
Hacking Creativity: Scrapyard Challenge Workshops

Katherine Moriwaki

Trinity College Dublin
Department of Electronic and
Electrical Engineering
Dublin, Ireland
kaki@kagirine.com

Jonah Brucker-Cohen

Trinity College Dublin
Department of Electronic and
Electrical Engineering
Dublin, Ireland
jonah@coin-operated.com

Abstract

This paper presents the authors' interests as they relate to the intersection between Media Arts practice and HCI. Specifically we discuss the Scrapyard Spectrum of Workshops as an example of how these interests have been integrated into practice.

Keywords

DIY computing, sustainable design, interactive art, musical controllers, wearables, artistic applications, education.

Introduction

Our interest in the topic of New Media Arts and HCI is as practicing artists and designers who utilize creative engagement in our artistic projects as well as in workshops we lead. Specifically we intend to discuss a spectrum of workshops which we have developed which demonstrate an overlap between media arts practice and interaction design. The Scrapyard Spectrum of workshops we have developed use cast-off inexpensive materials and human imagination to transform everyday materials into interactive objects. Within the context of media arts practice the Scrapyard challenge taps into popular culture, hacking, and the do-it-yourself (DIY) community. In regards to HCI, the Scrapyard challenge is informed by burgeoning literature surrounding speculative methodologies and the exploration of material affordances. The end result is an experience and produced artifacts which speak to both artistic expression as well as novel interface design.

Motivations

Our motivations for the Scrapyard Challenge workshops are rooted in the desire to create an open environment of exploration and play. We are interested in environments that encourage engagement and creative empowerment while creating interactive objects. Additionally we are interested in the contested space where art production and interaction design overlap. The methodology exemplified by the Scrapyard Workshops takes inspiration from popular culture, hacking, and DIY culture. At the same time, interaction design researchers have increasingly explored experimental approaches to design, which are relevant to the end goals of our work. [3] We find this tension to be both compelling and exciting as the space between artistic expression with new technologies and the development of novel interfaces and interaction continues to merge.



Figure 1. Helmet Controllers from MIDI Scrapyard Challenge, Newcastle, Australia, 2003

As creative practitioners we position our own works as hybrid art and design artifacts, often using a combination of methodologies. These include iterative and user-centered approaches as well as those that

focus on the intuitive and poetic. In the Scrapyard Spectrum of workshops it is our intent to provide an experience, which experientially evokes our practice without becoming overly rigid or didactic. In this sense the workshop is an extension of our artistic vision which incorporates an irreverent approach to structures and constraints, exploiting not only the use-properties of an object, but also material affordances and found materials.

Workshops

The Scrapyard Spectrum of Workshops encourages participants to create an interactive object out of found or cast-off materials and hobbyist electronics. Iterations of the workshop have focused on musical controllers, wearables, and urban interventions. Depending on the focus on the workshop simple input/output boards or hobbyist electronics kits are provided along with whatever found materials can be acquired locally either recycled from the trash or purchased from thrift stores. Basic electronic concepts such as digital input (switches), analog input (dials and sliders), conductors, insulators and both fixed and variable resistors are explained to the participants along with basic safety issues and precautions that should be observed regarding electricity and soldering. Participants are given the option of working alone or in groups.

At the end of the workshops all projects and participants are gathered and publicly presented. The type of presentation varies depending on the workshop. For the MIDI Scrapyard Challenge this takes place as a presentation of the individual projects and a large collaborative musical jam at the end of the workshop. In the DIY wearable challenge the presentation is combined with a fashion show. The Hacking the Street the presentation includes photographic documentation of the works.



Figure 2. FM Radio Tuner Shirt from DIY Wearable Challenge, Tallin, Estonia, 2004

The Challenges

Each variant of the Scrapyard Challenge shares the same general format, yet differences in the focus and materials in each workshop change according to the needs of the topic.

The MIDI Scrapyard Challenge is the first Scrapyard workshop. Since its creation the MIDI Scrapyard Challenge has been held 13 times in six different countries on three separate continents. In the MIDI Scrapyard Challenge, workshop participants create musical controllers. All materials used are either found on-site, within the city in which the workshop is being held, or brought by the workshop participants. Typically there is collaboration with a local sound artist who coordinates the final performance at the end of the workshop.

The DIY Wearable Challenge follows the same format as the MIDI Scrapyard Challenge, but instead explores wearable technology and fashion. Moving away from a high-tech aesthetic and towards a literal and metaphoric interpretation of “street wear” the DIY wearable challenge uses scrap fabric, hobbyist kits, conductive fabrics and threads to create wearable technology. Old clothes, often recycled or discarded are

provided for participants to take apart and recombine into new garments and accessories. Each participant models and demonstrates their creation.

Hacking the Street differs slightly from the basic format of the MIDI Scrapyard Challenge and the DIY Wearable Challenge. In this case we explicitly ask participants to go out and find materials or objects to bring back into the workshop space in order to change or alter them. Participants ‘locate and transpose’ their environment through observation and mapping the site of their public intervention. Participants eventually “re-install” their created outcome back into the cityscape.

Discussion

As a creative practice, the Scrapyard Challenge workshops capitalize on the ethics and actions of subversive groups. The workshop transmits these values into an open yet structured environment where such experimentation is made safe. The non-judgmental nature of the workshop and the emphasis on process rather than product allows individuals to play the role of a skilled expert whose resourcefulness and ability to creatively re-imagine materials provides its own reward. For novices who have never created a physical computing project or engaged in interaction design, creating a musical instrument out of everyday materials carries a sense of accomplishment and thrill. For the advanced participant, flinging away the “best practices” advocated by a discipline and tinkering for enjoyment provides a welcome creative break from the status quo. In this sense, the Scrapyard Challenge is a creative third place, nourishing collaborative relationships and disciplinary diversity. [5]

Interaction Design

Within interaction design, researchers have shown increasing interest in speculative design methodologies which often utilize strategies of performance, narrative, and art practice in order to explore new domains for human computer interaction. [2] In particular the

practice of in interaction relabelling [1] is pertinent to our work. The Scrapyard Challenge spectrum of workshops explore the properties of material affordances yet focuses primarily on personal expression and creative enjoyment. While interaction relabelling structures activity within the context of mapping an existing functionality onto an incongruous object, the scrapyard challenge tends towards a more open-ended exploration in which participants are asked to allow the material properties of what they are working with to direct their creative actions. Instead of using affordances to increase efficiency and indicate intended use [4] Scrapyard Challenge participants take the vocabulary of the designed object and use it as the context for play.

Conclusion

Within the Scrapyard Challenge environment participants are “performing” as designer and user, engaged in dialogue between materials and necessary invention. We find this tension between role, action, and implementation compelling in that it captures the difficulties inherent in integrating New Media approaches and HCI practice. We have presented the Scrapyard Challenge as an example of one way in which concerns common to both communities have been combined in order to create an engaging creative experience.

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