Community Voices at the Tech Interactive
Final Project Deliverables

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Acknowledgments

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Project Purpose

The Tech Interactive, an innovative museum in San Jose, will open its next permanent exhibition in August 2020 which will be dedicated to the extraordinary technologies being developed to combat climate change and its effects on humanity. The 4,000 square-foot exhibition will seek to inspire hope that leads to action. Our goals as contributors to the Community Voices sub-exhibition are to tell the stories of communities affected by climate change as well as projects that are making an impact on climate change mitigation to inspire hope in the Tech's visitors and serve as a catalyst for informed decisions and conscious action in their lives.
As for our deliverables, we have five new interviews with photos from our interviewees/interview sites, and have edited five previously recorded interviews.

The Tech Interactive's Community Voices exhibit will be a collection of stories of local climate change impact and local adaptations/mitigation. Localized stories—'local' being used in a broad sense to refer to the Bay Area—are the focus of our project and the broader Community Voices exhibit due to proven effectiveness of narratives that have personal impact in increasing climate change awareness (see Literature Review). Climate change impacts included in the scope of the interviews we conducted over the course of the quarter are natural disasters such as wildfire, air pollution, and warming temperatures/changing seasonal patterns, and cultural impacts from a changing environment. Climate change adaptation and mitigation efforts included in the scope of the interviews we conducted range from establishing and maintaining community gardens to grappling with environmental justice issues.

We have updated and refined our original research questions from the start of the quarter as follows:

1. To what extent does storytelling localize and personify the effects of global issues?
2. How do we frame interview questions in order to capture stories about localized and personified effects of the broad global issue that is climate change?
3. How do we include marginalized voices in the exhibit while adequately representing disproportionate climate change impacts, without exacerbating histories of tokenism and exclusion in climate change narratives and museum environments?

Due to the nature of the exhibition, each of the stories we collect will be individually placed. Each of these stories will be explored in person at the Community Voices kiosk at The Tech Interactive. The kiosk will feature a large map of the Bay Area with a moveable magnifying puck. As the puck is moved over a map location the kiosk will "tune in" to audio stories at that location. As the visitor hears the audio of the story, they'll also see corresponding images displayed on a large monitor along with English and Spanish captions.

The Tech Interactive is a family-friendly science and technology center located in downtown San Jose, California. Every year The Tech welcomes over half a million visitors, each of which have the opportunity to actively engage with all the museum's exhibitions. Working to redefine the typical museum experience, the Tech prides itself on the interactive nature of their programs providing hands-on opportunities for visitors to apply their own creative thinking to today's societal problems. Their exhibitions and programs such as The Tech Challenge, annual team design competition for youth, and internationally renowned programs such as The Tech for Global Good, which honors people doing work to benefit humanity, are just some examples of Tech's prior successes. Overall, the museum's programming has traditionally been centered around access to technology, so endeavoring to adequately and fairly address issues of climate change and community has been a new venture for the museum. This was top of mind as we worked throughout the quarter, paying attention to ways we could improve the Community Voices exhibit development process, especially in terms of honoraria (see Methodology, Conclusion).
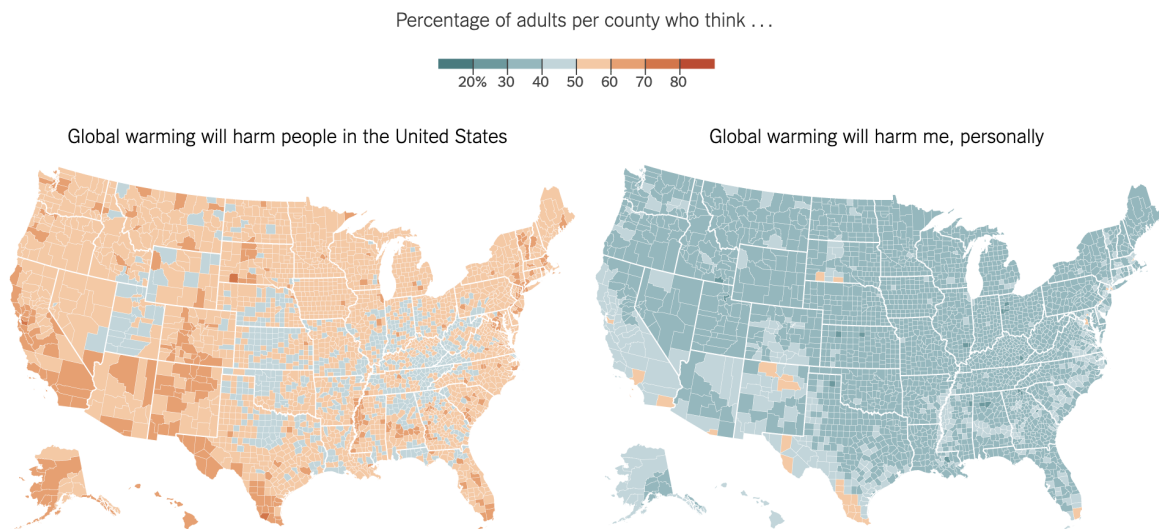
Community Voices works to promote the accessibility of scientific information. The accelerating impacts of climate change represent humanity's greatest challenge now and likely for many decades in the future. The Tech's next permanent exhibition opening in August 2020 will be dedicated to the extraordinary technologies being developed to combat climate change and its effects on humanity. The exhibition was dreamt up on the basis of findings from the Yale Program on Climate Change Communication where it was learned that although most Americans think climate change is real, they do not believe that it will impact them. By utilizing storytelling as a means to narrate the climate crisis, the Tech is not only elevating the perspectives of affected people but is defining a new and personable approach to disseminating knowledge on the climate crisis.

