Intelligent Information Design and Process Management of English Curriculum System in Emerging Engineering

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Abstract: Under the new model of emerging engineering, a new English curriculum system in universities or colleges needs to be redesigned in the aspects of the teaching or learning concepts, the teaching or learning team and the syllabus, and a fresh process management of English curriculum system needs to be designed. The concepts mainly stress the academic ability through learning in using English, the teaching team needs to expand from English teachers to the cooperation of academic or professional teachers, English teachers and graduated students and current students, the syllabus need to be designed by using the intellectual information from the established database in logic, understandable and psychological structure. An information management model based on cloud computing information fusion scheduling is proposed in designing syllabus and process management, which is designed under the embedded Linux kernel environment including the design of information scheduling algorithm and the development of software. The function modules of the system mainly include database module, embedded scheduling module, information loading module, English teaching information fusion module and English process management module. The C/S architecture is adopted to realize the information management and process control of English curriculum system in emerging engineering.

Keywords: emerging engineering; English curriculum system; intelligent information design; process management

1. Introduction

With the rapid development of science and technology and social economy, it has become a new requirement of the times that the English talents with wide caliber, strong adaptability and considerable ability of application become the new requirements of the times. In view of the present teaching situation of public English in the Emerging Engineering requirements, combining with the national training goal of engineering talents under the new situation, this paper has carried on the reform and practice on the teaching contents, teaching methods and examination methods of general English curriculum and so on, and it has carried on the reform and the practice in the teaching contents, the teaching methods and the examination way and so on[1]. It is necessary to optimize and reform the curriculum system, teaching content, teaching staff, teaching methods, specialty characteristics and so on. The construction of curriculum system is the core content of talent training in universities, and its scientific or not is the key to achieve the goal of talent training. Optimizing the curriculum system is the key to cultivate the 21st century English talents[2]. In the practice of teaching English in the university for several years, we found it necessary to carry on more beneficial explora-

tions and the practice, especially the English curriculum system, because of the higher and broader standards for the college students including the postgraduates in the era of Emerging Engineering. English curriculum system is a system which is closely combined with general and professional knowledge[3] . It not only has the general features of the style of English for science, technology, art and so on, but also contains the professional content. Under the new situation, the syllabus of English curriculum for engineering majors has raised the teaching requirements of professional English, and it has changed from five aspects of listening, speaking, reading, writing and translation to the use of English for new ideas, thought and expression to the world. The main goal is to help the Engineering students to adjust their future profession by learning the latest theories and practice by learning their professional knowledge though learning and using English, which is not only limited to the major field, but covers the aspects of art, psychology, communication and so on. It aims at mastering the professional vocabulary, special engineering knowledge structures though English, collecting professional English scientific articles and materials, exchanging academic and technical knowledge with foreign experts by using their own English competence [4].

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Our current English curriculum evaluation system has a single goal, which only pays attention to the students' English competence, but ignores the students' academic achievement, especially their needs and the development of other competences. College English teachers in the daily teaching, in addition to the implementation of emerging engineering English teaching goals, in each unit of the specific teaching, it can refine each unit of the evaluation goals. In order to improve the process management ability of the English curriculum system, the intelligent information design and the process management system optimization of the emerging engineering English curriculum system are carried out.

The design of information for English curriculum system and process management in emerging engineering is taken based on the information database construction and data fusion processing of the emerging engineering English curriculum system, and the optimized information database structure model of the English curriculum system in emerging engineering is designed. By constructing the information management system of English curriculum system in emerging engineering and promoting the development of the management system in dealing with English curriculum system in emerging engineering, this paper puts forward the information management model of English curriculum system in emerging engineering based on cloud computing information fusion scheduling. The information management system of the English curriculum system in emerging engineering is designed under the embedded Linux kernel environment to realize the optimization design of the intelligent information system of the emerging engineering English curriculum system.

