Chapter 42

Embracing the Social Web for Managing Patterns

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ABSTRACT

In this chapter, the affordances of the social Web in managing patterns are explored. For that, a classification of stakeholders of patterns and a process for producing patterns are proposed. The role of the stakeholders in carrying out the different workflows of the process is elaborated and, in doing so, the prospects presented by the technologies/applications underlying the social Web are highlighted. The directions for future research, including the potential of the convergence of the social Web and the Semantic Web, are briefly explored.

INTRODUCTION

The reliance on the knowledge garnered from past experience is crucial for any development. In the past decade or so, patterns have proven to be useful in various ways. From their origins in urban planning and architecture in the 1970s (Alexander, Ishikawa, & Silverstein, 1977; Alexander, 1979), followed by object-oriented software design in the 1980s and the 1990s (Gamma et al., 1995), patterns have found applications in various domains of interest (Rising, 2000). Indeed, patterns have been found to be useful as a pedagogical tool/learning aid (Schmolitzky, 2007) by which experts can convey their successes and failures of their experiences to novices; as an approach for articulating and recording an organization’s implicit knowledge (May & Taylor, 2003); and as preventative means for developing high-quality software systems (Kamthan, 2008).

The challenges due to the rate of growth of patterns and the diversity of their stakeholders in the past decade have underscored the need for systematically managing patterns (Henninger & Corrêa, 2007). The Social Web, or as it is more commonly referred to by the pseudonym Web 2.0 (O’Reilly, 2005), is the perceived evolution of the Web in a direction that is driven by ‘collective intelligence,’ realized by information technology, and character-
ized by user participation, openness, and network effects. The purpose of this chapter is to elucidate the potential of the Social Web environment in serving as a medium for managing patterns and to highlight the role of the stakeholders of patterns in enabling that.

The rest of the chapter is organized as follows. The background and related work necessary for the discussion that follows is first outlined. This is followed by an analysis of using the compendium of concepts, activities, technologies, and applications underlying the Social Web environment in different facets of managing patterns during their production. Next, challenges and directions for future research are highlighted. Finally, concluding remarks are given.

BACKGROUND

This section presents the necessary terminology specific to patterns and a perspective on related work. It also highlights certain limitations of the current media towards managing patterns. For the sake of this chapter, the term ‘managing’ subsumes managing the process, people, and the product (namely the pattern itself). In particular, managing a process includes responsibilities such as planning, scheduling, monitoring, and so on; managing people includes responsibilities such as facilitating communication and collaboration; and managing a product includes responsibilities such as archiving/querying/retrieving patterns, disseminating patterns, manipulating patterns (including transforming patterns, and extracting or reordering text in descriptions of patterns), and organizing patterns.

An Overview of the Pattern Space

There is currently no ‘standard’ for terminology related to patterns. Therefore, for the definition of the members in the pattern space, this section relies on selected publications (Appleton, 1997; Meszaros & Doble, 1998; Buschmann, Henney, & Schmidt, 2007b) that can be considered as authoritative.

A pattern is defined as an empirically proven solution to a recurring problem that occurs in a particular context. The structure of a pattern is typically described using a pattern form. A pattern form consists of an ordered list of elements that are labeled as (pattern) name, author, context, problem, forces, solution, examples, and related patterns. The labels may vary across community, and other (optional) elements, such as those related to metadata, may be included to enrich the description. It is this structure that makes patterns more than a mere collection of ‘problem-solution’ pairs and makes them unique (Wesson & Cowley, 2003) among expert bodies of knowledge such as principles, guidelines, and heuristics. A pattern is usually referred to by its name. In this chapter, the name of a pattern is presented in uppercase in order to distinguish it from the surrounding text.

There are other members in the pattern space closely related to a pattern (Buschmann, Henney, & Schmidt, 2007b). It is rarely the case that a pattern exists in isolation. A pattern language is a network of patterns that are intimately related to each other by a common goal: it collectively solves a larger problem than that possible by any individual pattern. An anti-pattern is similar to a pattern except that it suggests a ‘negative’ solution to a given problem, and occurs when the context of the problem is not understood or the underlying forces are not optimally balanced.

Evolution of the Pattern Community

From a following by a sporadic few in specific domains of interest about two decades ago, there is now a dedicated pattern community around the world. There are events (such as workshops and conferences) related to patterns organized on a periodic basis that continue to draw the active participation of an increasing number of attendees. There are people from different educational
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