

# Software and Usability Cross-Pollination: The Role of Usability Patterns

## 2nd IFIP WG13.2 Workshop on Software and Usability

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**Abstract:** The development of interactive software often involves people with a variety of backgrounds active in different disciplines, and hence requires transdisciplinary thinking to consolidate the various perspectives. The goal of this workshop is to bring together people engaged in interactive systems design across different disciplines. The technical objective is to exchange ideas and techniques relevant to transdisciplinary/ multi-disciplinary aspects of user interface design and usability, and to establish pattern-based design approaches that cross-pollinate the different disciplines including software, usability engineering and HCI methods. How can patterns help to design more usable interactive systems while facilitating the integration of HCI/UCD knowledge and techniques into the entire software development process? This is the fundamental question that will be addressed by the workshop.

It is the official workshop of IFIP working group 13.2 "Methodologies for user centred systems design".

**Keywords:** Patterns, HCI Patterns, Usability Engineering, User-Centred Design, Software Engineering

## 1 Subject Matter

Software engineers, HCI experts and usability engineering are affected by a mutual influence that we call “cross-pollination”. Examples are design patterns introduced, in early 1970, by the architect Christopher Alexander, popularised by the software engineering community and eventually adopted by user interface designers and usability engineers. There are a lot of suggestions for different kinds of patterns such as patterns for interaction design, patterns in the software development lifecycle or more precisely patterns in user requirements including task analysis, usability specification, scenarios, etc.

The workshop is focused on discussions about such patterns, which support the whole usability engineering lifecycle. Even if all these patterns are useful, there is a great diversity in specifying them. Some patterns are specified more formally others are specified in a natural language only.

The workshop will especially focus on how to integrate such patterns into the daily software development. Which patterns are especially valuable to increase the usability of software? How can the knowledge of patterns be disseminated in software development teams? What kind of specification would be helpful? Is it e.g. possible to specify user interface patterns using software-engineering notations such as UML? Is it possible to provide reusable design solutions using usability patterns? How can usability patterns-driven design be automated? How can tools support patterns?

The workshop will support the idea that patterns can be a crystallisation point for discussions about knowledge of user interface design, software architecture and software life cycles. They can help to integrating user-centered design approach methods, tools, and principles more efficiently into software engineering lifecycle. In fact, during the past two decades, the HCI community has developed, sometimes independently from software engineering, various tools and techniques mainly for user interface engineering.

Software engineers, user interface designers and usability experts must learn from each other to facilitate and encourage their convergence and integration especially in the field of patterns? The workshop aims to be a forum for sharing ideas about potential and innovative ways to cross-pollinate the expertise among the different communities and to show examples, which can stimulate the industrial software development.

The goal of the workshop is to outline a collection of task-analysis patterns, interaction patterns and process patterns for the whole software life cycle.

## 2 Execution

It is planned to organise the workshop on two days. Participants have to prepare a position paper and additionally to send in or prepare/select patterns that are relevant for the design and implementation of an e-shop.

The first day of the workshop is mainly focused on the presentations of patterns by the participants.

The second day is focused on alternative specifications of presented patterns or alternatively on the specification of new patterns in the context of the scenario of an e-shop.

It is planned to start the discussion already during the afternoon of the first day in two or three subgroups. This discussion is continued during the morning of the second day.

After lunch, the subgroups will present their results, and we intend to conclude with a concise specification of a list of patterns for task analysis, interaction design and development process that are applicable throughout the software engineering life cycle.

## References

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