Project

The reconfiguration of behavioural routines and preferences by technology is an important topic in the philosophy of technology. To date, design practice has made little use of this knowledge. The Product Impact project therefore investigates how knowledge of behaviour changing effects of technology can be integrated in product design. Can Product Impact knowledge help to anticipate and avoid use problems? Is it possible to design products that deliberately guide and change user behaviour? It is also explicitly part of the project to consider the ethical dimensions of this view on technology and the profession of design.

Goals

The Product Impact project aims to improve understanding of how users change in the process of interaction with products, and to integrate this knowledge in design practice, by means of a Product Impact Tool. In this way the study contributes to improved understanding of human-technology interaction and the practice of design for usability.

Results

The Product Impact research has resulted in papers and publications on relevant theories about product impact and usability, on changing humans and society in the history of design, and about analysing the ethical aspects of behaviour changing technology. The Product Impact Tool, translates this research to practice by offering of a model for framing different types of product impact, and a format for organising a Product Impact Session.

Innovation

The Product Impact project combines knowledge from philosophy and behavioural sciences with engineering and design in an innovative way. In engineering technology is usually considered as an instrumental means to fulfil human needs. In philosophy and social sciences technology is often shown to change people in ways they had not foreseen themselves. Therefore, technology changes humans, and should not simply be considered as a means to fulfil needs that were already there. The recombination of both perspectives is innovative and promising for enhancing human-technology interaction and usability.

For more information, examples, publications, and contact details check out 'product impact' on **www.designforusability.org**

NL Agency
Ministry of Economic Affairs, Agriculture and Innovation

Product Impact

User guiding and changing design

Steven Dorrestijn
Design for usability IOP-IPCR

DESIGN for USABILITY

In order to design good, useful, user-friendly products, it is important to understand user needs and characteristics. But, equally important is to see how technologies shape and transform user needs and behavioural routines. To improve usability, the focus must not just be on user needs, but also on *how products guide and change people.*

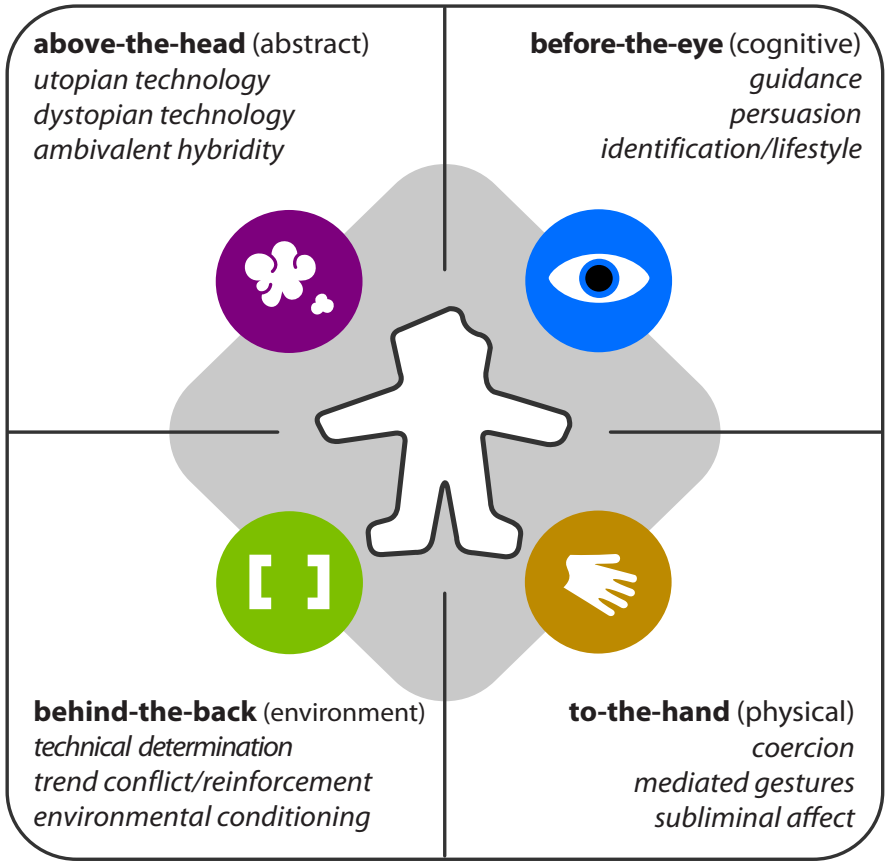
Examples of user guiding design

The pitched roof of the trash bins at Dutch railway stations prevents people from leaving rubbish on top of the bin, and guides them towards desired use (the cup on the roof in the picture is a trick).

If this extraordinary curve in this bicycle lane in Paris makes you smile, it may also suddenly make you aware of the great extent our everyday movements are guided and constrained by technology.

The usability of this remote control is awful. Users were even confused about which side was the front.
The sticker (taken from a piece of fruit) at least solves this problem by guiding users when picking it up.

Product Impact Model



Interaction mode: What is the contact point between technology and user?
Exemplary influence: What kind of effect does the technology have on users?

Abstract (above-the-head)
Views about how technology drives history.

Cognitive (before-the-eye)
Cues to the mind to change decisions.

Environment (behind-the-back)
Influence on users without direct contact.

Physical (to-the-hand)
Changing gestures through bodily contact.

Product Impact Session

Explanation

- In a Product Impact Session, a product is analysed with the purpose of discovering and designing user-changing effects.

Preparatory questions

- Is the product necessarily encountered so that it can enforce behaviour? Or, is it a consumer product that can be easily avoided, and can rather only seduce users?
- Are there specific behaviour goals: usability, energy-saving, social empowerment?
- What are critical use actions that must be avoided or assured?

Assess and re-design

- *Mind set: Think the other way around!*
  - Do not go from user needs to technical solutions, but from a product (or concept, prototype) to user guiding and changing effects.
- *Use the model*
  - Make a round along the quadrants of the model.
  - Do the interaction modes apply, and what effects can be identified?
  - Consider design alternatives to better guide users.
  - Try changing between cognitive and physical interaction.
  - Try to improve connection to trends in the technical environment.

Results

- *Wrap up*

Identified effects
Design alternatives