

# A Study on Improvement Measures for the Construction Authorization and Permission System

Young-Jin Kim\*, Jin-UK, Kim\*, Byung-Kon, Kim\*

\*Korea Institute of Construction Technology, Republic of Korea

E-mail : yjkim73@kict.re.kr, jukim@kict.re.kr, bkkim@kict.re.kr

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## 1. Introduction

The construction authorization and permission system (CAPS), which in 2003 was applied to the Local National Land Management Offices (LNLMO) and the National Land Management Office (NLMO), has been operated for ten years since it was opened, according to the amendment of the related laws and user requirements, although its implementation was limited to small-scale functions. The system, however, was not improved enough to be able to respond to the latest ICT trends and changes in user devices, leading it to inadequately respond to the creation of new-user complaints or to the changes in the handling work, making it not user-friendly. For instance, the prior review petition procedure, which is intended to reduce the time and cost for claimants, as well as the unnecessary petition-related bureaucratic procedures, has not improved its functions due to the system's big change requirements, although the relevant laws were updated. Also, although the system requires an analysis and statistics function intended to provide user-tailored construction approval information such as the ten-year accumulation of approval books, its functions have not been developed.

Users, for the filing of petitions using the CAPS via the Internet, had to duplicate the inputting of some information in the Select Petition → Input Petition Information → Fill Out Application → Attach Documents stages, making the use of the system inconvenient. Also, some of its functions, optimized only for Internet Explorer, made the system unable to support other environments, such as Chrome.

To resolve such problems, this paper presents improvement measures by which to configure menus, screens, contents, and banners by function, with focus on the frequently used work-handling functions, and to provide not only the existing users and the general public with the necessary contents and statistical information by shedding the bulletin-board-type simple information provision function, enabling the provision of comprehensive services. This will allow users to more easily and conveniently use the CAPS, thereby promoting the use of the system by petitioners and management agencies.

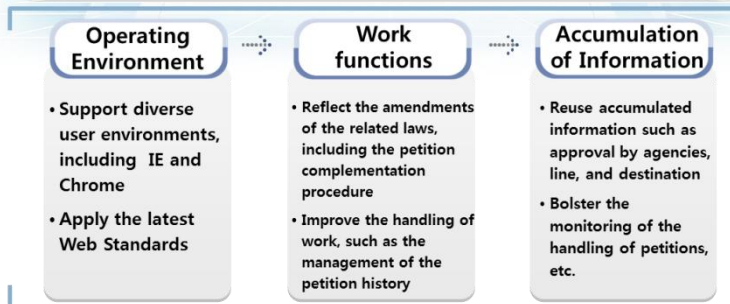
## 2. Overview of the System Operation

The CAPS is an information system by which petitioners can fill out an application for approval and inquire about the results of the handling of petitions, all via the Internet, and by which the approval agencies can accept petitions and offer complementation and approval services. It has been operated since October 2003. The CAPS consists of the petitioner and agency systems. The petitioner system enables petitioners to write and file petitions and to inquire about the handling progress thereof in real time, all via the Internet. The agency system enables the approval agencies to accept and handle the filing of petitions by the petitioners and to manage the approval books, enabling the electronic handling of all processes. The information sent from the petitioner system to the agency system is encoded and decoded using certificates, thereby preventing the forgery and falsification of documents. The approval books, managed by the agency system, consist of the road occupation approval book, supervision firm registration book, and quality inspection firm registration book, according to the relevant laws, and the system supports the entire process, from the creation of the approval book to the cancellation thereof.

## 3. Improvement Measures for the Construction Authorization and Permission System (CAPS)

The CAPS can be improved in three categories: the operating environment, work functions, and accumulation of information. For the improvement of the operating environment, the server environment where the CAPS is installed and operated should be improved, the latest Web standards (e.g., HTML 5) should be applied, the expandability of the CAPS and the convenience of operation and maintenance thereof should be considered, and diverse Web browsers, including Internet Explorer and Chrome, should be made available for use by petitioners.

**Enhance user access to the system  
Boost the reuse of accumulated petition information**



For the improvement of work functions, the petition information input stages when filing petitions via the Internet should be curtailed by reflecting the amended relevant laws, and the staffers in charge at the approval agencies should be able to easily inquire about the petition handling history through the adoption of the petition history management function.

For the accumulation of information, the CAPS, which has accumulated information from the road occupation approval book, the supervision firm registration book, and the quality inspection agency registration book for the past ten years, should bolster the statistics and monitoring functions so that the users can easily use it.

#### 4. Conclusion

This paper presented improvement measures for the operating environment, work function, and reuse of accumulated information of the CAPS, which, since 2003, has been used by LNLMO and NLMO in approving construction works and handling petitions. In so doing, the CAPS can streamline the four complicated and inconvenient stages of filing petitions into two stages. Also, One-Click Go, and the filing of petitions according to areas such as roads and rivers, will be possible. Functions of My Work and User-Tailored Menu by Road and River and Other User will enable the approval agencies to perform their work efficiently and will enable even beginners to easily use the services.

#### 5. References

- [1] Ministry of Land, Infrastructure and Transport, “12 Operations and Technical Improvement of Construction CALS System (Ⅱ)”, Korea Institute of Construction Technology, Korea, December 2012.
- [2] Ministry of Land, Infrastructure and Transport, “13 Operations and Technical Improvement of Construction CALS System (Ⅱ)”, Korea Institute of Construction Technology, Korea, December 2013.
- [3] <http://www.cpermit.go.kr/cap/index.jsp>