The development of the multi-media exhibition tool The tangible Earth: current status of its performance

Shinichi Takemura[1], Shin-ichi Kawakami[2], Ryuichi Iwamasa[3], Hitoshi Takahashi[4]

[1] Tohoku University of Art & Design, [2] Fac. Educ. Gifu Univ., [3] GK Tech, [4] FLEX International

http://chigaku.ed.gifu-u.ac.jp/

Is is possible to visulalize the dynamic Earth features revelaed by the latest science and technology in a way that people understand the data intuitively by toching and rotationg the Earth model? In addition, people using it can find out many local information by looking into the Earth. The multi-media exhibition tool The tangible Earth was born with such idea. The hardware of the tangible Earth is spherical display of liquid crystal with a projecter with fish eye lens in the center. If a user trys to rotate the tangible Earth, several sensors attached to the sphere measure the small displacement and then computer calculated new global maps according to the senseor's signal, so that he feel the tangible Earth was actually rotated. He can also use PDA and bring it somewhere near the surface of the tangible Earth. Then, the corresponding local information appears to the screen behind the tangible Earth.

In designing and making contents to be exhibited to the tangible Earth, it appears that it can be used as a platform for collaboration of many researches. For example, the flight couses of migrating birds, swimming couses of whales are now exhibited to the tangible Earth. Many geat events occurring in Earth history can be exhibited if a user bring PDA to many area where the corresponding geological studies has been performed.

The 1st model of the tangible Earth has been installed at the National Museum of Emerging Science and Technology, Tokyo since January, 2002. Several lectures have also been performed using the tangible Earth. New contents such as population growth, continental drifts and other informations of earth sciences will be added in near future.