This paper discusses the role of HCI design patterns in software development. The concept of a design pattern, whilst popular in several other fields including architecture and software engineering, is relatively new to human-computer interaction (HCI). The potential of pattern languages as a vehicle for the dissemination of HCI design knowledge is becoming widely recognized within the HCI community. This potential is based on the ideas of the architect Christopher Alexander. Patterns are developed to record the invariant properties that exist in a design solution in order to resolve conflicting social, cognitive and technological forces. Patterns are interlinked into a network (termed a pattern language) to support different levels of user interface design.

Keywords: human-computer interaction, design patterns, software development, usability, user interface design.

1. INTRODUCTION
The most important aspect of modern interactive computer systems is the level of support they provide for the underlying human activity (Newman and Lamming, 1995). This level of support is encompassed in the user interface (UI) with which the user interacts with the system. Within the field of HCI, considerable empirical research has been done towards ensuring that the UI is designed according to standard design principles. Despite the use of these guidelines, however, software is still designed with serious usability flaws (Wesson, 1999). The question is why, and what can be done to address this situation?

Throughout the software industry, software engineers develop user interfaces (UIs) with little or no support from professional UI designers (Johnson, 2000). As a consequence of this, commercial software often contains serious design errors. Examples of such software are to be found both locally and internationally. Catalogues of poor UI design, or design “bloopers” may be found in several Web sites, including the Interface Hall of Shame (www.iarchitect.com/mshame.htm) as well as Jakob Nielsen’s top ten Web design errors (http://www.useit.com/) and a Web site compiled by Vincent Flanders (http://www.webpagethatsuck.com/).

The aim of this paper is to explore the reason behind these design flaws, and propose a solution that will attempt to remedy this situation. The proposed solution is the use of HCI design patterns.