

## **CRITICAL REFLECTIONS**

### **CART 360 AUTUMN**

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#### **Hackathons as Participatory Design: Iterating Feminist Utopias**

Hackathon, as a participatory design, touches upon an issue related to health, economic and social justice. It illustrates an iteration of a feminist utopia where breastfeeding-related systems, policies, regulations and products across the USA are supported through the incorporation and participation of the marginalized groups affected by the lack of inclusion and equity in the mentioned topic. The authors rethought the structure of two participatory hackathons by focusing on experience design. Ultimately, they provide a set of design principles that may subvert oppression within the technological and socio-technical design and systems (Hope et al. 1). This critical reflection agrees that in our world, there have always been continuous oppressions influencing those related to the matter of breastfeeding and would admit a participatory event where those subjugated voices are reflected in addition to their inclusion in the design process, where design is by, with and for people is one of the effective approaches to address a social issue.

To frame their process, they first highlighted the health benefits of breastfeeding for the mother and the newborn and backed their ideas with factual data and evidence within the USA. Based on their research, there are many advantages associated with breastfeeding relating to the newborn's mortality and the mother's overall health; breastfeeding requires the mother's constant presence, and albeit these benefits, only a minor group within America take advantage of paid leaves after giving birth. This group mostly encircles the upper-income class, bringing the question of structural racism, classism, patriarchy and more to the issue and how only the privileged benefit from it (2). Regarding that, the group focused on mothers of colour, LGBTQ+ parents and low-income workers to enter their envisioned breastfeeding hackathon, which made the experience inclusive. By their commitments, the group intended to bring plurality, meaning they refused to believe in the unification of suitable possible futures for all (2).

By reconstructing the definition of a hackathon, primarily known as problem-focused programming gatherings, into participatory activities addressing social issues, they altered the reimagined hackathon from being rigid spaces mainly focused on having participants from male, white and able-bodied groups to a space for creativity where all have a voice and technical problem-solving practices is diminished (2&3).

To design an inclusive space, they touched upon the ideas of the legal scholar Kimberlé Crenshaw, a feminist of colour who brought the concept of *Intersectionality*, "a term she coined to describe the double bind of simultaneous racial and gender prejudice" (Columbia Law School). This term brings to life the design that intends to challenge injustice and systemic inequalities by designing for the marginalized (3). Both hackathons, *Make the Breast Pump Not Suck* and the consecutive, were drawn by the intersectional feminist design principles (4). The first hackathon brought immense success, gathering parents, midwives, doctors, and many more to make the breast pumps more comfortable, resulting in innovation, &creativity. In addition to the improvements in the design of the beast pumps, the hackathon also led to bringing awareness to systemic challenges that women face postpartum (4), which resulted in the second iteration of the hackathon, focusing more on the general US maternal health system, and policies rather than technical aspects (5).

Following the first hackathon, the group realized the hackathon mainly gathered privileged white groups and missed inclusion, didn't reflect all of the voices and resulted in equity in design. The second hackathon primarily focused on equity, systems, learning, relationship building and creating welcoming, playful environments (5). This hackathon took into account a more diverse demographic of participants. This time to familiarize the participants with the process, they designed a pre-hackathon event where the participants were introduced to core values and community agreements. Moreover, months before the start of the hackathon, the leadership team underwent training that helped them learn about building relationships with the participants. The group also took advantage of storytelling techniques to bring into perspective lived experiences of the participants.

Another crucial decision they made was to make the event space inviting. To do so, the interior design of the hackathon space, located at MIT, was redesigned, and many sections were considered within the space. As an illustration, they included an exhibition displaying the contradictions of modern breastfeeding, a Zine library, living rooms and a baby village. The hackathon room itself provided a teach-and-learn space (6 - 7). In this space, the participants were provided with tools and equipment that could be used to mock up their ideas. The second hackathon ended with a science fair in contrast

with the first one—which concluded with pitches— which opened the space for one-on-one dialogue and building relationships (7).

The prizes were also rethought in this hackathon, meaning there were no grand prizes, the awards were themed, and the rewards were less materialistic and more meaningful (8). the team also worked with legal support firms that intended to hack the paid maternity leave policy. In addition to these activities and sections, the second hackathon had an innovator's gallery where breastfeeding companies showcased their products. This space brought opportunities to develop connections and collaborations between entrepreneurs within the field (8). The hackathons, in general, had several impacts and reflections through press and media, community, collaboration, policy and personal impact (9).

