

Study on the Training System of Legal on Proceeding Business Based the Prototyping Method and Object-oriented Systematic Analysis Method

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Abstract: *With the development of computer technology, Web has been one of the most popular information inquiry, distribution and interaction with the greatest potential on the internet. This paper aimed to study the application of Web technology to the practical teaching of legal proceeding business, and constructed a platform of legal proceeding teaching management information system based on Web, which was of realistic significance to promoting the development of legal education and cultivating the application-oriented personnel. This paper integrated the prototyping method with object-oriented systematic analysis method in a systematic approach, analyzed the related requirement for the training system of legal proceeding and made an analysis and a design for the system framework. This paper made some exploration by applying the computer information processing technology to the legal practical teaching, considered the legal proceeding practical teaching as a subsidiary by actively applying the internet teaching platform and laid a sound basis on cultivating an innovation spirit and practical ability of students majoring in law.*

Subject Categories and Descriptors

I.2.7 [Natural Language Processing]: Text Analysis; **1.5.4**

[Pattern Recognition]: Applications – Information Extraction

General Terms: Data Mining, Information Extraction, Knowledge Management

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1. Introduction

With the rapid development of computer information processing technology and network technology, the traditional chalk and blackboard have been replaced by the computer and projector. The multimedia teaching courseware has been widely applied in the legal teaching. However, in essence, there are simply some changes in the expression of teaching information, which transform the traditional chalk-writing on the blackboard into projection with the addition of voice, light, and color. It fails to transform the traditional mode of teaching in essence; neither does it separate from the knowledge instilled by teachers. These students receive the knowledge in a negative and mechanical way. Although there are quite a number of teachers under the guidance of new teaching concept, who have ever made some exploration and attempts over the new teaching mode, such as “task-driven”, “example-driven”, “situational teaching” and “image teaching” [1]. Besides, it also applied some other various methods, such as, enlightenment education, systematic instruction, independent study, cooperative education, and oral defense. These methods can effectively promote students to understand and master the knowledge, improve their ability to analyze and solve questions. However, most of these methods are isolated each other, thus a systematic environment fails to be formed as a whole.

Twenty-first centuries is a century of computer and internet. The improved performance of computer hardware, software technology, internet technology, and the development of database technology facilitates the unprecedented prosperity of internet. Web technology has been one of the most popular methods of information inquiry, distribution and interaction with great potential [2], whose characteristics play a vital role in the revolutionary reform to the teaching mode, such as the hypertext, hypermedia independence of platform, distributive, dynamic and interactive feature, graphical feature and easiness to navigate [3], thus these features are widely applied in sharing resources and technologies. However, these technologies including multimedia, Web, database exploitation and object of distribution are showing more and more obvious potentials in education, especially in open and distance education. Therefore, this paper studied the application of information processing technology to the legal practical education based on the Web prototyping method and object-oriented systematic analysis method, as well as the exploitation of information resources in the legal field [4, 5]. The construction of legal practical teaching platform based on Web plays a vital role in perfecting the teaching management mechanism of laws subject, reforming the teaching management institutions of laws subject, improving the management means and equipment, innovating the methods of teaching management and the mode of institutions, promoting the development of laws education and cultivating the application-oriented personnel [6].

The informatization of legal education mainly lies in the application of information processing technology by computer in the legal education. The information processing technology based on computer network has produced and will continue to produce an ever-lasting influence on the legal education. This paper, from the perspective of system, applied the combination of prototyping method with object-oriented systematic analysis method. By analyzing the related requirements of law practical teaching business, this paper made an analysis and design for the system framework.

2. Study On The Web Technology And Its Application To The Teaching System

Web meant a thin net made by a spider and a complicated pattern of connections or relationships. In design of web page, it is called as a web page, which originated from the project of Enquire within upon Everything (Enquire for short) in the charge of Tim Berners-Lee in 1980. It is a hypertext information system, according to the the information organization method of hypertext and hypermedia [7]. One main concept of Web simply refers to the link of hypertext, which applies a graphical Web browser and can integrate image with video and audio. Furthermore, it enjoys several features, like easiness to navigate, distributive processing, indifference to the platform, a dynamic updated page of Web site and stronger ability of interaction.