Literature Review

Our project stands at the intersection of climate change and science communication, both of which present unique challenges. By communicating climate change narratives, our project demanded an understanding both of the severity of climate change and the importance of communicating that severity effectively. This literature review will discuss the most effective ways at communicating climate change based on science communication research. We will root this discussion in the larger context of the global climate change crisis.

According to a 2017 New York Times article that examines how Americans think about climate change, "Americans overwhelmingly believe that global warming is happening, but fewer are sure that the changes will harm them personally" (Popovich, Schwartz, Schlossberg). This quote elucidates that the average American feels detached and exempt from the negative effects of climate change. This detachment can breed apathy, which, when aggregated across the American population, will be detrimental to the environment; indeed, to combat climate change will require actions both large and small from every individual.

Building upon this evidence, a survey by the New York Times found that 50-80% of adults across the United States believe the statement that "global warming will harm people in the

Percentage of adults per county who think . . .

20% 30 40 50 60 70 80

Global warming will harm people in the United States   Global warming will harm me, personally

United States." However, when those same participants were asked if "global warming will harm me, personally," less than 40% agreed (Popovich, Schwartz, Schlossberg). This dissonance can be attributed to the harsh truth that climate change is exactly the type of challenge that humans are least-equipped to handle: a problem with enormous consequences over the long term, but few sharply visible personal consequences in the short term.

This problem is compounded by the inherent complexity of science communication. Not only does climate change seem abstract enough of an issue, but the facts and studies through which it is depicted are often vague, distant, and seemingly irrelevant to non-specialist audiences. Expanding upon this, the Yale Program on Climate Change Communication provides two main insights: the human brain privileges experience over analysis, and when issues are out of sight, they are out of mind. To improve science communication, we must highlight relevant personal experiences to reduce psychological distance. The Community Voices exhibit seeks to meet this deficit in science communication by curating interview clips from individuals across the bay area who are doing their part to mitigate climate change in ways both big and small.

When embarking on such personal community engagement work, we tried to conduct our interviews in the most respectful, ethical way possible. We accomplished this by keeping in mind relevant frameworks regarding representation, tokenism, and agency. Referring to Arnstein's Ladder of Citizen Representation, there are three echelons of ways to incite citizen participation. Each echelon empowers the citizen to a different degree, as seen below. Each rung corresponds to "the extent of citizens' power in determining the plan and/or program" that they are contributing to (Arnstein).

