Black Box Design

A hands-on workshop to design equipment with a magical interface

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Abstract: A workshop exploring the nature of magical interfaces through the use of hands-on modeling and prototyping. The relationship between Design and Magic is presented through examples, some of which have featured in previous Design and Emotion conferences. This is linked to the concept of the Black Box in both industrial design and fine art. A practical exercise will involve creating objects with obscure functions and magical interfaces from which this archetype can be understood in greater depth. The methods in the workshop have applications in areas of art and design education, information mapping, interaction design, project communication and ideation. This is intended to be a stimulating and engaging workshop that develops the potential for unexpected, poetic interfaces in the necessarily unadventurous world of equipment design. No modeling skills are required to register for the workshop. All materials will be provided.

Key words: Workshop, black box, magic, interface, dashboard, design.

The "Black Box" is a widespread archetype in the description of both magic and technological phenomena. It refers to a process so complex (in the case of the technology) or so secret (in the case of magic) that it is required to remain out of sight. Industrial designers struggle with the 'Black Box' label as it describes both the allure and the opacity of the kind of objects that they are often designing for. There is in some ways a need to explain the workings of a device, but at the same time, a desire to conceal all but the most salient features. Whilst designers might endeavour to make the workings, or interaction with technology as transparent as possible, there is a tendency to describe these same workings as somehow magical or impossible to understand. [1]

There is no greater expression of this phenomenon than Mario Bellini's Cuboglass TV for Brionvega, itself a reworking of the ST201 by Richard Sapper and Marco Zanuso. No other product before or since can be regarded as typifying 'black-box' design to quite the same extent. Whilst considered a derogatory metaphor for hi-tech objects that give no clue as to their purpose or function, Zanuso and Sapper's model, in the tradition of Radical Italian Design, takes this notion to an extreme, creating an outlandish object that celebrates the futuristic nature or television at a time when it was still relatively novel. The controls are subordinate to the form and do little to suggest a high degree of usability, challenging the notion that a designer's job is inherently linked to 'function.'

In this case, 'function' has been taken to mean something different – the concealing of something alien, or too ugly for the domestic environment.

The design disciplines that deal primarily with artefacts and experiences (ID, UxD, IxD) can broaden the intellectual framework with which to engage with the phenomena of black-boxes by drawing inspiration from other domains of enquiry. The domain of cybernetics has developed significant descriptions of how black-boxes invoke a self-referential communication loop between the observer and the box, resulting in an ongoing dialogue of concealing and revealing, of black-boxes and white-boxes [2]. Anthropology has developed theories that situate the magical display as a form of cultural black-event that allows for engagement in wonder, cultural rites, and mystical appreciation [3]. The discipline of media studies links the presentation of a products magical properties through advertising as a way of presenting intangible user-benefits made possible through the application of science, technology, and design [4]. The domain of human computer interaction has appropriated the concepts of both stage magic and of the experience or 'aura' of magic in pursuit of providing rich descriptions of possible strategies that engage users mental models with black-boxes in more innovative and appropriate ways [5,6].
This ability for objects to take on magical properties has not been overlooked by artists, who have adopted the language of industrial design in the presentation of product or equipment design that is useless, absurd or impossible in some way. Artists such as Paul Granjon who work with technological themes have proposed forms of human computer interaction that appear crude while at the same time managing to raise important questions about how we live with technology. [7] Others, such as Juan Luis Moraza [8], and Simon Morse, have produced machines that are exotic and engaging, but also apparently impossible to interact with. This work has successfully been used in the past as a starting point to design interfaces dealing with complex design problems which cannot be effectively visualized in any other way.

The ultimate black box, the computer, is familiar to an increasing number of people. But the designer's skill in wrapping this with recognizable input and output signals makes them as good as invisible. Indeed, many people will interact with computers every day, in cameras, phones, mp3 players and washing machines without even realizing it. In these cases, the designer has had to access familiar dashboard interfaces to put the user at ease. But even with a computer in a less dedicated form, such as a laptop, access has been made simpler through the use of graphic interfaces, dashboards and metaphors. While this has undoubtedly made life easier, it could be argued that this has been at the expense of a varied visual language for such objects. In the realm of electronic objects there is one visual language that has come to reign over all others, and this tends towards the black box. Dissatisfaction with this lack of variety has found an outlet at the fringes of consumer society in activities such as 'modding,' whereby users transform existing case design into other forms to which they may have a more emotional connection. These will frequently reference science fiction and fantasy aesthetics, such as with 'Steampunk.'

Participants in this workshop will explore the notion of 'Black Box' interfaces through examples, and adopt the notion of 'Black Box' as a magical entity, able to achieve any outcome. The hands-on element of the workshop will develop alternative forms of electronic interface with an emphasis on those that are playful and which

communicate to users at an emotional level. Participants will use card modeling techniques to realize designs that link abstract concepts in an engaging way. This proposal builds on the success of similar hands-on workshops [9] that invite delegates to engage with some design activity whilst exploring a theoretical concept. The interfaces in this case will be used as a means of visualizing complex problems or situations, rather than enhancing notions of usability.

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