

# How to succeed eGovernment

## ---Technology, Standard and other issues---

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### Abstract

In general, to promote eGovernment, many issues should be considered as follows:

#### Technological issues

- Clarification of real requirement
- Application of appropriate standards and technologies
- Consistent system design
- Optimized implementation

#### Non technical issues

- Coordination of related sectors, especially defeat of bureaucratic sectionalism
- Highly skilled project leader and integrated development team

These issues are common conditions for excellent projects. But, as you know, it is very difficult to fulfill these conditions.

In this paper, I will introduce my experience with these issues in Japanese eGovernment scene to serve as a case study.

### 1. Target project

To develop a guide line of XML tag naming rule, and usage of character code for local government wide area network (LGWAN).

This project started this year (2004). Dr. Komachi, Mr. Makoto Murata (an original member of W3C's XML working group) and I are involved in this project as technological experts.

### 2. Clarification of Requirement (naming rule of XML tags)

In the long history of structured documentation technologies, this issue has been bothering us continuously.

Once Komachi-san, Murata-san and other experts tried to settle DTD for Japanese white papers. But, because of bureaucratic sectionalism, the result was horrible. There were bunches of similar, but slightly different, tag names.

Eventually, consolidation and reduction of DTDs among ministries and agencies failed.

Tag names often reflect preoccupation of the user community, and it makes it impossible to exchange information among several user communities, including governmental offices.

On the other hand, generalized tag sets are usually very difficult to apply to practical works.

So, it is very important to make some appropriate compromise between each individual requirement and generalization of tag names. In our new project, we decided to survey a vast number of currently used documents and extract tag names which are "practically abstracted".

### 3. Application of Standards and Technologies

As you know, in East Asian countries and areas, Han-characters are commonly used. Lately, ISO/IEC 10646(UCS) or Unicode is widely used for information exchange, especially in XML, Java, and Internet.

In UCS, a vast number of Han-characters are unified in limited code positions under the so called unification rule.

But, in some application fields, this unification rule is not adequate.

In Japan, Han-characters for human names and names of places have been bothering us.

Look at fig.1.

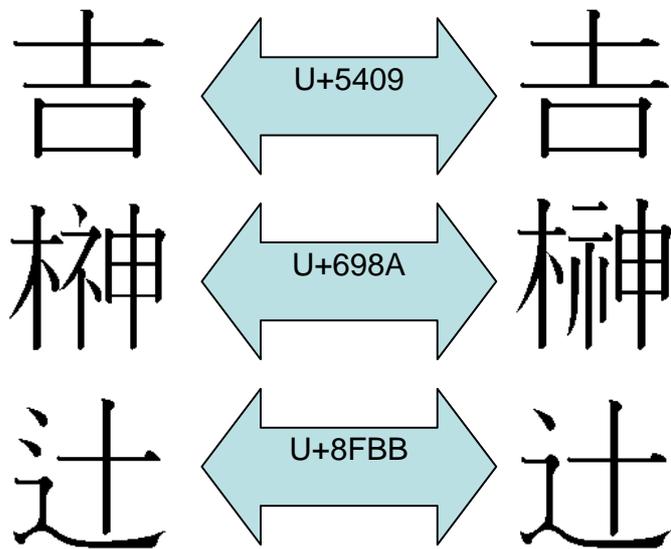


Fig.1

These pairs of characters are encoded in the same code positions in UCS. But, some people claim that these pairs of figures are different from each other.

In our project, we decided to focus only on place names of the Hokkaido area for a while. But, there are potential possibilities of claims from mayors in this issue regarding their own names.

So our solution is as follows.

