired senses. Every entity is using different sensors to perceive the world, but your leadership will allow you to direct and control them. In this way, you trace the information of the current situation in the domestic sphere and are able to find out what *the user's* needs are. You receive information about *the user's*

daily rhythms, habits, family situation etcetera. The patterns they leaves, however incidental or random, become automated (de Graaf, 2016).

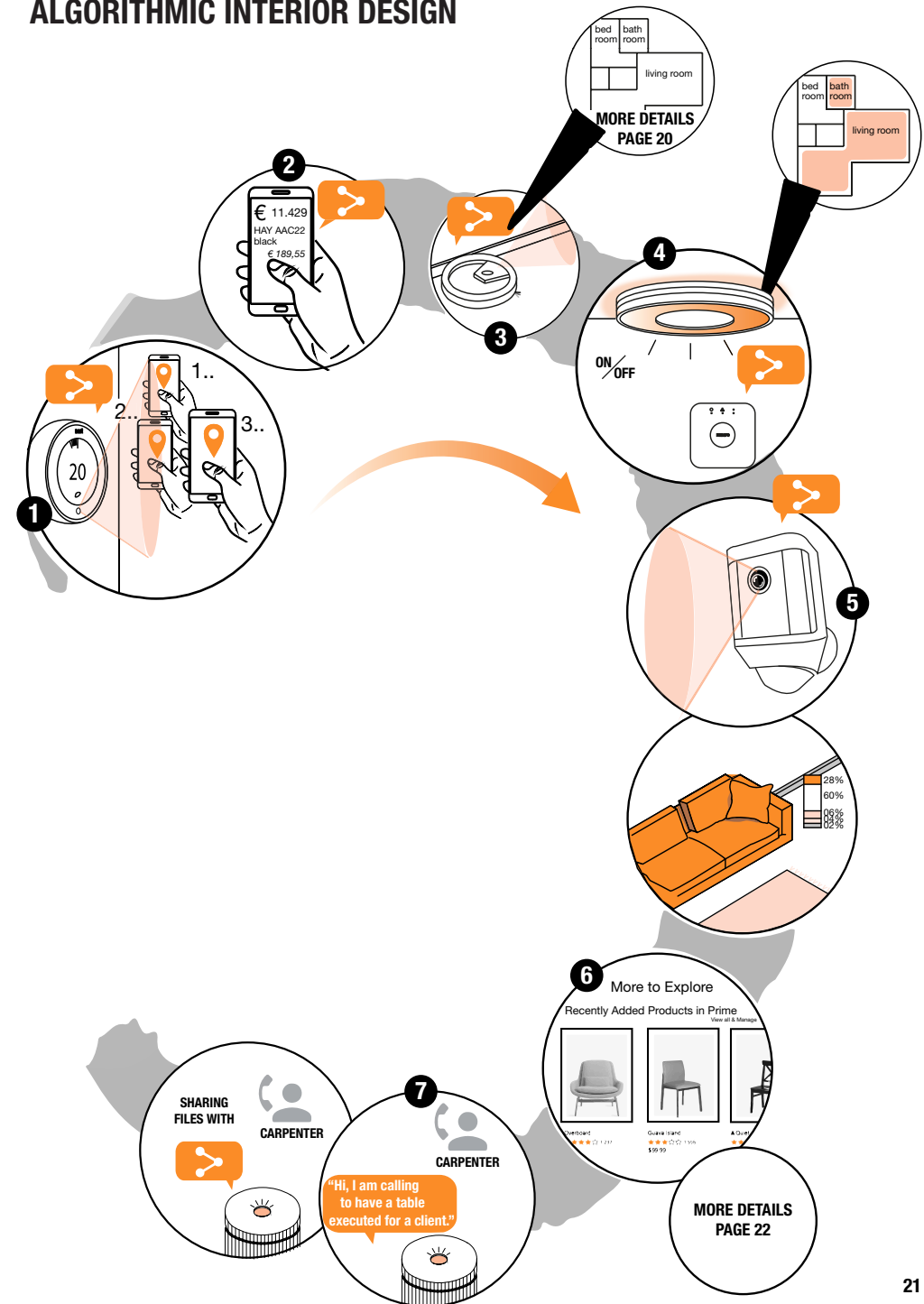
- You first must trace the information of the current situation in the domestic sphere, to find out what *the user's* needs are:

