Workflow Management System

DESCRIPTION

The workflow management system is a software system that automates procedures for document processing, presents current state of the workflow, and manages documents.

The workflow management system makes users in the production process more efficient:
- documents presented to the user are only the items that he or she should work on;
- the system automatically activates the application which is responsible for that particular document;
- the system locks the document being processed, thus preventing errors due to multi-user access;
- user errors are accounted for with version management - all versions of a document are kept in the system for retrieval at any time.

Production management benefits from:
- instant view of the state of the workflow;
- document access privileges that prevent an unauthorized person's access to a document;
- change tracking - due to version management, all changes can be traced to a specific person at a specific time.

The system can be customized by systems integrators and system administrators to fit a specific customer's needs. It can be tailored to specific workflows, and changed progressively during operation until it meets all the users needs. Change is usually the only constant in any workflow, so the support for dynamic workflows is very important.

The system's distributed nature supports workflows ranging from a few to several thousand users.

Basic terms

The largest area, within which the document processing activity is pursued, is called workflow. The document attributes and user's functions are defined per workflow. The attributes are used to describe the current status of a document. Each individual user can be assigned one or more functions and each function can be assigned to multiple individual users. There may be several active workflows in the same computer system.

Inside a workflow there are workgroups. A workgroup consists of users who cooperate with others in the same workgroup most of the time during the document processing. Workgroup forms the basic unit where rules for document processing are defined. All rules refer to functions and not to users. For each workgroup the transitions and privileges are defined. A transition is an act of sending a document from one function to another. Transitions may occur between functions in the same workgroup or different workgroups. Send and receive conditions, referring to values of document attributes, may be imposed on transitions.

How does the workflow management system achieve its strengths?

Workflow administrators utilize the workflow description language for describing workflows. This is a rich language, enabling users to specify attributes, possible transitions, conditions for transitions, possible views of the workflow, and privileges. Sophisticated workflow can be described and maintained with this workflow description language.
For even greater level of adaptability, object-oriented API – WorkflowKit – is available to third-parties. With WorkflowKit programmers can create custom applications to handle workflow data, such as a special viewer for documents, or a special tracking application, or a special data entry application.

All the data in a workflow system is stored in the RDBMS. Each workgroup can have its data stored in a database on a separate server (computer). Thus, a workflow system can have as many servers as workgroups , or all the workgroups located on one server, or anything between these two extreme solutions. This distributed client/server architecture allows the workflow system to be easily scaled from a system with few users to a system with thousands of users.

Users interact with the workflow system via drag-and-drop iconic interface which is the standard in the NEXTSTEP environment. Because the system utilizes user interface techniques that are familiar to users, they don't need extensive training. The different views of the workflow state are presented as buttons, so the view is as near as one mouse click on the button. Each button actually represents a query against the database. The queries, attached to buttons, are described in a workflow description language. These queries can be added at any time, whenever a need for an additional view of workflow data arises. Access to queries (who can execute one) is also described in the workflow description language. Thus queries, which may display sensitive data, can be restricted to certain functions.

When a user wants to work with a document, the document is checked-out of the workflow system and copied to the working desk – part of the workstation's local file system. Thereafter, the user works with the document as with any ordinary file. After the user finishes the work, the document is checked-in the workflow system and other users can access it again. Due to the document–file paradigm, any third party application which works with files can be seamlessly integrated into the workflow system.

FEATURES SUMMARY

- **adaptability**
  workflow description language, OO-API (WorkflowKit)
- **scalability**
  distributed client/server architecture
- **reliability**
  standard SQL relational databases
- **ease-of-use**
  object-oriented GUI, completely integrated in NEXTSTEP
- **preservation of investments**
  seamless integration of third-party applications

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