The PEER Framework of Culture: Technological Interventions in Public Spaces

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Abstract

This paper explores how media architecture studies create a global culture grounded on technological artifacts. The analysis is by no means exhaustive. It is rather aimed at sparking dialogue among researchers to frame field studies within a larger, international context – that of building a culture of meaning-making beyond the bounds of singular, isolated spaces. This paper examines previous studies to identify key patterns that fundamentally make up the culture that blurs off the boundaries across varied localities. The PEER Framework of Culture (Participation, Enjoyment, Exploration, Respect) is proposed as a way of looking into the shared, global culture that media architecture attempts to build. It serves as a guide for further investigations in this research area.

Author Keywords

media architecture; culture; framework; analysis

ACM Classification Keywords

J.5 Arts and Humanities: Architecture

Introduction

The cultural fabric of our city influences us as much as our collective characteristics shape the city. It is this delicate interplay between the people and its environment that exposes, defines, and ultimately dictates the culture that reflects a particular society. Technology has been, in recent years, bridging this gap between humans and their interaction with others and the spaces they inhabit. Media architecture, for its part, has been interested in investigating these interactions and the way it can serve as meaning-making tool for thriving public spaces.

Projects in this research space are deployed publicly in communities with little to no consideration on the underlying culture inherent in these neighborhoods. Everyone appropriates *space* differently from others thereby giving it a sense of *place* [3, 7]. People's behaviors towards these installations and displays are, to a certain extent, guided by the culture they are accustomed to, which in turn drive them to act in a certain way. Despite the differences in social customs, there remain patterns of behaviors that are commonly observed across different social and cultural contexts. How does media architecture build this shared culture? How does it define and redefine what culture means in a broader, global context?

Defining Culture

Tylor defines culture in its broad ethnographic sense as the "complex whole which includes knowledge, belief, art, law, morals, custom, and any other capabilities and habits acquired as a member of society" [22]. This notion ascribes to the nature of totality. Implicit to this is the acquirement of culture within a particular locality where these knowledge and customs already exist. It is therefore speaking of culture in descriptive form as it relates to how people think and behave as a whole.

In the normative sense, culture is defined as the "mode of life followed by the community or the tribe [that] includes all standardized social procedures" [24]. This definition by Wissler is possibly the most familiar one. The *way* of life can imply similar shared patterns, sanctions for disobedience of the rules, a way of behaving, and code of conduct [22]. This puts more emphasis on *doing* rather than on *being*. It is the actions that dictate the compass to which the community directs itself to.

Park and Burgess [14] put culture within the historical realm aptly, "the culture of a group is the sum total and organization of the social heritage which have acquired a social meaning because of racial temperament and of the historical life of the group." This connotes that culture springs forth from the temporal nature of man. These accumulated norms that span decades are not necessarily fixed. Yet what guides the present and future is built on the heritage handed down from the past.

In a discussion on global culture, it is important to take into account these definitions (as classified by Kroeber and Kluckhohn [9]) to provide a richer and broader analysis. Culture, for that matter, is the totality of being (descriptive) and doing (normative) rooted on the heritage (historical) of the community.

Cultural Studies in Computing Systems

It is shown that across two very diverse cultures, people tend to use different strategies to navigate a similar web interface [4]. The cultural group they

belong to wires their brain to act and behave in a certain way. The question then of designing for globalization [21] or localization [6, 19] comes to the fore. Do you build something *with* the existing culture in mind or do you build *the* culture? It is of course utopian to create something that blurs the distinct divide between and among these practices. A Southeast Asian, for example, who grew up in the ideals of collectivism would at first find it uncomfortable to work in an environment where individualistic pursuits are much valued. What is possible, however, is to focus on the needs at the micro and macro level and synthesize these findings that meet the common good.

While cross-cultural study is an area of interest in computing systems [4, 16], there is very limited effort on such topic in media architecture. Recent research has been focused on single and multiple interactions in interactive displays [13, 15], social participation and engagement [1, 11, 17], media and art installations [8, 18], to name a few. A study on interactive digital bulletin boards observed that people share contents that contribute largely to the "human, cultural or social capital of a community" [5]. Their study suggests that where a culture of participation already exists, digital bulletin boards are better supported. The pre-existing social conduct thus affects the level of engagement and interaction with technological artifacts.

Previous studies have also been focused on informing what to build based on cultural values and social context [8, 12]. This paper is interested in informing the notion of culture based on what is built.

