Gendered Artifacts and User Agency

Andrea Marshall  
Drexel University  
am3432@drexel.edu

Jennifer Rode  
Drexel University  
jar394@drexel.edu

Abstract

In this poster we investigate the tension between feminist design ideals and issues of usability with regard to smart closets. Technological artifacts are inscribed with cultural attitudes toward gender, and in turn they can be used to reinforce societal conceptions of gender to users. We propose that smart closets, such as ClosetClique, our user prototype interface, present an opportunity to recognize gender as an integral part of design, in order to further realize feminist design goals and to more fully examine female user experience(s). Additionally, our discussion of usability offers an explicit way to explore how female users react to smart closets as gendered technological artifacts, thereby revealing that everyday contexts of use explicitly contribute to the creation of feminine sociotechnical identities.

Keywords: gender, feminist HCI, usability, participatory design

Introduction

Ubiquitous computing is increasingly capturing the attention of popular culture, as well as designers and researchers. Smart closets are technological artifacts that reflect this scholarly interest. Smart closets are technological systems with user interfaces that allow users to manage their clothing selection and perform wardrobe maintenance (Marshall and Rode 2012). Additionally, current scholarly literature within ubiquitous computing has discussed smart closets as recommender systems that can assist users with sartorial choices (Rode et al. 2012). We propose that our prototype user interface ClosetClique can expand the sartorial choices of female users. ClosetClique possesses functionalities that support female users’ agency with regard to their wardrobe selections. Our prior ethnographic research with regard to smart closets has suggested that engaging female users in the process of participatory design supports feminist design goals (Rode 2011; Rode et al. 2012). However, our research has revealed a design challenge: We examine how we can create technological artifacts that both incorporate feminist ideals and support functionalities that are influenced by concerns of usability.

There are multiple ways gender is embedded into the design of technological artifacts, which in turn reflects the social realities of various gendered identities. Harding discusses three understandings of gender: individual gender (the gender identity of a single person), gender structure (the division of labor between genders) and gender symbolism (the association of gender with characteristics other than the individual or the division of labor (Harding 1986). Rode (2011) further proposes that there is an explicit need for sociotechnical theoretical work to be performed within gender and HCI. While we each have our own gender identity, gender structure and gender symbolism act in concert as normative influences on the way we understand gender in daily life. Furthermore, the categories of masculine and feminine are socially and culturally constructed (Butler 2006; Calasibetta and Tortora, 2003; Rode et al. 2012). While each individual has her own gendered identity, socially endorsed gender categories affect how people perceive themselves as gendered bodies.

Gender is often considered to be an invisible element of design since technology is often traditionally construed as masculine (Rode 2010; Rode 2011); this viewpoint has the potential to alienate female users. One way to counteract this is through the careful scrutiny of feminine social practices embedded within smart closet technology (Marshall & Rode 2012); this requires an acknowledgement.

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that social values and cultural practices are inscribed into the designs of technological infrastructures (Star 1999). Understanding gender symbolism is a critical component of understanding how technological artifacts contribute to construction of gendered sociotechnical identities (Berg & Lie 1995; Rode 2005; Rode 2010; Rode et al. 2012). Furthermore, Berg and Lie (1995) contend that “artifacts do have gender and gender politics in the sense that they are designed and used in gendered contexts”. This supports Harding’s (1986) assertion regarding symbolic gender. Technological artifacts are situated in gendered environments. The assumptions present within these environments contribute to the understanding of masculinity and femininity through the gendered assumptions both incorporated into the design of the infrastructure and the contexts of use (Berg & Lie 1995; Marshall & Rode 2012; Rode 2011; Rode et al. 2012). Gender is culturally inscribed onto technological artifacts and reflects the values of the designers as well as the users. Since technological artifacts are “social constructs, artifacts are reservoirs of information on socio-cultural patterns but also on possibilities for change within these patterns” (Berg & Lie 1995). User experiences ascribe gender traits onto technological artifacts and reify the gendered assumptions ingrained into the design of these artifacts. Participatory design is one way to ensure that feminist goals could potentially have realizable outcomes for the building of technological artifacts such as the smart closet.

**Sartorial Choices and Symbolic Gender**

We have observed in our prior ethnographic research that women’s clothing selections are extremely personal (Rode et al. 2012); therefore, participatory design is one method of pursuing feminist goals in the construction of technological artifacts such as smart closets. Participatory design is intensely collaborative (Bardzell 2010; Rode 2011; Rode et al. 2012), which can also address concerns of usability with regard to smart closets. We suggest that needs validation testing as a participatory design method (Rode et al. 2012) is especially crucial to understanding how the functionalities of the smart closet interact with feminine contexts of use (Marshall & Rode 2012). These contexts of use in turn engage directly with feminist design goals that seek to draw attention to gender as a visible component within technological artifacts and systems. Furthermore, because these contexts of use have been disclosed via our prior ethnographic research (Marshall & Rode 2012; Rode 2011), they identify the smart closet as a site of technical negotiation between gender identity (users) and gender functionality (designers). This in turn reveals the smart closet as an active agent that assists female users in constructing their gendered selves, rather than a passive artifact or a dictatorial recommender system, the latter of which users actually dislike (Rode 2011). This collaborative process realizes feminist ideals for design whilst supporting feminine values through functionalities, such as sharing with friends and crowdsourcing through social networks connected to the prototype user interface (Marshall and Rode 2012; Rode 2011).

