

Good-bye, feet!

Ryuma Niiyama ¹, Tomohiro Akagawa ² and Marika Hayashi ³

¹ Graduate School of Interdisciplinary Information Science, The University of Tokyo

² Graduate School of Film and New Media, Tokyo University of the Arts

³ Graduate School of Information Science and Technology, The University of Tokyo

Abstract

Our artwork "Good-bye feet!" is a machine which extends visitor's "body image". The body image is how we perceive our own body, including our height, shape, and weight. In this artwork, by replacing visitor's eyes with two cameras, the machine cheats his brain. It's a brand-new experiment that the body suddenly became 5m height. Though you could see and move your feet, they would be so far off. "Good-bye feet!"

Keywords: body image, perceptual illusion, moving view

Introduction

"Curiouser and curiouser!" cried Alice (she was so much surprised, that for the moment she quite forgot how to speak good English); "now I'm opening out like the largest telescope that ever was! Good-bye, feet!" (for when she looked down at her feet, they seemed to be almost out of sight, they were getting so far off) [1].

Our work "Good-bye feet!" is motivated by "Alice's adventure in wonderland" written by Lewis Carroll. In that story, Alice ate a cake, and then she grew tall drastically. She thought of the large telescope.

What does a rapid change to the body bring to us? Our artwork provides that changing process in vision. As a result, the vision becomes a different from their body image. Body image is a map which represents size and shape of one's body. We have body image in our minds. In this artwork, a machine cheats your brain by replacing visitor's eyes with two cameras.

Body Image

The "Good-bye feet!" is a machine which extends your "body image". The inner image concerned about our body of size, figure and movement which we usually feel, is called body image. A body image is the subjective concept of one's physical body. Cognitive biases

and body image disturbance involves in response to ambiguous

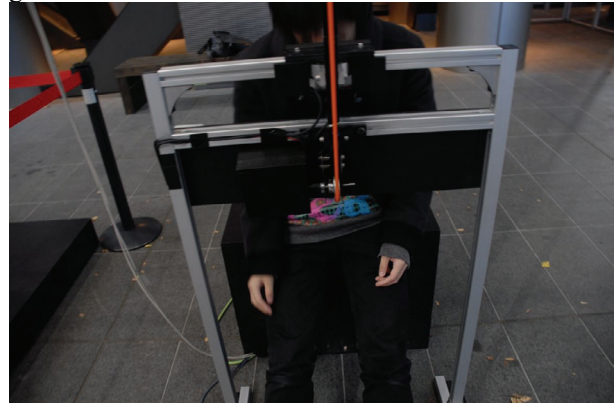


Figure 1 Viewing appearance



Figure 2 Visitor's view



Figure 3 Overview of artwork visual situation. The changes in vision could cause the deformation of the body image. If cameras as our eyes go upward, usually we will see a top of our own head. It is the viewpoint of an outsider. While, when camera's view is controlled so that we could see only own feet, it will leads an interpretation that our torso is expanded in its vision.

System Overview

To provide the viewing of body extending, we use cameras as an alternative vision to visitor's eye. By replacing visitor's eyes with two moving cameras, the system cheats his brain. Though he could see his own feet, they are so far off.

Figure 4 shows a system layout. The system simply consists of a computer, a 3D visor, moving two cameras and aluminum frames. The two cameras provide 3D vision for the depth perception. The 3D visor is mounted on frame. The visitor looks through the 3D visor to get the viewpoint of the two cameras (Figure 8). The time delay of the video out is kept to the minimum. The two cameras are mounted on the linear guide rail (Figure 7). The cameras are trained on the ground and visitor's feet are always in camera vision even during camera moves (Figure 6). As camera goes up to 4 meters-high, their feet look smaller (Figure 10).

