

Abstract

The work described in this thesis concerns the development and contents of a domain-specific style guide (DSSG). Such a style guide should contain basic human-computer interaction (HCI) knowledge, guidelines derived from HCI research, and reusable domain-specific interface elements used in real examples of design solutions. Many benefits are potentially available from using a DSSG, but the main reasons are transfer of HCI knowledge to developers and faster construction of improved interface design solutions at a lower cost. A DSSG can be used to support early phases of requirement specification, design, and evaluation of user interfaces. Moreover, it can promote an increased communication and closer co-operation with users since the interface elements and guidelines are connected to the domain in question. A prerequisite for a DSSG to function efficiently is that it is based on domain knowledge and written in the terminology that is used in the target domain.

Paper 1 explains how domain knowledge is essential in work task modelling and therefore must be reflected in the software engineering method. The paper continues to describe how a vital set of primitive elements can be used to decompose a domain and express distinctions of interest. We sought to influence the software industry to recognise that programmers need more advanced interface elements to proceed with the application development more efficaciously. Paper 2 is a position paper that was presented at a workshop seminar on style guides as a means of increasing HCI knowledge in software engineering. The third paper is a case study that delineates how a domain-specific style guide was compiled in order to produce effective interfaces in a software project (Helios-2) involving different development teams. The target domain was medical care with such applications as administrative, clinical, biological data, and radiological systems. Paper 4 reports on a prototype developed within the Helios-2 project, where the style guide that is described in Paper 3 was applied. Paper 5 relates how a domain-specific style guide was developed for the domain of case handling at the Swedish National Tax Board (RSV). Paper 6 focuses on the concept of workspaces that was introduced as a fundamental interface element in the case handling domain where the user frequently switches among several tasks.

Key words: Human-computer interaction, interface design, style guides, guidelines, domain knowledge