Haptic feedback in digital gift exchange: influencing exchange through real-time tangible interaction

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ABSTRACT

This paper explores how haptic communication in real-time tangible interaction enhances the experience of remotely exchanging a digital gift for the giver and the receiver. We developed a device - hereafter called Hapto - which supports the personal interaction between giver and receiver when they are not around by mimicking the handing over of a present. Participants were interviewed on physical and digital gifting, on the exchange with Hapto compared to traditional physical and digital gifting, and whether their perception of the gift increased or decreased with Hapto. Specifically, haptic communication during exchange, was found to be more interesting and personal than digital gifting, but less than physical gifting by our participants. In addition to haptic, other types of communication play an important role in making the exchange more personal. Moreover, people state that they will remember the exchange instead of the digital gift itself over time.
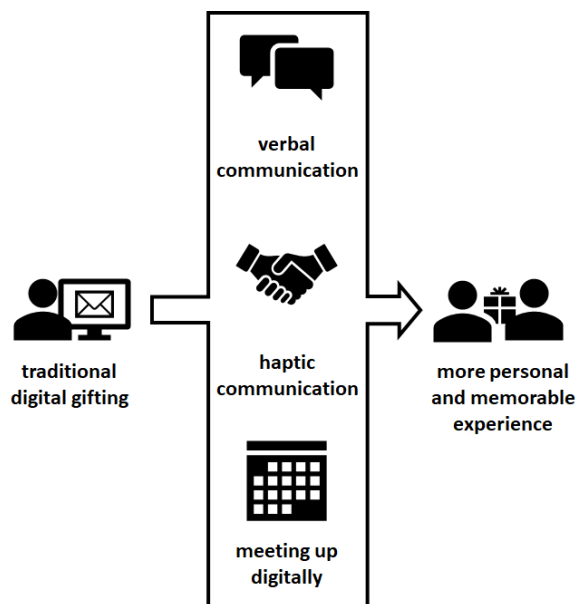
Figure 1. Key findings of this study.

Author Keywords

Gifting experience; remote; haptic communication; tactile feedback; haptics; hapto;

ACM Classification Keywords

Human-centered computing, Human computer interaction (HCI), Interaction devices, Haptic devices.

INTRODUCTION

The exchange of gifts has long been thought of as a fundamental part of human relationships. Gifting is switching to an online (digital) exchange which lacks human interaction (Kizilcec, Bakshy, Eckles, & Burke, 2018).

Digital gifting can be seen as rather impersonal and low effort (Kwon, Koleva, Schnädelbach, & Benford, 2017). With the rise of digital gifting the "gifting ritual" changed as well, this results in overall excitement of the gifting ritual being lower. Even though digital gifting had been substantially researched, no solutions to this problem were proposed or created.

We believe that adding a more playful, tangible, and interactive experience to the exchange might enhance the exchange itself, as well as the perceived value of the gift. Earlier research has shown that haptic communication added a sense of togetherness to a collaborative task (Ho, Basdogan, Slater, Durlach, and Srinivasan, 1998). Our research will connect this research to digital gifting, through "meaningful integration of physical and digital objects" (Golsteijn, Hoven, Frohlich, and Sellen, 2012).

Furthermore, we will research whether adding haptic communication affects a participant's reflection - memorableness of the gift - and their reciprocity.

RELATED WORKS

Previous research within the area of digital gifting has proven that, generally, people feel less excited about receiving digital gifts then they do about physical ones. Kwon, et al. (2017) established a five-phase framework for analyzing the gifting process, as shown in figure 1. It is noted that the exchange-stage and reflection scores significantly lower for digital gifting. This is due to the exchange being via a digital medium (e.g. email) and reflection often not being present due to lack of an actual artifact.
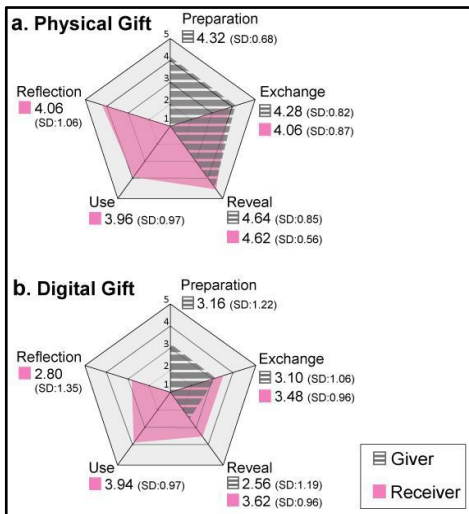
Figure 1. Mean values of participants' excitement (N=25) in both (a) physical and (b) digital gift exchange (Kwon et al., 2017, p. 6)

Next to research done into excitement levels, some studies also focus on the reciprocity part. This is an "extra stage" occurring during the reflection stage (Kwon et al. 2017). There are two types of reciprocity, General Reciprocity and Specific Reciprocity. General Reciprocity is most common within physical gifting, where the receiver gets the feeling they need to give back in a more generous, broad way. However, due to digital gifting the type of reciprocity is moving more towards a form of specific reciprocity, where the receiver gives back to the giver with the same value (e.g. an equal exchange). (Skageby, 2010) (Kizilcec, Bakshy, Eckles, Burke, 2018) (Golsteijn et al., 2012)

A lot of research has been done on the topic of haptic feedback (Brave, Ishii, and Dahley, 1998), (Fogg, Cutler, Arnold, Eisbach, 1998). Studies found that haptic communication during collaborative tasks can improve performance and enhance a feeling of togetherness (Ho et al. 1998). And will enrich and facilitate more natural interactions (Brave, Ishii, and Dahley, 1998). Therefore, it might be speculated that haptic communication could, in the same way, enrich the digital gifting process.

On top of this some research has been done on the difference between physical and digital gifts, as well as how to create more cherishable digital objects (gifts) (Golsteijn et al., 2012).

