DEVELOPMENT OF AN ASYNCHRONOUS DISTRIBUTED TYPE DESIGN PROCESS SUPPORT SYSTEM USING A BLOG AND REAL-TIME SIMULATION TECHNOLOGIES

TOMOHIRO FUKUDA, NOBUAKI OKAMOTO, WOOKHYUN YEO, ATSUKO KAGA
Graduate School of Engineering, Osaka University, Japan
{fukuda, n-okamoto, yeo, atsuko_kaga}@env.eng.osaka-u.ac.jp

1. Introduction

In this research, which focused on the design process of architectural or urban design field, an asynchronous distributed type process support system by blog (weblog) technology was developed, and an actual design project performed application evaluation. Then, in order to resolve the issues which arose, a "3Dblog" system to which the blog system and the real-time simulation system were linked was developed.

2. Development of the Blog System as a Process Support System

The necessary conditions of a process support system are shown below.
- Multi media data, such as minutes can be dealt unitary.
- Formal and informal asynchronous communication can be performed.
- Renewal of information can be carried out easily (Fukuda, 1998).
- Category division and class division of information can be performed.
- Information which can be referred to is controllable by different people.

A blog system is adopted as a system which fulfills the above-mentioned conditions. Key technologies are Blogn Plus as a blog toolkit, Apache HTTP Server, php, and MySQL. The main functions are article post and edit, category management, user management, access restrictions, etc.
3. Application in Design Project and Evaluation of the Blog System

The blog system was applied to the square design. Design review and discussion were advanced by holding a synchronous type meeting once a month. However, since not all the persons concerned could attend every meeting, the blog system was employed for sharing of designs and arguments.

One issue became clear while the system was being used. With blog articles explained by texts and pictures, the person accessing the blog cannot understand which position in space is being pointed out. Would this issue be resolvable if a system was developed that could display the position which a blog article refers to in 3D virtual space? (Yeo, 2005)

4. Development of a "3DBlog" System to which Blog and Real-time Simulation Technologies were linked

The toolkit of real-time simulation systems is Virtools™ Dev. The article data of a blog is stored in a DB and an ID is assigned to each article. A function which links the blog article ID and position coordinates is developed. If an article is written using a blog, a 2D map is displayed first, and the corresponding position is specified. A link is also realizable by specifying the position where an article corresponds on real-time simulation contents. In case a user refers to 3Dblog system, the blog article and real-time simulation data are loaded from the DB, and the tag objects which indicate the position of articles in the 3D virtual space are displayed. If the tag object of 3D virtual space is clicked, the corresponding article ID is delivered to the blog system through the DB, and the article can be displayed. By this mechanism, a user can understand which position in space the blog article has referred to.

Figure 1. blog system(left), 3Dblog system flow (middle), and 3Dblog system (right).
5. Conclusion

In this research, a blog system and a “3Dblog” system were developed for an asynchronous distributed type system in a design process. User evaluation will be performed through application to projects in the future.

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References