Design and Implementation of Key Modules of English Teaching System Based on J2EE

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Abstract. With the development of Internet technology, online English teaching system came into being and developed rapidly. Now there are all kinds of online learning systems popular on the network, and their basic functions are generally the same. They mainly realize the sharing of a large amount of information and the online communication between teachers and students. The module discussed in this paper belongs to a complete English teaching system, which solves the two problems mentioned above. It not only provides a simulated classroom environment in the network and combines English network teaching with classroom teaching, but also provides a platform for teachers to manage English learning materials through the reasonable design of reading, writing and Translation module, On the other hand, through the reasonable annotation of existing materials and the application of text analysis function, the guiding ability of network materials for students' learning is enhanced.

Keywords: J2EE · English teaching · Key module design

1 Introduction

At present, the popular online English teaching systems on the Internet mainly focus on students' self-study and teachers' offline answers. Students can find the resources they need for learning from the network for self-study. In case of problems, they can seek the help of teachers by email. This way makes great use of the rich resources on the network and greatly expands students' autonomy in learning, However, the learning methods provided by many websites are relatively limited, and the real-time communication with teachers is also constrained. Moreover, these online English learning systems are often not combined with the school's teaching courses, which is not conducive to teachers' unified teaching activities using the network.

With the rapid development of information technology and the wide popularization of computers, more and more fields have realized informatization and automation. The advantages of computer are becoming more and more obvious. It can not only provide more, more comprehensive and cutting-edge information, but also better manage information and make the access and update of information more convenient [1]. On the other hand, people gradually realize the importance of information in today's society.

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How to collect more information, how to correctly and reasonably manage and use this information, and how to make computers serve the industry to the greatest extent have become the focus of many people. This paper discusses an information-based process in the field of teaching. Taking English teaching as the starting point, this paper discusses some new ideas and models in the process of realizing English network teaching. The focus of this paper is how to reasonably organize the rich available teaching materials in English teaching and how to help students use the network for English learning.

Lynn Vanderzyl was new to learning senior high school computer science (Cs), and she wentout at this logical area— learning a programming class using Visual Basic, Python, and Java.Alas, this way wasn't engaging her students: " my grades were too small and they threw mysystem. " The next year, this class was redesigned with the emphasis on game design, withstudents working together to create video games and teach CS in this process.And it went!Games are more than simply the gateway into CS; they will also serve as long-term educationinstruments. James Staffen, an undergraduate CS study in Penn State and the former Zulamastudent, is the huge believer in teaching Cs by planning games.He began programming athighschool and knows how challenging the education process will be.

Everyone is involved in creating the next step in education but in all the levels that guarantees thepipeline which is shown in Fig. 1 and 2.

