Chapter 2
Product Patterns to Support Knowledge Acquisition Management

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ABSTRACT

The knowledge elicitation process allows for the acquiring and transferring of knowledge. Actually, this process presents difficulties when selecting the appropriate elicitation technique. This chapter presents a classification of the elicitation techniques used in software engineering and the relationship between the elicitation techniques and some elements of knowledge management such as assets knowledge, epistemological dimension of knowledge and the knowledge creation phases. This classification provides a guideline to select a technique or a set of techniques for knowledge elicitation based on phases of Nonaka’s model. Additionally, the chapter presents the use of product patterns in knowledge elicitation, and defines a product pattern as formal representation mechanism for each of the knowledge assets defined and presented in this chapter.

1 INTRODUCTION

For several years it has stressed on the importance of knowledge for organizations seeking to survive in today’s competitive market, and it has demonstrated a clear relationship between knowledge and organizational success (Baruch & Juergen, 2004; Nonaka & Takeuchi, 1995; Webster & Jensen, 2006; OECD, 2010).

Knowledge management is presented as a discipline which focuses on the development of knowledge. The phases of knowledge
management are identification, capture, organization, distribution, preservation, use and measurement (Rus, Lindvall & Sinha, 2001; Kuhn & Abecker 1997).

Within knowledge management process, many authors have argued that one of the major bottlenecks in the process of building a knowledge-based system is the process of acquiring knowledge that corresponds with the phases of identifying and capturing the knowledge life cycle (Greenwell, 1988; Debenham, 1989; Brulé & Bount, 1989; Meyer & Booker, 1991; Kuhn & Abecker 1997; Mason & Pauleen, 2003).

Knowledge elicitation refers to the process of extract and makes accessible the knowledge of an organization. However, this activity is currently in experimental period due to the difficulty that represents to elicit the knowledge of the people, represent it adequately this knowledge and make it accessible to all members of an organization (See Figure 1).

Knowledge elicitation involves acquiring and transferring the knowledge of human beings (as such it exists in the minds of experts in a specific domain) to an abstract and effective representation, to organize it, to model it and finally to express this knowledge in an understandable and reusable format through a formal representation.

Knowledge elicitation process presents difficulties as in the elicitation techniques used, because of they are not complete enough to capture all the relevant knowledge for a specific domain, as in the same process of elicitation because a lot of the information that people knows is less than information verbalized. “We can always know more than we can tell, and we will always tell more than we can write down”. Within Software Engineering field, one of the first phases in software product development is the requirement elicitation that allows characterizing the product type to be developed as well as the needs and features of the environment for which is being developed the software product.

This means that software engineers have enough experience in requirement elicitation area. This is extrapolated and equivalent to knowledge elicitation.

On the other hand in knowledge management field there is not a catalog of knowledge elicitation techniques, so this work is going to approach on identifying of the requirement elicitation techniques coming from the software engineering field and that can be applied on knowledge management field as well as their classification based on the applicability and the knowledge creation model phase where these are applied. Furthermore, it is proposed for the selected knowledge elicitation techniques categories, the type of knowledge asset that is can be generate.

So, the different techniques of software engineering applied to knowledge elicitation will be analyzed. The knowledge asset types that exist and the knowledge life cycle phases to conclude with a proposal that combines the three elements previously mentioned, that may be used as discernment element by the time to choose the knowledge elicitation technique type that better adjust in each moment according to a particular situation and the knowledge asset type that is going to elicit.

The chapter is structured in 4 sections as detailed next. Section 2 is dedicated to related works about the spiral model of knowledge creation (Nonaka & Takeuchi, 1995). Knowl-
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