XML Web Database Management System for Self-Learning
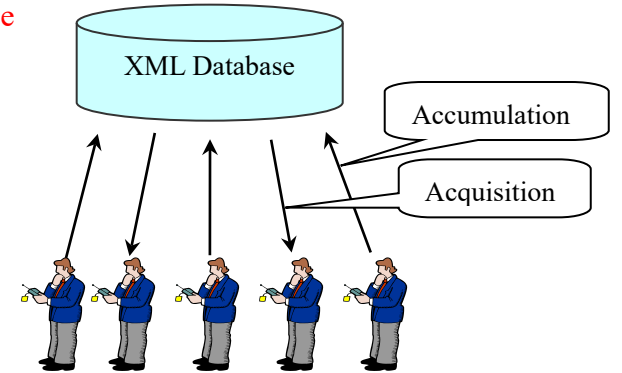
Satoshi TAMURA and Masaru MINAGAWA

1 .XML

The Extensible Markup Language (here after called XML) is a markup language published by World Wide Web Consortium as a recommendation in February 2nd, 1998. XML is the universal data description language designed to describe structured documents and data using text data or to be interoperated on the Internet.

4.Relationship between XML and XSLT

PC Stylesheet   Mobile Phone Stylesheet

XML Data

PC page   Mobile phone page

Only one XML data is required to present some parts of the data in various styles, since some style sheet languages are used to determine the style of each web page.

6.Updating XML data using Active Server Pages

New XML data

Existent XML data

ASP makes it possible to make dynamic web pages. The sub system to update XML database by using mobile phones was constructed using ASP.

ASP

Mail

Administrator
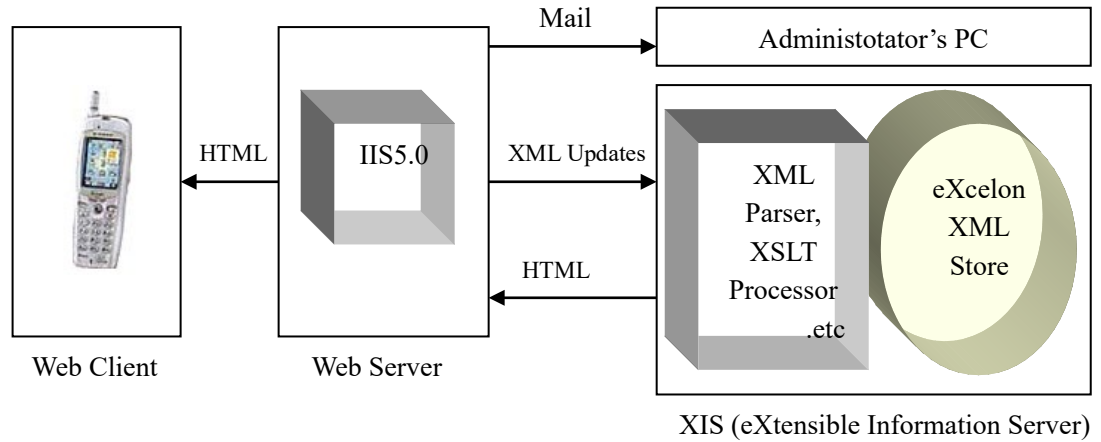
Data add form page   Confirm page

2.Building original engineering dictionary in a specific filed of civil engineering

- ➢ XML and related technologies constructed a search system for mobile phone.
- ➢ Update XML database by using Active Server Pages.

From the viewpoint of engineering education, it is quite valuable to prepare such an opportunity for students to acquire their personal knowledge in an interoperable database.
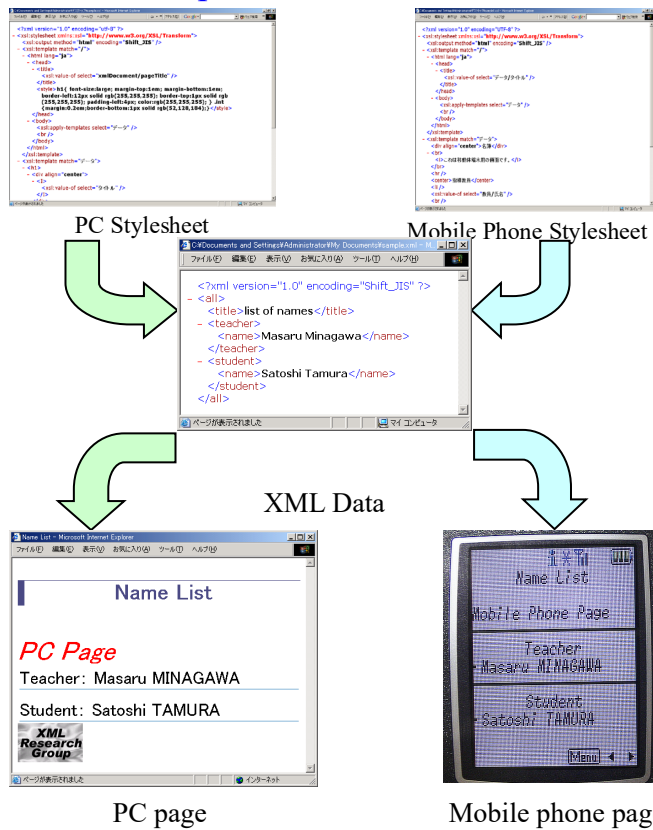
XML Database

