

## University Dedicated Next Generation ERP System

Lee Yong Hui<sup>1</sup>, Kim Hwan Seok<sup>2</sup>

<sup>1</sup> Shinsung University, Chief of Information Service Center,  
DaehackRo1 Jungmimyun, DanginCity, ChungNam, Korea. 343-861, [lyhkpi@shinsung.ac.kr](mailto:lyhkpi@shinsung.ac.kr) <sup>2</sup>  
Gangneung-Wonju National University, Dept. Information and Telecommunication  
Engineering, 220-711, Korea,  
[hskim8805@gwnu.ac.kr](mailto:hskim8805@gwnu.ac.kr)

**Abstract.** The school affairs administration system being used in universities is rapidly changing depending on the national educational policies and the characteristics of universities that are variously changing. Although the school affairs administration system of universities have some differences in their scales, those have similar structures. Quite a lot of costs and time were spent for establishing the existing school affairs administration system of universities. In addition, since the developed system is complicated, its compatibility becomes lower depending on each device and there were lots of difficulties in case of maintaining or adding some new functions. In order to solve such problems, the university school affairs administration dedicated ERP system that are standardization and the functions of each part needed can be expanded according to each module was developed.

**Keywords:** ERP, SI, CS

### 1 Introduction

Universities operate lots of various kinds of systems, such as homepages, emails, servers, networks, and application programs in order to operate the universities smoothly and effectively. The most important part of such systems is the university school affairs administration dedicated ERP system. The university school affairs administration ERP system[1-2] is a very important system with which all of the histories of students including school affairs records, scholarships, temporary absence and returning when entering and at universities and even after graduation are managed. When the web interfaces are not established, all kinds of documents are registered and issued through the school affairs and administration of the universities. While computers and internet interfaces become better step by step after that, the electronic school affairs administration system dealing with all kinds of school affairs administration duties has been developed outstandingly. It was easy for the universities with enough budget or much school affairs experience to develop the school affairs administration systems based on such experiences. However, it is true that the universities without such systems have faced many kinds of difficulties in operating the school affairs administration. Therefore, in this paper, the school affairs administration systems operated by such many universities are standardized in order

for universities to establish their school affairs administration systems which is more convenient and low cost compared to the existing systems. And the university school affairs administration ERP system was developed in order to be expanded by adding some necessary parts for each module.

## **2 University dedicated ERP system**

### **2.1. Necessity for developing a standardized ERP system**

Currently, the Korean universities face some limitations in providing with information by using computers and websites as the existing methods due to the rapidly changing educational background and the development of many kinds of innovative information technology. Moreover, such universities are changing for receiving information under the environment with many kinds of personalized devices including mobile phones, tablet PCs, etc., based on the contemporary advanced technology. Thus, the interfaces for information systems are rapidly evolving into the systems which can accommodate changes actively while the environment for developing CS(Client/Server)[3-4] in the past has been changed into the forms of SI(System Integration)[5] and ERP(Enterprise Resource Planning). Universities need to develop some new school affairs administration systems due to the following reasons. First, in the aspect of the education and environment, some changes in the processes of school affairs occur due to the integration and abolition of departments in the universities. Second, in the aspect of users, it is necessary to strengthen the connectivity between information systems. Third, in the aspect of the work environment, it is necessary to organically interlink the unique duties of the organizations within a university and the inter-departmental duties.

### **2.2. Methods for developing a standardized ERP system**

Since the school affairs administration systems for usual university school affairs are dependent on the school affairs of each university, if some changes in school affairs and organizations are generated, a certain situation that the school affairs administration system should be developed newly may occur. Since people have basically kept such an idea, they had some commonly accepted ideas until now regarding to the ERP system which has the outstanding expandability. Thus, in this paper, a module-type structure which can expand the characteristics of each university will be developed without developing the whole basic process. In addition, without thinking the work affairs should fit to the package without a reason, the author uses a method for reflecting various characteristics of universities to the basic package and modules by expanding and adding modules. To do this, the author should focus on how he/she could reflect or expand the adequacy of basic functions and some special work affairs of a university rather on how many functions should be provided.

### 3 SI & ERP

Universities should take a look at how well the package can support the school affairs administration affairs and technology trend that are changing and being developed continuously according to changes in new educational environments. As a product from such an alternative plan, the next generation University School Affairs Administration ERP system was developed.

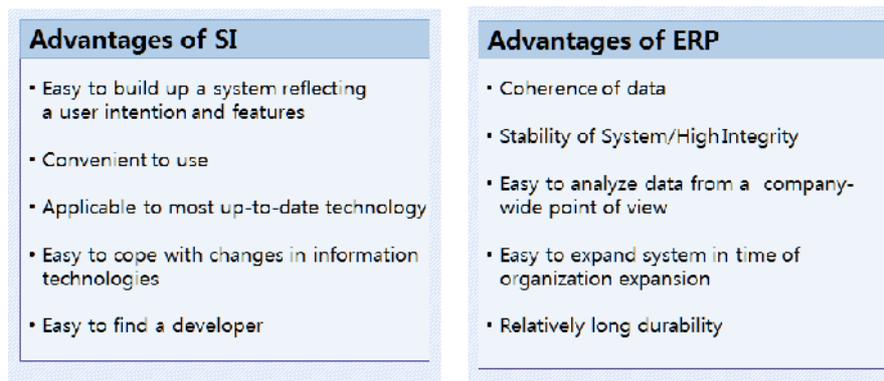


Fig. 1. Advantages of SI and ERP

The next generation University school affairs Administration ERP system is a package which was created after it was supplemented with the advantages of SI and ERP as seen in Figure 1. It is often the case that the whole logic must be changed if a process is changed since, as its disadvantages of the existing SI, the UI is structured in order to include the control and process of database and the starting and ending parts of the business process are processed with one logic of a program. In addition, the database has a structure for operating the school affairs including the operating system of a department. And as the disadvantages of the ERP, it pursues the globalized standardization, so it does not fit to the domestic environment. And it is very hard to operate and maintain technologically since it has a complex database structure. In addition, it takes too much time for a person in charge of the affairs to use the package skillfully due to its complex structures of the UI and Process.

Therefore, the newly developed standardized next generation University School Affairs Administration ERP System based on the framework which accommodates only the advantages of each method was developed by using the advantages of ERP whose system can be expanded easily when data is analyzed and an organization is expanded and whose durable years are rather long from the perspective of corporate level while it is easy to establish a system and to respond to some changes in IT areas and is convenient to use, it is possible to apply the most up-to-date technology, it has the advantage of SI which a developer can obtain easily and the compatibility of data, the stability/integrity of a system are high.



## 5 Conclusion

In this paper, a next generation University School Affairs Administration ERP System was developed in order to use the existing university school affairs administration affair system efficiently. The framework of the server and client was developed by reflecting the advantages and disadvantages of the existing SI and ERP as much as possible. It was structured to amend easily in a way of expanding some necessary tables by using reference keys through the expansion of the data structure. Such a university school affairs administration ERP system has a flexible structure under which a university can operate some different business rules and business processes. Thus, it is expected that some universities with several campuses can conduct the integration management with low cost and small time.

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