

THE FUTURE OF ETHICS IN MOBILE TECHNOLOGIES

An Ethic of Inclusion Elevating DEIA Principles to the Forefront of Intersections of Mobile Technologies, Accessibility, and Place

Brett Oppegaard

Introduction

Locative media has been a longtime playground for academics, artists, and entrepreneurs (Erdal et al., 2019). It has been a prime experimental space for medium studies, including for innovative multi-modal uses of sound, touch, and gesturing, especially via smartphones (Behrendt, 2012; Humphreys & Hjorth, 2020; Oppegaard, 2020a; Tallon, 2008; Wilken, 2019). Such experiments for decades have introduced novel interactive and emplaced experiences (Farman, 2020; Kalin & Frith, 2016; Oppegaard, 2022; Wilken & Goggin, 2014; Zeffiro, 2012). Locative media—media framed by mobile technologies and geolocation infrastructures and systems as a way to create interactions among people, places, and technologies—also has generated many independent initiatives that demonstrate ways of improving diversity, equity, inclusiveness, and accessibility in public places, too (Ellis et al., 2018; Greenspan, 2021; Oppegaard & Rabby, 2024; Rudenko & Haahr, 2022). Yet within such rapidly expanding territories of innovation and communication, locative media raises many novel and unprecedented ethical concerns as well (Fisher & Schoemann, 2018; Lucia et al., 2021; McGrane, 2020; Oppegaard, 2020b; Oppegaard & Schmitz Weiss, 2023; Ross et al., 2018; St. Clair, 2019).

Considering the legacy products, progress, and latent potential as a strength and a distinguishing feature of locative-media, practitioners and scholars alike are well-positioned to lead the creation and development of any number of initiatives in contemporary ethics. In the case of this chapter, I build upon those earlier efforts to propose a new Ethic of Inclusion for locative media. This proposal is intended to complement any similar initiatives, not to compete with them, as a way to continue to push Diversity, Equity, Inclusion, and Accessibility (DEIA) concerns to the forefront of media design, especially in place-based situations.

What is an Ethic of Inclusion? Is a locative-centered ethic like this really needed? And how would it function pragmatically, in an applied sense? This chapter will contextualize and justify such an idea as well as clarify its intended aim, within the umbrella of normative ethics, embodying social-contract theory, and grounding and applying the ethic in the locative-media milieu. In addition, concrete examples will be shared about how such an ethic could be applied or could signal to researchers a missed opportunity.

The Ethic of Inclusion proposal—representing my contribution to the forecasting portion of this book—has been asserted because of its clear alignment with locative media’s primary strengths and the pervasive need for more inclusive public places.¹ But in a more critical sense, it also speaks to locative media’s mostly unrealized potential to guide and impact widespread redesigns of public places into more inclusive spaces. In other words, locative media appears to have enormous latent power; it seems to be underperforming, and a turn toward ethics might help it to gain more scholarly traction and more fully develop its potential as a type of robust and relied-upon media system.

This ethical framework establishes the scope of the chapter but not necessarily the scalability of the idea. As such, the framework is not intended to infer that inclusion is unimportant, undesirable, or unrelated to media of all types, which, of course, it is. The assertion here instead is that locative media—comparatively speaking—has much to offer researchers in terms of provoking novel ethical debates and better-informed design decisions, especially those involving issues related to DEIA. Locative media also could benefit from being centered less on the what and how questions of its mostly ad-hoc and ephemeral intervention projects and focused more on the bigger *why* questions involved in complex design decisions. Those more-complicated questions offer generalizable importance across disciplines, including in technical communication, human-computer interaction, and disability studies. This chapter, in turn, is a call to action for those intrigued by the potential of locative media, challenging them to think and write more about the ethics happening behind-the-scenes in any related design decisions. It also is intended as a provocation for readers to imagine what a widespread Ethic of Inclusion could mean for people who are otherwise mostly excluded from public places.

