

QcaRd

Research into gifting cards containing video messages

George Condos 1531409

Ember Peters 1538829

Anna Siebers 1581171

Eindhoven University of Technology, Bachelor College Major Industrial Design

January 23, 2022

This paper shows the research about a combination of digital gifting and personalization. How can a digital gift be made more personal? Is a video personal? Do users understand how a QR-code works? We designed a prototype of a birthday card with a QR-code, that shows a video when you scan it (the QcaRd), to explore whether people would accept this as a gift and if people consider a video as personal. We did user tests with 8 participants, and we let them explore our prototype with the QR-code and a 'normal' birthday card, which is a card with a note in it. Additionally, the participants were asked questions about their experience with the prototypes and their thoughts. This research shows that age does not influence what people think of digital gifts and their opinion on personal videos. Also, people rather receive a gift in person, but if that is not possible, they prefer a birthday card with a personal video over a birthday card with just a message.

Author keywords

Additional Keywords and Phrases: Birthday card, Video, QR-code, Personalization, Digital gifting

1 INTRODUCTION

A gift is a communication and engagement tool. It can be a way of celebrating personal events, for instance, but it can also be a way of communicating on a business level. Gifting is deeply rooted in many cultures and societies around the whole world, and it is recognized as both socially and economically important [9]. However, as contacts are spread around the world and the coronavirus keeps us from being able to personally deliver a gift, the personal touch of giving it on the spot is lost. We believe people around the world perceive the term 'personal gifts' differently. We did some research on how different cultures on the different continents of the world give gifts. In a lot of cultures, it is expected to open the gift you get as soon as you get it, if you reject the gift, you insult the giver, this is for example in a lot of African cultures, but also cultures in Latin America and Europe [1, 13]. Also, for the Dutch people, it is a habit to open a gift as soon as it is received, this is because of their curiosity and it can even be considered rude or give the impression that you are not interested when you do not open the gift immediately [4]. When giving a gift in some countries you really have to avoid certain colours or flowers. In Latin America for example, it is not appreciated to give lilies, marigolds or any yellow, purple or black gifts. These indicate bad luck [1]. In Canada, you should avoid red roses as they are considered only for romantic love and white lilies or chrysanthemums because those are linked to funerals [3]. Through our research we came to the understanding that in

most countries the majority of the population considers gifts more sacred, thus they have to be more personal. A personal gift is very important in this society and is a part of human relationships, they express affection, celebration and intimacy [7]. The time invested in searching for and purchasing a gift symbolizes the giver's effort they are willing to invest in the relationship [8]. Meanwhile in western European countries, like the Netherlands, people are content with sending gifts online, losing the personal nature that gift-giving had when it was done in person. Technology has a huge part in giving gifts nowadays [7]. The internet gives people a chance to give a last-minute gift or give a gift over a long distance [7]. In the Netherlands, there are numerous websites that make digital gift-giving super easy. Such as Greetz, Hallmark, Surprisefactory and Bloompost. A possible solution to make online gifting more personal could be to add a personal video. With this function, you can still see and hear someone, something you would normally experience when receiving a gift from someone in person.

In this research, we focused on the dutch people sending birthday cards to others. We focused on the Netherlands because we think it is a good reflection of western Europe, an area where online gifting is more common. An occasion when almost everyone sends a card is a birthday. It happens several times a year when you can send a card to others and you yourself might also receive cards on your own birthday. The purpose of the research was to design and implement a video function in a digital gift to make it personal. A necessary step towards this goal was to investigate when a card feels personal to the receiver. Two tests were performed for this. In study one, a regular birthday card containing a handwritten text was handed over by the researchers to the participant. In study two, the prototype, namely a birthday card containing a QR-code leading to a personal video, was given to the participant by the researchers. After each test, the participant was given time to share his findings with the researchers. The participant was also asked questions about the card and how personal it is. By doing literature research, observations and in-depth interviews with the receivers we found out the answer to our sub-questions and eventually to our main research question: Do dutch people find the addition of a video fragment to a birthday card personal and why or why not?

