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Receipts and Receipts NB

Critical Experiments in Mediated Testimony

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Abstract

This paper reports on two iterations of our ongoing *Receipts* project. The project serves as a means to experiment with and propose processes that use social practice and machine learning technologies to prepare testimonies and listeners to more clearly and impactfully speak, hear, and feel what it is like to respond to mimetic trauma and be part of an equity-deserving group in public space. The work is guided by the following question: How can the process of facilitating the preparation and presentation of anonymized testimonies of discriminatory aggression in public spaces with the witnesses and victims of said aggressions create structures of accountability, solidarity, healing, and community?

The first project, *Receipts* (2020), was presented as part of The Bentway's Safe in Public Space program in Toronto, and addressed anti-Asian aggression in public spaces. The second project, *Receipts NB*, in collaboration with ArtFix, an organization that works with artists with substance abuse and mental health lived experience in North Bay, will address the stigmatization and isolation of this community during the pandemic. It will be presented as part of IceFollies 2023, a week-long public art festival on frozen Lake Nipissing.

These explorations emerge from and reflect upon a theoretical framework that connects visual culture, data creation, visual perception, cognition, machine learning processes, human-computer interaction, social practice and a practice-based framework for research-creation. The work is also informed by an approach to technoscience that uses a critical race, feminist, and decolonial lens. A necessary component of this framework is to prioritize equity through an emphasis on critical pedagogy, co-creation, and participatory art and design practice.

The critical media art practices and processes of *Receipts* do not aim to replace identifying video as an important means of holding people accountable. Instead, we hope that the project can shape technical, social, cultural practices of testimony and listening and make collectivized community resistance resonate more deeply.

We also reflect on how computer vision and artificial intelligence tools increasingly deployed as part of "smart city" infrastructures have been

proposed as a means to address these issues in real time by predicting, identifying, and aggregating transgressions. Yet, in practice, these tools lack nuance, approximate and automate-out the importance of relationship building with communities, and have generally been used to identify patterns and build predictive surveillance that disproportionately disadvantages already discriminated-against groups. We hope that *Receipts* can serve as an example of how to engage the potentials of urban technology while also highlighting some of its pitfalls.

Keywords

public art, testimony, research-creation, community

1. Introduction: Arguments + Research Questions

In the summer of 2020, Public Visualization Studio partner and collaborator on this paper, Immony Mèn, was physically distant from his family and his home city of Montreal. He was searching for ways to remain present. One of those ways was through the Groupe d'Entraide Contre le Racisme Envers les Asiatiques au Québec--a group with members who were sharing their experience during the Shadow pandemic of anti-Asian racism, their posts were accounts of increased vulnerability and visibility within public spaces. Throughout the pandemic, Asian diasporic communities have seen troubling intensifications of racism that have had a negative impacts on personal safety. Members of the group shared their encounters with racial discrimination at Costco, Korean markets, metro stations and other familiar locations. In the comment section, strategies were being shared, condolences were offered, and emotions were visualized while threading records to support identifying actions against offenders.

This prompted us at Public Visualization Studio (Immony Mèn, Patricio Dávila, and Dave Colangelo) to think more deeply about what it means to speak and listen today – how public spaces, technologies, and personal connections

come together to shape the experience for better or worse. We asked: How might our engagements with people and technologies inspire relationality and responsibility and reflect on personal safety through speaking and listening?

As artists, we were inspired to develop an approach to safely record and share testimonies after events have occurred, a space to listen and understand how gestures, bodily fluids--such as spit--and rhetoric were weaponized, and, crucially, bring these back into public space to situate, publicize, and amplify their impact. We also thought about how videos from mobile phones and security cameras that surfaced some of these aggressions are necessary as proof of the racism, aggression and violence experienced by people as victims and as witnesses. At the same time, people do not always feel safe recording the incident or need time to process and reflect on what they have experienced. As academics focused on critical and creative approaches to technology, we were also curious about how other contemporary tools and technologies that have often exacerbated inequity, such as computer-vision and AI, can help to restore a sense of humanity through anonymized oral testimonies. For populations who have become increasingly vulnerable, anonymization can create a sense of safety and comfort in sharing lived experiences, strategies, and perspectives by reducing hesitation and increasing confidence.

