

# Sound Flakes

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## 1 Introduction

"Sound Flakes" is an interactive art piece which anyone from children to adults can use. When the faucets "Do, Re, Mi..." are twisted, sound drips into the water pool and begins to float as "flakes" of sound. Moreover, the user can stir the flakes in the water and scoop one up with a ladle. If some flakes collide with another flake, each sound will ring. If one of the flakes is scooped up, it will rotate and sing in the ladle. If the water in the ladle is released into the pool, the flake will begin to float again.

Users will have a pleasant experience, like magic, because they can interact with the piece with the familiar, easy work of twisting faucets and stirring or scooping up water using a ladle. There are no special rules to enjoy this installation. However, when attendees see the colorful faucets and ladle, they will want to come to twist faucets and to scoop water. The enjoyment of the artwork is its freedom and universality. If some flakes accumulate and are stirred in the water pool, a favorite new chord may be heard, for example "do- mi- so". Someone may be able to play it as a new musical instrument with both a visual image and the tactile feeling of water.

This artwork is a fun playtime activity for children. However, adults also enjoy the idea of spending relaxing time in this environment. I hope that many people will leave with a smiling face after interacting with this installation.



Figure1: The design of the installation

## 2 System Overview

The flakes in the pool are images which are projected on the screen at the bottom of the pool from a projector located above. The images are real-time computer graphics animations that are created by the electric on-off switches in the faucets as well as a position sensor in the ladle. The way the display provokes the feeling of touching an image without actually touching any special equipment is a technical innovation.

The image is generated using the data from a motion capture system, then is projected onto the captured space itself.

At the same time, the computer also creates sound that is synchronized to the images. Furthermore the user feels a natural, tactile feeling from the real water. The faucets, ladles, and water pool are combined together to create a natural and pleasant environment. Through this, the artificial and non-artificial feedback are intermingled, and the feeling of existence of image is expanded.

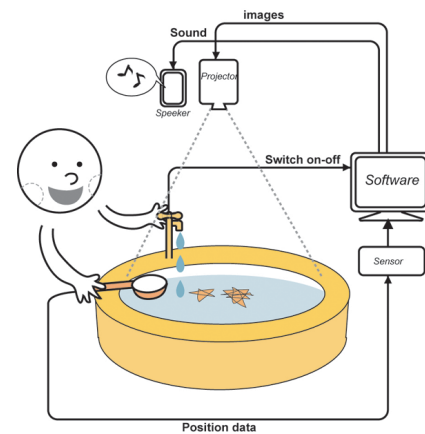


Figure2: System overview of "Sound Flakes"

## 3 Goal

I hope that computers are used as tools to make people happy. I am trying to do so through art. Computers make our life conveniently high-speed, but this also makes us a little tired because it often exceeds the human's natural speed. This installation is one example of using a computer to make our time not efficient, but rich. This enriched time may help us remember our childhood.

## 4 Acknowledgement and Related work

The cooperation and efforts of many people were very important in the creation of this exhibition. I am thankful to Makoto Yanagihara who took charge of the programming of this work. Although he is my seminar student, I am also hoping for his further collaboration after graduation. In addition, some part of the techniques of this art work are based on "The Floating Words", a series of art works that I exhibited at SIGGRAPH 2001 and 2002. Special thanks to Shinji Sasada who created the prototype program for "The Floating Words," Mr. Shibata who redeveloped the software to improve the exhibition, and the many people who have contributed to the exhibitions which have already been shown. Thank you all.