Our sub-questions are:

1. Why would or why wouldn't people choose digital gifting over personal gifting?
2. Do dutch people consider digital gifting already personal or not? Why/ why not?
3. How familiar is the use of the QR-code?
4. How much time does the user need to be able to watch the video?
 - 4.1 Are people willing to take that much time?
5. Do people feel closer to their loved ones by getting a video from them instead of a 'normal' birthday card?
6. What other features aside from the video would make the gift card more personal?

When we talk about a normal birthday card, we mean a card with a note in it and nothing else.

2 RELATED WORK

QR-codes

Research about QR-codes was done by Kan et al [2009], in this research they pasted a QR-code on a product's package and by scanning this QR-code a 3D virtual object will be displayed [5]. In this way, customers can see the product on top of the

QR-code [5]. The advantage of a QR-code is that it has a capacity that can hold a large amount of information, it has a high reading speed and high accuracy [5].

This research is related to our research because it is about QR-codes that are pasted on a product. In this case, it is about a QR-code on the package of a product, in our case, it is about the QR-code inside a birthday card. Both types of research are about users who need to scan QR-codes in order to let the product work.

Another research about QR-codes was done by Mendelson and Romano Bergstrom [2013]. In this study, they focused on the age differences in the knowledge and usage of QR-codes. Since our research will focus on all the people with a dutch ethnicity who live in the Netherlands it is important that all ages are aware of the QR-code

Personalization

Personalizing a museum experience is research done by Ryding et al [2021]. This research focuses on personalization. That is why this research is relevant to our research. Our research is all about personalization. Digital technology is powerful because it has the ability to personalize the user experience [12]. This can be done by using data about the preferences and behaviours of people [12].

To personalize a gift people for example use a unique wrapping paper or decoration or they write a message [9].

Birthday cards

K. Dodson et al [1996]. did research on why we give birthday cards and what the meanings of these cards are. This work is related to our research, because our research is about birthday cards and this literature could help us with understanding the meaning of giving each other gifts and specifically cards with birthdays. This research shows that people find it valuable if cards are chosen just for them, it is even better if it contains a handwritten note [6]. This again, shows that personalization is an important aspect of gift giving.

3 DESIGN CASE

As our research is based on the experience of gift exchanging for birthdays, we used a prototype that acts as the item that will be exchanged. This item is related to gifts and is able to take different forms (i.e. combinations or not of digital features) in order to compare different scenarios and draw conclusions from the similarities and differences. We have concluded that a gift/ wishing card is the perfect option for the aforementioned purposes. A card is an object that can be considered a gift on its own or something that comes alongside a gift, thus covering most of the types of gifts. Additionally, a gift card can contain different types of content. The cards we use as prototypes have two variations. The first variation is a normal experience of receiving a gift by mail. This will be a physical folded card with presents on the front of the card, to make it a birthday card. On the inside of the card, there will be a typed birthday wish for the receiver. The second variation is the same card as the first prototype with the added feature of a QR-code. We call this prototype the QcaRd. The QR-code is functional and links the recipient to a video message created by the sender. The QR-code acts as the digital feature in the not face-to-face gift exchange experience. Lastly, as the cards are only printed pages it would be very easy to make more variations according to the needs of our research.

