

# Case Study – KAPE Smart Beef Traceability System Enhancement

## KAPE

The Korea Institute for Animal Products Quality Evaluation (KAPE) is a state-run organization established in 1989 to evaluate the quality of animal products made in Korea. Since its foundation, KAPE has been providing grading service for animal products such as beef, pork, chicken, duck meat, and shell eggs. In addition, it is operating traceability system to manage the life cycle of animal products from the production stage to the consumption stage.

In particular, KAPE offers livestock-related information (eg. prices, distributions, and statistics) quickly and accurately through its main website and eKAPEPIA, a separate website to provide real-time data. The animal product authority also proactively shares its information with general people in order to facilitate communication and cooperation with the public, which corresponds to the intention of the Korean government's "Government 3.0" policy.



## Project Overview

Beef traceability is a system to record and manage all the information about beef's life cycle including birth of cattle, slaughter, processing, and sale. This system helps to improve consumers' trust in beef because it enables quick responses to problems of hygiene and safety by tracking the records of problematic beef. Furthermore, it enhances the transparency in beef distribution, prevents false geographical indications, and allows consumers to search for pre-purchase information. The system aims to open information not only to businesspeople who are involved in raising cattle or circulating beef but also to general public so that all the people in Korea can eat Korean-made beef safely.

## Introducing the Nexacro Platform

Our mission was to convert the existing system, which had been stably operated for long on .Net Framework, to J2EE-based E-government framework. It was a daunting challenge but something we had to do to reduce system dependence and achieve extensibility. In addition, considering that the UIs of the previous system functioned satisfactorily, the success of the project depended on whether we could develop new UIs that were easily applicable to the new architecture as well as showed better performance.

To find a development platform for the project, we assessed many programs that were considered capable of accomplishing compatibility with the E-government framework and creating high-performing UIs. In the end, we chose NEXACRO Platform developed by Nexaweb, a software vendor that established its reputation in the UI segment.



## Why they chose the Nexacro Platform

### *Operational aspect*

What matters most to the KAPE's beef traceability system is stability since operational error means nationwide setbacks for distribution and sale of cattle and beef. The Nexacro software's performance delivered until now demonstrates that we made a right decision

### *Development aspect*

Each IT department manager has their own crucial factors when they contemplate introducing a new development tool. In the case of KAPE, it was improved usability of UIs because the organization's existing system had already operated as long as 8 years. We found that Nexacro's transparent screen effect, animation functions, and styles and themes for each component are second to none when compared to domestic and even international competitors. Therefore, we thought that such state-of-the-art functions would help us advance our system not only during the project period but also in the future.

## Maintenance aspect

The beef traceability system obtained plenty of modified functions and new task screens as a result of reflecting user demands consistently. As a maintenance team, we were also required to respond quickly to modification requests from users even after the project team successfully opened the system. However, we were quite confident that we could meet such user demands because UX-Studio, a development tool which is a part of the Nexacro Platform package, provides handy functions for development, easy data handling methods through datasets, and meticulous functions of various components.

## Effects of NEXACRO

It is hard to express the effect of introducing Nexacro Platform as a percentage because we did not quantify the project result. Nevertheless, we tried hard to evaluate the result objectively and accurately since the project was such a crucial assignment to change the platform that had formed the backbone of KAPE's internal system for years.



The screenshot shows a web application interface for managing regional data. The main table displays the following data:

| 번호 | 지역 | 개체번호       | 대분류 | 소분류 | 성별         | 출생일자 | 거주지        | 지역관리번호 | 입여대상 | 등록일자 | 개체상태 | 관리 |
|----|----|------------|-----|-----|------------|------|------------|--------|------|------|------|----|
| 1  | 전북 | 2009-12-01 | 한우  | 수   | 2009-12-01 | 전주시  | 2009-12-01 | 사육     | 수용   |      |      |    |
| 2  | 전북 | 2009-12-01 | 한우  | 수   | 2009-12-01 | 전주시  | 2009-12-01 | 사육     | 수용   |      |      |    |
| 3  | 전북 | 2009-12-01 | 한우  | 수   | 2009-12-01 | 전주시  | 2009-12-01 | 사육     | 수용   |      |      |    |
| 4  | 전북 | 2009-12-01 | 한우  | 수   | 2009-12-01 | 전주시  | 2009-12-01 | 사육     | 수용   |      |      |    |
| 5  | 전북 | 2009-12-01 | 한우  | 수   | 2009-12-01 | 전주시  | 2009-12-01 | 사육     | 수용   |      |      |    |
| 6  | 전북 | 2009-12-01 | 한우  | 수   | 2009-12-01 | 전주시  | 2009-12-01 | 사육     | 수용   |      |      |    |
| 7  | 전북 | 2009-12-01 | 한우  | 수   | 2009-12-01 | 전주시  | 2009-12-01 | 사육     | 수용   |      |      |    |
| 8  | 전북 | 2009-12-01 | 한우  | 수   | 2009-12-01 | 전주시  | 2009-12-01 | 사육     | 수용   |      |      |    |
| 9  | 전북 | 2009-12-01 | 한우  | 수   | 2009-12-01 | 전주시  | 2009-12-01 | 사육     | 수용   |      |      |    |
| 10 | 전북 | 2009-12-01 | 한우  | 수   | 2009-12-01 | 전주시  | 2009-12-01 | 사육     | 수용   |      |      |    |

## During the project

As Nexacro offers a variety of user components as well as form inheritance and template functions, various modules including task components were created in the beginning of the project and easily reused later. Moreover, another success factor was Nexaweb's vast experience with the J2EE-based E-government framework. The company had helped many client companies with the connection to the E-government framework, so it knew well how to plug our system into the E-government server framework.