STUDY SETUP

Hapto

In order to answer our research question, we underwent a small design process to conceptualize a tangible artifact that allows us to observe behavior concerning digital gifting with physical interaction. This design consists of two boxes with a tangible slider. Users interact with it by pulling/pushing the slider in or out. This represents handing over a present. The giver slides it in and the receiver pulls it out. When pulling on the receiver's end the slider will move inwards on the giver's end and vice versa. When the receiver pulls out the slider fully, they will get a notification by email, informing about the gift card.
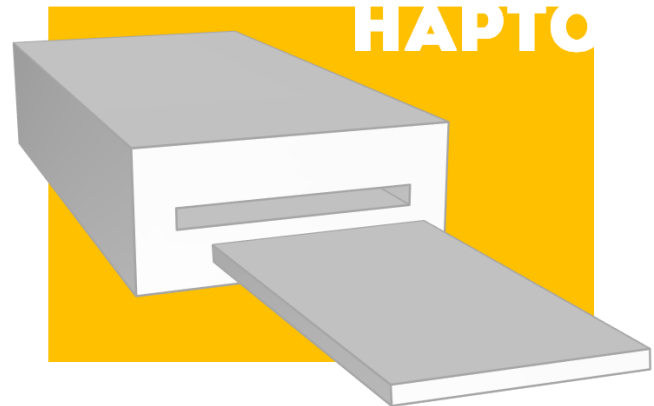

Figure 2. Hapto, the fictional device used to conduct our research.

This device would be used by two friends or relatives who are unable to meet up to exchange a physical gift. Both would have a Hapto. They would have to phone each other to plan a moment when they are both available to exchange the gift.

Participants

We recruited ten participants, five participated in our study as receivers and five as givers, for the study conducted at the faculty of Industrial Design at Eindhoven University of technology. All participants were fellow students, some of which familiar with the topic being researched. They were aged between 19 and 22. There were three females among our participants, all others were males. They were familiar with the concepts of physical gifting and digital gifting.

Procedure

First, researcher one asked some preliminary questions (hereafter called r1) to gauge their views on digital gifting. Next, r1 explained Hapto:

The participant and one of the researchers (hereafter called r2) sat opposite each other, separated by a divider. In this divider a box with a slit through which the card fits sat. We strived to pair participants with researchers they already knew or were friends with to interact together. We believe that the gifting and receiving will be less artificial and more personal as it becomes more authentic, creating more genuine results. The participant and the researcher were not able to see each other and could only interact verbally and

through the device. One played the role of the giver, the other the receiver. Half of our participants had the giver role assigned, and half of them had the receiver role, so as not to introduce any bias. While this setup did not serve as an exact replica of a remote gift-giving experience from home, it strived to come as close as possible.

Figure 3. Study setup, from left to right r3, r2, r1, and participant.

The participant and r2 went through the interaction without further guidance, beginning with the giver phoning the receiver whether they were available to receive their gift. During the interaction, a third researcher (hereafter called r3) took notes on the interaction on a laptop to the side.

After the interaction, r1 conducted a semi-structured qualitative interview about the participant's opinion of the interaction and the role they were assigned, as well as insights from observing the interaction, all results being recorded by r2 and r3.

After this trial, we analyzed our data by drawing a conclusion from the interview results.

Figure 4. Divider containing the slit and card, left: r2 view, right: participant view.

Data analysis

During the study, all interviews were paraphrased, while keeping true to what the participants said. In order to analyze the data, we organized the field notes per participant and per question, and read through each of them. The data was reflected upon in quality and credibility. We analyzed each participant's interview individually, searching for information that they believed was insightful and important according to the research question and the subquestions, while discarding irrelevant data. Afterwards, we each wrote a summary of the most important data, generating conclusions based on their findings. These different

summaries were later compared among each other's in order to validate the research findings - i.e. are they coherent and not open to multiple interpretations? Together, we clustered the data in a top-down fashion (Rokach et al., 2005). We held a discussion and compared our findings, basing it on the data clusters and individual themes generated from raw data, looking for a few overarching themes (see findings).

FINDINGS

Digital gifting

When asking participants about digital gifting all of them feel it is less personal than physical gifting, because they get the feeling that someone does not put effort or thought into it.

"Digital gifting is kind of boring, it's not like someone puts effort in." (p3)
"I would get excited, but I would not really remember it. Physical gifting would be more exciting." (p4)

The reasons why they think it is less valuable differs from person to person. Some participants feel like a digital gift is less personal than a physical gift, because you are not physically close.

"You see the person with normal gifting and there is like a vibe to it, which feels fun. With digital gifting it's just receiving an email and it is kind of impersonal." (p2)

Others said they do not get many digital gifts and think that digital gifting is impersonal because of the lack of effort put in by the giver.

"If you really know someone you know what they want or like, so you put the time in it." (p9)
"A physical gift is more personal because you have to wrap it, buy it at a store, instead of just pressing a button. While giving a physical gift, they put more effort in it." (p7)

Contrarily to all others, two participants think digital gifting is fine, but it depends on whom they get it from and what the digital gift is for.

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"It depends on whom the gift is from. However, I think it is still impersonal, but it depends on how much effort the giver has put into it." (p6)
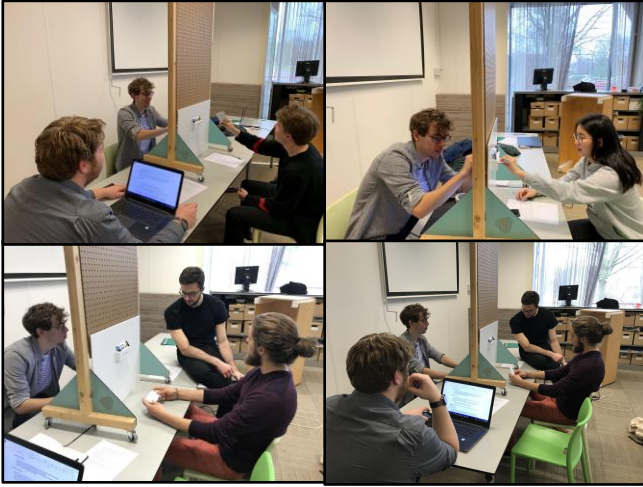

Figure 5. Various participants going through the interaction.

