

PRODUCT IMPACT TOOL WORKSHOP

MASTERING AFFECT AND EFFECT IN HUMAN-PRODUCT RELATIONS

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KEYWORDS: *Product Impact Tool; Influence of Behavior; Social Engagement in Design; Shaping Technology; Philosophy of Technology*

INTRODUCTION

The Product Impact Tool is the application-oriented result of the research project Product Impact on User Behavior, aiming to investigate the impact of technology on users and to make the insights applicable in the design process (Dorrestijn 2012). The impact of technology on users and society is an important topic in research on technology in reflexive research fields (philosophy of technology, media studies). Especially in recent empirically oriented philosophy of technology and the related interdisciplinary field of Science and Technology Studies this has resulted in concepts that promise to be of interest for application in design as well. For example, the notions of script and of delegation of action from humans to technologies (Latour 1992) may be compared to research at the interface of psychology and design on affordances (Norman 1988), persuasive technology (Fogg 2003), and nudges (Thaler & Sunstein 2008).

Design practice has made little use of this knowledge, although to date there is a growing awareness of the possible advantages of combining research fields (Tromp, Hekkert & Verbeek 2011); the recombination of perspectives is promising for understanding human-technology interaction. This is useful for improving product usability as well as for addressing ethical issues in product design (Lilley 2009; Lockton 2010; Dorrestijn & Verbeek 2013). It can also provide guidance for the shaping of new technology (Eggink 2013). The Product Impact Tool aims to translate theories about the influence of technology

on design practice. The tool comprises a model and a format for a session that provides instructions on employment of the model. The workshop will provide an extensive introduction to the model, and workshop participants will then be guided through a session to apply the tool to a case (social engagement in neighborhoods).

MODEL: MODES OF AFFECT AND TYPES OF EFFECT

As part of the tool the product impact model serves to structure the exploration of user guiding and changing effects. The product impact model shows a human being, affected by technology from different sides. The model comprises a repertoire of different types of effects of technology on humans, ordered according to four different modes of interaction.

This model reflects an analysis of human-technology relations based mainly on work in phenomenological philosophy and media studies (Flusser 1999; Ihde 1990; McLuhan 2003). It is however equally possible to use the model without much reference to these background theories. The interaction modes can also be described in a more design- and exact science oriented vocabulary. Thus, the relationships and interactions between humans and technology are categorized as follows: before-the-eye, to-the-hand, behind-the-back, and above-the-head (Figure 1).

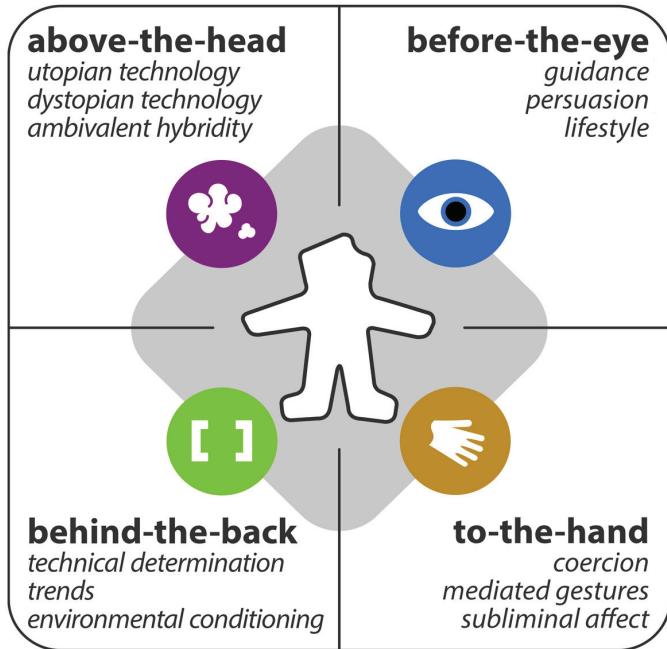


Figure 1: Product Impact Model

Before-the-eye (cognitive)

The most common understanding of using technology is probably that humans employ technologies as means for reaching their goals more effectively. Technology can contribute to such goal-oriented action by supporting and directing the cognitive processes of decision-making. The first type of influence in the quadrant before-the-eye is “guidance” towards intended use. In design this effect is applied by aiming for self-evident forms and colors, by adding arrows and text, etc. The influence on human action can also be more intrusive: “persuasion” through design. In this case technology not just guides towards proper use but intends to change people’s behavior, as in the case of pop-up banners on websites. In either case technology addresses the human decision making process.

