Thunderwire

Thunderwire, an unfortunately named audio-only social space developed and tested by Debby Hindus and several of her associates, surprised me with how successful it was. As an audio only system, it seems that it would be difficult to know who else is interacting in the same social space, or who may be eavesdropping. The users of the system developed norms for dealing with joins and exits, however, and frequently even filled joining users in on the participants’ identities. As the number of users grew, I would expect the usefulness of Thunderwire to decrease as “static” – meaningless chatter or background noise – began to outweigh meaningful conversation.

If the participants of the study had been simply placed in proximity to each other, separated by visually opaque but audio transparent curtains, I wonder how different their interactions would have been. They would get a better sense of source, and so might turn to address or listen to their hidden associates. This setup too would be untenable for larger groups.

I was not terribly surprised to read that the majority of the exchanges that took place over Thunderwire were more personal than professional – as that is often the case with email and IM conversations, even in office settings. I was struck with how similar Thunderwire seemed to a simple chat room with the user list hidden, featuring synchronous conversation, single medium (essentially) communication, norms developed to more closely mimic face to face communication, ambiguity of communications’ intended receivers, etc. Adaptation to the audio medium allowed more natural cues such as tone of voice to be used, and so an audio social space would likely be easier to adapt to than a textual or avatar based space.
In Situ Speech Visualization in Real Time Interactive Installation and Performance

Levin and Lieberman explore how best to represent sound visually, and how artists and designers have done it to date. The *Music Plays Images X Images Play* *Music* by Toshio Iwai, in which visual representations of notes played on a grand piano can be seen rising up in a projection on the wall near the piano as they are played sounds as though it could add new depths to musical performances. Having seen a comparable, though much simpler, visualization accompanying a keyboard player as part of a rock show (Muse, Absolution Tour, in which an array of lights were mapped to the keys in a 1-1 relationship), I can attest to the fact that audio visualizations can both add to the pure aesthetic enjoyment of audio and that it can help an observer appreciate the complexity of what is being performed.

I would expect that a member of a conversation who might not understand its complexity could draw from the visual cues provided by something like “Hidden Worlds.” The authors point out one of the main drawbacks of the system – the tiny viewing angle, which I can only assume would be horribly constricting. Unfortunately, only duration and volume are mapped, and not phonemes, pitch or other characteristics. I imagine a mapping of plosive consonants to hard-angled shapes, fricatives to rounded shapes, and Afri cans, Trills, etc. mapped to disjoint (or otherwise distinct) shapes would yield interesting views of conversations, as well as comparison material between languages.

*RE:MARK* does phoneme detection in conversations between two individuals, and then displays its characteristics and some individual phonemes on a projected image. The visualization is much less compelling as that provided by *Hidden Worlds*, owing to the lack of glasses to present an augmented reality. The authors’ description gives the impression that *RE:MARK* does not recognize phonemes consistently, and so spends a great deal of time showing abstract symbols.

The *Solo* mentioned briefly in the *Messa di Voce* seems like it would be an interesting blend of capture and persistence of sound – a normally fleeting or sequentially played back medium, which in this case could be accessed randomly While it is only mentioned
briefly in the paper, *Solo* seems like it could be expanded upon greatly or borrowed from and combined with speech recognition to create an audio *Wordle* or something similar.

**Seeing More**

The *Conversation Clock* provides interesting insight into the group dynamics of a conversation, but seems like it might fare better as a mobile device than an installation. The usefulness only extends as far as it can be used, and according to Bergstrom conversation returned roughly to normal after the visualization was removed. The marked change in conversation with the visualization present is a testament to its success, or at least to its potential for use.

Having this sort of feedback for a face-to-face conversation seems unusual, and obviously pressures participants to change their behavior – some remarked that they felt compelled to finish speaking and allow more turn taking and to speak up when they had been silent. Most speakers in my experience tend not to focus as much on others’ contributions to conversations as their own, and do take turns as an unconscious conversational strategy, but are not so focused on balance as the users of the *Conversation Clock* seemed to be.

The clock seems to impose a sense of “right” behavior on a conversation, something the creators did not seem to intend, but which could be useful in teaching those who do not understand basic conversational strategies how to interact more conventionally. In that regard, having a portable clock seems even more compelling, as someone living with Asperger’s or linguistic impediments would not be able to carry out all conversations around a certain table.