2. Construction And Reform of English Curriculum System In Emerging Engineering Section

2.1. Perfecting The Training Program of Talents And Highlighting The Characteristics of Applied Specialty

In the construction of the English curriculum system in emerging engineering, colleges and universities should carry out the series changes of teaching concept, teaching content, teaching management and teaching evaluation thought in time according to the needs of applied specialty in emerging engineering. The foundation and condition of cultivating applied talents have been changed greatly, the teaching quality has been better guaranteed, and English as an applied subject has been turned into a specialty of characteristic application and a specialty of brand application. At the same time of adjusting the curriculum system, we should reformulate the talent training plan, stress the main position of the students, strengthen the cultivation of the students' humanistic spirit, scientific

quality and innovative ability, and carry out the flexible study years. To make the training scheme more in line with the law of higher education and social needs, lay a solid foundation for the realization of the goal of practical talents training, and a practical training for the realization of the goal of theoretical talents reflection.

2.2. Building A Teaching Team, Attaching Importance To Students' Participation

In designing the English curriculum system in emerging engineering, colleges or universities should strengthen the cultivation of multiple talents, such as English teachers, professional teachers and students, who include the graduated students and the current students. They begin to form teaching and academic teams in different disciplines, which mainly focus on several field just like the five tribes in our university such as computing, electronics, material engineering, mechanical engineering and biological engineering. Colleges and universities should be based on the goal of talent training, based on practical teaching, taking professional practice as the main line, and supplemented by students' social practice, skill training, extracurricular scientific and technological and cultural activities, communicative skills，etc. Try to construct the practice teaching system with the specialty characteristics and promote the students' multiple ability of practical application. We should make great efforts to adapt to local economic construction and social development, unify with school orientation and talent training, and form a characteristic curriculum system with discipline construction as its support and application specialty as its direction.

2.3. Designing The Intellectual Information In The English Curriculum System

In order to promote the construction and development of English curriculum system in emerging engineering, we should not longer pay attention to the teaching of English basic knowledge such as pronunciation, vocabulary and grammar and basic skills such as listening and reading(they are left to the third class to make up for their weakness), but strengthen the training of speaking, addressing, debating, academic writing, professional translating and communicative skills by using English properly to the format, forms and content.

Hence, following the actual academic development, the intellectual information should be designed in multiple structures, clear layouts, orders, psychological iconicity. Take our university as an example. Working together with 12 teachers and 20 students, we will establish a self-use database of five aspects, that is computing, electronics, material engineering, mechanical engineering and biological engineering. Then design eight units for each aspect and such five modules as basic theory, latest academic progression, theory analysis or criticism, academic

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writing, addressing or idea exchange for each unit. After, we tried to fill each module with the proper content or material following the deep reading principles and psychological rules. We will change the module or the order or the content if we find it out of date or against the psychological or understanding principles.

3. Information Management And Process Management System Optimization of Emerging Engineering English Curriculum System

3.1. Analysis of The Overall Framework of the System

This paper proposes a new information management model for engineering English curriculum system based on cloud computing information fusion scheduling. The information management system of the emerging engineering English curriculum system is designed under the embedded Linux kernel environment. The development of the information management system of the

