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“It’s Not Yet A Gift”: Understanding Digital Gifting

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ABSTRACT

A myriad of digital artifacts are routinely exchanged online. While previous studies suggest that these are sometimes considered to be gifts, CSCW has largely overlooked *explicit digital gifting* where people deliberately choose to give digital media as gifts. We present an interview study that systematically analyzes the nature of digital gifting in comparison to conventional physical gifting. A five-stage gift exchange model, synthesized from the literature, frames this study. Findings reveal that there are distinctive gaps in people’s engagement with the digital gifting process compared to physical gifting. Participants’ accounts show how digital gifts often involve less labor, are sometimes not perceived as gifts by the recipient and are rarely reflected on and reciprocated. We conclude by drawing out design implications for digital gifting services and rituals.

Author Keywords

Digital gift; Framework; Gift exchange; Interaction design; Rituals; Gifting process;

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous;

INTRODUCTION

The exchange of gifts is deeply rooted in many societies and has been widely recognized as both socially [3, 26, 28] and economically [10, 11] important. Gifting services are a longstanding aspect of traditional physical retail experiences and are now finding their way into online retailing. Indeed, digital gifting services of one kind or another are fast becoming pervasive on the Internet, from commercial services such as Netflix to non-profit open-source communities [14].

Previous research in CSCW and related fields has addressed gifting. However, the predominant focus has been on taking up gifting as a lens through which to view people’s general social behaviour around digital media, for example how teenagers come to value certain text messages [40], how

people may come to value digital possessions [12, 17, 30], how to enhance social messaging using media as diverse as postcards [23] and food [41], or how to account for wider social behavior in online networks and communities [37]. Relatively little, however, has been said about how CSCW technologies might enhance *explicit* acts of digital gifting by which we mean situations in which people deliberately choose to give (and receive) digital media as gifts from the outset. A notable exception is the work of [15] that explored how museum visiting could be enhanced through visitors gifting personalized tours to one another.

We have therefore undertaken an empirical investigation of attitudes and practices surrounding the explicit gifting of digital media with a view to shaping future online gifting services. We have been inspired by previous research that highlighted some key weaknesses in giving digital objects, notably that they are perceived as being *copied and shared* in comparison to physical objects that are seen as *truly given away* [17].

The primary focus of our study has been on ‘digital gifts’ by which we mean intangible digital objects that are intentionally exchanged as gifts online and in digital formats, not bound to physical containers. So, not only digital files such as music and images, but also subscription accounts, money, and even messages might be regarded as digital gifts in this study if they are explicitly given as such.

To peek ahead at these findings, we reveal that while giving digital gifts online is relatively easy, this very convenience may actually serve to undermine some of the most valued aspects of social gifting rituals such as, purposefully selecting an object; personalizing it by wrapping it; and thoughtfully giving it to the recipient. We also reveal how online digital gifting can also undermine the experience of receiving gifts, for example, appreciating the presentation of a gift; unwrapping it; reflecting back and reciprocating.

These findings lead us to make several contributions that are intended to guide both researchers and designers in more systematically exploring the junction between existing social customs in gifting and emerging digital gifting services including:

- A five-stage conceptual framework of the gifting process that reflects broad knowledge from outside computing.
- Identification of key weaknesses throughout current digital gifting experiences.
- Implications for design to help address these gaps.

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BACKGROUND

Gift giving literature broadly deals with both a utilitarian and an anti-utilitarian [24] perspective. The former concerns reciprocal exchanges of goods or services, in which gifts act as economic signals and symbols [10] that bind ‘human solidarity’ [28]. In this context, implications of gifts as ‘vehicles of influence, power, sympathy, status, and emotion’ [26] have been investigated. The latter perspective emphasizes gift giving as act of pure altruism that enables ‘genuine gifts’ [13]. More broadly, a range of motivations in giving and reciprocation [5, 18, 35, 36] have been investigated to better understand consumer behavior [1, 6]. In addition, the principles of gift giving offer a lens to analyze our social communication [10, 11, 21], which now increasingly occurs online [33, 37]. In what follows, we scrutinize how gift giving has been explored and operated in HCI and CSCW, before reviewing social science literature addressing the complexity of gift exchanges.

Gift Giving in CSCW and HCI

So far, digital gifts have been investigated as a part of digital possessions with a focus on how immaterial things gain meaning and how they become cherished over time [12, 17, 30, 31]. Given that gift giving is one of the strategies to foster social intimacy [21], it has been incorporated into communication technologies. Taylor and Harper investigated teenagers’ text messaging with a frame of ritualistic gift exchange, arguing that occasions when they offer texts ceremoniously can express symbolized meaning [40]. Extending this to public communication, Schwarz [33] argues that in the case of social networking sites (e.g. Facebook), publicized compliments or tags give a sense of ‘gift receiving’ as they draw public recognition. Yang et al. demonstrated virtual currency systems in Chinese online communities with an idea of *guanxi*, a tradition that makes ties based on gift exchange [42]. So it seems that messages and artifacts used in maintaining intimacy are being seen as a gift regardless of materiality.

Arguably, for personally exchanged digital photos or crafted digital artifacts (e.g. videos), which often lack an explicit framing of gift and are often seen as supplementary to communication, it is more ambiguous to what extent the concept of gift giving applies. In this regard, Fosh et al. [15] studied how a personalized interpretation of visiting experiences can be seen as a gift. Experiences with unique interactions in the museum were seen as gifts when personally curated for the recipient. Furthermore, Frohlich and Murphy illustrated how stories attached to souvenirs become shared memorabilia and enhance the sense of personalized gifts [16]. Experiential gifts may be extended to more general contexts through augmented objects and interfaces. However, in the exchange of more common forms of digital gifts, such as, gift vouchers, music tracks, and software, experience has barely been investigated.

Brown and Sellen noted that although digital music files are personally valued, they are not as attractive as CDs and

vinyl when exchanged as gifts [9]. The study highlights that intangibility of digital files influence lack of visible efforts entailed in preparing the gift. However, Odom et al. [31] found how teenagers exchange personalized musical playlists and albums, showing that the immaterial music track can also be specially appreciated as a gift. Accordingly, the emergence of ICT broadened the context where digital forms of gifts would benefit our everyday online gifting practice [37]. In this regard, digital gifts need to be re-examined beyond their mere immateriality to further illuminate the status quo user experience of gifting services and applications. In the light of ubiquitous mobile devices and emergent IoT applications, digital gifts are no longer constrained to a static format or a robust device. Related research has recognized food as a medium for social communication and gift giving [2, 19], as the experience of food has many characteristics that resemble the gifting process [38]. As in [41], one might for example consider preparing gifts (e.g. messages) by using food as a vessel that delivers a digital payload. With currently available digital technologies, it is now timely to consider alternative modes for the exchange of digital gifts.

