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# Eye-Candy or Practical: Designing with User-Interaction (UI) Patterns

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## SHARING DESIGN KNOWLEDGE

Usability and functionality of a user-interface share a synergistic relationship, each contributing to Quality-in-Use of the product. Designing interactive systems requires a coordinated effort by end-users, interaction designers and developers. In recent years, there is a push for bringing usability aspects of interactive systems (HCI) and Software Engineering [3] together. Of interest here is the focus on identifying boundary objects between HCI and SE to communicate interaction design know-how. Boundary objects are "objects that are both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites" [6].

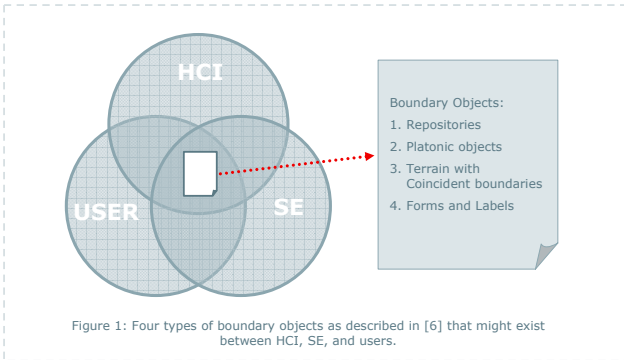


Figure 1: Four types of boundary objects as described in [6] that might exist between HCI, SE, and users.

UI-patterns have been suggested by the HCI community as a boundary object to be shared between HCI and SE [1]. UI-patterns are problem-driven; it encapsulates a proven solution to a recurring design problem while paying attention to context. It contains concrete examples showing how to balance the user/task goals and constraints related to the problem.

**SITE BRANDING**

**WHAT**  
Brand is more than image. Customers need to know where they are and whether they can trust that place to provide something important and unique.

**USE WHEN**

- In all the site genres it is important to build a site brand to help visitors identify where they are on the Web, and to help build an identity for the company.
- This pattern provides the solution for successful branding throughout a site.

**HOW**

- Build a strong site brand by differentiating your company from other companies through the promise that you make and through the actions your company takes to satisfy customers.
- Keep your graphical elements
  - consistent in style,
  - moderate in size
  - in the upper left corner,
  - reusable from page to page.
- Make the brand the first read in the upper left corner of every page on your site.

**CONSIDER THESE OTHER PATTERNS**  
A logo that is integrated into the NAVIGATION BAR will look more cohesive.

Figure 2: Example UI-Pattern name "SITE BRANDING" adapted from Duyn, D. K., Landay, J., and Hong, J. I. (2002). The Design of Sites: Patterns, Principles, and Processes for Crafting Customer-Centered Web Experience. Addison-Wesley Longman Publishing Co., Inc.

Surprisingly, given the number of past conferences and workshops dedicated to UI-Patterns and Pattern languages, the usefulness of UI-patterns is yet to be evaluated, both in terms of contribution to design outcome and the design process [2]. In addition to this, the usability of UI-Patterns has also come under scrutiny. It has been shown that existing UI-Patterns available in collections either tend to be inconsistent or incomplete, which prohibits a UI-Pattern based design process [5]. A few empirical studies that have been conducted give some insights into the value of using UI-Patterns, but none of studies actually prove the usefulness and usability of existing UI-patterns for non-HCI design communities e.g. SE.

Based on this discussion, our study asks the following questions:

1. Are UI-Patterns a suitable boundary object between HCI and SE for transferring interaction design knowledge?
2. How well can HCI and SE practitioners use UI-Patterns for designing?
3. What is the impact of reviewing UI-Patterns during design conceptualization vs. using it to improve an existing design?

In doing so, we evaluate the usability—can other communities understand UI-patterns, and usefulness—what are the benefits of using UI-Patterns in design.

## METHOD

The study employs a 2 x 2 factorial design with Design Flow (refer figure 3) and Design training as the independent variables. Design training has two levels: trained in HCI methods, or trained in Software Engineering methods. An HCI-HCI or a SE-SE pair is randomly assigned to either of the Design Flows. During the design process we record the discussions, UI-Pattern sort data, paper prototypes, and conduct a brief survey after completing the task.

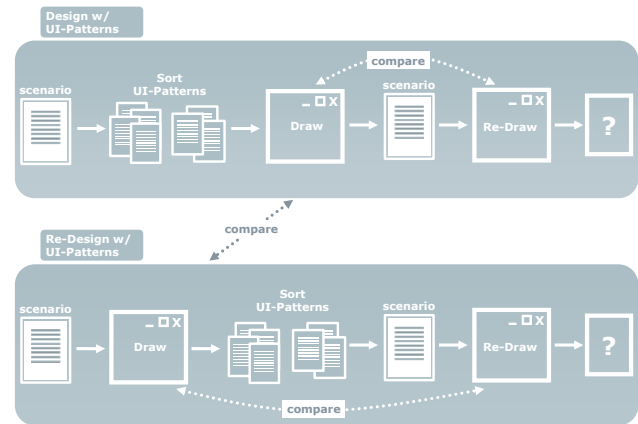


Figure 3: Evaluating the usability and usefulness of UI-Patterns

## EXPECTED FINDINGS

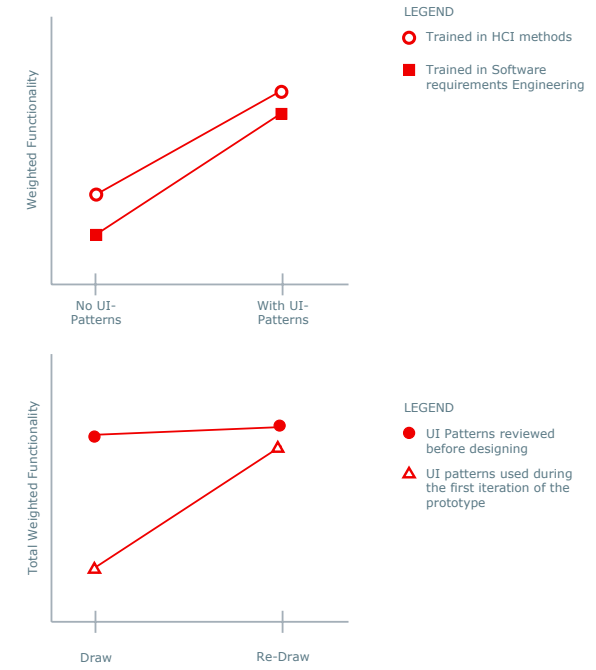


Figure 4: Example Means plot for expected findings, or what we hypothesize.

## CONTRIBUTIONS

The proposed research makes valuable contributions to the growing body of knowledge on UI-Patterns and Pattern Languages. This work evaluates if the fundamental assumptions/claims behind the usability and usefulness of UI-Patterns are indeed true. We address a long awaited need for empirically evaluating UI-Patterns and its role in the design process.

Concurrently, we also test if UI-Patterns could be used by anyone; can it serve as a *lingua franca* between involved parties. If the final results are similar to our expected findings (figure 4), we can show that UI-Patterns and Pattern Languages are an useful way of sharing HCI design know-how with non-HCI communities e.g. SE (in our study).

## REFERENCES

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