

Focus Group Report

Finding sequences in a pattern language

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This focus group was an experiment. We wanted to know what went on in people's minds when they constructed sequences from an existing pattern language; i.e. how they selected patterns when attempting to solve a particular design problem. In this case we used the WU pattern language, which focuses on web usability (Graham, 2003). Ian Graham presented it with four of its patterns at EuroPloP 2002. Since then the 79 patterns that currently constitute WU have been published in book form by Addison-Wesley. This focus group invited participants to describe a web site or web application that they are familiar with or which they would like to build. The group would then try to abstract a sequence of patterns applicable to problems of the same type, together with the rationale for including or rejecting particular patterns.

Our method was to take the problem solver through the patterns in the language in numerical order, asking if and why the pattern applied to the problem. Each pattern refers to other patterns in its resultant context. Therefore, the search branches to several downstream patterns at each point. Due to time constraints this branching was limited but, because the pattern author was present, we could anticipate this branching due to his knowledge of the patterns without examining them in detail. In effect, this meant going through the language sequentially while making notes that we would have to look at certain patterns later – when we reached them in sequence.

First Ian Graham reconstructed his thought process in using the WU language to design the WU website. Then Ian interviewed Andy Schneider, who had volunteered an application to study. Graham Robson attempted to record the result using his Pattern Shell tool.

As a side effect of the discussion a new pattern, CONFIGURABLE FEATURES (80), was discovered. It is reproduced as an appendix to this report and will find its way onto the WU website in due course.

The most important discovery that we made was that it is easy to confuse sequences with sublanguages.

As Alan O'Callaghan pointed out, a sequence arises from the artifact under construction; it cannot be abstract or general; it is emergent. On the other hand sublanguages can have a general applicability to a class of problems: workflow sites, information sites, community sites, etc. As a result of this observation we discussed whether the links between patterns in a language (interpreted as 'provides a potential context for') were different from the links between patterns in a sequence. The consensus was that they were different; sequence links are merely: I did this, therefore I had to do that next.

Alan argued that patterns are not *implemented*, they are *applied* to a system under construction. Each time a pattern is applied new forces (some of which may have

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been completely unanticipated) are unleashed, changing the context (the system). The new design problem that now arises presents the opportunity for the application of the 'next' pattern – and so a sequence is generated, one that often cannot be anticipated in advance. From this point of view there are *no* (direct) relationships of any kind between patterns in a sequence. Each one is mediated by the system under construction.

We conclude that the sequences on the current WU website are more akin to sublanguages than to sequences. However, the distinction remains slightly fuzzy. Feedback on this would still be useful.

The other lessons learnt from the exercise and subsequent discussion were as follows.

- ◆ The (naturally) sequential structure of a sequence does not mean that its patterns are not applied in parallel.
- ◆ Some concrete situations reveal forces that require that you ignore a particular pattern. This is just as important as when the forces indicate its applicability.
- ◆ Patterns can have only partial relevance in a concrete situation.
- ◆ Thus, pattern applicability can be strong, weak or contraindicative (i.e. negative).
- ◆ Navigating the language is a mixture of checking every pattern in sequence for relevance and following the branches implied by resultant contexts. In the end, the sequential approach is quicker if less rigorous.
- ◆ Applying a pattern can change the forces at work; i.e. each choice of pattern releases new forces.
- ◆ Sequence building is iterative. Sublanguage building is less so.

The focus group only partially achieved its aims but much was learnt by the organizers if not the other participants. We thank the latter for their interest and stimulating contributions.

References

Graham, I. (2003) *A Pattern Language for Web Usability*, Harlow, England: Addison-Wesley (online version at www.trireme.com or www.wupatterns.com)

Appendix: A new WU pattern

See facing page.