## After the project

System operation after the development was fairly stable. Although the number of cases of introducing Nexacro was not sufficient at the time we chose the development platform, we could recognize Nexaweb's prowess in UI/UX, which the company had amassed for 10 years by continuously sharpening its focus on the field. In addition, a wide range of Nexacro Platform's functions allowed us to accommodate diverse user demands easily and to cut system maintenance cost in comparison to the previous system. We have reduced a significant amount of the maintenance cost for the past 2 years.

### *System Stability*

- Delay caused by system failure has decreased as errors were minimized.
- New architecture was stably applied through the smooth linkage with the standard framework of E-government, which was newly introduced to our company.

### *Efficiency of IT department operation*

- Now, our IT department can run on a real-time basis as it has become able to respond quickly to modification requests made in the middle of operation.
- We could cut down maintenance cost thanks to higher development productivity than the one under the existing .NET Framework-based system.

### *User Productivity*

- Efficiency and convenience have been maximized thanks to faster screen transition and data processing.
- A same task can be done in different user environments thanks to escape from the dependence on web browsers.

## The Developer Perspective

*This issue features an interview with Yoo Song-Won, head of the traceability system team at KAPE. He led the project to develop KAPE's beef traceability system, and is now in charge of operating the system.*

### **“System stability and maintenance efficiency surpasses our expectation”- Mr. Yoo**

#### **Q. What was the biggest reason for choosing NEXACRO Platform?**

We thought highly of the company Nexaweb. Although there are many software makers that produce UI development tools, no other company has focused on that particular specialty as long as Nexaweb has done. The company had already produced MiPlatform, an acknowledged piece used by numerous companies in various environments for the last decade. Therefore, we believed that Nexacro Platform, Nexaweb's ambitious product targeting new generation UIs, would perform as well as MiPlatform or even better. Indeed, we heard a lot of positive opinions about NEXACRO from our friends.

#### **Q. What was the most important point in this project?**

At that time, our beef traceability system, which now we aim to open gradually to the public at large, had been operated for more than 8 years. Moreover, we had to change the foundation of the server framework, so stability was our absolute priority. On top of that, we wanted to make UIs more user-friendly than in the existing .NET Framework environment. With user experience (UX) being one of the recent hottest issues in the IT sector, we also hoped to improve the UX affecting our users. Accordingly, we intended the project to improve convenience while retaining advantages of the existing system in terms of task screens used by our end users.

#### **Q. Do you regret anything about the project?**

Our system should be accessed from random places and at varying times. However, in the process of officially opening the system after the test running, some users who used their own networks found small errors including failed installation. We thought that they should have pre-emptively prepared for such problems that were beyond the expectation of our clients because it had abundant experience of working with a broad spectrum of companies. Fortunately, however, all the problems were swiftly solved by the Technical Support Team of Nexaweb without any serious effect left.

#### **Q. What is the biggest advantage of NEXACRO?**

Although I earlier mentioned few disadvantages of NEXACRO, the software is superb in terms of stability in system operation and economic efficiency in maintenance cost. Furthermore, it guarantees convenience in development, so its combined advantages more than compensate for its weak points. In particular, the development platform is excellent when it comes to reusing diverse modules that are developed for common use. I think such easy reuse of modules is a key factor for higher development productivity compared to the previous .NET Framework environment.

Q. Currently, traceability service is only provided for beef. Do you have any plans for other types of livestock?

As the current beef traceability system has drawn great satisfaction from users, we are now developing pork traceability system, aiming for opening in the coming December. At this moment, the system for pork is in the in-house pilot test process with only some of its functions tried. KAPE deals with not only beef and pork, which are the two most important meats for Korean people, but also chicken and shell eggs. Therefore, we are planning to integrate other products than beef into our traceability system gradually.

Q. How happy are you with the overall outcome of the project?

To begin with the conclusion, I want to give at least 9 points out of 10. While the product Nexacro Platform itself is satisfactory, we are also happy with its producer Nexaweb, which maintains a strong network to help clients through continuous enhancement of functions and release of new versions. Moreover, the swift responses made by the Nexaweb's technical support team were outstanding compared to other vendors. I hope that Nexaweb will work hard to keep its leading position in the UI field.

## About the Nexacro Platform

Nexaweb provides software and services for the development of enterprise-class mobile, tablet, and web applications. Nexaweb was founded in 2000, offering tools and enterprise to develop web and, later, mobile applications for the enterprise. Today, Nexaweb has more than 2,200 customers around the world across a range of industries.

Contact us for more information.



[www.nexaweb.com](http://www.nexaweb.com)



781-345-5500



[info@nexaweb.com](mailto:info@nexaweb.com)

### Nexaweb Inc.

1 New England Executive  
Office Park, Suite 205  
Burlington, MA 01803  
Tel: 781-345-5500  
Fax: 781-345-5501  
[www.nexaweb.com](http://www.nexaweb.com)

### Nexaweb Japan Inc.

Akihabara OS building 10F  
5-3-1 Sotokanda  
Chiyoda-ku, Tokyo 101-0021  
Tel: 81-03-5812-6358  
Fax: 81-03-5812-6343  
[www.nexaweb.co.jp](http://www.nexaweb.co.jp)

### TobeSoft Co., Ltd.

Intops Building 2-5F  
617 Bongeunsa-Ro  
Gangnam-gu, Seoul, Korea 135-873  
Tel: 82-2-2140-7700  
Fax: 82-2-2140-7799  
[www.tobesoft.com](http://www.tobesoft.com)