Interactive Visualizations of Personal Experiences for Shared Sense of Understanding

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ABSTRACT

In an age of social media and polarized broadcast media in which the loudest voices and most extreme opinions dominate, we see democracy and truth challenged. In the face of this challenge, we at the MIT Center for Constructive Communication explore how we might leverage the capacity of cutting-edge digital technology to enable shared understanding within and across divides through prioritization of personal experience over polarized opinion and amplification of those often underheard. Pursuing this mission, we present Real Talk, a sociotechnical program in which scalable social and technological infrastructure equips communities with the processes and technology to connect, share experiences, collaborate, make meaning, address problems, and suggest and advocate decisions in a thriving ecosystem. Real Talk uses the age-old constructive communication practice of facilitated dialogues co-designed and co-developed with underheard communities to systematically create an audio-based living library of authentic voices, experiences, questions, and connections. At each step, from the design of the conversation guide to the voice storage and exploration tools, the knowledge of trusted community leaders with which we partner and the values and methods of constructive communication practices drive our design.

Here, we share visual, interactive “maps” of the voices and stories from the dialogues collected in our growing civic infrastructure in Boston, MA with over 320 participants across 60 conversations. We share various means of “remembering” and exploring these voices, including interactive data visualizations, a public portal, and audio medleys through which readers might explore and interact with the voices and stories within the collection. We believe that such explorations and interactive tools exemplify how we might create new media based on personal experience to bridge divides, ground participants and listeners in constructive communication methods, and promote authenticity in exploratory media for shared understanding.

In an age of social media and polarized broadcast media in which the loudest voices and most extreme opinions dominate, we see democracy and truth challenged. In the face of this challenge, we at the MIT Center for Constructive Communication explore how we might leverage the capacity of digital technology to enable shared understanding within and across divides through prioritization of personal experience over polarized opinion and amplification of those often underheard. We believe such interventions will decrease polarization, develop healthy civic muscles, and foster trust within and across divides and through media. Pursuing this mission, we present Real Talk, a sociotechnical program in which scalable social and technological infrastructure equips communities with the processes and technology to connect, share experiences, collaborate, make meaning, address problems, and suggest and advocate decisions in a thriving ecosystem. Real Talk uses the age-old constructive communication practice of facilitated dialogues co-designed and co-developed with underheard communities to systematically create an audio-based living library of authentic voices, experiences, questions, and connections—a new and grassroots means of authentic, experience-based media creation. This project continues to grow through a distributed model informed by community organizing.
leadership practices. Those who joined in the pilot project have now taken the learnings, workshops, and technology from that initial pilot to deploy in their own community for their specific needs. We hope that this model will lead to an accessible, sustainable living library of voices that goes and evolves overtime with the discourse of the city.

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Dialogue has been a means of building consensus, shared understanding, and fostering relationships within and across divides for ages. In the face of threats to democracy internationally, we see the potential of tools such as dialogue as a means to try to nurture a more equitable, functioning democracy. Some of the effects of dialogue are closely aligned with a healthy democracy, such as equal participation, deliberation and discussion, relationship development with fellow citizens, and consensus building practices. However, some features of the practice enrich civic life beyond traditional mechanisms of formal democratic practice. The emphasis on story allows us to understand more deeply and openly the complexity of individual and collective experiences than opinion alone, and creates a more relational environment than a traditional town hall might. Such tools have been shown to develop understanding in hostile, polarized spaces, and to nurture empathy within and across groups. Great value comes from the relationship built within the conversation, as well as the learnings that happen through the discussion and sharing. Informed by these patterns, we see the use of constructive communication tools such as facilitated conversation and dialogue to be a key mechanism through which to improve democratic practices, build civic muscles, and foster a shared public understanding built on trust. Programs such as Real Talk for Change and the Local Voices Network explore this possibility through launching technology-supported, systematically recorded dialogues throughout communities in partnership with local civic actors as a means to increase understanding and civic participation in a bottom-up, relational and story-centric way. At each step, from the design of the conversation guide to the voice storage and exploration tools, the knowledge of trusted community leaders with which we partner and the values and methods of constructive communication practices drive our design.

However there is very little recent work documenting how we remember and make the key patterns within such dialogues visible, and we believe making these dynamics visible and making this media both highly accessible while maintaining the complexity and individual authenticity of each experience will be key for most effectively using these tools for civic work and increasing trust in our current public sphere. Without such visualizations, any memory, analysis or understanding of that dialogue is limited to those who participated, and even then, the complexity of interactions can feel impossible to communicate verbally alone.

