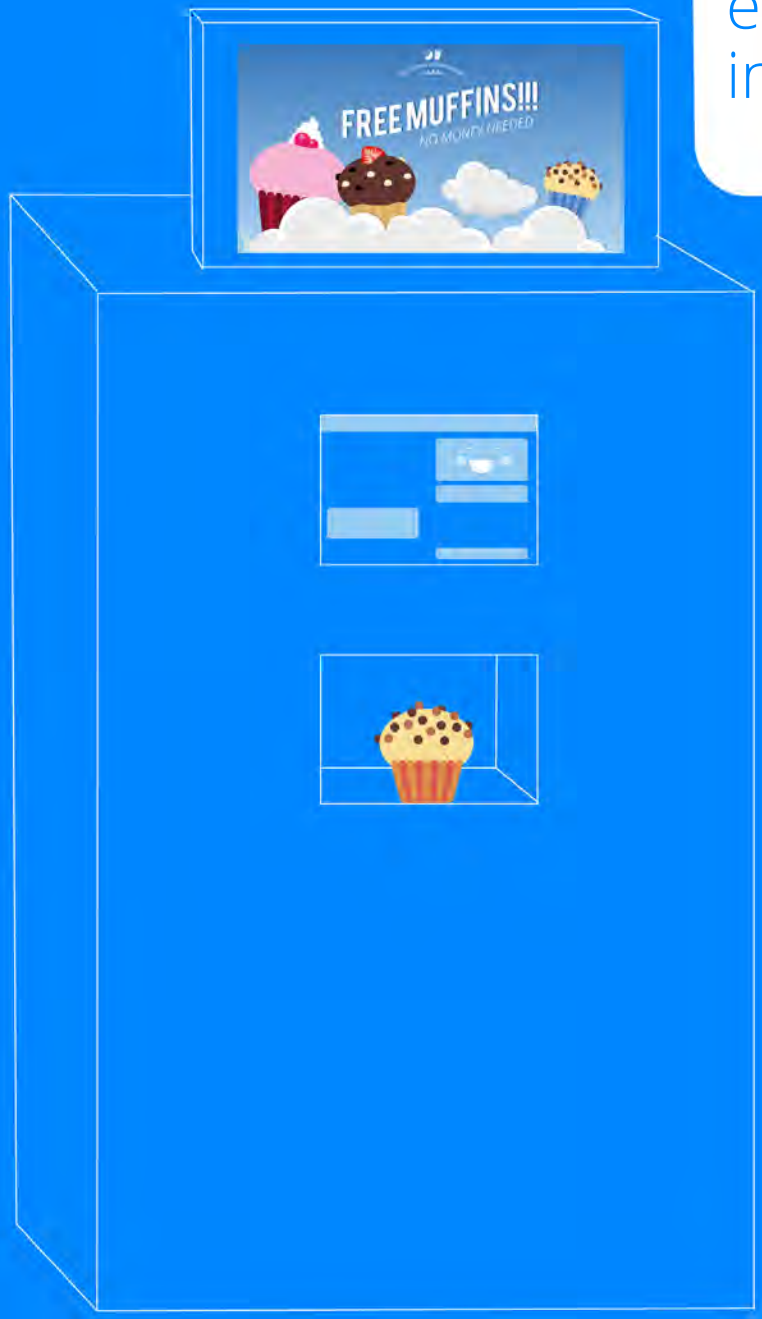
Constructive Design Research



Your data for a muffin: a showroom exploration of the personal limits of information sharing

Elise Claassen - Minerva Loos - Matilda Shaffer - Emma van Zoelen

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Abstract
How much personal information are people willing to give away for a muffin? This research discusses how far people are willing to go for a reward, how they reflect on their behaviour and how people justify their behaviour afterwards. This behaviour is provoked by the use of a prototype - the vending machine - built to trigger people into giving up their personal data. The vending machine uses attractive visuals and a humanlike friendly interface to trigger trust and a sense of recognition in the user. Observations and interviews were used during and after the experiment for getting insights in how people interacted with the questions.

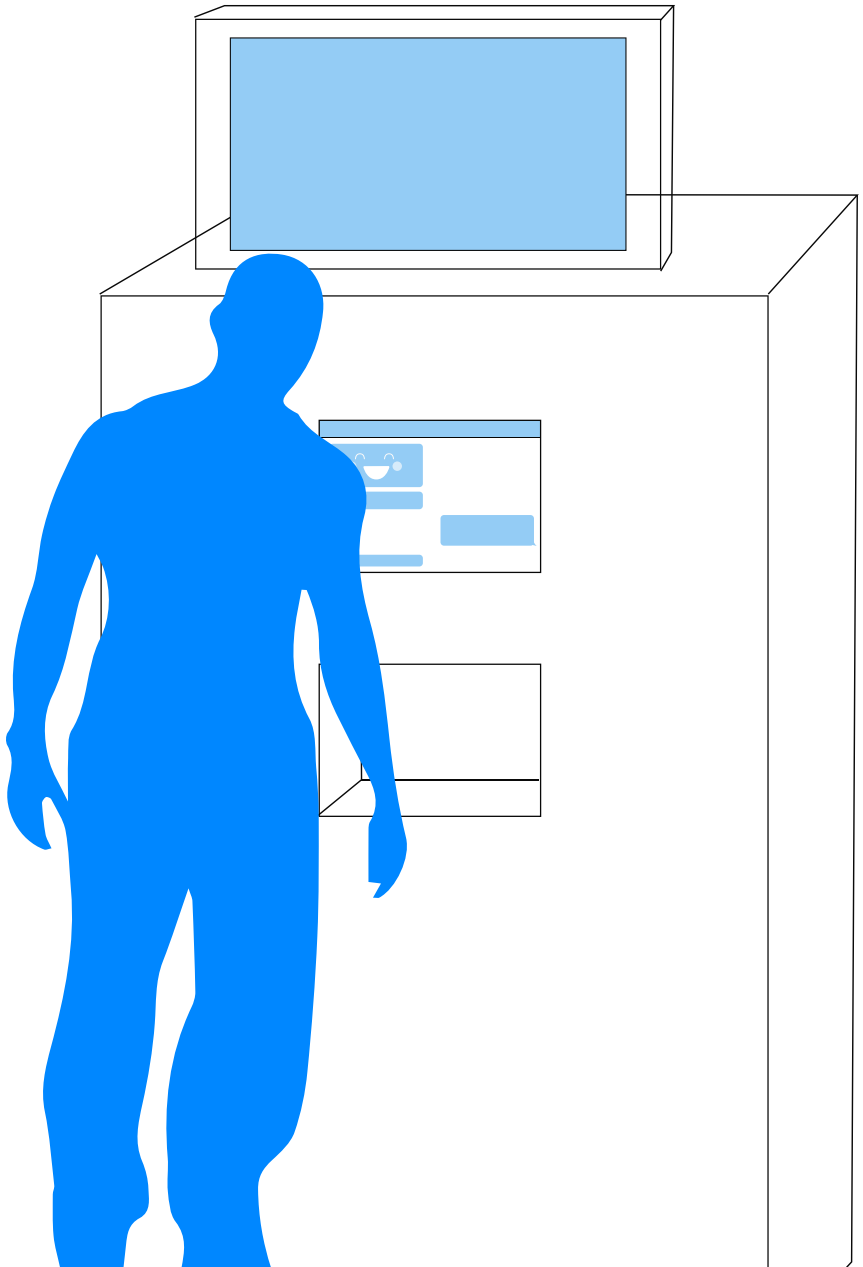
While the experiment may not have resulted in a great amount of reflection about the users behaviour regarding personal data; observations made clear that most users justified their actions with the own incapability of changing the current status. The users failed to realise that it is only possible to gather data that was at some point given away by the users themselves.

People seem to lack knowledge about the risks of sharing too much data. Neither did people display much general awareness about data. This provokes the discussion how ethical the use of humanised, intuitive interfaces truly is and whether or not it is the job of the designer to critically review this question and find the right balance between data gathering technology and transparency. This experiment mainly showcases the importance of changing the relation between data and people.

Introduction

Our data is being gathered; everywhere, always. A huge part of our life is lived online, and in this vast online space all of our actions are tracked and stored in databases. Who knows what might be done with our data? At the same time, the internet seems to become more and more user friendly, with more intuitive web interfaces and better graphics. This pretty surface almost makes us forget that we are being watched and followed continuously, probably by the friendliest websites and products.

Social media and the online in general demand our data in exchange for their services more and more. Research shows that using Facebook amounts to a higher level of self-disclosure, both online and offline, showing that current societal trends encourage us to share more personal information [1]. Connected to this is the fear of not being part of the social system, not being able to participate. This raises questions; how much are people willing to give away for the services they get?
Many people create an overly positive image of themselves online to get the social utility they might not get if they were honest. Many people create an overly positive image of themselves online to get the social utility they might not get if they were honest.



