IkeOto - Sound Arrangement -

Sound Installation by Expressing Sound Field Itself

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1 Introduction

”Ikebana” (means ”Flower Arrangement” in English) is a Japanese traditional art that express not only flowers but the formation of its surrounding field itself using flowers as it alives. This work ”IkeOto -Sound Arrangement-” is a visual and sound interactive art that stays its surrounding environment’s sounds and sounds given by audience in the field, and present it as quite different form. As a result, the special sound field is formed by sound instead of the flowers by leaving sounds, which disappears usually as time goes by because it doesn’t have any substance.

2 Overview

”IkeOto” reacts the surrounding environmental sound and sounds you give. When sound is given toward the microphone, ”IkeOto” detect the one break of the sound by rhythm detection algorithm, and generate a flower-motif graphic ”Flower” that repeats the recorded sound at a constant cycle, and the sound is leaved in the place. The ”Flower” disappears on its lifetime if another sound is not given for a while. However, if another sound is input again before ”Flower” disappears, the ensemble by a lot of ”Flowers” can be created. As a result, casual sounds which disappears usually reborn to quite different form by leaving in the field by

Fig.1 Installation

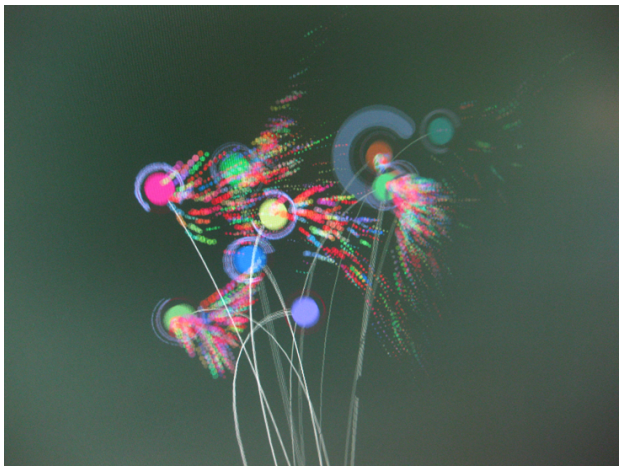

Fig.2 Screen

giving the rule of periodicity to it and its piling. Futhermore, we are realized its implications between periodicity and its piling and sound pattern which we recognize it as music, because a musical pattern is formed regularly if you don’t have any intentions for the sounds you give at all.

3 Implementation

I implement this work using C++ and OpenGL on Mac OSX. For equipments, it needs a microphone, PC, display, and loud speaker. So, no special sensor is needed.

”IkeOto” start to reacting the sound when the amplitude of input sound exceed the threthold value, and to recording. The recorded sound is analyzed by rhythm detection algorithm, and If it is detected as the end of a 4-beat rhythm pattern, it stop recording, and generate a flower-motif graphic. Once a ”flower” is generated, recorded sound is repeated at a constant cycle, and the volume is decreased by degrees taking a constant time. If plural numbers of ”flower” are generated, it mixs the amplitude of sounds by summing up.