Cognitive Dimensions and the Usability of Pattern Languages

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Many authors and practitioners believe that a strictly structured format for pattern descriptions is needed for design patterns to be usable. However, design patterns for HCI and programming are often found to be *not* very easy to learn, compare, and apply. In this focus group, we will try to determine if it is indeed so that a rigid description format improves a pattern language's usability, in comparison to Alexander's original, more narrative approach.

We will apply the Cognitive Dimensions framework (Blackwell & Green, 2003) to two frequently-proposed pattern language formats: the classical Alexandrian format and the highly structured approach that many subsequent pattern languages use.

Cognitive Dimensions do not specify what is 'right' and what is 'wrong'. Instead, they tell you to think about what a particular system for transferring information (in our case, a pattern language) is to be used for. Is it important that people can easily add patterns to the collection, or change them, or copy them? Or should they perhaps be supported to explore the collection, find what they are looking for, or understand what the language is about?

This is the first thing we will determine in this focus group, taking as an example one pattern expressed in two very different formats: one Alexandrian, the other structured. Then, we move on to a discussion of the Cognitive Dimensions themselves. These are different aspects of usability such as abstraction, hidden dependencies, error-proneness and consistency.

The outcome of this focus group is not the final word on which format is 'better' in terms of usability; the final word does not exist, of course. But we shall learn how to approach the question in a methodical manner and take into consideration different aspects of usability as well as different ways in which a pattern language can be used.

[Reference: Blackwell, A., & Green, T. (2003). *Notational systems: the cognitive dimensions of notations framework*. In J. M. Carroll (Ed.), HCI Models, Theories, and Frameworks: Toward an Interdisciplinary Science (pp. 103-135): Morgan Kaufmann.]