Intelligent Management Of Unbalanced Supply And Demand Of Information Technology Talents In Labor Market

Meng He

The Tourism College of Changchun University, Changchun, Jilin China 130607

121495224@qq.com

Abstract. With the development of computer science, many traditional managements are replaced by computer - based intelligent managements. The traditional talent market management technology is relatively backward and exists a variety of information asymmetry problems, leading to the imbalance of talent supply and demand. The modern talent market is moving towards the development direction of legalization, precision and modernization, and it is gradually entering the trend of intelligent management. Perfecting the intelligent management of talent market is an important means to realize the intelligence of human resource flow, and it also is the requirement of contemporary social environment to the talent market. In the labor market, there are serious problems of imbalanced supply and demand for information technology talents. This need to carry out a good management for the imbalanced situation of information technology talent resources in the labor market by combining the current intelligent system. This paper studies the Web platform intelligent management system. The three modules, server, program terminal and desktop program make up the platform system. This platform is customer - oriented and is designed as a platform to provide information exchange for job seekers and enterprises. It can provide more convenient and fast information technology for the labor market information management personnel, which can solve the imbalanced supply and demand problem of the labor market well, and ease the long - term information asymmetry problem in the labor market. Through the actual management practice, the reliability, accuracy and efficiency of the system are verified, which provides a reliable intelligent management technology for the future supply and demand of talents in the labor market.

Keywords: Labor Market, Intelligent Management, Web Platform System; Information Technology Human Resources

1   Introduction

With the deepening development and perfection of China ' s market economy, the traditional talent management means is no longer in existence, which can not meet the

needs of the current talent allocation [1]. Market - oriented, free - flowing talent distribution has become the most effective way to optimize the allocation of social resources. Enterprises can recruit necessary technical personnel according to their own business needs, individuals can also carry out compete based on their professional competence, interest and career standards. The decisive factor in the success of the enterprises is the strength of talent, only to strengthen the enterprises talent management, the competitiveness of enterprises can be enhanced greatly, which can promote the development of them. In view of the imperfection of the previous management methods, the concept of talent management at this stage should be changed from the original rigid human management phenomenon to the personnel information management system based on information management. It is intelligent, high efficiency and easy to use, which is a practical information management system. So the development of this system is feasible and necessary in the aspect of advanced nature and the technical aspects of social benefits. The arrival of the Internet age has greatly affected the transformation of people ' s work style, which is followed by the construction of the management methods of enterprises, as well as the optimization of labor market ' s functional management. Talent market will be legalized, professional and modern. The information technology industry has been affected strongly by the Internet age. however, these effects have not stopped in people ' s work and industry driving force, and they fatherly come into people ' s lives. The data show that the effect of the personnel exchange organized by the relevant departments of China is getting worse and worse, one reason is that the recruitment gap between enterprises and job seekers is large and it is difficult to reach a one - time agreement, the main reason is the rise of online recruitment.

Since the establishment of the network system in 2000, it has researched and developed the revision and upgrading [2], mobile phone job search system, network recruitment and talent network service platform and other systems, which promote the management of the labor market. But there are still some problems. The main problem existing in current information technology market construction is : the advanced means of information technology network need to be strengthened. Due to the information network services break the time and space bottlenecks, so its impact is stronger and its development capacity and space is broader. It can really play the leading role of the talent market and regard the advanced information technology network science and technology as the most important means of progress. At present, although we can effectively integrate the resources within the county through the construction of talent network service platform, with the effective communication of the world ' s advanced urban talent network, there are still some problems, such as limited information storage, imperfect professional category and lack of talents at high level.

2   Literature Review

China ' s personnel management system has undergone a leap - forward development [3], it has made a great progress in technical development, business familiarity and

data processing standards. The national personnel management system has been basically into the popular application stage.90% of China ' s enterprises and institutions and some private enterprises are researching and developing their own personnel management system, but there are a small number of enterprises still at the end of the enterprise system management, which can not do the corresponding work of staff management system development. However, there is still a long way to go for the final establishment of China ' s personnel management system.

The development situation of personnel management system in developed countries is very optimistic [4]. Enterprises and institutions attach great importance to personnel resources management and decision to support system development and application. According to the survey of 2008, more than 3/4 enterprises in the developed countries of Europe and the United States began to implement talent management practice. The survey shows that if a enterprise ' staff management is good, its business efficiency will not be poor, so a good personnel management system can promote the enterprise to increase more than 22% corporate efficiency. Most of the developed countries ' talent management systems regard respecting the talent and realizing the value as the core, which will upgrade the comprehensive talent and personnel information, data and activities to open system for users to use. In 1997, Microsoft developed six modules talent management decision - making system HeadlTrax, which is used for the processing of personnel recruitment, promotion, transfer and personnel information management, so that Microsoft human resources managers can quickly adjust appropriate changes of external environment, departmental structure and personnel arrangement. In addition, the same period developed countries ' SAP, People Sof, Oracle and other management systems are well known to us, these staff management systems are staff - oriented management, and can optimize senior staff ratio, manage the staff flexibly, not complicated, and meet the personnel management requirements [5].

