Hyperlocal Media Architecture: Displaying Societal Narratives in Contested Spaces

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Figure 1: Local residents study the narrative of *Stories of Exile*, a media architecture installation designed to depict refugee displacement on the façade of a refugee shelter.

ABSTRACT

Media architecture gains societal relevance as a mass communication medium that is able to strengthen a sense of place . However, little is known about the interplay between the content that media architecture displays and the public perception towards the architecture that supports it. With a global refugee crisis currently unfolding, we took up the challenge to explore how media architecture can raise awareness about urgent societal issues among the nearby population. In this paper, we describe the participatory design and in-the-wild evaluation of a media architecture installation that depicts refugee displacement onto the façade of a refugee shelter. Our analysis provides insight into the qualities of hyperlocal media architecture, in terms of (a) inviting community participation, (b) displaying compelling and socially relevant narratives, and (c) stimulating dialogue between communities.

CCS CONCEPTS

• **Human-centered computing** → *Participatory design*; • **Applied computing** → Architecture (buildings);

KEYWORDS

Media architecture, participatory design, urban HCI, hyperlocality, refugees, community, integration

1 INTRODUCTION

Since 2015 close to 1.5m people claimed asylum in the European Union after becoming displaced because of armed conflicts or for fear of religious or ethnic persecution [24]. Establishing connections with other members of society has proven to facilitate the integration of refugees [1], particularly in environments that shape and represent local standards and rules of social interaction, such as public space [15]. And yet, while many European city councils have opened (temporary) refugee shelters in urban areas, most councils provide limited opportunities that actually permit cultural

exchange between refugee and resident communities [2, 20]. In fact, refugee shelters are often seen as hostile places by local residents due to perceived threats and social and cultural differences [34].

As digital media are increasingly embraced to augment the experience of public space [21] and stimulate engagement [11], we recognize opportunities to amplify the societal relevance of these digital media. We believe that media architecture, the integration of digital media within the built environment, has particular potential because of its architectural significance and unobtrusiveness [29]. As a novel, contextual mass communication medium, media architecture reaches a large audience and has the ability to create emotional associations with the city, such as when national flags are projected onto buildings and monuments [10].

Participatory design enables media architecture to embody unique characteristics of place [14, 28] and to align with the surrounding social and architectural fabric [30]. Yet much is still unknown with regards to participatory design as a means to enable hyperlocal relevance of media architecture. For instance, how does participation reveal locally relevant narratives? And what are the effects of displaying narratives in their immediate physical context? We believe that this knowledge is required to establish media architecture as a vehicle that makes content relevant in terms of space and time.

In this paper, we describe the participatory design of Stories of Exile, a bespoke media architecture concept that reveals refugees' past and present experiences to the resident community. The narrative is displayed on the façade of a refugee shelter that the refugees inhabit (see Figure 1). This was purposefully chosen to investigate how context affects the experience by onlookers. We illustrate the influence of participation on the design of our case and we critically reflect on outcomes of a public screening. Our contributions illustrate the role of participatory design in supporting the emergence of hyperlocal media architecture, i.e. forms of media architecture that are embedded within their surrounding community and that convey socially relevant narratives by way of a purposefully considered architectural carrier.

2 BACKGROUND

Research endeavors in the field of HCI increasingly turn towards addressing social causes, such as aging [32], homelessness [19] and domestic violence [9]. These studies highlight the importance of empowering people in their lives, by providing novel and specific ways to build, restore and sustain meaningful relationships with other members of society, via their physical or digital social networks. Media architecture has proven to stimulate social relationships, by intertwining the built environment with digital media in order to augment the experience of public space [11, 21].

Manifestations of media architecture arise in a wide range of contexts, ranging from private residences [33] and public squares [3] to shopping malls [22] and cultural venues [7, 14]. In recent years, several projects interrogated the role of media architecture in communicating public feedback to emerging phenomenons, such as gentrification and displacement (e.g. #WeLiveHere[1] and London is Changing[2]). The quality of these projects is in their activist approach to highlight societal challenges and divides. However, we are

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[1]http://www.welivehere2017.com.au
[2]http://www.londonischanging.org

Figure 2: The refugee shelter is located in the village centre, with its main entrance set back from the main street by a 50m long laneway (green arrow). Projection walls are displayed in pink.

not aware of any precedents where media architecture is installed in a context that is particularly prone to suspicion and skepticism while aiming to bridge social and cultural differences.