Arnstein (1969) Ladder of citizen participation
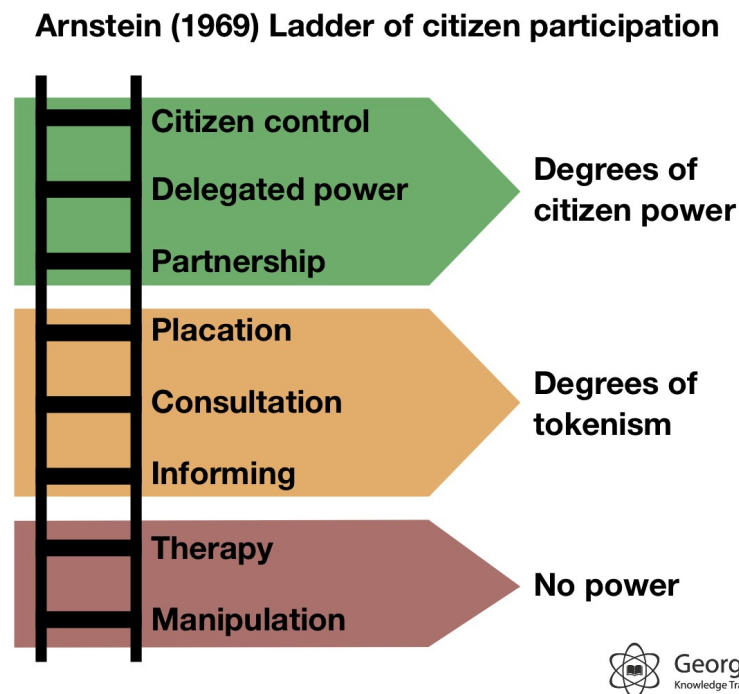
In classifying "citizen engagement," the term "community" must be defined. Rather than rendering the term a monolithic entity, a community comprises of multiple groups, people, socioeconomic backgrounds, and demographics. We classified citizen engagement in these terms, as citizen engagement as defined by the ladder of citizen participation is often affected by these definitive factors of communities. Engaging the community is most effective when curated to these factors.

We sought to unlock the highest level of citizen control in order to empower the citizens whose narratives we had the privilege to hear and record. By keeping in mind this framework, we sought to avoid tokenizing our interviewees and their communities. This pursuit involved ethical challenges that our methodology section will dissect further.

Methodology

Our formal introduction to this project consisted of an in-class meeting with our community partner, Danny. We took this time to introduce ourselves and elaborate on each of our own personal reasons for joining this particular project. Doing so allowed us to reflect on each of our own interests, expectations, goals whilst also situating them within the broader context of the group. Notably, we each recognized the role of both the institution and the individual in climate mitigation efforts and subsequently, the importance of localizing climate discourse in catalyzing legislative and behavioral change. Immediately establishing our different strengths and shared interests enabled us to create a brilliant group rapport which would go on to facilitate honest and open communication throughout the course of the quarter. During the initial meeting, we also learnt of Danny's expectations for the quarter and of the work done by previous individuals. We reflected on these expectations and initial guidelines to hone our search for interviewees as the quarter progressed.

We adopted a two-pronged approach to identifying interviewees; the first was *formal* and leveraged both our individual connections and those of the Tech Interactive; the second, *spontaneous*, and involved attending local community gatherings, public lectures, and farmers' markets, and approaching people at random. Whilst our methodology was split, each of our interviews were chosen with the aim of including a diverse set of voices, paying particular attention to include those of historically marginalized communities. We did so in recognition of the importance of social equity to long-term sustainability goals. Climate change is indistinguishable from those systems of inequality and oppression upon which our modern capitalist economy was founded. Inasmuch as climate change continues to disproportionately affect those communities that are less able than others to adapt to or recover from its impacts, it will remain an issue of environmental justice.

Beyond the ethical considerations directly associated with climate change, we also spent a significant amount of time reflecting on the ethics of storytelling as a practice—in particular, on the ethics of representation, editing, and exhibiting other peoples' experience. Whilst digital storytelling has the potential to contribute to a participatory dimension of climate change research and advocacy, it also opens up space for new ethical issues to emerge. Indeed, the aforementioned processes held potential for the alienation of our interviewees from their own narratives at every step; having control of this required an intentional consideration both of our positionality and an active effort to preserve the stories as they came.