The PEER Framework of Culture

Figure 1 shows a diagram of two groups with different cultures interacting with the same technological artifact (e.g. art and media installation, public display). The shaded area is the overlap between and among distinct communities with their own belief systems and identities. The PEER Framework of Culture is a proposed framework to look at how media architecture builds a shared, global culture. It consists of participation, enjoyment, exploration, and respect.
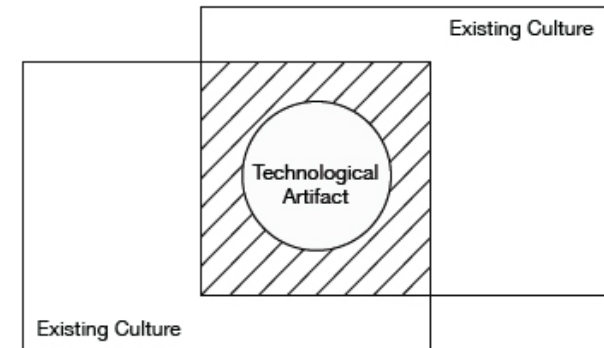

Figure 1: The PEER Framework of Culture is interested in the shaded region where similarities in culture exist when two or more diverse communities are faced with the same technological artifact.

Culture of Participation

Strangers are often hesitant to participate in public where social embarrassment is strong [1]. More so if the audience are their peers who in one way or another are intently observing their behaviors. If the culture of participation already exists in a community, people are more willing to engage with the artifact and with others [5] thereby strengthening that culture further. Where

such doesn't exist however, these artifacts can help build a shared culture. In *Liquid Light*, a clear focal point of the installation engaged people to a participatory, performative interaction [8]. Such interaction can be encouraged by, among other things, minimizing the amount of focal points and relying less on a situated work. Brignull and Rogers suggested that displays should be designed where the audience sees the artifact from periphery then shifting to focally singling it out when they want to [1]. The culture of participation may not be conspicuous especially if the object in question does not encourage such behavior. While most people are deterred from interaction due to social embarrassment, the previous studies show how participation is not inherently present but it is a characteristic of a community that naturally manifests itself when the artifact provokes the people to be part of the interaction.

Culture of Enjoyment

Art and media installations are sources of wonder for people who see and experience it. It is also fun for passers-by to interact with it [8, 13]. *Chromapollination*, an interactive sculpture that lets people walk through it to create digital wind causing light pollens to get released, created a "communal, joyful […] interactive experience" [8]. The content of the display also encourages playful interaction [13]. In *Media Ribbon* where the display showed the events and activities of the university, passers-by are more likely to play with the display rather than navigate through the information provided [20]. Among the behaviors observed were dance, gestures, and motions such as jumping. Evidently, media installations bring out the joy in people. While it was argued that social embarrassment hinders interaction at first, once they

get at ease, they are more likely to conduct themselves in a fun way, sometimes even forgetting that they are in a public space.

Culture of Exploration

Exploration is very much part of man's DNA – from the early navigators in the 15th century to the astronauts venturing into outer space – mankind has always been curious of the unknown. It is not unlikely that this same characteristic appears in public spaces where a novel technology is deployed. Public spaces fulfill the need to get actively engaged [2]. Interactive displays do so by providing challenges where passers-by are intellectually stimulated by the content of these displays [10] or by the interaction with the people around brings in. By generating content based on the dynamic information describing the environment and static information detailing aspects outside of it, *FunSquare* provided intellectual challenges that invited people to engage with the content and allowed social triangulation to take place [10]. In *StrikeAPose*, passers-by discovered the initial *Teapot* gesture by performing several gestures first. Once discovered, they performed variations of it, which then encouraged them to explore the "gesture vocabulary" [23]. This exploratory nature in media architecture may as well be driven by the installation itself. Yet even in a very straightforward task such as photo navigation in a large display [15], people still look for ways to explore the system in manners that suit their needs.

Culture of Respect

There is a certain degree of respect accorded to each one in public spaces. While cultural conventions dictate how one acts at a given situation, interaction with a technological artifact affords people to treat others with

politeness. In *CityWall*, a multi-touch display that supports multiple interactions, strangers played with the media assets separately from but courteously with others [15]. Some conflicts arose but were settled out quite easily as people enjoyed doing their own thing with the application. Müller and his colleagues observed that passers-by who saw someone already interacting with a display would normally position themselves where they can see both that person interacting and the display while avoiding any interruption [13]. When they decide to interact with the display, they would do so behind the people who were already there. These findings suggest how people respect each other's privacy in public settings. Media installations provoke intellectual curiosity on one level and enjoyment on another but these don't incite rude behaviors that cause disregard for others.

Future Work

The PEER Framework of Culture is derived from an analysis of previous studies in media architecture and public displays. While the analysis is limited in scope, it is sufficient to claim that media architecture does help build a culture that cuts across communities. This is an attempt to stir the conversation towards *what* these technological artifacts say about humanity through its culture and *how* these shape the society in turn.

This analysis serves as a guide for further investigations. To verify the ecological validity of the framework, it is proposed to deploy installations in different cities across the world to examine and compare the similarities and differences in interaction. Such massive undertaking will solidify how technological artifacts do refine and redefine how we think of culture in a globally connected world.

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