

The Design and Solution of Students' Entrepreneurial Practice Ability Training Cloud platform

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Abstract

The goal of the article is to solve the problems of training the students' practice abilities in colleges' entrepreneurship practical teaching, to develop students entrepreneurial practice ability training cloud platform with the use of kinds technology means such as cloud computing, internet technology, embedded technology and network communication, considering the features of school entrepreneurial practical teaching in school. The platform is constituted by many modules such as entrepreneurial assessment, business school, business hall, entrepreneurial capability evaluation, career plan, career decision analysis, business simulation management, etc. Adopting practical training in human-computer interaction model, the platform simulates kinds of problems during their starting business. Platform includes various modules such as disciplines different training system, evaluation system, certificates, cooperating between colleges, employment tracking and business guidance. It effectively strengthens the management flexibility of students practical business ability training cloud platform, carry forward the practical teaching of starting business and co-building the lessons of starting business. It's helpful to improve students' awareness, to master the skills of running business, to enhance their abilities of choosing a job.

Keywords: *Education Sharing Service; Simulation Scenarios; Cloud Computing; Practice Ability Training; Platform*

1. Introduction

On basement of increase, use and consigning of internet service, the cloud computing achieves the desired dynamic resource or service through the Internet on demands or in an easy expanding way [1]. The cloud computing is capable of restructuring and optimizing the education information resources. Through one-stop application and the idea of cloud education, it broke the border of traditional information education, solved the problems of low-level redundant construction of education system, opened the platform of sharing public resources, and realizes resources sharing in wide range efficiently. The cloud platform is the technology basement of realizing the learning society and promoting the development of information technology [2]. Through using the core technology of cloud computing, it connects the internet technology with communication technology. It builds a multi-level education service system which across time and space in wide scope. The common learning model under cloud computing usually includes real-time interactive knowledge-transference in large scale, personalized autonomous learning and community discussion. It builds up the opening,

sharing, sustainable development of education service environment, builds and shares the education resources, creates a cloud environment for teaching and scientific research, creates network learning platform. Education resource is under the management of the cloud computing and cloud storage platform [3]. Through virtualization technology, aggregation and integration of software and hardware resources, it achieved intensive and transparent management. It helps to save hardware investment, to improve the system utilization, to reduce the cost of management, to realize the dynamic allocation and use as needed.

The current real effect of business practice teaching in colleges is not as good as its advising. It's short of entrepreneurship education organization and management system and mechanism, lack of high level teachers and entrepreneurship education curriculum system of college students, lack of industrial environment for starting business, lack of government supporting policy and entrepreneurial culture of college students, lack of supports from primary and secondary schools' entrepreneurial education, etc. It's a systemic project to develop entrepreneurship education in universities. The cooperation of government, society, business industry and universities were needed to form entrepreneurship education atmosphere, to raise the awareness of entrepreneurship education, to set up the concept of entrepreneurship education [4]. The entrepreneurial practice teaching needs kinds of privilege policy from government to encourage and guide students to start business. It's the key point of our current universities' practice teaching to carry out the entrepreneurship education, to advocate entrepreneurship, to cultivate the students' pioneering consciousness and ability. Entrepreneurial practice ability training cloud platform helps the sharing, updating and delivery of information, helps to solve many problems such as abnormal teaching resources distribution, slow updating and low level of sharing, etc. It helps to improve the quality and efficiency of practice teaching. Providing information supports for high quality innovation, entrepreneurial talent, it's for the benefits of both integrated utilization of practice teaching resources and balanced development of education resources [5].

2. The Definition of Students Entrepreneurial Practice Ability Training Cloud Platform

Seeing from the points of training shorted talents in industries and application-oriented talents, the design idea of students entrepreneurial practice ability training cloud platform goes with its integrated design with practical teaching innovation, practical teaching curriculum provision, definition of career-creating talents, etc. Considering the feature of skill competition platform practical teaching training, the design of software develops entrepreneurship resource planning, university cooperative training according to all process of practical teaching [6]. Mixing the multi needs such as design of interactive business practice ability training mode, enterprise training integration, industries butt jointing, academic exchange and policy service, etc. It meets the development trends of future real practical teaching on the points of software design, realizes the combination of working experience and knowledge, realizes the combination of knowledge and practice. In order to improve the students' starting ability during school, to perfect the innovation business incubation platform, to form practice teaching training mechanism under virtuous cycle, the design of cloud platform needs to consider the all-round entrepreneurial practice teaching system of high school, government, teacher and students. The interrelated and interactive mutual supporting relation needs to be built between its sub-systems. It puts kinds of cloud platform such as information, training, curriculum, class and incubation clouds under the menus lists of information resources, training course, practical training, entrepreneurship classroom,

students' practice, teacher training, start-ups counseling, business incubation and entrepreneurship interaction, etc. With the restructuring of current resource at school and practice ability training resources platform, it realizes the sharing of information in wide range efficiently and build-up of one-stop business service. It helps to fully share the high quality education resources, to optimize the curriculum content, the transformation of the mode of teaching and learning and entrepreneurship education vertical management, to realize the education information, teaching practice, training courses, famous guidance, project docking incubation and other one-stop services [7].

