Research, Vocal Visualizations

I've decided to go a different direction with my topic choice to more closely align my project with something that relates directly with ISEA topics. For my project I'd like make a way for people to track and analyze the way they interact with sound in their lives, specifically in vocalizations. A few weeks ago, I noticed that there's a completely different level of sound when I was in my all male friends' house (three housemates) than in my all female friends' house (three housemates) but the loudest house of them all was a mixed gender house. Obviously there's numerous other factors at play, but it brought me to the question: what are the social and cultural implications of the way we speak?

I'm also interested in tracking the volume, pitch and frequency of vocalizations of different people throughout the day to see how different people react differently in terms of vocalizations to a variety of factors throughout the day. Ideally, users would have a small microphone collecting sound data throughout the day and then it could be organized and viewed depending on a variety of variables such as time, location, volume, ect.

I think that this tool could help people work on their active listening skills, volume control, and as a way to more deeply understand how they instinctively express themselves. While discussing this topic with my friend Corey, he recommended setting up a heat map in a party situation to see where people congregate based on volume

of conversation and ambient noise and how they react in terms of volume in a group. This project could be used in research as well as more causal applications of sociology and cultural anthropology.

While researching, I found that there are many different factors to measure the intensity of vocal sound: loudness, acoustic power, volume of sound and intensity. Loudness is depended on pitch and personal perception, acoustic power is measured as energy in watts, volume is user determined, and intensity can be seen as the "saturation" of sound dependent on area among other environmental factors ("Three Levels"). Knowing these subtle differences will help me better understand how to best quantify sound in terms of this project.

"3 Levels of Intensity Control: Lungs, Glottis & Vocal Tract." *The National Center for Voice and Speech - Tutorials*. The University of Iowa, n.d. Web. 02 Feb. 2016.

Kline, John A. "Types of Listening." *Listening Effectively*. Air University, n.d. Web. 02 Feb. 2016.

Mohammadi, Gelareh, Alessa Vinciarelli, and Marcello Mortillaro. *SSPW 2010: Proceedings of the 2010 ACM Social Signal Processing Workshop, October 29, 2010, Firenze, Italy*. New York, NY: ACM, 2010. *The Voice of Personality: Mapping Nonverbal Vocal Behavior into Trait Attributions*. Web.