Even considering the above, the CSCW and HCI literature examining explicit digital gift exchanges remains relatively limited, *and* there is no theoretical framework within the field that could be drawn on to systematically address digital gifting. In what follows, we review literature from outside HCI to gain an overview of gift exchange models that would aid our systematic approach to the subject.

Gift Exchange Model

The preeminent theoretical model employed in the gifting literature is Mauss’s ‘three types of obligation’: to give, to receive, and to reciprocate [28]. Literature in the lineage of Mauss’s model concerns reciprocity as a powerful motivation that drives gifting as a self-perpetuating system [4, 24, 26]. Instead, Belk and Coon’s romantic love model [5] introduces gift giving as an expression of altruistic behavior distinct from economic and social exchange. Beyond the emphasis on ‘giving’ [32], [36], and [39] introduced receiver-centered models and showed the potential negativity and ambivalence in gift exchanges.

In the context of consumer marketing, Banks articulated interpersonal behaviors entailed in the exchange of consumer goods with a 4-stage model, comprised of purchase, interaction/exchange, consumption, and communication/feedback [1]. From an anthropological perspective, Sherry illustrated gifting by using a 3-stage model. The model delineates implicit and direct communication that occurs between the individuals involved throughout preparation, exchange, and disposition leading to reciprocation [35]. Sherry’s model describes the broad spectrum of gifting process in detail and is widely cited by scholars in adjacent disciplines. However, too many variables and concepts add complexity that became a limitation [39] for analytic studies.

Therefore, we recognize the need for a gifting framework that supports systematic analysis. In the following, we will introduce a *five-stage model* that offers an analytic overview of experiences taking place during the gifting process to underpin our study.

FIVE-STAGE GIFT EXCHANGE MODEL

We elicited our model by synthesizing the above literature to ground our analysis of digital gifting and inspire the design of future gifting services. The proposed 5-stage gifting model is presented in Figure 1. The listed terms in the diagram encapsulate the experience in each stage that we extracted from the literature. We assume that interactions between giver and receiver might occur in all stages, either directly or implicitly [35]. Hence, we indicate the range of involvement of the two parties through the brightness of the grey scale shading.

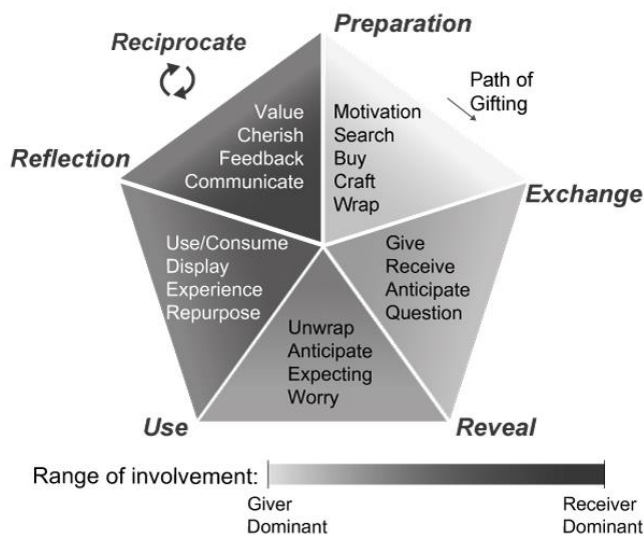


Figure 1. Model of the gift exchange with five stages.

- **Preparation:** At the beginning of gift exchanges, giver and receiver communicate implicitly and explicitly [35], depending on their relationship and the occasion. However, in both cases, the preparation is predominantly handled by the giver, which involves searching, purchasing or crafting. The process incorporates personalization through the selection of wrapping paper, decoration and messages, for example.
- **Exchange:** Giving and receiving take place at this stage. Interaction between the two parties influence time, place, and mode of transaction [35]. Greetings, conversation, and anticipation of the gift occur during exchange.
- **Reveal:** This stage incorporates unwrapping and the encounter with the actual gift. Excitement and suspense emerge simultaneously during the reveal stage to both giver and recipient. It is then that recipients make affective response to the gift and the giver [35].
- **Use:** Experiencing the gift occurs at the use stage. Usage may vary depending on the content of the gift. Receivers might display, wear, experience, utilize, or repurpose gifts. Usage may alter the value of the gift they perceived

initially. The reflective conversation may also arise between the two parties while using the gift.

- **Reflection:** For the term ‘reflection’, we follow Lindley et al. [26] who accounts for self-awareness and making sense of personal experiences as a general process of reflection. We believe it is not only the gift object that affects positive reflection. The experience entailed in earlier stages might also affirm stronger relationship to both gift and giver and this may lead to reciprocation.

In contrast to previous work, our model introduces a separate stage for revealing the gift. Previous models mainly address collocated exchanges, depicting a range of interactions: presentation, unwrapping, response, etc. [1, 5, 35, 39], all as typical parts of exchange. When unwrapping the gift, a recipient responds to both gift and giver by interpreting the content, inferring intent, and conferring judgment [35], which is crucial to a giver [34]. Therefore, gift-wrapping is widely recognized as an important symbolic interaction ritual that is intentionally added by a giver, with a focus on “response induction” [35]. However, in digital gifting, “exchange” and “reveal” are often spatially and temporally apart, since the two activities are done remotely through media. It is not clear therefore, how much the giver can be involved in all aspects of the exchange and how does it influences the receiver in subsequent stages, both “use” and “reflection”. In addition, the social significance of wrapping and unwrapping has not been addressed in digital gifting so far. Therefore, our model separates the “Reveal” stage from “Exchange” to be able to probe the influence of interaction rituals in digital gifting, as it is not just the gift itself, but the manner of exchange that matters [11].

In what follows, we describe our interview study employing the framework. As we will demonstrate, it has supported the generation of a detailed understanding of the gifting process in a world shaped by digital technology. Applied during the analysis of the study data, it all underpins the generation of specific design implications.

INTERVIEW STUDY

We conducted in-depth, semi-structured interviews containing open-ended questions to gather information about individuals’ gifting experiences.