Campus network is the infrastructure in the construction of information campus resources. Web technology plays a major role in promoting the internet multimedia teaching against the environment of campus network. In terms of the internet teaching platform of developing Web technology based on three-layer B/S (Browser/Server) [8], it especially applies to the construction of teaching applications for it enjoys several features, such as its methods of distribution and interaction, hypertext and hypermedia characteristic, indifference to the platform, distributive, dynamic and interactive characteristic, easiness to update and maintain, the graphical feature and easiness to navigate. Besides, it also enjoys quite a number of benefits. For example, it can not only optimize and share together the teaching resources, reach a perfect teaching effect with image, text, audio and video and effectively carry out the personal education, but it has directed the way of the reform and development of modern education technology, as well as an important way to promote the innovation education, promote the updating of teaching methods and techniques, develop an independent, interactive and innovative teaching mode and provide these students with the awareness of innovation.

The construction of the legal proceeding business practical teaching platform is a systematic project, which is concerned with several issues, such as constructing the internet infrastructure, sharing the laws teaching information resources and developing the system software. The development and design of the system are supposed to insist on the content-oriented principle which integrates the teaching content with techniques. We should not only take root in the advanced technology at present, but take account of the prospective requirements of future development of technology, so that it can apply to the environment of various hardware and software, meet the need indifferent to the system and database, and fit the feature of practical teaching for the laws subject. Moreover, it can meet the general need of student and teacher users at different levels, and can maximize the teaching benefits at a low cost.

3. Study On The Acquisition Of Requirements From The Training System

3.1 The guideline of systematic requirements

Requirement analysis refers to the analysis of specific requirements for software users, a comprehensive understanding of various requirements in the system construction, an accurate description of business procedure for this system, and then a confirmation to the guidelines for the system construction, a construction of objective and logical functions, and finally a construction of the system logical model. It plays a role of policy, direction and strategy [9]. In the developing process of this system, the greatest difficulty in the requirement analysis lies in that teachers engaged in the legal practical teaching fail to describe their business needs completely and accurately. Thus, it acts as a key in finishing the

requirement analysis about how to apply an effective method to lead user to make an accurate description to their system requirements.

Requirement acquisition is the most difficult, most critical activity with greatest rate of making mistakes and greatest need of communication. The adequacy of the requirement acquisition mode acts plays a key role in establishing an accurate system logical model and confirming the success of system construction.

Prototyping method is based on an initial understanding of the requirements from users. There is of no necessity to place too much emphasis on the reliability, stability, friendly interface in the system and some other defects. It simply establishes a crude system as soon as possible so as to realize the partial or entire functions in the objective system [10]. It aims to verify the feasibility of some certain aspect, such as the feasibility of algorithm and technology, while it places great attention on the satisfaction of requirements from users. Generally, the prototyping method applies the flowchart and illustration to acquire the requirements from users, and then applies software to quickly construct a prototype system including interface rapidly. Based on this, it can provide users with some guidelines for the description of business requirements and then received the comments from these users so as to make some improvements over this prototype. Finally, it will carry out the iteration and development on the basis of the prototype system.

The object-oriented system requirement analysis refersto directly recognize those objects or concepts in objective existence from the legal practical teaching as the object of study. Based on this, it applies several tools of modeling to build a system logical model, such as a case view, logic view, progress view, class diagram, object diagram, sequence diagram, status diagram and component diagram. This model can be taken to analyze each object class required to be set up by this system, and analyze their internal composition and their mutual relations. The nature and methods of these objects can be taken to describe their static feature and behavior respectively, which can lay a firm basis on the system design [11, 12].

This system took the framework of the software project theory, principle of requirement analysis, and the standard from the education technology industry. It applied the combination of prototyping method with object-oriented systematic analysis and design method, and made a comprehensive requirement analysis for the legal education platform. Meanwhile, it highlights the requirement of legal proceeding business training. After the comprehensive analysis of the system feature along with the difficulty and limits suffering the system construction, it made an analysis of the system requirement by combining prototyping method with object-oriented systematic analysis method.

