Interdisciplinary Perspectives on E-Collaboration: Emerging Trends and Applications

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The increasing availability of mobile devices in today's business contexts raises the demand to shift the focus of groupware framework design. Instead of solely focusing on functional requirements of specific application domains or device characteristics, non-functional requirements need to be taken into account as well. Flexibility concerning the integration of devices and tailorability of the framework according to different usage contexts is essential for addressing device heterogeneity. Besides flexibility, in order to support the development of real-world applications involving heterogeneous devices, robustness and scalability concerns have to be addressed explicitly by the framework.

Chapter 3

This chapter focuses on the explanatory and interpretation issues that arise when the integrated Interaction Analysis (IA) features are used by teachers – moderators. The importance of applying additional interpretative value to seemingly simple quantitative measurements is highlighted through several implemented case studies. The core objective of this chapter is to outline the importance of appropriate Interpretation of the IA indicators, thus enhancing collaboration in multiple levels.

Chapter 4

With the increase in information available, systems must be sensitive to users' attention foci, minimizing interruptions, helping focus and providing information according to current tasks. The authors of this chapter investigate ways to determine awareness foci through email-based user interaction analysis. The goal is to be able to draw inferences as to with whom and about what a user is collaborating, enabling a system to automatically distribute awareness information and adapt itself according to users' needs without much configuration.

Chapter 5

Many modern working environments are characterized by the need to manage multiple activities simultaneously. This is the case of hospital work, which also demands a high degree of mobility and collaboration among specialists. These working conditions have motivated the authors to design and implement mobileSJ, a mobile information management tool based on the concept of working spheres.

The tool allows users to gather information related to a working sphere, including documents, contacts and pending tasks. The tool assists users when switching between tasks, facilitates the sharing of activity related information with colleagues, as well as the synchronization of information among multiple devices, including handheld computers and public displays.

Section 2
Adaptation and Creativity in E-Collaboration

This research applies contributions from the social sciences to examine how organisations adapt information systems in a project team setting. Its main concern is to study the set of events and actions implicated in the institutionalisation of an information system. The motivation for this research has been to address the following questions: why well designed information systems are so often not successfully adapted or used by organisations? How the adaptation process affects and is affected by work context characteristics? This research focuses on analyzing the adaptation process of a collaborative platform in a project team, in the context of the construction industry by applying adaptive structuration theory.

Creativity is required in many fields of endeavor — especially industry and scientific research. Creative tasks considered in this chapter include not only creative tasks by single individual or multiple individuals, but also collaborative tasks accomplished by a group of individuals with support of e-collaboration technologies. The difficulty of formulating new ideas calls for the development of an environment that supports creativity. Moreover, it is known that people tend to become more creative when they use words that are related thematically rather than taxonomically. In light of this, the authors sought to extract lists of words having a thematic relation. In this chapter, the authors propose a method of extracting such word lists and verify through Web retrieval that word lists with a thematic relation can support creativity.

This chapter describes the challenges of supporting creativity and innovation through e-collaboration technologies and tools and proposes how future technologies and tools can help to mitigate issues arising

from working virtually. The authors discuss how future advancements in communications and information sharing technologies will help to make virtual team location transparent, while improving access to common work processes and information repositories.

Chapter 9

This chapter investigates the design of tools to support everyday scientific creativity in distributed collaboration. Based on an exegesis of theoretical and empirical literature on creativity and group dynamics, the authors present and justify three requirements for supporting creativity: support for divergent and convergent thinking, development of shared objectives, and reflexivity.

Chapter 10

Based on the literature on the diffusion of innovations and on information systems, and building on emerging concepts in electronic collaboration (e-collaboration), this chapter analyses the influence of various determinants on manufacturing firms' intent to use Web-based interorganizational information systems (IOISs) to share inventory information with their key suppliers. This theoretical model is tested on data collected from 498 senior managers of Canadian manufacturing firms. The findings indicate that a manufacturing firm's organizational readiness, its past experience with e-commerce and its business relationships all affect its future use of Web-based IOISs to share inventory information with its key suppliers.

Chapter 11

This chapter focuses on the impact of strategic and tactical collaborative actions as well as e-collaboration tools efficiency on process and relational innovations which in turn should influence product innovations. The results of this study show that tactical collaborative actions are more geared to lead firms to innovate rather than strategic actions. Findings also suggest that relational innovation has an effect on product innovation for the upstream perspective, whilst process innovation influences product innovation for the downstream perspective.

studies of e-collaboration behavior and related outcomes. The conclusion reached at is that virtual worlds hold great potential in each of these three areas, even though there are certainly pitfalls ahead.

This research examines the impact of computer-mediated communication, distributed communication, and knowledge of prior baseline behavior on an individual's propensity to make veracity judgments. Subjects were motivated to detect deception by participating in a Prisoner's Dilemma game with monetary rewards. Methodologies of other deception detection studies are compared and existing theoretical models are extended. This study found that more detection confidence can come from knowledge of a person's prior baseline behavior, being proximally located, the type of communication media used, and perceived relational closeness. These factors indirectly lead to less deception detection through more detection confidence and reliance on the truth bias, a fundamental belief in the truthfulness of others, even in a computer mediated environment.

The Web's global reach provides evolutionary behavioral scientists unique opportunities to investigate human universals steeped in a common and evolved human nature. This chapter argues that many forms of online sexual communication are indicative of our evolved mating minds including the manner by which female escorts are "advertised" online. It is demonstrated that online advertisers provide a restricted set of morphological cues whilst advertising female escorts, these being congruent with men's evolved aesthetic preferences. Specifically, it is shown that irrespective of cultural setting, online escorts advertise waist-to-hip ratios (WHR) that are in line with the near-universal male preference for women that possess WHRs of 0.70.

Central to the design of successful virtual learning initiatives is the matching of technology to the needs of the training environment. The difficulty is that while the technology may be designed to complement and support the learning process, not all users of these systems find the technology supportive. Instead, some users' conceptions of learning, or epistemological beliefs may be in conflict with their perceptions

of what the technology supports. Using data from 307 individuals, this research study investigated the process and outcome losses that occur when friction exists between individuals' epistemological beliefs and their perceptions of how the technology supports learning. Specifically, the results indicated that when there was friction between the technology support of learning and an individual's epistemological beliefs course communication, course satisfaction, and course performance were reduced. Implications for design of virtual learning environments and future research are discussed.

This chapter reports on a study that investigates the knowledge transfer between an information systems/ technology (IT) department and non-IT departments during information technology projects. More specifically, the authors look into the link between the knowledge management capabilities of the IT department and the effectiveness and efficiency of the knowledge transfer to a client department. Knowledge management capabilities are defined by Gold et al. (2001) as the combination of knowledge infrastructure capabilities (structural, technical, and cultural) and knowledge processes capabilities (acquisition, conversion, application, and protection). Data collected through a web-based survey result in 127 usable questionnaires completed by managers in large Canadian organizations. Data analysis performed using PLS indicates that knowledge infrastructure capabilities are related to the knowledge transfer success, and more specifically to its effectiveness whereas knowledge processes capabilities are only related to the efficiency of such transfer.