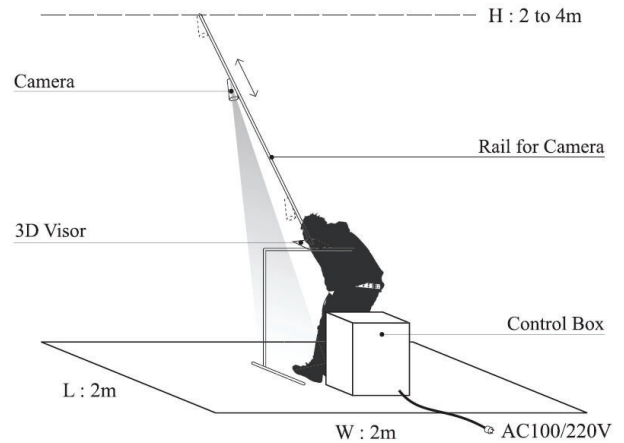


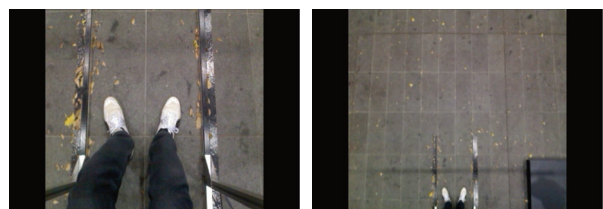
Figure 4 A system layout

Moving mechanism

The cameras move along the guide rail. A driving pulley with electric motor is placed on the frame. The cameras are attached to pulley belt and that belt conveys cameras to the upper side of the guide rail (Figure 7).



Figure 5 frame mounted 3D visor



a) A view of camera in lower side b) A view of camera in upper side
Figure 6 visitor's feet through the camera



Figure 7 moving cameras along the guide rail



Figure 8 looking through the 3D visor

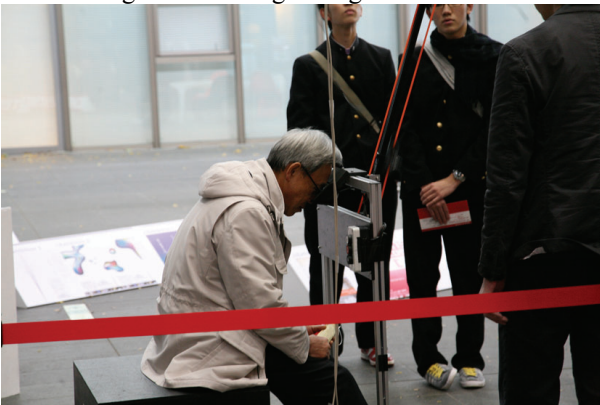


Figure 9 Pictures of Visitors experiencing the machine

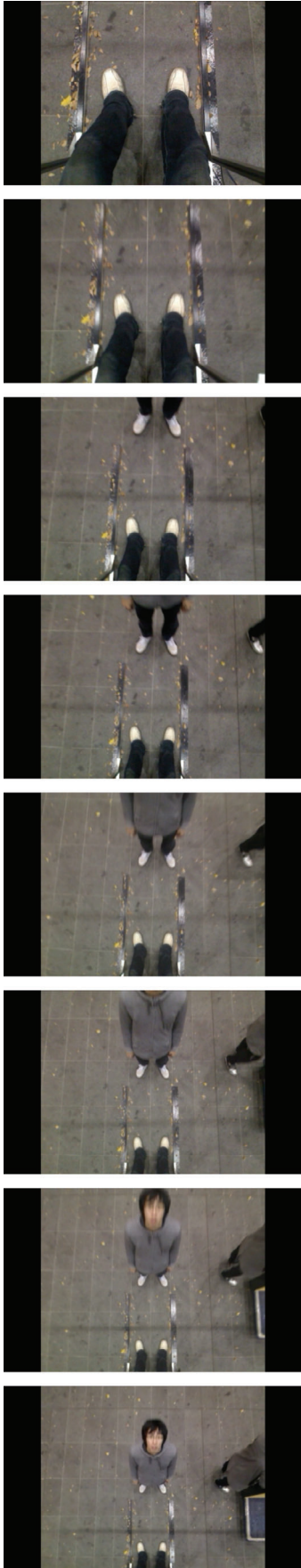


Figure 10 sequence of grew up

Conclusion

We constructed the artwork which provides the deformation of the body image in vision. Because the machine always brings visitor's feet into view, the visitor feels his body expanding. This phenomenon is a kind of illusion between physical perception and vision. Visual illusion has been well studied by many researchers, but illusions combining controlled vision and our physical perception have a field for re-search.

Preferences

1. Lewis Carroll, Helen Oxenbury, Sir John Tenniel, "Alice's Adventures in Wonderland", Macmillan, 1898.