

Spaces Meet Users in Virtual Reality

Esa Nykänen, Helinä Kotilainen

Esa.Nykanen@vtt.fi, Helina.Kotilainen@stakes.fi

Abstract

VTT, Stakes, Finpro, several companies and Tekes have jointly funded a two-year project for developing A User-Oriented Hospital Space. The HospiTool project was carried out within Tekes FinnWell programme (topic area: Development of the operational processes of healthcare) in 2006-2008.

Objective:

HospiTool-project was started with the aim to find new concepts for end-user participation using state of the art visual technology (virtual reality). The 3d architectural information was further developed for virtual reality environment. The aim was to create as normal environment as possible for communication with patients and nurses in the virtual environment. Findings were then compared to the information drawn from more traditional methods (real environment) interviews etc. carried out in three hospital wards.

Approach and Methods:

HospiTool project introduces an interactive user-oriented approach to health facility planning, construction and renovation. The project developed tools that enable end-user participation in the planning and evaluation of hospital spaces without being design professionals or used to comment on 2d drawings. The tools which were used and further developed in the HospiTool project were HospiTool version of VTT's EcoProP© User Requirements Management Tool and 3D model used both in the Computer Aided Virtual Environment (CAVE) and in VTT's Lumeviewer.

Results:

Virtual environment gives a possibility to provide planners and designers with increased understanding of user experiences. Systematic requirements management (VTT's EcoProP©) is enhanced by true dialogue and it is relatively easy to produce and compare various options in an early planning phase.

The HospiTool project was successful in creating a platform for development of user-driven innovations in the operating environment: process innovations for healthcare and product innovations for industry. Ultimately, the main objective is to develop a generic concept for inclusive design: to make spaces support processes within the spaces. The project has already yielded feedback from end-users (both patients and nurses) for planners and designers of the new hospital building in one of the participating Hospital Districts.

Keywords: User requirements, Virtual Reality, Patient Room