

Learning from IKEA Hacking: “I’m Not One to Decoupage a Tabletop and Call It a Day.”

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ABSTRACT

We present a qualitative study based on interviews with nine IKEA Hackers — people who go online to share the process of repurposing IKEA products to create personalized objects. Whether they were making a self-conscious artistic statement or simply modifying a towel rack to fit in a small bathroom, IKEA hackers illuminate an emergent practice that provides insights into contemporary changes in creativity. We discuss the motivations for IKEA hacking and explore the impact of information technology on do-it-yourself culture, design, and HCI.

Author Keywords

DIY, Creative Tools, IKEA, design

ACM Classification Keywords

D.2.2 [Software Engineering]: Design Tools and Techniques — User interfaces. H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION

A chair stretched to become a bench; a set of plastic bowls made into a spherical speaker; a vibrator made from plastic shoe trees and a milk frother—all hacked together in a bit of spare time with few products from the nearest IKEA, with step-by-step directions self-published on the internet (see video “BLOCKSTAR.”¹) IKEA hacking reflects an increasingly popular interest in tinkering and customization, one that is supported by an online community of how-to resources, blogs, and web forums such as IKEA Hacker.com and Instructables.com as well as major design exhibitions².

This paper presents a study of IKEA hacking as a window into a larger community of Do-It-Yourself (DIY) practitioners. This paper is not meant as an exhaustive study of a phenomenon. Rather, it is a provocation for a new way of thinking about the intersection between online culture

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Figure 1. The GYNEA Chair by Sander von Bussel, photograph Leo Veger, part of IKEA Hacking Exposition organized by Amsterdam’s Platform 21.

and the material world of creative practitioners. We discuss how people use online resources to transform material artifacts and how creativity and identity are transforming through the merging of online and material culture.

Researchers have studied the creative appropriation of technology [6,8] and opportunities for design [5,15,16] in the home. Other research has investigated the design of tools that support craft and creative prototyping [see 13 and 2 for examples]. But little research has explored the role of the web in supporting everyday creative practices of individuals other than [16]. We extend the work of [16,16] by exploring not only the motivations for creative customization in the home, but also the online and offline practices that support IKEA hacking.

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² IKEA hacking has been exhibited at Platform21 and Design MADE 2008.

METHOD

Because IKEA hacking is an emergent practice, we wanted to describe IKEA hacking using the terms of the people who do it, rather than by imposing a preconceived frame of analysis on our interviews. Therefore, we conducted interviews and analyzed our transcripts using the principles of semantic ethnography as outlined in [14]. Our domain and taxonomic analyses found three emergent themes: 1) identity and creativity, 2) technology, and 3) hacking. During the interviews we asked participants open-ended questions. We asked them to explain IKEA hacking and to speculate about its larger meaning. We also discussed their motivations for creating particular projects (e.g., why they chose to work with materials from IKEA, how they came up with their idea, why they posted the project online) as well as how they used online resources (such as instructables.com or ikeahacking.com).

IKEA is a multi-national corporation and, correspondingly, the IKEA hackers we interviewed were located around the world. We offered the option of an interview by email, telephone, or instant messenger (IM). All but one of our participants chose to be interviewed over IM. This format worked well for our purposes because it allowed the participants to direct us to websites, images, videos, and blogs that came up in conversation.

We conducted nine one to two hour IM semi-structured interviews with IKEA hackers. Participants ranged in age from late twenties to mid-40s. Two participants were female. Participants worked in a range of occupations including creative professional, artist, and computer programmer. Several participants responded to a call for participants we posted on web forums popular with IKEA hackers. We also emailed several individuals directly with a request to participate in our research.

WHY HACK IKEA?

IKEA hackers contrast the satisfaction in the ease of tinkering with physical objects to creative projects that require only the manipulation of a computer interface. One participant, who worked as a DJ, explained that not only is the design process satisfying, but “the actual act of it is pretty satisfying too—the measuring, the cutting... there is definitely an added dimension of satisfaction if there is no template.” Another participant suggested he views the creative work involved with IKEA hacking as distinct from the challenges of his job. “I’m not a ‘real’ builder, I’m a web designer,” he reported. This sense of haptic satisfaction was significant in our interviews.

