

# Intelligence and Application of College Students' Performance Analysis Management Information System Based on Code Generation and Reconstruction Algorithm

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**Abstract:** Management Information System (MIS) is an important means to realize enterprise modernization. The operation of data is an important content in the management information system. The algorithm reuses the original three-stage code generation process to a large extent. For the student achievement analysis system, the data import is imported from the Oracle database to the MySQL database through the JDBC API. ;Data statistics Statistics on the scores, number of people, scoring rate, standard deviation, score line ranking and other dimensions at the student level, class level, school level and district level. At the same time, according to the dynamic characteristics of the reconfigurable instruction set, it is configured according to the system hardware resources and reconfiguration.

**Keywords:** College Students' Performance, Management Information System, Code Generation, Reconstruction Algorithm

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## 1. INTRODUCTION

Management information system is a human-led system that uses computer hardware, software and other office equipment to collect, transmit, store, process, maintain and use information [1]. The popularization of computers has brought a new storm of reforms to the management of student achievement in schools. In order to save people from tedious, repetitive and complicated work, we have introduced a network-based student [2] achievement management system, which can effectively promote the maximum utilization of resources. to realize modern automation of student achievement management, etc. [3] With the rapid development of digital information technology, network technology and hardware technology, the application fields of embedded systems are becoming more and more extensive, and computing tasks are characterized by high dynamics [4].

This makes the design of embedded processors need to take into account both performance and flexibility factors. The development and [5] application of educational affairs and teaching management systems in colleges and universities are developing rapidly. The various systems currently used in colleges and universities also bring some problems in the use of teaching management [6]. For example, the systems of some schools are purchased commercially and are not very suitable for the specific environment of the school. In 2018, the Ministry of Education officially released the "Education Informatization 2.0 Action Plan" [7], proposing to make full use of Internet technology to provide learners with a large number of appropriate learning resources and services [8], and to help my country to reform the innovative development of education, teaching, management and services. In the industrial field Most large and medium-sized enterprises are building their own data warehouses and data mining systems, using data mining technology [9] to analyze the products produced by the company, production line processes and product sales, which not only reduces the cost of the production line, but also improves the production line. The

technological level is higher, and the products of higher quality can be obtained [10].

With the expansion of the enrollment scale of our school, more and more majors and courses are offered, and the distribution of students' grades [11] is more and more complicated. Student achievement is an important basis for evaluating teaching quality and an important symbol of whether students have mastered what they have learned. At the same time [12], striving to improve students' academic performance is also the goal of every college. In the management information [13] system, the management of information is nothing more than the operations of adding, deleting, modifying, and checking data; because the entities of each information are different [14], developers cannot extract common modules; when developing new information modules, the code It is completely done by hand. Students cannot understand their specific situation in the school [15], which seriously affects their enthusiasm and enthusiasm for learning, and makes the daily management of the school more difficult. Using the hardware programmability of reconfigurable logic devices, the optimal execution environment can be adaptively customized for different application characteristics [16], so as to more effectively meet different application requirements in the embedded field while maintaining the advantages of ASIP.

For example, only the storage, statistics, sorting, and simple passing [17] rate analysis of grade data can be used, but there is no analysis of the deep-seated reasons for students' outstanding or failing grades, let alone the processing and utilization of historical data [18]. Take the student achievement management of the technical college as an example. The system just transforms the manual teaching management into man-machine management. If there is a connection [19], these knowledge points can be combined to teach together. Therefore, the principle and implementation process of the association rule algorithm Apriori are analyzed. In order to improve its speed [20], the parallel framework

ForkJoin is combined to realize its parallelism, and a public data set is selected to compare the performance of the original algorithm and its parallel algorithm [21]. High-quality input data is a prerequisite for successful mining, and it is very important to send a process. Data preparation can be divided into three sub-steps: data selection [22], data preprocessing and data transformation [23]. Topic orientation is the most basic principle of data warehouse in the process of data organization, and all data are developed around this theme. The so-called theme is a logical concept, which is to conduct in-depth analysis and extraction of relevant data from the management level and perspective, and further analyze the required objects [24].

## 2. THE PROPOSED METHODOLOGY

### 2.1 The Code Generation and Refactoring Algorithms

In the traditional management information system development process, it often starts from writing a large amount of basic code, and the code writing part occupies most of the project development time, resulting in high development costs.

Automatic code generation is the use of computer programs to automatically generate usable code. Its purpose is to reduce repetitive labor development, improve software quality and development efficiency, and solve the problem of code reuse in software development. Compared with the statement-level compilation strategy, the high-level compilation strategy has lower requirements on the programmer's knowledge of architecture such as registers, so it is easier to apply.