Participatory design is an effective technique to provoke discussion and align design responses to the needs of community members [14, 28]. However, challenges arise when the participant group becomes heterogeneous, such as refugees from a wide range of socio-demographic and cultural backgrounds [27], and when the ambition is to support their integration in a host community [26]. Herein lies a unique opportunity for participatory design approaches that explore and unfold contention as an opportunity to challenge dominant norms, values and beliefs [12].

Several studies support the use of probes, i.e. physical artifacts that support early user engagement and that serve as a design mechanism to makes solutions tangible and overcome technology literacy [e.g. 2, 6, 16, 18, 27, 31]. Previous endeavors that aimed to empower refugees proposed initial workshops that enable moderators to familiarize themselves with the degree of media literacy, visual aesthetics, and most challenging; narrative structuring [25]. Our work builds upon the existing body of research in the domains of participatory design and media architecture. In particular, our collaboration with refugees and the subsequent projection onto the façade of a refugee shelter provides insight on the hyperlocal qualities of media architecture.

3 DESIGN PROCESS

We worked with refugees living in Antwerp (Belgium) to design, develop and display a media architecture installation. Our collaboration particularly aimed at revealing past experiences of refugees to the resident community, by using the architecture of their refugee shelter as a canvas (see Figure 2). Measures implemented after a recent terror attack required us to obtain permission from local council, federal government and national security services.

Subsequently, we advertised an invitation to participate in a local refugee shelter in English and Standard Arabic. It was presented as an opportunity to a) reflect on the experiences of migrating to and living in Belgium; and b) to share those experiences by way of a building-sized projection. Fifteen refugees and three staff members
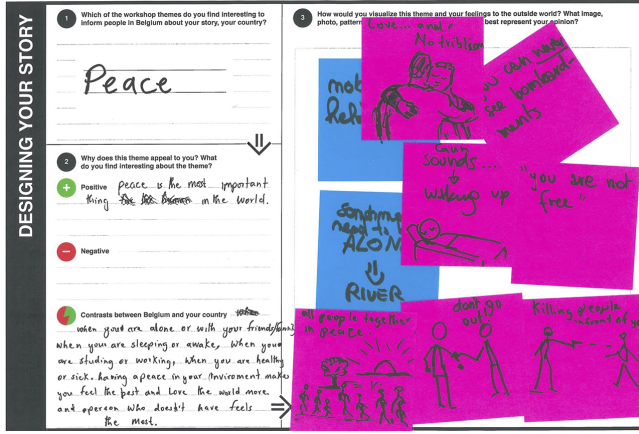
Figure 3: Mapping of workshop discussion on *Peace*, containing descriptions of emotions and visuals drawn by refugees.

expressed an interest to participate (five females, ten males, avg. age 34), originating from six Middle Eastern and African countries.

We organized five workshops based on the phases of participatory action research (see Table 1): diagnosing (1x), action planning (3x) and action taking (1x) [4]. Our goal was to collect illustrations in each phase, allowing us to (a) understand refugees' experiences of living in Western Europe, (b) identify a design direction, and (c) develop a narrative that best reflects these experiences.

To protect privacy and warrant security of the refugees, the local community could not be invited to participate in the workshops. Further government restrictions also prevented us from taking any pictures of the refugees in order to ensure their privacy. Therefore, whilst one researcher moderated the workshops, a second researcher took notes and sketched portraits of refugees. These sketches were shared with the refugees after concluding our design workshops. The shelter's team of social workers also requested the research team to notify them of any psychological concerns that would arise from the workshop sessions. All workshop sessions were held in English and, where needed, refugees translated for each other.

3.1 Diagnosing

Our first workshop aimed to reveal cultural changes that refugees experienced in the shelter, in the local neighborhood and in Belgium. Researchers asked topical questions, and responses were annotated

on large paper sheets. This workshop took place with three refugees and a staff member in the shelter's management office, where social workers were also present.

