

RESEARCH ARTICLE

Enterprise Collaborative Office System Based on Workflow

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Abstract: The rapid development of information technology makes the application of computer and network technology in office system more and more widely, which not only promotes the realization and development of office automation, but also reduces people's work burden. With the continuous improvement of enterprise information management requirements, a new workflow office system appears in the process of information management, which plays an important role in enterprise information management. By discussing the meaning and development history of office automation, this paper analyzes the application status of workflow office system in the process of enterprise information management, and takes Shenzhen chinasoft International Company as an example to conduct empirical research and analysis on the process and effect of workflow system application in small and medium-sized enterprises.

Keywords: Enterprise; Workflow; Office system

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1. Introduction

Business process is the core of all enterprises. Workflow system can help enterprises follow the consistent business process and improve the work efficiency and production efficiency by managing the tasks and steps involved in business process. This enables those performing these tasks to focus on performing work tasks rather than managing workflow^[1]. With workflow, enterprises can uniformly manage business processes within an enterprise by attaching business logic to any data list (structured data), document library (unstructured data). System is a workflow management component, providing a one-stop process running platform of "portal + process + form", realizing the code-free development mode of collaborative applications. System's ability to quickly modify processes and forms improves customers' ability to respond to business changes.

2. Definition of Enterprise collaborative office system Based on workflow

Enterprise Collaborative Office System. An enterprise application office system based on workflow is a new way of office which combines modern office and computer network functions. System Workflow. Workflow is usually composed of fields, forms, nodes, paths, flow suggestions, statistical reports and so on. It takes advantage of the different content of the form, can automatically choose the direction^[2].

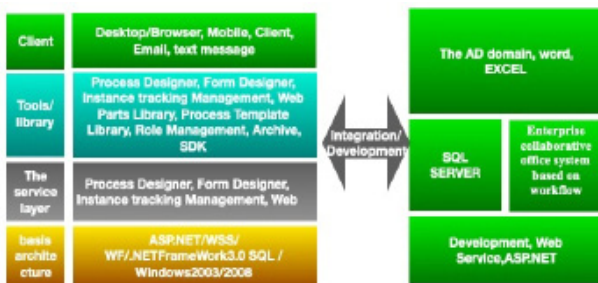
3. Design of Enterprise collaborative office system Based on workflow

3.1 Overall Design of Enterprise collaborative office system Based on workflow

For the Development design, the researcher used the concept of the System Development Life (SDLC) using

the SCUM Methodology as basis for the development of the system. The SCRUM model is composed of the following phases namely Requirements Planning, Iteration Plan, Custom process, and Acceptance. For the Project management Scrum development process, Scrum is the mainstream agile development method, through the iterative sprint, continuous delivery, from user requirements to user feedback to achieve each closed loop software development process. Simple and efficient management through the most important iteration planning meeting, daily station meeting, iteration review, acceptance meeting^[3].

3.2 Overall Structure of Enterprise collaborative office system Based on workflow



The design of this system is to strengthen the workflow administration office system management work. The System workflow engine runs on a SharePoint architecture and can start, flow, and terminate workflow instances according to predefined rules (XML). System workflow engine supports simple to complex processes, including strip flow, free flow, synchronous/step-out flow, parallel fork, synchronous merge; Support manual processing activities will sign (1 activity more than one person at the same time), serial (1 activity more than one person in turn), joint execution (1 active more than one person together). The system has strong adaptability, reasonable configuration and comprehensive use combined with actual management activities and has strong management efficiency. According to the working module of the system, the system design is analyzed, and the overall functional structure of the system is preliminarily determined. The system including Portal, workflow, project Management, Asset Management, Vehicle management, Address book, My principal sheet, Schedule modules^[4].

3.3 Functional Design of Enterprise collaborative office system Based on workflow

3.3.1 Portal

The portal mainly displays module data information in different categories. Different portals present different information, personal portal displays personal information, and enterprise portal displays company information. It is a quick entry for employees to work and share information, and can create multiple portals with rich and colorful contents^[5].

Administrators can manage the enterprise portal (news, announcements, documents), and employees can manage the individual portal (attendance, calendar, process) to view the enterprise portal.

3.3.2 Workflow

Process management is the core function of OA system. It can set up multi-category and multi-node approval, such as administrative process, personnel process, financial cost process, daily office process, order contract process, business related process, etc., which can be approved anytime and anywhere and remind by message push, so as to realize intelligent, standardized and mobile process approval of the company and improve office speed and efficiency at the same time. Save office hours and costs^[6]. System have a visual and drag-and-drop design intelligent development platform, support system module page adjustment, also support custom modules. Instead of writing code, users can simply drag and drop controls to build a new module. The internal data source supports data association with other modules of the system, and the external data source supports data association with SQLSERVER, MYSQL, ORACLE and other three databases to obtain values. The data can also be sent to the custom module after process approval. It can realize product price management, exchange rate management, procurement management, property management and other business functions. The UI style of the customized module is unified with that of the system module to improve user experience. Compared with traditional development, the development cycle of the project is shortened and the development cost is saved^[7].