While IKEA hackers are inspired by the design aesthetic of IKEA furniture, others gain inspiration from the packaging and assembly instructions that come along with the product. “All the packaging is so smart—also [the instructions for] how to connect everything.” IKEA instructions have caught the eye of those in the CHI community before (e.g., [1]). One hacker’s video—which plays on the aesthetic of IKEA assembly instructions to create a massive bookcase

reminiscent of a housing block—is a particularly poetic example of IKEA hackers’ contentious relationship with mass production (see video “Construction Manual – II”³). The creator of the videos explained them first as an aesthetic appreciation of technical drawing, saying his “interest was mostly in the look and feel of the manuals. I felt I needed to reward the audience for watching them through with a small joke.” When asked to elaborate, he said, “IKEA furniture is in almost every house on the planet. It’s such a big part of our environment it could just as well be made from it entirely.” Beneath the participants’ aesthetic appreciation of IKEA products lies a critique of IKEA’s pervasive reach into everyday life.

The standardization of IKEA products, rather than a creative constraint, is seen as a benefit to communication and sharing. An IKEA hacker interviewed for a newspaper article [9] explained that the store was a source of “raw materials” for projects. Indeed, one of our participants noted that IKEA hacking is enabled by “having all the same parts” available across most of the developed world. As a participant explained, being inexpensive means IKEA products are not thought of as “precious,” so it’s psychologically and financially easier to tinker with them.

Rethinking “hacking” and “hacker”

The meaning of *hacking* changes when it is transformed from the realm of digital computing to the material world. As one participant explains, “code hacking is, from my understanding, about taking advantage of the weaknesses of software & code. IKEA hacking is about playing upon the strengths of a piece (or pieces).” Another participant put it this way: “To me,” IKEA hacking means you “take something ‘off the shelf’, alter it to fit your needs - to be more ‘personal,’ to make a statement, to improve it better than mass marketing could... I love it conceptually and on a practical level.” There is also an element of the idiosyncratic. Another participant noted, “if it went through a traditional product design process, the form that I ended up with would never have made it to production.” However, the same participant notes that the creative process of hacking is important. “IKEA eventually made a table-based version of the lamp” the participant had hacked, “but it was sterile and didn’t represent anything I saw in the potential of re-purposing the hanging version.”

Participants also discussed how creativity and ingenuity became criteria for a hack. A participant who posted his hacked IKEA cabinets online reported that although he had shown friends how to frame a door or replace a drain, he hadn’t bothered making an online how-to. This, he explained, was because the information was already “out there” and easy to find. Unlike other DIY sites where one might find, say, several ways to fix a leaking toilet, IKEA

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hacking is required to be innovative or original at some level; if the information already exists, it is not a hack.

Participants often discussed the potential of “hacking” as it relates to aesthetic and functional design. “I liked the idea that ‘hacking’ could be more than just ‘I made a cool lampshade.’ I like the idea that people who ‘hack’ are being creative, have some obsession with it, and are also sharing that.” Another participant downplays some of the “hacks” that involve simply painting or pasting on top of an IKEA product. “I don't like having to hack something for aesthetics because I enjoy the clean, simple IKEA design. I'm not one to decoupage a tabletop and call it a day.” This participant defines hacks as “purposefully designed and intriguingly unique.” And another participant distinguishes between “hacking purpose—using a wire basket intended for the bathroom as a sponge and scrubber holder for the kitchen,” and hacking function, by “cutting up and rebuilding something.”