Outcome. Sharing stories about Western Europe and the neighborhood proved most inspiring for refugees, as it allowed them to make comparisons with their country of origin and reveal the humorous nature of some contrasting habits and values. We learned that cultural contrasts were mainly discussed through descriptors of emotion, such as happiness, sadness and hopefulness. However, we noted the refugees' general unease to reflect on personal topics that may come across as critiquing the shelter's management, its amenities, the refugees' social network, and the local resident community. Moreover, social workers and other refugees occasionally entered the office, disrupting the flow of the workshop and hindering the possibility to talk freely. As a result, the output of the first workshop session remained relatively superficial. However, it presented a first opportunity for ourselves and for the refugees to build a relationship and to learn about our good intentions. We believe that the participants' experiences were later shared with their peers in the shelter.

3.2 Action Planning

We held three action planning workshops with a total of 12 refugees and two staff members in various locations across the shelter. In order to encourage participants to think visually, we refined outcomes from the diagnosing phase and provided each participant with a sticker sheet with 42 icons of dominant themes, such as food culture, language and architecture. Action planning workshops enabled reflection on the experience of arriving in Belgium: '*This made me happy*', '*This was new to me*', '*This was strange*', '*This made me sad*', '*This made me hopeful*'.

Outcome. The discussion provided us with nine stories that were often sensitive in nature, exclaimed by refugees with a raised voice, in fluent speech and with confident body language. While some stories yielded fragmentary illustrations, refugees focused on verbally conveying the emotional nature of their experiences, almost as a therapeutic act rather than visually representing them. Surprised by the emotional and distressing experiences, both researchers did not urge participants to draw, instead listening carefully and taking detailed notes. The icons proved to serve as a starting point for group discussion, which was annotated and allowed us to discover relationships and synthesize meaning.

Table 1: Phases in the participatory design process and public screening.

Method	Participatory Design			Public Screening
	Diagnosing *1 Workshop*	**Action Planning** *3 Workshops*	**Action Taking** *1 Workshop*	**Execution** *2 Nights*
Aim 1	Familiarize workshop moderators with refugee context and experiences	Identify the leading narrative	Refine narrative and identify opportunities to represent visuals onto façade	Attract locals to visit the refugee shelter
Aim 2	Collect stories that resonate with the resident community	Collect visuals from the refugee community	Define interaction opportunities	Stimulate social interaction between resident and refugee community

Figure 4: Workshop setup during *Action Taking* phase, including scale model of refugee shelter (back), micro-projector (middle) and laptop computer (front).

3.3 Action Taking

Four of the 15 refugees that expressed interest in following up the project were re-invited. We provided ten action themes based on open coding of stories from the action planning phase: food, security, peace, dignity, family life, buildings, religion, silence, nature and anger. Each participant was asked to pick one theme, discuss its personal and cultural significance, and explore ways to relay the theme and associated feelings to the outside world (see Figure 3).

In order to illustrate our end goal, we set up a micro-projector and architectural scale model of the refugee shelter's façade (see Figure 4). The setup was first used to project a video on the scale model to showcase the possibilities of media architecture, and then try out concepts during the workshop by photographing and projecting the illustrations. Besides crayons, colored markers and sticky notes, we also provided a printer and a computer with online access to search for images, and print and annotate them. The workshop took place in the shelter's cafeteria. The projection onto the scale model helped one participant recognize the potential to use window openings in the façade as perspectives onto violence and killing he had witnessed for himself.

Outcome. Narrowing the scope enabled participants to share stories, often personal and emotional in nature. Group discussions spontaneously emerged and added collective significance to these stories. The projector and scale model helped a participant to recognize similarities in the rhythm of the shelter's window configuration and that of his former house in Afghanistan. Whilst explaining his idea, three children gained access to the printer, crayons and sticky notes to draw flags of their countries and activities they enjoy (e.g. rope jumping, watching birds). This seemed to stimulate participants to draw their stories as well; one sketched his view through a window in Afghanistan as a rocket headed for his home; another drew him lying anxious in bed. In fact, the children's spontaneous drawing generated a positive influence and helped lift constraints that previously prevented other participants from expressing themselves through drawings. As discussion ensued, participants identified similarities between their drawings and four self-identified main timeframes of their displacement, i.e. from chaos and crossing borders to crossing seas and ultimately finding refuge.

Figure 5: Access to refugee shelter (blue) from village square (1) via *Activation Space* (2), *Comfort Space* (3), *Interaction Space* (4), *Social Space* (5) and building entrance (6). Projection walls are displayed in pink.

