Chapter VI

Systems Analysis with Workflow Modeling

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ABSTRACT

Workflow modeling has received more attention in recent years since the publication of standards by the Workflow Management Coalition in 1995. In this chapter, we give a brief introduction to what workflow is and then discuss how workflow analysis may help facilitate standard analysis methodologies such as traditional analysis and the object-oriented analysis. An example is given to illustrate the usefulness of the workflow modeling as an added system analysis tool.

INTRODUCTION

In any serious software project, system analysis is a must-perform piece of work by the system development team. System analysis provides development team information and understanding of the system in question and, thus, allows developers to prescribe a better
implementation solution. However, there are difficulties in applying requirements analysis techniques, such as the structured techniques and object-oriented techniques, to systems analysis. Part of these difficulties is due to unnatural approaches to modeling and abstracting information. In this chapter, we show that such difficulties may be overcome by first developing a workflow model in certain cases. We illustrate the relationship of workflow models with data flow diagramming and use cases in object-oriented analysis with examples. But first, we introduce some concepts and background used in this article. These are types of business information systems, major systems analysis paradigm, workflow and workflow management system, and advantages of workflow modeling. Examples and conclusion follow.

**BACKGROUND**

In this section, we will briefly review primary system analysis approaches and methodologies.

**Types of Business Systems**

Business application systems generally are *database centric systems* or *workflow centric systems*. A database centric system focuses on information retrieval by end users. This type of system primarily utilizes the building-in capabilities of database management software (DBMS), thus defining input and output requirements, analyzing and designing the database, which are important work for analysts. The functional requirements of the system are easily met by the capabilities of the DBMS. A popular technique used by analysts is the entity-relationship model. On the other hand, a workflow centric system is one that has all the features of a database centric system plus business processes performed in a prescribed order or rules. A workflow description of a simplified insurance claim might be stated as a three-step process:
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