Chapter XV
Supporting Argumentative Collaboration in Communities of Practice: The CoPe_it! Approach

Nikos Karacapilidis
University of Patras and Research Academic Computer Technology Institute, Greece

Manolis Tzagarakis
Research Academic Computer Technology Institute, Greece

ABSTRACT

Providing the necessary means to support and foster argumentative collaboration is essential for Communities of Practice to achieve their goals. However, current tools are unable to cope with the evolving stages of the collaboration. This is primarily due to the inflexible level of formality they provide. Arguing that a varying level of formality needs to be offered in systems supporting argumentative collaboration, this chapter proposes an incremental formalization approach that has been adopted in the development of CoPe_it!, a Web-based tool that complies with collaborative principles and practices, and provides members of communities engaged in argumentative discussions and decision making processes with the appropriate means to collaborate towards the solution of diverse issues. According to the proposed approach, incremental formalization can be achieved through the consideration of alternative projections of a collaborative workspace.
INTRODUCTION

Designing software systems that can adequately address users’ needs to express, share, interpret and reason about knowledge during a session of argumentative collaboration has been a major research and development activity for more than twenty years (de Moor and Aakhus, 2006). Designing, building, and experimenting with specialized argumentation and decision rationale support systems has resulted in a series of argument visualization approaches. Technologies supporting argumentative collaboration usually provide the means for discussion structuring, sharing of documents, and user administration. They support argumentative collaboration at various levels and have been tested through diverse user groups and contexts. Furthermore, they aim at exploring argumentation as a means to establish a common ground between diverse stakeholders, to understand positions on issues, to surface assumptions and criteria, and to collectively construct consensus (Jonassen and Carr, 2000).

When engaged in the use of these technologies, through a software system supporting argumentative collaboration, users have to follow a specific formalism. More specifically, their interaction is regulated by procedures that prescribe and at the same time constrain their work. This may refer to both the system-supported actions a user may perform (types of discourse or collaboration acts), and the system-supported types of argumentative collaboration objects (e.g. one has to strictly characterize an object as an idea or a position). In many cases, users have also to fine-tune, align, amend or even fully change their usual way of collaborating in order to be able to exploit the system’s features and functionalities. Acknowledging that the above are necessary towards making the system interpret and reason about human actions (and the associated resources), thus offering advanced computational services, there is much evidence that sophisticated approaches and techniques often resulted to failures (Shipman and McCall, 1994).

A number of reasons are responsible for the abovementioned failures. Some reasons originate from the consequences of adopting a specific tool to support argumentative collaboration. In many cases, there is a considerable amount of time and effort required by users to get acquainted with the system. Moreover, introducing a new system introduces burdens that disrupt the users’ usual workflow (Fischer et al., 1991). The very nature of argumentative collaboration, as it is carried out within Communities of Practice (CoPs) poses additional issues. In particular, argumentative collaboration within CoPs is not a linear process from problem statement to decision making, but rather an iterative process that exhibits a series of stages, each one associated with different objectives. In this regard, the problems faced by CoPs can be characterized as “wicked problems” [ref Dialogue Mapping]. Current tools are unable to support this evolving nature of collaboration; their use in such settings results to the “error prone and difficult to correct when done wrong” character and the prematurely imposing structure (Halasz, 1988). The rigid nature of their level of formality contributes decisively to this situation.

As a consequence, we argue that a varying level of formality should be considered. This variation may either be imposed by the nature of the task at hand (e.g. decision making, joint deliberation, persuasion, inquiry, negotiation, conflict resolution), the particular context of the collaboration (e.g. legal reasoning, medical decision making, public policy), or the group of people who collaborate each time (i.e. how comfortable people feel with the use of a certain technology or formalism). The above advocate an incremental formalization approach, which has been adopted in the development of CoPe_it!, a web-based tool that is able to support argumentative collaboration at various levels of formality (http://copeit.cti.gr). CoPe_it! complies with collaborative principles.
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