Big Lampan Lamps: Designing For DIY

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ABSTRACT

I present a design of repurposed IKEA lamp that was shared on a DIY website and became popular. Based on the considerations that went into the design and the online discussion on the community website, I discuss requirements for "designing for DIY" as a new design approach to serve the tip of the long tail of design.

Author Keywords

DIY, IKEA, dodecahedron.

ACM Classification Keywords

D.2.2 [Software Engineering]: Design Tools and Techniques

General Terms

Design.

INTRODUCTION

Everyday creativity and do it yourself (DIY) design is served by online communities such as MakeZine and Instructables [1]. In contrast to arts and crafts magazines, people who are typically not trained as designers create the designs on these websites. The popularity of these websites show that people have a desire for building things themselves rather than buying readymade items, in addition to a need for sharing and discussing their designs with others. DIY design has always been around, however it became lost in the western society due to inexpensive, mass-produced products as manufactured by global corporations such as IKEA.

The revival of consumer choice in mass customization has brought back personalized products but only to a limited extent: mostly discrete choices in selecting colors of some parts of sneakers, or features or configurations in products like cars and furniture. In consumer electronics, some manufactures allow users to upload 2D graphics to design the skin of their product. Personalizing shape with a similar degree of freedom however is still a relatively untouched area that is currently being explored by companies offering 3D printing and laser cutting services. Some of these companies try to establish communities of makers that share and potentially sell their designs to others.

Sharing DIY designs online essentially means designing for

makers and, thereby, has unique properties when compared to traditional product design (designing for users) or co-design (designing with users). In this paper I explore the design requirements of "Designing for DIY" (designing by users) by reflecting on an "IKEA hacking" weekend project that I shared online.

Figure 1. The Big Lampan Lamp is a large spherical lamp build out of smaller IKEA Lampan lamps forming a dodecahedron. The lamp was built as a weekend IKEA hacking project and shared online. The photo was posted by user svelasco on the Instructables website.

THE BIG LAMPAN LAMP

IKEA products are a welcome source material for DIY design [2,3]. Since IKEA products are optimized for logistics, many of their products require assembly before use and that practically invites people to personalize them. The parts tend to be easily combinable to create new configurations, have furniture quality finishes and aesthetics, and require fewer tools and skills than building products from raw materials (metals and woods). IKEA stores are virtually everywhere, making the source materials globally available.

The lamp "Lampan" is an inexpensive small table lamp from IKEA. The author was in need of a large hanging lamp and conceived the idea to build a spherical lamp out of these small lamps.

A large spherical lamp can be built in many ways, but building it comes down to distributing multiple "Lampan" over the surface of a sphere. Platonic solids are convex polyhedrons, which approximate a sphere using congruent, regular polygons. The use of platonic solids resulted in a regular distribution and easy to construct lamps. A dodecahedron (twelve five sided polygons) was chosen for the initial design. The five sided polygons approximate the circular base of the Lampan better than the three or four sided polygons found in other platonic solids.

To minimize the complexity of the design, the Lampan maintain shape themselves with rigid connections of holes and cable ties (Figure 2). The electrical wires were stripped and connected together using "butt splices" to share a single power plug. The manufacturing steps of the resulting design were photographed, written in six steps, and then posted on the Instructables website.
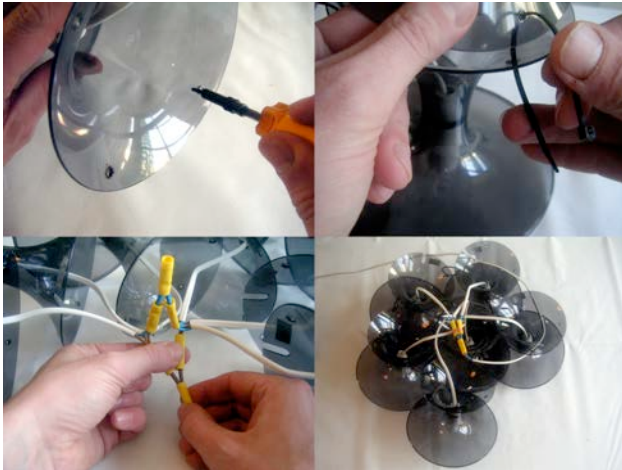

Figure 2. Photos excerpted out of the online manual as posted on the Instructables website. Cable ties, threaded through drilled or melted holes, connect the lamps.

The design was featured within a few hours, and in the following months I received about 40 pictures of people proudly showing off their own big Lampan lamps.

The design has since then appeared on several blogs, books, and has taken part in the IKEA hacking exhibition of platform21 [4]. The author has also given a few invited workshops on making the lamps, where participants came up with new configurations and experimented with various color schemes.

DISCUSSION

Participating in the online discussion helped me to see what problems people encountered and helped to improve the instructions. On the one hand, when compared to open source software and projects such as Wikipedia, the DIY design community will eventually need revision systems, quality control and mechanisms to fork and build upon existing designs. On the other hand, sharing DIY design projects is similar to sharing food recipes, in inviting users to adapt designs personally with the aim of creating a single object. However, DIY design generally consumes more time and money than a cooking a dish.

Designing this lamp and compiling the instructions, workshops and online discussions on made me reflect on the (initial) requirements for "designing for DIY":

1. **Getting to know your users as makers**. Apart from designing a functional, usable product, the users also have to manufacture the product themselves.

2. **Provide confidence.** The user should gain enough confidence to modify products and, thereby, void the warranty and potentially destroy their functional products.

3. **Make clear instructions.** [1] During the few workshops I gave, I had the opportunity to interact and observe makers. I noticed that people encountered difficulties that I could never have imagined, which made me update the instructions.

4. **Check Availability of materials and tools**. Though IKEA products are globally available, what are for instance globally available adhesive methods ?

5. **Take responsibility.** Can you expect that people wire the electricity in a safe way? A few questions in the online discussion made me realize the differences in wiring worldwide and the potential dangers of unsafe wiring.

REFERENCES
1. Buechley, L., Paulos, E., Rosner, D., Williams, A. (2009). DIY FOR CHI: Methods, Communities, and Values of Reuse and Customization. In Ext. Abs. of CHI '09. ACM press, New York, NY

2. Diana. C. (2008) How I Learned to Stop Worrying and Love the Hackers. *Interactions* 15,2 (March 2008), 46-49

3. Green, P. Romancing the Flat Pack: IKEA Repurposed (2007). The New York Times, 6 September.

4. Rosner, D., Bean, J. (2009) Learning from IKEA Hacking: "I'm Not One to Decoupager a Tabletop and Call It a Day.". In Proc. CHI '09, 419-422.