By virtue of our damage-centred focus, the interview experience also held the potential to trigger many participants who chose to reflect on deeply personal, often painful experiences with climate change. Whilst these narratives often make for the most powerful stories, they raised many tensions surrounding the ethics of documenting pain, or of empirically substantiating the

oppression of historically marginalized groups. We needed caution against inviting the subaltern to speak only regarding his or her pain and, subsequently, "making personhood coterminous with injury" (Yang & Tuck, 2014). Moreover, it can be difficult to communicate personal narratives—certainly complex and compelling ones—without situating oneself within the context of other people. This raised concerns both over privacy and over our own positionality as interviewers.

Here, it is imperative to recognize the context under which we, as students, were operating. Each of us carried our own biases to the interview, operating, if benevolently, with the intent to communicate the dire impacts of climate change, the need for reparations, and for urgent action—factors which we hoped would mobilize support for climate change mitigation efforts. To address these issues we spent a lot of time reflecting upon, and discussing the best methods to conduct interviews. In the end we decided that our interviews should remain unstructured—this would grant participants with the necessary agency to direct the conversation and organize their own stories equally around narratives of hope as of harm.

In granting storytellers representational power when choosing how to tell their stories, however, they often talk about people other than themselves. Ethical issues may arise when a storyteller publicly identifies people, experiences, or events that others would prefer to remain private. For instance, stories may depict images of violence and crime, and serve to reify existing stereotypes surrounding marginalization. In this respect, we found it particularly useful to give participants a responsibility to the story and to communicate the reputation and mission of the Tech Interactive.

Moreover, the logic of institutional efficiency of a ten-week class made it difficult to involve storytellers throughout the process. This touches upon another key aspect of the digital storytelling process to be explored using the concept of moral and psychological accountability—that of creative control during the production process. Indeed, throughout the editing process we had to remain cognizant of the ways that we, as interviewers, were engaging with interviewees, of the ways that interviewees were engaging with 'proximate others' in their narratives, and of the ways that visitors to the Tech Interactive would be engaging with these relationships in the exhibition.

Our experience this quarter has shown us that multiple perspectives—including those of interviewees, facilitators, community members, and supporting institutions—must be considered within the ethical practice standards developed for any given digital storytelling project. Relationships must then be established to (1) address the impact of power differentials on methods, knowledge production, and outcomes; (2) build rapport, reciprocity, and trust; (3) ensure transparency about the potential risks and benefits; (4) acknowledge the complex politics of representation. Finally, as the Community Voices exhibit falls at the nexus of climate change

research, practice, and advocacy, it is essential that all parties remain clear on the project's objectives and goals, and where priorities and resources lie.

Deliverables

The deliverables that we will be presenting to the Tech Interactive consist of 10 edited audio interviews and this final written report. This is consistent with the original project description as we were expected to submit at least 8 edited audio interviews. We decided to split up the responsibility of work within our five-person group by each being responsible for two interviews. Within that two-interview quota, we each had one original interview that we set-up, conducted and edited ourselves and one interview that we edited from the database of raw audio interviews that were recorded over the summer at the climate strike. We conducted most of the original interviews in groups of two in order to simplify the process. However, there was still a point-person responsible for each interview and they were the one who set-up and edited the interview. Our community partner team at the Tech provided us with professional audio equipment that we were able to use to record the interviews. We used either Adobe Audition or Hindenburg audio editing software to edit these interviews. With regard to the interviews that we conducted ourselves, we also collected photographs of the interviewees/interview sites along with signed waivers from the interviewees that we will be submitting alongside the edited audio files in a shared google folder. Danny Haeg, our community partner at the Tech Interactive will compile the photographs that we took into a slideshow that will play alongside our edited audio clips in the exhibit.

