Development of Web-based Groupware for Assisting Language Teaching

Yuichiro Yoshinari

Abstract

A number of universities in Japan employ CALL (Computer-assisted Language Learning) classrooms which have special software that facilitates language teaching. One problem with the CALL system is that it is extremely expensive so any CALL classroom facilities available for use are often limited in number. In Japanese universities, networked computers that are not CALL systems are becoming increasingly popular. Since 2001, all first year students at Tokyo Denki University in Japan, for example, are required to purchase a notebook PC for their academic studies and now all the students except those in the fourth year have their own PCs. The widespread use of networked computers among students has challenged not only educators in the computing fields but also language teachers to find new ways of teaching, taking advantage of the technology and providing services that a traditional style cannot cover.

This research focuses on the development of educational groupware for English language teaching to be made freely available on the Internet. It is primarily intended to assist teachers in a classroom setting, but it can also be used outside of the classroom wherever Internet access is available. Since the groupware is web-based, it requires no additional software other than a web browser on the students' side.

For many language teachers, there exists a technical barrier, which makes it difficult for them to utilize networked computers without a CALL classroom environment. The groupware developed in this project provides a teacher-friendly interface that assists various aspects of daily teaching. Some of the functions are similar to those in CALL systems and some are unique to this system. For example, an automatic role taking facility is installed in the groupware and most CALL systems have a similar function, but this groupware keeps an attendance record and can also display the seating layout with student names instantly at the touch of a button. The teacher can create as many BBSs (Bulletin Board Systems) and chat rooms as necessary to facilitate collaborative work among members of the class. Since the groupware is accessible from anywhere on the Internet, the students can continue collaborating and/or sharing their ideas outside of the classroom, which is impossible in

CALL systems. The teacher can also access student work at any time to give advice and comments.

Another important feature of this groupware is that it can help create online quizzes instantly, display the quizzes and keep records of students' performances on each quiz. Ordinarily, the multimedia material or content requires a lot of time and knowledge on the teacher's side and it is almost impossible to prepare online material on a daily basis. With this feature, the teacher can create quizzes just by filling in the text boxes on the web browser and the system automatically creates online quizzes tailored to the teacher's class. It requires no programming knowledge or skills in authoring online materials.

I would like to demonstrate the beta version of my groupware and present how I am using it in my teaching at Tokyo Denki University. This groupware is accessible over the Internet and made available free to anyone who is interested in this system, not confined to teachers in TDU. I hope to be able to receive comments and advice, which will help me to make it more sophisticated.

Problem description

With the progress in hardware and with the widespread availability of broadband Internet connection in schools and homes, students and teachers are exposed to various computer and network environments. This is in complete contrast to the situation ten years ago.

To briefly overview the computer and network environments in terms of teaching:

CALL systems

CALL (computer-assisted language learning) classrooms are slowly increasing in number among universities. They are computer-equipped classrooms with video and audio equipment. The whole system works using special software with various functions. The software basically realizes traditional LL (language laboratory) functions virtually on the PC monitor. The system is useful for language teaching, but the problem is that the learning environment is only offered within the classroom and inaccessible from outside. Another problem is that almost all the CALL systems try to imitate the traditional LL systems (tape-recorder-based) and fail to benefit from using the network.

Compter-equipped classroom for general purposes

Computer-equipped classrooms are designed for multiple purposes at schools. This type of classroom is becoming increasingly popular among elementary, junior and senior high schools and universities. Unlike the CALL system, **t** is not specifically designed for language teaching, and this makes it difficult for language teachers to use it for this purpose. Currently some companies have developed special software which simulates LL systems on ordinary computers. Still, they require certain software to be installed in client PCs as well as the server. Therefore, students cannot continue using the same computer environment at their homes even if they have their own PCs connected to the Internet..

School LAN and students' own PCs

Recently some universities have been installing LAN outlets in classrooms, lounges, and cafeterias on campus. Students can connect their own notebook PCs to LAN outlets and access the Internet. Universities with LAN outlets on campus are advising students to use their own PC on campus as well as at their homes. For example, all students except the fourth year students at Tokyo Denki University have notebook PCs and many teachers of computer-related courses avail themselves of this computing environment on a daily basis. For language teachers, however, it is too hard to use the students PCs in their teaching because most are not familiar with authoring or creating multimedia materials.

WBT (Web-based Training) platforms

Recently many universities in the US have adopted WBT systems for their distance education programs and some companies use the system for employee education. The WBT systems offer virtual courses on the web and students can study and take part in quizzes and discussions, etc. WBT is the most similar to this groupware in the above-mentioned systems but the most important difference is the design policy. WBT is for teaching on the web while this groupware assists teaching and learning in classrooms and at home. Details of the groupware will be explained later.

