

SUAC STUDIO REPORT

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ABSTRACT

This is a studio report of student projects at SUAC (Shizuoka University of Art and Culture) in Hamamatsu Japan. SUAC was founded in April 2000, and hosted NIME04. All students in the "Faculty of Design, Department of Art and Science" are studying computer sound, interaction and media arts. SUAC organized the Media Art Festival (MAF) from 2001 to 2010, and many student's works have been created - live performances, installations and interactive contents - Flash, Web, Game, etc. In this paper, I will report on four recent student projects - two live performances and two sound installations created 2010-2012.

1. INTRODUCTION

SUAC (Shizuoka University of Art and Culture) was founded in April 2000. Hamamatsu City, Shizuoka Prefecture, where SUAC is located, is situated almost midway between Tokyo and Osaka, and has numerous globally famous companies [Yamaha, Roland, Kawai, Suzuki, Honda, etc.]. SUAC has two faculties and six departments - the Faculty of Cultural Policy and Management (three Departments) and the Faculty of Design (Dept. of Industrial Design, Dept. of Art and Science [1] and Dept. of Space and Architecture). We have a WS room, a Mac room, as well as many Studios and Ateliers. The 2004 International Conference on New Interfaces for Musical Expression (NIME04) was hosted by SUAC [2]. We also organized the Media Art Festival (MAF) from 2001 to 2010 [3-5]. For example, the first MAF2001 featured the following: (1) two Live Computer Music Concerts with 12 composers, (2) a Symposium of IPSJ (Information Processing Society of Japan), (3) an Installation Gallery exhibiting 15 works, (4) A movie theater with 14 works, (5) a CG Gallery exhibiting 12 works. I presented the paper : "Students' projects of interactive media-installations at SUAC" at NIME06 [5]. We also organized three workshops about "Sketching / Physical Computing" at MAF2008-2010 with Prof. Shigeru Kobayashi, who is well-known as the inventor of Gainer/Funnel. In this paper, I will mainly report on four recent student's projects, because space limits. There are also some interesting research projects from professors of media psychology.

2. "CANON"

A live computer music performance, "CANON", was composed and performed by Momo Imamura (4th year student) in 2010-2011. The title "CANON" refers not only to the musical style "Canon" but also to "Flower Sound" in Japanese. There were four big "flower" objects on the stage. Each flower object had a speaker, foot-switch and lighting system whose brightness was controlled by the loudness of the speaker sound (Figure 1). This work was composed with Max5 environment, and performed in the "Inter-college Computer Music Concert" (Showa College of Music) in December 2010 and the Graduate Exhibition of SUAC in February 2011.



Figure 1. Performance stage of "CANON".

When the performance started, the performer (composer herself) played the Tenor Sax with one foot-switch of the "flower" object. Then, a performed Sax phrase (ad lib) is sampled in realtime into the system, and Sax sound is generated(processed) with harmony, repeat-arpeggio and echo, and the "flower" object sounds and lights and then the first part repeats with some interval timing. This sampling step means "I am giving water to this plant, and the flower starts singing". Next, the performer plays and samples the other phrase to another "flower" object, then the processed second part is generated by synchronized timing with the first part as musical style of "Canon". After she plays/samples the third part and the fourth part, all four "flower" objects generate and play each part like "Canon". Finally, the performer stands at the centre of flowers, and plays

improvisation with BGM/lighting of four “flower” objects, a complete quintet ensemble.



Figure 2. Performance of “CANON”.

This work contains two sections of these “step-by-step making Canon” ensembles; the total duration is about 10-15 minutes. Figure 2 shows the performance of “CANON”.

3. “JAMI-GIRLS’ BAND”

This was a special collaboration-education project of five 1st year students and myself in 2011-2012. Firstly, I got many “junk” Jaminators in e-auctions at very low prices. Then, the students (Ayano Kazuma, Chika Suzuki, Yuriko Tosaya, Mai Morikawa and Akiho Yamada) and I opened the Jaminator, removed the parts and analyzed the system (Figure 3).

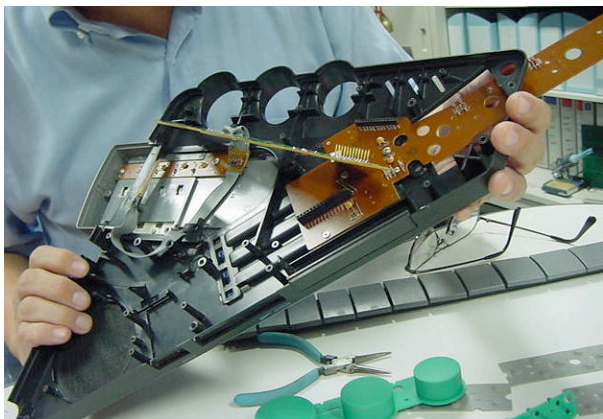


Figure 3. Analyzing “Jaminator”.