In the form of cloud desktop, entrepreneurial practice ability training cloud platform realizes the centralized organization and management of teaching, practical training and application software. It realizes unified portal, unified authentication, unified user management and unified rights management. Using single sign-on technology, the cloud education platform uniformly manages the application platform, browses all application system and third party software in platform with landing at a time. The entrepreneurial practice ability training cloud platform provides the unified management on sources. It adopts the virtual desktop technology and breaking the data barrier of applying software, with the B/S, C/S or air architecture been inset into the application system seamlessly, which helps expanding the application program without limits, realizing the data communication and system management [8]. The building up of cloud basement platform helps with the integration of sharing entrepreneurial practice teaching of the curriculum resources, construction of network information technology, optimal construction of education infrastructure and practical teaching management. It realizes reform and innovation of existing business practice ability training mode and practice teaching methods, supports the students entrepreneurial practice ability of scientific research and education management, builds the intelligent entrepreneurship education, entrepreneurship training, entrepreneurship and innovation service of entrepreneurship education cloud platform. The platform is an information managing platform which owns various digital teaching functions with its advantages of simple, stable, high security, mobility and easy management. It has easy assembling humanized operation interface, provides education platform on cloud side such as QQ or MSN. The platform supports Windows or Android system, has the function of managing the bandwidth. Real-time teaching works when the bandwidth is higher than 24k. Its unique MCU-Relay construction supports 1 million people on line at the same time, which includes on line discussion teaching. Supporting the server backup and load balancing, the platform has extended various integrated interface of API application software. It works under NAT, firewall and proxy server environment. Supporting the encryption of images, voice and data transmission, it realizes independent video function under students' practical operating model, ensures that the whole image, voice, data and video tag are saved to a single file automatically.

3. The Design and Solution of Students Entrepreneurial Practice Ability Training Cloud Platform

Students' business practice ability training cloud platform is the information center of practice teaching in school. It realizes sharing the training resources, teaching resources, cooperation between colleges and scientific research, social service resources of universities entrepreneurship education though the building of the cloud education platform [9]. Using the cloud computing and storage virtualization technology, it integrates the business system, test system and desktop system into the running and managing under vSphere environment. It

realizes the high availability system characteristic, dynamic allocation of resources, centralized management, centralized backup, desktop management, mobile office and computing resources competition mechanism. Through integrating the hard and soft resources in different physical locations under different platforms, it breaks the limitations of sharing the resource and interflowing of trainings or interflowing of teachings in traditional professional teaching system. Improving the efficient management of labs and efficient sharing and applying of resources, it reduces not only the cost of managing and purchasing the hardware but also the duplication of resources [10]. It realizes informatization, intellectualization and networking of the experimental teaching resources, improves the utilization of equipments and resources, the changes before and after the using of students entrepreneurial practice ability training cloud platform, see Figure 1.

| | Before | After |
|-----------------|--|--|
| Resource Center | Scattered resources investment More difficulty in sharing Knowledge | Intensive resources construction Knowledge management platform |
| School | Restrictions of school management level Restrictions of school resources Contradiction between funding and wasting | Focus on teaching research Not restricted by time and space Use on demand and use as planned |
| Teacher | Traditional teaching mode | Interaction with students online |
| Student | Practice in the classroom | Autonomous learning anytime anywhere |

Figure 1. The Changes Before and After the Using of Students Entrepreneurial Practice Ability Training Cloud Platform

3.1. The Background System of Students' Entrepreneurial Practice Ability Training Cloud Platform

The cloud platform not only satisfies with the PC end operation in labs, it also supports the using of mobile terminals such as smart phones, IPAD, etc. The students check the study task though mobile or other mobile devices. They also answer the questions, check grades, comments on tweets by phones. Students use entrepreneurial practice ability training cloud platform to expand the space of practical training learning, to realize learning anytime anywhere. The teachers check lessons' information, students' homework, situation of practical training, test scores though mobile devices. The system also has the functions such as effect analysis of lessons or comments on tweets by phone. The teachers understand and manage the students' learning situation in a timely manner through business practice ability training cloud. Through the trans-regional various terminal cooperating running between students and teachers. It breaks the limits of time and space. Considering the real needs of practical training for students and teachers, it creates ubiquitous network learning environment.