The symbolic gendering of artifacts occurs in conjunction with user experiences that enact gendered contexts of use (Poon 2009; Robertson 2000; Rode 2011; Rode et al. 2012; Star 1999). Our prior work suggests that young women users of our ClosetClique interface constructed gendered sociotechnical identities within familiar contexts of use (Rode et al. 2012; Star 1999). The young women users we researched in our speed dating study used our smart closet as a mediator between their sartorial choices and the construction of their gendered sociotechnical identities (Marshall & Rode 2012; Poon 2009; Rode et al. 2012). Our user scenarios emphasize that the smart closet is fully integrated into the lived realities of female users; the ClosetClique user interface functions as a nonhuman social actor that translates the private sartorial decisions of users into the performed gender identities in the public sphere (Butler 2006; Poon 2009; Rode et al. 2012).

Our fourth ClosetClique user scenario displayed below (Rode et al. 2012) shows the user Lena engaging in a sartorial decision; she is attempting to construct a gendered self for the workplace. Her smart closet becomes an active agent in this process; it utilizes visual and auditory feedback of prior occasions she has worn the dress. This triggers pleasant memories for Lena and her confidence is directly linked to this clothing choice. This particular scenario also showcases an interaction between the smart closet and the female user that results in the construction of a gendered self; this transition from the privacy of Lena’s bedroom to the public sphere of her workplace emphasizes the smart closet’s relevance as a nonhuman actor in this process.

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Our goals for future work aspire to understanding users’ experiences that we have identified in our prior work (Marshall & Rode 2012; Rode et al. 2012). Less articulation work might be the result of realized understanding users’ experiences that we have identified in our prior work (Marshall & Rode 2012; Rode et al. 2012). Our goals for future work aspire to speak directly to users’ needs through the ethnographic analyses of

Gendered Artifacts and Identity Construction

As designers, we can attempt to socially construct the symbolic gender of technological artifacts; however, we must be mindful of binary gender norms while doing so (Butler 2006). Judith Butler (2006) argues that gender roles are treated in a binary manner and that sexualities are linked to physical bodies; these strict interpretations are insufficient for the complex gender identities that actually exist in lived realities. Technological artifacts can contribute in turn to social constructions of gender, and may disrupt or damage a user when s/he must perform articulation work regarding her gender (Robertson 2000). Technology designers are faced with the difficult task of addressing the way their designs interact with their users in light of the interplay between gender and technology. Since the social construction of gender is an element embedded into the design of technological artifacts, participatory design is one method by which feminist ideals might be realized and binary gender roles could be defied, in favor of users’ own self perceptions of gender.

Prior work on smart closets suggest that clothing practices are integrated into the social structures of nurturing and support, which are traditionally feminine values (Chia 2009; Dutcher 2009; Picken 1957; Rode 2010; Star 1999). Additionally, technological artifacts can influence the individual gender of users, but might also be symbolically gendered themselves. When we develop these artifacts, we have a responsibility to ensure that we avoid instantiating static gender roles or identities into our designs (Mainwaring, Chang & Anderson 2004). We need to fully recognize that users can fully reveal areas we might pay attention to in these circumstances. We also need to acknowledge that when users perform extended articulation work in order to accommodate smart closets that dictate gendered sartorial choices (Rode et al. 2012) the results are recommender systems that do not function as feminist technological artifacts.

We must also consider the tension between the support of usability and the reinforcement of conventional gender roles. Since feminine values can run the risk of reflecting conventional social attitudes, discussions about usability can disclose possible solutions to these essentialist views of gender (Rode 2011). We have explored this concept in our prior ethnographic work and through our user scenarios (Rode et al 2012). Furthermore, binary gender is needed to begin categorical examination of why women might be alienated from technologies conventionally perceived to be masculine (Rode 2011). It is important to note how the smart closet is an opportunity for critical design, and as designers we utilize gender as an element of design, but with the understanding that user experiences reflect the societal attitudes embedded within the infrastructures of technological artifacts (Rode 2011; Rode et al. 2012; Star 1999).

Implications for Future Work

It is a challenge of critical design that we empower users and avoid implementing our own values in our designs. We hope to implement participatory design as a method of empowerment by speaking with potential end users as we construct the smart closet, as we have attempted to apply in our prior research (Rode et al., 2012). The act of design in this instance is collaborative, and usability testing also helps to realize this cooperative goal. Less articulation work might be the result of realized understanding users’ experiences that we have identified in our prior work (Marshall & Rode 2012; Rode et al. 2012). Our goals for future work aspire to speak directly to users’ needs through the ethnographic analyses of
their lived experiences with technological artifacts. This will allow us to expand the potential of the smart closet as a feminist technological artifact.

Smart closet technologies present an exciting change to combine feminist design goals with participatory design practices. A feminist approach could help us understand more about how gender identities are influenced by technological artifacts, and give us the capacity to create technological systems that support contexts of use revealed by the users themselves through participatory design. This would allow us to support the diverse, subtle and vibrant gender identities that reflect the lived realities of smart closet users.

References


