Empowering Products: Personal Identity through the Act of Appropriation

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Abstract

This paper explores the relationship between personal identity and the act of appropriating digital objects in the home—specifically do-it-yourself—to inform the design of empowering products. It reports ongoing research and provides a preliminary analysis of the Steampunk movement as a case study for personal appropriation. Appropriation-identity design guidelines are provided as a result of the data analysis.

Keywords

Appropriation, personal identity, creative freedom, do-it-yourself, craft, design, materiality, Steampunk

ACM Classification Keywords

H5.m. Information interfaces and presentation: Miscellaneous.

General Terms

Design, Theory

Introduction

The topics of do-it-yourself (DIY), crafting, hacking, and others, are becoming central issues for human-computer interaction (HCI) [6, 27]. These topics reflect the growing trend of everyday designers' appropriating digital artifacts in the home by adapting, adopting, and changing them to suit personal needs and reflect

Figure 1: All-in-one Victorian computer by Steampunk DIY mastermind Jake von Slatt (http://steampunkworkshop.com/victorian-all-one-pc)

Figure 2: Steampunk USB drive from Etsy shop owner Will Rockwell (http://www.etsy.com/shop/WillRockwell)

individual identity [4]. For personal appropriation to occur, the everyday designer must first stay open to interpretation as to the purpose, function, and interaction of the digital artifact [29]. This individual appropriation happens in the home due to the influence of personal choice—compared to the workplace, where digital artifacts are not personal choices [17]. HCI leads the way in making "domestic interactive products more efficient, usable, and enjoyable" [21], but little has been researched about designing artifacts that are adaptable to the user, empowering and reflecting the user's personal identity. These issues reflect the growing interest in DIY and appropriation, and should be seen as a "positive HCI phenomenon" [28].

Artifacts reveal people's social relationships and personal history [1]. Artifacts, whether they are tangible or digital, have a way of influencing and reflecting personal identity [2, 16, 20, 24]. The growing interest in DIY and hacking, both in and outside of HCI, suggests the importance of personalization in artifacts—for this study, digital artifacts—as an added level influencing and reflecting personal identity. Buechley et al in a recent workshop explore how DIY shape identity [6]. The timing is right for us to examine the relationship between the two, for as [11] states, we are in the middle of a "tinkerer-maker revolution." DIY is about creating one's own world among the dominant culture [14]. It is about finding resonance with materials and people [30]. So, we must ask, echoing [27], can technology empower DIY and handcraft? Can we use technology as creative resources to empower personal identity, identification, and appropriation?

Theorizing Appropriation, Personal Identity

Building on the research from [1, 3, 8, 9, 12, 17, 18, 19, 22, 23, 28, 30], we explore the relationship between personal identity and digital artifacts as creative resources. We examine how appropriation of an artifact happens relative to the self to study how appropriation can be an empowerment of the self. To do this, the following must be answered: 1) what do people appropriate; 2) why do they appropriate X versus Y; 3) how do they appropriate, where, when; and 4) what does that relate to their identity?

We choose to focus on the act of DIY appropriation in our research because of the explicit personal meaning involved. We operationalize "appropriation" as the *act of adapting an artifact to oneself in a way that not only redefines the artifact, but also relates the artifact to one's sense of self*. We define "personal identity" as the *unique set of experiences, qualities, characteristics, thoughts, behaviors, etc, which recognizably define an individual or collection of individuals, and the relationships occurring between them*.

By studying the relationship between appropriation and personal identity, we aim to propose appropriation-identity design guidelines which will inform the creation of empowering products.