Recruiting Participants

In pilot interviews, we found that participants struggled with identifying digital artifacts that they had received as *gifts*. In contrast, the giving experience of digital gifts was readily recognized. All of the pilot interviewees had experienced giving digital gifts. An important aspect of this was the meaning implied by the giver, transforming digital artifacts into gifts, at least in their eyes. Therefore, we selected only those participants for the main study “...*who have experienced receiving any digital gifts,*” to take part in the interview. We recruited participants through various channels. Emails were sent out via several university networks, the local hacker community, and hard copies of a

poster were also posted across the university campus. 25 participants participated (9 males, mean age 29.92) from various ethnic and academic backgrounds, marital status, and age ranges (the youngest participant was 20, and the oldest was 49). 13 participants were single, 8 were in relationship, and 4 were married, living with family and child(ren). We anticipated that the variance in the participants’ background would cover a range of different experiences in digital gifting that allow understanding how people construct attachment towards digital gifts.

Interview Structure

Interviews were semi-structured conversations focusing on participants’ digital gifting experiences. Interviews were held individually by appointment, mostly in a university meeting room and alternatively via Skype call. The average duration of interviews was an hour and we paid each participants \$15 (Amazon voucher) per hour. We continued recruiting participants and collecting data until we felt that similar issues were constantly repeating among them and total duration of data collection took 5 months.

Interview

Gouldner argued that appreciation and attachment towards a gift differ according to the participant’s role [18]. In pilot tests, we identified that participants applied different values to the same digital artifact, depending on whether they were the giver or the receiver. Hence, we split the interview into two overall parts, focusing on giving and receiving, respectively.

Content	Summary of Interview Questions
<p>Part 1. Receiving a physical gift</p> <p>(Approx. 10min)</p>	<p>About a cherished physical gift:</p> <ul style="list-style-type: none"> ▪ What was the occasion? Who gave it? How/why did you liked it? What did you do after (with/to the gift)?
<p>Part 2. Receiving (a) digital gift(s)</p> <p>(Approx. 30-40min)</p>	<ul style="list-style-type: none"> ▪ Types of digital gift received? ▪ How was the gift kept (e.g. displayed, stored, used)? ▪ Any experience of receiving digital contents, which have not been signified as gifts by the giver but that are cherished and valued as a gift? ▪ Any experience of receiving digital gifts that did not make sense as a gift? ▪ Any experience of reciprocating for digital gifts?
<p>Part 3. Giving digital gifts</p> <p>(Approx. 20min)</p>	<ul style="list-style-type: none"> ▪ Types of digital gift given? ▪ Methods to symbolize the digital material as a gift? ▪ Any experience of offering digital artifact but denoting them as gifts?

Table 1. Structure of interview with summary of questions.

However, because the physical gift ‘giving’ experience is already covered by a wealth of literature, we did not include it in the interviews. Therefore, in order to focus our inquiry in digital gifting, the interview was split into three topics: 1) receipt of a physical gift; 2) receipt of digital gifts; and 3) giving digital gifts (see Table 1 for details).

The interview began by participants sharing their physical gift ‘receiving’ experience. In this part, we aimed to understand how people acquire and frame the meaning of gifts from occasion, relationship, and use. Prior to the interview, we asked participants to bring examples of physical gifts if they wished to show certain features (see some of those in Figure 4).

The second part of the interview opened up participants’ own interpretation about digital gifting in comparison to physical ones, from multiple perspectives. Within the interview structure, we aimed to see how people weigh the value of digital artifacts (compare to physical ones) in the context of gift exchange. Also, we intended to see how the value and interpretation of received digital gifts affects or differs to given digital gifts. Above all, we attempted to comprehend what factors influenced acceptance or disapproval of digital artifacts as gifts. The interviews were recorded (approx. 25 hours of audio) and fully transcribed.

Rating the gifting experience

At the end of parts 2 and part 3 of the interview, we asked participants to rate their experiences throughout the gifting process. For this purpose, we presented our framework as 5-point rating scales for each of the 5 stages, as shown in Figure 2. This was presented during the interview and participants ranked both physical and digital gifting experiences. For an adjective that connotes positive emotion, which would emerge throughout the broad journey of gifting, we have selected an expressive term, ‘Excitement’ as an antonym of ‘Calm’ (adjective ‘calm’ was selected from Belk’s listing that was used in measuring giver and receiver’s perception on gifts [4]).

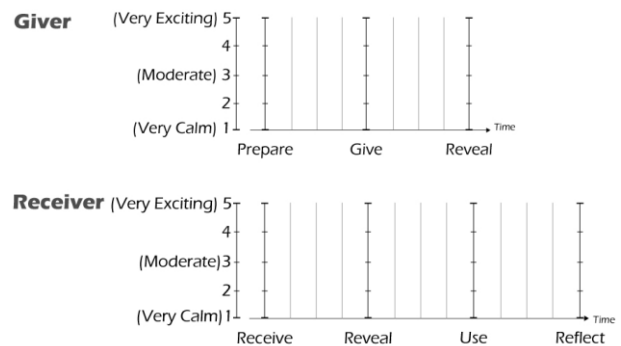


Figure 2. Gifting process of both giver and recipient. Segments in between the stages signify time scale, not for rating.

In the interview, we fully explained what each stage is referring to, especially for digital gifts; “For digital, ‘Receive’ is when you got the notification of email or text arrival and ‘Reveal’ is when you actually opened your inbox and saw what has been sent.” In disclosing their

experience, participants tended to associate the term ‘exciting’ with other expressions, for different stages of the process. For example, they stated, “I was *pleased* to receive [...]”, “I felt *attachment* to the gift while using it [...]”, or “I was not much *engaged* at the reflection stage”. Therefore, we would use the terms interchangeably throughout this paper, where necessary. With a mixture of qualitative and quantitative study, we aimed to; i) *gain a rich understanding of the digital gift exchange*; and ii) *disclose gaps in the engagement with the digital gifting experience*.

FINDINGS

First, we present general findings by unveiling the types of digital gift that have been exchanged and also, categorizing the attributes of digital gift. Then we compare both givers’ and receivers’ experience of digital gifting in comparison to physical gifting, using our framework to visualize perception ratings. Additionally, we present a detailed articulation of participants’ interpretations of digital gifting, by applying a thematic analysis [8] in accordance with our gifting framework.

Types of Digital Gifts Exchanged

We pre-listed some digital gifts drawing on the pilot tests, for participants to recall (i.e. photos, music, movies, gift vouchers, greetings cards, software, mobile apps, and voice or text messages) during the interview. Participants added additional types of digital gifts. A total of 21 item categories were listed as gifts that had either been received or offered, or both. Figure 3 illustrates the number of responses for each item for giving and receiving. Some participants recalled multiple items whereas some people only had one. Although we listed some examples to help participants recalling their experience, some disapproved of those being identified as a gift (e.g. messages, greetings card, photos, and software).