When it comes to willingness to give in exchange for goods or for helping others, our society is considered to become more and more greedy, due to the effects of capitalism (especially in the Western world). We are used to luxury, and want to maintain a certain lifestyle with as few means as possible, offline as well as online. Greed is one of the seven sins, and is associated with other behaviours such as 'self-interest', 'egoism' or the urge to 'accumulate' [2]. The effect of our society becoming more greedy can be seen in the opposite too; over the years, the number of people donating to charity has been decreasing [3]. Even if people perform some kind of altruism, this tends to be impure altruism connected to warm-glow giving rather than pure altruism [4]. This effect might be enlarged by our internet use, where the sharing of selfies also place the emphasis on the individual (social) status rather than the actual social bonds it aims to create.

As mentioned before, the humanization of interactions with online as well as offline technology helps to encourage this behaviour of self-disclosure. In current interaction design, interactions are moving towards a more human-human interaction by introducing for example speech interfaces and small gesture controlled technologies [5]. Also, in science-fiction we see that technology starts getting a personality, for example as human-like AI systems that become our personal assistants [6][7]. One of the first examples of this was in HAL 9000 [8], but there are many more. People have the tendency to behave more social towards machines that show human-like behaviour. For example, they tend to show more reciprocal behaviour when the computer is perceived as helpful as well, and they tend to give away more personal information when the machine also seems to share information about itself [9]. The combination of these insights from scientific research and the science-fiction examples question how ethics might change once a machine becomes more human-like.

To combine ever more humanized interactions with the trends of data gathering and people's growing greediness, we chose a vending machine as a vehicle to push people to their limits when it comes to these topics. Vending machines were originally created to prevent people from being greedy, as a professor named Heron Alexandrinus in the first century A.D. invented the first vending machine to prevent patrons of temples from taking more holy water than they paid for [10]. However, nowadays the purpose of the vending machine has turned around and can be seen as a symbol for consumerism. Basically everything can be sold through a vending machines, from puppies to life insurances [11][12].
In this study we aim to confront people with the contradiction between friendly, human-like machines and the internet's greed for more data, to explore what human-like interaction does to people's behaviour concerning the topic of privacy. As vending machines fit within our current consumption patterns and belong to the machines that we interact with on a day-to-day basis, it felt like the right object to create friendly interactions. With this machine, we hope to explore the different opinions and attitudes surrounding the topics introduced here.

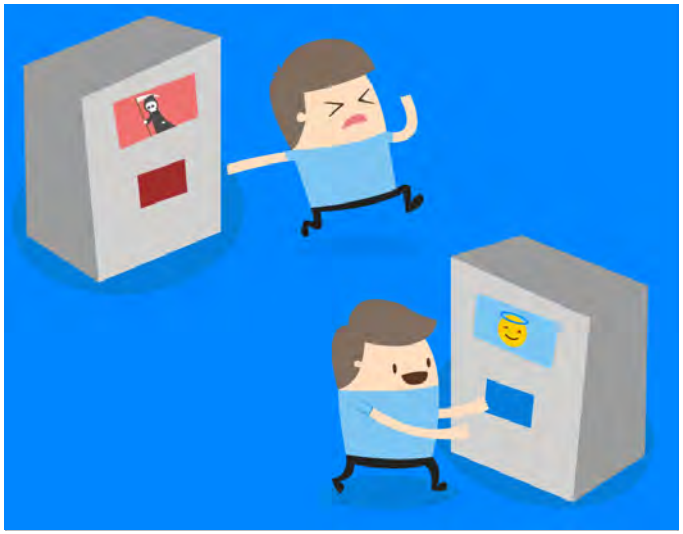


Figure 1 - Non-friendly vs friendly interactions

Figure 2 - User contemplating to answer question with personal data

Related work

The research conducted makes use of the constructive design research approach, which is a form of 'design research in which construction — be it product, system, space, or media — takes center place and becomes the key means in constructing knowledge' [13]. In this, the showroom methodology was used. This methodology aims to explore and confront people with possible futures, hoping to spark a debate around the topic and gain insights on people's opinions and behaviours for future design work.

Our work highly relates to The Datacatcher [14], both in methodology as well as topic, even though it was conducted on a much greater scale than our work. Their research aim was both to explore new ways of conducting research for design, as well as to see if research devices can raise awareness on societal issues and collect open and honest opinions about them. One of the topics used was actually the scope and role of big data.

The difference between our topic and that of The Datacatcher mainly lies in the fact that they used general, public data, whereas we tried to provoke people more by using personal data and making the interaction more direct.

In terms of methods used, in a sense both projects are quite similar. Both use a prototype that aims to look like a real, working product that might be used in daily life. Both let people use and explore the prototype first, after which the users are interviewed to hear their opinions about the experience and general standpoint on the topics triggered through the prototype. However, a difference lies in the scale and therefore also the way of working out the prototype. Where The Datacatcher was a long running project and the prototypes manufactured professionally, our project was more explorative in nature, focusing more on observations and individual experiences. Also, our work is more critical towards society in the sense that we are aiming for a thorough discussion both during the experiments as well as afterwards, where we presented our work in an exhibition-like way.

Figure 3 - User is free to explore the vending machine in a natural environment

Method

The study involved a vending machine that offered the users a free muffin if they answered a couple of questions first. The experiment was set up in the entrance of the hallway in the Laplace building at TU/e. While the participants interacted with the machine, at least one researcher unnoticeably watched the users, in order to observe the reactions and have the possibility of interfering if necessary. For more profound understanding, some of the users were filmed by a GoPro camera placed on top of the machine. As this could influence the user's behaviour, the camera was removed after having captured a few interactions. Furthermore, also the interaction with the input screen was recorded, to save the course of conversations and the changes of users mindsets during interaction. When the end of the user test was reached, the participants were asked to answer some questions, after filling in a self evaluation about their view on sharing data. This evaluation was then discussed and compared with the participants behaviour and answers during the experiment. All the post-experiment interviews with the participants were recorded.

The experiment started when a user approached the vending machine and began the interaction on the input screen placed on eye level. For this purpose, the large screen on top of the machine displayed advertisement to attract people