As hacking is a performance closely related to creativity and individual identity, gender also plays a role in hacking. While we found that most IKEA hackers are men, it would not be accurate to call this a male activity. In fact, some IKEA hackers see the marketing and merchandising of IKEA products as strangely free of gender and references to sex. Several of the hacks done by artists engage with this idea, such as the GYNEA chair (see Figure 1) and the “IKEA Love Toy” vibrator⁴. One participant asserted that “hacking is not really connected to gender,” even though he recalled that 16 of the 20 entrants in an IKEA hacking exhibit were men⁵. The *audience*, he noted, was split roughly equally between men and women. One female participant categorized the hacking audience into three groups: “1) the people who are amused by your work and don't understand it; they're the audience, 2) the people who are technical and want to know the details — colleagues, nerds, peers; 3) crazy people and fanatic geeks.” Although more research is necessary to understand differences in hacking techniques employed by males and females (exhibited in end-user programming [3]), both genders engage in IKEA hacking in order to express creativity.

EXPRESSING CREATIVE IDENTITY ONLINE

IKEA hacking is partially an appropriation of the cultural meaning of IKEA [see 9 and 12]. One participant said that IKEA had “no style,” explaining when pressed that “there's style but style is lost when too many people buy the same brand,” and others seem to like the ironic idea of using IKEA products in unintended ways. One found motivation “partly in the re-purposing of something. Using a ‘tool’ to have fun has a nice cathartic aspect to it. Having that sort of

rowdy, loud, slightly anarchic activity be combined with creativity and engineering... that fits me.”

IKEA hacking can also be a way to get noticed online; one participant indicated that the free T-shirt he won for the popular Instructables post he created motivated him. But others report a more intrinsic motivation. Another participant explained, “in my 20's, creativity for me was likely a way to get noticed, be seen in a positive light - now it's just sort of an obsession. I like the feeling of ‘this is here now and beautiful, whereas before there was nothing, or just a pile of lumber.’ It's the sense of creation. We can't all write novels that explain the meaning of life, but lots of us like to ‘make stuff.’”

Participants spoke of expressing creativity as an aspect of their personality, and this is especially resonant because most of the IKEA hacks we saw are intended for a practical use in the home (see [7]). One respondent, who started hacking IKEA cabinets after he was divorced, said the kitchen he created symbolized his love and affection for his children. Echoing Belk [3], another participant explained: “I believe that I might as well have a relationship with the items with which I surround myself.” He goes on to note, “once you modify something, you personalize it. And I mean ‘personalize’ in a rather true sense. It's no longer the creation of some ‘other,’ but of one's self.”



Figure 2. A common site for IKEA hacking: a residential kitchen. IKEA cabinets are “hacked” through modifications or the addition of custom components. One participant blogged his kitchen remodeling project.

Negotiating Individual Identity and Online Community

This sense of selfhood is complemented by the sense of belonging in a community, even if the IKEA hacker does not report knowing other IKEA hackers in person. As one respondent explained, “I don't know many people... er, anyone... that likes doing this kind of work. So, it's great that there's an online space to see how other people are utilizing the pieces.”

Communing with other creative people seems to draw people to the IKEA hacking site. A participant explained

⁴ IKEA Love Toy Vibrator

<http://geektechnique.org/projectlab/858/ikea-love-toy>

⁵ Platform21 Exhibit <http://www.platform21.nl>

that he liked to visit to see what others were “‘doing’... the energy itself helps keep my own energy up, and I know I have that effect on them.” For others, sharing is difficult. “I’m still scared of people stealing my ideas,” said a participant. “For a long time I avoided getting my work online but if I don’t show it, no one knows what I’ve done.” IKEA hackers’ need to share often overrides a fear of individuality-robbing copycats.

CONCLUSIONS AND FUTURE WORK

In the spirit of previous HCI research [10], we argue that new creative tools should celebrate skilled, creative reuse and customization in order to empower the next generation of creative tinkering. From our research, IKEA hacking seems to be an individualistic pursuit, but it paradoxically requires that information be shared online. One respondent termed this “non-concurrent collaboration,” noting that he was motivated to post his hacks on Instructables and IKEA Hacker “because I love the idea of collaboration, even if it’s not on the same project at the same time.” Therefore, we propose one way forward for those interested in collaborative design is to create tools that support the *performance* of collaborative values in addition to collaboration itself.