More questions emerged: How can we use technologies that serve to erode solidarity to, instead, shore it up? How can anonymized testimonies of racist aggression create accountability, solidarity, healing, and community structures? Finally, how can data collection be mobilized as an activist tool, counter to the regimes of surveillance in which it typically operates? The research-creation works described in this paper aim to answer these questions while offering theoretical, methodological, and practical structures for accountability, solidarity, and healing within vulnerable communities despite, but also with, technologies of capture and communication.

2. Theoretical Framework + Methodology

2.1. Context in AI/CV

Automated vision and cognition can complete tasks that are far beyond individual human abilities. This is accomplished by reducing complexity and tasks to statistical operations, training algorithms on large data sets, and linking masses of nodes to achieve higher speeds and capacity. As we delegate our cognitive processes to more sophisticated, robust, and ubiquitous systems we also create problems of ethics, power, and epistemology. We see examples of these emerging surveillance techniques employed by police and border agencies (Guliani 2018; Molnar and Gill 2018) to identify people deemed undesirable. Security features using facial recognition on devices are becoming much more ubiquitous (Kelly 2019). Software applications trained on white face datasets do not recognize faces with dark skin impeding accessibility (Buolamwini and Gebru 2018). We also see how social media platforms analyze, categorize, and link images we share to determine monetizable relationships (O'Neil 2016). We also see the power imbalance in the labor of human annotators of visual data sets (Miceli et al. 2021) or displacement of human labor (Gray and Suri 2019), which is not dissimilar from divisions of labor as experienced at the beginning of computation where human 'computers' often performed the majority of calculations for large computational projects (Grier 2007). Within this context, we engage in uses of these technologies that create other spaces for underrepresented narratives and, through the production process, provide participants with an inside look at algorithmic structures, artificial intelligence, and computer sense.

2.2. Co-Creation and Research-Creation

Public Visualization Studio and Public Visualization Lab follows a creation-as-research model as a guide to both creative and academic inquiry into complex socio-technical systems and issues, as well as knowledge mobilization for public audiences. As our website (Public Visualization

Studio 2022) states: "The collective creates projects as a means to pursue inquiries into the political and conceptual aspects of interaction, space, and media ... to investigate how specific technologies of vision, communication and gesture support our experiences in participatory spaces." In order to do so, we believe that creation-as-research, itself a subset of research-creation (Chapman and Sawchuk 2012), and defined broadly as the "elaboration of projects where creation is required in order for research to emerge" (19), is best suited to our goals. As Chapman and Sawchuk note:

It is about understanding the technologies/media/practices that we discuss as communication scholars (for instance) by actually deploying these phenomena, and pushing them into creative directions. It is a form of directed exploration through creative processes that includes experimentation, but also analysis, critique, and a profound engagement with theory and questions of method. (19)

Furthermore, as Matthew Fuller (2005) notes, "to see how the world operates necessitates a more complex and involved participation in it" (106). Natalie Loveless (et al. 2019, 224, 227), in her roundtable discussions with Erin Manning, Natasha Myers, and Stephanie Springgay, on the subject of research-creation, also sees research-creation as useful for resisting hegemonic ideals and allowing both the researchers and "subjects" of research to become closer to the to one another. It is a process that allows thinking to happen outside the value systems of academia (Loveless et al. 2019, 229). As such, it questions those value systems and seeks to create value specifically with and for communities of use. These communities have been historically excluded from what counts as knowledge. As Manning notes, "Are the neurodiverse, the black, the Indigenous, the trans students also heard in the cacophony of what counts as knowledge? Do we even know how to recognize knowledge?" (Loveless et al. 2019, 247). What we take most from Fuller, Loveless, and Chapman and Sawchuk's elaboration of the combination of creation and research as a method is that it is essential given

the complexity of the imbrication of media, technology, and spatial assemblages, necessarily experimental, productively relational, care-based, and endlessly self-reflexive and critical in terms of the need to test and critically reflect on method and epistemology.

