A Virtual Train with a Container Using Visual and Auditory Representation of Train Movement

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INTRODUCTION

“Train Window of Container” is an artwork that makes a container as a train. To think about a container, it is an object used for or capable of holding especially for transport or storage. A container for cargo use travels various countries with a lot of kinds of goods. A container itself is a static and heavy object. We imagined that when we can feel a container is moving, we could find the new viewpoint of container. When we add visual and auditory information adequately, we assumed that we could feel a container as a different object. It was our original concept of an artwork. In the view point of goods or cargo, a container is a kind of transportation system. Thus, we wanted to make a transportation system using a container for us. We selected a motif of transportation system as a train. The concept image of “Train Window of Container” is shown in Figure 1. It is a virtual train car.

When we think about essence of a train, windows of a train is one of them. In a train, there are windows that provide landscapes. From landscapes from a train window, we can know the train is moving or stopping visually. Thus, the direction of “Train Window of Container” is to make a train using a container with focusing on windows of a train. We have implemented windows of a train in a container that makes us to feel as if we were in a train.

When you are in a train, sometimes you will be confused when the opposite train begins to move. It is difficult to get which train begins to move from the scene of train windows. It is famous for the perception of self-motion in the field of cognitive science (DeAngelis, & Angelaki, 1978). Dichigans et al. indicated that large-field optic flow stimulation induces self-motion perception. Self-motion is a hint for the artwork that stimulates audiences visually in order to let them to feel movement of a train.

A VIRTUAL TRAIN AND SIMULATOR

“Train Window of Container” is a virtual train. We can say that it is a simulator of a train. In terms of a simulator, there are a lot of train simulators in the world. However, most of simulators are games, such as “Railsimulator.com” (http://railsimulator.com/), Microsoft Train Simulator (http://www.microsoft.com/games/trainsimulator/screenshots.aspx) and “Densha de GO!” (http://en.wikipedia.org/wiki/Densha_de_Go). They are mostly simulating a driving method of train. Game players require starting and stopping the train using the computer keyboard or a special hardware to operate the controls. They could operate a train on various routes in Asia, Europe, and the United States. These games developed photographical computer graphics of landscapes for their operations of locomotives. They also simulate crashes and accidents of trains for gaming.

Railway companies introduce train simulators for training of crew operations such as training of drivers of train. They pursue to develop train simulators as real as possible including hardware setups. West Japan Railway
A Simple Physically-Based 3D Liquids Surface Tracking Algorithm
www.igi-global.com/chapter/simple-physically-based-liquids-surface/64060?camid=4v1a