

Especially, SPIDAR has thin strings however no injured are good results for us. Our staff in charge had taken care to strings. Most of players grasp the grip sphere from not only the front but also side and back. And they often hide the thin string by themselves.

The result of questionnaire says that our concept and work are acceptable for children. Many participators played with their friend. And sometimes they became enthusiastic and squatted down on the floor, because they are so interested in the haptic sensations and behaviors of the virtual objects under the physics law. However, the most of children can play intuitively.

7. Visions and Conclusions

We realize "Humanistic Reality", which is necessary for future computer entertainment, by constructing a system around the large floor projection screen on which people can walk. A simple game system "Penguin hockey" achieved the idea of the design and children felt friendly to the system.

For short-term future research we'd like to create a general-purpose contents development environment. In this proposal we've concentrated on describing about our concept, "Humanistic Reality" and "Tangible Playroom". However we can regard the system as a general-purpose hardware platform for cooperative and humanistic computer entertainment. The contents such as "Penguin Hockey" can be updated like consumer video games by game developers. We hope to spread our system to nursery, childcare or living rooms in general houses.

So, in technique, we'd like to maintain the



Figure 6. Pictures of Prototype Installation. A player child is grasping a red sphere that is interface of force feedback display. He watches a floor screen. A wall screen is subsidiary.



Figure 7. Pictures of players' behavior #1. A girl player is playing active. Boys watch the subsidiary screen. A boy often leans to structure column.



Figure 8. Pictures of players' behavior #2. They are Sibling. Big brother grasps the grip. Little sister touches a snowman puck timidly.