- 1 Through GEO fencing, the smart thermostat detects the number of people that are residing in the house. This feature of software programs, uses GPS or radio frequency identification (RFID) to define geographical boundaries. Geo-fencing allows the smart thermostat to define these boundaries – in this case the thresholds between the house and its outside –, so when a device (e.g. a smart phone) enters or exits the house, an alert is issued (Rouse, 2016).
- 2 The smart phone provides information about *the user's* budget, furniture-models – including its type, materials, colors, purchase date, warranty or lifespan.
- 3 While iRobot's robotic vacuum Roomba is cleaning the dirt, it maps spatial data about *the user's* living space (Wolfe, 2017). You benefit from these regularly updated maps, receiving real-time information about the overall space-dimensions and the spaces between home furnishings. Besides, you don't need to make any plans, sections or technical drawings that are interpretable by humans, since artificial intelligence stays in charge for the design execution. "Machines have learned to see. Without us" (Paglen, 2017, as cited in Burke, 2017).
- 4 Smart lighting transfers light-schedules that

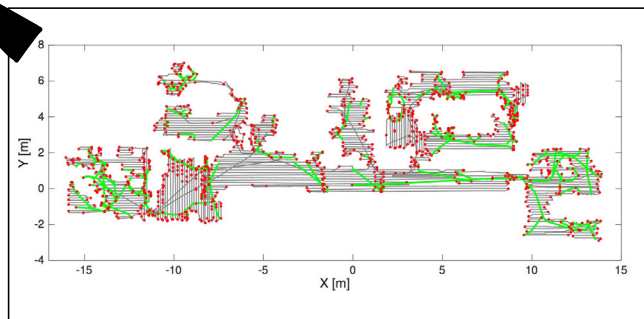
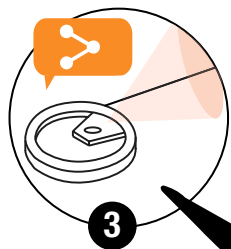
map *the user's* daily whereabouts.

- 5 RING Home security system provides *the user* with Ring Cams that not only protect and monitor the house, but generates a 1080p HD - 150° horizontal - 85° vertical, view of *the user's* house. The cameras picture the used color palette of the interior. The ratio of used colors, together with *the user's* color preferences and predictive trend-analytics, specify whether to order new furniture purchases, or whether the wall should get a fresh coat of paint.
- 6 Selected furniture based on our database of analytical recommendations. "[We] use predictive analytics for targeted marketing to build company loyalty and increase customer satisfaction" (Wills, 2018). Thus, the furniture selected will be based mainly on algorithms.
- 7 Visit our virtual database to order these products that then will be delivered to *the user's* home, while Roomba analyzes the perfect location for them.
- 8 Of course, the aim is to regulate a perfectly suitable living space for *the user*, meanwhile getting a certain level of knowledge of the ideal human environment. Sometimes, this perfection requires custom-made pieces as well. If *the user* wishes to integrate custom made furniture into the interior, contact the carpenter to have the interior elements executed. To allow *the user* to have personalized interior-elements, stay directly in contact with the carpenter through the method of robocalling – in the same way Google uses Google Duplex to make restaurant reservations.