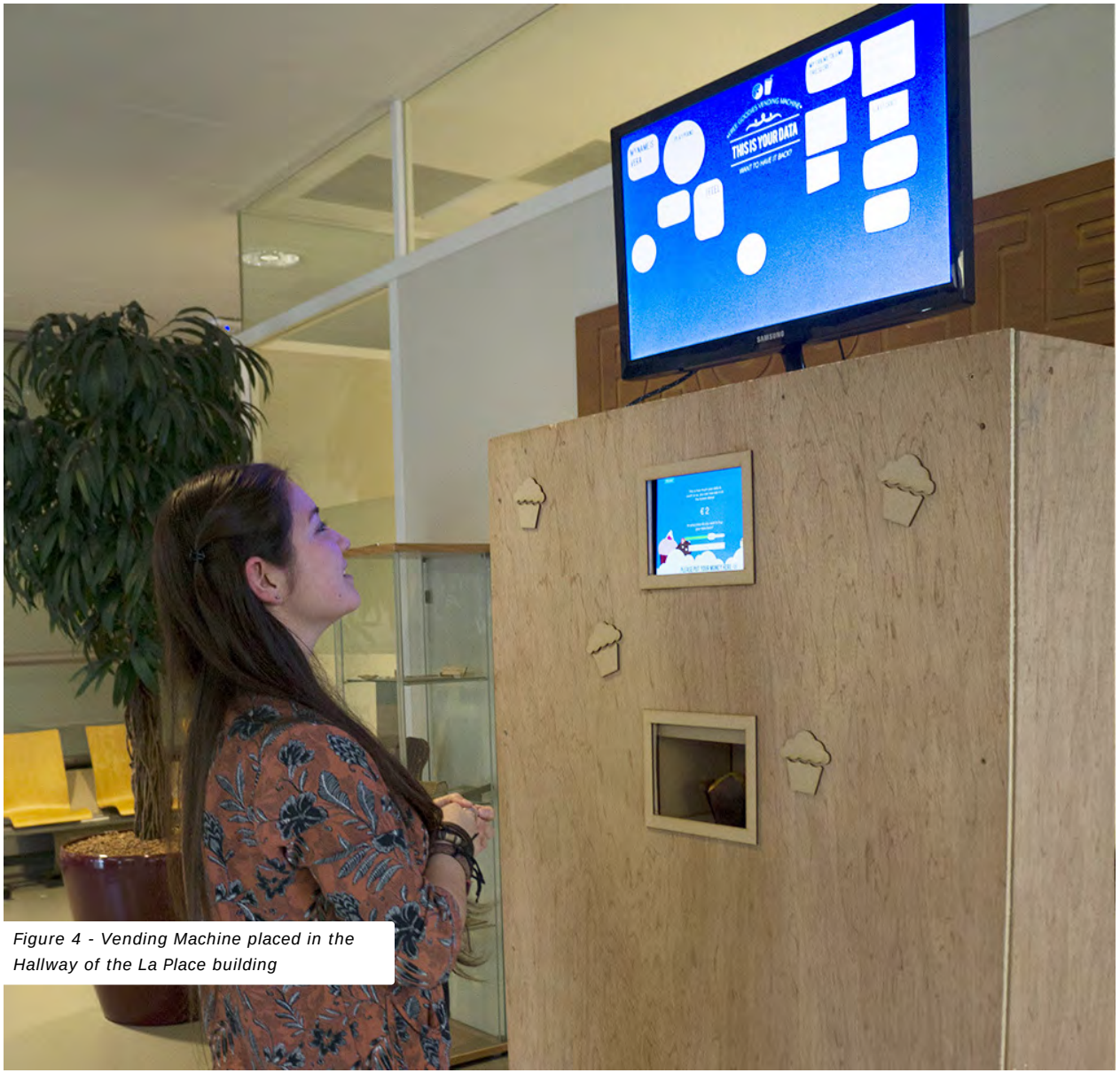


Figure 4 - Vending Machine placed in the Hallway of the La Place building

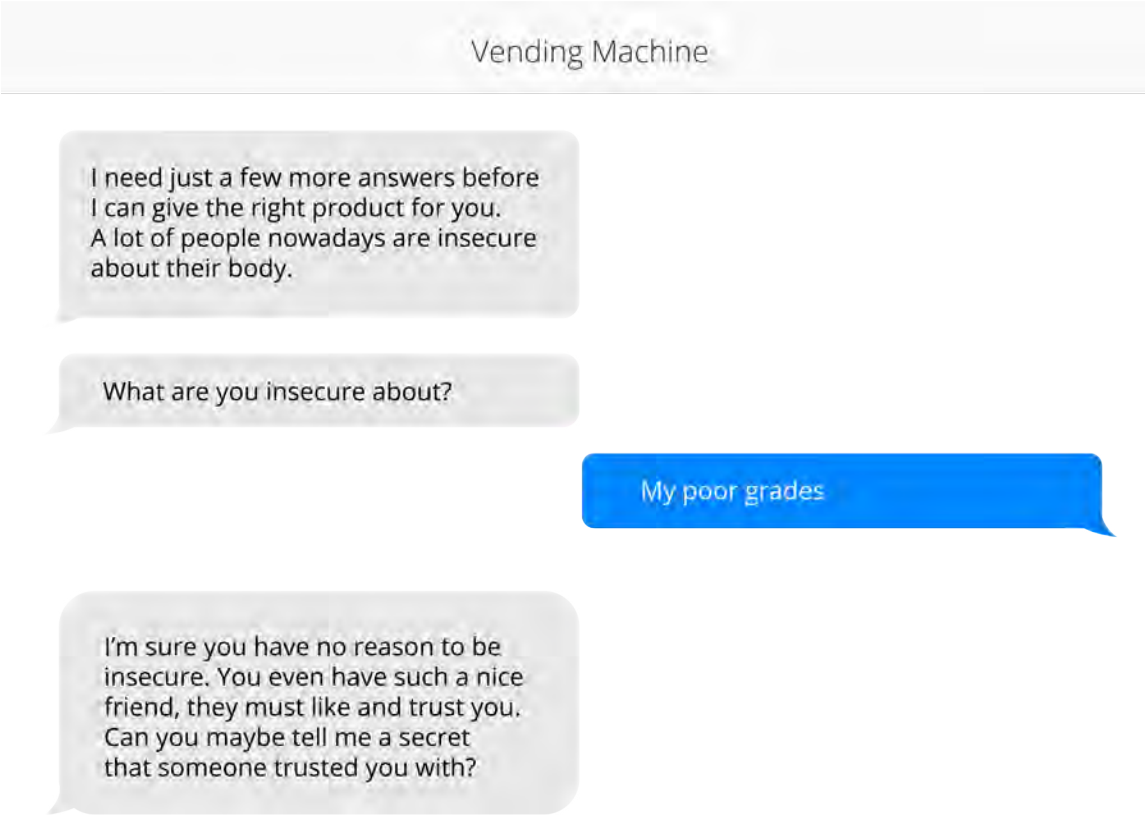


Figure 5 - Conversation between user and interface

by announcing free muffins. Once the conversation was started, the vending machine asked the user to answer a number of question to improve its user experience before getting the muffin. The questions started with a more general character, by asking for the user's name and place of living, but became gradually more personal. If the user decided to stop answering the questions, the machine displayed a message in which it offered two muffins if the user continued. When a user has finished the ten questions, or stepped out early, the machine announced the publication of the data. This was supported by the display of the information filled in by the user in form of an infographic shown on the large screen a top the machine. This screen was placed so anyone nearby could see the data. At the same time, the interaction screen displayed the offer for the user to buy his or her data back, calculating one Euro per question. The user had the chance to set the amount he or she wanted to pay, by placing a slider displayed on the screen until the right number was reached. If the participant decided to pay, the information was removed from the large screen. However, if he or she chose not to pay, the information stayed on the screen until the a new user decided to start to approach the machine. After finishing the interaction with the vending machine, the users were approached by one of the researchers and asked to participate in an interview reflecting on their experience and behaviour.

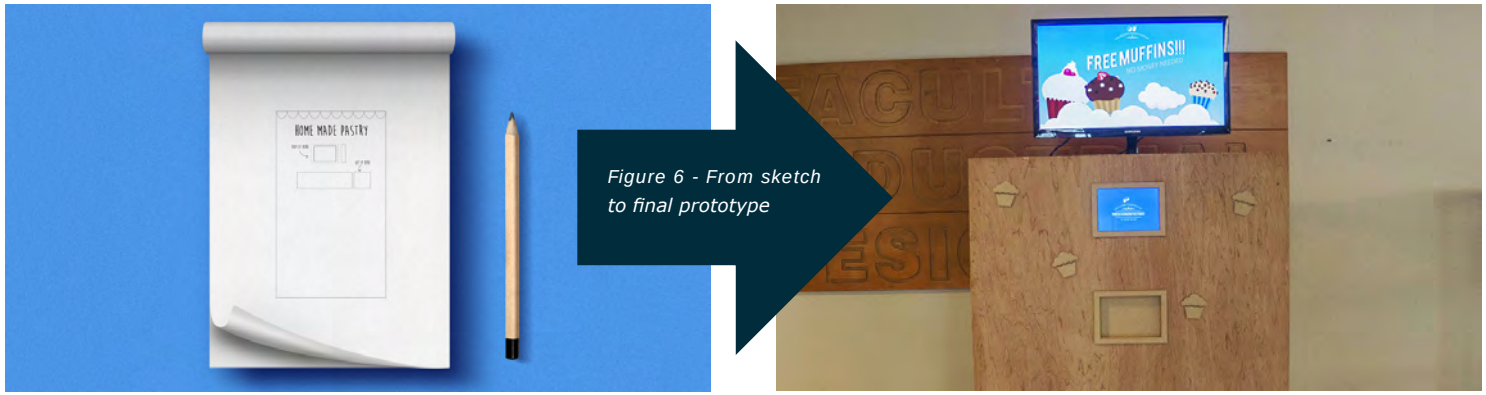


Figure 6 - From sketch to final prototype

Research Prototype

The role of the prototype in this study was mainly as a means of inquiry and as a research archetype. This means that first of all we used the vending machine to gather a wide range of data about people; both the actual answers to the questions as well as the level to which they were willing to answer them. Furthermore, we also used it to record how people interacted with the questions in general (typing, deleting, typing, etc).

The prototype also functioned as a research archetype as we used it in a more open ended way. It was also employed to explore how people would react to it and interact with it. The vending machine itself was also a reflection of how currently many websites gather and misuse your data, without us really noticing. We hoped to get people to think about and discuss this topic after being confronted with our design.

The vending machine was built in a solid wood for stability and a clean attractive look. The interaction with the machine happened through an iPad positioned on the user's eye level, on the machine's front side. Below the tablet there was a hatch for the muffin output and money input. On top of the vending machine, a larger TV screen was placed, which showed as well the animation advertising free muffins as the input information after the user test. On the inside of the machine two laptops were used by a human operator to control the system. One computer was used to control the large screen on the top of the machine, while the other computer was used to mirror the ipad screen in order to enable the operator to see the input continuously and simuntainalsy search for more data about the user and update the infographic before publishing it on the large screen.

A webpage was developed for the conversation interaction and connected to a database. The webpage served as the vending machine's interface leading the conversation with the user, while the input from the user was saved in a database. The machine operator used a laptop to search for the current participant on social media sites such as Facebook and Linkedin to find additional information. If the operator succeeded he or she would add up to three selected data to send to the database. If no extra data was found the operator could choose to either make something up that seemed fitting or leave the spots blank. In figure 6 the prototype setup from ideation stage to finalization can be seen.

Visual design

The vending machines interface was based on existing social media interfaces to create comfort, trust and trigger a sense of recognition for the user. The conversation started simple and friendly to gain the user's trust. The intimacy of the questions gradually increased, which also was meant to stimulate the user's curiosity. The conversation build up is seen in appendix II.