Interaction
It was noticed that a majority of participants viewed the interaction through our artifact as rather playful and enjoyable (p1, p3, p5, p6, p7, p9, p10). Some experienced it like some sort of game, and one participant (p6) made it playful himself. P6 liked having a real-time interaction and being able to tease the other person by pushing and pulling the card, which is changing the value of the gift in a positive way because of extra excitement and anticipation created around the gift. He also mentioned that he views Hapto as a great tool to infuse digital gifts with the same playfulness as physical gifting.

One participant thought that Hapto adds a bit of experience to the exchange, but not much.

"It feels more personal on a certain level, because you need to be there to receive it" (p2)
"I think it's really personal. If you're close with someone, you're always sort of fooling around with a gift. This interaction mimics that" (p3)
"I think it's great because you have an interaction with the person. If I know the person is pulling it I feel like I have contact" (p5)

However, one participant (p3) said that even if it feels like a real interaction, it doesn't add value to the gift itself.

"It's nice because you have a real interaction. But I don't feel there is a lot of added value to the gift" (p3)

Some participants looked confused using Hapto because of the set up. Afterwards they said the interaction is close to handing over a physical gift.
Another unexpected answer was:

"I think it's better because it adds a whole experience. An email feels like spam" (p4)

Communication
While conducting one of the studies where the participant plays the receiver, something surprising happened:

"I don't get why he [the giver] *hung up the phone. Why didn't we keep calling?"* (p4)

In mimicking the planning stage of our interaction the experimenter posing as the giver would always end the conversation when both were ready to exchange gifts. After the interaction, the participant noted that hearing the reaction from the person on the other end of the phone gives more opportunities to have an interaction with the gift exchange, made it more fun and added to the feeling of togetherness. Another participant mentioned that it makes it more playful and less lonely:

"It would be fun to stay on the phone, so it becomes more of a playful thing. Without it, it feels kind of lonely." (p4)

Additionally, in all instances where the participant took the role of the giver and thus initiated the phone call, they would not "hang up" before starting the interaction, but would keep calling throughout the entire interaction.

Memorableness
When asking participants how they would look back on a gift received via Hapto, they told us they would most likely not remember the gift. However, it became clear that they would remember the exchange itself more fondly (p1, p4, p5). We found that one participant (p3) believes that over time this type of interaction might become too normalized again and will not be interesting anymore:

"I think I remember it more fondly because there is more effort that goes into the exchange. On the other hand, if everyone exchanges gifts this way it would not be special anymore" (p3)

In general we observed that participants might remember the gift exchange better than traditional digital gifting, but that it would not be as memorable to them as physical gifting. One participant stated she would be excited, but not so much as with physical gifting.

"I would get excited, but I would not really remember it. Physical gifting would be more exciting" (p4)

Some of our participants pointed out that they think the interaction and gift would only become more memorable if something else was added to the interaction. They pointed out they would like some sort of memory artifact or an added interaction like a phone call.

"I would not look back on it any different. I think something should be added to make it more memorable." (p2)

"I would probably remember it more if I would call with the giver the entirety of the time." (p5)

Further enhancing digital gifting exchange

A substantial portion of the participants made suggestions on how we could further improve Hapto and further enhance the digital gifting experience.

One participant (p5) proposed the possibility to allow the giver the opportunity to forego the necessity of the interaction happening only on the day of the birthday, but should instead last more days, teasing the receiver with the gift a few days in advance to raise excitement. Other participants (p4, p6, p7) indicated that they valued the sensation of wrapping and unwrapping a physical gift and that it would be great to have a bigger reveal when the card is pulled out of the box:

"If a scan function would be added it would be like unwrapping." (p4)
"I still miss wrapping." (p6)
"There is a difference when you unwrap the gift, and meet up in person." (p7)

Pulling a blank card out of a box could be a perceived as an anticlimax and receiving the actual gift by email feels disconnected to the gift exchange. Suggestions included adding graphics to the card to make it resemble the actual gift, having to scan a code on it to reveal the gift in a web browser or making it shaped like a book, so that you have to open it up to reveal a screen showing the gift.

Lastly, there were participants who thought our interaction was enjoyable, but who did not believe it would make the digital gifting experience feel more "personal" (p2, p3, p4, p8, p10). These participants mostly told us they would want to be able to write or draw something on their card which would also appear on the card of the receiver.

Together with our participants we discussed the possibility of adding a small laser etcher or printer inside the box, which could print on the card.

DISCUSSION

This study alludes that the combination of planning a digital "meet-up" before the exchange, followed by a phone call, and the interaction using a real-time haptic artifact, will make the exchange of the digital gift more personal. The planning and call never seemed like a significant part of the interaction. Only during and after the study we noticed that staying on the call during the exchange and planning of the "meetup" plays an essential role in making the exchange more personal. Those factors contribute to making a digital gift exchange similar to a physical one.

Participants thought they would look back on the exchange more fondly, but not the gift itself. This also means that an added form of haptic communication would not change the way people reciprocate as there is no change in the present they would gift (i.e. people do not become stimulated to give back more or at all).

A haptic communicator (e.g. Hapto) is adding more value to the exchange, not to the gift itself - which was surprising as we assumed that the value of the gift would be augmented as result of the exchange being more memorable.

The results gathered during the research gave us some insights in how the improvement of the gift exchange might also improve the other phases of the gift process.

Personalization aspects of preparing a gift - e.g. wrapping the gift or a small laser etcher mentioned in the results - were discussed within the research group, prior to conducting the study, but were discarded because the focus of the study was on the exchange itself, and not on gift preparation.

Limitations

All participants of this study were Industrial Design students from the Faculty of Industrial Design at the TU/e. One could argue that their knowledge of design might cloud their judgement on Hapto. In addition to, there were only 10 participants involved, within a small age range and one specific study department, which is not representative of the entire population that utilizes digital gifting.

Furthermore, instead of the participants taking part in the study from the comfort of their homes, the study was conducted in a mocked-up setting. Therefore, the results cannot be generalized to a home environment.

Finally, the study was performed within the time span of one day and on a day that was not a gifting occasion. In order to get a better image on the experiences of the participant the study should have been conducted over a longer time span. Ideally, on an actual gifting occasion where a gift is expected to be exchanged.