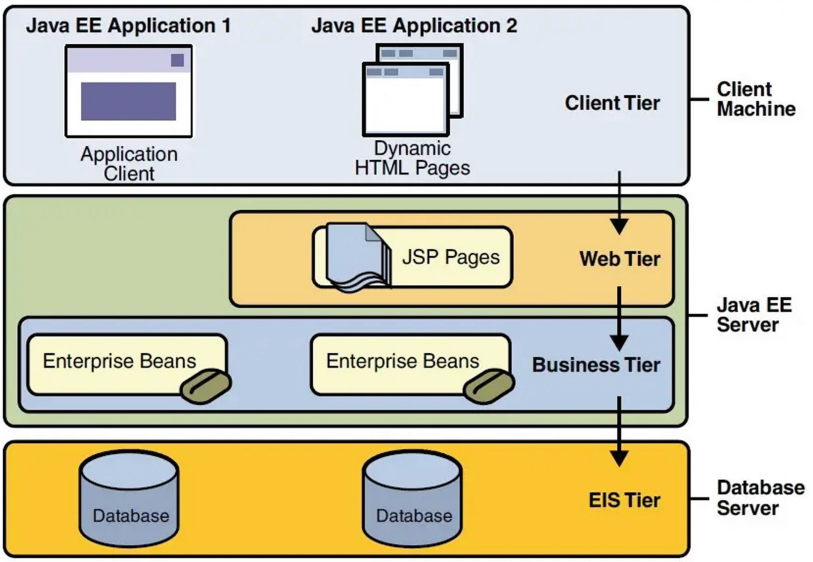

Fig. 1. Overall client

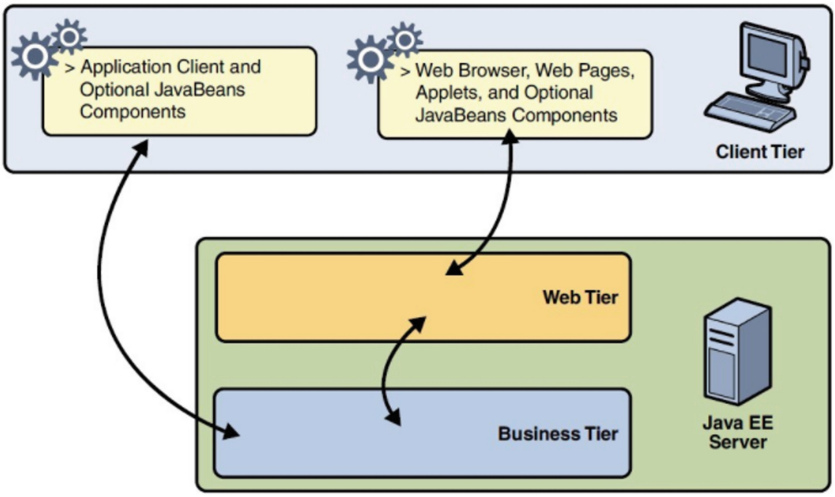

Fig. 2. J2EE servicer

2 Related Work

College English teaching in China still adopts the traditional cramming teaching mode, which cannot improve students' English ability quickly. In view of this problem [1] take professional college English teaching as a supplement to ordinary college English teaching. [2] propose a method of building cognitive student model in the network-based intelligent teaching system. [4]discuss the technology, architecture and implementation of J2EE, and discusses the technology and implementation of J2EE. In order to further improve the enthusiasm of students in distance teaching [5] propose an interactive College English distance teaching system based on multimedia technology. [6] develop an online English teaching system in comparison with the common teaching auxiliary system. [7] use the Noticing Hypothesis theory to try to solve the problems emerged from artificial intelligence teaching courses. [8] propose an English hybrid intelligent teaching assistant model based on mobile information system development, which integrates massive English teaching resources. Other influential work includes [8–10].

2.1 Corpus Related Technical Research

In the process of English language teaching and linguistics research, linguists and educators have been looking for an ideal method to study natural language and its laws. Corpus linguistics was born in this process. Corpus, also known as language material, is a collection of naturally occurring language materials. Corpus is a special database for research and use, which is composed of a large number of language information used in real situations. According to certain language principles, it uses random sampling method to collect naturally occurring continuous languages, and uses text or discourse fragments to build a large-scale electronic text database with a certain capacity. Its characteristics can be summarized as the following three points:

(1) What is stored in the corpus is the language materials that actually appear in the actual use of language;
(2) Corpus is the basic resource carrying language knowledge with computer as the carrier;
(3) Real corpora need to be processed (analyzed and processed) in order to become useful resources.

The establishment of corpus mainly includes data collection in the early stage, data screening and classification in the middle stage and warehousing in the later stage. XML can be used to store the resources of corpus. The relevant technical framework of corpus is shown in Fig. 3 below.