Solution: Groupware designed for language teaching

Uniform environmen

Today students are exposed to various computer environments: in the CALL classroom, computer-equipped classroom, and home, which are all different from each other. The reason this groupware is web-based is that it intends to offer them a uniform environment wherever they are. All they need to access the groupware is a networked PC and the Internet browser.

Easy operation on teacher's side and on the student's side

The groupware itself is made of complicated CGI scripts, but once installed on the server, its operation is very easy both for the teacher and for the students. All that is required to use this groupware is a basic knowledge of the Internet browser.

Flexibility

Each teacher has own teaching style. This groupware aims to meet the specific needs of each teacher. One teacher may want a BBS but does not need a chat room, while another might want to use two chat rooms and three BBSs, for example. This groupware can be customized so that you can freely configure the functions on the groupware to suit to your class needs.

Basic Functions of the Groupware

Log on (User Identification)

Students must logon to access the groupware. The groupware identifies the logon name and automatically leads the student to the right page.

Role taking / Seat layout display

Once the class starts, the first thing the students do with the groupware is to check their seats on the seat layout

screen. The groupware identifies the student and displays the name instantly. At the same time, it updates the attendance record. The teacher can refer to the record any time he or she wishes.

File storage

Each student as well as the teacher is provided with virtual disk space. The amount of disk space for a student can be set by the teacher. There are two kinds of file storage: one is for storing private files, which are inaccessible to others, and the other storage is used to submit files to the teacher.

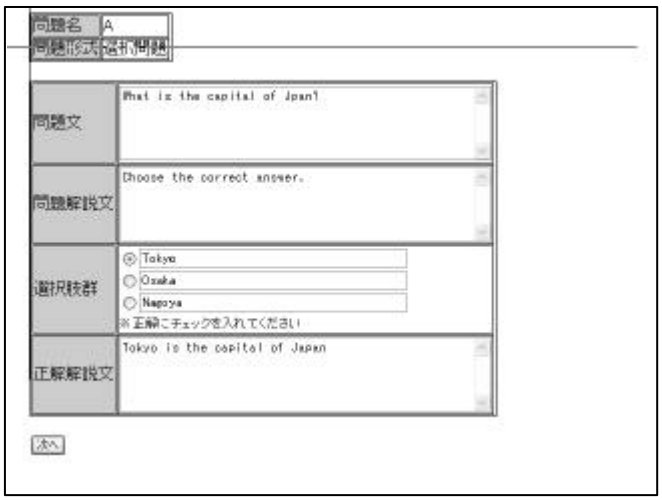
BBS

The teacher can add as many BBSs as he or she needs. On a BBS, students and the teacher can have discussions online. Another way of using a BBS in class is to have them post their essays to the BBS. They can share their ideas or get comments from each other.

Chat

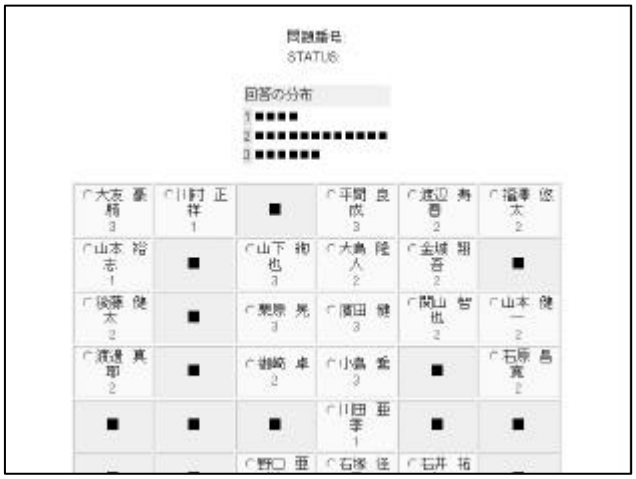
It may sound strange to use an online chat room in class, but it can be very useful to get responses from students, and this is especially the case with Japanese students. Japanese students tend to be so shy that they seldom raise their hands in class to express their ideas. One way to use an online chat in class is to have them respond to the teacher's question. They become very active and write their ideas very enthusiastically.

Online quiz creation, delivery and tracking



The teacher can create, edit, and deliver a quiz easily. The result can be seen on the teacher's interface.

Response Analyzer (Teacher's Interface)



The teacher can look over the students' responses.

User Survey

It has been decided that this groupware will be adopted by Seibido, a publishing company in Tokyo, and will begin the service in 2004. Seibido will host the server and provide the groupware service to teachers all over Japan free of charge. Before the official service starts, I will make a survey on the groupware. I will ask some teachers to test the system and to give comments. I would like to improve this system to make it more beneficial both to teachers and students.