The climate strike interviews are all between 30 seconds to a minute long and fulfill the Tech's want for more short stories within their exhibit. The interviews that we conducted ourselves tend to be a little longer, between 30 seconds to 3 minutes in length, and fill other gaps found within the Tech's current database of interviews. As a team, we started out this project very passionate about wanting to include stories from groups that were not already represented within this exhibit. We were able to leverage our networks and collect interviews from individuals involved in agriculture, young people, and those that discussed environmental justice themes. These are all demographics that were previously underrepresented within the Tech's database of interviews, and we are very pleased that these stories will also be included within this exhibit. This section of our report will conclude with a short description of each of the original interviews we conducted along with a list of the climate strike interviews that we edited.

Original Interviews:

Salvador Mateo, Assistant Director at Planting Justice – Natalie Cross

Planting Justice is a nursery, farm and landscaping business located in Oakland, California with the motto "grow food, grow jobs, grow community." Very dedicated to their surrounding Oakland community, Planting Justice intentionally hires formerly incarcerated individuals and helps them to reestablish their lives and prevent reincarceration. Salvador Mateo is the assistant director of Planting Justice and has been working there for 9 years. He gave an interview that was full of a lot of interesting information and stories, so Danny suggested we edit the audio into


two different clips. One of the clips from this interview is focused on the impact that climate change has had on Planting Justice's organization and the surrounding Oakland community. For example, changing weather patterns due to climate change have forced them to adapt and adjust their growing seasons. The other clip is focused on the action that Planting Justice has taken to mitigate climate change effects along with the things they've done to help the surrounding community adapt, such as providing masks to the community during wildfire season that has been intensified due to climate change. This interview is an especially exciting contribution to this exhibit as Salvador talked a lot about the environmental racism and injustices present within the Oakland community which is a narrative that is largely lacking from the Community Voices exhibit thus far.

Courtney Gao, student from Piedmont, CA – Priya Miller

The interview with Courtney Gao provided insight into the nature of climate change education in the Bay Area. Born and raised in Piedmont, CA, Courtney gave her perspective on how much "fun" she had learning about climate change from elementary through high school. She emphasized that teachers always utilized hands on lessons to drive home the importance of reducing one's impact on the environment. For example, she discussed a middle school field trip to a farm, where she learned how to harvest produce that may not be "perfect" enough to be sold at the market. By reducing produce waste, she learned the importance of preservation when combating climate change. This optimistic perspective from an everyday individual adds color to the picture of
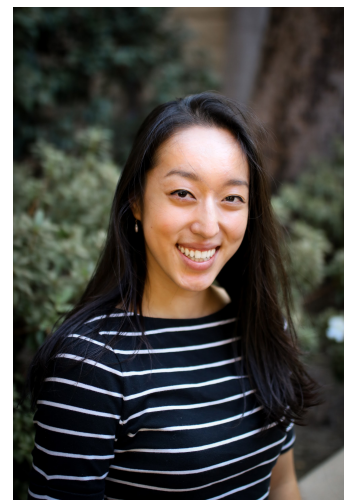
climate change in the Bay Area, especially from a student who experienced this education both in childhood and adulthood.

Ben Amago, farmer at Blue Heron Farms – Keona Blanks
Blue Heron Farm is a 20-acre certified organic farm in a valley in Corralitos, CA that grows a diverse array of vegetables, chief among them lettuce, and flowers. The farm on the Central Coast has typically cool climate and soft soil, but in recent years this has changed. Farmer Ben Amago has noticed that temperature rise has extended their growing season into December and January, causing winters to be longer and more intense. The increased moisture from harsh winters has led to mildews and pests that thrive in moist conditions. Additionally, Amago and fellow farmers at Blue Heron have been grappling with the adverse effects of new tropical bugs, notably the Bagrada bug, that have moved north into the Central Coast due to warming temperatures. Due to a longer growing season and shorter off-season, the farmers and the land also have less time to rest and recover from a strenuous growing season.

Elijah, chef at Narnia (student residence) — Alisha Jani
Growing up in a fishing village just outside of Northern Alaska, Elijah had little exposure to fresh produce as a child. After leaving Alaska, however, he stumbled upon a job in a commercial kitchen, and needless to say, he never looked back. Since then, Elijah has built upon his experience in Alaska and cultivated a passion for sustainable agriculture. He has a detailed knowledge of the origins of each of the ingredients in his kitchen and argues that local sourcing is in fact, the most pragmatic and cost-effective way to purchase produce.