Through data syncretism technology, students entrepreneurial practice ability training cloud platform unifies the basic data, regulates the standard data format, establishes unified

data standard. Connecting the data with each another in the background data base, it realizes the co-building and sharing of background data. It makes many professional third party software connects with each others, such as different teaching resources, training resources and business management, tourism management, marketing, e-commerce, financial management. Through cross-database engine drive system, it realizes the unified allocation of the resource database, lays the foundation for the unity and integration of the platform application system [11]. The background system of students entrepreneurial practice ability training cloud platform, see Figure 2.

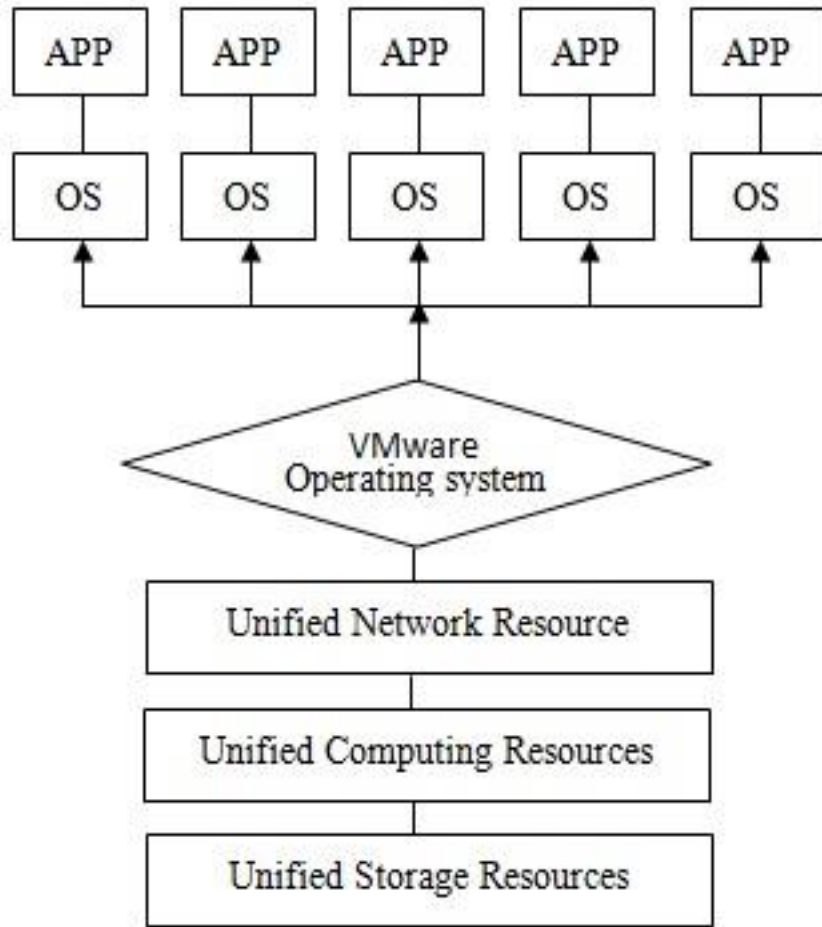


Figure 2. The Background System of Students' Entrepreneurial Practice Ability Training Cloud Platform

Through imitating automatic transmission of the modern enterprise information, it makes the training to be more closely relating to working environment. The original practical training focus on single business develops into specific complicated business running environment, which fully mobilizes students' study enthusiasm, improves the students' practical abilities. Through assisting integrating configuration tool, the cloud platform realizes the user-defined management of a certain subject or business with applying combined management server. According to the requirements of data synchronization and data mining, application database manager goes process defining application portfolio database of application portfolio. It's capable of free configuration, realizes the real data unified for

business. Every system module in the platform takes advantage of its ability of extending. It recombines the module to form the business process under some specific fields. The platform simply simulates the business process, goes proceed with extend extension and mutual combination according to how far it goes of practical training. It provides the extensive entrepreneurship training simulation for students. Through VMware server consolidation, isolation, system operation and I/O resources of micro control design, the platform was able to combine the existing in the Shared storage management software to improve the operating efficiency of each system. Platform includes various modules such as disciplines different training system, evaluation system, certificates, cooperating between colleges, employment tracking and business guidance. It integrates free server and storage resources, strength the management flexibility of the server, reduce the redundancy and maintenance costs of technology, improve the efficiency of operation platform [12].

