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REDESIGNING LEARNING ENVIRONMENT IN ZOO BY USING MOBILE NETWORK TECHNOLOGY

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ABSTRACT:

This paper describes the Voice Trackback System, a participatory voice message gathering system with mobile phone. This system helps children to record their messages easily to a server PC, and to access the data on the web freely. By using this in an out-of-door school, children can freely record commentary about animals or nature, and can easily share their information.

1. A BRIEF OVERVIEW OF THE SYSTEM

On the viewpoint of “Learning by Teaching”, children can deepen knowledge when they explain what they learnt to others. Voice Trackback System is a participatory voice message gathering system for multiple learners. This enables learners to record voice messages easily and to help to share the information in real-time on the web. The main technology we adopted is Skype, an

Internet Phone network. When a user makes a phone call, a server PC starts recording. Voice messages are transferred by FTP, and displayed on the web site (Figure1).

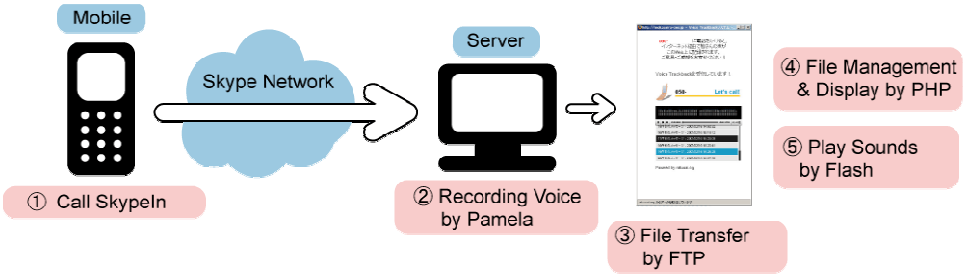

Figure 1: System of the Voice Trackback System.

2. CASE STUDY

We carried out workshop in Inokashira Park Zoo in 16th February 2007. Five subjects, senior high school students, all female participated in the workshop. Participants walked around the zoo with a zoo keeper, listening to her explanation of animals. After the explanation, they made voice reports on each animal with the system. After the workshop, we totaled five-grades questionnaire to verify the system on the aspects of total satisfaction (Q1), educational benefit (Q2-Q4), usability (Q5-Q6), advantage compared to paper-based information (Q7-Q11). As the result, most of the participants scored “Very Good” in most items (Table1).

Table 1: The results of the questionnaire.

	Questions	Very Good	Good	Average	Not so bad	So bad
Q1	Total satisfaction**	5	0	0	0	0
Q2	The system helps to acquire knowledge	3	2	0	0	0
Q3	Became interested in animals**	5	0	0	0	0
Q4	It is beneficial**	5	0	0	0	0
Q5	It is amusing*	4	1	0	0	0
Q6	Easy to operate**	5	0	0	0	0
Q7	More enjoyable than paper-based information**	5	0	0	0	0
Q8	Easier than paper-based information**	5	0	0	0	0
Q9	More intelligible than paper-based information**	5	0	0	0	0
Q10	More vigorous than paper-based information**	5	0	0	0	0
Q11	More enjoyable to check the result than paper-based information*	4	1	0	0	0

N=5, measure:person, **p<.01, *p<.05

4 CONCLUSIONS

Although the number of the participants was small, it is confirmed that a number of the participants who made the positive assessment on the items of educational benefit, advantage compared to paper-based information was statistically meaningful.

REFERENCES

Atsutoshi Ohshima, “Ubiquitous Learning”, UFJ Institute Report, 2005.12, Vol.10 No.4

ZOO PROJECT http://inokashira-zoo.jp