Keoni Rodriguez, student and activist - Ayoade Balogun
Identifying as Native Hawaiian and Pilipino, Keoni's perspectives and motivations for his activism challenge Western notions of 'nature' and 'the environment.' Keoni notes that the very language mainstream climate justice education and activism uses implies an inherent separation between humans and the world that surrounds us. This paves the way for environmental exploitation and commits widespread erasure of traditional relationships to and conceptions of nature held by indigenous people globally.
(Image credit: Keoni Rodriguez)

Edited Climate Strike Interviews:
- Mean Girls (Natalie)
- Raging Grannies - Paula (Keona)
- Silicon Valley Youth Climate Strike (Priya)
- An Interview with Riya (Alisha)
- Tracy Lee Davis (Ayoade)

Conclusion

The honorarium pilot project has and hopefully will continue to work in favor of both The Tech and community members. Providing honoraria and information packets on the whole establishes the ethos of the project and builds trust between community members and The Tech.

Next Steps
1. Continue to distribute honoraria & formalize the process further
We recommend that The Tech finalize standards of the honorarium process, such as whether the monetary amount is standardized or not. Assembling more honoraria packets for future interviews, including the informational pamphlet outlining the purpose and abstract of the Community Voices exhibit, would ensure preparedness for future interviews.

> **1b. Alternative means to the same end: establish a presence or service in underserved communities before collecting interviews**
> Though the honoraria process is perhaps more feasible to The Tech considering resources and time available for the Community Voices exhibit, the East Palo Alto community leaders present at the East Palo Alto Community Farmers' Market provided recommendations for The Tech worth considering in light of the inherent complexity of ethical exhibit representation.
>
> During our visit to interview community members at the market, leaders of Fresh Approach non-profit organization that organizes the market shared that establishing a presence in the community and giving back to the community before expecting anything from it would be a commendable and ethical facet that The Tech could include in-story collection methodology. They explained that this presence could take the form of volunteering in or offering services to the community in a capacity feasible for The Tech. They said they would be open to working with The Tech in the future with the implication that The Tech meet these requirements before proceeding.

We shared that the Community Voices project is relatively long term, and we would relay these reflections with The Tech and provide Fresh Approach as a potential lead for future teams working on the exhibit if these arrangements on The Tech's end can be made. Honoraria will likely accomplish this same end, but this means is worth considering.

2. Include past interviewees in the honorarium process and update them on exhibit process to remain less extractive

Ensuring that the honorarium process is standardized strengthens the equity and internal ethics component of the process. Our group piloted this facet of the process on our second visit to the Downtown Palo Alto Farmers' Market by distributing honorarium packets to farmers Ben Amago and Lisa Leonard whom we interviewed during a previous visit to the market. They were pleased and grateful for the honoraria, despite it coming unannounced after the interview process. Providing them with honoraria enforced the legitimacy of the project in their minds and strengthened the bond between them and the Community Voices exhibit at The Tech.

3. Enlist multilingual staff members, especially those fluent in Spanish

In certain communities, Spanish is the primary language spoken and is a requisite for communication. In many cases, community members are not fluent in English at all. At the East Palo Alto Community Farmers' Market, for instance, Spanish translations of material and presence of a member fluent in Spanish are requisites for tabling at their market by Fresh Approach's standards.

Furthermore, considering the demographic of The Tech's visitors, having interviews in Spanish with English subtitles will broaden and diversify representation and enhance exhibit accessibility to a wider audience, maximizing impact.

4. Continue the conversation surrounding ethical representation associated with digital storytelling

Continue to endeavor to include marginalized voices in the exhibit while adequately representing disproportionate climate change impacts without exacerbating histories of tokenism and exclusion in climate change narratives and museum environments. Continue to consider how to ethically and strategically ensure that these stories have a place in museum spaces that may be traditionally exclusive to these demographics.

Maintaining a transparent and inclusive relationship with community members represented a vital part of the story collection methodology, and future students and community members should aim to replicate the same inclusive relationship. Otherwise, communities will be inadequately represented and the issues contributing to unethical representation will remain unchanged, and their valuable stories will remain underrepresented.

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