FUTURE WORK

Because of the limited timespan and scope of this study, further research would involve participants that are very fond of each other and have not seen each other in person for a long period of time, so the effects and the memorableness of the exchange get accentuated.

The artifact used could be more advanced, allowing the same interaction over a bigger distance, meaning the researcher and participant do not need to be in the same room. This

would also allow the participant to use the device from home, making for a more realistic study setup.

CONCLUSION

This work indicates adding a real-time haptic interaction when designing a product for digital gifting could be a worthwhile enrichment to digital gift exchanges because the haptic communication makes the digital gift exchange more personal and memorable. However, we advise designers planning on incorporating real-time haptic communication into digital gift exchanges to include an additional form of communication to the design - e.g. a call, allowing for a greater feeling of being connected between receiver and giver. We noticed that participants were really missing this when only using the real-time haptic interaction we designed.

ACKNOWLEDGMENTS

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APPENDIX – INTERVIEW NOTES FROM STUDY

Participant 1 – receiver (male)

interview questions

research question: How does real-time haptic personal interaction change the experience of receiving a gift?

questions for everyone

- What do you think of digital gifting?
    - what are you feelings when you receive a digital gift?
    - how do you think it feels more or less personal than normal gifting?

He thinks digital gifting is dull and too easy.
It feels lazy and the giver is not really putting any thought in.

explain the idea
giver
You will be the giver of a digital gift. Today is the birthday of your friend. When using this kind of digital gifting, you will call your friend to ask him/her if she is available to receive the gift. You will start pushing and pulling the card in the box for personal interaction with the receiver. After the receiver has the card out of the box, he or she will receive a mail with information about the digital gift and the value of the present.
receiver
Today it is your birthday, a friend of yours has a birthday present for you. He or she is calling you to give the gift, but he or she wants to give the gift with personal interaction. He or she is asking you if you are available to receive the gift. After you have the card out of the box, you will receive a mail with information about the digital gift and the value of the present.

conduct research

pulls it out directly. He is kind of confused about the strange set up.

- what do you think of this kind (our way) of digital gifting?
    - what are your feelings when you receive this digital gift?
    - how do you think it feels more or less personal than normal gifting?

He thinks our device adds a little bit of experience to the gifting, but not extremely. It is like close but not close (referring to it being over distance, but still personal)

- How does real-time haptic personal interaction change the experience of receiving a gift when compared to traditional digital gifting?
    - how do you experience it compared to the old digital gifting?

Its less boring.

main question: How do changes within the exchange process influence the other stages of the gifting process (preparation, reveal, use and reflection)?

questions for the giver

- how would you feel preparing a digital gift in this certain way? (For example the calling of the receiver and making the appointment for exchanging the gift.
- How different did you experience this gifting from a normal gift exchange? For example the personal handing over of the gift.

- How would you experience the use of the gift that you received in this certain way? (the gift is for example a voucher / event ticket)

In the event of getting an event ticket he would be more willing to let the user join him.

- in one year you look back at the gift you received or what you bought with the money received. what do you expect to feel or remember when looking back at this gift exchange?
  - do you think you will remember it more fondly and why?
  - what does this interaction add to the value of your gift?

He will remember the gesture of giving, maybe not so much what he received. It would not necessarily add to the value but it would add to the experience of exchanging the gift.

main question: How does the feeling of reciprocity change overtime due to the change if the digital gifting process?

question for the receiver

- When Receiving a gift via traditional digital gifting (e.g. Someone sending you a gift via the internet) you will not have this kind of interaction. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

He would not be inclined, he would return the same and not put in more effort.

- When Receiving a gift via the physical digital gifting (e.g. Someone sending you a gift via this device (our prototype)) you will have an added form of interaction and effort on the giver's side. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

If the giver is too far away he would return a gift in the same way otherwise he will give a physical gift back.

Participant 2 – receiver (female)

interview questions

research question: How does real-time haptic personal interaction change the experience of receiving a gift?

questions for everyone

- What do you think of digital gifting?
  - what are you feelings when you receive a digital gift?

Appreciates, but does not really like it that much, there is not really any thought about and rather impersonal.

  - how do you think it feels more or less personal than normal gifting?

You see the person with normal gifting and there is like a vibe to it, it feels fun. With digital it's just receiving like an email and it is kind of impersonal.

explain the idea
giver
You will be the giver of a digital gift. Today is the birthday of your friend. When using this kind of digital gifting, you will call your friend to ask him/her if she is available to receive the gift. You will start pushing and pulling the card in the box for personal interaction with the receiver. After the receiver has the card out of the box, he or she will receive a mail with information about the digital gift and the value of the present.
receiver
Today it is your birthday, a friend of yours has a birthday present for you. He or she is calling you to give the gift, but he or she wants to give the gift with personal interaction. He or she is asking you if you are available to receive the gift. After you have the card out of the box, you will receive a mail with information about the digital gift and the value of the present.

conduct research

tries to apply more force, once researcher tries to pull it back.

- what do you think of this kind (our way) of digital gifting?
  - what are your feelings when you receive this digital gift?

It feels more personal to a certain level. You need to be there to receive it. There is a bit of interaction. It adds something but still feels a bit impersonal.

  - how do you think it feels more or less personal than normal gifting?

it can become quite personal if the call is added and someone really has to plan it and do it in real time

- How does real-time haptic personal interaction change the experience of receiving a gift when compared to traditional digital gifting?
  - how do you experience it compared to the old digital gifting?

She thinks it could become more fun. Especially if the teasing part is added. The excitement to find out what it is. Because with a normal email you already know it and you don't really open it.

main question: How do changes within the exchange process influence the other stages of the gifting process (preparation, reveal, use and reflection)?

questions for the giver

- how would you feel preparing a digital gift in this certain way? (For example the calling of the receiver and making the appointment for exchanging the gift.
- How different did you experience this gifting from a normal gift exchange? For example the personal handing over of the gift.

<u>*question for the receiver*</u>

- How would you experience the use of the gift that you received in this certain way? (the gift is for example a voucher / event ticket)

If a voucher: she would not feel such big difference, since it would still be the same thing.
Event ticket: it would be more pleasant, because there is more effort behind it probably.