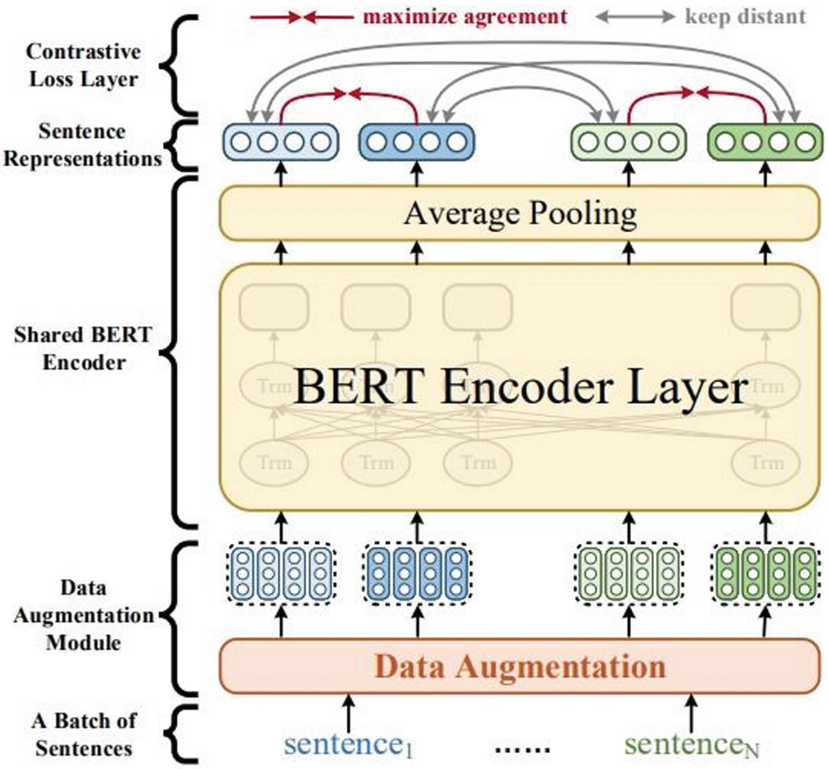

Fig. 3. Corpus related technical framework

Corpus production is simple and complex. In addition to considering the representativeness and preprocessing of corpus, large-scale corpus production also needs to rely on technologies such as network database and structured query (SQL). These productions are demanding and difficult, and serve specific research purposes, such as the development and research of parallel corpus and audio corpus. At present, with the development of retrieval tools, there are many successful sharing software, such as

wordsmith toolsv4, concordancev3, monoconcord and word Cruncher; There are also many free software, such as mircconcord, tact2.1 (based on DOS platform), wconcord, concap, MLCT concordancer, word pilot, tantconc, paraconc, etc. most of these software take KWIC (context keyword) index technology as the core function, and have the functions of vocabulary statistics and collocation statistics, which are suitable for word-based analysis [2]. Because many retrieval software can retrieve plain text, as long as the language materials to be retrieved are saved in the form of plain text (txt), the production of simple corpus can be realized, and then the retrieval can be carried out by using tools such as wordsmith toolsv4. If the retrieved corpus needs to be classified or multi-layer classified, it can be realized through the hierarchy of folders. If the corpus is classified into two types: Humanities and popular science, and each type contains 10 different topics, the folder layout can adopt the structure shown in the figure below. If you need to store files in different folders according to certain file specifications, you can locate them in the index through the file path.

Even though OKCoin based in China, they have launched separate site for English speakingcountries and users—OKCoin.com. This platform is easy to use in Europe and some other countries, such as Great Britain, Ireland, Canada, Australia, New Zealand. OKCoin.com interfaceand technical support entirely in English, so there won t be any problems in resolving possibleissues. OKCoin offers both LTC and BTC trading pairs into USD. Below, Ill share a few tips forworking with English and Japanese type together on the web.

2.2 J2EE Technology

Choosing J2EE as the development framework of the system is mainly considered from the development cost and the availability, scalability and reliability of the development process.

J2EE is an architecture that uses Java 2 platform to simplify the development, deployment and management of enterprise solutions. The foundation of J2EE technology is the standard version of the core Java platform or Java2 platform. J2EE not only consolidates many advantages of the Standard Version, such as the feature of "write once, run anywhere", JDBC API for easy access to database, CORBA technology and security mode that can protect data in Internet applications, but also provides support for EJB (Enterprise JavaBeans), javaservlet API JSP (Java Server Pages) and XML technology. Its ultimate goal is to become an architecture that can greatly shorten the launch time of enterprise developers.

J2EE technology not only has architecture, but also provides middle tier integration framework to meet the needs of applications that do not need too much cost and need high availability, high reliability and scalability. By providing a unified development platform, J2EE reduces the cost and complexity of developing multi-layer applications. At the same time, it provides strong support for existing application integration, fully supports Enterprise JavaBeans, has good wizards, supports packaging and deploying applications, adds directory support, strengthens the security mechanism and improves performance.

