

DIY Charms, Amulets and Totems: Liminal Rites with Arduino and OSHW (Open Source Hardware) supporting Health and Wellbeing

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ABSTRACT

We would like to introduce a workshop, which uses the concept of liminality (Turner, 1969, 1982), rites of passage and magical objects (Barr et al., 2000; Hill, 2007; Landzelius, 2001) as ways of approaching hardware prototyping with OSHW and Arduino. Prototyping and making are forms of rituals through which participants personalize, experiment with and interpret the world around them to create their own, unique interactions with objects, environments and other people. Current technological approaches often disregard the connections children have with imaginary worlds and friends and disregard this magic consciousness as superstition, which interferes with the world of facts. Our workshop will combine both culturally situated symbols related to traditional artisan techniques and indigenous cultures and hardware in order to allow children and young adults to switch between real and imaginary worlds and design by interacting with hardware prototyping environments. Our development process is based on an iterative didactic design approach developed by Wagne, and it is following three primary principles of game play: freedom to learn from errors, freedom to experiment, and freedom to make an effort (Osterweil, Austin, Drzaic, & Roy, 2006).

Author Keywords

Liminality, Arduino, OSHW, making, animism, amulets, rites

ACM Classification Keywords

H.5.2 User Interfaces: prototyping

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CHI '12, May 5–10, 2012, Austin, Texas, USA.

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General Terms

Human Factors; Design;

INTRODUCTION

The popularity of Harry Potter, SF, and similar genres show the importance magic plays in the life of children and young adults. This animistic worldview we have in our childhood is usually lost when we become teenagers and often transformed into cynicism. However, the interest in the hidden, forbidden and taboo type of experiences and abject objects remain and often leads to dangerous experiments and various forms of rebellion. The industrial and post-industrial societies simply lack efficient liminal rituals, which help their members to deal with these periods of transition and searching.

We would like to introduce the prototyping platforms based on OSHW as tools for enabling such liminal experiences and as means of empowering young adults to make and personalize tools from their everyday life. We think that OSHW is an ideal platform through which they can explore their various fantasies and ideas but also appreciate traditional artisan techniques, through which amulets, charms and religious objects were made, and to connect and interpret indigenous cultures. The DIY, maker workshops are forms of rituals through which participants will explore the fears, fantasies and issues from their everyday life and create simple amulets or Arduino based charms and collective totems to deal with them. The materialization of fears and anxieties through such DIY objects or simple curiosity driven research into sensors and creation of fun objects inspired by works, such as Harry Potter, can support health and wellbeing.

OSHW RITUALS, CHARMS AND AMULETS

With this workshop we would like to introduce our research into OSHW as a prototyping platform, which connects indigenous design practices and rituals with present day

concerns and needs. Indigenous cultures and their various rituals of liminality offer a model, which we want employ in our OSHW and DIY workshops, where people introduce agency and sensing into a “dead” matter – hardware. These creative appropriations of hardware transform consumers and victims of the present consumer culture into makers and tinkerers. Creating personal objects with “magic qualities” of sensing and computing in this DIY style workshops with Arduino and similar platforms is an ideal environment has a therapeutic as well as creative function. The final prototype and object can be mischievous, serious, dark, and useful, it helps people express their fantasies through hacking tools and toys, which they use in everyday life.

The participatory format of the workshop will explore the persuasive potential of such magic OSHW and its possibilities for emotional design. The domains, in which we want to apply this approach, are citizen science projects (environmental monitoring), Quantified Self approaches to monitoring body data, Critical Design and Design Noir. The interest in the hidden data about our body and the environment creates an opportunity for creative interventions, which combine our need for magic with scientific curiosity and deep emotional needs to create tools of protection and dealing with fears and insecurities.

INSPIRATION: HUMANITARIAN HARDWARE AND DIY GEIGER COUNTERS

We observed the importance of OSHW as a tool of creating such magical protection in Japan after the Fukushima Daichii disaster. Bringing open source lamps to the people in the affected areas was not a purely utilitarian task but more an attempt to bring a feeling of safety after trauma, to give a feeling of control over the circumstances. It is an

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example of such magical function of the hardware, which is even more obvious in the case of the DIY Geiger counters. Like indigenous culture fetishes, these objects have almost a ‘magical power’ to provide comfort in times of uncertainty. People monitoring radiation around their houses and neighborhood are aware that they are not protected from the physical effects of radiation but at least psychologically and mentally they feel protected from the uncertainty and chaos and hold onto the hope they can manage and improve their circumstances. The DIY radiation monitoring devices simply enabled a basic control and comfort, also related to a feeling that people were not alone but had the support of a global community.

CONCLUSION

The ability to create concrete, material tools for dealing with deep seated fears, personal hopes, and emotions can have a therapeutic effect and can serve as a tool for such exploring liminality. DIY open hardware tools are means for creating such power objects that have ability to connect anxiety and hope, symbolic and real power over the circumstances, scientific (objective) data with primal human emotions.

ACKNOWLEDGMENTS

We thank all our collaborators: Andy Holtin from the American University; Washington, Jan Rod from Keio University in Japan, Raid, Yair Reshef from Tel Aviv Hakerspace and many other who are helping us in the present with the workshop and development of the idea

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