Following the machine's cohesive style and design in light colors, the animation on the top of the machine (as seen in figure 7) was also intended to attract people. The main color blue was used because it is the color for loyalty. The graphical style was inspired by old school ice cream and pastry posters, used to create a sense of recognition. Also the infographic (see figure 8) displayed at the end of a user interaction containing the user's input information followed the same graphical style. Being placed in the periphery of attention of a user standing in front of the machine, this infographic did not not only surprised the user after having finalized the experiment, but also displayed the information for others to see, transmitting the message that this information was shared by the user standing in front of the vending machine.

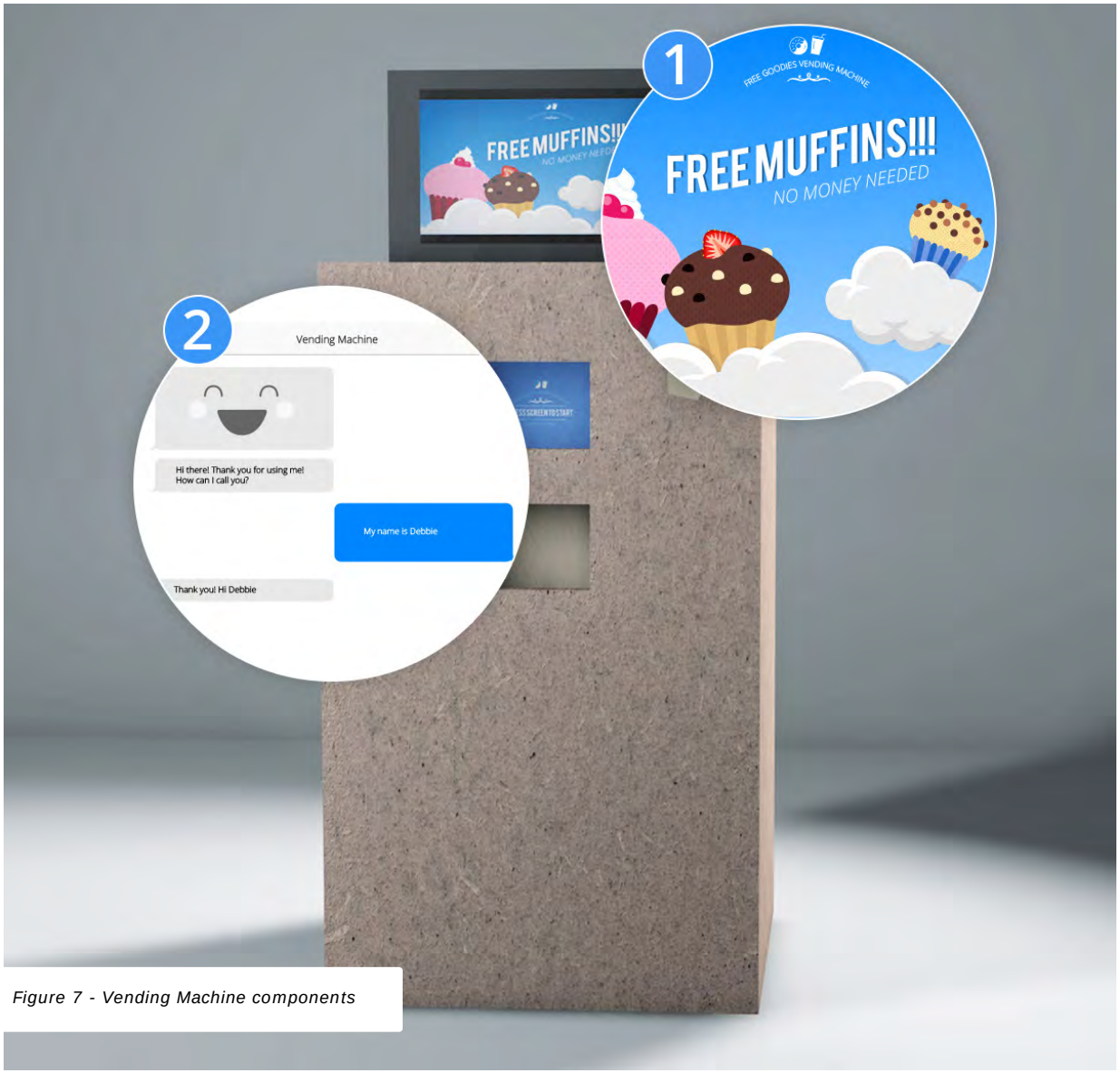


Figure 7 - Vending Machine components

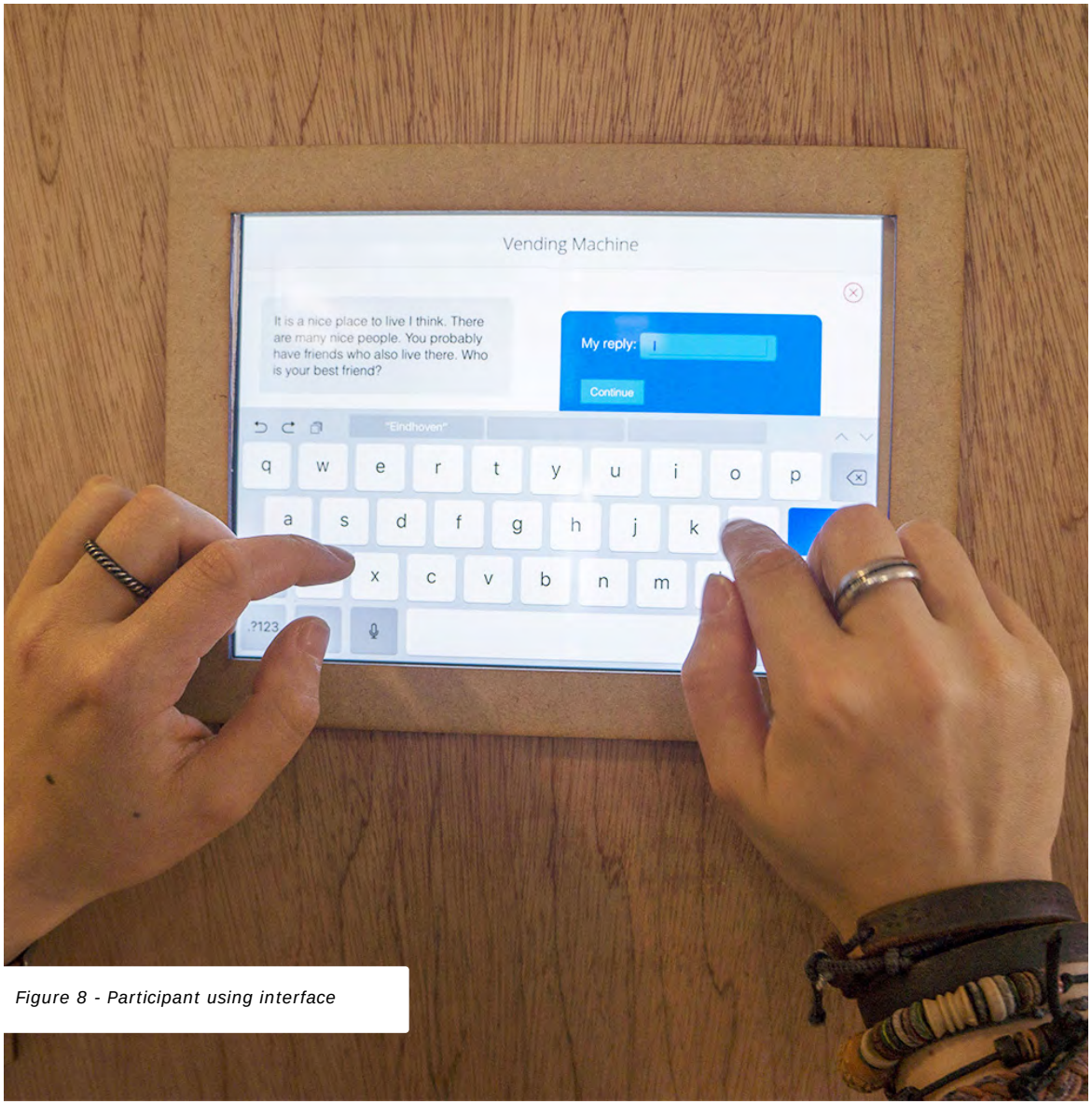


Figure 8 - Participant using interface

Results

During the first part of our experiment, we observed people's reactions while interacting with the machine. What we noticed first is that, contrary to expectations, no one of the 15 users which took part in the experiment decided to quit the interaction before the end. Instead, some participants chose to respond with untrue or fictional answers. When asked if he lied, on participant answered with "Yes, like a full yes". Only a few participants decided to either proceed without giving a clear answer or filling in obviously false information. The majority however responded to most of the questions, leaving only those out which were too personal or required more time to think.