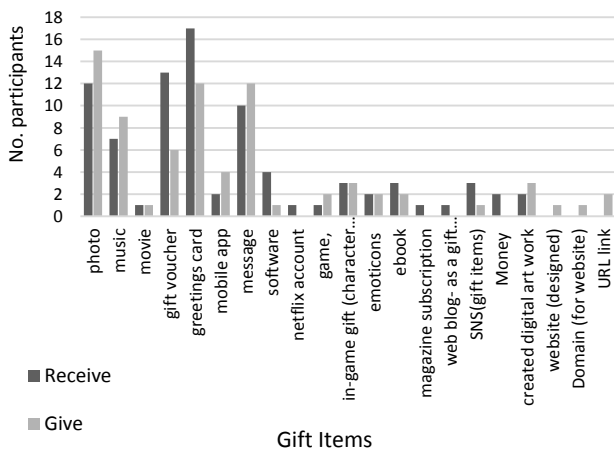


Figure 3. Number of participants sorted by types of gift items received or given.

This shows that participants had their own sense of what makes a gift and that their judgments were not affected and biased by examples. 68% of participants included digital

greetings cards as one of the gifts that they received; followed by gift vouchers (52%), photos (48%), messages (40%), music (28%), software (16%), and in-game gifts (12%). When it comes to giving, 60% of the participants have offered a digital photo as a gift, followed by greetings cards (48%), messages (48%), music (36%), gift voucher (24%), mobile app (16%), and in-game gifts (12%). Additionally, there were other types of digital objects that participants exchanged as gifts. Self-created digital art works, E-books, emoticons, games, URL links, and money were mentioned multiple times.

Attributes of Digital Gifts

Notable Attributes of Received Digital Gifts

Although we focus on digital aspect of gifting, the interview began with cherished physical gifts. Figure 4 shows some of the physical gifts presented by participants. Mostly, gifts defined as “most cherished” were objects that people always wear (e.g. jewelries, watch) or frequently carry (e.g. wallet, tablet, diary) with them.



Figure 4. Examples of cherished physical gifts. a: leather wallet, b: bracelet, c: ring, d: iPad, e: diary kept between a couple, f: watch, g: doll on a key ring.

The main reasons that made the object special were stories and meanings attached to the gift, as well as the relationship with the giver. The intention here was not to gain information about the gifts, but to understand which aspects of gift construct result in appreciation. More importantly, we could examine which cherished aspects of physical gifts might affect participants making value judgments around digital gifts.

In the second part of the interview, it was notable to see many participants were re-examining whether digital artifacts were given as gifts and whether they as receiver had perceived them as gifts. When a digital file, which was not given as a gift, became useful (P3, P5, P6, P8, P13, P14), like P5 reflected: “*Images that contain information, which was useful for me, they later feel like gifts*”, were regarded as a gift. It also applied for the things that are not particularly useful but sentimental and emotionally charged (P3, P9, P15, P16). Photos or messages received in certain contexts can become mementos and turn into a special gift (P7, P17, P18) as P18 explains: “[...] *When I accidentally see something in daily life that the person would like, then I take a photo of it, I send to her as a gift*”. Digital gifts had to be more occasion and relationship dependent to be perceived as a gift (P9): “*My husband bought me an app from my phone. [...] If it was for a special occasion then I*

Attributes of Gift	
Notable Attributes of Received Digital Gifts	Frequently Missed Attributes from the Digital Gifts
<ul style="list-style-type: none"> ■ Emotionally Charged, Sentimental Memento ■ Useful ■ Appropriateness (Fits context and occasion) ■ Experiential 	<ul style="list-style-type: none"> ○ Time and Effort showing Purposefulness ○ Personalization and One of a kind-ness (e.g. Limited Edition) ○ Passed Ownership (Not shared) ○ Collocated Exchange (Face-to-Face) ○ Wrapped

Table 2. Attributes of gift emerged from the interview. (a): Attributes particularly used to describe digital gifts that participants have received, (b): missing attributes from the digital gifts.

would (have considered it as a gift).” Also, digital gifts were respected as an effective tool to deliver an experience (P12, P17): “[...] like gift voucher for specific restaurant, is like I received an event, something like experience, so it becomes special.” This illustrates that the voucher is a useful digital token to offer an experience, when it was personally selected to match recipient’s taste and desire.

Missing Attributes from Digital Gifts

Reflections upon individual experience with physical gifts naturally opened an in-depth discourse about what makes an object a gift and which aspects are currently missing from digital gifts. Participants frequently noted that time and effort are barely noticeable in digital gifts, whereas these are often innate in material gift preparation. (P1, P14): “Effort and value creates the gift. Not only the expense ...” Therefore, the personal touch and purposefulness was felt to be missing by recipients (P2, P4, P7, P11, P12, P18, P23, P25) with P12 pointing out: “One thing about the gift is, [...] I tend to value the fact that people have got out of their way, tried to make it personal,” and (P7): “Association with gift giving is about kind of purposefully going to find something”. Sharable and duplicable digital files (e.g. music tracks, movies, photos) made it difficult to perceive the contents as a gift [17], P7 pointed out; “A gift is something that is for somebody and you don’t have access to it.” Such features also affect sense of originality of the gift, (P18): “[...] digital gift, it can always be copied, everyone can have it, and the concept of ‘limited edition’ feels less”. In this regard, duplicable and sharable aspects of digital artifacts were the main reason that participants did not consider posted materials on Social Networking Site (SNS) as a gift. It was also notable that participants rarely recognised publicized comments or tags on SNS as gifts. Messages and shared contents on SNS were still regarded as gestures of good relationships and they were pleasant to receive, but people would value them less than personal gifts. This finding draws a line between our study and other literature on social media [33].

Moreover, text messages, as well as photos and even files are now conveniently exchanged through smart phones, which we found many participants would classify as mundane communication method rather than a gift. Collocated exchange and wrapping were rarely mentioned when describing digital gifts. A few participants (P5, P6,

P12, P16) mentioned Zip files, passcode locked contents, and USB sticks, in contrast to wrapping, as a mere method of enclosing and conveying digital contents. The categorization of gift attributes (see Table 2) provides a general overview of captured expectations towards digital gifts as well as their limitations. These attributes will be revisited and discussed in more detail, later in the paper.