In contrast to their intent, public places worldwide often are unwelcoming, standoffish, or even hostile to people of all types, including those who don’t speak the native language, those without sight or hearing, those without significant amounts of expendable income, those without the right technical equipment, those who are unfamiliar with embedded historical and cultural contexts, those relying on wheelchairs to get around, and so on. When people are excluded, the impacts are not just immediate; they can be profound and life-altering in many ways. People with disabilities, for example, suffer from exclusion disproportionately, and they also have poorer health conditions related to social, emotional, family, or community issues in addition to medical setbacks (Castro et al., 2018 [SEE ALSO BRYSON, THIS COLLECTION]).

I have found during the past decade of researching transformative locative media aimed at audiences of blind people—via a process and a product called Audio Description—that media accessibility can be both a major inclusionary or exclusionary force. As a way to increase inclusion, an Ethic of Inclusion could be adopted as a touchstone for the community. But what would that mean, precisely?

Definitions

Locative media, at its foundations, is an umbrella term that refers to connections between any kind of media and a specific place, grounding the audience member in a mediated experience that is happening somewhere, not just anywhere. Mostly, at least in a contemporary context, the term is used for dynamic, digital media of various kinds, ranging from RFID (Radio Frequency Identification) tags to geolocated smartphone apps to GPS-pinged (Global Positioning System) interfaces that can tell people where in the world they are and what’s around them in unlimited depths, with novel interactive capabilities (Frith, 2018).

Technically speaking, locative media also could describe wall texts, object labels, signs, exhibits, brochures, and all sorts of other analog orientation media typically offered at museums, monuments, national parks, etc., but this proposed Ethic of Inclusion is poised for realizing the potential of dynamic digital media that can adapt to virtually any user’s needs; analog media can do some of

that work, too, but not at the potential speed and ubiquity that the ethic would need to reach even remotely close to its potential.

In this ethic's context, locative media is envisioned as extremely adaptable digital media delivered by networked computing systems and mobile technologies as a person wielding these technologies traverses a place and the media of that place dynamically responds to the user's immediate desires and needs. That could be live language translation, captioning, Audio Description, orientation and directions, backstories, narratives and counter-narratives, social connectedness, expert interpretations, interactive prompts, and more, in any medium and format the technology supports.

Most commonly, at this point, such dynamic locative media is delivered through smartphones (Frith, 2018). But that doesn't mean smartphones will always be the hardware involved, with smart watches, tablet computers, smart glasses, and other integrative technologies showing potential for future locative-media experiences.

While much could be said about all sorts of locative-media experiences, the Ethic of Inclusion is aimed at making a direct impact on an audience member's feelings, on a Likert-like scale, ranging from Fully Included to Fully Excluded, based on contemporary sensibilities of DEIA. While social issues in those veins have been raised for decades in the United States, President Joe Biden only recently codified the country's commitment to "DEIA" via Executive Order No. 13985 (2021). That order defined its terms with purposely fuzzy boundaries focused on inclusiveness, such as listing under diversity the objective of *including* "the many communities, identities, races, ethnicities, backgrounds, abilities, cultures, and beliefs of the American people, including underserved communities." It defined equity as creating fair systems *including* "individuals who belong to underserved communities that have been denied such treatment." And for accessibility, it clarified its intent as focusing "the design, construction, development, and maintenance of facilities, information and communication technology, programs, and services so that all people, *including* people with disabilities, can fully and independently use them." The italics were added, but the bigger point is that DEIA, at its core, is about inclusion versus exclusion.

Grounded in more than a decade of field research, my examples will emphasize the Ethic of Inclusion toward one of the most-excluded groups of people on the planet, people who cannot see or cannot see well. These examples primarily are envisioned through the remediation process of Audio Description. Audio Description involves a collaborative interpretive process in which a sighted person looks at a visual piece of media, such as a photograph or a map, and describes it to a person who cannot see it. There are many aspects of the description to consider, including what's described and what isn't, how long the description is, the quality of the vocal performance, the organization of the description, the delivery method of it, and many other factors that could contribute to feelings of inclusion or exclusion.