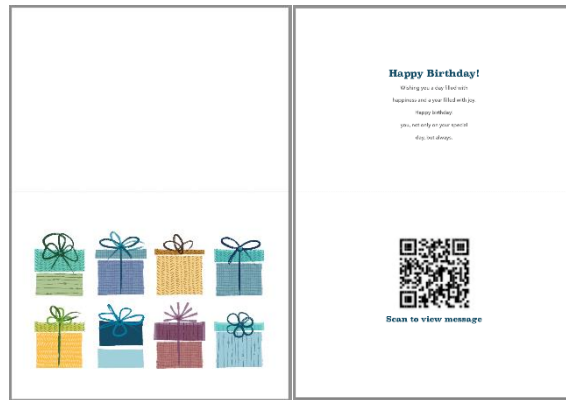


Figure 1. Prototype with QR-code

4 METHODS

We used two methods to answer our research question. First, we did a user test with our prototype. After the user test, we interviewed the same participant to get some more insights into our prototype. During the user test, we handed the participant our prototype. We wanted to see how the participant interacts with the prototype. Did they understand it? Did it work? Was it frustrating or fun? During the user tests, the researcher observed the participant, they looked at the emotions, posture etc. The interview gave us an opportunity to ask more questions about the prototype, the experience the participant had with it and the observations made by the researcher. We chose these methods because the user test and the interview will give us an opportunity to see the reaction of our participants and to ask follow-up questions if needed. A survey would not allow us to do that. The user test and the interview will give us both qualitative and quantitative data. These user tests and interviews were done with 8 participants, who were selected by convenience sampling [10]. The criteria to ensure that they represent the target group as much as possible are that they have a dutch ethnicity and have an age of 18 or older. 4 participants were young adults and the other 4 were middle-aged. There were 2 genders represented during these user tests.

Tasks

During the tests, we had some tasks and we gave the participants some tasks. First of all, the participant did not need any prior knowledge to participate in this user test. We had to explain to the participant what was expected from them and they had to sign the consent form if they agreed with it. After that, the participant got the task to explore our first prototype, which is the prototype of the 'normal' birthday card, the one without the QR-code. During this test, we had to observe the participant and had to write down everything we saw and heard. In the meantime, we measured the time that it took for the participant to complete this task. After this first task, we asked the participant to explore our second prototype, the prototype with the QR code. Again, we had to observe the participant and we had to write down everything we heard and saw, we also measured the time it took for the participant to complete the task this time. After these tasks were completed, we conducted the interview. We asked the participants some questions and asked them to give us their honest opinion. After conducting the interview we thanked the participant for participating in our research and we could start with analyzing the data.

Measurements

The measurements collected during the research are both qualitative and quantitative. Our goal is to collect data that would help us understand whether or not the change we introduced (i.e. digital feature in the gift card) is positive and adequate enough to consider our initial positioning correct. Through user tests, we want to record the emotions of the participants, while interacting with the prototypes, that are expressed visually (facial expressions, hand gestures etc.) or verbally. Additionally, direct questions will be asked in order to get more insights into the experience users had with the prototypes. Next to that, we will measure the time that is needed to complete the tasks.

In the end, we will combine the outcomes of the user-test and the interviews.

5 DATA ANALYSIS

After conducting the user tests and the interviews, we had to analyze the data we gathered. We did this by doing a Thematic Analysis [2]. With this analysis, we could analyze our qualitative data. We scanned through the answers given by the participants during the interview and wrote everything down that was relevant. We generated codes like; personal, not personal and ease of use. All the relevant answers and quotes were divided under the codes. After everything was divided, we looked for themes. The codes belonged to different themes we created. Themes like; How personal, concept and familiarity. The full data analysis can be found in *Appendix 5*.

With these outcomes, we will be able to give a detailed answer to our research question.

6 PRELIMINARY RESEARCH FINDINGS

8 individuals were used in our study. Half of them are teenagers and young adults, ages between 18 and 25, while the other half belongs to the middle age group, ages 52 to 58.

The general findings regarding digital gift exchange, based on our user interviews and tests of the prototype, is that it is not particularly common practice. Eight out of seven of our participants, as can be seen in *figure 2*, said they did not have any previous experience with digital gifts. Age does not seem to play any role in having such an experience or not. However, it is notable that the only participant with experience belongs to the older group age. On the contrary, someone would think that younger people have a higher probability of having some interaction with digital gifts. What could possibly be generalized from these findings is that typical dutch family households do not make use of digital gifts.