Excitement During the Gifting Process

In this section, we systematically demonstrate participants’ emotional attachment throughout the gifting process using our model in Figure 1. In the interview, participants rated excitement during each stage of the gifting process. Figure 5 plots mean values of collected data into two radar graphs, which helps to capture the overall tendency as well as notable gaps throughout the process.

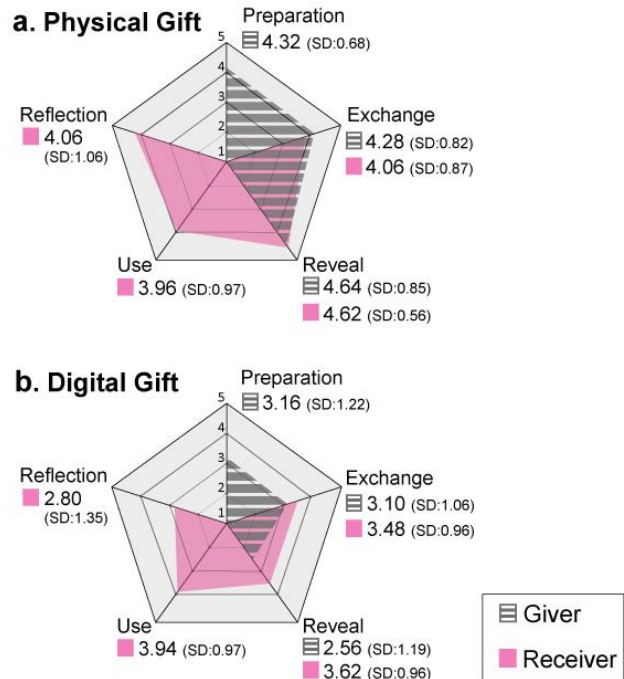


Figure 5. Mean values of participants’ excitement (N=25) in both (a) physical and (b) digital gift exchange.

The physical gifting plot (Figure 5-a) illustrates what we would anticipate as a balanced experience. The graph shows strong emotional attachment at all stages. Especially, at the Exchange and Reveal stages, both giver and receiver

share equivalent level of excitement. In contrast, the graph for digital gifting seems to be exposing weaknesses of the experience (Figure 5-b). At all stages, except Use, excitement was rated significantly lower compared to that associated with physical gifting.

Moreover, it seems that giver and receiver undergo asymmetric experiences in digital gifting, with the giver's excitement being generally lower than receiver's. We performed Wilcoxon signed-rank test to identify the significance of difference between the two types of gift. The analysis determined significance of *givers'* decreased excitement at every stage of digital gifting. (Preparation: $Z = -3.366$, $p < 0.05$; Exchange: $Z = -3.770$, $p < 0.05$; Reveal: $Z = -4.126$, $p < 0.05$) For *receivers*, the analysis determined significance of diminished excitement in digital gift receiving apart from "Use" stage. (Exchange: $Z = -2.497$, $p < 0.05$; Reveal: $Z = -3.22$, $p < 0.05$; Reflection: $Z = -3.063$, $p < 0.05$) For receivers, the digital gift does not seem to extend engagement to the reflection stage as much as physical gifts.

In the following sections, we will explore the details of various aspects of user behaviors and attitudes in each of the stages of digital gifting that substantiate the data illustrated in Figure 5.

Preparation

When preparing digital gifts, searching for the right gift online or creating something with digital resources reduces the need for people to physically move beyond their home or workplace. Even though this might save time and physical burden, it can also diminish excitement, as P16 explains: "[...] in digital gifts, [...] it's probably easier to find, so less of that kind of walking around, trying to find... but then it's not quite exciting". In this context, it was notable that participants rated the preparation stage neutral (3 – the lowest in the category) or higher for *physical gifting*, whereas that stage was rated much lower for *digital gifting*. The relatively easy and effortless preparation also reduced the giver's excitement at the point when the recipient reveals the gift, as P11 states: "It's not exciting as much as when they reveal physical ones, because I didn't go through all the troubles of preparing it like physical ones."

Labor fosters pleasure in giving

Gift giving has been generally regarded as an active and voluntary investment of the giver's time and effort [4]. Given that 'to obtain pleasure' was identified as the highest priority reason for giving (material gifts) [1], there is also an implication that such investment in preparation – making and personalizing digital music playlist [31] – fosters pleasure. There were a number of participants (P8, P12, P18, P19, P20, P25) who have given digital gifts (e.g. short video clip, photo collage, illustrations, etc.) that they created by themselves. We could see that those participants rated their excitement as high as that of physical gift preparation. It implies that people tend to build attachment

to digital artifacts due to the amount of time spent in 'acquiring' them, including *virtual labor* [6]. But for many other participants (P3, P5, P7, P10, P14, P23, etc.), such personalized digital gifts required specific skills to access software for example. This was seen as more laborious than the preparation of physical gifts (e.g. go out to search, wrapping). There are also mobile apps and web agent services that facilitate people to create digital gifts, such as photo collages and video clips. Some participants have experienced such applications but reflected that they were not very much engaged with the experience offered by the apps.

Exchange

At the Exchange stage, excitement is significantly decreased for both giving and receiving of digital gifts (Figure 5). The main reason was that the two parties are usually remotely located.

Givers are concerned with 'response induction' [35]

Givers often missed recipients' immediate expression or feedback about the gift when they are apart. In fact, feedback was highly desired and also valued for the pleasure of giving digital gifts, as much as in physical gifting [34, 35]; (P10) "For exchange and reveal, it's quite low because I'm not there. Then when I get feedback from them I feel quite happy [...]" (P15): "[...] But when I get the notification that they opened, it's exciting. It makes me to expect how they took it. But I don't always get the feedback". It was notable that some of the participants (P8, P13, P19) who have given a self-produced digital gift also experienced absence of feedback. So even for personalized digital gifts that givers find enjoyable to give, feedback of their appreciation is not always available.

Physical gifts can also be delivered remotely. P9 recalled her experience of using an online service to deliver a physical gift to her family: "[...] so you don't have any contact with the physical object [...] I often wondered if that is actually as personal as something I go out and buy and post it to them." It implies that the means of exchange is a matter of concern and in this respect, digital gifting has some drawbacks. P20 was making use of video calls to achieve collocated-ness in digital gifting, "I always do the video call to say that I have sent the gift, and also I can see how they react." Overall, it seemed clear that the design of computing systems for collaborative experiences between giver and recipient in a gifting context is underexplored.

Reveal

During the interview, we did not explicitly raise comparisons about the effect of the presence of wrapping. Instead, the interview structure ('receipt of a physical gift' followed by 'receipt of digital gifts') led the conversation for participants to unpack their personal experience of digital gifting that encompasses 'wrapping' and 'unwrapping'.