Chinese enterprises and the entire social resource management [6]. departments are seeking to establish a perfect talent management mechanism to help the society optimize the allocation of talent. But there are some inevitable deviations and many shortcomings in many management ideas. Some excellent management ideas have not done information, so they aren ' t be promoted in the community. But in the face of various shortcomings, many enterprises join the Chinese - style talent management model, so we have reason to believe that as more and more enterprises join into the enterprise. China will develop and create new talent for the Chinese ecological circle by relying on talent management practices and talent concept.

In conclusion, at this stage, due to objective reasons, there is a certain gap between the domestic personnel management system and the foreign personnel management system. The domestic personnel management system lacks development foundation, system coverage, integrity and integration, also there are design concepts and technical problems. We must see the rapid development of domestic information technology, personnel management system development has been popular in the country and will be more perfect.

3   Methods

In order to study the intelligent management of imbalanced supply and demand in the labor market [7], the following aspects in the overall study should be focused :

Because it is Web services architecture based on the system, and it has the convenient application concept, so it should be regarded the goal orientation of the design of the server. Also we should pay attention to that the server function can not overlap too much and the API can not cover all the necessary functions.

System function module division. The modules must have high cohesion and low repetition rate.

Efficient and convenient database design.

Web services architecture, data access layer, design and implementation.

The application of MVC design pattern on the side of WEB and use AJAX technology to improve the user ' s interactive experience.

Desktop UI design and third - party library application program to improve the appearance of the system.

The performance of Web server, system load balancing and robustness.

The design of system security aspects and system strict deployment.

UML tools are used to model the program according to the system requirements, and the software development and design of the integration system is improved according to the waterfall model.

System test case design, development and performance testing.

Through the study of technical aspects, the system design can be fully guaranteed to form the system platform that makes customers satisfy. Nevertheless, we should also pay attention to the accuracy of the problem, which requires us to carry out the study of system function problems deeply from the business level. Its main functions include: graduate report scheduling, student file management personnel and agency management. The documents and staff relationship of the graduates who have formal receiving units are directly sent to the receiving units. For the graduates who have no personnel receive units, if the implementation units do not receive the graduates file on the talent market, the staff agents will be implemented, which mainly show the following functions:

First, retain the personnel relationship and maintain the function of personnel files in order to achieve the purpose of retaining cadre status and calculating the service period.

Overseas personnel should handle overseas procedures and issue personnel files according to a variety of proof documents.

Pay social insurance.

Temporary charge d ' affaires retirement procedures.

Temporary charge d ' affaires professional and technical titles qualification assessment, assess and promote procedures.

University graduates application formalization procedures expired.

Escort all kinds of resignation, dismissal, demobilization of cadres and student file non - employment distribution and so on.

Provide mobile party members to support the relationship between party organizations. The function that file information of unemployed graduates come into the talent pool. The module must have the management functions of access, modify, query and billing. Recruitment sites, recruitment units and talent market managers should achieve the following functions:

Job seeking module: job seekers release work information through the talent system registration, and landing to access recruitment information. Recruitment module: Recruitment enterprises publish recruitment information through the talent system to access work information. Management module: through the talent system audit work and recruitment, management personnel in talent market open online recruitment, online advertising and query card, upload, download, backup, restore system data, data statistics and report printing. Through data matching, mobile phone work and telecom operators send job information to the relevant recruitment agencies to meet the requirements of job seekers, and send required recruitment information of enterprises to them. With the surrounding college students information networking, and the design resume and work site standardization mapping file, through the data the Xml file. matching conversion, college graduates will be made into the talent system database after making the Xml file.

The establishment of the system must start from the software development, the research and system platform coding and system function testing, and sometimes it includes maintenance phase. development procedures of software engineering includes target orientation, detailed system design, The software development model can straightforward and clearly express the whole process of software development. Elaborating the stage and clarifying the important activities and tasks to be unique, because each step has its own independent design part, such as: the basis of the completed at all stages is the basis of software project development [8]. Each software program is management and theoretical aspects, in addition to these, there will be different research and programming language, research and development methods, research and development skills, development tools and environment.