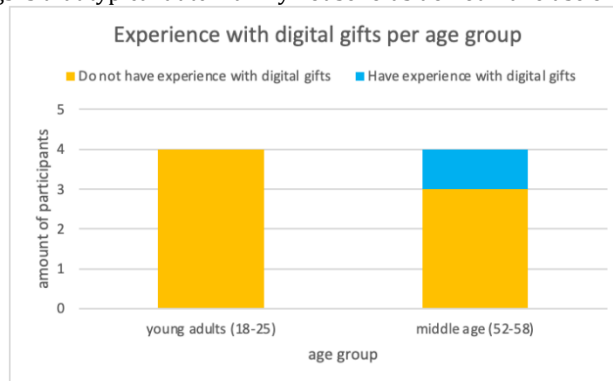


Figure 2 Table 1 Experience with digital gifts

Participants, when asked whether digitized gifts are personal, responded negatively, e.g. “It’s more fun if you give it (the gift) yourself.”. Again, age does not play any role here as all participants responded similarly. It is interesting to note, that even though they thought that digital gifts are not personal, most of the participants expressed this conditionally. They said that digital gifting is acceptable and permissible when no other alternative exists. This is noticeable through expressions like: “If people live far away it (digital gift) could be a solution”.

It has to be remembered at this point that the aforementioned beliefs were expressed before the participants had the chance to experience the card including the digital addition, that is the QR-code. After experiencing the prototype, i.e., scanning the QR-code on the card and watching a video message, all participants’ reactions were positive. Only one of the eight participants did not change their negative opinion about digital gifting. Meanwhile, the other seven thought of the inclusion of the video message as a “good idea”, “good alternative” and “more unique”. Through this, one could see the general prejudice that exists surrounding digitized gifts as less personal, as most participants did not stay true to their initial negative opinion.



Figure 3 Table 2 Does video make a card more personal?

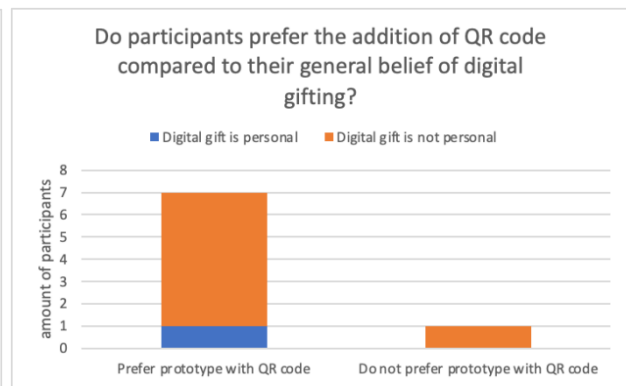


Figure 4 Table 3 Do participants prefer a QR-code?

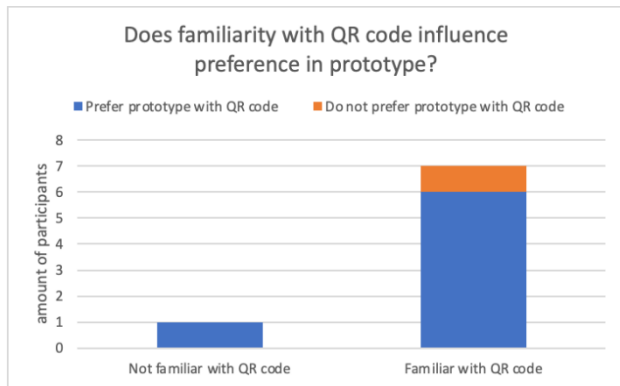


Figure 5 Table 4 Familiarity with QR-code

On the technical side, participants reacted positively to the QR-code as well. Firstly, all participants were familiar with the concept of scanning QR-codes. As it can be seen in figure 6, all participants, independently of age, interacted with a normal birthday card for about 30 seconds. Then the majority of them managed to view the message on the second prototype, by

scanning the QR-code, in less than 60 seconds, except for two. The deduction from these findings is that the QR-code is a welcome addition to a gift card. It improves the experience rather than making it poorer. This can also be argued with figure 7, where it is visible that even the two participants that clearly struggled with viewing the message using the QR-code preferred the digitized experience.