Case Study: The Steampunk Movement

To study the relationship between appropriation and personal identity, we looked for an online DIY community which utilized digital artifacts as creative resources, and found Steampunk. Steampunk began as a literary movement in the 1980s as a counter-response to Cyberpunk. Steampunk imagines a Victorian-inspired, retro-futuristic world. As a creative

Figure 3: Steampunk 1980s Gameboy by Deviant artist ViperSneaker (http://vipersneeker.deviantart.com/art/Steampunk-Gameboy-110513331)

Figure 4: Steampunk Nerf Maverick gun by Deviant artist Arph (http://arph.deviantart.com/art/Dame-a-Sin-135071974)

aesthetic, it is only chartable through 2006 [25]. For many, it is now a modern revival of the 19th Century Arts & Crafts Movement, because it uses "handcraft techniques" to produce objects that are "useful and beautiful" [7, 31, 32, 33]. The aesthetics of Steampunk rebel against our *always-connected-with-my-super-high-tech-homogenized-gadget* culture by finding inspiration in the past, specifically, the Victorian era, when *industrialization* did not mean *homogenized* yet.

Steampunk suggests a shift in the perception of technology through the use of defamiliarization as a method of recognizing that "modern technology is escaping our control" [4, 5]. The anti-mass production heart of Steampunk DIY is seen as inspiring because it "encourages people to think creatively" [7]. Steampunk places "high value on the work you can do with your hands" [7]. Most importantly, for many, Steampunk is seen as a "non-luddite critique of technology" [10]. Steampunk is seen as a way of "creating sublime awe within an apathetic, overly connected, jaded culture" [15]. The lessons of Steampunk are about the "instability and obsolescence" of our "unsustainable" times [32]. The perceptual shift suggested is to reattach ourselves to objects [7, 15, 25, 26, 31], and the way to do this is to become makers intent on sharing their craft and the subsequent creative satisfaction [3, 7, 15].

To explore the notion of appropriation and personal identity through the Steampunk phenomenon, we examine publically available data and conduct extensive user research. For the purpose of this paper, we report a preliminary analysis of publically available data.

Data Analysis

To help prepare us for the observations and interviews that will be conducted, we examine online resources such as blogs and Deviant Art galleries to obtain a basic understanding of the problem space. These resources showcase personal and communal identities and how DIY and appropriation have become a part of what was a literary movement. In addition, we also look at independent magazines that provide definitions and self-reflective commentary, integral to understanding the Steampunk identity. The scope of our data includes 33 magazine articles analyzed, 68 blog posts examined, and 12 Deviant Art artist galleries, 20 Flickr groups, and 11 Etsy merchant websites viewed.

We analyze publically available artifacts using the framework from [13] to show how Steampunk-styled appropriation adapts the artifact to the maker, redefines the artifact and relates it to the maker's unique set of characteristics, thoughts, etc. The Fleming framework is two-fold: a five-point classification of the artifact's properties (history, material, construction, design, and function) and a four-point analysis. The analysis consists of (1) identification, (2) evaluation based on values of the present culture, (3) cultural analysis using on selected aspects of the artifact's culture, (4) and interpretation. We present five sample artifact analyses to show how we approach our data by identifying the artifacts and interpreting them and their associated descriptions to understand the construction of Steampunk identity.

Figure 5: Steampunk CD player by Deviant artist Zuntaras (http://zuntaras.deviantart.com/art/Steampunk-CD-player-3-78537715)

Pictured in Figure 1 is an "all-in-one Victorian personal computer," assembled by the Steampunk inventor Jake von Slatt (a pseudonym). He housed the computer components and monitor in a wooden box made to seem like a stage, as the 4:3 widescreen ratio is a remediation of the Victorian stage. The top and bottom of the housing are junkyard pieces which Slatt painted to suit his ornate and meticulous style. The stage motif continues with side curtains made of black fabric with gold floral detailing. The side supports are soldered brass, a popular alloy used in Steampunk appropriations for its ability to age well. The base is knick-knack shelving found at the local dump, reflecting Slatt's interest in sustainability and up-cycling.

Figure 2 showcases the 64 GB USB drive designed by Etsy merchant Will Rockwell. The appropriation changes the interaction, the function remains the same. The housing is handcrafted, imperfect, and it rejoices in its imperfections. By encasing the drive in brass with a faceted jewel to resemble a diamond, it's a physical and visual reminder to handle it carefully. That he appropriated the aesthetics to change his behavior to what one might argue is a disposable storage unit suggests he does not want to replace it soon.

