

Chapter 10

A Tool to Study the Evolution of the Domain of a Distributed Community of Practice

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ABSTRACT

Virtual communities and distributed communities of practice leave traces of their activities that are a valuable source of research material. At the same time, studying this kind of community requires new methods, techniques and tools. In this chapter, we present the Community Agent: a tool to follow the evolution of the domain of a distributed Community of Practice. Such a tool aims at obtaining and presenting graphically some indicators to study the evolution of the domain of a Community of Practice and the participation of its members. We present the implementation of the Community Agent, the results obtained in the preliminary tests and an example of how the agent could be used to study distributed communities.

INTRODUCTION

Virtual Communities and Distributed Communities of Practice (CoPs) are an exciting research subject. As they cannot rely exclusively on face-to-face interactions, they usually interact through Internet based tools, ranging from email to virtual environments. Under such circumstances,

methods and techniques used to study collocated groups are inadequate to study their distributed counterparts.

Interacting through the Internet, communities leave traces of their activities that constitute a vast research material. This material offers innumerable research opportunities, but the amount of documents to analyze is challenging. Moreover, part of these documents (e.g. email messages, chat transcriptions) are unstructured and use informal

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language. To face this challenge, a set of adequate methods, techniques and tools is necessary.

This chapter aims at presenting the Community Agent (CA), a tool that is potentially useful to study virtual communities and Distributed CoPs. The tool is based on the idea of a control panel (or a dashboard) that shows indicators of how a device is operating. The CA presents indicators of the evolution of the domain and the participation of the members of a distributed community.

We open the chapter discussing some issues about CoPs and indicators for distributed groups. Then, we describe a tool to study distributed CoPs: the CA, and its implementation. To complete such a description, we illustrate how the CA could be used to analyze the community domain and its members' participation. To finish the chapter, we present some conclusions and future research directions.

DISTRIBUTED COMMUNITIES OF PRACTICE

The notion of Communities of Practice (CoPs) was created by Lave and Wenger (1991) in their seminal work 'Situated Learning: Legitimate Peripheral Participation'. Since then, it has been used in domains such as Education and Knowledge Management (Examples in Examples in Examples in: Barton & Tusting, 2005; Hildreth & Kimble, 2004; Hughes, Jewson, & Unwin, 2007; Wenger, McDermott, & Snyder, 2002).

Cox (2005) and Kimble (2006) agree that the evolution of the notion passed through three phases and that, in each of them, the notion underwent important changes. Two key works of the first phase are the already mentioned work by Lave and Wenger (1991) and the paper by Brown and Duguid (2000), 'Organizational Learning and Communities of Practice: Toward a Unified View of Working, Learning, and Innovation' originally published in 1991. The work that defined the second phase is the book 'Communities of practice:

learning, meaning and identity' by Wenger (1998). The third phase can be represented by the book 'Cultivating communities of practice: a guide to managing knowledge' by Wenger et al. (2002).

In the first phase, Lave and Wenger (1991) concentrate on the concepts of Situated Learning and Legitimate Peripheral Participation, leaving the notion of CoPs in a second plan. In contrast, Brown and Duguid (2000) consider CoPs as a management tool to support learning and innovation in companies. In the second phase, Wenger (1998), leaning to the path indicated by Brown and Duguid (2000), puts the notion of CoPs in the center of the stage, developing it and its relations with other concepts such as identity, meaning and engagement. The third phase is more prescriptive, Wenger et al. (2002) develop recommendations to apply CoPs in Knowledge Management initiatives.

In the third phase, a less deep and complex approach is used, but some concepts can be useful to analyze CoPs. In the third phase, CoP is defined 'a group of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in the corresponding area by interacting on an ongoing basis' (Wenger et al., 2002).

A structural model of CoPs is also developed. It combines three elements: (i) a domain of knowledge; (ii) a community of people; and (iii) a shared practice. The domain defines a set of issues and legitimizes the community by affirming its purpose and value to its members. The domain motivates members' participation and contribution and helps them to define what activities should be performed. The community creates the social fabric of learning and fosters interactions and relationships based on mutual respect and trust. This kind of relationship creates an environment encouraging people to share ideas, to expose their ignorance, to ask questions and to listen carefully. The practice is a 'set of frameworks, ideas, tools, information, styles, languages, stories and documents that community members share'. It

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