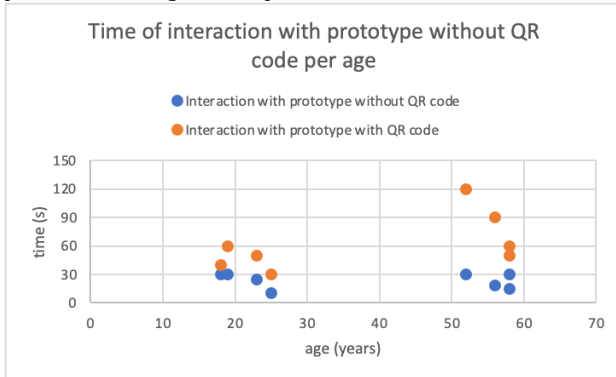


Figure 6 Time of interaction with prototype 1

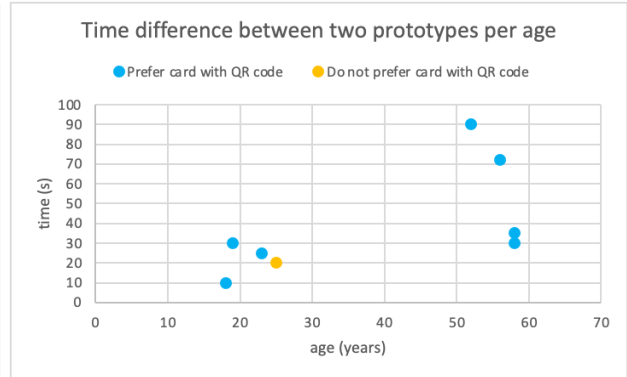


Figure 7 Time difference between prototypes

In conclusion, the main outcome of this research is the gifting experience containing the QR code and the video message is preferable over a normal gift card, in the user group of this research, thus possibly in most other similar groups of people, i.e., middle-class Dutch families.

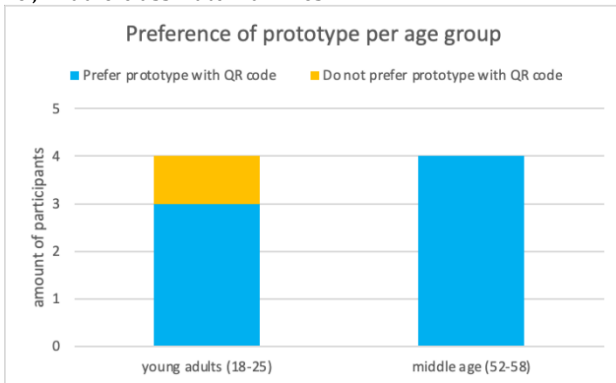


Figure 8 Table 5 Preference of prototype

Yet, that is not the only outcome of this research. There are additional findings that are worth describing.

- The only participant who would not choose the card containing the video message is a young adult. This can be possibly attributed to the fact that people of newer generations have sunk into technology so much in their everyday life that they find simpler, handmade things are more personal. People of older generations, who did not grow up into technology still find a digital feature as a unique and interesting addition to traditional items.
- It is interesting to find out that the prototype influences both sender and receiver, something not considered at the beginning of the study. Receivers are indeed entertained and emotionally touched by viewing the video message, according to most participants. Additionally, the sender is appreciated more by showing more effort and thought for the gift. Then, the prototype offers advantages to both parties of digital gift exchanging.

- It is also fascinating to see how one of the users, when asked how he would improve the current digital gifting experience, he described a version exactly the same as the one tested in this study. This shows, especially amongst people of younger generations, that our prototype is not outlandish and other people would consider it as a better alternative.
- Even with technical problems (e.g., inaudible sound, unreadable text) and some confusion surrounding the general action of scanning a code using a smartphone, people were not discouraged to find a way to view the message. Participants even suggested ways to make the experience even better and easier (e.g., longer video, more attractive decorations, adding prompt to scan the code)

7 DISCUSSION

Research by K. Dodson et al [1996] shows that people appreciate it when cards are specially selected for them. It is even received as more personal when there is a handwritten text in the card. Our analysis shows that a card with a video message is perceived as more personal than a normal birthday card with handwritten text. Research by Mendelson & Romano Bergstrom [2013] tells us that both young adults and middle-aged adults are aware of the QR-code. However, the use of the QR-code is less frequent in the older age group. From our analysis of the results, we can say the entire user group is familiar with the QR-code. A single participant was not used to using the QR-code. This participant fell within the group of middle-aged adults.