Figure 3 features the appropriation of the 1980s Nintendo Gameboy system, made for Deviant Artist ViperSneeker's Steampunk costume. She painted the casing gold, relabeled the system by hand painting a gothic font to resemble Victorian typography, and assembled gears, washers, and a little fan to simulate the clockwork machinery of the Victorian era. According to the Deviant page, the system still works, revealing the care and delicacy ViperSneeker took to appropriate it. That she appropriated a 20-year-old gaming system

reflects her affection, and identification, with it—even when using a Steampunk costume persona.

A similar appropriation is shown in Figure 4, where Deviant Artist Arph appropriated a Nerf Maverick toy gun. Inset is an image of the original toy. The attention to detail is indicative of Arph's artistic identity. He used a Dremel tool to inscribe the flourishes into side, and took the time to paint and stain each chamber of the revolver cylinder. He reveals his historical knowledge of guns by simulating leather detailing on the handle, and representing a flint cock at the top of the gun.

Shown in Figure 5 is a fully-encased CD player by Deviant Artist Zuntaras. The interaction in using the player has become intimate because it requires the user to manipulate it by hand, which suggests Zuntaras' relationship with music. By winding the hand crank on the right, Zuntaras has an active role in turning on the player. The water spigot and associated gauge control and report the volume level, respectively. There are three horns which rotate at their base to direct the stereo sound. To switch CD tracks, Zuntaras must lift the lid of the cabinet and flip an iron lever.

Though these appropriations are distinct to the individuals who created them, they exhibit similarities in style. The use of warm materials that age well such as wood, brass, and leather, versus modern chrome, critique the design of current digital artifacts. By changing the aesthetics, the makers have altered the interaction without harming the function. The makers utilized their existing knowledge to alter devices that seemed complete, without the assurance their experimentation would work, but for the creative

Utilize
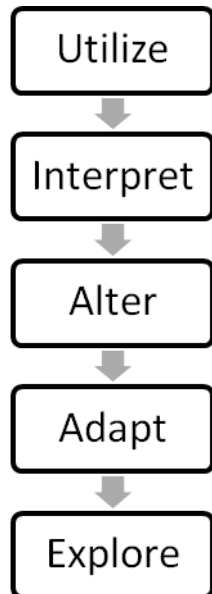
↓

Interpret

↓

Alter

↓

Adapt

↓

Explore

Figure 6: Summary diagram of the Appropriation-Identity Design Guidelines

satisfaction of the attempt. These insights inform the construction of our appropriation-identity guidelines.

Appropriation-Identity Design Guidelines

Based on our analysis of Steampunk appropriations, magazine articles, blog posts, and artist galleries, we propose a preliminary set of five appropriation-identity design guidelines. We believe the design of empowering products must enable users to adapt products to reflect their values and meet their needs. We encourage interaction designers to allow users to do the following:

Utilize their existing knowledge. By acknowledging and using their existing knowledge, the appropriation will better represent the user's existing personal identity.

Interpret the artifact's function. It is the ability to separate the function of the artifact from its form that allows such appropriations.

Alter the artifact's interaction. When interpreting function separately from the form, the interaction to accomplish use of the artifact can be altered to suit the individual.

Adapt the artifact's aesthetics. With the interaction altered and the function undisturbed, this frees the ability to adapt the aesthetics of the artifact to reflect the maker's personal identity.

Explore their creative freedom. It is when we are creative that we feel most able to reflect who we are. Only in allowing the maker to be creative will the appropriation reflect their personal identity.

The designer of the product must keep these actions in mind to empower the user to become a *maker*.

Conclusion and Future Work

The notion of appropriation as an act of crafting, hacking, and DIY is a growing interest in HCI. In this paper, we articulate the relationship between appropriation and personal identity by presenting examples of our Steampunk artifact analysis. We propose design guidelines based on preliminary data analysis. In future work, we plan to conduct extensive user research, including interviewing and observing Steampunk artists, inventors, scholars, etc, in order to (1) gain further insight into the act of appropriation and its relation to personal identity, and (2) validate and enhance the design guidelines outlined. We hope the appropriation-identity design guidelines inform the design of products which resonate with users' values and needs while fostering creative freedom.

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