Accumulation

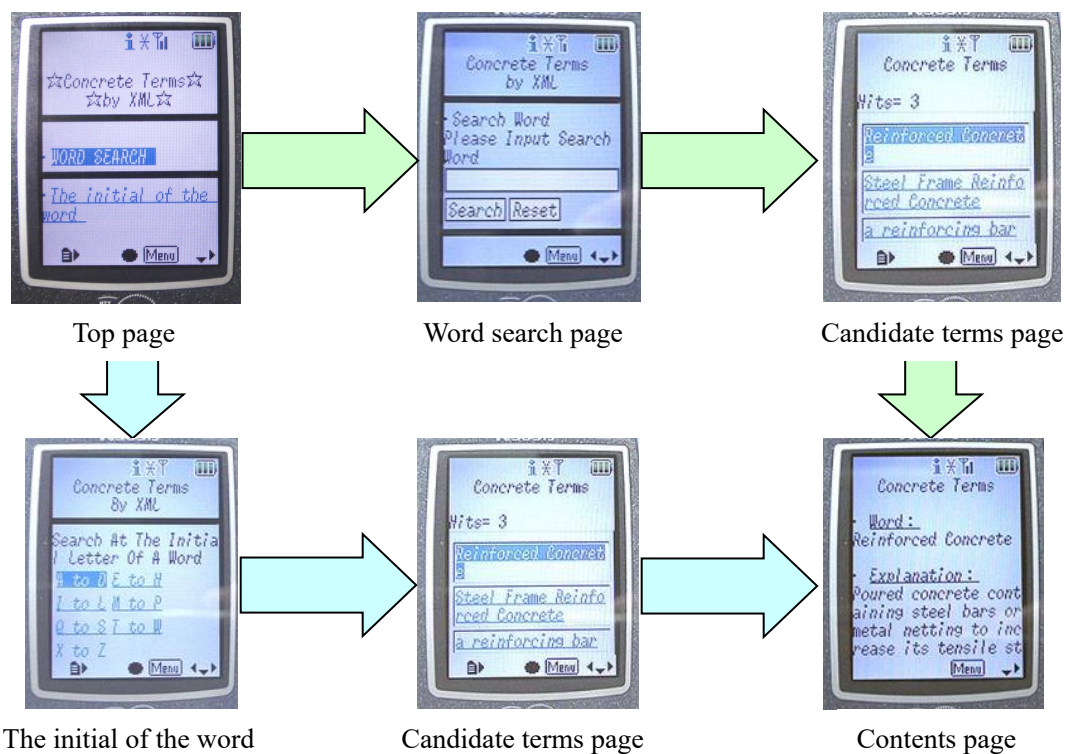Acquisition

3.The Outline Of The System

The Extensible Information Server3.0 (XIS) developed by Excelon Co. Ltd. was used as the server to store XML data. The XIS has a function to store XML data in the form of tree structure. The XIS supports the XML purser, the Xpath processor and the XSLT processor. Any web client can access the XML data stored in XIS through the Internet, since the XML data is transferred into HTML in the server side.

5.Presentation of XML data

Top page   Word search page   Candidate terms page

The initial of the word   Candidate terms page   Contents page

On the top page, clients input either a technical word to be searched or the initial of the word. All the words including the technical word or having its initial are listed up. They choose one of the words from the word list and extract the explanation you need to access.

7.Data acquisition by students

- ➢ The system will be useful for Japanese college students to learn English as a communication too to become international engineers.
- ➢ The system developed in this study was constructed as a self-learning tool for college students in civil engineering.