Cardboard modeling studio: a designerly exploration tool for rich and embodied interaction

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Cardboard Modeling Studio: a Designerly Exploration Tool for Rich and Embodied Interaction

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Abstract

Central to this studio is the question of *how to design* for rich and embodied (meaningful) interaction. We approach this question from a designerly perspective and find inspiration in the theory of ecological perception and in the domain of tangible and embodied interaction. As we aim for a meaningful interaction style that is firmly rooted in human experience and the diverse human skills, we present cardboard modeling as a designerly exploration tool that offers experiential insight into the solution domain of a given interaction design challenge. The studio has two distinct parts: part one aims at familiarizing the participants with the cardboard modeling technique and part two emphasizes the use of the cardboard modeling technique as an instrument to explore meaningful interaction. During the second part of the studio also the quality of the interaction solutions are discussed through presentations. The studio runs from 9.30h to approximately 17.00h.

Keywords

Cardboard modeling, design, experiential exploration tools, meaningful interaction, rich interaction

ACM Classification Keywords

A.m General literature: Miscellaneous.

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General Terms

Design, Theory

Introduction

Central to this studio is the question of how to design for rich and embodied (meaningful) interaction. Before digging deeper into the setup of the studio a few words on what is meant with meaningful interaction.

Interactive products can be regarded as having three properties: form, interaction, and function [1]. In traditional non-interactive products these three properties are related. For form invites to interact and in this interaction functionality is reached. Yet in interactive products there is a division between form, interaction, and function; they are designed separately and as a result become unmeshed. Where traditional products offer a rich variation in meaningful action-possibilities, our state-of-the-art interactive products offer standardized controls with abstract labels; they are operated through menus on screens with navigation-buttons often regardless of form or function. Our state-of-the-art interactive products mainly address people's cognitive skills.

In this studio we investigate how to create meaningful and rich interaction (see figure 1) by re-meshing form, interaction, and function, by making information-for-use accessible for all of people's skills: their perceptual-motor, emotional, and cognitive skills [2]. We take inspiration from the theory of ecological perception [3] and the domain of tangible and embodied interaction. Key to this studio is the hands-on approach, for to design for rich interaction is to experientially explore the quality of these three properties and the relations between them. Taking cues from the design practice we

present cardboard modeling as an appropriate tool for this, see figure 2.

Figure 1, Five cardboard prototypes of rich interactive camera's

Figure 2, Exploration of meaningful interaction in cardboard (student work of Ties Bunt)

Detailed studio setup

The studio requires no previous skills or knowledge and consist of two parts:

Part one is focused at acquiring basic skills in cardboard modeling while learning to use the technique to explore the solution domain of interaction design problems:

- Introduction to cardboard modeling.
- Prototyping form: creating a set of basics forms.
- Prototyping action-possibilities: constructing simple mechanisms.

Part two is focused at the exploration of meaningful interaction possibilities using the newly acquired cardboard modeling techniques:

- Introduction to meaningful interaction.
- Exploring a given design challenge.
- Presentations.

Learning goals

1. Acquiring new cardboard modeling skills.
2. Acquiring new exploration skills.
3. Acquiring new insights into meaningful interaction possibilities.

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