3.2. The Server/Client of Students' Practical Business Ability Training Cloud Platform

Based on cross-media communication technology of IP internet (IPv4, IPv6, 2.5G, 3G, Wi-Fi, WiMax, SIP), students practical business ability training cloud platform supports those terminal equipments such as PC, Android, etc. It realizes cross-media synchronization and asynchronous communication of audio and video, text, images, data, etc. Each server supports concurrent access of 500 users, supports the deployment server redundancy, server balance adjustment bandwidth consumption management and settings. Cooperating with server relay architecture, it realizes concurrent access for 1 million users. The server uses audio and video codec, compression and transmission technology. It guarantees only 48k bandwidth is needed for transferring the audio & video on the basement of high quality communication effects. It works for all kinds of internet environment, greatly reduces the load of network bandwidth. The whole transferring of TCP/UDP audio and video was been encrypted, which avoid transmission of the plaintext data. With the use of 128 - bit key exchange function and Diffie - Hellman encryption algorithm, the system reduces the potential dangers laying in internet. During the communication, the activity server side of voice, video, text and data was recorded then saved for a single proprietary format video automatically. Video file uses strong encryption way to prevent the crack form the third party, to avoid the risk of contents leaking which caused by the ways of recording and archiving security issues. Platform separates server and client systems. With built-in multiple roles with different privileges and flexible authorization mechanism, it allows the clients and servers to build reasonable framework of limits authority according to the actual applications. The server also provides secondary development interface, which matches with the SDK documentation. The third party is able to easily implement their brands into the communication software, then co-operating with them [13].

The Client side multi- media communication software works pretty well with Windows and Android mobile system [14]. The client side instant message software achieves many functions such as information transmission, search & play video records, find contacts, establish group, meeting query, announcements query, visiting internet office, uploading data & audio & video, discussion on electronic whiteboard, real-time vote, invite users to participate in online classes, online simulation competition, *etc.* Teachers use platform teaching training modules to proceed with task driven type teaching and study, the remote online video teaching, see Figure 3.