- in one year you look back at the gift you received or what you bought with the money received. what do you expect to feel or remember when looking back at this gift exchange?
  - do you think you will remember it more fondly and why?

Make it multiple cards. You can't reuse the card. But in that way you remember the original gift. People won't throw away such a card. While a mail does not have this effect.

  - what does this interaction add to the value of your gift?

Excited to a certain level if it is like a good friend that cannot be there.

main question: How does the feeling of reciprocity change overtime due to the change if the digital gifting process?

<u>*question for the receiver*</u>

- When Receiving a gift via traditional digital gifting (e.g. Someone sending you a gift via the internet) you will not have this kind of interaction. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

Avoids sending a voucher and would probably ask what they want and then maybe sent a ticket event to something. If a best friend sends just a mail with a voucher she would still try to put in back more effort.

- When Receiving a gift via the physical digital gifting (e.g. Someone sending you a gift via this device (our prototype)) you will have an added form of interaction and effort on the giver's side. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

She would not feel pressed to send anything back. However, she would most likely remembered better to send it back (in the case she would have to keep the card).

Participant 3 – receiver (male)

interview questions

research question: How does real-time haptic personal interaction change the experience of receiving a gift?

questions for everyone

- What do you think of digital gifting?
    - what are you feelings when you receive a digital gift?

It's kind of boring, but not really exciting. Because someone does not really put in effort.

    - how do you think it feels more or less personal than normal gifting?

When someone buys physical gift they have to put in effort. now they just go to a random website. If it would be like a concert ticket for a concert he likes it will feel like more effort.

explain the idea
giver
You will be the giver of a digital gift. Today is the birthday of your friend. When using this kind of digital gifting, you will call your friend to ask him/her if she is available to receive the gift. You will start pushing and pulling the card in the box for personal interaction with the receiver. After the receiver has the card out of the box, he or she will receive a mail with information about the digital gift and the value of the present.
receiver
Today it is your birthday, a friend of yours has a birthday present for you. He or she is calling you to give the gift, but he or she wants to give the gift with personal interaction. He or she is asking you if you are available to receive the gift. After you have the card out of the box, you will receive a mail with information about the digital gift and the value of the present.

conduct research

looks kind of confused.

- what do you think of this kind (our way) of digital gifting?
    - what are your feelings when you receive this digital gift?

You have like a real interaction with the person. There is not much added value to the gift itself. However there is more value to the interaction.

    - how do you think it feels more or less personal than normal gifting?

The interaction is similar to handing over a physical gift.

- How does real-time haptic personal interaction change the experience of receiving a gift when compared to traditional digital gifting?
    - how do you experience it compared to the old digital gifting?
He views it more personal, and closer to the other person, since there is and actual personal interaction.

main question: How do changes within the exchange process influence the other stages of the gifting process (preparation, reveal, use and reflection)?

questions for the giver

- how would you feel preparing a digital gift in this certain way? (For example the calling of the receiver and making the appointment for exchanging the gift.

- How different did you experience this gifting from a normal gift exchange? For example the personal handing over of the gift.

- How would you experience the use of the gift that you received in this certain way? (the gift is for example a voucher / event ticket)

The use of the gift would be the same.

- in one year you look back at the gift you received or what you bought with the money received. what do you expect to feel or remember when looking back at this gift exchange?
  - do you think you will remember it more fondly and why?

He will view it so, cause you have more of an effort to it, but over time it will not be so special anymore.
  - what does this interaction add to the value of your gift?

Not much. Almost 0

main question: How does the feeling of reciprocity change overtime due to the change if the digital gifting process?

- When Receiving a gift via traditional digital gifting (e.g. Someone sending you a gift via the internet) you will not have this kind of interaction. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

The same he would also not put that much effort in it.

- When Receiving a gift via the physical digital gifting (e.g. Someone sending you a gift via this device (our prototype)) you will have an added form of interaction and effort on the giver's side. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

Maybe just a 20 euro back via the same system or like a nice personal email. He would not put in more effort than the other person.

Participant 4 – receiver (female)

interview questions

research question: How does real-time haptic personal interaction change the experience of receiving a gift?

questions for everyone

- What do you think of digital gifting?
  - what are you feelings when you receive a digital gift?

She does not get many digital gifts, if she does she would feel excited. But it won't be as excited and don't remember it really. It gives the feeling they feel less about you (in case of money). In case of a concert ticket it is more effort, cause the person needs to know what kind of band / music she likes.

  - how do you think it feels more or less personal than normal gifting?

If she gets a physical card it would be a bit better and remember the exchange more. But an actual gift (not a gift card) is better.

explain the idea
giver
You will be the giver of a digital gift. Today is the birthday of your friend. When using this kind of digital gifting, you will call your friend to ask him/her if she is available to receive the gift. You will start pushing and pulling the card in the box for personal interaction with the receiver. After the receiver has the card out of the box, he or she will receive a mail with information about the digital gift and the value of the present.
receiver
Today it is your birthday, a friend of yours has a birthday present for you. He or she is calling you to give the gift, but he or she wants to give the gift with personal interaction. He or she is asking you if you are available to receive the gift. After you have the card out of the box, you will receive a mail with information about the digital gift and the value of the present.

conduct research

experiences like some sort of game.

- what do you think of this kind (our way) of digital gifting?
  - what are your feelings when you receive this digital gift?

It is a good replacement for actually receiving the gift. If a scan function would be added it would be like unwrapping. She would like physical stuff.

  - how do you think it feels more or less personal than normal gifting?

It still feels less, because you always can give someone a gift card / ticket.

- How does real-time haptic personal interaction change the experience of receiving a gift when compared to traditional digital gifting?
  - how do you experience it compared to the old digital gifting?

It is better cause it adds a whole experience. Cause receiving an email feels bad. Some more effort is put in, but could be put in.

main question: How do changes within the exchange process influence the other stages of the gifting process (preparation, reveal, use and reflection)?

questions for the giver

- how would you feel preparing a digital gift in this certain way? (For example the calling of the receiver and making the appointment for exchanging the gift.
- How different did you experience this gifting from a normal gift exchange? For example the personal handing over of the gift.

question for the receiver

- How would you experience the use of the gift that you received in this certain way? (the gift is for example a voucher / event ticket)

She still feels the same, still has to look what to buy.

