

User-centred innovation of electronic documentation for maintenance

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Abstract

This paper investigates the opportunities and challenges for the future of maintenance manuals, from a user point of view. New developments in the construction and use of electronic documentation are related to human factors. Factors addressed are mental models of users, users' trust in documentation, multi-modality, team work, the use of documentation during task performance, the relation to electronic systems in everyday life, the role of documentation with regard to self-diagnosing systems, and the contextualisation of documentation. A few examples are given illustrating some of improvements that may be realized in electronic documentation.

Introduction

Technical documentation, such as maintenance manuals, has undergone radical changes over the last decade. A major step was made in the transition from paper to electronic documentation. Electronic documentation, however, often still bears the traces of its paper origins, for example, electronic manuals in PDF often consist of chapters and paragraphs and have a sequential structure. Features such as search facilities and hyperlinks make access easier. In the evolution that is currently under way, electronic documentation is changing more profoundly: interactivity, multi-modality, contextualisation, integration with operational systems, integration with training materials and systems, new hardware devices and ubiquitous computing are some of the keywords that characterise these developments. New forms of documentation give rise to urgent questions concerning the use and the construction of documentation.

The major drive for providing manuals in an electronic format is the ease with which they can be updated and customised for particular clients and configurations. Besides industrial management, electronic documentation also offers more flexibility for the user in terms of search methods or layout possibilities. However, new ways of working with electronic manuals ask for re-thinking the way information is structured and presented in a certain context. Where a user used to have an overview of the context of information, provided by the structure of the paper manual, which allowed to go quickly through several pages, looking at the chapter headings,

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