The analysis of our preliminary research indicates that the addition of a QR-code can make a digital gift more personal. As expected, the receiver feels closer to the giver in comparison to receiving a digital card without additional features. 'It is nice to get a personal message in addition to the card you already received.' Although most participants were not familiar with sending digital gifts, because they thought it was less personal, the data indicated that 87.5 % of the participants would choose the QcaRd over a normal birthday card, because the QR-code that directs you to a video gives the not-so-personal digital gift a personal touch. The QcaRd makes receiving cards more exciting. It is both the curiosity about what is behind the QR code and the thought of the sender. People expressed their gratitude towards the sender who put more time and effort into the card compared to a plain card. Participants needed more time to fully experience the QcaRd than they needed to experience the normal card. Although it took more time, the QcaRd was received more positively compared to the normal birthday card.

The results of the study are reliable because all results are in adequate quantities to be able to confirm the results. The study was done with a selection from the population that represents the population as much as possible. This makes the study generalisable and valid. To improve the validity of the results, the participants could have been selected in pairs. Whereby one participant would record the video and write the text on the card and the other would receive the card. Because they normally expect cards from each other on birthdays, the interaction with the card will be less odd and the result will be more valid. Another point where validity could have been improved was by asking the participants to specify their meaning of personal.

Future work

The meaning of the results may change if it is known what people specify as personal. Further research can be done on this. A question that arose after analyzing the results is still unanswered: What is the feeling of the giver when he or she sends a digital card and what are his or her motives for choosing a digital card? Two people are involved in the communication with a card. Does it also feel more personal to send a digital card with a QR-code than sending a normal birthday card? The study shows that a video can make a card more personal. However, the results showed that for a few participants it could be

experienced as uncomfortable because it was something unfamiliar. Further research can be done into other ways of making a digital card more personal without losing the familiar elements, for example by adding a scent or a handwritten text.

8 CONCLUSION

This study explored how receiving digital gifts can be experienced as personal by Dutch people. We designed and tested QcaRd to prove our hypothesis. Our findings show that the QcaRd is perceived as more personal than a normal card. The QcaRd is preferred over a normal card when there is no possibility to personally hand over a gift.

9 REFERENCES

- [1] Alliance Experts. (2021, February 6). Latin America business etiquette and cultural differences. Alliance experts. Retrieved January 13, 2022, from <https://www.allianceexperts.com/en/knowledge/countries/america/the-most-important-cultural-pitfalls-to-avoid-in-latin-america/>
- [2] Bekker, T. (2021, December). Wk5: DBB100 Design < > Research: Qualitative Methods (part 2) [Presentation about analyzing].
- [3] Giftpedia. (2010, June 1). Canada Gift Giving Customs. Giftpedia. Retrieved January 13, 2022, from http://www.giftpedia.com/Canada_Gift_Giving_Customs
- [4] van Hunen, K. (2019, January 24). Gift-giving rituals in the Netherlands - Amsterdam. IamExpat. Retrieved December 9, 2021, from <https://www.iamexpat.nl/lifestyle/lifestyle-news/gift-giving-rituals-netherlands>
- [5] Kan, T.-W., Teng, C.-H., & Chou, W.-S. (2009, 12 14). Applying QR code in Augmented Reality Applications. 6. https://dl.acm.org/doi/pdf/10.1145/1670252.1670305?casa_token=sTbEqOZPI_YAAAAA:qkWOjuvaE91zRgsE_Qo-7nYqPszRH0gWUEdQqvG0MJEuEHn-H-sfPtn3iOmq3ujoo93KsVq2a6l5HQ
- [6] Kimberly J. Dodson and Russell W. Belk (1996) ,"The Birthday Card Minefield", in NA - Advances in Consumer Research Volume 23, eds. Kim P. Corfman and John G. Lynch Jr., Provo, UT : Association for Consumer Research, Pages: 14-20.
- [7] Kizilcec, R. F., Bakshy, E., Eckles, D., & Burke, M. (2018, April). Social influence and reciprocity in online gift giving. ACM, (Gift giving), 11. Retrieved 12 08, 2021, from <https://dl-acm-org.dianus.lib.tue.nl/doi/pdf/10.1145/3173574.3173700>
- [8] Koleva, B., Kwon, H., Adams, M., Spence, J., Benford, S., Schnädelbach, H., Thorn, E., Preston, W., Hazzard, A., Greenhalgh, C., Farr, J. R., Tandavanitj, N., Angus, A., & Lane, G. (2020). Designing Hybrid Gifts. ACM, 33. Retrieved 12 08, 2021, from <https://dl-acm-org.dianus.lib.tue.nl/doi/pdf/10.1145/3398193>
- [9] Kwon, H., Koleva, B., Schnädelbach, H., & Benford, S. (2017, February). "It's not yet a gift": Understanding digital gifting. (Gifting), 13. <https://dl-acm-org.dianus.lib.tue.nl/doi/pdf/10.1145/2998181.2998225>
- [10] Lavrakas, P. J. (2008). Encyclopedia of survey research methods (Vols. 1-0). Thousand Oaks, CA: Sage Publications, Inc. doi: 10.4135/9781412963947
- [11] Mendelson J., Romano Bergstrom J.C. (2013) Age Differences in the Knowledge and Usage of QR Codes. In: Stephanidis C., Antona M. (eds) Universal Access in Human-Computer Interaction. User and Context Diversity. UAHCI 2013. Lecture Notes in Computer Science, vol 8010. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-39191-0_18
- [12] Ryding, K., Spence, J., Sundnes Lovlie, A., & Benford, S. (2021, 02 01). Interpersonalizing Intimate Museum Experiences. 1151-1172. <https://www.tandfonline-com.dianus.lib.tue.nl/doi/full/10.1080/10447318.2020.1870829>
- [13] Zaka, M. (2018, March 28). Common Gifting Traditions Around The World That Will Surprise You. The African Exponent. Retrieved November 18, 2021, from <https://www.africanexponent.com/post/8916-common-gifting-traditions-around-the-world-that-will-surprise-you>