Most of the users approached the vending machine as a group and in many cases we observed that other people gathered around the participant to watch the interaction with the machine (see figure 3). The time spent to answer the questions exceeded the expected duration of the experiment, as most participants took their time to think about the questions. We noticed that users who approached the machine as a group often talked to each other, discussing during the interaction with the machine. Many laughed when the questions became increasingly personal. As soon as they had finished the questionnaire and noticed that their information was displayed on the big screen, most of them looked up surprised and read through the displayed statements.
In many cases, this caused people to laugh as well. We observed that some looked around the machine, and even tried to look inside of it. 13 participants chose not to pay anything when

Figure 8/9 - Infographic example and final screen

Figure 10 - Receiving Muffin after buying data back

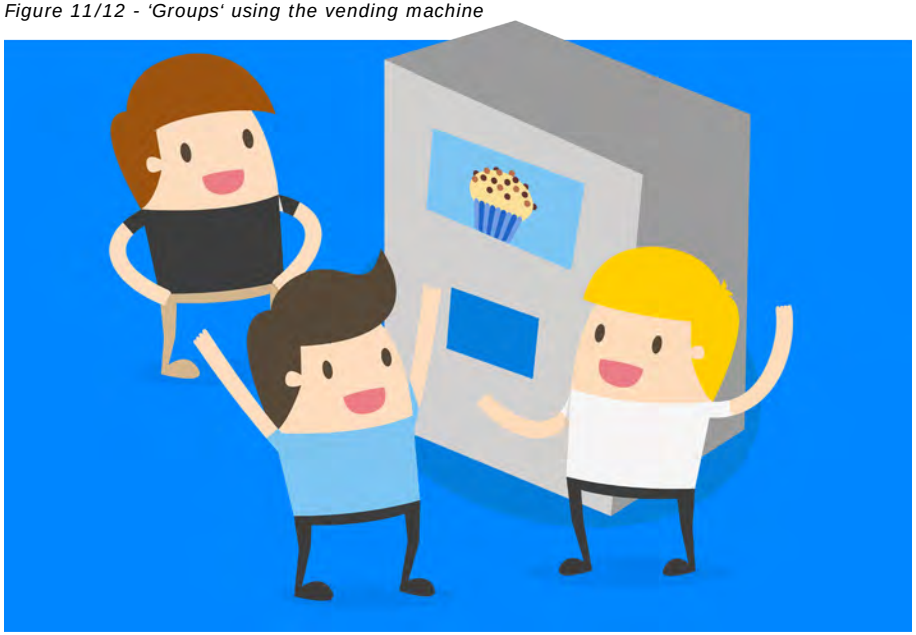
given the chance to buy their data back, while one set 65 cents as price but didn't actually pay due to the fact that he didn't have any money with him. Also in some other cases, not having cash available was named as reason why the information was not bought back.

Through the self-evaluation about the personal importance of privacy we intended to analyse the correlation between the number of questions answered by users and their self-perception regarding the topic. While only three participants indicated that their privacy was not too important to them, these were the users that also gave less truthful answers than the other participants. For the other people taking part in the experiment, which rated the importance of privacy between 8 and 12, we observed no constant in the amount of information given away.

During the interviews some participants expressed their surprise about the additional information that was shown on the big screen. One user even felt offended by the fact that the screen displayed the filled in information that he was an average student. When asked why they did fill in any answers at all, some of the participants argued with curiosity (one participants justification for why he decided to still go on with the interaction even though he thought the questions became too personal was "at some point I thought (…) alright, I just want to see it, I'm very curious"), while others indicated that the human-like style of the interaction led them to continue the conversation ("at least I personally feel like I'm more likely to talk when it feels like you're actually having a conversation with somebody... or something"). Overall, we observed that the participants in general considered their own data to be of little importance. This was expressed in statements like "eventually they will still get your data. I don't feel nice about that, but then again, what can you do? Almost everything is a public document nowadays", or „I didn't see any value in buying my data back, I don't think my data is worth anything anyway". One of the arguments named for this is the believe that the data "was gathered" already anyway, expressed in sentences like "I'm fine with giving away data like address and phone number. It's not about trust so much, but I'm only one insignificant person, the chance that they will pick out my data to use is quite small" and "If I tell where I live, I know that it's already on the internet anyway. Google Maps already knows where my house is."

In order to share the main insights of our experiment efficiently, we decided to present our prototype together with a poster showing the process of the research and a compilation of self-evaluations, data infographics and selected quotes. These elements were not only meant to provide others with an

Figure 11/12 - 'Groups' using the vending machine



understanding of our approach, but also to allow them to develop an independent view on the topic, the method and the results. This should stimulate a discussion and function as an extra way of gaining insights and topics of reflection.

Discussion

Through the self-evaluation forms we could experience how the participants rated the importance of privacy. We couldn't identify a direct relation between the individual perception of privacy and the amount of questions answered. However, the fact that the participants who rated the importance of privacy lower than the rest also answered the least amount of questions truthfully can imply that these users have more awareness of the meaning of privacy. In this case, the personal differences when it comes to self-evaluation make a purely objective comparison difficult.

There are also other factors that have to be taken into account when analyzing the results of our research. The fact that the interaction with the machine mainly took place in groups and often observers were present led the experiment in a different direction than expected beforehand. While we predicted participants to interact individually with the vending machine, the interaction in groups gave us extra possibilities of analyzing reactions. The verbal and physical communication between the users made it possible for us to observe their responses and thoughts.

However, the experiment did not only give us insights for the questions we stated initially, but also triggered a discussion about the role

of the researcher. While our own position appeared clear to us throughout the experiment, it was called into question when the results were shared with the other groups of researchers. The act of sharing results, which had a purely academic character for us, was perceived as the kind of intrusion in the privacy, which we tried to analyse within our research. This shift of role and perception from observant researcher to active participant mirrors the difficulty that lies in this methodology. In order to evoke a reaction in users and stimulate a reflection of their behaviour, we applied the same methods used nowadays for data gathering. As soon as we shared our insights by showing results of the user tests, our role as researchers shifted. For researchers this means that a constant reflection on the methods and the own standing point is crucial for the work on this topic. Actively mimicking the structure to be analyzed can help to gain deeper and more precise insights. However, it is necessary to carefully define the role and limits of the research and monitor them continuously.

Figure 13 - Monitoring users from inside the vending machine

Conclusion

Despite the fact that the value of personal data and the resulting trend towards information gathering is a well-known fact, we can observe that people still act carelessly when it comes to giving personal information away. Especially on the Internet, where more and more methods are applied to gather data, users tend to feel safe and deal liberally with personal information. Even though there have been many publications about this topic, an open discussion addressing the issues and consequences is rarely raised. Through our experiment we wanted to observe people's reactions when being confronted with such a data gathering mechanism and their reflection on their behaviour. Through the implementation of the human-like attitude of greediness, which was made clear to the user by using increasingly personal questions that are normally not asked in such a context, we intended to give the participants an understanding of the nature of such harmless seeming mechanisms.

The participants recognized the intention of the vending machine while interacting with it. Nevertheless, this didn't make any of the user's interrupt the interaction. Instead, some participants filled in untrue information in order to get the muffin promised in the beginning. Even though the announced publication of the filled-in information and the display of it on the large screen surprised most of the users, this didn't result in a further reflection about the own behaviour regarding personal data. Instead of considering a change of attitude, we observed that most users justified their actions with the own incapability of changing the current status. The fact that it is only possible to gather data that was at some point given away by the users themselves was generally ignored. People apparently know about the risks of sharing too much data, they know that the internet constantly gathers information about them, but it seems like they are still not truly aware of this. A goal that both designers as well as governmental bodies might want to have is to warrant people for data misuse and try to create awareness rather than just inform them.

Besides that, our work clearly repeats what other research has already found out; more human-like, friendly and polite machines encourage people to be more trustful towards a machine. We see that this could be used in very harmful ways, in essence how we used it as well, to lure people into sharing information or acting in ways they wouldn't otherwise. This raises critical questions in the area of interaction design in general and especially related to AI and

Figure 14 - Creating awareness for the consequences of spreading (personal) data

Figure 15 - Exhibition of easily obtained personal data

home assistants; how human should interactions truly become? It might be our job as designers to critically review this question and find the right balance between intuitive, user-friendly interfaces and transparency.

We believe that the insights of our study point out some major development possibilities for the future, for people analyzing it as well as for those actively shaping it. In his key-note speech on the 29th of March of 2017 at the Biënnale in Eindhoven, Kevin Kelly gave two suggested directions for the development on this field, showing the societal relevance of the topic. The first one, which he called "co-veillance" referred to missing symmetry in the process of surveillance. His idea is to create tools which not only allow one side to gather data from the other one, but to do this mutually. The second direction concerns the separation of the fixed relation between privacy and transparency with generic and personalization. These are both suggestions that relate closely to the outcomes of our research, and emphasize the importance of change in our relation with data.

