

# Exploring enjoyability: which factors in a consumer device make the user smile?

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## Abstract

Usability is a key concern in the design of products: is using the product easy, comfortable, safe, effective, efficient, and easy to learn. However, for products with an entertainment function, other requirements need to be considered as well: is the interaction with the product enjoyable, engaging, 'fun'.

The aim of this study was to investigate factors that should be considered when developing products that should be fun to use. Partly based on studies analysing what makes leisure activities and computer games enjoyable, a set of design heuristics was developed, which subsequently were used in the development of three devices for children. The devices can be used to control various applications, such as interactive TV and games. In an experiment these devices were tested and compared with conventional interaction devices (keyboard and mouse). The new devices appeared to be more difficult to use. But the children actually perceived this as an entertaining and nice challenge and found these devices more enjoyable to use.

## Introduction: taking fun seriously

Traditionally, the main human factors concern in the design of products is usability, i.e., is the product easy and comfortable to use, safe, effective, efficient, and easy to learn (e.g. Sanders & McCormick, 1993). Obviously, also for consumer products these performance criteria are important, especially in the case of safety, comfort, effectiveness and learnability. However, others are not: maximising efficiency, for example, is for consumer products much less an issue than it is for work-related devices. And, especially for consumer products with an entertainment and leisure function, other requirements need to be considered as well: using such a device should be enjoyable, engaging, and the device should be appealing. So, next to ease of use, joy of use should be considered as a product requirement. Of course, feelings of joy when using a device will quickly evaporate if one tries something and nothing happens - so for joy of use to be possible, ease of use needs to be ensured first.

More and more this is being recognised by researchers in the field of Human-Computer-Interaction and User System Design (e.g., Norman, 2002; Jordan, 2002);

In D. de Waard, K.A. Brookhuis, S.M. Sommer, and W.B. Verwey (2003), *Human Factors in the Age of Virtual Reality* (pp. 341 - 355). Maastricht, the Netherlands: Shaker Publishing.