- in one year you look back at the gift you received or what you bought with the money received. what do you expect to feel or remember when looking back at this gift exchange?
    - do you think you will remember it more fondly and why?
    - what does this interaction add to the value of your gift?

She would remember it more fondly, since there is more of an experience to it.

main question: How does the feeling of reciprocity change overtime due to the change if the digital gifting process?

question for the receiver

- When Receiving a gift via traditional digital gifting (e.g. Someone sending you a gift via the internet) you will not have this kind of interaction. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

She would probably try harder. Make it more personalized. Or give something useful.

- When Receiving a gift via the physical digital gifting (e.g. Someone sending you a gift via this device (our prototype)) you will have an added form of interaction and effort on the giver's side. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

She wouldn't feel more motivated.

Participant 5 – receiver (male)

interview questions

research question: How does real-time haptic personal interaction change the experience of receiving a gift?

- What do you think of digital gifting?
  - what are you feelings when you receive a digital gift?

He never received a gift via an email. But in case digital it would be fine, but he would not be really excited.
  - how do you think it feels more or less personal than normal gifting?
In normal gifting there is an actual interaction with the person.

explain the idea
giver
You will be the giver of a digital gift. Today is the birthday of your friend. When using this kind of digital gifting, you will call your friend to ask him/her if she is available to receive the gift. You will start pushing and pulling the card in the box for personal interaction with the receiver. After the receiver has the card out of the box, he or she will receive a mail with information about the digital gift and the value of the present.
receiver
Today it is your birthday, a friend of yours has a birthday present for you. He or she is calling you to give the gift, but he or she wants to give the gift with personal interaction. He or she is asking you if you are available to receive the gift. After you have the card out of the box, you will receive a mail with information about the digital gift and the value of the present.

conduct research

pulls it out forcefully.

- what do you think of this kind (our way) of digital gifting?
  - what are your feelings when you receive this digital gift?
  - how do you think it feels more or less personal than normal gifting?

It adds some sort of interaction with the person, he knows there is a person on the other side of the way. it would be fun to keep on the phone, so it becomes more of a playful thing. Without it, it feels kind of lonely. It's a great in between way.

- How does real-time haptic personal interaction change the experience of receiving a gift when compared to traditional digital gifting?
  - how do you experience it compared to the old digital gifting?

He really gets the feeling someone is giving it, there is someone on the other end. It's not like a program is sending the gifts.

main question: How do changes within the exchange process influence the other stages of the gifting process (preparation, reveal, use and reflection)?

- how would you feel preparing a digital gift in this certain way? (For example the calling of the receiver and making the appointment for exchanging the gift.
- How different did you experience this gifting from a normal gift exchange? For example the personal handing over of the gift.

- How would you experience the use of the gift that you received in this certain way? (the gift is for example a voucher / event ticket)
- in one year you look back at the gift you received or what you bought with the money received. what do you expect to feel or remember when looking back at this gift exchange?
  - do you think you will remember it more fondly and why?
  - what does this interaction add to the value of your gift?

He would remember this more while also calling with the giver, it would become more interesting

main question: How does the feeling of reciprocity change overtime due to the change if the digital gifting process?

question for the receiver

- When Receiving a gift via traditional digital gifting (e.g. Someone sending you a gift via the internet) you will not have this kind of interaction. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

- When Receiving a gift via the physical digital gifting (e.g. Someone sending you a gift via this device (our prototype)) you will have an added form of interaction and effort on the giver's side. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

He doesn't feel obligated but he does feel more inclined cause they put in more time and effort while giving him something.

Extra: Make it last longer like teasing the receiver a few days in advance to make them more excited.

Participant 6 – giver (male)

interview questions

research question: How does real-time haptic personal interaction change the experience of receiving a gift?

- What do you think of digital gifting?
  - what are you feelings when you receive a digital gift?

It depends on whom you get it from, it is fine. However, it is less personal. Depends on how much effort Is put into it.

  - how do you think it feels more or less personal than normal gifting?

explain the idea
giver
You will be the giver of a digital gift. Today is the birthday of your friend. When using this kind of digital gifting, you will call your friend to ask him/her if she is available to receive the gift. You will start pushing and pulling the card in the box for personal interaction with the receiver. After the receiver has the card out of the box, he or she will receive a mail with information about the digital gift and the value of the present.
receiver
Today it is your birthday, a friend of yours has a birthday present for you. He or she is calling you to give the gift, but he or she wants to give the gift with personal interaction. He or she is asking you if you are available to receive the gift. After you have the card out of the box, you will receive a mail with information about the digital gift and the value of the present.

conduct research

makes it playful himself

- what do you think of this kind (our way) of digital gifting?
  - what are your feelings when you receive this digital gift?
  - how do you think it feels more or less personal than normal gifting?

He likes it you have a real time interaction and you can tease the other person. He likes teasing you can make a little joke out of it.

It doesn't necessarily change the personality but does change the value of the gift.

- How does real-time haptic personal interaction change the experience of receiving a gift when compared to traditional digital gifting?
  - how do you experience it compared to the old digital gifting?

main question: How do changes within the exchange process influence the other stages of the gifting process (preparation, reveal, use and reflection)?

questions for the giver

- how would you feel preparing a digital gift in this certain way? (For example the calling of the receiver and making the appointment for exchanging the gift.

He things the same amount of time and effort goes into this.

- How different did you experience this gifting from a normal gift exchange? For example the personal handing over of the gift.

It can become more personal and teasing. Wrapping is still missing. He values the unwrapping the most. He kind of misses that in digital gifting as a general.

- How would you experience the use of the gift that you received in this certain way? (the gift is for example a voucher / event ticket)
- in one year you look back at the gift you received or what you bought with the money received. what do you expect to feel or remember when looking back at this gift exchange?
    - do you think you will remember it more fondly and why?
    - what does this interaction add to the value of your gift?

main question: How does the feeling of reciprocity change overtime due to the change if the digital gifting process?

question for the receiver

- When Receiving a gift via traditional digital gifting (e.g. Someone sending you a gift via the internet) you will not have this kind of interaction. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

- When Receiving a gift via the physical digital gifting (e.g. Someone sending you a gift via this device (our prototype)) you will have an added form of interaction and effort on the giver's side. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

Participant 7 – giver (male)

interview questions

research question: How does real-time haptic personal interaction change the experience of receiving a gift?

questions for everyone

- What do you think of digital gifting?
  - A: It depends on the digital gift itself. If it's for a website like bol.com then it's ok because I can use it on anything. If it's too specific that I don't like, then it's not ok.