Wrapping matters

When offering digital gifts, the absence of explicit wrapping creates ambiguity in judging what is a gift and what is not, as P12 remarks: *“Digital aspect of it makes even harder to say what’s gift and not, because sometimes you don’t even have wrapping.”* Most of the digital gifts came through participants’ e-mail inboxes or message apps, with instant notifications of message arrival. It has been noticed that digital interfaces designed for opening the inbox are quite inadequate in the gifting context. In many cases, a short title in the header of an Email or a message discloses a clue about the content. P4’s statement implies that unwrapping is inapplicable in digital domain: *“Revealing wouldn’t be viable for something you do know you will receive. [...] And there’s no unwrapping stage for (this) sort of digital gifts.”* Apparently, wrapping was an important feature in how gifts are perceived. P6 stated that he usually becomes attentive and cautious at the moment of unwrapping, and especially valued the wrapping itself. For P6, the unwrapping experience was more than just removing the wrapping paper. *“The excitement of receiving experience doesn’t go to the maximum as like physical ones. With the physical gift, there are other things implied in the features of the gift such as wrapping. Because it’s a token of somebody else’s effort as well when they wrapped the gift. It’s not just the gift they (are) giving, but it’s... they put in something else on top of the gift. [...] There is the sense that you (are) going through different stages of giving, a person has chosen, bought, wrapped, there’s lots of things embodied in that.”* Some participants, including P6, highly appreciated the wrapping itself and kept the wrapping paper and cards like the gift.

Digital gift removes anxiety in receiving

In the role of a giver, participants often referred back to apprehension before unwrapping physical gifts; P16: *“When they (recipient) open it, it’s exciting but also, it’s... a bit nervous as well, to see how they respond to it.”* It was not only positive excitement that givers went through, but also subtle tension and suspense, simultaneously, to face the recipient’s reaction. Likewise, participants reported that they underwent a similar sort of anxious excitement as a recipient. Unwrapping a gift while confronting the giver puts pressure on the recipient to show appropriate reaction that matches the giver’s expectation. But in digital gifting, such tension seems to be partially removed (see Figure 5-b) as the gifts are transferred remotely. There were different habitual ways of unwrapping a physical gift depending on occasions, relationship with the giver, or personal preference. But in common, it is notable that unwrapping offers positive and momentous experience in gift receiving. Creating anxiety, tension, and suspense is a widely employed strategy in heightening the excitement of experience in HCI [7, 25]. Reinforcing such uncomfortable, yet, not always negative, emotion during the Reveal stage poses a design challenge in digital gifting.

Use

One of the most notable features of digital gifts was their usefulness. Gift vouchers, software, e-books, articles, etc. were noted as cherished digital gifts. In fact, usefulness was one of the key factors that shifted a digital ‘thing’ to a ‘gift’, in addition to sentimental memories (See Table 1). Accordingly, digital gifts that fit the receiver’s specific purpose were exceptionally cherished. P20 particularly favored Photoshop software that was given as a gift; *“Of course, if I’m giving something digital, it should be useful. Otherwise, you can’t even use, you can’t even display it, there’s no point, there’s no value. [...]”* Such useful gifts are often exchanged in close relationships. For example, in addition to specific software (P1, P8, P14, and P20), gift vouchers for special events (P3, P17), and even money transactions for holiday or birthday (P14, P16) have been given by parents or very close friends. In non-intimate social relationships, such gifts are often regarded as inappropriate. P11 reflects on a goodbye gift that she received from a former colleague; *“Gift vouchers are like that. It feels impersonal. [...] I would have preferred physical things for that situation. Like books? I doesn’t matter whether I like the book or not, it would have felt more appropriate.”* Pragmatic digital artifacts can become effective personal gifts in intimate relationships, since the giver might know well about the receiver’s needs, desires, and preferences.

Effective Use of Shared Gifts

Duplicable and sharable features were what made people class some digital gifts as ‘not-yet-gifts’. However, some shared digital gifts gained notable significance in a family context. P10 described her use of Whatsapp with her sisters. The concept of gifting was metaphorically embedded in the description of a private chatroom: *“I have a group chatting room in Whatsapp. It’s for me and my three other sisters. [...] All of us live in different cities and the images sent through Whatsapp become quite personal [...] Chatroom itself is the thing I value like a gift.”* In addition to a text message becoming a cherished gift by itself [40], the interface design of messaging apps can engender the notion of co-presence by allowing multiple participants to be involved in one chatroom. Co-presence then enables personal exchange in real time that offers a sense of gifting. In romantic relationships, digital gifts were rarely exchanged or appreciated. But when the gifts were used to create a live experience, they became distinctive and valued. For example, P12 was using Tumblr app as a private journal and his partner started adding personalized content documenting special events. Since then, they have been using it as a gifting space; *“We uploaded photos, music, video clips, messages, etc. only for us. Sometimes there are surprises there.”* The use of digital technology can also add value in the gifting context, by enabling people to personalize, archive, and share gifts in a collaborative manner.

Reflection

For receivers, the Reflection stage shows the most significant difference between receipt of physical and digital gifts (Figure 5-b). As P13 recalls; “*I think we never reflect (talk) back for digital gifts,*” digital gifts were often described as ‘forgotten’ and ‘hidden’. However, they are not discarded or deleted, but are neither actively revisited. This was noticed to be affecting delayed use/consumption of some digital gifts. Also, some physical gifts are not used immediately after being unwrapped, but “*they are often placed in our periphery*” (e.g. P24) so that, they constantly remind the receiver of the past experience with the giver. The fact that intangible digital gifts are only noticeable while they are in-use influenced recipients’ responses in the reflection stage, even when the gifts were useful or evoked sentimental emotion while using them. Digital files can be retained without loss of quality; however, the user-experience with the digital content is transient. Nonetheless, we would argue that intangibility is not the sole reason for digital gifts to be hidden from our perception. A personally selected digital gift, an event voucher, was particularly cherished by the recipient (P17) and a strong attachment to the gift and to the relationship were formed while using it. Thus, not only the gift artefact, but also the experience entailed in the Exchange, Reveal, and Use stages contribute to creating the sense of a memorable digital gift.

