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# The Noise Simulator

## Artistically researching the possibilities of VR

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### ABSTRACT

With the Noise Simulator project I'm researching the possibilities of VR from a non-technological, artistic point of view. Trying to find out how VR can add new fascinating experiences instead of being a lousy copy of reality.

### General Terms

Experimentation.

### Keywords

Real Virtuality  $\leftarrow \rightarrow$  Virtual Reality, VR content, Experimental Content Development *experience research, alternative power source*

## 1. INTRODUCTION

As an artist, with a non-technological point of view, I have researched the underlying principles of Virtual Reality by attending VR congresses (e.g. the VR world congress 2001 in Barcelona) and by visiting researchers and talk with them about their work. Here I noticed their drive to perfectly imitate reality, that seems to be common in VR development. In my opinion this often results in lousy copies of reality. When experiencing current VR installations it becomes obvious that most technicians are not trained for designing experiences. VR artists on the other hand often seem to focus on the technical aspects, which results in nice 'technical tricks' instead of experiences that add something to our reality.

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I've experienced a lot of installations, trying to find the essence of VR through personal experience. They were technically beautiful, but their content often was boring. So I've decided to do better.

I want to design VR experiences with the experience as a starting point instead of trying to extend the technical possibilities as a goal itself. To do so I reversed the VR principle, and started experimenting on a side-track.

## 2. WORKING PROCESS

### 2.1 Noise Simulation

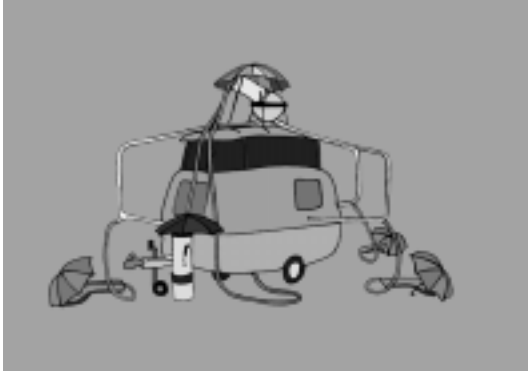
To express my criticism on VR I have realised a virtual phenomenon, I reversed VR to Real Virtuality. Therefore I have developed an installation, which simulates VR, without using computers: the Noise Simulator. In this noise (the 'snow' image on the TV screen) I am looking for inspiration. This experience machine creates an experience of noise by shooting black and white rubber bouncing balls at my guests for one minute, causing a bouncing ball bombardment.

The first version of the Noise simulation installation (see figure 1) I have built during the last two months of my final exams at the Institute for the Arts in Arnhem (1999).



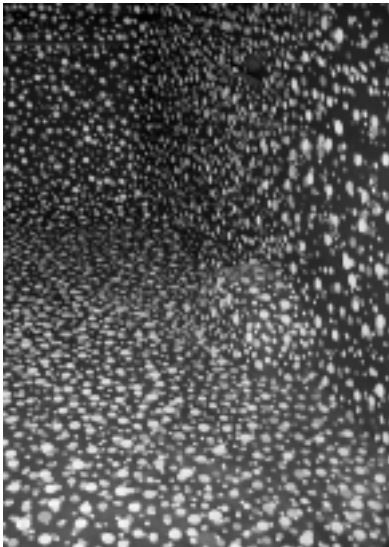
Figure 1

In the three years following I have developed this installation to the full automatic caravan version as it exists now (see figure 2).



**Figure 2**

A fully collapsible installation, built from household equipment (vacuumcleaners, leaf blowers, lemon-squeezers etc.), which is able to shoot bouncing balls inside the caravan from four sides with 100 mph, without being dangerous for the person who's standing inside this noise. Until now 700 people from 2 to 84 years old experienced this noise, helping me to develop it with their reactions.



**Figure 3**

The interior of the installation (see figure 3) is covered with a noise pattern that is enlightened with stroboscopic light during the experience. The visitor is wearing a special suit which 'dissolves' the visitor's body in the noise. (see figure 4)



**Figure 4**

The installation is constantly 'under construction' (partially) based on the reactions of the visitors. I'm interested in using the visitor's imagination, by creating an experience that allows them to have their own associations. There were 700 different experiences in the Noise simulator. From claustrophobic to universal, the 'Alice in Wonderland experience' or a way of experiencing hyperactivity disease (this was experienced by a doctor), the remembrance of a hail attack at one's caravan and so on... All created by one installation.

## 2.2 Translating Real Virtuality back into VR

The goal of the virtualisation of the Noise Simulator is to create a virtual experience that is just as intense as the original. I want to investigate how I can use the specific qualities of VR to achieve this. I don't think that it will be interesting to create an exact virtual model of the installation. (Getting hit by virtual balls?) One of my visitors gave me the starting point when he told me that he had phantasized about how it would feel like to be a bouncing ball.

One of the unique characteristics of VR is that you could have your experience from any point of view. Until now that often is the human point of view. But why not experience how it would feel to be a bouncing ball in the Noise Simulator? Being shot into the caravan, hit, bounced, sucked into a hose, swung around, and shot again.

To be able to create this feeling I'm going to try to experience these movements myself first in rollercoasters, gyroscopes, bungee jumps etc. How does it feel to bounce? And how can I create that feeling for my visitors?

### 2.2.1 An alternative power source integrated into the experience itself.

I've noticed in the VR experiences that I've had until now that my role in the experience, by physical means, often was quite passive. Standing still with a mouse in my hand or wearing a dataglove, my bodily movements being reduced to turning a little or being strapped in a chair that moved in all directions. Just like

in our everyday lives were sitting is one of the most common positions of our body. We sit behind our computers, in our cars, on the couch in front of our tv, at VR conferences, in the Netherlands it can even mean 'to be' ... we live our lives from our lazy chairs and it starts to become uncomfortable.

That's probably one of the reasons why force feedback was invented. In my opinion the current force feedback is one step to far ahead already. Technicians try to built complex machines to create simple physical experiences. In my installation I want to make use of the possibilities of the human body, visitors will have to move their body's if they want to have the experience, I will try to incorporate their movements into the design of the experience in such a way that visitors are creating their own physical feedback. Next to that I want to use the energy that is generated this way to feed the whole installation. With this I want to investigate if I can use alternative power sources as an improvement of the experience itself.

### **3. CONCLUSION**

I think researching VR from a non-technical point of view can be a valuable addition to scientific research. In my opinion until now the VR technique itself distracted most of the attention from the experiences created with it. Which often leads to boring VR

experiences that are ignorant to the possibilities of VR compared to reality. It seems to me that even a lot of the VR artists are often more technician than artist, falling for the nice tricks of the technique itself instead of using it to create new experiences.

In my work VR is the logical next step to be able to create the experiences that I can not create in reality anymore. I'm interested in using the visitor's imagination, by creating experiences that allow them to have their own associations. Next to that I would like to find ways to narrow the distance between reality and virtuality, making experiences on the borderline. Trying to break through the passiveness of most VR worlds.

So I guess that's enough for many years of researching. I'm really interested in receiving feedback from other VR researchers (from any discipline) and possible coöperations with them.

### **4. ACKNOWLEDGMENTS**

My thanks to all the visitors of the Noise simulator who helped me to develop the experience with their reactions and to everybody who contributed to the development of the installation itself.