To-the-hand (physical)

Technical products can also shortcut cognition and push or subtly guide the user’s body and gestures. Although to have products before-the-eye may be the most common understanding, having products to-the-hand is the more basic interaction with technology. To-the-hand, or physical interaction is about holding handles, pushing buttons, the height and comfort of chairs and desks, or the hard safety measurements of locks, helmets, fences and the like.

Behind-the-back (environment)

Apart from influences that reach humans through direct contact, technology can also influence people in an indirect way. The material-technical environment and the infrastructure form a background that facilitates or directs human action and

history. It is generally not possible to redesign a whole product environment, but the success or failure of the appropriation of products can be understood and influenced by addressing the environmental effects.

Above-the-head (abstract)

The interaction modes “physical”, “cognitive”, and “environment” are all about concrete relations between humans and technologies. This means that there are always concrete cases and examples at the base of the analysis. In the “above-the-head quadrant”, in contrast, an abstract theoretical approach looks at the relations between humans and technologies in general. What is the nature, or the essence, of technology? What is the meaning of human freedom or privacy in the light of the impacts of technology? Grasping the interdependency of technology and society at this general level remains speculative; at least, opinions are very diverse and often contradictory. The philosophical views of technology vary from “utopian technology” to “dystopian technology”, with “ambivalent hybridity” as the contemporary synthesis in the middle. Obviously, it is not in the power of neither designers, nor users to change how technology influences humans throughout history and on a worldwide scale. Still, these generalized understandings determine visions of technology that help to understand ethical controversies and people’s attitudes to technology.

WORKSHOP DESCRIPTION

The Product Impact Tool workshop is designed to raise the participants’ awareness of the possibilities they have for influencing peoples’ behavior through product design. As the tool is both meant for analysing product impact and for design support, these two functions will be addressed. The participants will practice with the tool in groups of three and they will work with powerpoint-templates, as we want to record the results of the workshop for our research. The workshop follows a half-day schedule, with hands-on experience in two rounds. After the introduction, the participants will become familiar with the product impact tool in an analysis exercise. In the second round they will practice with a design case. Both rounds are structured in several sub-assignments.

Design case

In a design exercise, participants perform a short design assignment in several steps. The case is derived from our own research practice about the influence of technology on social engagement. One example is the application of FaceTime to stimulate contact between neighbors of different ages in a Dutch village called Lepelstraat (Jeugdjournaal 2013). But one can also think of the arrangement of a local park area which encourages people to come out and do sports or exercises together (van der Meer 2013). In the workshop the participants are going to conceive product or service concepts that (can) influence people to live more healthily at a neighborhood level. The participants may choose from three different

sub-themes that are particularly suitable to touch on all the aspects of the Product Impact Tool: stimulate healthy eating together; gardening and/or growing your own supplies; moving or exercising to be fit.

The design results will be discussed and shared with all the participants. To make this an interesting session and speed up the exchange of insights, we do this by interviewing the designers. All materials from the workshop, as well as the literature and presentations will be available through our website.

See also: <http://www.stevendorrestijn.nl/tool/>
<http://www.utwente.nl/gw/wijsb/organization/dorrestijn/>
<http://home.ctw.utwente.nl/egginkw/>

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Steven Dorrestijn

Dr. Steven Dorrestijn is senior lecturer/researcher in ethics and technology at Saxion University of Applied Sciences, the Netherlands. In his research Dorrestijn contrived a model of effects of technologies on people, and also focused on people's practices when accommodating new technologies in their lives. This perspective on the role of technologies in people's everyday practices is a much-needed complement to both the theoretical approaches in ethics and the practical approaches in user-centred design.

Wouter Eggink

Dr. Ir. Wouter Eggink is a design professional and assistant professor at the University of Twente, especially interested in the relationships between design, technology, and society. He teaches this subject at the Bachelor and Master programme of Industrial Design Engineering. In his research Eggink approaches human-technology relations both from a Design History perspective and through Design for the Future, supported by Scenario Planning. He has also published extensively on Design Education, and on enhancing Creativity in design through the well-considered application of Visual Essays.