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Biography

Yasuto Nakanishi studied mechanical engineering and computer science at Tokyo University and obtained Dr.Eng. He became a research associate in Univ. of Electro-Communications in 1998.

Research Projects

1. CAMS

Many researches have been exploring how to provide awareness information to help distributed collaborators work together smoothly. Especially with the wide spread of mobile phone, some researches have been studying how to give meaningful awareness information to anyone, anywhere in order to facilitate making contact among each other in the mobile environment.

We also developed such a messaging service, CAMS (Context Aware Messaging Service), using location information and schedule information [1][2]. According to the callee's communication context (schedule, location, and available media), our system selects the most suitable telephone number or e-mail address, and redirects each incoming message dynamically. It also writes the schedule and the location information of the users into a HTML file and they share the file on the WWW.

The system consists of a control server with a database for the scheduler, a CTI server, a mail server, and a WWW server. For delivering messages dynamically, the control server updates the settings of the CTI server that has a software PBX and the forwarding lists of the mail server.

For guessing the context of communication and changing the settings adequately, the control server uses the user's location information detected with PHS and the schedule information that the user entered. Each user carries a PHS and a PDA. To obtain location information about each user, the control server posts a cgi message every fifteen minutes to a map database service on the WWW. Together with the service, we can utilize the location detection service of PHS that NTT DoCoMo offers through the WWW. Each user registers rules beforehand about which means of communications is appropriate under what conditions. We use two kinds of rules: ones about locations and ones about types of work at those locations. We prepared a schedule-input form for each user according to the rules. A user inputs a schedule by selecting the time and work contents.

Users share schedules, location information, and available communication devices with each other. When users access our WWW server, a server-side script queries the database in the control server and returns the result as a HTML file, which shows schedule, location information, and available media about all members (see Figure). In the current mobile environment, whether a message arrives appropriately depends on the context of the addressee and on his/her decision. Knowing information about the addressee enables the sender to select the timing or media of communication.

2. An Experiment for CAMS with Small Office Workers

We conducted an experiment with a group of Small Office workers for two months in Tokyo (1999/11-1999/12) and evaluated our system on the basis of interviews and communication log analysis. We interviewed users. Their main opinions about the dynamic message redirection are as follows, 1) It is comforting to know that a call made with our system will not disturb the addressee, 2) It is convenient that a call is forwarded to my PHS just with going out simply carrying a PHS. The users' opinions about the sharing communication contexts are as follows, 1) Knowing the communication context is useful for deciding when to make a call. However, it did not promote to write e-mail instead of calling, 2) Knowing where all the members are raises the team rapport. The analysis of the telephone log showed that the number of unconnected calls decreased and that this system promoted changes in the timing of communication but did the medium of communication.

3. An Experiment for CAMS with Home Office Workers

We conducted the new experiment with a group of home office workers for four weeks in Tokyo (2000/9-2000/10) evaluated our system on the basis of interviews and communication log analysis. The group is comprised of women aged 33 to 36 with children working at home. The experiment users in our previous system were small office workers and the users in this experiment were home office workers. The previous users shared location names where they were, schedules and available communication devices on WWW. However, privacy is clearly an issue of concern when working within the confines of a private home, and we redesigned our system for them. They desired to share simply that each member is at home or not and that each member is working at home or not. As for the home office workers, the distinction between working time and private time would be more vague than small office workers. It was very popular to share both whether users were at their home office and whether they were working at their desks in their office.

4. iCAMS

Users of CAMS pointed out that our system was adaptable for the callees but was not adaptable for callers. We have developed a dynamic address book on WWW for cellular phone, iCAMS (CAMS for i-mode that is a service of NTT DoCoMo) [3]. It sorts an address book using location information and schedule information. It sorts the name list of other members in near order of positions and sorts addresses of the callee according to her current location and schedule. Our system is a WWW server with a database that manages location information and schedule information of users.

Whenever a user accesses to the server, it writes a CHTML file that sorts other users in near order of positions with using latest location information of users. It shows also that others members are moving or not and that which direction they are. When the user clicks a name of another user, the server writes a CHTML file about her situation. It displays telephone numbers and e-mail addresses of the selected user. Those are also sorted by registered rules about locations and schedules. We are going to have an experiment with a group of students for two months in Tokyo (2001/9-2001/10).

Project URL: www.hako.is.uec.ac.jp/cams/, naka1.hako.is.uec.ac.jp/



CAMS for small office workers.



CAMS for home office workers.



iCAMS

Recent Publications

Yasuto Nakanishi, Takayuki Tsuji, Minoru Ohyama, Katsuya Hakozaiki, *Context Aware Messaging Service: a Dynamical Messaging Delivery using Location Information and Schedule Information*, Journal of Personal Technologies, Vol.4, No.4, pp.221-224, 2000.

Yasuto Nakanishi, Takayuki Tsuji, Minoru Ohyama, Katsuya Hakozaiki, *Development and Evaluation of Context Aware Messaging Service using Location Information and Schedule Information*, Proceedings of the 7th International Workshop on Mobile Multimedia Communications, 3B-5-1 - 3B-5-7, 2000.

Kazunari Takahashi, Takayuki Tsuji, Yasuto Nakanishi, Minoru Ohyama, Katsuya Hakozaiki, *iCAMS : Mobile Communication Tool using Location Information and Schedule Information*, IPSJ DICOMO2001, pp.513-518, 2001. (in Japanese)

See also: naka1.hako.is.uec.ac.jp/e/papers.html