

# Digital Gifts Unwrapping: Enhancing the Presentation and Revelation in Gift Exchange

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## Abstract

While digital gifts grow increasingly popular due to its ubiquitousness, several people still regard it as inferior to qualify as a gift. Hence, I propose digital gifts unwrapping which attempts to replicate the intangible values of physical gifts unwrapping to present and reveal gifts within an augmented reality environment. Data was captured using a mixed-method approach, combining cognitive & emotional data with user insights. Result revealed positive emotional reactions to the unwrapping experience, highlighting the concept potentials.

## Introduction & Background

Research revealed that the experience of receiving digital gifts is inferior in perception and experience when compared to its physical counterpart (Mamonov & Benbunan-Fich, 2015). According to Kwon et al. (2017), sharing of tangible gifts involve numerous salient phenomenon which contributes to an enhanced overall experience and defined requirements that is absent in electronic gifts, limiting the gift ritual.

My interest within the digital gift-exchange niche narrowed to focus specifically on improving the experience of presenting and revealing digital tokens, adopting the concept of unwrapping a tangible gift (Porublev et al., 2023). The objective is to solve the problem by using research on gift-giving behaviour, and a design that replicates gift-exchange values in a new way. I hypothesize improving the ritual of electronic gifts with personalised digital stories in an Augmented Reality (AR) environment, a concept which looks to replicate the intangible benefits of unwrapping a physical gift.

To strengthen my concept, the research studies below provided sound theories and recommendations to build my assumption on and assisted in understanding ways of application.

### Gift-giving is mediated by emotions

While gifts are established in many motivations and benefits, emotion cannot be taken away from the relationship. De Hooge et al. (2017); Ganesh et al. (2019)

### Gift (un)wrapping matters

Unwrapping intensifies the emotions of sharing and receiving a gift. Gift wrapping symbolises a gift. Porublev et al. (2006); (2023)

### Wrapping is beyond papers & boxes

Wrapping is beyond decoration but a symbolic way to impress and manipulate. Revealing gives uniqueness and efforts of giver can enhance gift appreciation. Befu Harumi (1994); Ganesh et al. (2019)

### Wrapping is possible in digital

Hybrid gifting explores physical gifts presented with digital media. Digitally augmented physical artefacts can create improved experience. Koleva et al. (2020); H. Kwon et al. (2022)

## Study Methodology

This study adopts a mixed-method research approach by collecting both quantitative and qualitative data to measure the cognitive and emotional aspect of unwrapping a digital gift, as well as participants' insights. To achieve this, I propose to find signs of improved pleasure, excitement or anxiety in study participants while experiencing the receipt of digital gifts hared by a partner through a developed AR mock-up.

The mock-up provides a gift revelation experience utilising augmented reality (AR), personalisation and interaction design to create an immersive experience. Data is collected using **ECG** (Electrocardiograph) and **EEG** (electroencephalogram) to monitor and record changes in the heart rate value (HRV) and the brain activity of study participants, which will communicate their physiological reactions. Audio and video recordings is taken for the entire study, along with post-study interviews for deeper insights.

## Testing & Evaluation

14 participants tested the gifts unwrapping experience through the AR prototype and whilst having their emotional and physiological reactions measured. Their gestures and experience feedbacks were also collected to compare all data.

Afterwards, the data measured were analysed using the following:

1. transcribing the interview recordings
2. determining the heartrate variability (HRV) of each subject through all phases of the gift exchange – pre-exposure, unwrapping, gift reveal, gift ends, post-exposure.
3. Contextualising their neurology data to determine concentration level and emotion recognition during gift unwrapping phase.

The EEG data was analysed with asa™ Neuro while the ECG result was determined with the R-R (beat to beat) outcome which is the heartrate in 10s, and applying this using the formula below:

$$\text{HRV} = (\text{heart rate in 10s}) \times 6$$

## Conclusion & Future Work

**Emotional responses:** Many participants reported excitement, curiosity and surprise while unwrapping gifts and claimed the experience was engaging and unique.

**Comparison to Physical Gift Unwrapping:** Digital gift unwrapping with augmented reality elements generates anticipation and excitement, affecting responses.

**Relationship dynamics and gift quality matters:** Close relationships had solid emotional reactions during digital gift unwrapping, feeling sentimental and appreciative. Thoughtful gift selection also added to the significance of the experience.

**Further Research:** Studying how personality traits impact emotional responses to digital gift unwrapping could shed light on the effectiveness of new gifting methods.



For your gift,  
**Pinch me!**

## Research Results

### Electrocardiograph (ECG)

- ✓ The unwrapping stage had the most consistent arousing effect. Average change in BPM ranging from 6 to 30 beats per minute (bpm).
- ✓ Gift type and choice matters. Participants (P6, P11, P14) exhibited insignificant or negative responses to received gifts.
- ✓ All participants had an evocative encounter varying between 5%-60% changes. AR unwrapping experience was stimulating and emotional.

### Electroencephalogram (EEG)

- ✓ Stimulating: High arousal level of the brain (Alpha-Gamma levels) during the digital experience.
- ✓ Attention: Consistent engagement with the digital unwrapping.
- ✓ The Main: The gift revelation phase has the most arousal of all phases (Beta to Gamma).
- ✓ Match: Correlation between participants' brain activity and physical gestures (crying, laughs, anxiety).
- ✓ Evidence: Recognition of positive emotions in certain participants (P1, P2, P7, P10, P11).