Normative ethics accepts the metaethics argument [SEE COLTON, THIS COLLECTION] that moral philosophy can exist, and actions can be prescribed as right or wrong—or at least better or worse ethically—via a process of systematizing, revising, and expressing moral views and expecting them of others in your communities. In that sense, normative ethics is focused upon the high-level ideas about how people ought to act, how they ought to live, and what kind of a person they ought to be, while the application of those general principles is an additional step in the morality-making process called applied ethics (Kagan, 2018). What people actually do under this ethic is another matter altogether and not within the scope of this chapter. Because of the gray areas between normative and applied ethics, this chapter instead mostly will focus on what I consider to be an applied-ethics approach: using the proposition of an Ethic of Inclusion to sharpen the societal focus on what ought to happen, with some examples showing how such an ethic ought to be applied to specific scenarios, rather than theorized about or documented in practice. From normative standards, inclusion is good, or at least better than exclusion, which is bad.

In terms of the theoretical basis for such an undertaking, the development of this Ethic of Inclusion is intended to align with the broad concept of the social contract that aligns individual motivations for doing good for others with a rationale of expected reciprocity based on mutual self-interest and respect (Scanlon, 1998). Such contemporary contractualism, honed by Rawls (1980), necessitates an agreement of moral principles within a liberal neutrality that requires all participants to disregard any personal aspects of their social identity, including ones that would privilege them in the process, in favor of making decisions based on how any person or any kind ought to be treated. That emphasis on a liberal neutrality speaks to the core of the proposed Ethic of Inclusion, disregarding any economic or labor motivations, any profit motive or scalability of the inclusive response, regardless of who needs it. In other words, this ethic isn't aimed at the masses or the money. It suggests that any person, of any social standing, deserves to be included rather than excluded from any public place. In this ethical progression, acceptance of morality at the level of metaethics allows a normative ethics prescription to be made, such as: In any public place, all people should be included, as much as possible.

Once applied, though, there are many propositions as part of an Ethic of Inclusion that could be made and discussed.

Critical Issues and Topics

Anyone visiting a place, even a familiar one, has many decisions to make before getting there. Those decision points create a circular argument in accessibility circles. One of the most common assertions I hear in my travels to public places around the United States is: Blind people never come to my site, so with my limited resources, why should I spend time and energy making my media accessible for them? Another chapter would be required to address the social justice aspects of that question and the unrealized economic potentials for reaching an audience in the tens of millions in the United States (American Foundation for the Blind, 2023; U.S. Census, 2023) and more than 1 billion worldwide (World Health Organization, 2023). But what such a demand-based approach misunderstands is that maybe the primary reason few or even no blind people come to a particular place is because they do not perceive it as welcoming and inclusive. On the opposite side, a supply-based “build it and they will come” approach, without proper communication, marketing, and community-building strategies, also could suffer from a similarly frustrating fate, because even though the proper infrastructure has been built for inclusion and the organization supports it, the people who most need to know about it don't know about it and thereby aren't coming to enjoy it.

Imagine the situation from the perspective of an independent adult blind person, for example, who wants to get out in the world and do something interesting. This person does the usual due diligence on such a trip and asks friends and family members about fun places to go, checks social media and searches online for ideas but also for signs of accessibility support based on specific needs, such as having media on the site that is audio described or tactile in nature. If the site isn't sending out easily findable signals about its hospitality and its inclusivity to people of all sensory abilities, including people who are blind, with Audio Description for all visual media, then the person considering the visit might be wondering, what's in this for me? Why should I go and do that?

