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Intelligent Management Based on Chemical Reagent Quality Analysis

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Abstract: Access database technology and Visual Basic programming language are used to develop a set of chemical reagents quality analysis and inspection of intelligent management application software, and its stability was investigated. The results show that the software is used to manage intelligently the quality analysis of chemical reagents test each linkage, to upload and save the analysis of test data and results in the network in time for users, to build a network of information sharing platform for enterprises and quality management departments, and its quality of chemical reagents test results is used to manage by the computer with practical application value. The software is simple, convenient, fast, friendly interface, stable operation, accurate and reliable results, with a high value to promote the application.

Key words: Chemical reagent, quality analysis test, visual basic language, software development, intelligent management.

1. Introduction

The establishment of chemical reagents quality analysis and inspection of intelligent management system is very important [1] with the construction of chemical reagents, the quality of chemical reagents increasing and the market competition pressure increasing. Chemical enterprises and their customers are particularly concerned about the quality information of chemical reagents and the systematic management of chemical reagent production and sales, tracking chemical reagents batch quality information as well as customer demand for chemical reagents batch quality information. However, the existing chemical reagents quality management system is independent of each other, which cannot share product data information, and cannot meet the needs of users. It is urgent to develop a set of chemical reagent batch quality tracking system, integrated information system chemical reagent quality data, to meet the needs of users, enterprises and quality supervision departments. Therefore, the establishment of efficient and strict development model is essential, especially in the development of systems with independent intellectual property rights to maintain the future of enterprise software platform construction. An efficient development system and design method is more effective.

Chemical reagents quality analysis test computer management system is used for chemical reagents product quality analysis test information computer centralized management, and chemical reagents production for the establishment of a sound, strong product quality analysis and inspection information management database to meet the chemical reagents market development needs. It is an advanced concept for the computer Visual Basic language as the development language [2], the preparation of procedures to complete the data analysis, calculation, processing, grading and intelligent management and other related operations, print and save the product quality analysis inspection report, the product quality analysis test report book uploaded to the network platform, so that everyone shares.

The intelligent management system of chemical reagents quality analysis and inspection is an enterprise's objective and fair data management

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system, which integrates input, calculation, grade evaluation, preservation and uploading network platform into one operation. It is easy to operate and powerful in automatic processing and is a major innovation in the use of strong, targeted, in the quality of chemical reagents analysis of the intelligent management.

The development of computer has brought people's work and life in great convenience and efficiency. Information technology, intelligence has become the cost savings, improving work efficiency of choice [3]. As a result of the combination of computer and chemistry, the development of chemistry is promoted, and a new edge discipline—computer chemistry is produced. How to use computer technology to solve the problem of chemical industry, chemical workers are facing new issues [4]. Not only the current chemical reagents quality analysis test data processing and analysis of inspection reports are completed using the traditional method, to the analysis of inspection personnel and managers to bring a lot of inconvenience and inefficient, but also it often is due to careless management and flaws, resulting in data loss. In order to meet the intelligent management requirements for chemical reagents quality analysis and testing, it is of great significance to develop the computer management software for the calculation and analysis of chemical reagent quality analysis, data processing, online self-control, database establishment, product specification automatic evaluation and print preservation [5, 6], and the ultimate goal is to strengthen the quality of chemical reagents analysis of intelligent management, to prevent loss of data and any modifications to ensure the quality of chemical reagents analysis of the authenticity of the test results [7].

2. Experimental Part

2.1 Development Language

Based on Microsoft Visual Basic (6.0) environment to achieve the quality of chemical reagent analysis and management of database development technology and implementation methods, therefore, the Visual Basic language is used as a software development language.

2.2 Development Methods

The development of the system adopts the iterative development method of "design-development-application-revision design-development-application".

2.3 Database (Access Database)

Visual Basic (6.0) language directly supports Access database, Microsoft Office Access is released by Microsoft database management system, which combines the Microsoft Jet Database Engine and graphical user interface two features, Microsoft Office is one of the system components. Access database system is mature, stable, reliable, simple, which is one of the preferred database systems and small-scale development systems.

2.4 Chemical Reagents Quality Analysis of Intelligent Management Software Development Steps

(1) First, according to the national standards of chemical reagents quality analysis and testing, the establishment of mathematical models, the application of computer language edit the mathematical model of the preparation process;

(2) Analysis of test data input directly to the computer, writes a good computer program to analyze automatically the test data to calculate the test results, deviation, mean deviation, relative mean deviation and mean confidence interval;

(3) The computer based on the analysis of test data and other related physical properties, chemical properties and national standards for comparison, by the computer automatically judging the product grade or grade, and displaying in the analysis of inspection reports on the book;

(4) The computer print automatically analysis of inspection reports;

(5) The computer will save and upload automatically the results of the batch of products and analysis of inspection reports to the network platform for users, enterprises and quality supervision departments at any time on the network.