Reciprocation

We also noticed that rarely reflected gifts tended to foster a weaker obligation to reciprocate. P12: “*[...] you don’t tend to remember every digital gifts you received (when not in-use) and you forget. There’s still obligation but it’s lighter.*” Some digital gifts are recognized as more valuable than physical ones in terms of utility, such as music tracks or e-books but they do not always foster stronger obligation to reciprocate, (P11): “*I feel some pressure but weaker than the physical ones. I might value it more than the physical ones and use it every day but not the same obligation.*” This responds to our finding that givers often missed recipients’ immediate feedbacks when they sent digital gifts (see Give section). Some participants (as givers) reflected that they were pleased to have feedbacks even a few hours or days later. Delayed feedback seems to result from recipients’ postponed use (see Reflection section). Nevertheless, the response is critical to givers [35], even if delayed.

In summary, our findings paint a mixed picture of how people currently experience digital gifting:

- Givers and recipients appear to experience asymmetric levels of excitement during the process, especially during the *Exchange* and *Reveal* stages.
- Digital gifts often fail to be appreciated as gifts by the recipient and are easily forgotten, rarely reflected on and reciprocated.
- The labor involved in preparing digital gifts enhances the giver’s excitement, especially where it exceeds the

straightforward use of simple apps and websites, but is not always visible to recipients.

- Pragmatic digital gifts may be especially cherished and valued when exchanged in intimate relationships.
- The actual ‘value of goods’ or ‘messages’ was considered more important than the presentation method or the manner of exchange among family members.
- The collaborative use of smart devices/applications by families and romantic couples to share digital artifacts can effectively build a sense of gift exchange.

These findings reveal circumstances when digital gifting is effective but also highlight some key weaknesses. In the remainder of the paper, we consider design implications for the design of future digital gifting services.

RITUALS FOR DIGITAL GIFTING

It is tempting to think that the distinctly important characteristic of digital gifts is that they are digital in form, i.e., they involve the exchange of the intangibles. However, our study suggests an alternative framing of digital gifting, one that focuses more on supporting the rituals of gift giving than on the form of the gifts. From our interviews, we noticed that what is regarded as a gift depends greatly on the ritualistic behavior that surrounds it – relationships, means and manner of exchange, occasions, reciprocation, codes and etiquettes – perhaps more so than on its form. This finding mirrors the wider sociological, psychological and marketing literature on gifting that argues that a gift gains its meaning through *ritual exchange* [3] and that conventional gifting is rooted in a repertoire of rituals that are deeply ingrained in our social interactions [1, 34, 35]. It also mirrors findings from previous studies of digital technology in which teenagers’ text messages came to be seen as gifts when exchanged as part of occasioned rituals [40]; or in which notions of receiving virtual possessions became bound up with singularized exchange rituals [12].

Given this alternative framing, the question now becomes how might digital technologies better support the *rituals* of gift giving? In particular, it motivates us to consider the design of digital gifting *services* that support rituals of exchange as the design of the gifts themselves. With this in mind, we now reappraise the key stages of our model.

Preparation

We begin with implications for the preparation of gifts.

Personalization

The effort to personalize a gift is widely appreciated as it implies that the giver cares greatly about the value of a social relationship [22]. Kelly and Gooch [23] found that personalization was a central element in communication through postcards, even among random strangers. We observed in our interviews that romantic couples in long-term relationships expect sentimental value through personalized gifts. In some social relationships, including romantic couples, the explicit monetary value attached to digital gifts (e.g. gift voucher, software) may feel

uncomfortably impersonal, although our study reveals that this may not be problematic among family members.

Digital technologies might support the personalization of gifts in multiple ways. A giver might create digital gifts from scratch (e.g., editing a personal video) or might customize existing gifts by changing aspects of their appearance. The act of choosing an appropriate gift in the first place might become an act of personalization if thoughtfully conducted. The challenge here is for service designers to emphasize the personal aspects of hunting for gifts for others. Perhaps, online retail sites might offer recommendation services through interfaces that encourage givers to thoughtfully associate receiver's interests when choosing a gift, rather than automated recommendation by harnessing metadata.

Digital wrapping

One important and widespread way of personalizing gifts that appears to be under represented in the digital realm is that of wrapping. Wrapping is an important ritual in everyday gifting [11, 22] and adding a personalized wrapping may differentiate a gift from a mere business transaction [11] or symbolise that something is a gift in the first place [24]. The act of wrapping typically includes selecting the type of wrapper (paper or box; design, colour, etc.) according to the recipient's preference, deciding how to wrap (whether to give clues of the contents by revealing its outline), and adding personal messages and flourishes.

How then might digital technologies be factored into the wrapping of gifts? One idea might be to develop the concept of digital wrapping that can be chosen, personalised, associated with messages and applied to a digital gift. Our findings show that digital wrapping would need to demonstrate the effort and skills. It should therefore not be (or appear to be) trivial or instantaneous to apply (e.g., through a single 'click') but should instead involve an element of creativity, for example selecting, applying and 'mashing up' digital media such as personal photo collage. Thus, even if the giver cannot directly modify the content, they can become a creative part of how it is wrapped. Digital wrapping may include services to hide the gift until the specified time and occasion of its unwrapping, thereby receivers would build anticipation and suspense. This general concept of digital wrapping might be potentially broadened further to be applied to physical gifts, for example augmented reality technologies might wrap a physical artefact in personalised video messages.

Decommodification

For a digital gift to be successfully applied in social relationships, we argue that designers may also consider supporting decommodification [11] as part of the ritual of preparation. We take off the price tag before wrapping to show that the price is not a matter of concern. As an illustrative example, digital gift vouchers (frequently noted in the interview) were regarded as uncomfortable within social relationships because of their commodity feel that

overlooked personalization options (e.g. hiding price and wrapping). We therefore anticipate potential demand for a novel digital gift voucher type that allows a giver to purposefully select a range of goods with reference to the intended recipient's preferences. Drawing on the previous study and our findings, we advocate opportunities to personalizing the design of the gift voucher would also offer rich experience in preparation.

Exchange and Reveal

We propose two strategies to enhance the rituals of exchanging and revealing digital gifts.

