Chapter 54

Capturing Distributed Contributions to an Informal Work Process:
A Hospital Facility Case Study

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ABSTRACT

Beside formalized work processes, organizations also present work processes that aren't a priori formalized and often rely heavily on tacit knowledge and experience distributed among involved actors. To develop information systems (IS) to assist such work processes is a challenging task. The traditional approaches for modeling often reveal short in emergent and informal work processes which are hardly elicited in requirements phase. In this work we've focus in the collaborative dimension of an informal work process to develop a IS aiming to improve the outcome of such process. Teams shared awareness was used as coordination and control mechanism for a loosely coupled collaboration model. The implementation of the proposed conceptual approach in a hospital facility is reported.

1 INTRODUCTION

The support of health care practices by technology had recently experienced a considerable development. A number of projects addressing several dimensions of the health care domain had been proposed: patient condition monitoring (24h/7days), patient clinical history tracking, medical staff collaboration assistance, telemedicine (allowing bridging geographical barriers), mobile end devices diagnosis assistance, databases providing drugs reference, etc.

The work reported in this chapter focus on delivering informative contents to citizens, particularly patients and respective families standing in the urgency waiting rooms of hospital facilities. The development process of a platform, to support organizational collaboration to create such informative contents, is discussed regarding the encountered challenges.

Typically Information Systems (IS) development had focused on modeling the structure of work processes (actions, actions sequence, roles, responsibilities, resources allocation, etc.) aiming to improve efficiency of work activities. Nevertheless, as pointed in (Charette 2005) some recurrent problems in IS projects like: requirements capture and system specification, unrealistic and unarticulated goals, project complexity, etc. lead often to systems with deficient support and usability for the required functionalities promoting users resistance in adopting them (in fact some are abandoned without being used at all). Focusing on the traditional IS development perspective which aim instantiating *a priori* defined rigid work models, IS will usually lack to support unexpected scenarios, in processes which formalization is difficult (or even impossible). In the work described in this paper we adopted the perspective that models do not serve as a prescription to work but rather as artifacts that may help getting the work done (Suchman 1987; Gasson 1999). In fact organizations orchestrate their processes along a spectrum of structured and unstructured work activities (Sheth, Georgakopoulos et al. 1996; Bernstein 2000). Unstructured work activities are those that take place outside model structures/ flows usually highly informal and difficult to elicit in the requirements phase because most of them emerge in response to specific contextual/ contingent needs, and are often motivated by experience and tacit knowledge distributed among involved actors. When IS developers elicit work structures, most often they only get an idealized description of the most routine activities and naturally focus IS support on such routines. This may be sufficient to some work processes, but may impose significant limitations to the one's relying in informal activities beyond formalized ones. Informal work activities may lead to emergent work processes characterized by (Markus, Majchrzak et al. 2002) as: no best structure or sequence; typically distributed; dynamically evolving; actor roles unpredictable; and unpredictable contexts,

challenging IS development to support them. In this work we address the problem of developing an IS, instantiated in a technological collaboration platform, to support a not rigidly formalized work process characterized by a loosely coupled collaboration structure.

In the next sub-section it is presented the problem that is addressed by our present work and in section 2 some discussion of the research foundations that guided the proposed solution is conducted. In section number 3 the adopted conceptual approach is presented and in section 4 its implementation is illustrated. A discussion about the adopted development and evaluation methodology take place in section 5. We conclude with some final remarks, in section 6, about the specificities of the implementation of the proposed approach in the real scenario.

PROBLEM DESCRIPTION

The work here described was implemented in a hospital facility in Setubal – Portugal, and aimed to manage the information delivered to hospital users standing in the waiting rooms.

Typically patients are evaluated when they arrive to the hospital. As a result of such evaluation they are categorized under one of the five urgency levels of Manchester code which will determine the priority for their attendance considering the symptoms they present. Both patients and respective families may spend some time in waiting rooms, waiting for their evaluation and after that for their turn. Aiming to improve the quality of this waiting time, the hospital decides to use the TVs present in the waiting rooms to deliver informative contents to users. Despite more pragmatic information (e.g. available nearby pharmacies and transportation schedules), the system will also constitute an opportunity to inform users about hospital policies (e.g., explain Manchester code prioritization schema), display informative content (e.g., diseases and related symptoms),

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