Our experiences with IKEA hackers provide fascinating insights into the quickly shrinking division between the online world of bits and the material world of everyday stuff. We found that people are using ideas based in online culture to transform physical artifacts in three ways. First, we saw the application of metaphors and procedures associated with the online world to the material world: furniture can be “hacked,” the environment can be “programmed.” Second, we saw people using online tools to facilitate manipulations of material artifacts; we saw how DIY culture is moving the workshop from the garage to the web forum. Third, we noted a changing sense of creativity and identity. How can we support new models of collaborative design and design tools that incorporate creative thinking and tinkering? IKEA hacking points to the need for a more critical engagement with DIY culture and further reflection on the impact of online communities on identity and creativity.

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REFERENCES

1. Agrawala, M., Phan, D., Heiser, J., Haymaker, J., Klingner, J., Hanrahan, P., and Tversky, B. Designing Effective Step-By-Step Assembly Instructions. In SIGGRAPH 2003, July 2003, 828-837.
2. Ballagas, R., Memon, F., Reiners, R., and Borchers, J., iStuff Mobile: Rapidly Prototyping New Mobile Phone Interfaces for Ubiquitous Computing. In: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, San Jose, CA, USA, 2007, ACM Press, 1107-1116.
3. Beckwith, L., Kissinger, C., Burnett, B., Wiedenbeck, S., Lawrance, J., Blackwell, A. and Cook, C. 2006. Tinkering and gender in end-user programmers' debugging. Proc. CHI'06, pp. 231-240.
4. Belk, R. Possessions and the Extended Self (1988). In The Journal of Consumer Research 15, no. 2, 139-168.
5. Blythe, M. and Monk, A., "Notes towards an ethnography of domestic technology," in Proceedings of the conference on Designing interactive systems: processes, practices, methods, and techniques, (2002), ACM Press, 277-281.
6. Boer, C. and Dulio, S. Mass Customization and Footwear: Myth, Salvation or Reality?: A Comprehensive Analysis of the Adoption of the Mass Customization Paradigm in Footwear. Springer-Verlag, London, 2007. Probes, Interactions, ACM Press, 1999.
7. Csikszentmihalyi, M., and Rochberg-Halton, E. The Meaning of Things: Domestic Symbols and the Self. Cambridge University Press, 2002.
8. Forlizzi, J. How robotic products become social products: an ethnographic study of cleaning in the home. Proceedings of HRI 2007, ACM Press, 2007. Remaking the Way we Make Things. New York: North Point Press, 2002.
9. Green, Penelope. Romancing the Flat Pack: IKEA, Repurposed (2007). The New York Times, 6 September.
10. Grimes, A., Harper, R. (2008). "Celebratory Technology: New Directions for Food Research in HCI", Proc. of CHI 2008, Florence, IT.
11. Harrop, Patrick. Open Sourcery: When Hacker Culture Informs the Design Studio (2007), Journal of Architectural Education, Association of Collegiate Schools of Architecture, 69-72.
12. Ritson, M., Elliot, R., and Eccles, S. Reframing IKEA: Commodity-Signs, Consumer Creativity, and the Social/Self Dialectic (1996). In Advances in Consumer Research 23, 127-131.
13. Rosner, D. K. and Ryokai, K. 2008. Spyn: Augmenting Knitting to Support Storytelling and Reflection. UbiComp '08, 340-349.
14. Spradley, J. P., The Ethnographic Interview. Holt, Rinehart and Winston, New York, 1979.
15. Taylor, A.S. and Swan, L., "Artful systems in the home," in Proc. CHI 2005, (2005), 641-650.
16. Torrey, C., D. W. McDonald, B. N. Schilit and S. Bly. (2007) How-To Pages: Informal Systems of Expertise Sharing. Proceedings of the Tenth European Conference on Computer Supported Cooperative Work (ECSCW 2007). Springer. 391-410.
17. Wakkary, R., Maestri, L., The Resourcefulness of Everyday Design (2007), Creativity and Cognition 2007, Washington, D.C., 163-172.