

software, which support the concept of the installation, "Humanistic Reality", as a software development kit, which consists of projection position collection, physics law, force display, graphics, sound, and artificial intelligence.

As a long-term vision, we hope that people, especially children, understand the importance of Humanistic Reality like face-to-face communications, sharing of time, sharing of experiences and keeping of usual living spaces. Hopefully, children who had experienced our "Tangible Installation" invent natural new relationship between computer and human in the future.

In other words, we believe that the experience become "the compasses" which tell the direction of the new continent to the explorer in the world of the future interaction.

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#### 8. References

[1] Toshikazu Ohshima, Kiyohide Satoh, Hiroyuki Yamamoto and Hideyuki Tamura, "RV-Border Guards: A Multi-Player Entertainment in Mixed Reality Space", SIGGRAPH2000-27th International Conference on Computer Graphics and Interactive Techniques, New Orleans, 2000, pp.96.

[2] Ananny, M. & J. Cassell (2001). "TellTale: A toy to

encourage written literacy skills through oral storytelling."

Presentation at Winter Conference on Text, Discourse & Cognition, Jackson, USA. January 28-30, 2001.

[3] Wisneski, C., Orbanes, J. and Ishii, H., PingPongPlus, in Conference Abstracts and Applications, SIGGRAPH '98, ACM, July 1998, pp.111.

[4] A.F. Bobick, S.S. Intille, J.W. Davis, F. Baird, L.W. Campbell, Y. Ivanov, C.S. Pinhanez, A. Schütte, and A. Wilson. The KidsRoom: A perceptually-based interactive and immersive story environment. PRESENCE: Teleoperators and Virtual Environments 8, 4 (Aug. 1999), 367-391.

[5] Akihiko Shirai, Masaru Sato, Yuichiro Kume and Machiko Kusahara, "Foot Interface: Fantastic Phantom Slipper", SIGGRAPH98 - 25th International Conference on Computer Graphics and Interactive Techniques, Orlando, 1998.

[6] M. Ishii and M. Sato, "A 3D Interface Device with Force Feedback", IEEE VRAIS, Seattle, USA, 1993, pp.331-335.

[7] Makoto Sato, Eguchi Yasuo, Hatano Ken and Laroussi Bouguila, "Virtual Basketball", SIGGRAPH97 - 24th International Conference on Computer Graphics and Interactive Techniques, Los Angeles, 1997.

[8] Y. Cai, M.Ishii, and M. Sato, "A Human Interface Device for CAVE Size Virtual Workspace", IEEE International Conference on Systems, Man and Cybernetics, 1996, pp.2084-2089.

[9] Akihiko Shirai, Shouichi Hasegawa, Yasuharu Koike and Makoto Sato, "Penguin Hockey": A Tangible Playroom for children, NICOGRAPH International Conference 2002.