Retraction

Retraction: Construction of Legal Supervision System for Construction Engineering Based on Cloud Platform (J. Phys.: Conf. Ser. 1992 032114)

Published 9 September 2022

This article has been retracted by IOP Publishing following an allegation that raises concerns this article may have been created, manipulated, and/or sold by a commercial entity. In addition, IOP Publishing has seen no evidence that reliable peer review was conducted on this article, despite the clear standards expected of and communicated to conference organisers.

The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

Retraction published: 9 September 2022
Construction of Legal Supervision System for Construction Engineering Based on Cloud Platform

Jing Xu1,* , Zhanfeng Li1
1Yantai Vocational College, Yantai City, Shandong Province, China, 264670
*Corresponding author e-mail: lizhanfeng@ytvc.com.cn

Abstract. The construction industry is the fourth pillar industry in the development of the national economy. In recent years, with the growth of the macro economy, it has also developed rapidly. Because the urbanization develops rapidly, the scale of project construction is getting bigger and bigger, and the quality requirements are getting higher and higher, many problems in the field of construction engineering have gradually exposed. Due to limitations in all aspects, many regulations and systems cannot be systematically and effectively implemented. At the same time, the current domestic and foreign project supervision mostly stay in the "result monitoring", it cannot achieve the "process monitoring". At present, the most important topic is to control the progress of the project. The main investors of the project should take early measures to prevent it effectively, in this way, we can ensure the quality of the project and the safety of funds.

Keywords: Construction Project Supervision, Cloud Platform, Cloud Computing, Cloud Storage

1. Introduction
This paper mainly summarizes the key control points of engineering monitoring. Through computer network technology, we promote the standardization, process and traceability of engineering construction. Building an effective supervision and restraint mechanism is an effective way to ensure the quality of the project. This can safeguard the interests of all parties, ensure the healthy and orderly development of the construction industry, it also be helpful for us to build a harmonious construction market.

2. Background meaning
In recent years, with the growth of the macro economy and the impact of the external environment, the investment in large-scale national projects has continued to increase, and the living standards of residents have continued to improve [1]. The construction industry, as the fourth pillar industry related to people's livelihood, has developed rapidly. Figure 1 is 2005-2009 China's construction industry scale growth trend chart:
The growth trend of China's construction industry scale from 2005 to 2009

From the above figure, it can be seen that the scale of China's construction industry is growing at a rate of more than 20% per year. The construction industry plays an important role in the country’s economic development. It is an important material production sector of the national economy and is regarded as an important part of job creation. The basic leading industry, which is of strategic significance to maintain national economic growth, is closely related to the economic development of the entire country and the improvement of people's lives [2]. As such an important basic industry, there are still many problems in China's construction industry. The overall quality of the construction industry is not high, the enterprise lacks an effective management and control system, the original supervision method still needs to be reformed, a scientific and reasonable construction industry supervision system has not been formed, and the problems of fragmentation and multiple governance still exist; the construction market still exists. Deep-rooted contradictions and problems, large areas of the construction industry lack credit, outstanding violations of laws and regulations, fraud in project bidding, illegal subcontracting, and project subcontracting are still serious problems. Due to irregular competition in the construction market and illegal bidding operations, over time, a vicious circle is formed, which affects social harmony and economy.

In order to strengthen the supervision and management of construction activities, maintain the order of the construction market, ensure the quality and safety of construction projects, and promote the healthy development of the construction industry, the state has promulgated the "Construction Law of the People's Republic of China" and "Regulations on the Quality Management of Construction Projects" to strengthen laws and regulations. Construction project quality management, clarify the quality responsibility of the construction project, safeguard the legal rights and interests of all parties to the construction project, and ensure the quality of the construction project, including new construction, reconstruction, expansion, relocation and restoration of civil buildings, industrial buildings, public buildings, structures and their equipment installation, building decoration, etc. As long as the units and individuals engaged in construction project construction, supervision, survey, design, construction and other activities related to construction project quality, they must implement it in accordance with the requirements of relevant regulations, technical standards, design documents and contracts [3].

3. The development status of construction engineering supervision system

As an application system based on practicability and convenience, the construction engineering supervision system has industrial and regional characteristics. Regulations and supervision of the construction industry in various countries have also focused. Foreign legal systems are relatively mature, and the standards for project monitoring have always been relatively strict. With the development of the construction industry in China, the regulatory mechanism is constantly improving [4].

In recent years, my country's construction project management has made progress in varying degrees. The construction of relevant laws and regulations and systems for project supervision has
been strengthened, construction project management has been incorporated into the legal track, and the supervision awareness of all parties in project construction has generally improved. The industry quality management level has been significantly improved. The supervision and management mechanism has been continuously improved, and the supervision and management capabilities have been improved [5]. However, the current construction project management system is still in the process of dilapidating the old and establishing the new, and it still needs to be improved. The existing problems in the engineering construction field are mainly manifested in the following aspects: "design phase, bidding phase, construction phase, project management and supervision." Among them, the "construction phase" and "project management supervision" problems are mainly addressed by this system.

1: The laws and regulations are not perfect, and the laws and regulations of the project quality supervision and management system need to be further improved.

2: The authority and responsibility of the supervision and management agency are not clear, and their roles should be changed, and mandatory supervision of the quality of construction projects should be implemented in accordance with the law [6].

3: Supervise the approval and completion acceptance of heavy engineering construction projects. The method stays at results supervision, light process supervision, and does not achieve real-time supervision of the project in progress.

4: There is no mature, convenient and practical supervision tool to assist the management and monitoring of construction projects.