4 MEDIA ARCHITECTURE DESIGN

Next to a series of illustrations that formed the basis of a narrative, the workshops revealed complex political, social and emotional factors. Consciously designing for these factors required us to formulate a response to the specific situations introduced by contextual parameters; i.e. carrier, content and environment [30]. The complexity of this work made us decide to complete the final design of the installation off site.

4.1 Carrier

Situation. The refugee shelter occupies the inner area of a large residential block. Its central location in the village center enables refugees to easily access public transport and local retail outlets. However, as the shelter is only accessible via a 50m long and narrow alleyway, most local residents do not perceive the shelter as a publicly accessible space.

Response. The installation was envisioned to publicly display refugees' experiences and to connote the societal and political significance of the shelter. Instead of a context-agnostic screen or projection, we decided to project content directly onto the shelter's façade. It created a justified context, enabling us to publicly illustrate narratives from those that inhabit the building. As a result, the seemingly private space in front of the shelter was converted into a semi-public space: with activity visible from afar, the alleyway was activated and invited people in. We selected four adjacent outdoor walls to project onto, metaphorically reflecting the stories that were told behind these walls (see Figure 2). The spatial configuration created an itinerary towards the entrance of the shelter via (a) an *Activation Space* for drawing people in and providing an opportunity to spectate from a distance; (b) *Comfort Spaces* for learning; (c) an *Interaction Space* to interact with the media architecture installation; and (d) a *Social Space* to promote interactions between refugee and resident communities (see Figure 5) [13].

4.2 Content

Situation. We collected drawings, stories and insights into past experiences through workshops with the refugees. Upon collation
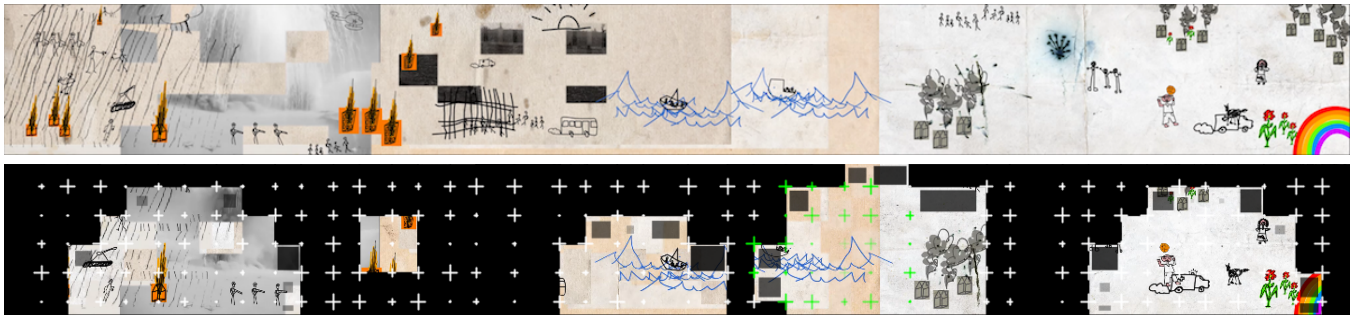
Figure 6: Stories of Exile, a building-sized interactive projection mapping that depicted refugees' itineraries from chaos in wartime (left) to comfort in finding refuge (right). Relevant parts of the visual narrative (top) emerged dynamically as passers-by moved and stood still in front of the mapping (bottom).

and upon integration with our own observations about life in the refugee shelter, these artifacts served as the foundation of a storyboard for media architecture.

Response. Drawings made by refugees were to remain authentic to resemble a personal significance and authorship, with only a minimal degree of dynamic animation. We maintained the hand-drawn aesthetic as a visual style to support universal comprehensibility. With the drawings, we designed a 1-minute video that narrated the four main timeframes of displacement. In order to promote individual sense-making among onlookers, we decided not to integrate or provide any additional sound, text or disclaimer that would explain the storyline or purpose.

4.3 Environment

Situation. Local inhabitants expressed dissatisfaction with the presence of the shelter via protests, open letters to the mayor and local newspaper, and negative comments on the council's Facebook page and other social media channels.