In the first iteration of *Receipts* (2020), our work began with questions about safety in public space more generally and the role that captures and displays technologies could play in processes of collective capture, collection, telling, and witnessing of events and experiences that threaten public safety. Focusing specifically on anti-Asian hate, an issue that flared up during the early stages of the pandemic, we turned our attention towards ways we could listen to and create dynamic records of people's experiences of aggression. Instead of engaging in traditional research, we set out to connect with Asian communities through social media to build trust and begin conversations about how we might collectivize, amplify, and anchor some of these testimonies back in a public space similar to where they first originated. Two of our collective members, Immony Mén and Lillian Leung, themselves members of Asian-diasporic communities, developed a series of questions and worked directly with participants to bring forth, record, and present their stories as a form of collective, affective experience--as knowledge. Most importantly, through the process of crafting the stories with participants, aestheticizing them, archiving them online (to create a more durable record along with translations to address accessibility), anonymizing them through tools such as motion capture, text-to-speech, and ultimately, a 6ft x 6ft LED display constructed inside a shipping container and located at The Bentway in Toronto, our work sought to ask questions and propose answers to questions about how technology and social relations might allow us to construct and present what Ahmed (2021) calls a "complaint collective" (274) and a "feminist ear" (6)--that is, to create affinities and structures of support through the process of collectivizing experiences of trauma, while also asking that these complaints not be diluted through individuation but amplified by being heard in the resonant frequency of their concatenation.

2.3. Participatory Action Research

Given its reflexivity and openness to experimentation, research-creation is also suited to connections and combinations with other related methods, such as participatory action research.

Participatory action research is a method that requires an active engagement of stakeholders/participants in guiding the direction of research (Bergold and Thomas 2012). It also requires that communities and organizations will benefit from the development of competencies and knowledge, skills, and attitudes required for sustainable and meaningful long-term community engagement and efficacy (Blythe et al. 2008; Foth 2018). Like research-creation, participatory action research aims to benefit non-academic communities. It rejects the notion that the primary objective of research is to produce increased or superior generalized knowledge for fellow scholars (Blythe et al. 2008, 273).

Here, we aim to improve our work with *Receipts* (2020) and *Receipts NB* (2023). In the next iteration of our work (which we will describe in more detail below), working with artists with substance use and mental health lived experience affiliated with ArtFix in North Bay, we hope to engage in a similar research-creation process of relationship building and knowledge mobilization related to experiences of isolation and alienation, particular in public space, for this particular population and their related issues. Building on our previous work and upon the tenets of participatory action research, we have planned more extensive knowledge and benefit sharing activities with participants, which include workshops exploring and engaging in discussions on collective complaint and collective listening, and the ways tools like Metahumans and voice modulation can be used to collectivize while safely maintaining elements of individual identity. Participants will be compensated for their time by directly engaging with drafting, recording, and editing their testimonies over a 2-day workshop. Our workshop will provide participants with an opportunity to learn how various processes of virtual production (eg. Unreal Engine, Metahumans) and AI/machine learning/computer

vision (eg. motion capture, motion tracking) can be used in artistic practices to developing flexible systems for data capture, display, and interaction. The process of recruiting participants, developing stories with them, anonymizing and collectivizing them, and finally presenting them back in public spaces so that they might be listened to and witnessed collectively and in context relates to the way our research-creation and participatory action research methods serve as critical inquiry and knowledge production/mobilization--stages of "data collection" and "data analysis" are in themselves opportunities and avenues for knowledge production and mobilization for and with underserved communities.

3. Findings + Work to Date

In this section, we will provide more details about each of the related *Receipts* projects and analyze our work to date through the theoretical and methodological frameworks that we outlined at the beginning of this paper and against the question that continues to guide our work, namely: "How can the process of facilitating the preparation and presentation of anonymized testimonies of discriminatory aggression in public spaces with the witnesses and victims of said aggressions create structures of accountability, solidarity, healing, and community?"

3.1. *Receipts* (2020)

Receipts (2020) assembled stories online and in public spaces from individuals who have experienced anti-Asian racism. It was a multimodal interface that received (via voice, video, and/or text), translated (in order to anonymize and aestheticize), recorded (only anonymized contributions), archived (for a duration determined by the participant) and analyzed (in the form of categorized "receipts"), and performed (on the web and public displays) the testimony of people that have experienced or witnessed micro and macro aggressions in public spaces. We used the term "receipt" to reference the popular vernacular for describing proof or evidence.

For *Receipts*, we chose a format that would conceal the identity of individuals to ensure that

the sharing of their experience would not have any additional repercussions (i.e. retaliation, legal discrimination, emotional trauma). Testimonies were collected using a consent-focused protocol that requested permission from the owners of these experiences, making efforts to move away from cultural extraction. We also paid all participants and translators an honorarium. With Lilian Leung, we introduced participants to the project and worked with them to safely reflect on, prepare, and deliver the testimony of their experiences.