A blind person I was collaborating with, for example, told me about a time when she visited a huge U.S. national park and spent most of the day driving from place to place within the park, like most tourists do there. Her family and friends in the car with her were new to the place, too. They were not trained interpreters or guides and did not do much describing of the various points of interest and only had limited knowledge of the place, because they were learning about it, too. When she reached each of the park stops, there was no readily available audio-described or tactile media. So while her companions were soaking in all of the new information, mostly through the sights, and seemed to be having a good time, my collaborator said the day to her felt like not much more than like driving

around a gigantic parking lot. Her group would drive for a while. They would stop, get out for a bit, walk around, ooh and aah about something visual, get back in the car, drive some more, stop, get out, ooh and ahhh, get back in the car, and so on, without her getting any real sense of where they were, what they were doing, what they were seeing and being so amazed by, and not being able to learn much about the place, either, in terms of the history, the topography, the culture, etc., like everyone in her party with sight was able to do by looking at analog signs or printed brochures.

To no surprise, then, when I asked her if she would like to visit other national parks now, she responded with a quick and firm “No.” That anecdote is not intended as a criticism of U.S. national parks, which actually are some of the world leaders in accessible place-based experiences, but it is intended as a call to action for all public places to adopt an Ethic of Inclusion and share that commitment with park visitors. By putting DEIA at the forefront of marketing and promotion efforts, a place will communicate its hospitable nature to everyone. People with disabilities who come to the place will be directly supported and guided to accessible portions of the place. In addition, friends and family members of people with disabilities, who show no visible cue of having such connections, and who often don’t express those directly, also are alerted to the possibilities. In turn, I contend that the most critical need for the efficacy of an Ethic of Inclusion is for a place to commit to it, share that commitment publicly, at the forefront of place identity, repeatedly, and to convince people with disabilities that the site is an inclusive, supportive place. Otherwise, as the original demand-based argument began, there will be little evidence showing such latent potential exists. Meaning if you also believe this potential for inclusivity to be true, I think you will have to commit to it and to give it a legitimate chance to work, even if the return-on-investment results aren’t immediately clear.

Recommendations for Practice

For the sake of the scope of this chapter, let’s say everything in the pre-trip-planning stage goes well, and all of the reasons a person might not come to a site, based on transportation issues, topical interests, perceptions of inclusiveness or exclusiveness, etc., are overcome. That’s extremely important first-level inclusiveness, and without it, nothing else afterward matters. The trip therefore is on; the back-and-forth is arranged, so what should be awaiting the visitor, as a second level of the inclusiveness of locative media? These are next-step foundations in building a more inclusive and therefore more ethical public place. With an Ethic of Inclusion at the forefront of locative media design, there need to be assurances even before a visitor arrives that the connecting technologies will be available and in good working order.

I have witnessed unfortunate situations at research sites where the locative media was well-produced and the locative technologies theoretically were available, but the batteries in the connecting technologies were dead, or the staff didn’t know how the devices worked, or headphones were missing, or the devices were misplaced, or already all out on loan, or the systems were proprietary and didn’t work on any slightly unusual or outdated smartphones provided by visitors, or any other number of trivial but insurmountable obstacles appeared, before any concerns about the nature of the specific locative media and interfaces could even be addressed.

If first-level Ethic of Inclusion concerns are about making sure a person feels comfortable in all of the steps before coming to the front door, then second-level concerns should be about the ethic of preparing the first impression, with proper technological infrastructure readily available and operational upon arrival. A scramble drill of staff hurriedly making some sort of ad-hoc accommodation sends a clear signal to the visitor: We weren’t expecting you. We aren’t ready for you, and because of that initial impression, we show that we don’t really care that much about you.

