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Final Project Proposal

The Voccordion: A Controller for Vocal Manipulation

Last semester I built an accordion MIDI controller (which I called the Voccordion) that would control a Max patch that would shift the human voice. It was a success in that I had never attempted to build anything like that before and it ended up working along with my Max patch. I ended up having to really tailor my patch the device and there were a lot of weird issues with the device itself, such as each button sending MIDI information on different channels, and certain buttons not working at all. While the device and patch on a whole were not exactly as I would have liked them, I was very proud of my accomplishment. What I am proposing for my final project would be to do a major overhaul on the idea, to essentially take what I learned from building it last semester and make a new device and software application. I have already spoken with Dafna and she has some great ideas for improvement and also agreed to help advise me on this project. I have also made contact with my Professors at ITP with the hopes that they will be able to help advise me on some of the physical computing aspects of it. Below are some of the ways in which I would like to improve upon it:

Main Areas for Improvement

- No MIDI, *Arduino2Max* object instead
- Standalone application instead of Max patch
- Wireless via Bluetooth
- Change the way it manipulates pitch (more like vocoder than pitch-shifter)
- Add/Remove Sensors
- Change “bellows” sensor: block and tackle, IR sensor, Stretch sensors
- Not MIDI
- Multi-channel audio capabilities
- New Casing
- No delay

As far as the paper and research aspect of it, I plan on doing research on previous vocal and accordion controllers. Last semester I had a chance to do an e-mail interview with Perry Cook, something that I would like to do again for this project. I also have a contact with the person who made the Accordiatron. Other aspects of the paper, as you can see in my “Table of Contents” would be documentation of my first attempt at building my Voccordion, what worked and what didn’t, and then the physical and software building of the newest model. My ultimate plan would be to either present it or perform with it at the NIME conference this June. I would also be more than happy to make two of the devices so that the Music Tech program could have one as well. Since they end up being a bit on the expensive side, around \$100-200, the one built for the department would have to be paid for by the department.

In conclusion, this is my proposal for what I would like to do for my final project to complete my master’s degree in the Music Technology program here at NYU. I do think that it is a worthwhile instrument as well as one that can be used for a variety of applications, such as performing, sound design, and sound art installation.