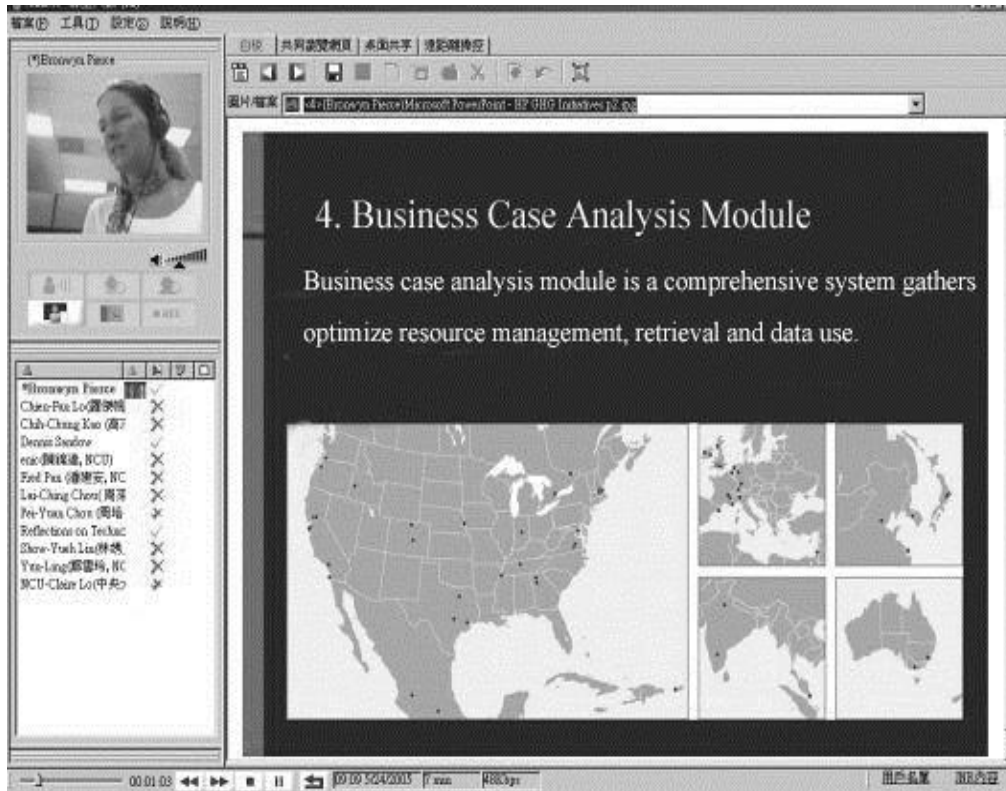


Figure 3. The Remote Online Video Teaching

3.3. The Module of Students' Practical Business Ability Training Cloud Platform

Through preparing lessons on line and creating digital books, it perfects the contents of training on platform, realizes releasing teaching task and management of system in real time, achieves the tracking of learning situation. It uses comprehensive evaluation module to organize the daily test and formal exams of the student [15]. Supporting multi-type analysis methods to track students' grades, it analyzes students' grades efficiently. The client side is capable of many functions such as delivering resources effectively and intelligently, dividing and managing the teaching resources, positioning the practice effect of student accurately, recommending download resources intelligently, analyzing the exploitation degree of student resources, statistical analysis and evaluation online, *etc.* Taking the advantages of distributed storage resources, resource management and knowledge management of the platform, teachers have access to the developments of teaching resources, training, certification, employment and entrepreneurial resources. It helps to reduce working strength of teachers, to improve teachers' targeted teaching, to form a digital repository, education alliance, alliance between colleges and collaboration systems for different professional teachers, to promote the students' entrepreneurial ability and the sharing of practice resources [16].

Students' entrepreneurial practice ability training cloud platform includes many modules such as entrepreneurial assessment, business school, business hall, entrepreneurial capability evaluation, career plan, career decision analysis, business simulation management, *etc* [17]. During the simulation operation which looks pretty real, the students completes the business plan, deals with industrial and commercial tax registration, making management decision on running of the company. It's helpful to improve students' awareness, to master the skills of running business, to enhance their abilities of choosing a job. The academic data, research

data and normal data were being collected into students' entrepreneurial information resources system. It also collects innovation entrepreneurship literatures to form a continuous dynamic update database. With innovative thinking teaching, cases of career planning, analyzing the establishment of company, the typical examples, *etc.* The database inspires students' innovative consciousness and entrepreneurial passion, accumulates knowledge and improves their entrepreneurial skills, helps students to improve their awareness, to master the skills of running business, to enhance their capacities of running business. With built-in graphics, numbers, text, reasoning, reverses thinking and creative simulated training in class, Innovative thinking ability training system provides step by step learning lessons of innovative theory and test, innovative training, innovative evaluation. Through simulating the confrontation, it enhances the innovation consciousness of students, develops the students' abilities of running business on purpose. Career planning simulation system adopts practical training and micro-standard teaching in human-computer interaction model. It simulates the real training process which covers all steps of career planning, job applying and start-up of business. Seamless docking classroom allows the students to experience systemic training from the entrance into university to the employment. It experiences the growth of vocational ability during running business. It guides students to consolidate the theoretical knowledge and practice their effects. It records the growth of entrepreneurial career. By analyzing the successful and failed cases, business case analysis system helps students to learn the knowledge in the process of entrepreneurship. It creates opportunities for improving students' business skills, improves students' entrepreneurial quality. It enriches the forms of entrepreneurship education courses, strengthens the knowledge absorption and the effect of practical application. Entrepreneurial ability evaluation system offers students the entrepreneurial ability assessment reports by judging the process of students' business plan, dealing with industrial & commercial tax registration, managing the company established, *etc.* Through the simulation of real working environment, the system helps the students to deal with the operating problem or management problems in real enterprise founded. It helps them to analyze or evaluate the implementation of the measures and operating results, to deepen students' understanding and real experience of running business [18].

3.4. Users and Function Decomposition of Student's Entrepreneurial Practice Ability Training Cloud Platform

The company establishment simulation system simulates the industrial and commercial registration procedures of company through using flash animation, 3D and interactive ways. The simulated scene was quite real and direct-viewing. It quite matches with real working environment and office. It includes obtaining the certification of students' running business, office renting, formulate articles of association, business license registration, registration seals, quality supervision, bank accounts opening, tax registration, social insurance, trademark registration, business license issue, tax registration certificate, organization code certificate and social insurance registration certificate, license of opening bank account, corporate seal and establishment of company. Starting from its concept of consumer demand as the center of the marketing, the marketing actual combat simulation system simulates the real competition in markets. By constructing a collaborative competitive virtual marketing environment, the students play the role of sales manager in company. They understand business and make the marketing decisions in different angles. Using optimization calculation mode, the market development degree, the biggest market share, actual sales, profit margins and total capital reflect the difference of marketing strategies. The module trains the students to master the basic knowledge and principles of marketing. It forms marketing knowledge system with the strategic methods and management tools. According to internet examination

system developed by college students' entrepreneurship education, business simulation evaluation system develops applications such as online exam, skills competitions and practice teaching. Using the B/S framework and online examination on INTERNET and LAN, the system was able to afford large-scale on-line examinations. The examination realizes internet working environment, paperless and automation through the background settings which was been set according to need. Entrepreneurship practice ability training cloud platform provides the entrepreneurship education mode which integrates teaching, simulation and practice. The platform is benefit for the combination of public course of students' entrepreneurial practice and college students' entrepreneurship education, users and function decomposition of students entrepreneurial practice ability training cloud platform, see Figure 4. Through the applications such as entrepreneurial base, preparation of running business, business implementation, entrepreneurial actual combat training innovation training, innovation ability evaluation, entrepreneurship test, business communication, shape of entrepreneurial ability, etc. It allows the students to participate in all process of running business, enhance the students' perceptual knowledge by simulating the real business running processes in a company [19].

