17 ways to say yes
exploring tone of voice in augmentative communication and designing new interactions with speech synthesis

Six speaking chairs is a collection of objects, each of which embodies a way of thinking about tone of voice. Six mental models are taken from different disciplines, each of which has developed its own tools for describing expressive speech. At this stage we were not trying to design practical everyday interfaces, but we are using interaction design indirectly—as a tool to explore different approaches, and the future interactions that they might inspire.

It is better to think of the chairs as provocations than as prototypes in the conventional sense, because their most important role is to spark discussion rather than to test proposals. There are some commonly held assumptions about the future of speech technology that we wished to challenge. Our goal was to explore alternative perspectives rather than to converge on a solution at this first stage. We would therefore describe this activity as design research, even though it involved our practice as interaction designers.

So the chairs are not to be taken literally. It’s not about chairs at all—they are really just illustrations of principles rather than even sketches of user interfaces. Each illustrates what might otherwise be a rather esoteric mental model, making it accessible to experts and non-experts alike and engaging both in conversation and reflection.

Chair No.6—the Terse/Roaring Chair—has seventeen doorbells, each of which offers a different description of tone of voice, from coaxing to coyly, from whimpering to whispering. These descriptors are taken from a playwright’s stage directions, in this case George Bernard Shaw’s for Pygmalion.

In communication devices, a selection rather than a manipulation may be more appropriate after all, since speech impairment is so often associated with other physical impairments. But seventeen choices are many more than existing AAC devices. The Tango! By Blink Twice, in many ways the state of the art, allows a child to speak, shout, whisper and whine (note, incidentally, that none of these are emotions). This is wonderfully expressive for a young child, but for adults tone of voice is richer still and more finely nuanced—and more personal.

Alongside the doorbells, a recess containing a white pencil with the simple instruction ‘Please customise’ hints that we intend people to choose their own 17 ways. We have asked people who use AAC and other experts which tones they would choose, were they to be limited to just (just!) seventeen.

Shaw’s descriptions are more heterogeneous than any of the mental models we have borrowed from academic sources. The unified model of the academic is eschewed in favour of the pragmatism of the practitioner, whose goal after all is practical, rather than theoretical. This of course is also the motivation of our future users and we are not surprised to see this degree of heterogeneity in their responses too. They showed a level of diversity—both between people and within individuals’ seventeen choices—that starts to show that any single mental model may never be sufficient.

Pullin, Graham, and Andrew Cook. 2010. Six Speaking Chairs (not directly) for people who cannot speak. Interactions 17(5):38–42.
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Pullin, Graham. 2013. 17 ways to say yes... PhD, University of Dundee.