3.2 System requirement

The major requirement for the legal proceeding business practical teaching software aims at applying the computer information processing technology based on Web to simulate the business process of civil, criminal and administrative. In particular, according to the content of training, teachers are accessible to materials for the legal proceeding business training drew from cases in the laws information resource database. At the same time, students can do some role playing in the cases given by these teachers and receive the business training acting as the selected character. Besides, they can download and read the content of those cases for a better understanding and master in detail. When students begin to put themselves into doers in those cases, according to the requirements for all proceeding business students can respectively draft the proceeding business documents which are equal to characters in the training cases. The system provides templates for all proceeding business documents, and students can directly download and apply those templates based on these characters. Students can finish the e-documents writing on the internet, which can be submitted to the teachers online. Teachers will do some comments on these e-documents so that students can have a clear understanding of their own merits and defects and their ability can be practiced and improved from the study. In addition to comments from teachers, students can simulate the proceeding debate in the stage of training among different characters in a same case. Those finished documents can be consulted mutually, and students can study, draw upon the merits, promote and improve mutually and jointly. Based on this mode, it can not only provide students with a gradual understanding over the proceeding business and practice the handwriting of documents in practical training, but also can gradually improve the employment skills by simulating the training for students.

The proceeding business practical teaching is the core function to be realized by the system, and its data flow is shown in figure 1.

The major business content of legal proceeding in the practical teaching system includes aspects as follows: teachers log in the system in the role of teacher, select the proceeding training cases according to the content of classroom practical teaching, and then inform those students attending the training of the selected cases in a proper way. After students log in the system, within the range of cases from teachers, they will select cases and characters which they are interested in for role playing. Students of different characters in a same case will automatically make up a training project group, and they will download and read the selected cases by themselves within the competence of characters. After a full preparation for debate, the proceeding business document templates are selected to compile the related legal documents, and then these students will submit these documents to their teachers for comments online. In the whole process of training, students in a same case group are entitled to read related documents by characters online, thus students can study,

