Development and Use of a Learning-Support Web-site for the University of the Air Japan
Kenji Inoue¹ and Katsuaki Suzuki¹
¹Graduate School of Social and Cultural Sciences, Kumamoto University, 40-1 Kurokami Kumamoto, Japan

ABSTRACT

We developed a Learning-support Web-site for the University of the Air. The site’s target course is “The Human Informatics and e-Learning” [1]. The purpose of the Web-site was to provide experiences of an e-learning environment for the students and opportunities to communicate with the course instructor. The purpose of this paper is to report the functions, improvement, and use of the Web-site. At first, we made the discussion boards about the learning tasks. We then added the comment boards, quizzes, links to related sites, books for reference in Oct. 2006. As a result, we confirmed communications and synchronization with the broadcast time of the TV programs.

INTRODUCTION

In the unit of the Instructional Design of the course of the University of the Air “The Human Informatics and e-Learning”, we made a learning support Web site as one of three pillars of “The Learner-support Environment in the Instructional Design (ID)” (See Figure 1): First, the TV Programs with the ID specialists interviews in USA were to enhance students’ motivation for studying. Second, the textbook provided details of the TV programs and ID theories. Third, the Web-site was designed to supply additional information and communication space.

FUNCTIONS OF WEB-SITE

The University of the Air is a correspondence college. The University broadcasts lectures on TV and radio. The student who does not watch lectures on TV can watch the videos in learning centres. The target course is a lecture to be available in from 2006 to 2009 (See Figure 2).

<table>
<thead>
<tr>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Semester between Apr-06 and Jul-06</td>
<td>2nd Semester between Oct-06 and Jan-09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 times Lecture in one semester</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There were 15 lectures in each semester-long course, broadcasted twice a year. The first semester is between April and July, and the second semester is between October and January. The target of the Web-site was lessons of “The Instructional Design” between 5th and 8th weeks. The students watch broadcasted TV programs in May and November.

Generally, courses in the University of the Air require students to submit a mid-term report of learning tasks by mail and to take a final examination. Therefore, in the Web-site, we prepared the discussion boards about the learning tasks, which enable the students to communicate among students and with a lecturer. The student who wants to deepen an argument participates in the discussions of this Web-site voluntarily, because the use of the Web-site was not related to the grading in the course.

Figure 1. Learner-support Environment in the ID (taken from p.88 of [1])

Figure 2. The Target course lecture schedules
DEVELOPMENT

The system reused "The Learning support Web-site for the e-learning fundamentals"[2][3] that we developed in the past. The development environment of the system was as follows:

- OS of the Server: CentOS 4
- Web server: Apache 2.0
- Development Language: CPAN Perl 5 works as CGI on Apache

(1) Homepage

Figure 4 is the homepage of the Web-site. The left side in this figure is the menu frame. Here is a link to the page of user's registration and each time. The right side is the body frame. In the homepage, there are the explanation of the Web-site, user's registration, and links.

(2) 5th lesson page (the same as 6th, 7th, 8th page)

Figure 5 is the 5th lesson page. The left side is the same as the homepage. There are summary of this lesson, quiz, discussion boards for learning tasks, comments board, links to related sites, and books for reference on the right side.

(3) The quizzes

The visitors can confirm the important words by taking the multiple-choice quiz. The quizzes are provided in the 5th and 6th lessons, and each lesson has 5 questions.

(4) The discussion boards

Figure 6 is one of the discussion boards. The visitors can read the discussion boards, comments boards, and self-introduction board without registration. When they post a message in it, they need the registered password.
USE OF THE WEB-SITE

We made our Web-site available from April 2006. Figure 7 summarizes the number of the posted messages and the number of the registration users from April 2006 to June 2007. Figure 8 shows the number of accesses to the Web pages, the quizzes, the discussion boards and the registration user profiles.

Both of the figures had three peaks in May of 2006, November of 2006, and May of 2007. There were synchronized with broadcasts of the 5th to 8th lessons on TV.

We did not know how many visitors accessed in this Web-site, since they can view the Site without having the users' registration. Therefore, we used the detailed access log of the apache Web-server from May 2007, expecting an individual visitor from an individual IP address and the browser information (Referrer and Agent), and analyzed how the visitors used this Web-site. At this time, we distinguished the search engine robots (Bots) and the accesses of the visitors, and we confirmed the numbers of accesses of Bots. It is described in the number of the detailed access of May 2007 and June shown in Table 1.

In May, 185 visitors came, and the average reading pages of were 9.48, and the total access was 1753. According to the browser information (Referrer), the access that came from search engine was only 71, and came from a link was 51. The other visitors viewed the Web-site by the direct input of the URL or through their own bookmarks. We can expect that the visitors of this site to have obtained the URL from the textbook and the TV programs.

In June, it was found that there was the same tendency, except that the number of the accesses
The number of the accesses by Bots was at the same level in May and June. Only the number of the access of the discussion boards showed much higher ratios by Bot, because the bots access the "Delete message" and "Reply to this message" hyper-links without choice, whereas the human only click them as necessary. Finally, Table 2 summarizes the access frequency of the visitors. The table shows 40% of people visited the Web-site only once during each month. On the other side, 22% people (73 visitors) visited more than 11 times during the two months.

CONCLUSION

We developed a Learning-support Web-site for a segment of a graduate-level course in the University of the Air. For the use of the Site, in terms of the number of the visitors and the access in the Site, we confirmed that there were three peaks that were synchronized with the broadcast time and communications among the visitor and the instructor.

We want to continue to conduct long-term detailed access analyses and questionnaire of visitors to improve the Site.

REFERENCE