Patterns as Tools for User Interface Design

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Abstract. Designing usable systems is difficult and designers need effective tools that are usable themselves. Effective design tools should be based on proven knowledge of design. Capturing knowledge about the successful design of usable systems is important for both novice and experienced designers and traditionally, this knowledge has largely been described in guidelines. However, guidelines have shown to have problems concerning selection, validity and applicability. Patterns have ~~emerged as a possible solution to some~~ of the problems from which guidelines suffer. Patterns focus on the context of a problem and solution thereby guiding the designer in using the design knowledge. Patterns for architecture or software engineering are not identical in structure and user interface design also requires its own structure for patterns, focusing on usability. This paper explores how patterns for user interface design must be structured in order to be effective and usable tools for designers. A structure for user interface design patterns is proposed and is illustrated with an example.

1 Introduction

~~Guidelines have since long been used to capture~~ design knowledge and to help designers in using that knowledge when designing user interfaces. The design knowledge helps the designer to make the right design decisions and prevents the designer from making the same mistakes over and over again. However, applying guidelines is not without problems. Usually guidelines are numerous and it is difficult to select the guidelines that apply to a particular design problem. Additionally, guidelines may seem to contradict each other and consequently the designer may still not solve the design problem. Guidelines are usually very compact but their validity or appropriateness always depends on a *context*. Software tools for working with guidelines can help but do not address the core problems of guidelines. Instead of offering software tools for working with guidelines, we propose patterns as a solution to some of the problems of using guidelines. Patterns explicitly focus on context and tell the designer *when*, *how* and *why* the solution can be applied. Hence, patterns can be more powerful than guidelines as tools for designers. Inspired by the work of Alexander [1], patterns have become popular in software construction [6]. Interest in patterns for user interface design (UID) goes back to 1994 [2,9] but a proper set of such patterns still has not emerged. Some attempts have been made to create patterns but there appears to be a lack of consensus about how patterns for UID should be written down, which focus they should have and how they should be structured. Consequently, a potentially even