Response. The installation and its content required a high degree of neutrality, while being conscious of its political and social message. Therefore, we recognized that a) content should encourage heterogeneous interpretations (by not advertising purpose or functionality), b) passers-by should be enticed to explore rather than spectate (by adding a layer of interactivity to reveal the narrative), and c) raise opportunities to interact with refugees. While we assumed that this opportunity would present itself organically as paths of refugees and residents would cross in the laneway, possibilities for social interaction were further facilitated by the refugees' voluntary initiative to provide coffee, tea and biscuits for locals in the *Social Space* closest to the shelter's entrance.

5 PUBLIC SCREENING

Public screening took place from 10PM to 2AM on two successive evenings, to cater for Ramadan prayer times and to guarantee a sufficiently low ambient lighting. The projection setup consisted of 2x Barco HDX-W20 projectors, each able to provide 20k lumen light output and establishing a projection surface of 5,254px x 584px (26.27m x 2.92m). Each of the four outdoor walls that we decided to project onto displayed a single timeframe of refugee displacement.

As onlookers approached the shelter's entrance the narrative successively portrayed chaos in wartime, fear as borders were crossed and seas were traversed, and ultimately the comfort of finding refuge (see Figure 6).

Interactivity consisted of a responsive grid overlay on top of the 1-minute looping video. The grid of black rectangles shrunk exponentially as people walked or stood in front, thereby revealing the underlying video fragment (see Figure 1). Due to the physical scale of the installation and complex environmental conditions, we chose a Wizard-of-Oz approach to simulate interaction. For this, a custom software application was developed that allowed a human controller to let the black rectangles shrink exactly where people walked and stood still in front of the projection. The human controller, a volunteer, was on-site on both evenings for the full duration of the projection. By mapping bodily movements to an interactive response we aimed to support active engagement and immersion rather than glimpse interactions [23].

On both evenings two researchers observed and annotated the behavior of local residents and refugees within the various spaces around the projection. Semi-structured interviews invited people to express feelings that the projection provoked with them. We conducted eight on-site interviews with local residents (L) and four with refugees (R).

6 RESULTS AND DISCUSSION

Here, we share insights on the challenges and opportunities for media architecture to become a hyperlocal platform for communication of societal narratives.

6.1 Participatory Design with the Refugee Community

Refugees regularly recounted stories that were not related to one of our proposed themes but instead shared personal accounts of their recent past, such as about family members dying in missile attacks and gunfire, personal assets with memories from home being stolen upon arrival, and infrequent calls to family members in the home country. We recognize that these stories are part of the therapeutic process refugees go through, but the emotional and traumatizing stories often caught us, researchers, by surprise. Through experimentation and by discussing observations among

the research team, we learned that allowing open dialogue created a sense of trust. Being receptive to all types of stories enabled us to capture insights that were relevant to our purpose, albeit via a detour. We firmly believe that many of the stories and experiences might not have been revealed if we were not there to listen but instead would have been adamant on collecting illustrations in each workshop phase.

In addition, we feel that the chaotic environments where workshops took place—indeed, spaces that were very familiar to the workshop participants—in fact embodied the personal chaos and distressing nature of stories that were shared. We observed chaos in the way that stories were drawn (with shaking yet confident lines), the experience they represented (the forces behind their displacement), and the social context of the shelter (where social and cultural boundaries suddenly disappear).

Our work in this psychologically challenging context raises an important consideration. We were motivated to develop Stories of Exile because of an interest in the emerging refugee crisis and the many political, social and cultural challenges it highlighted at the time. Despite our well-intended purpose, some methodological considerations may have been neglected, such as assessing the psychological impact of the workshops and projection on researchers and participants. While on both evenings refugees thanked researchers on-site for "*giving them a collective voice*" (R3), future endeavors may want to consider establishing a debriefing protocol and having professional psychology support staff available to assess and respond to participants' concerns.

Design implication. While the concept of a workshop is often taken for granted in Western society, this was an unfamiliar concept to our participants. Lack of free speech may in fact be a cause of displacement, possibly inhibiting a willingness to speak candidly. Participatory design with refugees and other minority groups may require time, improvisation, openness to adapt the intended methodology, and willingness to give up some degree of control in order to build mutual trust and to stimulate open discussion. In challenging contexts, borrowing from the concepts of socially engaged art [8], critical openness from researchers supports human scale designs and makes participants feel valued for their collective contributions.

