Evocative Interaction

Fahri Özkaramanlı
Master of Fine Arts
Visual Communication Design

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Abstract

Evocative Interaction is a project exploring the evocative properties of technological objects in relation to the way we interact with them. The project attempts to signify the connection between a technologically altered childhood object and its owner by means of memories reminiscent of the past. In order to achieve its goal, the object employs a physical interaction method that is no longer necessary but still meaningful in terms of its evocative nature.

Introduction

We are surrounded by numerous man-made objects in our environments. We interact with these objects throughout our lives and in doing so, we attribute memories and emotions to them. The lucky pencil that have been with someone through the toughest exams, the stuffed bear that one could not sleep without, the first guitar and the wedding ring, do no longer belong to a category of objects. The fact that they are embedded with people's own memories of the past transforms these objects into more valuable possessions, they become evocative objects.

> "In the present the act of remembering comes into its own, for true meaning, insists Benjamin, like photographs, may only develop later, and then it is memory's work to reveal that truth initially obscured."
> (Kwint, Breward & Ansley, 1999, p. 108)

Substantiated by Walter Benjamin's thoughts, the scope of this project is narrowed down to the objects that are reminiscent of our childhood. Owing to the fact that the amount of time between childhood and adulthood is significant, childhood memories are considerably intense in comparison to the fresh ones. Within the project, a childhood object is technologically modified and the evocative properties of this object is explored in relation to the way we interact with it. The project seeks to create a bond between the technology and the self through interaction and design by proposing an interaction method that is no longer necessary to operate the object but still relevant in terms of its evocative nature.

People and Things

Broad stages of history in Western cultures are marked by the kind of objects people could make. Through the Paleolithic period, people used crude stone tools and consequently entered into the Neolithic period when their everyday life has evolved into a different manner by the tools they used. Bronze and Iron ages define the periods of time where the objects were formed out of metals and are followed by the Industrial Revolution and the Atomic Age as a transition to a production period exploiting the physical properties of matter. (Csikszentmihaly & Rochberg-Halton, 1995)

From their perspective, Csikszentmihaly and Rochberg-Halton (1995) state that the evolution of mankind, apart from gains in intellect, morality and wisdom, should also be measured by people's ability to create things in increasing complexity and numbers. Things created by people are impossible to be separated from their past memories, present experiences and future dreams because their interactions with the things they create affect the circumstances in which they live and work.
(Csikszentmihaly & Rochberg-Halton, 1995)

> "True, long-lasting emotional feelings take time to develop: they come from sustained interaction. What do people love and cherish, despise and detest? Surface appearance and behavioral utility play relatively minor roles. Instead, what matters is the history of interaction, the associations that people have with the objects, and the memories they evoke."
> (Norman, 2004, p. 46)

Donald Norman (2004) states that people become attached to things if they have a significant personal association with them and indicates that the attachment is not to the object but to the relationship and the meanings and feelings the object represents. (Norman, 2004)

For Csikszentmihaly and Rochberg-Halton (1995), this significant association with an object is interpreted in the context of past experiences, either consciously, or unconsciously, in the form of habit. The representation of such an object is defined as a sign or symbol of one's attitude and from this perspective a symbol becomes able to convey feelings and attitudes and gains an objective existence. (Csikszentmihaly & Rochberg-Halton, 1995)

Memory and Objects

> "For a truer understanding of the significance and causality of the past we should reckon more with memory, embracing all its subjective viewpoints, since awareness of the past depends on it."
> (Kwint et al, 1999, p. 1)

Design historians are interested in memory as a key to better understanding of the past. They have been studying objects in relation to the memories of their owners. Objects serve memory in three main ways. Firstly they provide recollection; they give form to our representation of the past. (Kwint et al, 1999)

Tracy Gleason wrote that her sister had a toy bunny and whatever she imagined herself doing or thinking, she would first try it on her bunny. Donald Winnicott explains that this transitional object mediates between the child's sense of connection to the body of the mother and a growing recognition that he or she is a separate being. (Turkle, 2007)

Secondly, objects trigger remembering. Coincidental encounters with objects brings back experiences which otherwise would have remained repressed and forgotten. Describing this circumstance as "involuntary memory", Marcel Proust (1871-1922) wrote that "the past is hidden somewhere outside the realm, beyond the reach of the intellect, in some material object of which we have no inkling. And it depends on chance whether or not we come upon this object before we ourselves must die."