3.3.3 Project Management

Through project approval, project approval, project team building, project task allocation and task time control, project-related discussion, project problem submission, project leader assessment and scoring of project completion, project leader comments on task feedback, @ reply, project progress modification, and unified preservation of project-related documents, etc. It can be used in combination with the project approval process. After multi-level approval, relevant information of the project will be written back to the project management module, which is a project management platform from project approval to project process control and finally to the final completion of the project.

3.3.4 Asset Management

Mainly manage the company's fixed and large assets, from asset registration, asset requisition, requisition approval, asset maintenance, change, asset depreciation, asset obsolescence, asset return, asset inventory, to asset statement statistical analysis and other comprehensive integrated system to standardize asset management; Asset classification, coding and two-dimensional code rule style generation can be carried out to realize one thing one code, mobile phone scanning code for asset information inventory, asset tracking, and realize the mobile version of asset information inventory tracking; Statistical statements such as asset list, depreciation reconciliation, asset summary, etc. Asset storage, application for use, repair, return and process integration^[8].

3.3.5 Vehicle Management

Enterprise vehicle application, understand vehicle information management, vehicle maintenance, vehicle maintenance reminder, vehicle reasonable deployment, vehicle use conflict coordination, vehicle use records, etc., and facilitate multi-dimensional vehicle analysis according to vehicle, applicant and department through multi-level approval process.

3.3.6 Address Book

It is divided into personal directory and public directory. The personal directory belongs to the individual and can only be viewed by the current user. The user can

set up a private group, which can be used quickly when the process is approved, greatly saving the operation time. Public Address book Common contacts are listed in the address book shared within Yonyou for easy query.

3.3.7 Schedule

Schedule management is to arrange daily work and affairs in the date, and make an effective record, to facilitate the management of daily work and affairs, to achieve the purpose of work notes. At the same time, it also has the role of guiding and supervising employees' daily work. It is a platform for managing and sharing employees' daily work plans and implementation. It can create repeated schedules, set schedule reminding time, share schedules with others, and automatically convert tasks into schedules in the task module. The schedule makes daily work more detailed and enables employees to clearly know their daily work arrangements and tasks. Superior leaders check subordinates' schedules by default, understand subordinates' work arrangements and arrange schedules for subordinates. Meanwhile, assistants can arrange schedules for leaders^[9].

4. The Realization of Enterprise collaborative office system Based on workflow

The following steps will be undertaken to carry out the goals of this study. 1. Before conducting the study, the researcher will conduct a downward survey through the company's office department Office managers, department secretaries, company employees, and IT experts. 2. The researcher will provide and discuss the main directions of the questionnaire survey to the participants. 3. Researcher will conduct questionnaire surveys and collect opinions and feedback in each user department 4. Participants will evaluate the developed system using the ISO 25010 questionnaire as regard the extent of compliance degree of the developed system according to ISO 20510 software quality standard^[10].

4.1 Functions and Structure of The Developed System

The system is based on Microsoft VS 2005(C#).net +MSSQL development platform, fully modular design,

strong capacity expansion, document circulation, portal, assets, vehicles, workflow management, document management, graphical process design, so that the office is clearer, online document editing, seal use secret, editing documents can enter the mark work at the same time.

4.2 Enterprise Collaborative Office System Based on Workflow

System follow WFMC (workflow management coalition) of standards development and implementation, adopting agile project management and interaction design, to realize efficient electronic approval way, report on the work of the enterprise management, enterprise company notification and announcement management, realize the telecommuting, replacing the original way of working, saves the manpower, improve the working efficiency and communication efficiency.

4.3 Extent of Compliance of the Developed System with respect to ISO 25010 software quality standards

The developed system meets ISO/IEC 25010 standards to a "very great extent" in terms of functional suitability, applicability, performance efficiency, compatibility, availability, reliability, security, maintainability, and portability.

4.4 Enhancement to Improve the Developed System

The business modules in the App can be split into separate small programs to achieve modular development. Each business module does not affect each other and can be updated and released independently. -May consider flexible architecture, focus separation, strong scalability, convenient small program module combination, decomposition. The said module can function like debugging, upgrade, bug repair and so on.

5. Conclusions

Based on the results of this study, the following conclusions were drawn.

The workflow office management system designed

in this paper is particularly timely and important for the problems and problems encountered by users. Its purpose is to manage the company automated office, providing vehicles, assets, office, news, and other functions.

In addition, the development of the system enterprise management of paperless office ability, updated the concept of enterprise management personnel, accelerated the process of paperless office information, network, to achieve the standardization of workflow office management, scientific.

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