Then, we arranged and remodeled Jaminator [7]. We removed the mother board and replaced the CPU to Arduino. The scan/detect lines of keyboards/switches were connected to Arduino’s I/O ports, and we set the small high-power RGB-LED (PWM controlled) at the top of the neck. We added the 2-D Acceleration sensors inside, and MIDI interface to send information to host system. Students did not have sufficient knowledge of electronics, so they could only assist me, but they studied and learned very much. All MIDI outputs of the five Jaminators were merged by a special machine produced by myself, and the performance system was

constructed with Max/MSP/jitter environment. The title was “Revolution-J” and the key concept was “Five Girls Jaminator Band”. Figure 4 shows the members with the specially arranged Jaminators.



Figure 4. Members of the “Jami-Girls’ Band”.

As creators, students produced movies and images for graphic part of the performance, and we recorded many sounds from mobile phones as sonic materials [8]. The performance was a kind of battle-session game of sounds and graphics on stage. The graphic part was projected to a big screen behind the stage. The duration of this performance was about 7 minutes.



Figure 5. “Jami-Girls’ Band” rehearsal.

Finally, we had a rehearsal in the hall (Fig. 5), and they premiered this work in the “Inter-college Computer Music Concert” (Tokyo Metropolitan University) in December 2011. The newer version of the video recording of the performance was updated [9].

4. “SOUNDVOROUS PLANT”

This work is a sound installation produced by Chiaki Ikuma, a 3rd year student. Figure 6 shows this work, and the title means a “sonic version” of “insectivorous plant”. It has an old-fashioned record player box and a big flower object connected to the box. This flower eats “sounds” with a microphone at the centre of it, and

makes the "belch" sound converted from incoming sound. The system is written in Max/MSP environment and using GAINER to detect the movements (directions and speed) of the turntable controlled by people.



Figure 6. Installation work "Soundvorous Plant".

People turn the turntable to the right while saying/speaking/singing, and these sounds are "eaten" by the flower. Then, after stopping the turntable once and people re-turn the turntable again, the flower generates a strange processed sound from sampled sound. If the turntable playback direction is right, the generated sound is modulated. If the playback direction is left, the sound is reverse-effected.

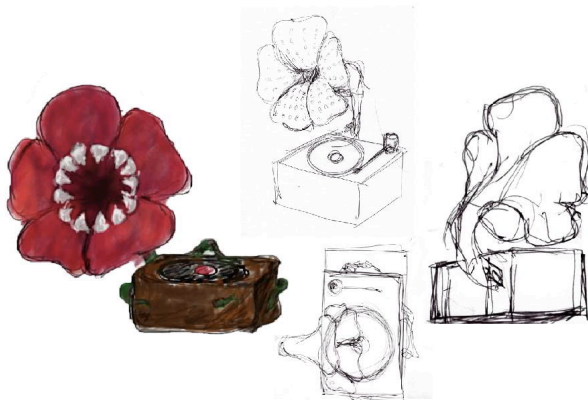


Figure 7. Sketch of "Soundvorous Plant".

Figure 7 shows some sketches of this idea. The creator tested many materials to produce the flower petals. Finally, she used a vacuum forming machine to press two panels of vinyl chloride, and Japanese traditional thin paper with red color. This work was specially made as an exercise subject by students in my seminar.

5. "OTOKAKECCO"

The installation work "OTOkakecco" was produced by Haruka Misaki as the final project of her master's course, and was exhibited at the SUAC graduation exhibition in February 2012. The title means Sound Hide and Seek in Japanese. Figure 8 shows the concept sketch, and Figure 9 shows the work.

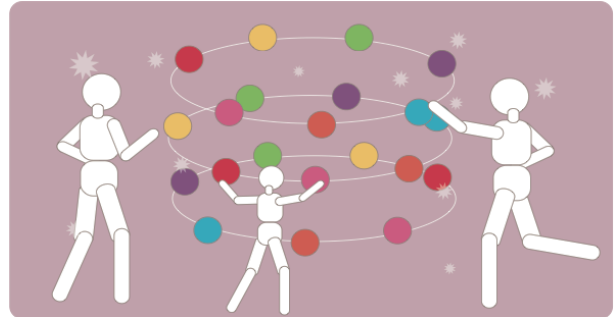


Figure 8. Concept sketch of "OTOkakecco".