The waterfall model divides the whole process of the software into six basic stages: planning, requirement analysis, software design, program preparation, software testing and operation and maintenance, and it stipulates the fixed order according to the above way which is shown in Figure 1

This paper uses UML modeling example to describe the whole process of talent management system in detail. The establish way of using the chart model can help research and development personnel to define functional requirements and system intrinsic relationships. The form of chart can also explain the account relationships, management model, application pace and the operation differences of several types of accounts. The next step is to explain several more important use cases.
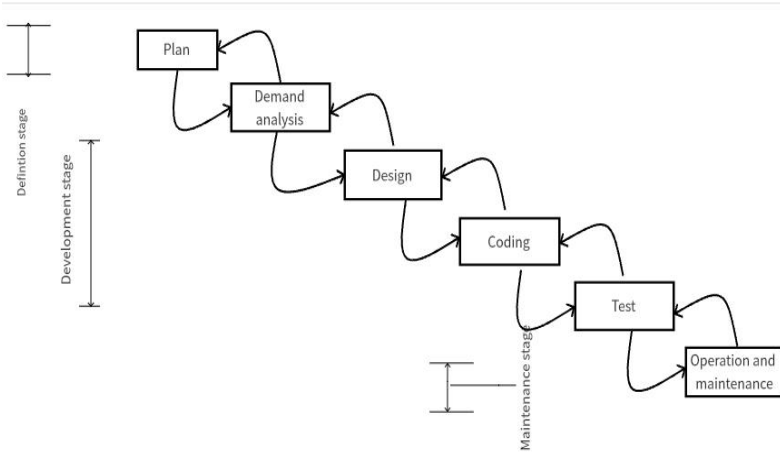
Fig. 1. Waterfall model

Platform user relationship illustration

The platform user relationship illustration is used to outline the accounts connection of the system platform From the demand point of view, there are four different types of accounts, which is shown in the Figure 2.
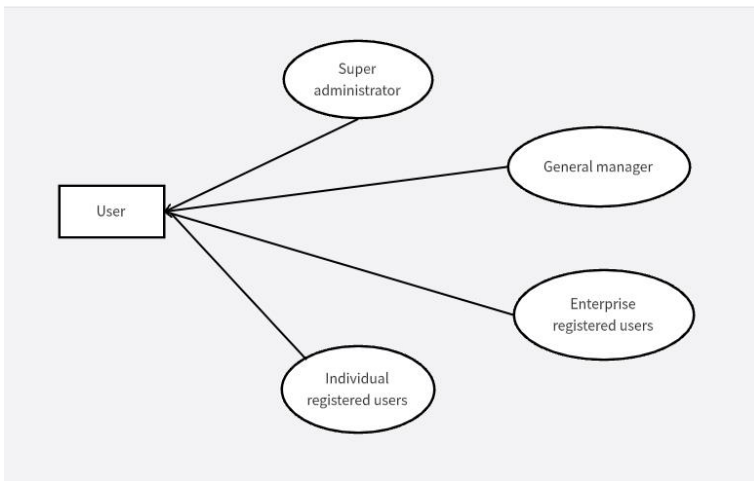

Fig. 2. System user relationship diagram

User account application illustration

The super administrator of the platform has the right to create system administrators, that is, he has the right to create a system administrator account for each new internal employee, and the function of each type of account is defined by the system administrator. First, it is the applicant account, the applicant can

successfully log on the platform by filling in the appropriate personal information. Then, it is the corresponding employer account, this kind of account need to confirm the real name to ensure the operation safety of the platform. The employer needs to submit the enterprise ' s corresponding business license, after the adoption of the audit, it can be considered to register successfully. And then, the employer can publish the recruitment information. Figure 3 shows the process.
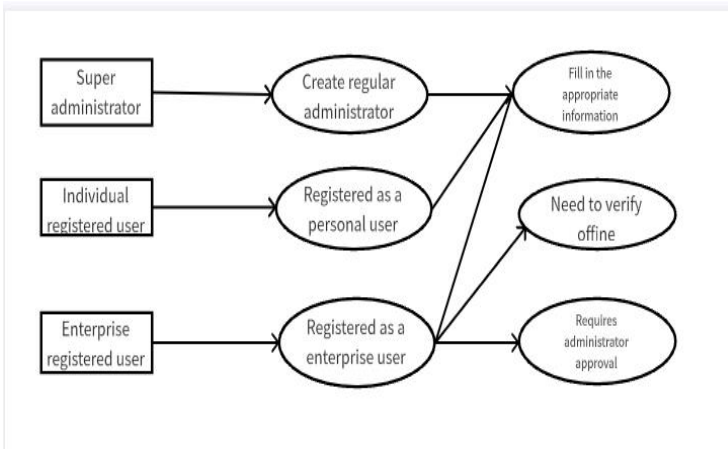

Fig. 3. User account application illustration

User inquiring recruitment information use case figure

When a user inquires the current work information use cases, he should look through the homepage of the personnel management platform, and clicks and checks the recruitment information published by the enterprise user or the internal administrator of the system currently. Use case is the most basic application of the Web system, so users do not need to log in beforehand. It is shown in the Figure 4.