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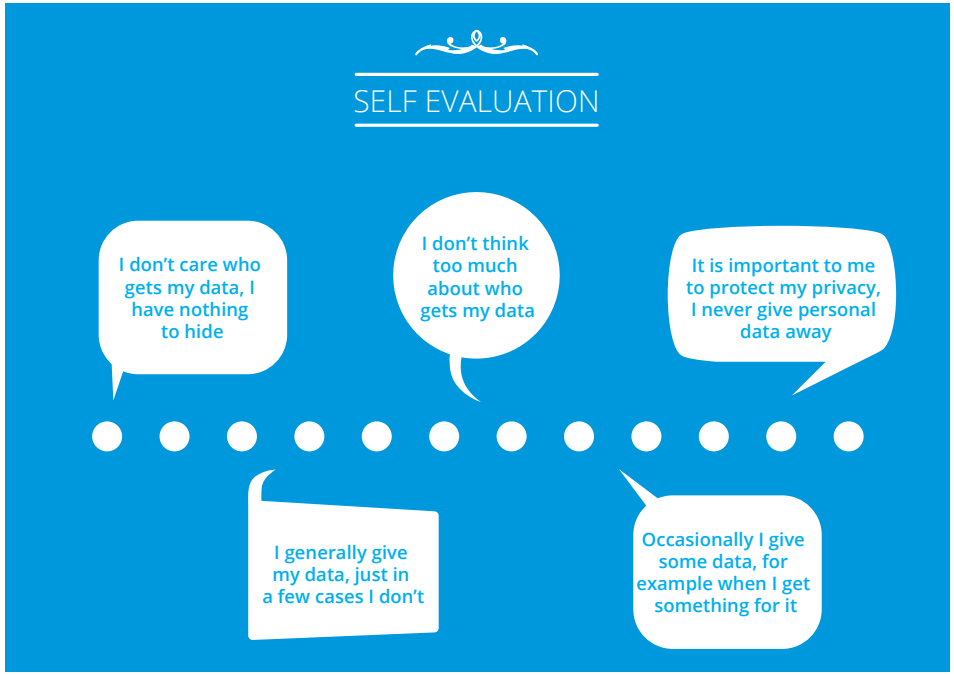
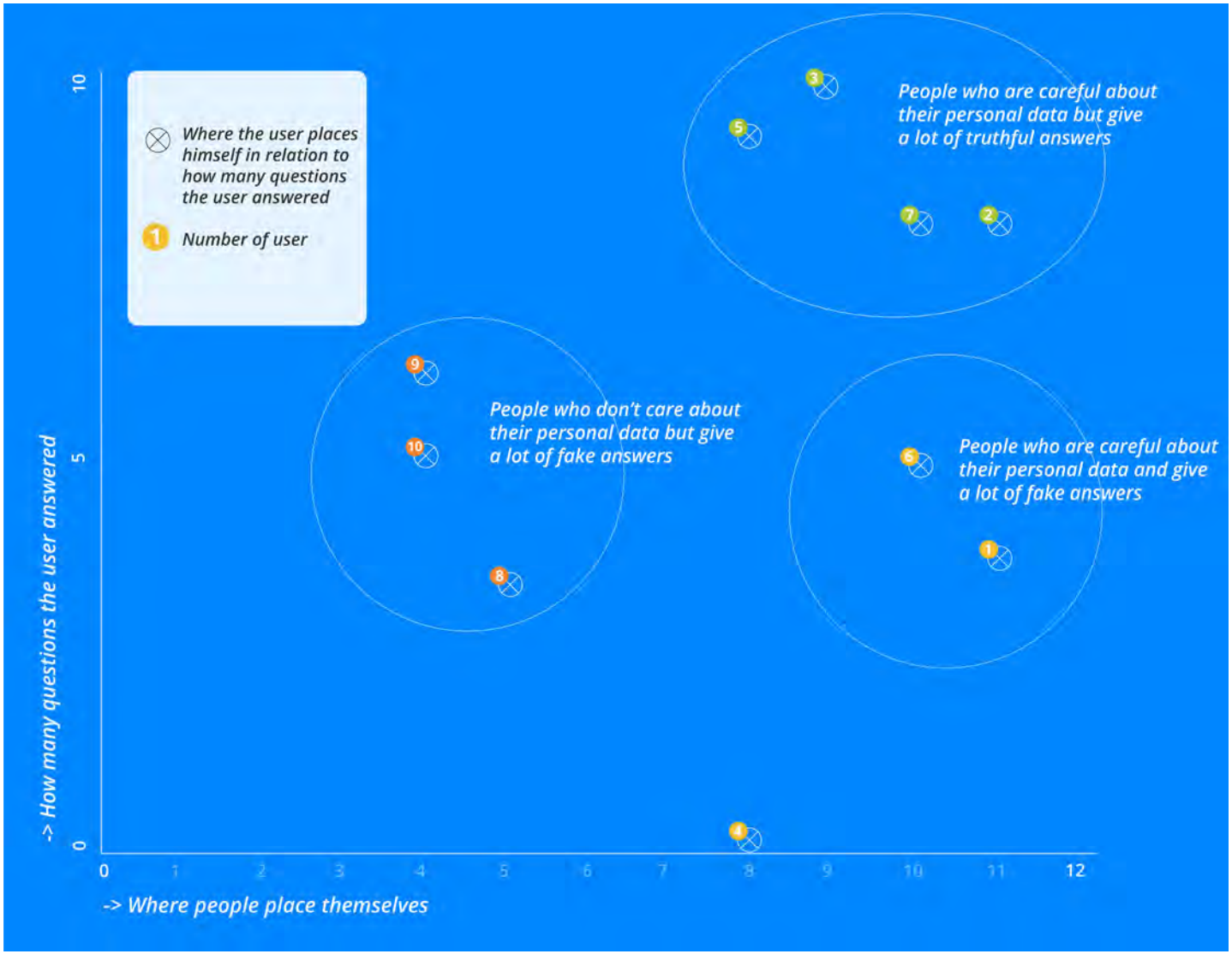
Appendix I: Self evaluation form and analysis

Front and back of the Self evaluation form



Analysis of the
Self evaluation form

By combining the amount of questions answered truthfully and the self evaluation score, it it possible to divide the participaints in three categories as depicted on the side



Appendix II: Conversation between user and vending machine

1. Hi there, thank you for using me, what is your full name?

2. Welcome (name). I give out goodies for free, if you can answer some questions for me that will help me improve my user experience.
As you can see I live in Eindhoven, where do you live?

3. It is a nice place to live I think. There are many nice people. You probably have friends who also live there. Who is your best friend?

4. That sounds like a nice person. I would like to know a bit more about you though. How do you feel right now?

5. Thank you for sharing your feelings with me. I myself feel quite happy. The outcomes of the Dutch elections helped me to regain trust in the system and feel less depressed. What political party did you vote for?

6. Interesting choice. I wonder how that affects students, whether they help improve your financial situation or not. Right now, students can't save a lot of money. How much money do you have on your bank accounts in total?

7. Thank you. I need just a few more answers before I can give the right product for you. A lot of people nowadays are insecure about their body. What are you insecure about?

8. I'm sure you have no reason to be insecure. You even have such a nice friend, they must like and trust you. Can you maybe tell me a secret that someone trusted you with?

9. Thank you very much for telling me that.
Only two more questions, hang in there.
Research has shown that people who cry during movies are more emotionally stable than people who don't, because they are not afraid to show their feelings. When did you last cry and why?

10. I hope that crying helped you to feel a bit better. There is no shame in sharing your feelings. I feel like I can already improve my user experience a lot with the answers you gave me, but I need one last answer until I can give you your treat. Unfortunately our sex lives are not always what we want them to be. What is your most embarrassing sexual experience?

11. LOL, that's awkward!
Anyway, check the hatch to receive the treat I promised you.
Furthermore, I will now continue to publish and use the data that you voluntarily gave to me. Is there a problem?
I gave you a nice treat in exchange for your data. However, if you really don't want it to be published, you can buy it back.

If people step out early:
1. Is there a problem?
I even promised to give you a nice treat in exchange for your data, which I can't give you if you don't finish the questions. I will continue to publish and use the data you already gave me voluntarily.

You don't want that? However, if you really don't want it to be published, you can buy it back.

Extra storyline that can be triggered by the first 'not telling':
It's a pity that you don't want to tell that… If you really don't want to, I can't give you your treat… Are you sure you want to stop?
What if I offer you two treats instead of one?