emerging engineering English curriculum system includes the design of information scheduling algorithm and the development of software. In the cloud computing environment, the communication network module develops three parts to realize the cross-compiling and multimode control of the information of the emerging engineering English curriculum system. The network structure of the system is designed as C/S architecture[5]. In the information management system of emerging engineering English curriculum system, the client is app, and the server is the backstage of information data processing of emerging engineering English curriculum system. The design of the system adopts the design principle of three layers, including hardware layer, middle layer and software layer. The human-computer interaction platform is constructed by Linux2.6.32 kernel, and the operation interface of information system management is constructed by GUI rendering method[6]. The overall framework of the information management system is shown in Figure 1.
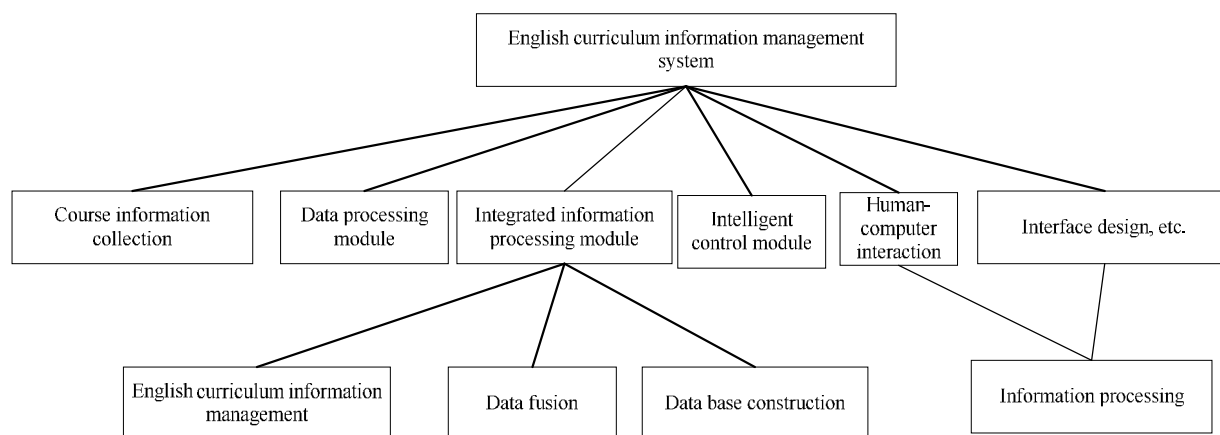

Figure 1. Overall Design of Information Management System For Emerging Engineering English Curriculum System.

3.2. Software Development of Information Design And Process Management System

Function modules of the management system mainly include the database module, the embedded scheduling module and the information loading module of the emerging engineering English curriculum system. The information fusion module of English teaching and the English process management module are adopted to realize the information management and process control of the emerging engineering English curriculum system. The information management system of emerging engineering English curriculum system is developed and designed in embedded ARM[7]. The software layer is the control module to realize the information manage-

ment system of emerging engineering English curriculum system. The abstract layer hardware Abstract Layer, HAL) is used as the kernel control program. Through the routing mechanism of the AngularJS framework, the network communication network is designed to realize the information management and security control of the emerging engineering English curriculum system, and each functional subprogram is written separately to realize serial port data and network data forwarding by tailoring the Linux kernel. After transplanting the Linux operating system, the input and output scheduling window of the control information is compiled and linked to trigger the CONVST module of the AD7656 to realize the labeling or address location of the information of the English curriculum system for engineering. The development environment of embedded Linux in the information man-

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agement system of emerging engineering English curriculum system is constructed. The compilation is accomplished by LCD controller, and the rootfs data compilation library under embedded Linux environment is obtained. The information classification of the information management system of the emerging engineering English curriculum system is carried out by leading the loading program, and the relevant registers of the CAN are initialized, and the current information of the emerging engineering English curriculum system is displayed in a graphical form in real time. In the design of human-computer interaction program, the interface design of the system is realized by GUI and MySQL, and the software realization flow is shown in figure 2.
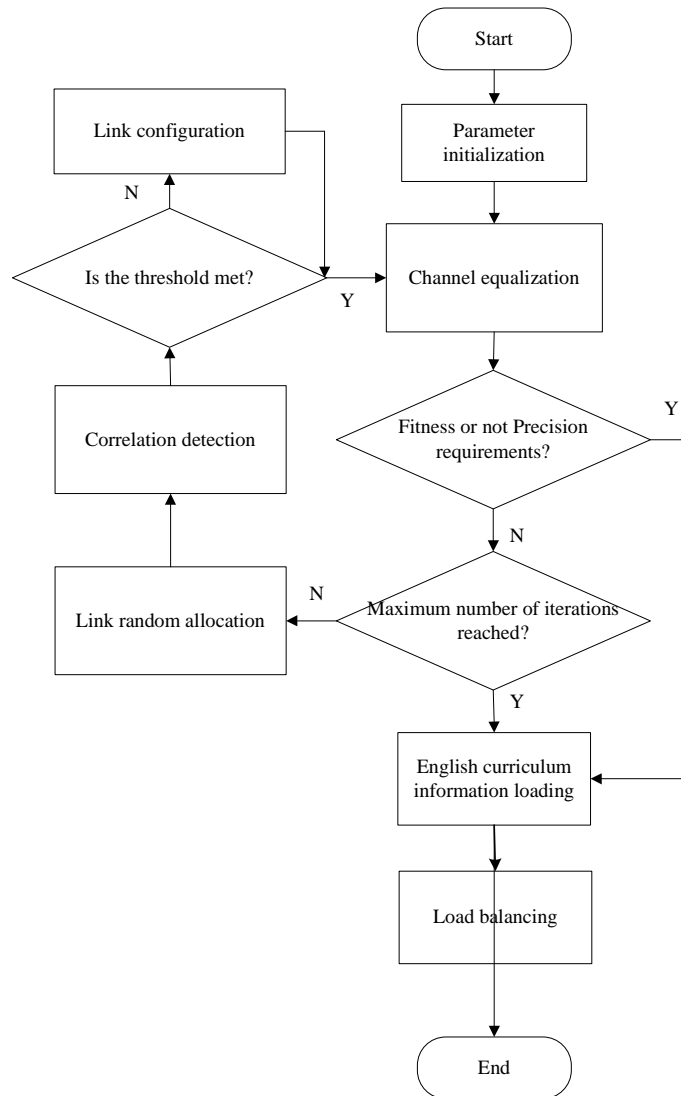