From a technological standpoint, testimony was recorded anonymously via facial recognition and speech-to-text processes, translating video and audio streams to abstracted data. Here we engaged with computer vision and machine learning technologies that have been primarily weaponized against underserved and historically discriminated against communities to, instead, protect and benefit them. This aspect of the project could be seen as aligned with the core concern of the design justice movement, namely, a careful consideration of how "... the design of objects and systems influences the distribution of risks, harms, and benefits" (Costanza-Chock 2020, 1). We did not store any raw files. Participants specified the duration of permission to display their testimony publicly to provide them with as much control and agency over their testimonies as we could. Facial expressions were transformed into an animated synthetic human speaking the words of the testimony with a synthesized voice and combined generativity with relevant background images.

Both individual and aggregated data of these "receipts" were made publicly available on a website and can be used by individuals and civic stakeholders to understand better the intersectional and spatial dimensions of discrimination and violence in order to shape the design of equitable public spaces and policies. Through this, the project aimed to both create a dense focal point and "event" in the form of a public exhibition while also extending this experience across time and space through the online archive, which also contained translations to make the work more accessible and relevant to the communities impacted by Anti-Asian racism,

supporting our aim to foster community and accountability.

Included in the *Safe in Public Space* exhibition hosted by The Bentway in Toronto, a linear park underneath a downtown expressway, a selection of “receipts” were presented on a 6’x6’ LED screen with speakers inside a shipping container. As mentioned earlier, a public, collective exhibition of the testimonies was important as it used the amplification and attention capturing qualities of scale, light, and sound, while also engaging in a spatial montage (Colangelo 2020), suturing context originating from urban experiences back with the urban fabric itself, to enhance its message. As Krzysztof Wodiczko (1999) notes, “The building is not only an institutional “site of the discourse of power,” but, more importantly, it is a metainstitutional, spatial medium for the continuous and simultaneous symbolic reproduction of both the general myth of power and the individual desire for power” (46). Thus, social and site-specific critique are inseparable, further justifying the work’s, albeit temporary, physical installation. Of course, the work persists in the form of online documentation, as well as through the aforementioned online archive of testimonies, which together become what Wodiczko refers to as a stain, a mark, or a trace on the memories associated with public spaces and the various communities it incorporates and addresses (Phillips 2003). Here again, we believe these process elements are important to situate and dramatize discrimination to signal the importance of shared accountability through collective witnessing.

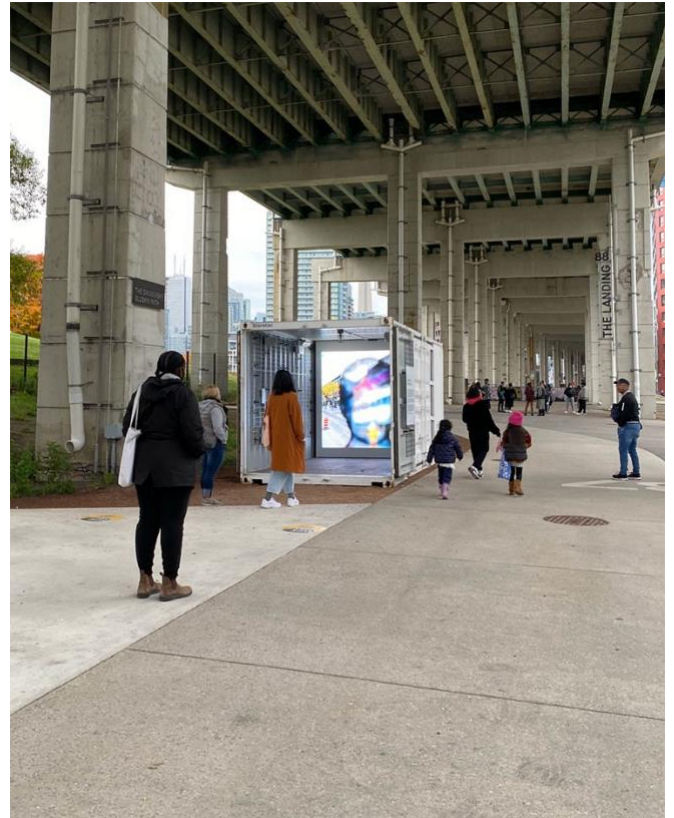


Fig. 1: *Receipts* (2020), Public Visualization Studio. Photo courtesy of Public Visualization Studio.