A APPENDICES

In the appendix section, three levels of Appendix headings are available.

A.1 Consent Form

Informed consent form

Informed consent regarding

Interview for educational purposes on ‘How an online bought birthday card can be made more personal with the addition of a video message’.

- I have been informed in writing and/or verbally by the student about the nature and content of the user test and the interview about my thoughts on adding a video message to a normal birthday card.
 - I know that this interview takes place within the framework of educational purposes. I could ask additional questions. My questions were satisfactorily answered. I had enough time to decide if I wanted to participate.
 - I know that participation is completely voluntary. I know that I can decide not to participate at any time. I do not have to give a reason for not participating.
 - I know that an anonymized version of (part of) this interview can be used for educational purposes.
 - I give permission to use the anonymized version of the interview (or part of it) for educational purposes.
 - I give permission to use the anonymized outcome of the user test for educational purposes.
 - I consent to participate in this research.
- I do consent to the recording of audio during the interview
- I do not consent to the recording of audio during the interview

Name of participant:

Signature:

Date: __/__/__

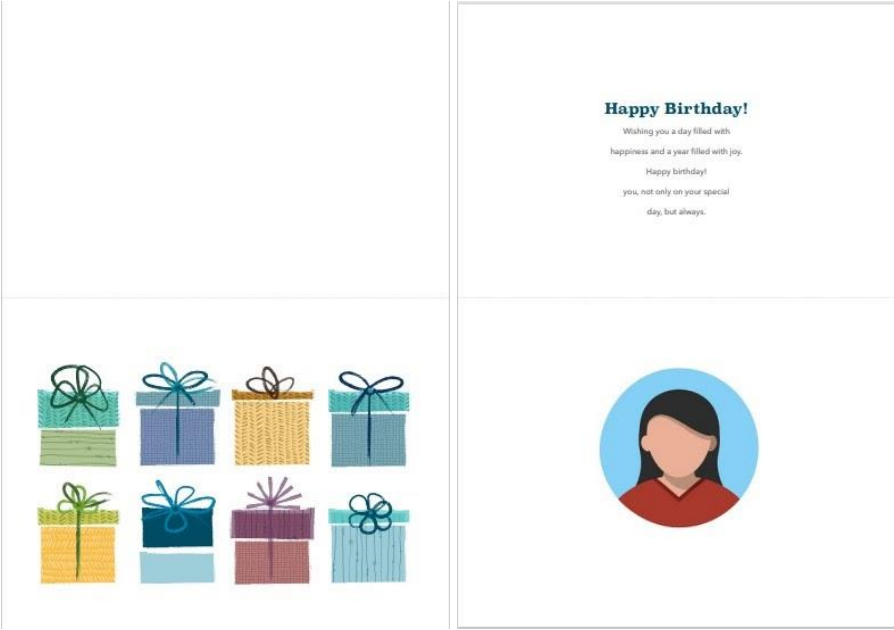
I hereby confirm that I have fully informed this participant of the nature and content of this interview.