Grounded in the needs of any specific locative experience, designers will face any number of challenges based on the affordances and constraints of the particular place. Those will change from

situation to situation and are no less important than generalized concerns, but for the sake of getting discussions started about the development of an Ethic of Inclusion, here are some of the most predictable mistakes not to make:

Hardware availability: If your locative media requires technological hardware of any kind, like a mobile device for sharing audio files, the devices need to be heavily user-tested, in good working order, and in enough supply that anyone who wants to use one can get one, even on the busiest days. An Ethic of Inclusion, in that sense, means no matter what the visitor's social class is, no matter how much money the visitor has, that person can get the needed gear, and it works. This gear also works for just about everybody, meaning a person who cannot see the buttons on it still can make it work; a person who cannot hear the audio on it still can get the same information through captions, a person who is Deaf/Blind can connect to it, and a person who has difficulties with dexterous activities can use it. A common mistake in testing these types of systems is giving them to the most tech-savvy person in the room, instead of the least tech-savvy, most physically and most mentally challenged visitor possible. In other words, test via the toughest cases, making them happy, and the system always can accommodate the others.

Operating system, software compatibility: Following our Ethic of Inclusion, based on my personal use and preference for an iPhone, I might say any locative media available in our public place on an iOS mobile device also should be available on an Android device. But that's an example of backing into the design, by imagining users of your system just like you. They aren't necessarily. Research of the situation will show that Android has roughly 70 percent of the worldwide market share (StatCounter, 2023). Thereby, the original proposition should have been stated as any locative media available in this public place on an Android mobile device also should be available on an iOS device. Would the Ethic of Inclusion then demand people who come to your place with a mobile device running Samsung, KaiOS, Windows, or Linux operating systems also have fully compatible responses available? No. Android and iOS combine to control 99 percent of the world's market. Extreme outliers from normative systems, like the blind visitor with the KaiOS phone, should still be heartily welcomed and appreciated, but providing a loaner device to that person at no cost is an efficient and effective way to ethically serve the most but also accommodate for the least. Otherwise, as you can quickly chart out the possibilities, something that seems so simple and straightforward as what mobile OS to develop locative media upon could actually create a number of second-class citizens in your system or people excluded altogether from the locative media experiences just because they had the wrong kind of smartphone or couldn't afford a smartphone. High-quality headphones could be needed. Screens need to be cleaned. All of the practical parts of preparing an audience for use of locative media need to be considered and coordinated toward inclusive behavior, to give this ethic a chance to be examined. So the Ethic of Inclusion has practical concerns as well. It is intentional and thoughtful about all of the possible ways someone could want to experience the place. It removes any predictable barriers.

Tight budgets and cost controls: As another example of how such locative-media design decisions could go sideways, the accountants on your project could inform the design team that it can do half of the locative-media development for both of the operating systems, or the design team can do double the development on just one of them. Giving everyone the benefit of the doubt, and assuming that no one wants to make locative media that excludes people, in any way, challenges can arise that directly contrast design ambitions versus inclusiveness. Without an Ethic of Inclusion at the forefront of the decision-making process, before that design process even begins, one can easily imagine the ambitions of the singular design outweighing the goal to be inclusive. Therefore, and hence the name of the ethic, the imperative of using it should be on proactively deciding

before the design process begins whether inclusion is the ultimate goal, and if not, why not? And then creating solutions that increase inclusion at all turns in the design process.

Future Directions

When in doubt, this ethic asserts to its followers, inclusion is the right thing to do, the highest order or priority, and by following this north star toward making media that is more inclusive, rather than less, the design will align with the ethic's spirit and ultimate purpose, including more people in the public place, not fewer. From this point in the process on, the visitor has arrived, has been connected, and now the locative media takes over.

Third-level Ethic of Inclusion concerns could focus on the design particulars of the media, the interfaces, the interactions, and everything that happens among the person, the place, the media, and the technology. This is where the ethic expands into participatory design philosophies and demands co-creation processes with members of the target audience, encouraging all stakeholders to contribute to ideas about what type of media should be made, how, and with what purposes. Fourth-level Ethic of Inclusion concerns then could revolve around feedback to the system, via user experience and usability testing. Fifth-level Ethic of Inclusion concerns could investigate long-term impacts of such inclusionary media; with all of this in place, does it really make a difference? With locative media, no one yet knows. But without an Ethic of Inclusion at the forefront, no one ever will get to know, either.

Note

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