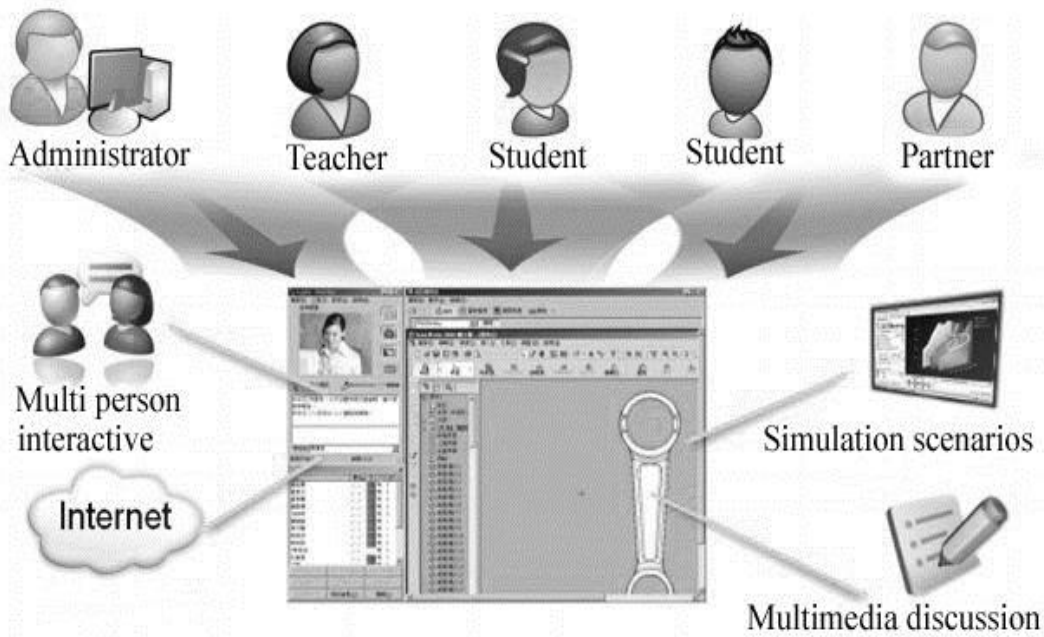


Figure 4. Users and Function Decomposition of Student's Entrepreneurial Practice Ability Training Cloud Platform

4. Information Sharing System of Students' Entrepreneurship Practice Ability Training Cloud Platform

Students entrepreneurial practice ability training cloud platform changed its independent operation way in old lab, which was not able to integrate different majors' research teaching resources. Through build-up of information sharing platform in lab center, on basement of data communication in different majors of different departments, it integrates the scientific research and teaching resources different departments' labs to form the simulated real training of simulation of social economy, resources integration of information sharing platform, see Figure 5. In simulation of social economy of this module, a company's business relates to

another's [20]. Different majors' real trainings were been realized in one simulated businesses order. According to the cross major entrepreneurial ability comprehensive platform under the real social economy enterprises operating condition, according to different kinds of nature of enterprise and types of enterprise, it changes old single professional training into training the practical ability of students. The practice teaching platform uses cloud computing, Internet technology, embedded technology, modern encryption algorithm, cloud extraction technology, network communication technology [21]. Combining the characteristics of school education, it changes the way of school teachers interacting with students by education resources. It realizes its ability to go proceed with automatic application and portfolio managements on basement of certain major or business chain. According to requirements of data synchronization and data mining, it defines the application data base with reference to corresponding combination. Through interconnect cooperation, it provides role-based personalized custom services, promotes the informatization level of school education, and achieves the cultivation of students' comprehensive practical ability [22].