2.5 Development Environment and Architecture

The key scientific problem of this software lies in the systematic classification and implementation of chemical reagents, the compilation of software source code, the normal operation of software, the creation of network platform and the realization of intelligent management.

In the choice of software development environment, considering the stable, efficient, stand-alone operation and network operating environment, the most widely used Windows as the system support platform, is the whole system using C/S model architecture (Client/Server, Machine/server), which are both to ensure the system's security, reliability, taking into account the stand-alone operation and network operation convenience and connectivity fluency.

3 Results and Discussion

3.1 System Module Settings

3.1.1 The Main Interface Design

The main interface design is shown in Fig. 1, the interface designs a Label and three command buttons (Command), and then edits the program to complete its corresponding function. The administrator opens the software and enters the operating system. Click the single operation or online operation button to enter the chemical reagent category selection interface, as shown in Fig. 2, click the end button to exit the operating system.

3.1.2 Chemical Reagent Selection Interface Design

Chemical reagent selection interface design interface is shown in Fig. 2, in the interface design of three command buttons (Command), and then edit the program to complete its corresponding function. For ease of operation, the interface classifies chemical reagents into six modules, each containing several chemical reagents for user selection.

Fig. 1 Main program interface.

Fig. 2 Selection of chemical reagents.

3.2 System Main Function

The intelligent management method of the chemical reagent quality analysis test is disclosed in this research, which is based on the analytical test method and analysis test item of the national standard executed by the chemical enterprise. The chemical reagents are the object of the analysis. The content and the analysis principle and method is using the Visual Basic language for the quality of chemical reagents to test the project written procedures to achieve the analysis and testing of data processing automation and networking. Firstly, the paper introduces the basic principles of chemical analysis, achieving the quality of chemical reagents intelligent management, improving management level, product quality transparency, economic efficiency, social and public benefits. The software is original, practical and

advanced. The final goal of the software is to analyze the automatic generation of the inspection report books and to check the basic information about the chemical reagents on the Internet. The contents include: the name of the product, the name of the enterprise, the date of production, the batch of products, the product specification (or grade), and so on. Users through the computer network platform, can understand the details of the required products in order to decide whether to purchase the product. If the user purchased a chemical reagent, the chemical reagents have serious quality problems, directly through the network with the manufacturer to negotiate treatment or claim, there is no need for production enterprises to find the situation and long journey to the production company to deal with the problem. Production enterprises can also be sold through the network platform to users of their products and achieve information sharing, and ultimately achieve the purpose of win-win production enterprises and users. After the implementation of network analysis, intelligent management, not only companies can track product quality at any time, and users, authorities and quality inspection departments can also understand the quality of products and grades, to provide users with the choice of network products information platform. To avoid the quality inspection departments of the product quality inspection conclusions with the enterprise and other departments of the test results inconsistent with the phenomenon. Put an end to the fraudulent acts of product quality. While avoiding the analysis of inspection personnel in the analysis of test reports when the data are not true and the results of the calculation of the inaccuracy of processing to eliminate the false test data analysis, inspection and analysis personnel to reduce the analysis of test data calculation of the heavy work, analysis of test data objectivity and impartiality. The product can be divided into primary reagent (GR), secondary reagent (AR), tertiary reagent (CP), four reagents (LR) and unqualified products according to national, industry and enterprise standard reagents and so on. The computer can automatically judge the grade of the chemical reagent according to the corresponding standard, and automatically sign the date of the analysis and test. The laboratory inspector and the person in charge can sign the comments and signature on the analysis and inspection report book. The test report book will be eventually uploaded to the network information platform and saved, no one can modify.

4. Conclusion

The development of the software is used for chemical reagents production enterprises, which establish a comprehensive, powerful product quality analysis and inspection of information management database to improve the analysis of test data objectivity and impartiality, and which automatic processing is powerful. The strong use application of the computer in the chemical reagents quality inspection and management opens a new perspective, and creates an advanced, fast, convenient and accurate approach to the chemical reagents production enterprises, users, authorities and quality inspection departments to provide scientific and effective intelligence management tools, and save a lot of production costs for production enterprises. The research is a breakthrough in the quality management of chemical reagents, which is original and innovative.

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