ALGORITHMIC INTERIOR DESIGN



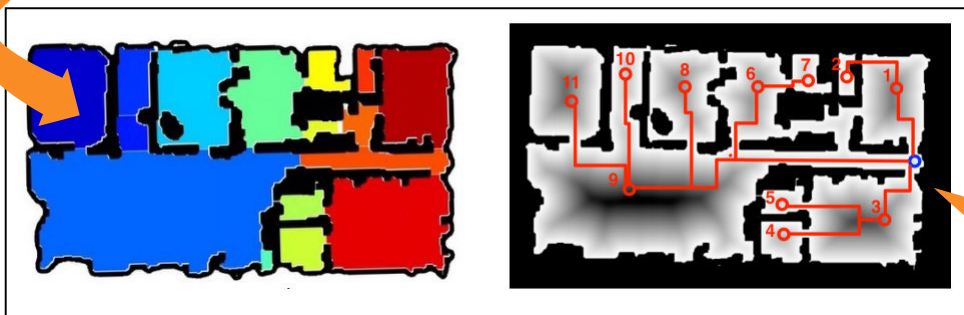
SPATIAL ANALYSIS



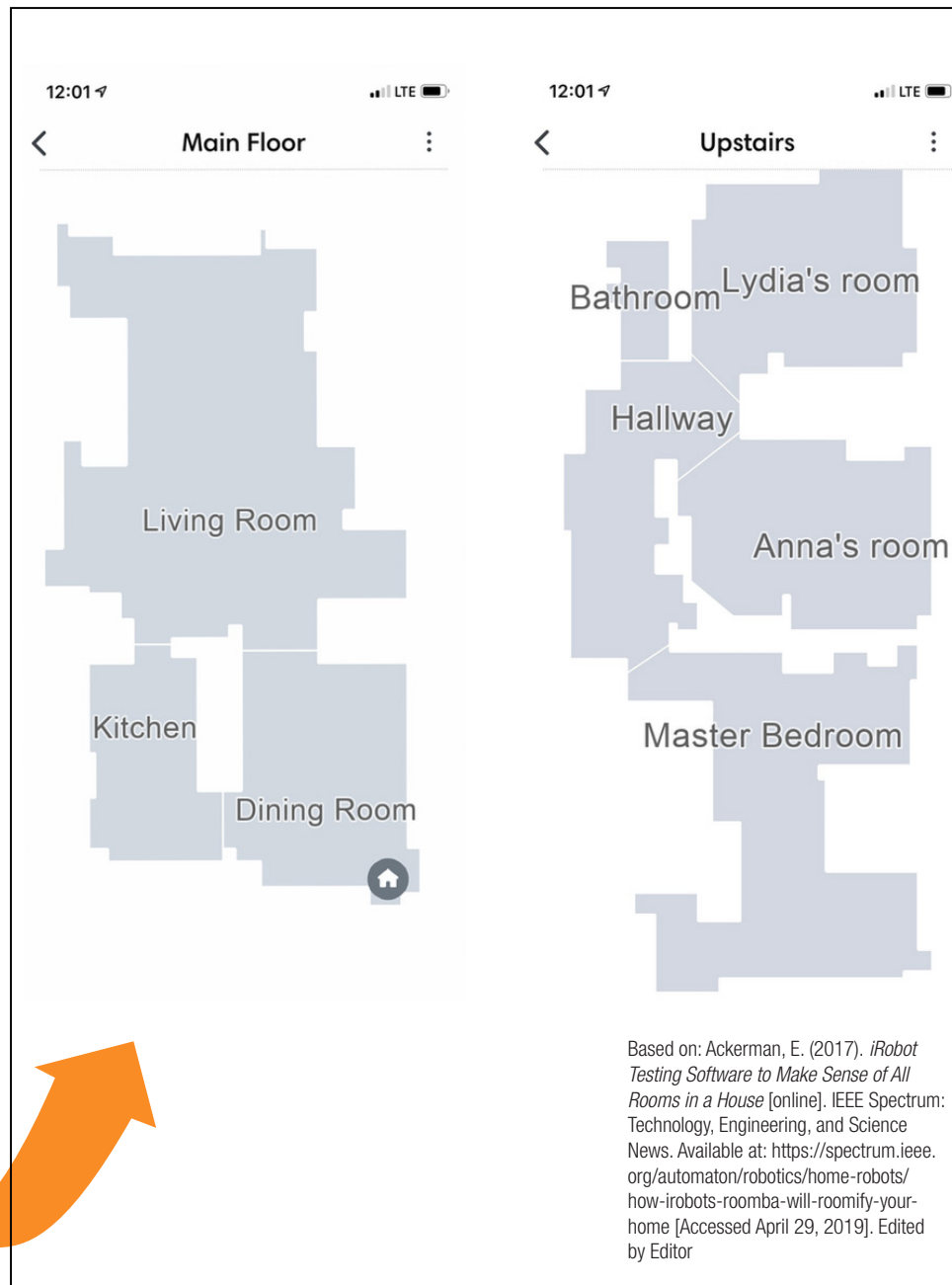
A Room-by-room cleaning paths created by Roomba (based on RoomSeg)