Finally, objects can be considered as records, storing information beyond individual experience (Kwint et al, 1999). Bruce Sterling (2005) continues this reasoning to depict a future that harvests the information recorded by objects and uses this invaluable information for a sustainable future stressing the importance of objects as records. (Sterling, 2005)

Memory and Interaction

We interact with a vast variety of men-made objects in our everyday lives. We push, pull, shake and twist objects, manipulate them to achieve certain tasks. Some of these tasks can be carried out with no mental effort whereas some require attention and previous knowledge of operation. In order to obtain a better understanding of the process, Donald Norman (2002) separates our interaction with objects into three basic stages. Goals, what we want to happen. Execution, what we do to the world. And evaluation, comparing what happened with what we wanted to happen. (Norman, 2002)

Suppose that its getting darker and you realize that you need to turn the lights on. Your goal is formed, to turn the lights on. In order to achieve your goal you need to execute an action, sometimes a set of actions, in this case you push the light switch. Finally you observe the outcome of your action and compare it to your goal, if the light is on, you are done.

In some cases, interacting with objects can be trickier than turning the light switch on and it should be noted that, besides its simplicity, the operation of a light switch is not a natural action and is learned by instruction or observation. In our technologically mediated time, technological objects often come with instruction manuals. Although the basic interaction methods stay the same, such as pushing buttons or turning handles, a combination of these actions are required to be learned and executed for the complex tasks afforded by our computers, gadgets and gizmos.

Keyboards, for example, are technological objects embedded into our lives as attached to computers and telecommunication devices. They are simple, push-button input devices and with all their keys labeled with letters and numbers, using them is almost straightforward for a literate person. With all the information presented on the keyboard, one can search and press key after key. However, in order to write a large amount of text, searching for each key becomes an issue of time and effort. With experience, the speed of the typing process increases. People learn the positions of frequently used keys, the different shapes and positions of the function keys and appropriate positioning of the hands over the keyboard with the aid of the embossed identifiers on the F and J keys (on a qwerty keyboard).

Norman (2002) refers to these designed characteristics of a keyboard, such as different key positions and sizes, caps lock indicator and embossed identifiers of the F and J keys as “information in the world.” He states that, while typing, information in the world and information in the head are merged and an avid typist would write without looking to the keyboard with all the information stored in his or her head. The speed and quality of the performance is inversely proportional with mental effort.

Locating an item in a store requires mental effort as the location of the item is given by the information that is available in the store signs. On the other hand finding your way through your own city requires little mental effort as the information is already in your head.(Norman, 2002)

Memory Systems

There are different kinds of memory systems that are suggested by memory researchers. The most important, in this project's context, is the distinction between declarative and procedural knowledge. This distinction, excluding short-term memory, only refers to long-term memory and can be defined as the distinction between knowing *that* (propositional knowledge) and knowing *how* (procedural knowledge).
(Brege & Hezewijk, 1999)

Declarative memory is defined by cognitive psychologists to be the storage of facts and events. "Look left, right and again left, while crossing the road." "To turn the lights on, press the light switch." Declarative memory can easily be verbalized, the knowledge of *that* can be thought and spoken about clearly in detail, leaving no room for confusion. (Brege & Hezewijk, 1999)

Procedural knowledge, on the other hand, cannot be taught verbally. The knowledge of *how* to do things such as riding a bicycle or returning a serve in tennis can only be taught by demonstration and learned by practice. (Norman, 2002)

The Project

Introduction

Objects serve our memory by providing recollection, they trigger remembering and they can be regarded as records of the experience and memories that have been invested in them. Among all memories, childhood memories are the most intense and cherished, but due to the nature of the long-term memory, can often be forgotten or repressed.

The project aims to redesign a childhood object, a money box, questioning the issues of evocation and memory through design and technology. Money boxes, also referred as piggy banks, are often used by children. They are utilized as pedagogical devices to teach children the principles of using money carefully and not wastefully and to promote saving. They are also often used as promotional items by financial institutions.

The technologically modified money box no longer accepts coins, it is altered to be used for the accumulation of digital currency. The money box is designed to serve as an interface for accessing a Google account to check the amount of money made through Google AdSense.