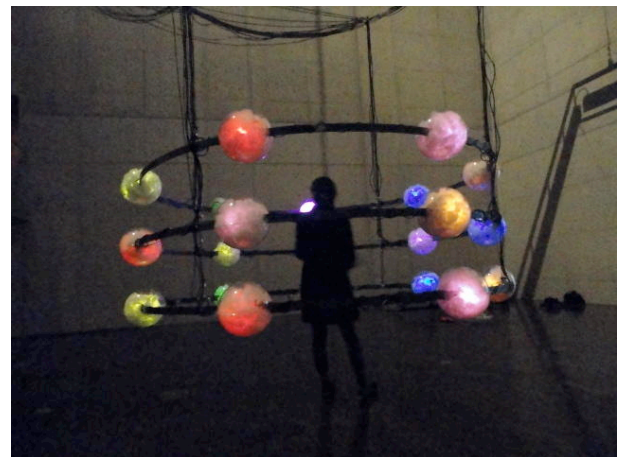


Figure 9. Installation work "OTOkakecco".

In the center of SUAC's special big dark hall, there are three floors of big iron rings (2 meters in diameter), set at a height of 1 meter, 1.5 meters and 2 meters from the ground. Each ring has seven plastic balls (24 cm in diameter) which light seven types of colors. In each ring floor, there are seven different colors on balls and these colors change at 5-10 second intervals. Normally, the brightness of each ball is very weak.

People can hit the balls - from inside or outside of the ring, and then the ball flashes at maximum brightness for a moment, and a diatonic scale sound is generated related to each color. Each ring floor has a different timbre, and the sound is specially designed like a "Shepard Tone" - the infinite scale without pitch jump in the ring.

This project took about one year. To begin with, she tested the layout (size of rings and balls and heights with human) simulation with 3D animation software (Fig. 10), and tested the lighting interaction simulation and produced Shepard Tones before production.

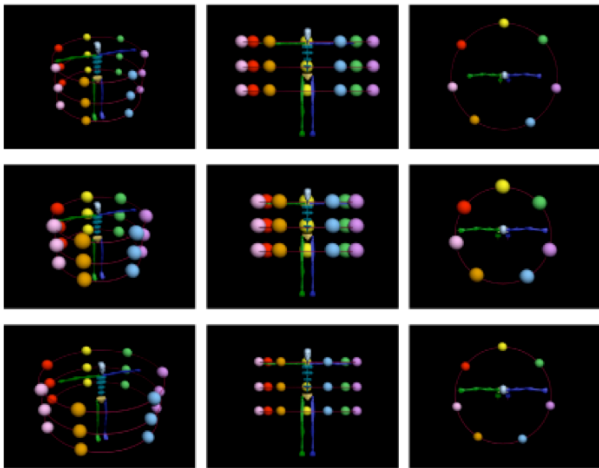


Figure 10. Layout simulation by 3D studio Max.

After the simulation processes, she started production. The control system was written by Max/MSP/jitter, and I produced the special interface system as a common tool for interactive systems for students. Figure 11 shows this interface, it controls 63 LEDs (3 colors * 7 balls * 3 floors) outputs with individual PWM from MIDI, and 21 Analog inputs from small microphones inside the balls to MIDI. Each ball contained two electronic boards of two high-power RGB LED, small microphones and OP-amp. Cables were about 200 meters, and the main rings were hung with hard steel wires.

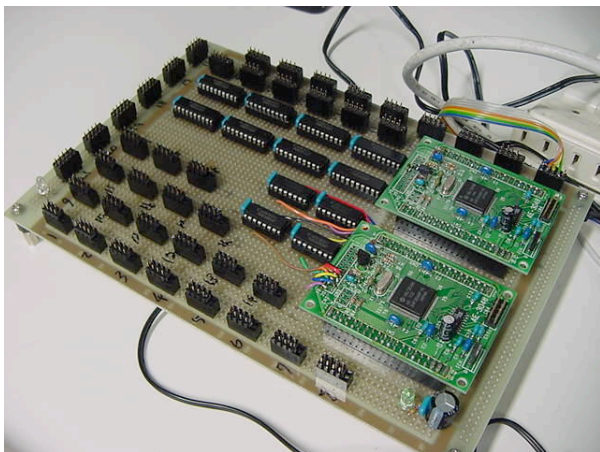


Figure 11. Interface (63 LED out / 21 analog in).

6. CONCLUSION

In this paper I have introduced some projects by SUAC students. The environment/platform of these four works is Max/MSP/jitter, but there are also many works with "Flash+Gainer", "Processing+Gainer" and "Propeller Processor", of course. The work of the upperclassmen informs the output of the underclassmen. The mentoring of the younger students also provides the upperclassmen with life skills and personal growth outside the classroom.

At SUAC, there are many exciting collaborative projects by - [students and teacher] and [teachers]. It is also possible to design psychological experiments using our students as experimental subjects as they have good visual/aural senses. In a future paper, I would like to report on media psychology experiments at SUAC [10-11].

7. REFERENCES

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