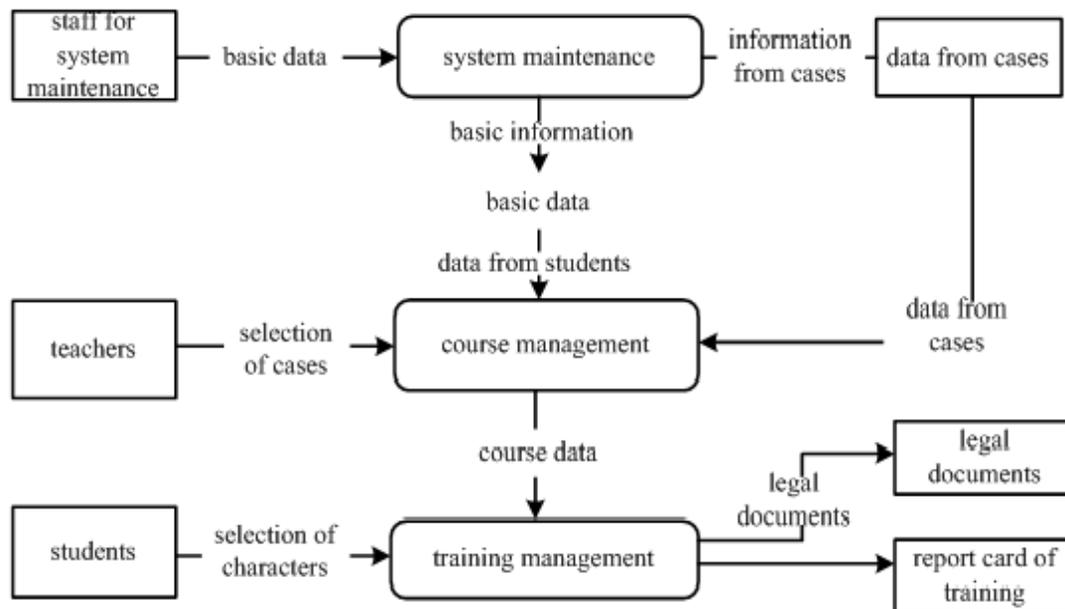


Figure 1. Data flow from legal proceeding business training

draw upon the merits, promote and improve mutually and jointly. Students are entitled to check by which students each case is selected, and are entitled to check all documents submitted by students in training, make some comments on the training content and mark the training conditions for students. There are various number of characters in every case, ranging from 3 to 10, while there are 50 or even 60 students at most in one class. Therefore, in most cases, the next case fails to meet the need of practical training for all students. One problem in need of solution lies in that how to guarantee all students to attend the training at the same time when there is simply one case adapting to the practical teaching.

4. Design of System Framework

The legal proceeding business training management information system mainly takes advantage of the computer and internet information processing technology so as to simulate the process of legal proceeding business. In this way, it can realize several functions, including the exploitation and sharing of data from training, training case and course management, selection of students training projects, downloading and reading cases, online training back-up to the legal knowledge, compilation of legal documents, comments from teachers in the classroom and grade evaluation.

The legal teaching and training platform is a digital learning environment of loose coupling [13]. This platform can achieve a seamless integration of campus management system, dean management system and teaching management system. Besides, it can achieve a uniform and standard management toward such a great number of dispersed teaching resources, a sufficient sharing and a sound

combination of teaching activities. Not only can it serve as a backup to the internet teaching platform but it can provide some supports for the independent, cooperative and research-based study. Wherein the legal proceeding business practical teaching system serves as an important component for the legal teaching and management platform and the overall design plan for the system is shown in figure 2.

The legal proceeding business training system aims at enhancing the practical teaching of legal proceeding professional skills and knowledge, and improving the simulation level of practical teaching. It serves to cultivate application-oriented, knowing-all-type and innovative personnel. Besides, it functions as an important component of legal training system which integrates three concepts, namely highlighting the training, taking account of the experiment and taking root in practice [14]. Furthermore, it applies the object-oriented design idea, while considering the user-character-power as the tie and following the principle of reaching a common character, user, and course and technology pathway. In this case, it will win several application supports from course construction for one time [15].

5. Conclusions

Against the environment of legal practical teaching integrating three concepts, namely highlighting the training, taking account of the experiment and taking root in practice, this paper revolved around the students so as to satisfy the requirement of cooperative study, explore the study requirements, provide students with the professional knowledge of legal proceeding business and improve the practical job skills in the legal proceeding busi