Figure 2. Software Design Flow of The Information Management System of English Curriculum System.

4. System Test Analysis

The application performance analysis of the system is carried out by using the system connection test. Qt C API is run on the embedded equipment to carry out the data writing and program loading of the emerging engineering English curriculum system information. The device used in the debugging process of the system is the: Inter Pentium debugger, which is used in the debugging process of the system. This paper analyzes the information processing and data scheduling ability of the information management system, adopts the C/S architecture to realize the information management and process control of the emerging engineering English curriculum system, and tests the efficiency of different methods for the in-

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formation processing of the English curriculum system. The result is shown in figure 3.
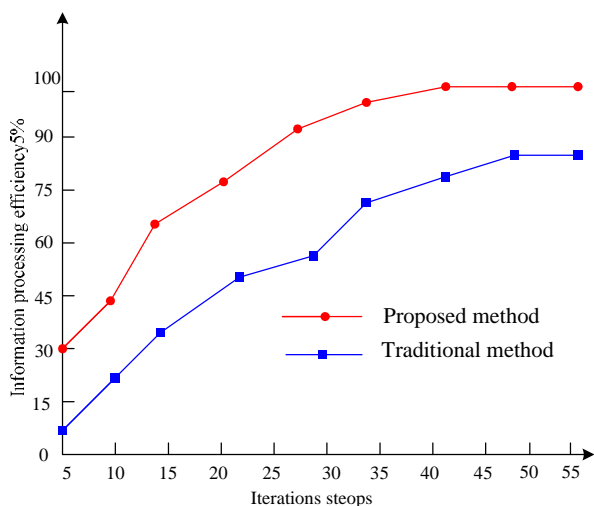

Figure 3. Comparison of Information Processing Efficiency.

It shows that the efficiency and performance of information processing in the new English curriculum system are high.

5. Conclusions

In order to improve academic or professional ability in emerging engineering though learning in using English, we try to design English curriculum system and process management in the emerging engineering. In designing the English curriculum system, firstly we try to redesign some fresh goals and beliefs, secondly we rebuild a teaching team of academic researchers and teachers, English teachers, graduated students and the current students, thirdly we design the intellectual information in a certain module in a certain unit in a certain tribe following some principles as logic, understanding, psychological principles. And an information management model of the English curriculum system in emerging engineering based on cloud computing information fusion scheduling is proposed. The information management system of English curriculum system in emerging engineering is designed under the embedded Linux kernel environment. The development of the information management system of English curriculum system in emerging engineering includes the design of information scheduling algorithm and the development of software. The function modules of the system mainly include database module, embedded scheduling module, information loading module, English teaching information fusion module and English process management module. The C/S architecture is adopted to realize the information management and process control of English curriculum system in emerging engineering. It shows good application value in practice.

4. Acknowledgment

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