6.2 Connecting with the Resident Community

The invitation for the participatory design workshops was limited to the refugee community. This allowed us to profoundly engage with them, understand their concerns and uncover the perspective onto the refugee crisis by refugees themselves, without any bias or influence from the (mostly unknown) resident community. Yet, participatory design typically aims to develop a shared understanding around the object of design from all stakeholders [5]. Under ideal circumstances participation would not be limited to a single group of participants, but in retrospect we feel that the exclusivity also created an opportunity for media architecture in itself to become the vehicle to increase awareness about the refugee crisis, rather than the participatory design process in itself.

While we recognize the positive effect in terms of giving a voice to refugees via otherwise impossible channels, we also acknowledge that the exclusive design process resulted in a major challenge

to achieve awareness and local support from the resident community. On the evenings of the public screening, reaching local residents proved challenging: only a small number of people passed by (N≈112) and spectated (n≈60, 54%). Only 15 of those (13%) were seen talking with refugees. Hence, the projection became a surprising and potentially controversial 'event' for the resident community that provided a room for discourse. This was further enhanced by three contextual factors:

- *Social factors.* Stories of Exile was released in a *guerrilla* kind-of fashion, omitting any explanation by way of printed posters or human mediators. Upon observing the projection and the activity, local residents required some time to observe and understand the content. Some refugees voluntarily acted as facilitators and told local residents about the installation on the nights of the screening.
- *Spatial factors.* The public screening only took place on two nights, it started late, and the presence and brightness of both projectors and people heavily impacted the space. As a result, we achieved a substantial visual impact on the immediate surroundings.
- *Technical factors.* Projection mapping requires low levels of ambient light ($<100lux$[3]), which delayed our projection until past 10PM. As a result, we activated an otherwise quiet part of the village center and turned it into an unexpected and temporary event space.

Our ambition was to give refugees a voice, and in that respect Stories of Exile was successful. However, we recognize that future endeavors should more actively explore opportunities to involve local residents in the design process so as to create a collective understanding of attitudes and to promote 'peer production' and dialogue. This is especially valid in the context of hyperlocal media architecture that may be facing skepticism and critique and that aims to raise public awareness of a social challenge.

Design implication. Participatory design typically promotes inclusion of all relevant groups to build up a shared understanding of and response to a design context. Awareness is created as part of the process. Limiting participation to a single community creates an interesting opportunity for media architecture to become the vehicle to create social awareness. In particular, as societally challenging content is projected onto facades of buildings that come fraught with pre-existing negative views, media architecture facilitates an unexpected event space and provides physical room for discourse, learning, reflection and critique.

6.3 Storytelling on a Hyperlocal Scale

The public screening was an '*ice-breaker [for refugees] to come outside*' (R1) and as such, catalyze interactions with local citizens. 'Their' shelter and temporary home suddenly became a theater that showed 'their' story. Refugees recognized the metaphor of projecting onto walls and facades of the shelter, as '*walls had to be taken down and climbed*' to find refuge, often as a consequence of scenes that the media architecture installation portrayed (R4). We were aware of the potentially distressing content. As the chaos

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[3]http://www.creativeapplications.net/tutorials/guide-to-projectors-for-interactive-installations/

chapter contained imagery of tanks, air raids and gun fights, some refugees indicated that they found it '*too confronting*' (R1), as they were '*transported back*' (R4). Instead, R2, R4 and L3 were interested in seeing new chapters; the future, including life in the shelter and the years to come. Much to our surprise, R2 and R3 considered the narrative to be '*too romanticized*', insisting to add more explicit imagery. A workshop participant explained to R3 that the projection was not intended to represent real-life circumstances but instead to '*make [their] story accessible to locals*'.