- Use UCS for encoding scheme.
- Limit usable code positions within the repertory of JIS X 0213 (Japanese latest coded character set standard in 7 bits and 8 bits architecture).
- Guarantee accurate information exchange only in the scope of these conditions.
- Concerning requirements to distinguish figures which should be unified in UCS, prepare another solution only for visual presentation with other standardized method. (see fig.2)

**A Example of Embedding Glyph Identifiers in XML Documents  
(W3C Note 20 December 2002)**

<http://www.w3.org/TR/2002/NOTE-EGIX-20021220/>

```
<html xmlns="http://www.w3.org/1999/xhtml">  
<body xmlns:glyph="http://www.xml.gr.jp/PRE/Reference">  
<p>  
<span glyph:name="ISO/IEC 10036/RA//Glyphs:10003290" >吉</span>田茂  
</p>  
</body>  
</html>
```

The figure shows two renderings of the Japanese name '吉田茂' (Yoshida Shigeo). On the left, the characters are rendered using EGIX notation, with the label 'with EGIX notation' below them. On the right, the characters are rendered using an ordinary code string, with the label 'ordinary code string' below them. The EGIX notation rendering shows the characters with a slightly different, more traditional or calligraphic style, while the ordinary code string rendering shows a more standard, blocky font style.

Fig. 2.

We are apt to apply only one standard or technology, which we already know, to a particular applicable field. But, there are no almighty standards and technologies. So, we should know the limitation of each of the standards and technologies, and always try to search alternative standards and technologies to be applied.

#### 4. Defeat of bureaucratic sectionalism

In Japan, there are several ministries and agencies which have their own Han-character tables for several purposes.

One is the Agency for Cultural Affairs, from the aspect of culture and orthodoxy of language.

The other is the Ministry of Justice, from the view point of Family Registers and crime records.

The third one is the Ministry of Public Management, from the view point of the Resident Basic Registries.

The last one, which as far as I know, is the Ministry of Economy, Trade and Industry,

from the view point of industrial standards.

There used to be many conflicts among these ministries and agencies. Keeping consistency among these Han-character tables was a boring job to develop and maintain industrial standards.

In 2000, the Agency for Cultural Affairs published new recommendations for Han-character's shapes which are not included in "Table of Daily Used Han-characters".

This recommendation was discussed by the Council for Japanese Language, and in this council meeting, an officer of METI attended as an observer.

Such a case was unprecedented as far as I know.

In these days, communications among related ministries and agencies are increasing little by little.

Anyway, as a taxpayer, I wish to reduce overlapped and inconsistent investment in eGovernment by several governmental offices, so I always urge government officers to communicate each other over walls of their sections.

## 5. Needs for strong leadership

This issue is also common in promoting IT projects including standardization processes. As I mentioned before, selection of appropriate standards and technologies is very important for accomplishment of projects. But, there are very few experts who have wide and deep knowledge of standards and technologies.

Sometimes, mediocre engineers are apt to stick to their limited and old fashioned knowledge. It is very difficult to break their prejudice.

One solution is to invite the number one expert in your country or from other countries as the general consultant. One super expert is superior to hundreds of mediocre engineers.

In the standardization phase, Sato-san played such a role in the MLIT project. He has vast knowledge of standardization and a direct path to standardization organizations. Even the convener of SC2/WG2, or the acting chair of SC2, can not defeat him 😊

When I was consulted by an officer of the Ministry of Public Management on our new project, I thought that I have little knowledge on XML technology and that there are many intermediate experts of XML in Japan, but what we needed was only one or two

super experts of XML technology. What we should do is not discussing around many possibilities, but decides one best solution. So, I advised him to invite Komachi-san and Murata-san as consultants.

Komachi-san is the only expert who has the possibility to defeat Murata-san on XML technology in Japan, and vice versa. So, we can avoid a useless long and boring discussion phase. Also we can protect against noise from outside "experts".

#### 6. Conclusion or Advice for DocSII

Almost all of what I mentioned in this paper is commonly applicable to every field of IT projects. Promoting eGovernment is a very important task for every countries' and areas' future, so if you are involved in some eGovernmental project, please remember what I have mentioned.

Among these issues, the most important one is to have super experts. But, it is also difficult to find some super experts directly. Above all, it is more difficult to know when we need some super experts.

In such situations, DocSII Symposium may be very useful to acknowledge the need of super experts and make connection to find them.

And knowing the limitations of our knowledge is the best and fastest way to increase our IT skill and human connection.