4. The development status of cloud platform

Cloud computing has been widely questioned when it was put forward, and now it has attracted the attention and promotion of corporate society in just a few years. Its rapid development not only indicates that this technology has good application prospects, but also shows that this technology can bring more benefits beyond the economy. In order to win the initiative and occupy a leading market position in the new business application model of the Internet that will be changed by cloud computing in the future, companies with cloud computing development resources have continuously launched corresponding service applications on the basis of integrating data to guide the construction of cloud computing business application models; Responding to the increasing amount of data and high data dependence, companies have begun to deploy their own cloud computing networks; in addition, cloud computing with high economic and social value that can reduce emissions has also attracted great attention from the government and actively promoted the technology industry in different ways [7]. Figure 2 shows the evolution of the cloud platform:

![Figure 2. The evolution of cloud platforms](image)

5. DBD(Database Design)

The database is the core of the whole system, and its design is directly related to the efficiency of system execution and the stability of the system. Therefore, in the development of software systems, database design should follow the necessary database paradigm theory to reduce redundancy and ensure data integrity and correctness. Only by designing a reasonable database model on a suitable database product can the programming and maintenance difficulty of the entire system be reduced, and
the actual operating efficiency of the system can be improved. Although for small or medium-scale projects, developers can easily use the paradigm theory to design a set of databases that meet the requirements, but for a software project that includes a large database, a complete set of design principles and skills must be available.

Standard naming: All library names, table names, and domain names must follow a unified naming rule, and make necessary instructions to facilitate design, maintenance, and query [8].

Control field reference: When designing, you can choose an appropriate database design management tool to facilitate the distributed design of developers and the centralized audit management of the data team. A unified naming rule is adopted. If the designed field already exists, it can be directly quoted; otherwise, it should be redesigned.

Library table duplication control: During the design process, if most of the fields are found to exist, the developer should doubt whether the designed library table already exists. By querying the library table where the field is located and the corresponding designer, you can confirm whether the library table is indeed duplicated.

Concurrency control: Concurrency control should be carried out in the design, that is, for the same database table, only one person has control at the same time, and other people can only query.

Necessary discussion: After the database design is completed, the data team should discuss with relevant personnel and get familiar with the database through discussion, so as to control the problems in the design or obtain the necessary information for the database design.

Data team review: The final version and modification of the database tables must be reviewed by the data team to ensure that they meet the necessary requirements [9].

Header file processing: After each data modification, the data team must modify the corresponding header file (which can be done automatically by the management software), and notify the relevant developers for the corresponding program modification. In the design and development process, in addition to following the database paradigm theory and increasing the consistency and integrity of the system, it is also necessary to carry out distributed design according to the specific situation as a whole, and firmly grasp the basic principles of centralized control and unified review. Ensure that the database design has a compact structure, balanced distribution, and rapid positioning.

6. Function of building safety supervision system

The basic function design of the system is actually the function decomposition process of the system, and the subsystems of the system can be regarded as the functions of the lower layer of the system goal. The process of system function decomposition is a process from abstract to concrete, from complex to simple. After layered decomposition, a complex system can be decomposed into multiple functional modules with a single function. On the one hand, each module is relatively independent and can be designed and implemented separately. On the other hand, the mutual relationship between the modules (such as information exchange, call relationship) is explained in a certain way. Each module forms a unified whole under the constraints of these relations, and completes the functions of the system [10]. The main function menu of the building safety supervision system includes personnel management, role management, authority management, module management, resource management, system login log, data maintenance log, message sending log, data dictionary, unit information management, account information management, expense category Management, material category management, message sending configuration, project management, contract-related accounts, monthly budget of other expenses, contract modification confirmation, contract modification application, procurement contract filing, payment notification registration, written notification verification, special account entry registration, special account balance Settlement, transaction flow replenishment, expenditure matching results, etc.

7. Conclusion

In a word, cloud platform construction should not be limited to enterprise-level platforms, but should be extended to WAN cloud platforms to achieve the requirements of software as a service. The
software should not only serve a certain company or several large group units, but also serve the wide-area cloud platform. Using software will be more convenient and efficient. But the system is still single in function, it only meets the main business needs of the construction business. It should be more refined. In the future, it should consider the realization of multimedia, data-based construction project management, and realization of data-based monitoring. Through three-dimensional and multimedia technology, we can serve users with a more intuitive and clear way.

References
[1] Li Xiaolei. Research on Green Building Project Management System Based on "3L" Platform [J]. Computer CD-ROM Software and Application, 2014:134-136.
[2] LI Xiaodong. Construction of Intelligent Security Situational Awareness System Based on Cloud Platform [J]. Journal of Hebei Energy Vocational and Technical College, 2018:74-76.
[3] Feng Xin, Duan Peiyong, Duan Chenxu, Cui Chong, Zhang Jieju. Building Indoor Comfort Monitoring System Based on Cloud Platform [J]. Building Electrical, 2016:80-83.
[4] LI Xiyu, GAO Yan. Construction and Analysis of Management System Based on Docker Cloud Platform [J]. Reliability and Environmental Testing of Electronic Products, 2017.
[5] Yan Jie. Construction and application of construction engineering safety supervision and management system [J]. Think Tank Times, 2017:93-95.
[6] SONG Hailong. Construction of quality engineering supervision platform based on big data [J]. Rural Economy and Science and Technology, 2018:40-41.
[7] Zhang Rui. Engineering Design Document Management System Based on Documentum Platform [J]. Information Systems Engineering, 2016:90-91.
[8] Lu Zhimin. Construction of Building Safety Management System Based on Process Implementation [J]. Building Materials and Decoration, 2016.
[9] Yang Chuanchun. Building Construction Safety Management System Based on Modularization [J]. Shandong Industrial Technology, 2019:130.
[10] King chan.; . Construction of safety supervision and management system of all parties in construction projects [J]. Smart City, 2018:88-89.