Chapter III

On the Application of UML to Designing On-line Business Model

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ABSTRACT

The applicability of UML is not restricted to software development, but can be extended to other process modeling tasks. This chapter introduces a framework for designing an inter-firm, on-line business model using UML. The framework comprises such principal elements as value, business players, and relationship among players, with each specified in terms of representative attributes and related notations. The business model is then visualized by value diagram and structure diagram. An illustrative case is employed to show how the proposed framework is applied. By nature, the current research is exploratory; therefore, for the purpose of illustration, it deals with a rather simple business form. As a result, extension and elaboration of the framework may be required to accommodate the complexity and diversity of a real world business.

INTRODUCTION

Since its introduction in 1997, the Unified Modeling Language (UML) has attracted widespread attention and become the standard modeling language for software engineering. In nature, the applicability of UML is not restricted to software development, but can be extended to other process modeling tasks. However, attempting business
model design using UML is as yet unexplored. A notable exception to this is due to the seminal work by Eriksson and Penker (2000). They noted the limitation of the conventional documentation method of business modeling and proposed the possibility of, and rationale for, employing object-oriented techniques to describe a business and to suggest a comprehensive guideline for UML-based business modeling.

Their work widened the applicability of UML to business modeling; however, the utility is still limited because the framework is mainly for intra-firm business, rather than for inter-firm business. Furthermore, the possibility of expansion is open to the on-line business model that has gained in recent popularity (Timmers, 1998; Rappa, 1999). In this chapter, we suggest a framework for designing an inter-firm, on-line business model using UML. The framework comprises such principal elements as value, business players, and relationship among players. The characteristics of each element are explained in terms of representative attributes and related notations. The business model of interest is then visualized by two major forms of diagram: value diagram and structure diagram. Finally, we adopt a real case to illustrate how the proposed framework is applied.

CONCEPTUAL ARCHITECTURE OF FRAMEWORK

Broadly, the conceptual architecture of the framework is divided into two stages: definition stage and design stage. In the definition stage, values and players involved in the business are defined and the relationship between the values and players are identified. In the design stage, value and structure diagrams are drawn to describe the overall nature of the business model. Figure 1 exhibits the conceptual architecture of the framework.

**Figure 1: Conceptual architecture of framework**

![Conceptual Architecture of Framework](image)
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