Chapter 1.9
A Generic Definition of Collaborative Working Environments

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INTRODUCTION

Collaborative working environments (CWE) are widely recognised as representing the next step in the development of collaborative technologies over the coming decade (European Commission, 2004, 2005; Schaffers, Brodt, Pallot, & Prinz, 2006). According Isidro Laso Ballesteros of the New Working Environments unit of the European Commission, CWE is a RTD domain with the objective "to develop technologies that will allow synchronous and asynchronous real time seamless interactions between individuals who define common objectives and work actively and effectively to achieve these common goals, participating in agreed business processes." However, the term has yet to be defined in a manner upon which a common perspective towards research and development in the field can be suitably adopted. Against that background, this article attempts to develop such a perspective on the topic by elaborating a definition rooted in widely acknowledged works on the subjects of collaboration and e-collaboration.

BACKGROUND

In European Commission (2005), Ulf Dahlsten states that:

... collaborative tools combined with remote management techniques offer a new field of op-

portunities for borderless co-operation between corporations and skilled knowledge workers across Europe and around the world. Those geographical outsourcing initiatives which have generated fears for job losses have also proved, in well managed situations, to be a source for new investment and business opportunities. Cases of what could be called 'reverse outsourcing' are emerging and represent an unexpected return for those countries which have explored new ways of collaborative working. (European Commission, 2005)

In today's emerging knowledge society, the ability to interact and collaborate with others is becoming an increasingly important factor in capitalizing on the arising opportunities. Tools, technologies and work processes must be further developed to facilitate the greater flow of information, ideas and media between actors involved in collaborative work. The recent developments in the field of ICT technology allow individuals involved in such collaborations to become increasingly liberated in their role as knowledge workers, being enabled to interact seamlessly with colleagues, resources and information facilitating improved work processes and value generation. ICT tools, services, applications and platforms supporting collaborative work have been adopted into commercial, private, and scientific areas with varying success over the past decades. CWE represent the next step in the development of these technologies, moving from disparate, insular tools, applications, systems and services to seamlessly integrated ICT environments for collaborative work from a multi-domain perspective.

In order to provide a theoretical framework for the scope and functional requirements of CWE, the following sections analyse the concepts of collaboration and collaborative work in relation to ICT environments, to arrive at a definition for generic CWE.

DEFINING COLLABORATION

The first step in acquiring a perspective on CWE is to arrive at a common understanding of the core terms *collaboration* and *collaborative work*, respectively. According to Stoller-Schai (2003), *collaboration* is typically employed in diverse areas of applied work, and is a term which is only seldomly defined precisely. Nevertheless, many organisations use it liberally when referring either to technology or strategic orientation. Furthermore, Stoller-Schai (2003) contends that it is used in disparate contexts, often in combination or synonymously with other, similar, "co-" terms such as *coordination, communication,* or *cooperation.* The Latin prefix *co-*, common to all of these terms, may be translated with "together" or "with." In *collaboration,* the prefix is concatenated with the Latin term *laborare*, which means "to work, toil or suffer." Thus, the original meaning of the word *collaboration* is "to work together." Collaboration occurs wherever it is necessary for individuals to pool resources to complete a given task. It can apply to both the act of collaboration as well as the result. Sinclair, Fox and Bullon (1995) accordingly define *collaboration* in the former sense as "the act of working together to produce a piece of work, especially a book or some research" and in the latter as "a collaboration is a piece of work that has been produced as the result of people or groups working together." From the Latin root of the term and the presented definition, it is obvious that *collaboration* is synonymous with *collaborative work* and will be treated accordingly in the following. For the purposes of this article, the authors will not differentiate between different types of work, such as commercial, not-for-profit, scientific, private, etc.

Stoller-Schai (2003) proposes a more specific definition of collaboration as "a mutually influencing activity by one or more persons oriented toward common goals and the solution or completion of a problem or task. This takes place within a mutually agreed and created context (common

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