Visualising ergonomic guidelines in product design to increase interest and efficiency

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Abstract

Guidelines and instructions are used in information and quality systems to ensure high quality and effective design and production processes. These could be presented on an intranet, visualised as a traditional report supporting distribution of printed documents. But this approach does not correspond to some company's requirements on usability. However, multimedia techniques could visualise and let users interact with the information using hyperlinked text, pictures, and animations. The aim of the study is to design a system of guidelines visualised by means of interactive multimedia technology, considering cognitive theories and practical examples, and then compare usage of the system with another system visualising guidelines in form of a traditional report on scrollable web pages. The new system is a result of a participative design process with experts and potential users in collaboration with Saab Automobile. The new system was in general faster and was more enjoyable to use, which is likely to promote interest and learning about ergonomic issues.

Introduction

Guidelines are used in information and quality management systems to ensure high quality by supporting design and production processes. These guidelines are often visualised in the form of a traditional text based report with a list of headings, tables, and pictures, presented by paper documents or on an intranet, e.g. paper documents converted to PDF-format (Blomé et al., 2003; Huarng et al., 1999). However, these do not correspond to many company's requirements for easily understandable and accessible information. The extensive documentation of quality management systems could appear meaningless and time-consuming to the users (Karltun et al., 1998; Chaudhuri & Acharya, 2000). Furthermore, studies focusing on ergonomic knowledge available in guidelines and documents have showed that these are often difficult to acquire, are incomplete or inadequately suited to the process (Simpson & Mason, 1983; Woodcock & Flyte, 1998). An ergonomic guideline could for instance give recommendations regarding dimensions, location and visibility for push buttons in an instrument panel.

The access to guidelines has traditionally been associated with the physical handling of printed media, but new possibilities to present information has emerged along

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