Rematerialize digital gifts for enhanced experience

The first is to enhance the moment of reveal, transforming this into an exciting and memorable experience. Returning to the theme of wrapping, gifts are also wrapped to hide their contents for the sake of mystery and surprise, as the recipient's reaction is essential to the giver [34]. In our interviews, Zip files, passcode locked contents, and USB sticks were not seen as delivering this aspect of wrapping. A radical extension of mere container of the content is to enhance the experiential qualities of opening a digital gift for the first time, transforming the first ever 'play' into a memorable moment. Here we might draw on the idea of 'rematerialization' in which the functionality and experience of digital materials is enhanced by connecting them to collateral physical materials [6]. We can turn to recent developments in tangible and embedded computing to create *digitally-augmented physical wrappings* for digital gifts. In other words, a digital gift would come wrapped in an interactive physical material that would temporarily extend its functionality to create a moment of rich experience. Here, we are looking beyond today's mundane physical containers for digital contents such as CDs or USB sticks to new kinds of augmented experiences. This might potentially involve augmenting traditional wrapping materials such as paper or perhaps drawing on recent research into consumable and ephemeral materials such as food that has previously been augmented to become a vehicle to convey digital contents [19, 41]. Indeed, food has long been considered as a gift both literally and symbolically in various cultures [19], suggesting that it could become a wrapping for digital gifts. As a concrete example, a digitally augmented package for a chocolate that wraps a digital music track might play the track for the first time when it is eaten – providing an enhanced sensory experience – before adding it to the receiver's collection.

Collocated exchange and reveal

The collocation of giver and recipient at key moments may serve to heighten excitement (and nervous tension) for both and also provide opportunities to appreciate the gift and express gratitude. While of course, the physical posting of traditional gifts already challenges collocation, the spread of digital distribution further weakens this important facet of gifting rituals. One implication is to capture the recipient's reaction (e.g. video or audio) of these moments for later enjoyment by the giver. Finally, we speculate that

the rematerialization of digital gifts to create enriched moments of experience as discussed above may be used to motivate them to experience them together. An example of this can be seen in the work of Fosh et al. who revealed how directly sharing gifted personalized museum tours generated strong mutual obligations between pairs [15]. Fosh et al reveal how these kinds of experiential gifts, while powerful and engaging, can also engender social awkwardness, which some of our interview participants also reported to experience while unwrapping gifts. The designers of future gifting services will need to accommodate potential moments of social disquiet, or perhaps even deliberately design them into gifting rituals to enhance social bonding, a strategy that has previously been proposed in research into ‘uncomfortable interactions’ [7].

Use

Regardless of which exchange mechanism for digital gifts was favored by people, the pragmatic value of gifts was seen as being crucially important.

Gifts as social channels

We noted how added benefits arose from digital gifting when both giver and receiver employed digital channels to engage in “sense making” [29]. For example, family members (P10) and couples (P12) made use of chat-rooms and blogs as a private gifting space where personalized gifts could be shared, accumulated, but importantly, also discussed and reflected upon on an ongoing basis. This suggests that the designers of digital gifting services may benefit from rethinking gifts as being channels that supporting ongoing social dialogues between giver and recipient and that extend into active use of a gift, rather than as merely being a thing to be exchanged at a given moment.

Giving instead of sharing

However, enhanced dialogue around gifts should not be confused with shared ownership of them. In our study, shared ownership seemed to prevent digital gifts from gaining significance in social relationships [17]. Digital gifting services that transfer not only the digital artifact, but also ownership, may foster a strong sense of a gift. On the other hand, digital gifting through email, messaging and other general channels, where the giver is able to keep the original, may engender more of a sense of ‘sharing’ than ‘giving’ and potentially devalue the gift. Designers may wish to consider the strategies employed by ephemeral messaging apps (e.g. Snapchat). But reversely, once the receiver accepts the gift, it gets removed from the giver’s device. In this way, givers might more thoughtfully select and send the digital materials, and the system would convince receivers that the passed digital artifact is a gift, that has not just been copied.

Reflection and Reciprocation

Reciprocity has been a central concern when discussing the process of gift exchange generally [13, 18, 26, 28] and in computer supported communications specifically [40, 42]. Our study has uncovered how the immateriality of digital

gifts often results in them being ‘hidden’ or ‘forgotten’. They don’t appear to receive much attention from recipients with regards to reflection and reciprocation, even though givers appear to value any feedback they receive.

Surfacing digital gifts

Personally created and exchanged digital gifts require awareness of reciprocation. In the gifting context, we found that reciprocation naturally evolved from experience during multiple stages – Receive – Reveal – Use – which then influenced longer lasting reflections. Designers may consider making gifting services not only for fast and convenient interactions, but also to steadily inspire people to build long-term engagements as discussed above. This design approach aligns with proposals for *slow technology* [20] that aims to introduce reflection and mental rest in the experience of technology: for example, a notification system in a music player that reminds the receiver of the occasion that the music track was given and offers a chance to feedback or reciprocate. This, however, would need to be balanced against the social pressure of needing to be seen to use and respond to a gift. It might be difficult to quietly set aside or disregard an unwelcome gift in such a world.

CONCLUSIONS, LIMITATIONS AND FUTURE WORK

We encountered the question “*How can a gift be digital?*” during participant recruitment and it guided our research throughout. In this study, we have investigated how people associate the notion of gifting with the exchange of digital artifacts explicitly as gifts.

Our study was underpinned by a 5-stage model of gifting, synthesized from the wider literature, intended to guide both the study and design of gifting processes. This enabled us to explore the underlying issues and causes as to why some digital gifts are classed as “*not yet a gift*”. Our findings provide evidence for both weaker (than physical gifts) and asymmetric (between giver and recipient) engagements throughout the digital gifting process. We identified abundant gaps in current digital gifting practices, leading us to explore the design of future gifting services. We considered how digital technologies might enhance rituals of gifting across all stages, leading to proposals for digital gift wrap; rematerialising digital gifts at key moments of exchange and reveal; considering gifts to be social channels; and extending opportunities for reflection and reciprocation into active use.

One limitation of our study is that we have investigated digital gifting from a largely positive perspective, focusing on the excitement and pleasure of gifting in order to identify opportunities to enhance future digital gifting services. However, previous research suggests that there are also negative or ambivalent facets to gifting [36, 39]. Indeed, we encountered reports of anxiety, worry and discomfort from participants in our own study. We therefore suggest that further studies may apply our framework to scrutinize the negative aspects of digital gifting and their implications.

We conclude with a final thought. Our study has considered how digital technologies support long established social practices of gifting. A broader question for future research might be to consider whether the emergence of the digital will fundamentally transform the nature of gifting. This is not a question that we are able to answer here. However, we note that, according to our study, digital gifting still appears to fall short of conventional physical gifting in several important respects, suggesting that these will require addressing before it is even on a level par. And yet, we also saw how the digital might extend gifting in new directions, for example reflection and reciprocation during active use. Ultimately, the steady convergence of the physical and digital, suggests that this separation may be something of a short-term concern. Perhaps the ultimate aim should be to combine the physical and digital – both gifts and their wrappings – to extend social rituals of gifting.

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