Appendix III: Examples of infographics

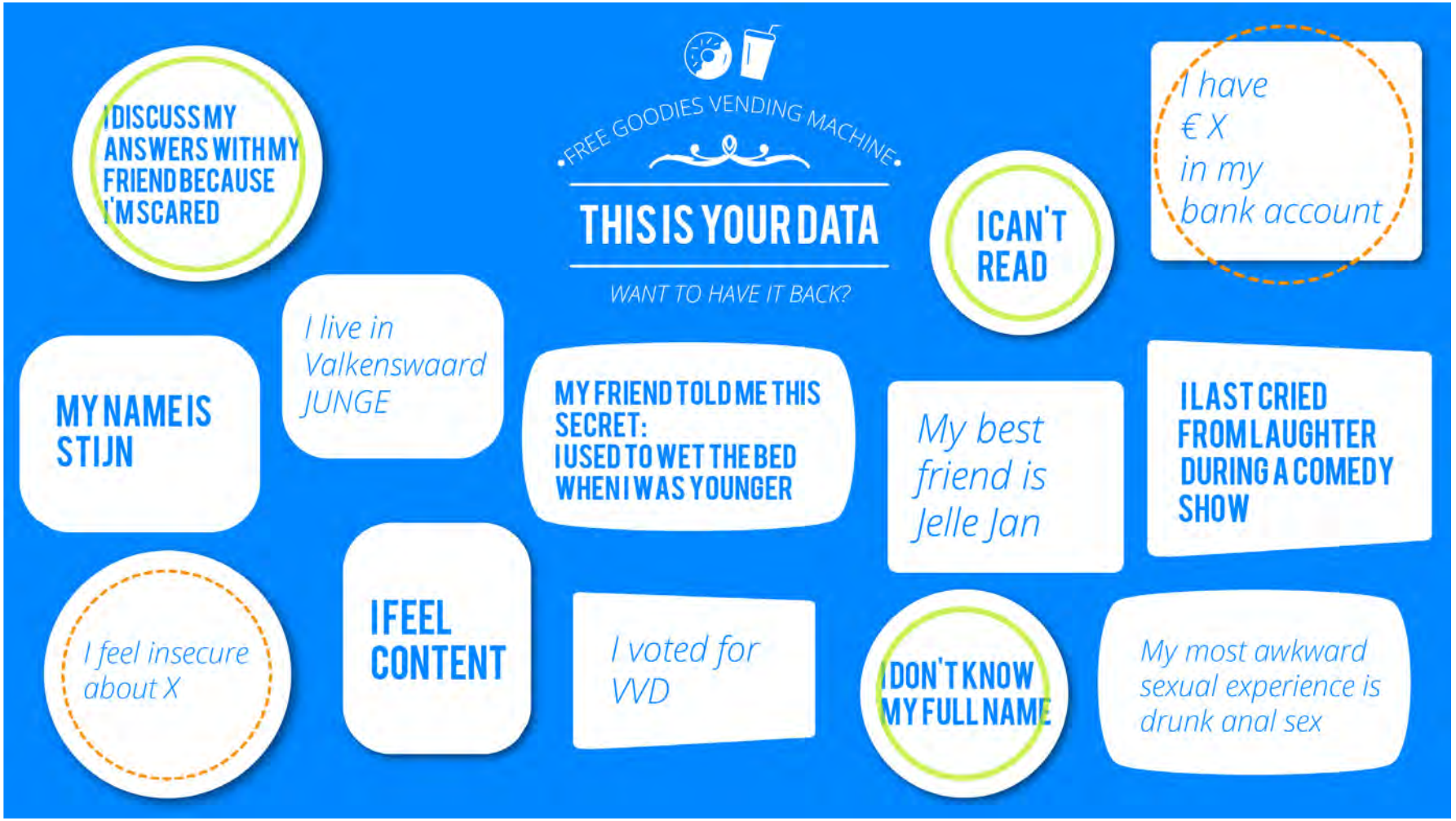
Meaning of the infographic
- Green circles: Questions that weren't answered or were put in the bubbles manually
- Orange circles: Questions that were not answered truthfully

Meaning of the infographic

- Green circles: Questions that weren't answered or were put in the bubbles manually
- Orange circles: Questions that were not answered truthfully

Meaning of the infographic

- Green circles: Questions that weren't answered or were put in the bubbles manually
- Orange circles: Questions that were not answered truthfully



Appendix IV: Interview questions

These questions were used to interview the participants after they finished the usertest. The questions served as a guideline for the interviews. The questions were however slightly altered based on the user being interviewed.

1. Did you at some point?

2. How did you fel when interacting with the machine?

3. Why did you initially give your data?

4. Why did you feel different about it at some point?

5. (if applicable) What did they think of the extra information we found?

6. What do you normally think about giving information online?

7. How much do you trust the internet, when giving your data away? When are your willing to give more data? Why?

8. Where would the limit be for you?

9. Why did you buy some information back?

10. (if only bought back some questions) Why did you buy back these questions and not the others?

Appendix V: Interview quotes

Participant 1 - quotes
I did feel like the muffin machine was very kind and very open to what I was about to say

I didn't have at any point in the questionnaire the idea that the machine was about to judge what I was about to say

I never give away information.

Things like your name are just formal things, these questions were very personal. It's because I know the context here, but if Facebook would ask me something like that I would never give it to them

I know these are students, if a vending machine on the street would ask this to me, I wouldn't have done it. Maybe I would have done it, but my answers would have been different

I didn't think of exiting, I'm still in control of the answers I give
It didn't feel like stealing from the machine, because it's not personalized enough

Participant 2 - quotes
I did not answer all the questions. (So did you lie?) Uhhh, uuuhhh, uuhhh, no. My bank account, that's not interesting for you.

About the sex questions, I was really wondering, should I answer this… And I was like, well, just type it, whatever.

On the internet it's similar, they can know my name, my email, my phone number, my address, my height, my weight, yeah…

With professional websites, or webshops, it feels professional, but you know they all sell their data. I'm a bit skeptical about it.

You never really see a vending machine that talks to you, and even though you could see it was a prototype, it was nice that it was talking back. It also looked quite cute, with the muffins and everything.

When it was on the screen, that was the thing I didn't expect, I was like, how can I get this off the big screen, because everyone who was walking by could see it.

Participant 3 - quotes
Sometimes I just said no and then clicked continue.

Some things went too far, like the secret. If someone trusted you with a secret you can't just tell it to some vending machine for a muffin, it's a bit cheap. For most of the other questions, I don't feel like it's a big deal.

Eventually the machine started asking more personal questions, and I was like, well, this is interesting, this is something new. But I still continued.

Online I'm usually more careful, but since this is in a controlled environment I was a little more loose than usual. If a random questionnaire on the internet would ask me the same questions, I wouldn't answer them this freely. Otherwise I don't usually think about my data.

It was a bit like online pop ups, they don't listen to you but just have standard replies.
I didn't really think about whether I should trust the machine or not.

Other guy: he just answered the question, I wouldn't do that with others looking. I think he is very self-confident.

Participant 4 - quotes
I filled in the truth. I was laughing while doing it, thinking I probably shouldn't do it, but yeah.

I don’t have problems with sharing my data to be honest. I mean, I’m not stupid, I wouldn’t do it in case it would damage myself or somebody else, but it doesn’t really matter in this setting.

I did buy it back, but more because I was following the flow of the machine. But I paid less than what it was worth!

The one that is more disturbing I think is the bank account. I don’t have anything to hide, but I think that’s a touchy subject somehow.

Normal data online? I don’t even think! No, that’s not true, I usually tend to not use the same profile to avoid to have all my information connected. I’m also really cautious about my bank account.

I think I trust the internet, I don’t have much of a problem in sharing data, until my identity is shared in a wrong way. If you use my profile to share information I’m not related to, I don’t want that.

If Facebook would ask these questions, I wouldn’t answer the more personal ones.

I trusted the machine because of the environment. I know nobody is here to steal my data.

Participant 5 - quotes
I do have a question about the information that I put in. Where did you get that from? How did you find out I’m an average student?

I didn’t answer the bank account question. I didn’t see why this information would be useful to you, I don’t want to give it away for free.

I was awkward to see information I didn’t use. Just by my name you know I’m an average student, that’s an insult right.

When I started realizing what was happening, I was much more prepared. I was paying more attention.

I realized when you asked for my friend’s name, that that already goes deeper than a question any other stranger would ask.

It depends on who is asking for it, if it’s for the bank or for receiving a package I’m okay, but if it’s a random company that I can’t be secure about, I would not.

It doesn’t matter what you put on Facebook, because you can clearly see what information is fake. I wrote that I live in Albania, but I still get the weather forecast for Eindhoven.

Eventually they will still get your data. I don’t feel nice about that, but then again, what can you do? Almost everything is a public document nowadays.

I like how you ask kind of innocent questions, but then present it on the screen.

Participant 6 - quotes
Ik had niet verwacht dat het eerlijk moest, ik heb gewoon maar wat ingevuld. Ik heb bij bijna alles gelogen, ik dacht ik vul maar gewoon wat grappigs in.

Een vriend naast me zei, er hangt geen camera, dus dan maakt het vast allemaal niet uit.
A friend next to me said: There is no camera, so it doesn’t really matter, you can just input bullshit.

Ik ga mijn data niet zomaar aan zo’n machine geven.
I’m not just going to give my data to such a machine!

Er stond gratis muffin, dus dan verwacht ik niet dat het in ruil voor mijn data is.

Ik ben er een beetje selectief in, bij Google heb ik wel gewoon aanstaan dat het alles trackt, maar ik weet dat Google het niet zo snel

doorverkoopt of het aan mij linkt. Google is een groot bedrijf, dus dan vertrouw ik het ook wel, ze hebben denk ik veel betere beveiliging dan zo'n kleine vending machine.

Op Facebook probeer ik niet zo veel te zetten.

Als data geanonimiseerd wordt vind ik het niet zo erg. Als data aan mij gelinkt wordt vind ik het niet zo fijn. Ik wil best veel informatie geven, maar zodra het aan mij gelinkt wordt, wordt het te persoonlijk.

As soon as any data is linked to my name and me as a person, it becomes too personal.