For the initial pilot of Real Talk in the fall of 2021, we created visual, interactive “maps” of the voices and stories from the dialogues collected in our growing civic infrastructure in Boston, MA with over 320 participants across 60 conversations. We share various means of “remembering” and exploring these voices,
including interactive data visualizations, a public portal, and audio medleys through which we might explore and interact with the voices and stories within the collection. With Real Talk and the interactive visualizations of the stories from Real Talk, we have created new media grounded in local, personal experience and designed to bridge divides and promote authenticity in exploratory media for shared understanding.

We collect these experiences through audio-recorded facilitated conversations or dialogues that are transcribed and uploaded to the LVN platform. For our pilot, community organizers and leaders became trained facilitators and recruited those often underheard within their communities to a dialogue. After the dialogue is held, the voices are stored and organized on an interactive platform which links conversations, audio, and transcripts, LVN (pronounced Leaven). Once there, a user can “highlight” key portions of the conversation. Users can be sensemakers, or those with the responsibility of analyzing the data and revealing patterns with in the conversations, as well as anyone else who has participated in a conversation and wants to listen in once again. Highlights contain the text of the highlighted portion of the conversation, the name of the speaker, the voice recording that aligns with the audio, the name of the highlighter, the conversation the highlight is from, and any annotations made by the highlighter. Highlights are systematically collected based on the structure of the conversation, and are often stories, questions, or responses to others’ stories and questions. Those highlights are then stored, and can be made public, semi-private, or private. The highlights can be embedded in social media posts, on websites, in news articles, or within public portals among various other options. The conversations we show in our examples go through a participatory sensemaking process, in which conversations are systematically highlighted, and through the qualitative methods of participatory thematic coding, are tagged with key themes and subthemes emergent throughout the conversation. Throughout this paper, we use conversations and dialogue interchangeably, though when we refer to conversations in our work, we are referring to facilitated dialogues. Further, we use highlight to refer to the text, audio, and other metadata of a piece of that conversation that has been highlighted. Finally, we use snippet to describe a speaker's turn within a conversation, whether it has been highlighted or not.

We will now review the design of the a series of cases within which we explore drawing the dialogues collected through these programs.

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https://nobengma.github.io/realtalksketch/

Exploring drawing as a medium for conversation visualization, we plotted utterances from one of our Real Talk Conversations as charcoal fingerprints in an attempt to capture vocal synchrony and visualize moments of consensus and interest. After hand-coding the conversation data, we used P5.js, a popular creative coding library, to design the charcoal fingerprints. The position shows the time of the utterance in the conversation, and color shows utterance type. Laughter is red, applause is blue, and verbal utterances are black. The prosody
of the utterance dictates its width, and the opacity shows collective interaction or how many people were engaging in that moment.

Continuing to experiment with methods of surfacing the values and interests of our conversation participants, we then constructed a visualization that sorted conversation highlights—key participant contributions marked and tagged by theme by the program’s sensemakers—into their respective theme. The length of each highlight reflects its duration. Now, one can see how much time was spent talking about each of the various themes across the Real Talk Boston collection. From this visualization, we can see that Community Trends, or feelings like belonging, betrayal, and so forth, were highly prevalent throughout the data set, as well as Institutions which highlighted calls to action and lack of action from various institutions in relation to each topic.

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In the public portal for Real Talk for Change, we invite users to explore the voices and audio stories of participants through geographic maps, search and sort tools, and by question. The most public facing and accessible of the interactive tools, designed this in partnership with our community partners to enable the community and government officials to listen to the authentic voice of each participant. This public portal was
leverage for news media stories, audio medleys captured in the pages Instagram, and used during interviews and debates during the 2021 Boston mayoral election.

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https://rtfc-community-trends-1.herokuapp.com/

Finally, we worked in partnership with a series partners and identified that it is not only frequency or location of various themes that are important, but also the interconnection and complexity of these different issues. To show these interconnections, we used a force directed network graph linking all highlights to their respective themes and parent themes in a sort of “galaxy.” Each dot is a voice, and on hover, you can hear the participant’s story or question. You can also see the unique “flower” it makes as it connects to each theme it is tagged with. Further, by organizing the voices spatially so those with similar patterns are likely together, we can more intuitively understand and explore voices and dialogue based media while continuing to see the whole system of the voices at once. A version of this visual was used to show key patterns to stakeholders within a youth organizing project trying to create change at their school, and both the students and administrators loved the idea of seeing all voices interconnected and as adding little “stars” to the galaxy of voices.

While these are early examples of ways to make such dialogue based data accessible and visible through these dialogue drawings and voice maps, we believe it is a step towards fostering greater trust within our civic sphere through the uplifting of personal experiences and dialogue based media over traditional opinion based media. Further, with the foundation of constructive communication underlying the data and it’s collection mechanisms, and the initial cases in which the data have been used, such as in the mayoral race and within community organizations, we believe there is great value in exploring interactive mechanisms to explore these constructive, personal media, and that such tools have the potential to support a more constructive, trusting public sphere.

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