Receipts did not aim to replace identifying video as an important means of holding people accountable. It allowed for identity and voice to be managed by subjects in safe spaces (workshops or their own time/space). At the same time, analysis, anonymization, and public display of the testimony articulate the lack of safety in various shared spaces of encounter and makes collectivized community resistance visible. Furthermore, using digital storytelling, computer-vision, and AI was shown to help restore a sense of humanity in anonymized oral-testimonies. For populations who have become increasingly vulnerable, this can foster an increased sense of safety and comfort in sharing lived experiences, strategies, and perspectives by reducing hesitation and increasing agential confidence.

Personal agency over one’s image and words is also part of how we conceive of safety, a baseline from which accountability, solidarity, healing, and community can emerge. To that end, as we noted, participants determined how long their testimony was available for public viewing. They had control over the “receipt” of their testimony and could

track how it was used in various forms of analysis and reporting.

Anonymity, achieved through capture and processing technologies, was key to this project. It applied technologies and processes commonly used to recognize faces, voices, and bodies and re-envisioned them as a way to protect the identity of individuals who wished to share their experiences. With this project, we developed a different type of recording that uses computer vision, speech-to-text, and character re-enactment to protect the immigration status, professional networks, and personal relationships of participants. This platform was developed with the intent of offering it to other vulnerable communities outside of the South, Southeast, and East Asian diasporas on Turtle Island, building on one of the main tenets of the Design Justice movement: to “share design knowledge and tools with our communities” (Costanza-Chock 2020, 1). While various forms of movement tracking and artificial intelligence are often used to identify patterns and build racist predictive surveillance, we are also interested in how it could humanize experiences and memories.

3.2. *Receipts NB (2023)*

Building on *Receipts (2020)*, *Receipts NB (2023)* will present recordings of people sharing, listening, and reflecting on stories with one another about how the pandemic has affected their experiences in public spaces, namely artists with substance use and mental health lived experience affiliated with ArtFix in North Bay. In this iteration, in order to extend benefit and knowledge sharing with communities at the center of our work, we plan to work with participants to determine the degree of anonymization they would like to apply to their stories through the use of Metahumans (hyper-real customizable avatars) and voice modulation. We will also use computer vision and motion tracking to animate the recordings such that they react to the presence of spectators, developing a deeper sense of “listening” through this automated process. We hope that the opportunity to tell and listen to these stories will provide project participants and attendees of Ice Follies 2023, a biennial festival held on frozen Lake Nipissing, a way to think about what we have endured

individually and collectively, and the role that public spaces have played during this time, both positively and negatively, for people with substance use and mental health lived experience. An outcome of the project may be greater clarity on what people, communities, and cities can stop, start, or continue in public spaces to address issues of equity and social justice.

4. Discussion + Conclusion

Our Receipts series of projects hopes to engage a hybrid notion of public space(s) and creative placemaking. This project also builds on a form of tool-building and participatory frameworks to support people resisting different forms of oppression that we have developed in projects, such as RenovictionsTO, a tool that collects and maps data in order to help tenants organize. This web platform is now used for COVID-related evictions by the Keep Your Rent organizers and organizers in other cities. This project also follows our work on preparing and publicizing personal and site-specific testimony that we have explored with Tent City Projection, a project that combined the lived experiences of Tent City residents chronicled by activist Cathy Crowe and housing activist Beric German with archival imagery at the former site of Tent City.

We hope that these projects/tools can be expanded to engage with other equity-seeking groups, granted that relevant community stakeholders are included in the process. At its core, our project is concerned with creating an interface and system of receiving, translating, anonymizing, recording, archiving, analyzing, and displaying the personal, embodied, social, and spatialized testimony of those experiencing the intensification of micro- and macro-aggressions in public spaces as a way to safely and effectively generate “receipts” for public transgressions while providing useful qualitative and quantitative data for municipal decision-making that centers equity-seeking groups. As we have shown, these projects, namely in their adherence to the core values and principles of participatory action research and research-creation, can support socio-technical structures of accountability, solidarity, healing, and community.

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