  - what are you feelings when you receive a digital gift?
  - how do you think it feels more or less personal than normal gifting?
    - A: Physical gift is more personal because you have to wrap it, buy it at a store, instead of just pressing a button. They put in more effort.

explain the idea

giver

You will be the giver of a digital gift. Today is the birthday of your friend. When using this kind of digital gifting, you will call your friend to ask him/her if she is available to receive the gift. You will start pushing and pulling the card in the box for personal interaction with the receiver. After the receiver has the card out of the box, he or she will receive a mail with information about the digital gift and the value of the present.

receiver

Today it is your birthday, a friend of yours has a birthday present for you. He or she is calling you to give the gift, but he or she wants to give the gift with personal interaction. He or she is asking you if you are available to receive the gift. After you have the card out of the box, you will receive a mail with information about the digital gift and the value of the present.

conduct research

- what do you think of this kind (our way) of digital gifting?
  - A: The interaction between the two is very interesting. You have to ring the person up. Maybe you can do something with that. Calling someone is not that original(?). A notification on the receiver's end to schedule a date and time to receive a gift and then adding a voice function to talk while exchanging the gift. I don't like the phone call. The interaction itself with the card is very fun.

  - what are your feelings when you receive this digital gift?
  - how do you think it feels more or less personal than normal gifting?
    - A: Less personal. It is somewhere in-between physical and digital gifting, but it's closer to digital. There is a difference when you unwrap the gift, and meet up in person. But the motion and the exchange itself in our prototype

- How does real-time haptic personal interaction change the experience of receiving a gift when compared to traditional digital gifting?
  - how do you experience it compared to the old digital gifting?
    - A: More fun and more personal because of the real-time feedback.

main question: How do changes within the exchange process influence the other stages of the gifting process (preparation, reveal, use and reflection)?

questions for the giver

- how would you feel preparing a digital gift in this certain way? (For example the calling of the receiver and making the appointment for exchanging the gift.
  - A: It works. Better than a normal digital gift. I don't get why the card is neutral. Sort of like a mini-printer with an exchange would be better. It would feel more personalized as the card would be personalized and the message as well.
- How different did you experience this gifting from a normal gift exchange? For example the personal handing over of the gift.

- How would you experience the use of the gift that you received in this certain way? (the gift is for example a voucher / event ticket)
- in one year you look back at the gift you received or what you bought with the money received. what do you expect to feel or remember when looking back at this gift exchange?
  - do you think you will remember it more fondly and why?
  - what does this interaction add to the value of your gift?

main question: How does the feeling of reciprocity change overtime due to the change if the digital gifting process?

question for the receiver

- When Receiving a gift via traditional digital gifting (e.g. Someone sending you a gift via the internet) you will not have this kind of interaction. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

- When Receiving a gift via the physical digital gifting (e.g. Someone sending you a gift via this device (our prototype)) you will have an added form of interaction and effort on the giver's side. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

Participant 8 – giver (male)

interview questions

research question: How does real-time haptic personal interaction change the experience of receiving a gift?

questions for everyone

- What do you think of digital gifting?

- o what are you feelings when you receive a digital gift?
  - ▪ A: It sucks. Impersonal, easy and not direct. Anyone can give a digital gift card. I usually give a gift card to someone I don't care about a lot or someone I do not know a lot
- o how do you think it feels more or less personal than normal gifting?
  - ▪ A: Less personal.

explain the idea
giver
You will be the giver of a digital gift. Today is the birthday of your friend. When using this kind of digital gifting, you will call your friend to ask him/her if she is available to receive the gift. You will start pushing and pulling the card in the box for personal interaction with the receiver. After the receiver has the card out of the box, he or she will receive a mail with information about the digital gift and the value of the present.
receiver
Today it is your birthday, a friend of yours has a birthday present for you. He or she is calling you to give the gift, but he or she wants to give the gift with personal interaction. He or she is asking you if you are available to receive the gift. After you have the card out of the box, you will receive a mail with information about the digital gift and the value of the present.

conduct research

- what do you think of this kind (our way) of digital gifting?
  - o *Participant was not really open to the idea at first.*
  - o A: I have a disadvantage of physical gifting, while no one of the advantages and only disadvantages of digital gifting. Giving something in real-time it's pretty cool, but that's difficult for some people. Hard to have planning synchronized. The logistics are the problem. If I ignore all the logistics, I think the idea is really cool.
  - o what are your feelings when you receive this digital gift?
  - o how do you think it feels more or less personal than normal gifting?
    - ▪ A: Less personal because it's just a card. Everyone has the same card. That makes it inherently less unique. If I could write something on the card that would come out on the receiver's end it would make me feel better because it's personalized.

- How does real-time haptic personal interaction change the experience of receiving a gift when compared to traditional digital gifting?
  - o how do you experience it compared to the old digital gifting?
    - ▪ A: It's better. I am a fan of giving things physically, having a physical memory. Because the card is bland I don't have any association with it or retain any memory.

main question: How do changes within the exchange process influence the other stages of the gifting process (preparation, reveal, use and reflection)?

questions for the giver

- how would you feel preparing a digital gift in this certain way? (For example the calling of the receiver and making the appointment for exchanging the gift.
  - o A: If you make an appointment it could work. I didn't realize that. For example, can we do it at 6? Or something like that. That could work.
- How different did you experience this gifting from a normal gift exchange? For example the personal handing over of the gift.

question for the receiver

- How would you experience the use of the gift that you received in this certain way? (the gift is for example a voucher / event ticket)

- in one year you look back at the gift you received or what you bought with the money received. what do you expect to feel or remember when looking back at this gift exchange?
  - do you think you will remember it more fondly and why?
  - what does this interaction add to the value of your gift?

main question: How does the feeling of reciprocity change overtime due to the change if the digital gifting process?

question for the receiver

- When Receiving a gift via traditional digital gifting (e.g. Someone sending you a gift via the internet) you will not have this kind of interaction. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

- When Receiving a gift via the physical digital gifting (e.g. Someone sending you a gift via this device (our prototype)) you will have an added form of interaction and effort on the giver's side. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

Participant 9 – giver (female)

interview questions

research question: How does real-time haptic personal interaction change the experience of receiving a gift?

questions for everyone

- What do you think of digital gifting?
  - what are you feelings when you receive a digital gift?