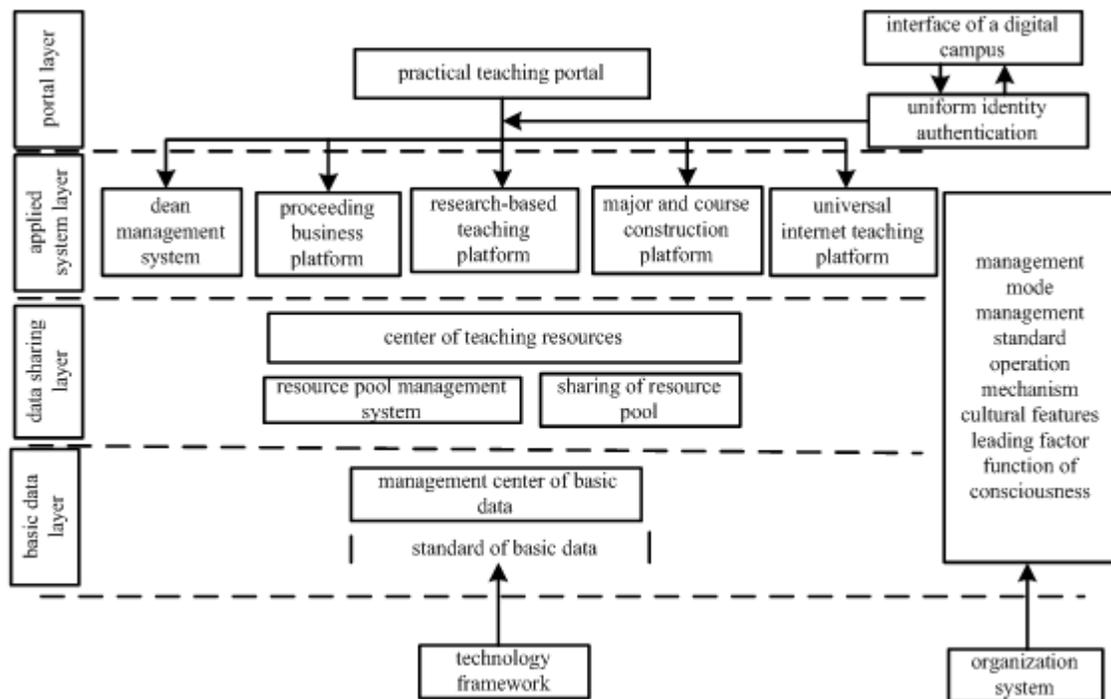


Figure 2 . Diagram of the overall design plan for legal practical teaching environment

ness. In addition, it made a study of methods to construct the legal proceeding training system based on the prototyping method and the object-oriented systematic analysis method. It lays a firm basis on promoting the legal quality education and the cultivation of application-oriented skilled personnel, satisfying the requirements for building a legal training center in our national colleges and universities and attaining the goal of cultivating the application-oriented, know-all-type and innovative legal personnel.

References

- [1] Hongxia, L. (2014). Analysis on the Course Teaching Reform of Application, 23 (42). Project-Driven Management Information System. *The Chinese Journal of ICT in Education*, (5) 60-62.
- [2] Pengshan, Y. (2014). Discussion over the Dynamic WEB Technology Architecture. *Technology Innovation and Application*, 23. 42.
- [3] Wenzhi, F. (2014). The Teaching Guarantee Facility Information System Based on Web Technology. *Modern Business Trade Industry*, (15) 60-61.
- [4] Bo F., Donghuai G., Weizhong X., Hao X. (2014). Analysis on the Application Strategies of ITIL Management Model Based on Prototyping Development—Taking the ITIL Application in the Network Center of Hao Jing College for Example. *The Chinese Journal of ICT in Education*, (11) 55-57.
- [5] Min, Z., Xiuli, W. (2012). Discussion over the Combination of Structured Method with Object-oriented Method. *Science and Technology Consulting Herald*, (20) 42-43.
- [6] Huinv, Z., Changjiang, P. (2013). Analysis on the Teaching Reform of Criminal Procedure Law. *Journal of Hebei Normal University for Nationalities*. 33 (1) 101-102.
- [7] Chenyue, B. (2013). Discussion over the Application of Project-driven Teaching on the Professional Teaching of Software Technology. *China Educational Technique & Equipment*, (17) 16-17.
- [8] Ling, L. (2011). The Application and Comparison of Structured Method and Object-oriented Method in Modeling. *Mechanical & Electrical Technology* 34 (5) 26-30.

- [9] Chao L., Kunwu X. A (2013). Survey of Software Requirements Analysis. *Journal of Hubei University for Nationalities (Natural Sciences Edition)*, 31 (2) 204-211.
- [10] Xiqi, Z. (2014). Application of Prototyping to the Development of Enterprise Management Information System. *Journal of Anhui Vocational College of Electronics & Information Technology*. 13(1) 31-34.
- [11] Wencheng, D. (2011). Research on Applying of Object-oriented Methodology in the Development of Management Information Systems. *Journal of Hubei Normal University (Natural Science)*. 31 (4) 35-38.
- [12] Lili, F. (2014). Analysis on the Development of Software Engineering in the Object-oriented Design. *Industrial & Science Tribune*. 13 (15) 81-82.
- [13] Dahai, T., Xingyong, L. (2014). The Object-oriented Analysis and Design. *Science Information*, (10) 160.
- [14] Liangda, Y. (2013). The Teaching Reform of Object-oriented Programming Course. *Fujian Computer*. 29 (7) 211.
- [15] Guo, W., Xuejie, Z. Bing, K., Haiyan, D., Jun, Y. (2014). The Teaching Reform of Object-oriented Programming Course. *Computer Education*, (3) 16-19.