3 Overall Demand Analysis of English Teaching System

In traditional English teaching, teachers generally use the way from vocabulary to phrase, then to sentence, followed by text analysis and learning. Therefore, vocabulary, phrases and sentences are the basis of English learning. The Internet-based English teaching system should also follow this Law and provide teachers and students with a step-by-step and hierarchical learning platform of vocabulary, phrases and sentences. The relevant modules discussed in this paper belong to the vocal analysis function of the reading, writing and translation part of the English online teaching system [3, 4]. This part mainly provides a platform for teachers and students to teach and learn English words, phrases, sentences and chapters. The platform mainly includes four parts: vocabulary learning platform, phrase learning platform, sentence learning platform and text learning platform, which correspond to the vocabulary library management module, phrase library management module, sentence library management module and text analysis module [5]. For different user identities, each module also adds the control of permission management, so that different users have different use permissions and different function entries. For example, for teacher users, their permissions include add, modify, delete, view, search, etc. for student users, their permissions are only view and search [6]. The reason for this design is that due to the large number of student users, if the permission to modify and delete is given, it is not easy to manage, and a large amount of data will be generated, which will bring great pressure to the server. The overall structure of this part is shown in Fig. 4.

Based on our proven experience of working with data driven solution, 2018 will see greateremphasis on having a more data-centered approaches to the projects we work on.Be it a workflow system, management information system or a web dashboards that we work on, ourfocus will be on using relevant technologies to harness the power of data and apply the datascience approach to provide deeper insights to our clients and users. The first step in a successful audio visual presentation system integration is finding the right avsolution to meet your needs. Those unfamiliar with key aspects of audio visual technology mightsettle on the lowest cost option or the biggest screen possible for the space.After all, the biggest,most affordable TV on the market is the best option, right? Well, not exactly [7].

In this classification, network security obligations would incorporate building system interfacecard hardware for switches, switches or PC motherboards, on the equipment side.Another illustration would be a system design who takes a shot at the TCP/P convention stack and relatedadministrations (DNS, DHCP et cetera) for a working framework like Windows, Linux or Macos.

The system users targeted by the voice analysis function are mainly teachers and students. Teachers use this function to mainly complete the maintenance and updating of systematic teaching resources such as words, phrases and sentences [8]. Vocabulary-analysis provides teachers with the entrance of resource input, resource management and resource retrieval; Students mainly use this function to realize English self-learning, including access to resources such as words, phrases and sentences, text learning based on short text analysis, etc. vocal analysis provides students with the entrance of resource query, resource retrieval and English short text analysis; In the system design stage, we have designed as many function entrances as possible for different users [9]. Users can

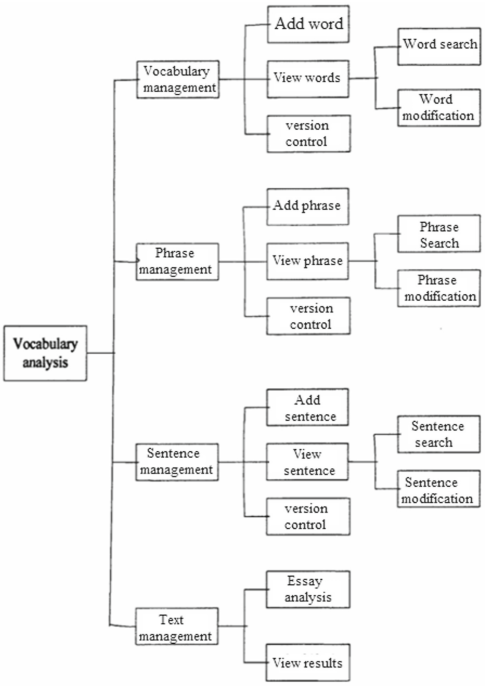

Fig. 4. Structure diagram

choose to use them according to their own needs, and customize unused user interfaces and function groups according to specific situations.