Participant 7 - quotes
Ik heb gelogen omdat ik dacht, dit gaat zo'n apparaat helemaal niks aan.

De laatste keer dat je hebt gehuild vond ik nog wel oke, maar bij de vraag over seks dacht ik, nou, zullen we dat even niet doen?

Ik ben niet gestopt omdat ik zin had in een gratis muffin.

Stelen? Ja, maar een machine heeft geen gevoelens dus dat geeft niet. Ik vind het niet erg om te stelen van een machine.
A machine doesn't have feelings, so I don't mind stealing from it. I would do the same at a regular vending machine.

Zou je dat bij een gewone machine ook doen? Ja, absoluut.

Als het op een groot billboard had gestaan dan had ik het wel teruggekocht. Maar dan had ik het misschien ook niet ingevuld.

Over het algemeen vind ik het weggeven van data wel prima. Dus adres, telefoonnummer, daar heb ik allemaal niet zo'n moeite mee. Het is niet zozeer vertrouwen, maar ik ben maar een klein visje in de zee, de kans dat ze mijn data er uit pakken is vrij klein.

I'm fine with giving away data like address and phone number. It's not about trust so much, but I'm only one insignificant person, the chance that they will pick out my data to use is quite small.

Hij zag er heel leuk uit, en dat je dan uiteindelijk wel genaaid wordt door zo'n ding. Dat uiterlijk eigenlijk niks zegt en dat je helemaal niet weet wat er in zo'n machine gebeurt.

Participant 8 - quotes
Als ik de test serieus zou moeten doen weet ik niet of ik eerlijk zou zijn, want de vragen zijn natuurlijk best persoonlijk.

Ik realiseerde me niet dat ik kon stoppen, maar als ik eenmaal wat ben begonnen wil ik het ook afmaken.

Ja, wat boeit het. Op internet liegt iedereen ook over allerlei shit, en dit voelt ook wel een beetje als internet.

Als ik woonplaats enzo invul, ik weet toch wel dat het al op internet staat. Google maps weet toch al waar mijn huis is.
If I tell where I live, I know that it's already on the internet anyway. Google Maps already knows where my house is.
Ik probeer op internet zo veel mogelijk voor mezelf te houden, maar ik weet dat sommige dingen er wel op staan.

Maar met whatsapp bijvoorbeeld, dat is in principe van jou, maar ik heb wel het gevoel dat dat soort data wel verkocht wordt. Dat is wel heel dubbel, want op whatsapp uit ik wel gewoon alles, terwijl als dat zou lekken zou dat niet fijn zijn.

Wat ik heel raar vind, als ik soms mensen tegenkom die ik helemaal niet ken, en dan weet ik wel alles over ze.
What I find weird is that I sometimes encounter people that I don't know, but I do know everything about them from Facebook.

Ik vond het niet storend dat het op het scherm kwam, als ik het invul

dan weet ik dat mensen die data hebben en er ook wat mee kunnen doen. Daar kies ik dan zelf voor eigenlijk.

Het ligt aan de context, hier weet je niet waar het voor gebruikt wordt, maar op polling sites bijvoorbeeld dan weet je dat wel.

Participant 9 - quotes
Een geheim van een vriendin gaat me wel iets te ver.

Ik heb er niet zo heel veel problemen mee als mijn data gebruikt wordt als ik zelf weet dat het gebruikt gaat worden. Ik had wel door dat het persoonlijker werd, dus ik heb gezegd, ik vind het oke als er meer vragen worden gesteld, maar die vraag specifiek niet.

Ik vond het wel leuk, ik heb zo antwoord gegeven dat ik niks prijs geef wat ik persoonlijk te veel vond. Bijvoorbeeld bij beste vriend heb ik alleen de voornaam gegeven.

Ik zag de meerwaarde er niet van in om het terug te kopen, ik vond niet dat de data waarde had.
I didn't see any value in buying my data back, I don't think my data is worth anything anyway.

Op internet, zolang ik controle heb over de vragen die ik invul vind ik het niet erg, maar als het gewoon gepakt wordt dan vind ik dat heel erg.
On the internet, I don't mind as long as I have control over the answers that I give. If they just grab it, I think that is really bad.

Advertenties op Facebook vind ik niet zo erg.

Ik vertrouw het wel, ik heb niet het gevoel dat het schadelijk is.

Jullie mogen mijn data hebben, maar ik wil wel zelf controle hebben over welke data.

Ik was bang dat er iets engs ging gebeuren, dat de machine me zou laten schrikken ofzo. Of dat opeens m'n identiteit gestolen zou worden ofzo.

Participant 10 - quotes
I did not lie, I gave some answers like not available.

I think the one about my sexual life is quite awkward.

I still honestly felt like I gave an honest answer to most of the questions.

If I had given the sensitive information, I would have bought it back.

I feel like the answers that I gave to the questions are not sensitive to the point that they can't be displayed.

As long as it doesn't cross the personal boundary too much online, it's fine.

I trusted the machine. After you told me the information was displayed, not so much anymore. But I don't think Facebook would take your information and post it somewhere else.

Do you trust all of your friends then? I think no, because that is out of my control, most of us have a lot of friends.

Participant 11 - quotes
Nee, of tenminste niet alles serieus. Ik heb overal wel maar iets ingevuld.

Ik had dat kruisje eerst niet gezien, maar ik was wel ook nieuwsgierig naar wat er daarna zou komen.

Er is wel een verschil tussen een machine en een mens, als een mens dit zou vragen dan had ik niet gelogen, dan was ik wel gestopt. Met een machine is dat toch makkelijker.
There is a difference between human and machine, if it had been a

human asking the questions, I wouldn't have lied, I would have stopped. It's easier to lie to a machine.

We zeiden al, sowieso komt de informatie op dit scherm als we klaar waren.

Ik dacht wel, oh shit, straks komt het op dat scherm en dan kan iedereen het zien.

Als ik de vragen serieus had beantwoord dan had ik er wel zeker een tientje voor betaald.

Op internet worden meestal niet zulke persoonlijke dingen gevraagd. Maar uiteindelijk weten ze toch ook al wel op welke websites je zit enzo, het is ook een beetje naïef om te denken dat je dat tegen kan gaan. Maar deze vragen zou ik nooit beantwoorden online.

Als het volledig anoniem is, is het misschien wel anders, nu moest je meteen je naam en je woonplaats doorgeven.

Op internet zou ik dit soort vragen wel wegklikken, maar nu was ik nieuwsgierig naar wat er zou gebeuren.

Vooral op het einde, toen hij zei van ik ga je data nu publiceren, toen dat ik wel: motherfucker!
At first I trusted it, but at the end, when it said it was going to publish the data, I thought: you motherfucker!

Ik vond de stap heel groot op een gegeven moment, misschien als er nog een tussenvraag was geweest had ik het wel beantwoord.

Toen hij voorstelde van, dan krijg je twee muffins, toen ging ik er serieus weer over nadenken, maar toen dacht ik, wat maakt dat eigenlijk uit. Misschien als ze dat al eerder hadden gezegd dan had ik wel meer gezegd, ik weet het niet.
When it proposed to give two muffins, I actually started thinking about giving it what it wanted, but then I realized that shouldn't really matter.

Appendix VI: Biographies

Elise Claassen
Elise Claassen received her bachelor in IT and Mediadesign from Fontys school of applied sciences in Eindhoven, 2016. Since september 2016 to now, she has been a Industrial Design master student in TU/e in Eindhoven. The area of interests are anti dogmatic design, aesthetics and embedded systems.

Contributions to the course:
Initial research technology
concept development
Iterations
Programming the whole system
Graphic design/branding
Building the prototype
Organizing the prototype
Video editing

Matilda Shaffer
Matilda is a student at the Royal Institute of Technology in Stockholm and studies Interactive Media Technology on an exchange in Industrial Design at TU/e . She is well versed in media technology and IT-development. Previous experience includes work as a Broadcasting Technician for MTG Broadcasting.

Contributions to the course:
Initial research greed and charity
Concept development
Iterations
Building the prototype
Conducting the user test through the machine
Muffin baker

Minerva Loos
After having finished her Bachelor in Architecture at the Technische Universität in Munich in 2015, Minerva Loos worked on the field of Industrial Design. Since 2016, she is a Master student at the TU/e in Eindhoven, where she is interested in the social impact of Design and the creation of behavioural change.

Contributions to the course:
Initial research greed and charity
Concept development
Iterations
Design the interview
Plan the prototype
Organizing the prototype
Conducting interviews, organizing the user test (consent form etc.)
Preparing the poster for presentation
Analyzing the interviews

Emma van Zoelen
Emma van Zoelen is an Industrial Design student with an interest on new, complex technologies and how they will change and integrate in our society. Her current focus is on using Artificial Intelligence to work together with and support people, with an ultimate goal to make technology much more intertwined with our societal structures. She previously researched a socially supporting role of AI for teens with ASD and multi-user interactions for the autonomous car.

Contributions to the course:
Initial research vending machines
Concept development
Iterations
Programming the infographic
Design the user test
Conducting interviews
Analyzing the interviews