

# O-Link: Augmented Object System for Intergenerational Communication

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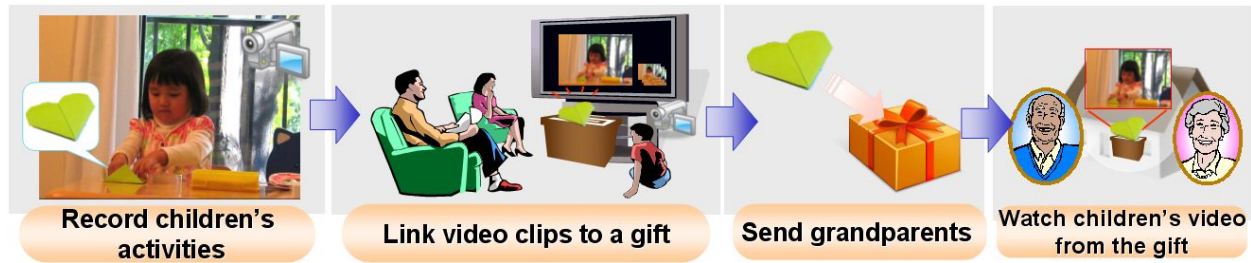


Figure 1: A real origami conveys grandchild's experience to grandparents

## 1 Introduction

We propose O-Link, a system that allows us to convey our experience by binding digital videos to a real object in order to facilitate intergenerational communications. We focus on two factors in designing our interface to build a closer relationship between grandparents and grandchildren.

First, a generation gap related to acquired skills still exists between digital citizens and most elderly people. Even if grandparents want to watch videos of their grandchildren online, it is often so difficult for them to manipulate video sharing systems that they tend to hesitate from playing the videos. We believe tangible user interface can facilitate elderly people's access to digital information.

Second, handicraft activities play an important role in children's daily life. Physical handicrafts made by grandchildren, such as origami, sewing, and drawing give grandparents a window into the kids' growth which makes the grandparents happy. Although children's works have such a powerful impact, the quality of work varies from child to child. Most children subconsciously have a desire to be praised for not only what they have made but how they made it.

## 2 Our Approach

Figure 1 depicts the overview of a typical usage scenario of O-Link. A grandchild makes a physical craft, say origami, to give to her grandparents while recording what she is doing. O-Link has a video editing application that allows users to link a physical object and the video clips that were recorded and stored in the system. After the process of linking, she sends the origami to her grandparents by postal mail. Since the data can be shared over the network, if the origami is put down on the box in grandparents' house, the related video clips appear on the screen automatically. As shown in Figure 2, the shape of an object is captured by the box-shaped device equipped with a camera inside. The object itself act as its tag.

To organize and retrieve digital contents, we used physical objects directly related to the data. Physical objects have so many affordances that even the people with low computer literacy can easily access corresponding data.

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Figure 2: Left: O-Link System's feature to link an object and the related video clips. Right: Play back video clips from an object

Attaching tags like RFID or QR code is the most common technique for object recognition [Nunes et al. 2008]. While such techniques have the capability to detect objects exactly, it can be invasive and cumbersome when used in daily life. Non-tagging-based O-Link enables children to present a handmade gift as it is. By just laying origami on the box, it starts telling a child's story, for example, what she was trying to make or how she got involved in its activity.

## 3 Discussion and Future Work

We developed the first prototype of O-Link to embody our concept. Most of the people using this system gave us positive and informative comments like "Even a clumsy shaped origami that a three-year-old child made can change into your treasure." For the second prototype, we plan to implement a feedback feature from grandparents to grandchildren. We also plan to quantitatively evaluate the effect of this system on the intergenerational communication style for the next step.

## References

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