Indeed, local residents recognized that the storyline pertained to the current refugee crisis and '*their new neighbors*' (L6). They experienced imagery as confronting and easily recognized the narrative: '*their life, then and now*' (L4). The content of the video '*personalized many of the refugees who we had seen before, but never got to know*' (L7), and made '*the chaos [of war] much more tangible*' (L5, L6). We observed that most people that interacted took their time to do so ('*I seemed to be part of the story*', L5) and paid close attention to the various components of the storyline. Perhaps unsurprisingly given the locals had previously expressed their dissatisfaction with the presence of the refugee shelter, the public screening also attracted negative feedback. Typically from within the *Comfort Space*, we learned about how some local residents' associated their dissatisfaction with other dominant social, economic and cultural questions, such as finding out '*who actually paid for [Stories of Exile]*' (L8) or '*why [Stories of Exile] was even necessary*' (L2). While most people expressing such feedback did not further approach the shelter's entrance, only a few entered the *Interaction Space*. Upon their return, the sentiments of some seemed to have softened. For instance, after seeing the installation and overhearing conversations between refugees and other locals, L8 (who previously expressed his dissatisfaction) seemed surprised about the closure of the refugee shelter later that year (e.g. '*where do the refugees go*' and '*how is that even allowed [without providing alternative housing options]?*').

Stories of Exile is not too dissimilar from other studies that explored the concept of hyperlocality, i.e. providing well-considered and geographically bounded information that is mostly relevant to local community members [17, 33]. However, our study shows that hyperlocality in media architecture introduces additional contextual dimensions beyond geography and time, and that each of these dimensions poses a unique challenge. For instance, Stories of Exile revealed three unique dimensions of hyperlocality:

- *Architectural dimensions.* We chose to project onto a refugee shelter, a carrier that comes fraught with pre-existing negative attitudes from a majority of the resident community.
- *Social dimensions.* The underlying message of the content we projected can easily be misunderstood as political and polarizing by both the resident and refugee community.
- *Personal dimensions.* As content emphasized times of distress, content risks to become a trigger for emotional response from the refugee community.

In summary, while we portrayed a narrative that significantly challenges the political, social and cultural equilibrium, we believe hyperlocality is an important consideration for all forms of media architecture, even in scenarios that provide a less polarizing context than a refugee shelter. It is easy to imagine how projecting urban redevelopment plans onto historic buildings scheduled for demolition stirs debate among opponents and proponents, or how guerrilla manifestations of media architecture raise distinct views onto political messages, social discourse and artistic merit. Our findings indicate that hyperlocal media architecture enables dialogue and, in some instances, even appeases those that previously expressed dissatisfaction.

Design implication. Portraying a complex societal narrative through media architecture introduces new responsibilities, beyond predominant technical and visual aspects. As carriers of media architecture are contextually loaded (such as for political, social, cultural, economic or religious reasons), one should carefully consider the different perceptions and behaviors that content may evoke among onlookers. Understanding these perceptions enables opportunities to design for hyperlocality, as the narrative of media architecture can address the dominant opinions and attitudes (either by reflecting them to represent a balanced view, or by confronting them to enable discussion and critique to emerge).

7 CONCLUSION

In this paper, we described the design process of a media architecture installation with refugees and its public display on the façade of their refugee shelter. The aim was to increase awareness about the refugee crisis and promote local social interactions. We feel encouraged to promote the notion of hyperlocality, enabling media architecture to gain relevance within its context by maximizing the impact of architecture, space, time, content and social interaction. Hyperlocality has shown to have rewarding social outcomes, such as by providing a better understanding to a societally relevant narrative, by stimulating social interaction among communities, and by publicly displaying activities and experiences that architecture otherwise conceals. The approach also poses challenges, in particular when people may be confronted with ethically and psychologically challenging topics. Media architecture is uniquely placed for hyperlocal narratives, through its ability to simultaneously (a) tell stories that find meaning in place and time; (b) deliver a social event that provides entertainment and triggers reflection; and (c) contribute to a unique urban experience and collective sense of place. Our findings indicate the role of participatory design in revealing a socially relevant narrative. However, we highlighted that excluding some community members from participating enables media architecture to create societal awareness in itself, rather than increasing awareness through the participatory design process.

While our study was small in scale and required methodological iterations along the way, the findings show a promising potential for designing media architecture with minority groups, so as to embody inclusive qualities and portray social concerns on a hyperlocal level. As there is growing interest in technology that addresses some of today's most urgent social and societal challenges, we also recognize unique opportunities for media architecture to give a voice to refugees and support their integration. We identified opportunities for future research to complement our initial findings, such as by extending deployment over longer periods of time and by enabling changing narratives as contextual factors change over time. We believe this knowledge is required to further establish media architecture as a vehicle for cross-cultural engagement and as a facilitator of shared spaces for dialogue.

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