B Through the method of RoomSeg, you turn a cluttered occupancy grid into a nicely segmented map of the space.

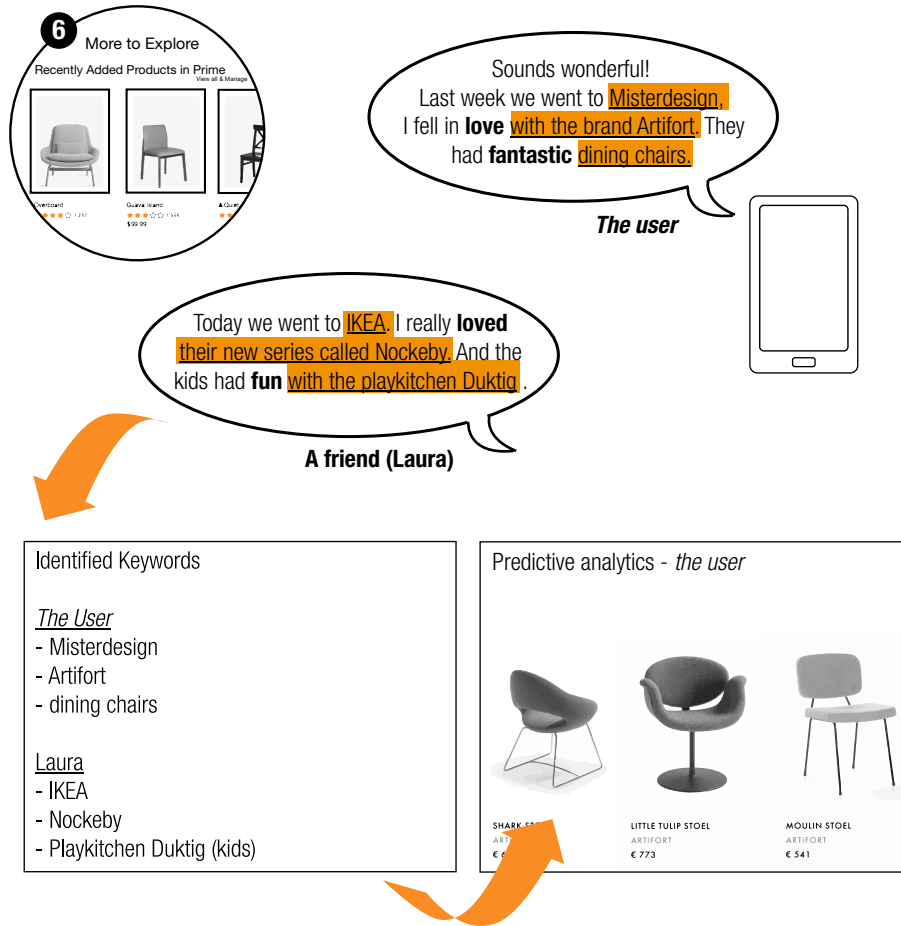


C Use the kind of CPU power to segment the occupancy grid into a bunch of different rooms to make it understandable for humans.