Fig. 4. User inquiring recruitment information use case figure

User publishing information use case figure

The most direct purpose of registering the system for enterprise users is to publish work information. Through the audit, enterprise users can publish recruitment information in the personnel management platform on behalf of the registered enterprise to recruit outstanding graduates and comprehensive talents, which is shown in the following Figure 5.

Fig. 5. User publishing information use case figure

4   Results

Consolidating the above demand - oriented illustrations, we can further derive the overall system figure of the design, which is shown in Figure 6.
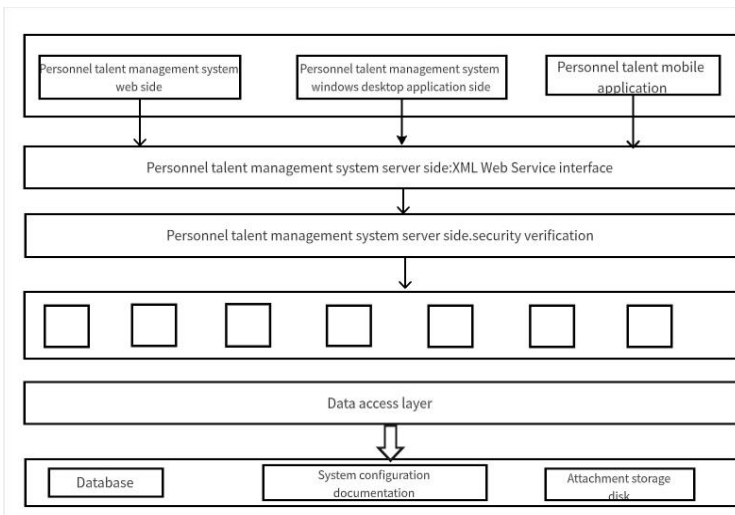

Fig. 6. The model of overfall design

In the process of the whole system research and development, the waterfall software development model is used for system integration [9], which brings some advantages for the maintenance of the system. Firstly, it can ensure the customer ' s fundamental future demand in the primary stage of the system or in the process of system checking deficiencies. Second, at this stage, the cost of modifying the system flaw is relatively low, and the adding of the new system function standards. It is a long and arduous journey to constantly verify and repair the system manual. In the is

relatively simple. Finally, in the above two stages a standardized system manual was set up, process of system development, the system is deployed according to the software engineering which is used as a starting for all research and development and as all the accessories established waterfall development process which includes the system demand induction, thedemand analysis, the system outline design, the system detailed design, the system realization, the operation and maintenance stage.

5   Conclusion

With the deepening development and perfection of China ' s market economy, the traditional talent management means is no longer in existence, which can not meet the needs of the current talent allocation. Market - oriented, free - flowing talent distribution has become the most effective way to optimize the allocation of social resources. Enterprises can recruit necessary technical personnel according to their own business needs, individuals can also carry out compete based on their professional competence, interest and career standards. In order to meet the development of information technology, the concept of personnel management is changed from the original rigid manual management into the personnel information management system based on information management. Nowadays, the talent management system has been formed, which provides an important information support and personnel management support for the enterprises and talents themselves. However, the study of this problem is based on the current situation of talent management system. After understanding the problem, the new personnel management system is studied. The system direction needs to be studied and analyzed. Through the case figures, this paper introduces the project use case and the main application scenario, and on this basis, it designs the whole system architecture, divides the sub - module, designs each module, and finally builds the development environment and writes code to realize user ' s expectation to perfect the personnel management system. The personnel management system designed and implemented in this paper mainly includes three parts: Web terminal, background desktop terminal and Web service terminal. The network accounts mainly provide personnel and personnel information exchange platform for the candidates, employers and labor market managers: the background Windows desktop client is designed mainly for the urban personnel to carry on urban management, such as Web client and Background Windows desktop client can access the Web server at the same time to access the required Web services. The main functions of the system include postgraduate report scheduling, student file management and personnel agency management. The realization of the system improve the intelligence level of the talent market to a certain extent, and further improve the accuracy of personnel information services, information sharing and comprehensive utilization of information.

Acknowledgment

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