AdSense is an advertisement program run by Google. Website owners can enroll in this program to enable advertisements on their web sites. These advertisements are administered by Google and generate revenue on either per-click or per-impression basis. A web site with 1000 visitors a day would generate an estimated revenue of $9 (Brain, 2005). Unless the web site is a professionally managed online business, attracting tens of thousand visitors, the revenue generated by AdSense is peculiarly low and for an adult, resembles the amount of which can be accumulated by a child's piggy bank. Encouraged by this resemblance, the technologically modified money box is designed for web site owners enrolled in AdSense program and aspires to stimulate the excitement and curiosity of checking the amount of coins in a piggy bank.

Designed as a simple rectangular object with a display on its face, the shape of the money box does not resemble a traditional piggy bank. Instead, the resemblance is utilized by the interaction method. To get the information, one needs to lift the money box and shake it, as if shaking a traditional piggy bank to feel the weight and hear the sound of shaking coins. This interaction method, although no longer necessary, is deliberately put into practice to stimulate the owner's memory of how he or she used to interact with piggy banks.

Essentially, as an alternative to the web interface provided by Google, the money box

functions as an object of evocation. It provides recollection of childhood memories and becomes a symbol, a representation of those memories invested on a childhood piggy bank. The object attempts to find and create an emotional connection between the self and the technological object.

Technology

To connect to Google AdSense account and retrieve the generated revenue, the money box would require complex electronic hardware employed with batteries for operation, wi-fi capabilities for wireless information transmission, accelerometers for sensing the movement and a display for displaying the necessary information. To overcome the complexity of assembling such electronic hardware, the money box will be built on an Apple iPod touch. The iPod touch incorporates all of the required capabilities and also cost less than the necessary hardware. The object itself will be made of laser-cut acrylic and will be ordered online from laser cutting services. A custom software will be written for the communication with Google AdSense and for the retrieval and display of the necessary information. The device will be activated with a slight shake and the real-time data gathered from the internet will be displayed on the display.

Estimated Budget and Production Time

The money box will cost around $400 including the iPod touch and the laser-cut acrylic and will require about two months to be designed, programmed and built.

Presentation

Along with the object itself, the project will be documented with photography and video seeking to visualize the aforementioned emotional connection between the object and its user.

Bibliography

Apple Inc. *Apple - iPod touch*. Retrieved February 4, 2009, from http://www.apple.com/ipodtouch/

Baudrillard, J. (2005). *The system of objects* Benedict J. (Trans.). New York: Verso. (Original work published 1968)

Brain, M. (2005, April 23). *How much money can you make with a web site?* Message posted to http://webkew.blogspot.com/2005/04/lesson-3-how-much-money-can-you-make.html

Csikszentmihalyi M., & Rochberg-Halton E. (1995). *The meaning of things: domestic symbols and the self*. Cambridge MA: Cambridge University Press. (Original work published 1981)

Galloway, A. (2006). *Collective remembering and the importance of forgetting: a critical design challenge*. Retrieved February 4, 2009, from http://www.purselipsquarejaw.org/papers/galloway_chi2006.pdf

Google Inc. (2005). *Welcome to Google AdSense*. Retrieved February 4, 2009, from http://www.google.com/adsense/

Kwint M., Breward C., & Ansley J. (Eds.). (1999). *Material memories: design and evocation*. Oxford: Berg.

Lidwell W., Holden K., & Butler J. (2003). *Universal principles of design: a cross-disciplinary reference*. Gloucester MA: Rockport Publishers, Inc.

Moggridge B. (2006). *Designing interactions*. Cambridge MA: MIT Press.

Norman, D. A. (2002). *The design of everyday things*. New York: Basic Books. (Original work published 1988)

Norman, D. A. (2004). *Emotional design: why we love (or hate) everyday things*. New York: Basic Books.

Polou Robotics & Electronics. *Custom Laser Cutting Service*. Retrieved February 4, 2009, from http://www.customlasercutting.com/

Sterling, B. (2005). *Shaping things*. Cambridge MA: MIT Press.

Turkle, S. (Ed.). (2007). *Evocative objects: things we think with*. Cambridge MA: MIT Press.

Turkle, S. (Ed.). (2008). *Falling for science: objects in mind*. Cambridge MA: MIT Press.