Has never given a digital gift, maybe once or twice. He doesn't like to get it so does not give it. It feels impersonal and he always forgets these gift cards.

- o how do you think it feels more or less personal than normal gifting?

If you really know someone you know what they want or like so you put the time in it.

explain the idea

giver

You will be the giver of a digital gift. Today is the birthday of your friend. When using this kind of digital gifting, you will call your friend to ask him/her if she is available to receive the gift. You will start pushing and pulling the card in the box for personal interaction with the receiver. After the receiver has the card out of the box, he or she will receive a mail with information about the digital gift and the value of the present.

receiver

Today it is your birthday, a friend of yours has a birthday present for you. He or she is calling you to give the gift, but he or she wants to give the gift with personal interaction. He or she is asking you if you are available to receive the gift. After you have the card out of the box, you will receive a mail with information about the digital gift and the value of the present.

conduct research

they made a playful interaction out of it.

- what do you think of this kind (our way) of digital gifting?
  - o what are your feelings when you receive this digital gift?
  - o how do you think it feels more or less personal than normal gifting?

He like the pulling game, there is still some personal interaction. They always tease each other and this gives it the same feeling.

It is better than sending an email. It is different cause you are handing something over which makes it feel more real. The shame of giving a gift card (cause no time for actual gift) is taken away thanks to the added play.

- How does real-time haptic personal interaction change the experience of receiving a gift when compared to traditional digital gifting?
  - o how do you experience it compared to the old digital gifting?

main question: How do changes within the exchange process influence the other stages of the gifting process (preparation, reveal, use and reflection)?

questions for the giver

- how would you feel preparing a digital gift in this certain way? (For example the calling of the receiver and making the appointment for exchanging the gift.

For him it is the same cause they also try to call and that sort of stuff.

- How different did you experience this gifting from a normal gift exchange? For example the personal handing over of the gift.

question for the receiver

- How would you experience the use of the gift that you received in this certain way? (the gift is for example a voucher / event ticket)

- in one year you look back at the gift you received or what you bought with the money received. what do you expect to feel or remember when looking back at this gift exchange?
  - do you think you will remember it more fondly and why?
  - what does this interaction add to the value of your gift?

main question: How does the feeling of reciprocity change overtime due to the change if the digital gifting process?

question for the receiver

- When Receiving a gift via traditional digital gifting (e.g. Someone sending you a gift via the internet) you will not have this kind of interaction. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

- When Receiving a gift via the physical digital gifting (e.g. Someone sending you a gift via this device (our prototype)) you will have an added form of interaction and effort on the giver's side. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

Participant 10 – giver (female)

interview questions

research question: How does real-time haptic personal interaction change the experience of receiving a gift?

questions for everyone

- What do you think of digital gifting?
  - what are you feelings when you receive a digital gift?

I never send someone a digital gifting, but does give gift cards if they want them. She does not do it digitally, cause it is less personal.

- o   how do you think it feels more or less personal than normal gifting?

A digital gift feels less personal than a normal gift, cause you are not personally close.

explain the idea
giver
You will be the giver of a digital gift. Today is the birthday of your friend. When using this kind of digital gifting, you will call your friend to ask him/her if she is available to receive the gift. You will start pushing and pulling the card in the box for personal interaction with the receiver. After the receiver has the card out of the box, he or she will receive a mail with information about the digital gift and the value of the present.
receiver
Today it is your birthday, a friend of yours has a birthday present for you. He or she is calling you to give the gift, but he or she wants to give the gift with personal interaction. He or she is asking you if you are available to receive the gift. After you have the card out of the box, you will receive a mail with information about the digital gift and the value of the present.

conduct research

not really a playful interaction

- • what do you think of this kind (our way) of digital gifting?
    - o   what are your feelings when you receive this digital gift?
    - o   how do you think it feels more or less personal than normal gifting?

She likes how the actual emphasis is on interaction. The feeling of them getting it is less important than the phone call. It is more about knowing their reaction and not so much the push pull interaction. She doesn't think the haptic thing adds anything, but you know someone received something. Doesn't add anything for her.

She is missing the facial, which is quite important to her.
This is, however, better than the giving via email only.
This proves to be a midway in between digital and physical gifting.

- • How does real-time haptic personal interaction change the experience of receiving a gift when compared to traditional digital gifting?
    - o   how do you experience it compared to the old digital gifting?

main question: How do changes within the exchange process influence the other stages of the gifting process (preparation, reveal, use and reflection)?

questions for the giver

- • how would you feel preparing a digital gift in this certain way? (For example the calling of the receiver and making the appointment for exchanging the gift.
- • How different did you experience this gifting from a normal gift gift exchange? For example the personal handing over of the gift.

question for the receiver

- How would you experience the use of the gift that you received in this certain way? (the gift is for example a voucher / event ticket)
- in one year you look back at the gift you received or what you bought with the money received. what do you expect to feel or remember when looking back at this gift exchange?
  - do you think you will remember it more fondly and why?
  - what does this interaction add to the value of your gift?

main question: How does the feeling of reciprocity change overtime due to the change if the digital gifting process?

question for the receiver

- When Receiving a gift via traditional digital gifting (e.g. Someone sending you a gift via the internet) you will not have this kind of interaction. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?

- When Receiving a gift via the physical digital gifting (e.g. Someone sending you a gift via this device (our prototype)) you will have an added form of interaction and effort on the giver's side. Do you feel pressed to gift something back to the person? For example he/she gives you a 20 euro voucher. What would you send them back (in the case of digital gifting)?