The Chimaera compiler [6] can identify specific statement sequences in C language programs, convert them into operations of reconfigurable functional units, and then generate corresponding reconfigurable resource configuration codes to achieve optimized execution. The algorithm is based on partitioning The association rule algorithm, designed by Savasere et al., the main idea of the algorithm is: from dividing the database into N blocks, generating frequent itemsets from each block, merging the frequency sets of N blocks, and obtaining all frequent itemsets, for the candidate itemsets The support degree is calculated to generate the final frequent itemset; the algorithm can reduce the memory requirement and improve the parallelism after the data is divided into blocks. Describe the structure and meaning of the data; metadata is a description of data resources, which is a The basis and premise of data information sharing and exchange, metadata is used to describe the content, representation, organization and some other characteristics of the data set.

A common principle of computer terminals is openness, which can meet certain public needs that can be operated with each other, and enable different terminals to work together in a relatively harmonious and harmonious manner.

### 2.2 The Analysis and Management Information System of College Students' Achievement

Through the research of traditional compilation methods, combined with the reconfigurable characteristics of RISP instruction set, this paper studies a compilation process that extends the three-stage method of back-end code generation of traditional compilers, as shown in Figure 1. Show. Then it focuses on a code hybrid optimization generation algorithm for RISP instruction set.

The architecture of the network-based student achievement management system usually uses a three-layer structure model, and the three layers are the application layer, the presentation layer and the data layer. The application layer is in the server, and the presentation layer is in the client terminal browser. MCGA uses the abstract model of reconfigurable logic resources and its related parameters, and integrates the code generation process related to reconfigurable instructions in the code generation process of the traditional compilation process. In this stage, the original three-stage method is reused to a large extent, so as to optimize the generation of assembly code that mixes RISP basic instructions and reconfigurable instructions. The system management module mainly manages users, manages user roles, and manages functions.

The user has some basic information, which is used for the verification of login and related permissions. There will be multiple roles in the system, and the permissions of each role are different. It should be noted that the database data accessed by using the system navigation list is mainly Divided into two parts. The first part is the entity information mentioned in Chapter H, including student information, teacher information, course information, class information, achievement information and so on. The main core content of the data warehouse design is the data warehouse modeling process, that is, the transformation from relational and normative data models to multi-dimensional models. , logical model and physical model.

The concept of reflection was proposed by Smith in 1982, which mainly refers to the ability of a program to access, detect and modify its own state or behavior. In the field of computer science, reflection refers to a class of applications that can be self-describing and self-controlling. We can effectively avoid the access of criminals through the information security of the database, or avoid authorized users to perform illegal operations on relevant important data, its security can be achieved through the username and password.

### 2.3 The Intelligence And Application of Performance Analysis Management Information System

If you want to solve this problem, you can block the connection between the database and the computer terminal through the network. The network user name is stored in the server through variable processing, and for specific users, they can only perform operations corresponding to their identities and browse the corresponding interface. The source code marked with annotations is completed through dynamic hot spot analysis, and after compiling the front-end analysis, a control flow graph (CFG) and a data flow graph (DFG) containing annotation information are generated. The MCGA combines the target description of the RISP architecture and the parameterized model of the reconfigurable logic resources to process the generated CFG and DFG, thereby realizing the optimized generation of the program executable code.

The performance analysis module mainly conducts further analysis on the well-stated data, and uses some charts to display the data. It mainly includes the analysis of the overall situation of the district, the analysis of the overall situation of the school, the analysis of the overall situation of the class, the comparison between the school and the district, and the comparison between the class and the school and the district. The module that manages the rights of all administrator users in the system is the user management module. If and only if the user who logs in as the administrator of the W system can

see this module in the system management list, ordinary administrators, teachers and students do not have this module.

The so-called demand analysis is also a conceptual model, which mainly analyzes the objective situation of the system and draws a subjective conclusion, which is to realize the communication between the objective reality and the main meaning. The main purpose of conceptual model design is to scientifically and systematically analyze and abstract the entities in the real objective world involved in the data warehouse, which is the blueprint of the data warehouse. The instruction selection phase of MCGA needs to obtain two instruction selection schemes, which can accomplish the same program function.

### 3. CONCLUSIONS

This paper expounds the conformance test method and main process of embedded system TSS, adopts the automatic system random test method, and effectively meets the requirements of functional test coverage criteria. Design principles, such as good user interface, security principles, and principles of openness and scalability. The process of obtaining k-item frequent sets through k-1 frequent sets, and the process of obtaining strong association rules through frequent sets. It is implemented by inheriting the RecursiveTask class that returns the result, and defines the appropriate threshold for dividing the task.

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