Name of researcher:

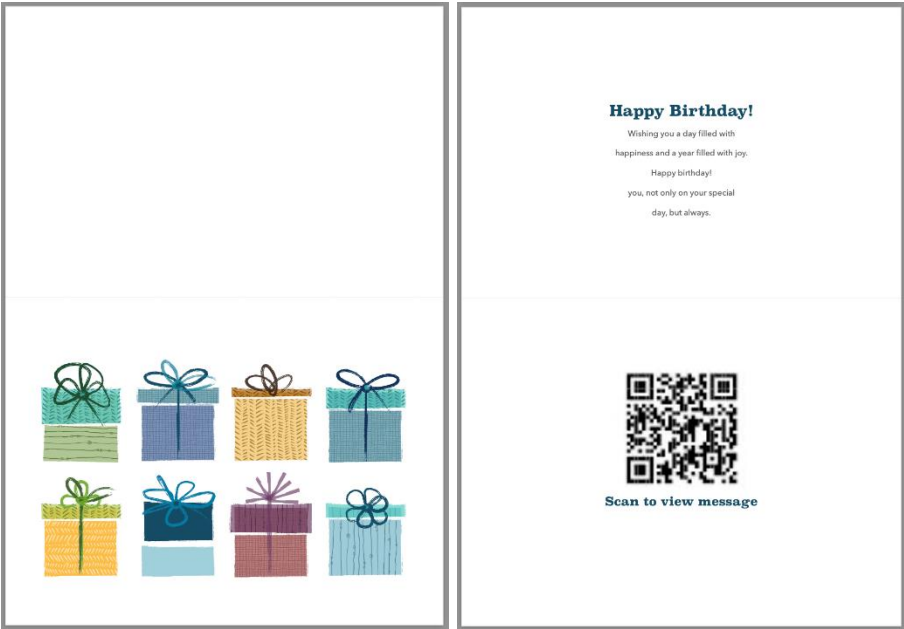
Signature:

Date: __/__/__

A.2 Prototype 1 ('Normal' Birthday Card)



A.3 Prototype 2 (With QR-Code)



A.4 User Test

Interview

7. Gender
8. Age
9. Occupation
10. Do you ever send digital gifts?
11. Would you choose digital gifting over in-person gifting? Why/why not?
12. Do you think digital gifting is a way of personal gifting? Why/why not?
13. ^If not, how would you make a digital gift more personal?
14. Are you familiar with the use of a QR-code?
15. How did you experience our prototype? (Positives, negatives, things you would change?)
16. Do you consider a video personal? Why/Why not?
17. Do you consider a 'normal' birthday card personal? Why/ Why not?
18. Would you prefer a card with a video over a 'normal' birthday card? Why/why not?

User-test

The user is given the prototype and is asked to interact with it
Observations:

Prototype 1. No QR-code

What are the user's facial expressions when using (different parts of) the prototype?
Does the user say anything when interacting with the prototype?
^What does the user say and when does the user say it?
How long does it take the user to read/listen to the message?

Prototype 2. QR-code (QcaRd)

Does the user know how to use a QR-code?
What are the user's facial expressions when using (different parts of) the prototype?
Does the user say anything when interacting with the prototype?
^What does the user say and when does the user say it?
How long does it take the user to read/listen to the message?

A.5 Data Analysis Miro