4 Design of Key Modules of English Teaching System Based on J2EE

The entry of phrase module and sentence module are the same, both of which belong to verbal analysis. The operation process is shown in Fig. 5:

The system adopts struts1 + Spring + Hibernate architecture, open source MySQL database system, Linux operating system, open source software for application server, and B/S structure for resin system. The architecture is presentation layer, business logic layer, persistence layer and resource layer in turn [10].

Below, Ill share a few tips for working with English and Japanese typetogether on the web which is shown in Fig. 6.

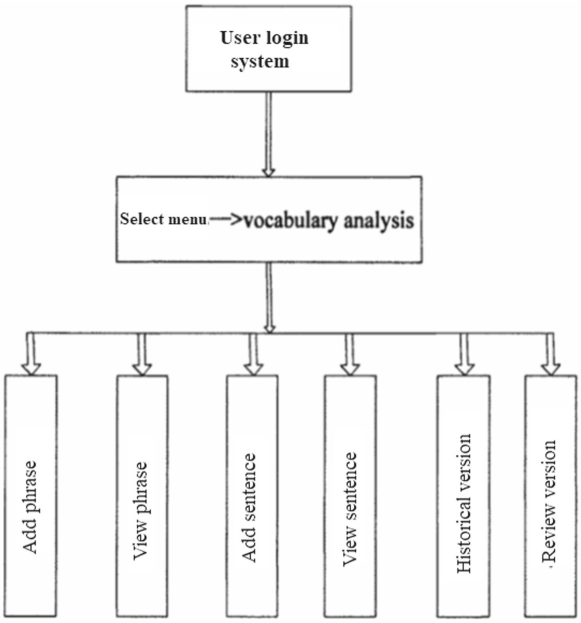

Fig. 5. System operation process

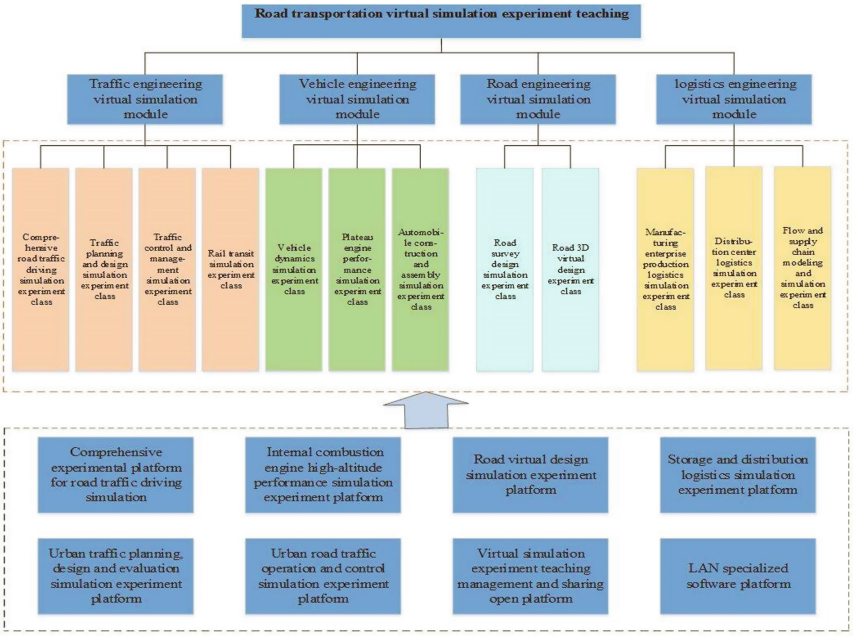

Fig. 6. Design result

5 Conclusion

With the rapid development of computer technology, network has become an important guarantee for social development. Taking the network as the link, quickly, efficiently and conveniently realize the transfer of knowledge, promote the teaching reform by modern means, and transform the traditional classroom teaching into a variety of learning methods, such as students' autonomous learning through the network at home and autonomous learning in school, which is the direction that educators should strive for. The network teaching platform based on J2EE technology is designed and developed by relying on the advantages of campus network. Through this platform, students can browse teaching contents, complete homework and participate in tests on the Internet without being limited by time, space and underground city. Teachers can also use this platform to release announcement information, release test questions, upload and download courseware, organize discussion, answer questions and other functions.

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