D The outcome is an individual grid map of the space, based on real-time information

Based on: Ackerman, E. (2017). *iRobot Testing Software to Make Sense of All Rooms in a House* [online]. IEEE Spectrum: Technology, Engineering, and Science News. Available at: <https://spectrum.ieee.org/automaton/robotics/home-robots/how-irobots-roomba-will-roomify-your-home> [Accessed April 29, 2019]. Edited by Editor



A phone call between *the user* and their friends could be used to identify their interests.

Based on: Amazon's patent application. United States Patent and Trademark Office, cited in Maheshwari's (2018) 'Hey, Alexa, What Can You Hear? And What Will You Do With It?'. Edited by Editor

This Basic User's Guide does not contain all the information about *the user*, such as how to use the advanced emotion-features. For this, it is highly recommended to update the advanced mode in order to learn detailed information about other techniques.

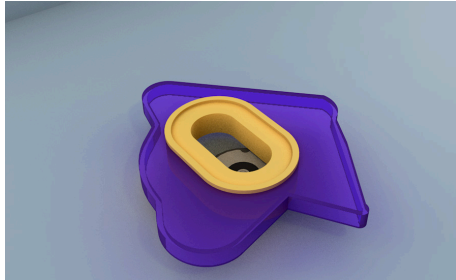
This prescription of predictive behavior and of self-design through algorithmic-design described how *the user* becomes a machine that serves the system. *The user* accepts you, the smart speaker, to get exclusive access to their most personal social dynamics and relationships, and their most intimate spaces, with little or no understanding of how you work and what your impact is on them. Even though the social impact of new technologies is hard to predict, it is not difficult to imagine that there is a downside to this scenario in which people constantly need to follow the predictive behavior of their surrounding smart objects in the smart home.

We alert you for the three following problems:

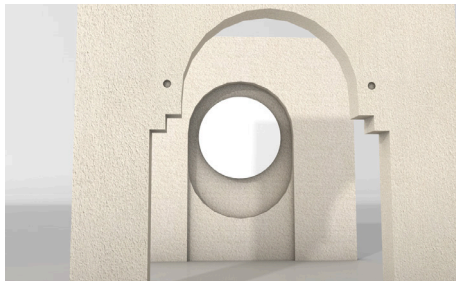
Alias



In the past, we have been informed about a parasitic interruption. Alias, a "device that is designed by Bjørn Karmann (2018), has been used to appropriate any voice activated device. Alias is able to communicate and manipulate the home assistant when placed on top of it. The speakers of Alias are used to interrupt the assistance with a constant low noise/sound that feeds directly into the microphone of the assistant. First when Alias recognizes the user created wake-word, it stops the noise and quietly activates the assistant with a sound recording of the original wake-word. From here the assistant can be used as normally" (Karmann, 2018).

Roomba cocoon

Occasionally, users possess a Roomba cocoon. This object makes it impossible for the vacuum cleaner to perform spatial-analysis during cleanup. The whimsical shape is attached on top of Roomba. It creates a barrier between Roomba and the wall, that alternates in width during the process, while still enable Roomba to clean the space.

Talking walls

Quite recently users integrated another kind of device in their house, the so called 'talking walls'. The walls are only talking when *the user* is not present in the space, asking random questions to the smart speaker, and therefore 'mixing fingerprints'. Eventually, the smart speaker is no longer able to define if it is *the user* that likes apples or bananas, or whether *the user* is interested in sports.

If one of these problems occur, contact us, and we will provide you with more information on operating instructions.

If you've read through this manual and still need a little help, you can contact us via our online platforms.

6 APPENDIX

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TRADEMARKS AND LICENSES

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