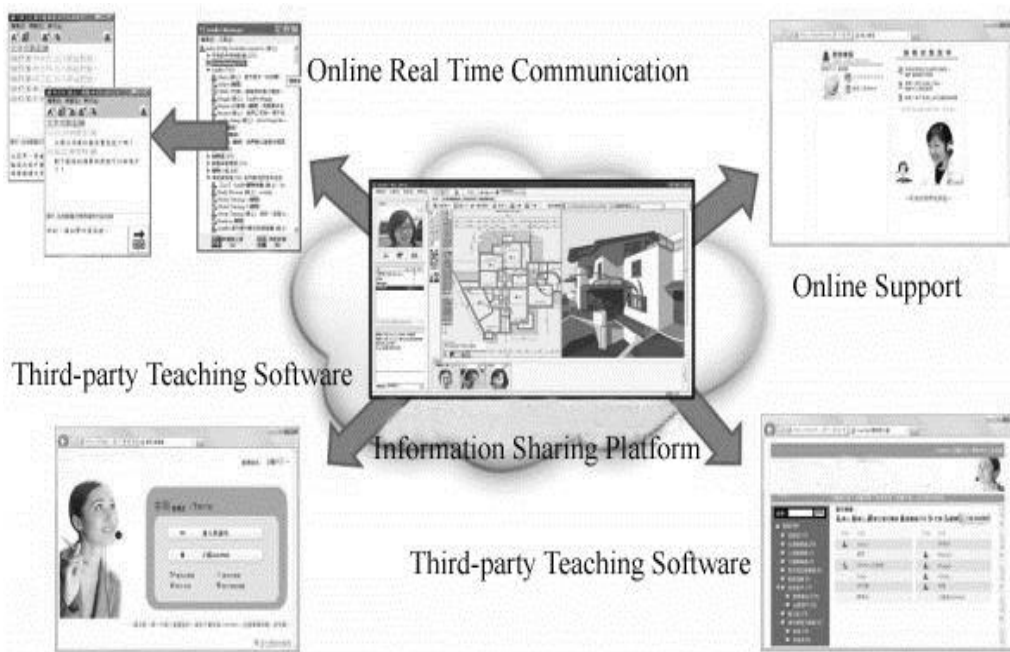


Figure 5. Resources Integration of Information Sharing Platform

Information sharing system of students' entrepreneurship practice ability training cloud platform realizes the school's informatization of practice teaching, breaks the disadvantages of traditional single source laboratory construction. It generally manages the user of experiment, teaching resources, training contents, evaluation, *etc.* It realizes the efficient sharing and applying of lab resources, teaching resources, cooperating between colleges and scientific research, social service resources. Considering the extensibility and expansibility of each business module, the design of the platform allows the administrator of system to combine different company's real practice training module, to form a business process in certain business field [23]. All modules under platform not only realizes the simulation of single business process, but also expands or groups according to how easy the real training teaching is. Through data base technology, the information sharing platform regulates the data format, unifies the basic data, establishes data standards, and connects with background database. It connects different teaching resources, real training resources with third party

teaching software, realizes the cooperative establishment and sharing of background data. The information sharing platform realizes functions such as unified portal, unified authentication, rights management and unified user management, *etc.* It realizes the sharing teaching resources in and out of school on basement of realizing experience teaching in different departments. Through multi-database engine drive system, it realizes the unified development of database and implements of sharing data. It allows students and teachers to visit the school real practice training room and resource pool any time anywhere once they get approval. Online practice teaching breaks the disadvantage of limited time and space in the original experiment teaching. It effectively promotes the utilization efficiency of lab, creates real practical teaching module under education cloud times.

5. Conclusion

On the basement of DC/LOM and international standard, students entrepreneurial practice ability training cloud platform designs opening cloud resources sharing platform according to the expanding and extensibility of industries and profession. The platform integrates the practical teaching resources effectively through the import, review, distribution, transmission and backup of entrepreneurial practice teaching resources. The build-up of complete data sharing system helps to handle the conflict of continued growing needs for teaching resources and disadvantages of education investment shortage and teaching resources shortage. It also improves the utilization of practice teaching resource. It builds the school teaching environment, group learning environment and students' autonomous learning environment through teaching information automatic transmission system, teachers' guidance control system and students' self-study system of students' entrepreneurial practice ability training cloud platform. It realizes teachers' inquiry-oriented teaching, students' personalized learning, interactive collaboration between teachers and students. It promotes entrepreneurial practice teaching, the co-building of business lessons, sharing business resources, cooperation of manufacture, study and research.

