Gearation:
The web3D content for children

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Introduction

This web content adopts the web3D technology designed for children, especially for younger children.
We have got the idea for this project from a toy "Guru Guru" (Fig.1) of our old educational toy line, "joujou" series. What we aim at is, however, not just renewal of the existing toy. Our goal is building of a new toy concept by combining the advantages of the existing toy which help child develop their imagination and expression as well as arouse scientific curiosity, and the technology of web3D which should be able to bring what the existing toys have never achieved.(Fig.2 & 3)

Approach

The content we are pursuing is the one that is easy for younger children to understand and give them a lot of fun. To this end we focus on the following specific approaches.

1. To provide an environment for child to play freely
   Children think and express things differently, which is something beyond our imagination. With this in mind we focus on simplicity, pursuing the development of a simple interface and achieving the minimum number of operations. In line with these efforts we have made mouse-driven input operation available.

2. To provide an environment for child to play without textual information
   We have created an environment for younger children to play comfortably by minimizing textual information and the frequent use of pictographs and small animations. We have also pursued simple interface and easy operation so that they can enjoy operation itself.

3. To create a harmony of sounds and visual images
   Each gear has its own sound. Combination of a couple of gears sounds like an ensemble in concert. As sound is a very important play element, close attention has been paid not to cause gap between sounds and visual images.

4. To bring a pure fun
   We have paid special attention to the movements and sounds of the gears so that they can fully attract child's interest and help them find a pure pleasure in making new discoveries and free expressions.

Future Work

1. To study infant perception of 3D world in a virtual environment
   The link between children and virtual world is expected to get stronger and such trend will continue in the areas of TV, games, even on Web sites. In the field of developmental psychology a study has been conducted on how infants develop the concept of space. We think it will also be getting important to understand how they perceive the idea of virtual space and how such perception will affect their development.

2. To establish multi-user system
   As the content designed for infants does not depend on the means of language, we will be able to make the most of this characteristic. We hope to develop it into a communication tool to connect children in various countries and regions in the world and to get their messages across. We also expect that this initiative will serve as a place for experiment of our another future work just raised in the above as it could offer a great deal of valuable information including comparative data of regional differences.

Figure 1. "Guru Guru" of old educationnal toy line "joujou" series

Figure 2. "gearation"

Figure 3. "gearation" : The users can change the viewpoint form wherever they like to look at gears.