

# EARS Report: Fall 2018

## Overview

Since spring quarter, EARS has grown rapidly. As we come to an end of the fall quarter, I embrace this time to reflect on what has happened the past several months. Since jump starting access to the studio, we have achieved considerable leaps in research, extensive collaborations, and an established base of interdisciplinary students who are all sharing experiences, working with each other, raising each other's skill level and sharpening each other's perspectives on similar concepts, all surrounding music. Since the two songwriting camps, and collaboration with Stanford's Center for Computer Research in Music and Acoustic (CCRMA) Director Chris Chafe, we have:

- I. Demonstrated prototypes at the quarterly Involvement Fair
- II. Created an official student organization
- III. Engineered and participated on 20+ projects featuring video
- IV. Contributed two members to Gamespawn's hackathon event
- V. Invented new methods of perceiving audio
- VI. Applied to the Big Ideas Innovation Competition grant

The most impressive feature, is the observance that **we have nearly nearly 40 diverse and interdisciplinary students and collaborators continually using the space**, and sharing new experiences everyday as we collaborate on group projects.

## Fall 2018

When we returned from summer session, we planned to get a jump on the Fall quarter by setting up a student organization to house all of our activities for the indefinite future. The strategy behind this is twofold - to protect the music department from anything we do that may not be directly in line with the department's goals, and to insulate us from depending on any single department, as we organically create our connections through the university and the community.

An added benefit to the student organization route, is the opportunity to receive donations from outside parties, and interact with the outside world more often. With this, I plan to establish endowments and continual grants for specific research, and overhead for the studio, to enable more prototypes of ideas that students have. Currently we are bottlenecked with limited resources, using our personal items to investigate relationships and to accomplish general research tasks, but if the studio could purchase items, then the studio will be equipped to handle a wider range of research, accommodate more students, and be more flexible with installations.

## Research

### **Tactile Stage (Aurora)**

We have been hard at work finishing a stage, where an audience will sit and perceive audio through tactile feedback. This is in conjunction with a multi-year art installation collaboration project (Aurora) with Art professor Joan Sharma of Fresno State. We have been collaborating on the idea of another installation about global warming. This time, I am leading the charge with the intention of making this installation as immersive as possible by engaging as many senses as possible - immersive sight, surround sound, tactile vibrations, holograms, and temperature effects.

By accomplishing the goals of this project, we will have designed a large vibro-tactile speaker that can share the experience with multiple people, engage deaf and hard of hearing community in music, and lay the framework for a number of patents for commercial vibro-tactile products.

### **Music Engineering and Production techniques**

We have done research on several active projects in the music production space. Active projects mean projects for active musicians such as K3Z and Citizens of Glory, Soundstage Sessions in Fresno, Jason Tse's mini-grant project, and assisting on project assignments for Dr. Chagas' MUS 137 and Dr. Kaufman's MUS 258 classes.

Working on these projects helped us identify new production and engineering techniques to deliver clearer, more balanced music, as well as establish a sonic standard for projects coming out of the studio. Student members have reported that these techniques have helped their own collaborations and personal projects, many which have been performed frequently.

### **Video Game design and Music Programming (adaptive music)**

Please refer to Christiaan's report for in-depth review of how Video Game Design is going, Music Programming using Max/MSP, Ableton, Logic Pro, and soon, Arduino and other code heavy programs is ramping up, as we obtain the necessary tools to experiment with.

## Existing Collaborators

Riverside Philharmonic

Riverside Studios

Composer's Collective at UCR

Soundstage Sessions

Deejay and Vinylphiles Collective

Gamespaw

IEEE and SWE

## Individual Development

An unintended consequence of the work is the impact it has on student's confidence levels. During private discussions of the studio environment, Christiaan and I have noticed certain students blossom tremendously, where there was seemingly very previous little interest in school or school related functions, certain individuals have stepped into leadership roles, and have been the driving force in a number of projects, and have begun pushing the boundaries with their art and stepping up to deliver their thoughts, regardless of controversial perspective.

Whether or not the impact is direct or indirect, we have noticed a significant shift in these student's attitude, and confidence levels.

## Future Plans

This upcoming quarter, we plan to execute another songwriting camp, finish the tactile stage, and put on a wonderful and impactful event to impress people upon the importance of climate change. We wish to refine the design, and use the modularity to install it elsewhere once it is complete. We also wish to participate in more competitions, from hackathons, to external songwriting camps.