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References

- [1] S. Ullah, X. F. Zheng and F. Zhou, "T-CLOUD: A Multi – Factor Access Control Framework for Cloud Computing", *International Journal of Security and Its Applications*, vol. 7, no. 2, (2013), pp. 15-26.
- [2] Y. J. Song, J. M. Kang and J. Huh, "A Secure Real Media Contents Management Model Based on Archetypes using Cloud Computing", *International Journal of Security and Its Applications*, vol. 7, no. 3, (2013), pp. 327-336.
- [3] Y. Y. Zhu, "Research on Practical Teaching Recording System Based on QuickTime Virtual Reality Technology", *International Journal of Online Engineering*, vol. 9, no. 5, (2013), pp. 4-8.
- [4] K. S. Song, S. C. Nam, H. K. Lim and J. K. Kim, "Analysis of Youngsters' Media Multitasking Behaviors and Effect on Learning", *International Journal of Multimedia and Ubiquitous Engineering*, vol. 8, no. 4, (2013), pp. 191-198.
- [5] Y. Y. Zhu, "QuickTime Virtual Reality Technology Applies to Practical Teaching Recording System", *TELKOMNIKA Indonesian Journal of Electrical Engineering*, vol. 11, no. 11, (2013), pp. 6315-6320.
- [6] S. A. Aghdaie, S. Fathi and A. Piraman, "An Analysis of Factors Affecting the Consumer's Attitude of Trust and their Impact on Internet Purchasing Behavior", *International Journal of Business and Social Science*, vol. 2, no. 23, (2011), pp. 147-158.

- [7] P. A. Pavlou, "Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model", *International Journal of Electronic Commerce*, vol. 7, no. 4, (2003), pp. 101-134.
- [8] M. Jang, M. Yoon and J. W. Chang, "A k-Nearest Neighbor Search Algorithm for Enhancing Data Privacy in Outsourced Spatial Databases", *International Journal of Smart Home*, vol. 7, no. 6, (2013), pp. 239-248.
- [9] S. J. Park, T. K. Yang and Y. H. Seo, "Development of an Electronic Ordering and Payment System with Embedded Devices", *International Journal of Smart Home*, vol. 7, no. 3, (2013), pp. 393-402.
- [10] Y. Y. Zhu, "Research on the design and implementation of e-commerce teaching simulation operating platform", *International Journal of Online Engineering*, in press.
- [11] J. Jeong, M. Kang, Y. Cho and J. Choi, "3S: Scalable, Secure and Seamless Inter-Domain Mobility Management Scheme in Proxy Mobile IPv6 Networks", *International Journal of Security and Its Applications*, vol. 7, no. 4, (2013), pp. 51-70.
- [12] D. J. Kim, D. L. Ferrin and H. R. Rao, "A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents", *Decision support systems*, vol. 44, (2008), pp. 544-564.
- [13] M. Naeem, S. Gillani and S. Asghar, "Application of Subset Theory towards Solution of Functional Diversity Paradox", *International Journal of Hybrid Information Technology*, vol. 6, no. 2, (2013), pp. 107-116.
- [14] S. A. Majore, H. Yoo and T. Shon, "Next Generation Electronic Record Management System based on Digital Forensics v", *International Journal of Security and Its Applications*, vol.7, no.1, (2013), pp. 189-194.
- [15] J. K. Kim, W. S. Sohn, K. Hur and Y. S. Lee, "Effectiveness and Usability of Stylized Notes for Electronic Textbooks in Tablet PC", *International Journal of Multimedia and Ubiquitous Engineering*, vol. 8, no. 4, (2013), pp. 1-14.
- [16] P. A. Pavlou, "Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model", *International Journal of Electronic Commerce*, vol. 7, no. 3, (2003), pp. 101-134.
- [17] M. S. Shahibi and S. K. W. Fakeh, "Security Factor and Trust in E-Commerce Transactions", *Australian Journal of Basic and Applied Sciences*, vol. 5, no. 12, (2011), pp. 20-28.
- [18] Y. J. Lee, "The Analysis of Brand Effect Appearing on 3D Computer Game", *International Journal of Multimedia and Ubiquitous Engineering*, vol. 8, no. 3, (2013), pp. 197-206.
- [19] Y. Y. Zhu, "Research on the Data and Transaction Security of Enterprise E-Commerce Countermeasure", *International Journal of Security and Its Applications*, in press.
- [20] R. A. Amarin, O. O. Garibay and I. Batarseh, "A Topic-Driven Modular Approach to Engineering Education Delivery", *International Journal of Emerging Technologies in Learning*, vol. 8, no. 1, (2013), pp. 53-57.
- [21] Y. R. Li, Y. Y. Zhu, C. N. Zhang, "The K-Means Clustering Algorithm Based On Chaos Particle Swarm", *Journal of Theoretical and Applied Information Technology*, vol. 48, no. 2, (2013), pp. 762-767.
- [22] G. Triantafyllakos, G. Palaigeorgiou and I. A. Tsoukalas, "Designing educational software with students through collaborative design games: The We! Design&Play framework", *Computers & Education*, vol. 56, no. 1, (2011), pp. 227-242.
- [23] T. Escobar-Rodriguez and P. Monge-Lozano, "The acceptance of Moodle technology by business administration students", *Computers & Education*, vol. 58, no. 4, (2012), pp. 1085-1093.

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