Design Patterns for Facilitation in E-Collaboration

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INTRODUCTION

Collaboration is essential for the creation of organizational value (Hlupic & Qureshi, 2002, 2003). In our current global economy, there are many groups that have few possibilities to meet face to face, and therefore must hold their collaboration processes in a distributed electronic environment. Collaboration and e-collaboration can be challenging (Nunamaker, Briggs, Mittleman, Vogel, & Balthazard, 1997), especially in a distributed environment. When groups face complex tasks, they often find it difficult to follow a focused, effective, and efficient path to accomplish their goals. Groups therefore frequently resort to the use of facilitators and facilitation techniques. However, facilitation itself is a challenging undertaking (den Hengst & Adkins, 2005; Niederman, Beise, & Beranek, 1993; Romano, Nunamaker, Briggs, & Mittleman, 1999; Zhao, Nunamaker, & Briggs, 2002), particularly in a distributed setting.

Facilitators are group process professionals who design and conduct processes to help a group achieve its goals. Facilitation is a complex task. Facilitators must master a collection of techniques skills and interventions, and must attend to many simultaneous details in their work (Clawson, Bostrom, & Anson, 1993). Effective facilitation therefore requires extensive training and experience. Experienced facilitators typically know and use a larger set of techniques than novice facilitators (Kolfschoten, den Hengst, & de Vreede, 2005). Communities of facilitators often draw upon libraries with facilitation techniques (Briggs & de Vreede, 2001; FacilitatorU, 2005; Jenkins, 2005).

This article will discuss the added value of capturing and sharing facilitation techniques. Facilitation technique libraries can offer a learning source for novice facilitators, but can also function as a language among facilitators. In order to use facilitation techniques predictably, we need to capture techniques that are frequently used and that have predictable outcomes. In this research we will show research results in which collaboration patterns are identified on different levels. Patterns in collaboration can be recreated through the documentation of design patterns, scripts to capture reusable solutions to recurring problems. We will first explain what design patterns are, and how they are used in facilitation. Next we will present results from an analysis of the transcripts of 93 group support systems (GSS) sessions that took place between 2000 and 2002. In these sessions we identified patterns of facilitation interventions. We will explain these interventions and how they can be documented and used to recreate specific patterns in e-collaboration, and thus create predictable facilitation techniques.

BACKGROUND

Design patterns are reusable solutions to recurring problems. They were originally introduced by Alexander, Ishikawa, Silverstein, Jacobson, Fiksdahl-King, and Angel (1977), in the domain of architecture. However, design patterns can be created for many design disciplines. For example, design patterns were introduced in the object oriented software modeling in the beginning of the 1990s (Gamma, Helm, Johnson, & Vlissides, 1995), and have been applied to the development of

communication software (Rising, 2001), productivity software (Harrison & Coplien, 1996), and e-learning (Niegemann & Domagk, 2005). When a number of patterns are collected in libraries, they constitute a pattern language.

Alexander (1979) suggests the following benefits for design patterns and pattern languages:

- As a common language. Design patterns are a language, a vehicle for communication. It enables users to name and share complex concepts without having to explain them over and over again.
- For design and as inspiration for new or improved design patterns. Design patterns describe solutions to problems that occur over and over again. These solutions can be used separately, or to inspire designers to create new solutions.
- To design solutions in a specific domain.
- For teaching, to capture and share expert knowledge.
- To enable anyone to design the specific solutions or objects. Alexander's idea was that with his books people could build houses by themselves.
- To enable the creation of objects that are lively and improve the quality of human life. Alexander's pattern language serves a higher purpose; the patterns he and his colleagues described should create morally sound objects.
- To enable the creation of a whole coherent system, instead of loose individual objects that are not in harmony with their environment.

DESIGN PATTERNS FOR FACILITATION

Recently, researchers have begun to document a design pattern language called *thinkLets* for collaborative work practices (Briggs, de Vreede, & Nunamaker, 2003). A thinkLet is a named, documented facilitation technique that produces a known pattern of collaboration among people working toward a goal. ThinkLets are meant to be the smallest unit of intellectual capital needed to reliably recreate a pattern of collaboration in a group (Briggs et al., 2003). A thinkLet provides a transferable, reusable, and predictable building block for the design of a collaboration process. The patterns of collaboration that thinkLets create can be classified in six general patterns of collaboration (Briggs, Kolfschoten, de Vreede, & Dean, in press). These patterns are:

- **Generate:** Move from having fewer to having more concepts in the pool of concepts shared by the group
- **Reduce:** Move from having many concepts to a focus on fewer concepts that the group deems worthy of further attention
- **Clarify:** Move from having less to having more shared understanding of concepts and of the words and phrases used to express them.
- **Organize:** Move from less to more understanding of the relationships among concepts the group is considering
- **Evaluate:** Move from less to more understanding of the relative value of the concepts under consideration
- **Build consensus:** Move from having fewer to having more group members who are willing to commit to a proposal

ThinkLets are facilitation techniques & interventions that are documented according to a specific format. While there is a current set of thinkLets created by documenting the best practices of expert facilitators, any facilitation technique for collaboration and e-collaboration can be documented as a thinkLet and added to the pattern language. Variations and modifications in the use of thinkLets can result in new thinkLets.

The resulting thinkLets may be useful for the following purposes:

- **Comparative research:** ThinkLets allow researchers to compare different patterns of collaboration. This will increase our understanding of collaboration efforts (Santanen, 2005).
- **Consistency and completeness of the thinkLet library:** The thinkLet documentation format enables the documentation of thinkLets in a way that enables others to use them, it forces the author of a thinkLet to be complete and consistent.
- **Classification:** Finding a good, taxonomic classification of thinkLets will simplify the choice of thinkLets at design time, and also enable collaboration engineers and researchers to find the gaps in the library of facilitation techniques.
- **Predictability:** ThinkLets create a predictable result in terms of the patterns of collaboration that the participants exhibit. This predictability is currently mostly based on expert facilitators' testimony of their best practices. A first empiri-

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