Ultimately, the team developed a framework of five design principles incorporating Intersectionality and feminism into participatory design processes. These principles included *structuring inclusion intentionally, leveraging privilege and institutional power, pushing for narrative change, cultivating joy and play and uplifting low-tech and no-tech innovations* (10-11). The team also concluded that this framework is applicable to designers, social movement researchers and scholars. They also stated that this work could inspire change and challenge the unjust status quo (12).

I believe their inclusion and participatory design framework is an inspirational and practical way to address such societal matters as it touches upon Kim TallBear's Standing *with and Speaking as Faith: A Feminist-Indigenous Approach to Inquiry*. Their approach illustrates ideas in line with "*standing with*," which supports "*situated knowledges* (Haraway, 1991, chap. 8) from the "standpoint" of women, ..., and other marginalized subjects" (TallBear 3). This approach includes those affected within the design process as it narrates real stories from the participants that reflects in a participatory design for, with and by users themselves, which produces a sustainable and practical outcome that amplifies essential needs (Vogel).

## **Experiencing Distance: Wearable Engagements with Remote Relationships**

"*Experiencing distance*" touched upon the lack of physical intimacy and associated negative emotions one experiences when living apart from family, friends and partner. This paper focused on two sets of two wearable artifacts, WARMTH and BREATH, that react by reducing felt temperature and declining movement of the textile, respectively, when sensing the bodily distance between remote

people. These artifacts initiated a conversation which reflected upon and shared uneasy personal challenges, emotions and vulnerabilities of living apart from loved ones (Beuthel et al. 1). The team's research emphasized the importance of bridging the distance between people by bringing interactivity and showcasing associated unwelcoming and sad experiences (2). This critical reflection acknowledges the significance of bodily interaction and physical closeness, its impact on one's emotional well-being, and the negative emotions that may be experienced to this lack of physical intimacy. However, it questions if this experience should be continuously reminded to the person as it could also deteriorate the emotional well-being in the long term.

The paper highlights a way to perceive distance by incorporating interactive textiles. Authors grounded their work by interviewing people who experience such melancholic emotions due to being apart from a loved one. Lack of physical closeness and bodily interaction was one of the interviewees' most frequent issues. Contrary to the preliminary artifacts that focused on bringing people together and stimulating a feeling of closeness, the artifacts manifested by this team emphasized the negative aspects of the distance and tried to showcase the emotions associated with it bringing more awareness to the matter (2). The team did not intend to provide solutions to the issue of distance; their artifacts instead touched upon critical thinking (3).

To create the artifacts, they incorporated dressmaking techniques and computational elements to stimulate movement and temperature changes in the wearables. The team undertook crafting, fashion and electronic processes, and through these processes, they explored a variety of bodies to experience how the wearable felt on the skin (4). They also paid attention to their choice of materials incorporated into the garments and tried to represent the fragility of remoteness through the materiality of the textiles (5).



Figure 1-  
*BREATH artifact*

As seen above, "Breath is a wearable manifestation of the lack of sensing the other person's body." This artifact and the textiles within it were manipulated through heat. This piece was constituted of two kinds of fabric (6). The group incorporated servo motors in the chest and abdomen to manifest a sense of breathing through the artifact. The two complementary artifacts communicated through WIFI and could sense the closeness between the two wearers. There was an RFID sensor incorporated into each garment which sensed if the wearers embraced each other. The artifacts could sense the proximity of the other part and react by making a breathing movement. As the artifacts became more and more apart, the motion decreased until reaching a state of lifelessness (7).

Figure 2-Electronics and movement in BREATH



As discussed before, the interviewees mainly touched upon the lack of physical touch. To manifest that, the team designed WARMTH which displayed the absence of bodily contact through the decrease in temperature. The WARMTH consisted of two major parts a vest and a collar (8). These two artifacts were also connected by WIFI, and by detecting the distance, they could warm up when close and cool down when afar. In this artifact, heating pads were located where one usually felt warmth when embracing the other (9).



Figure 3-WARMTH artifact

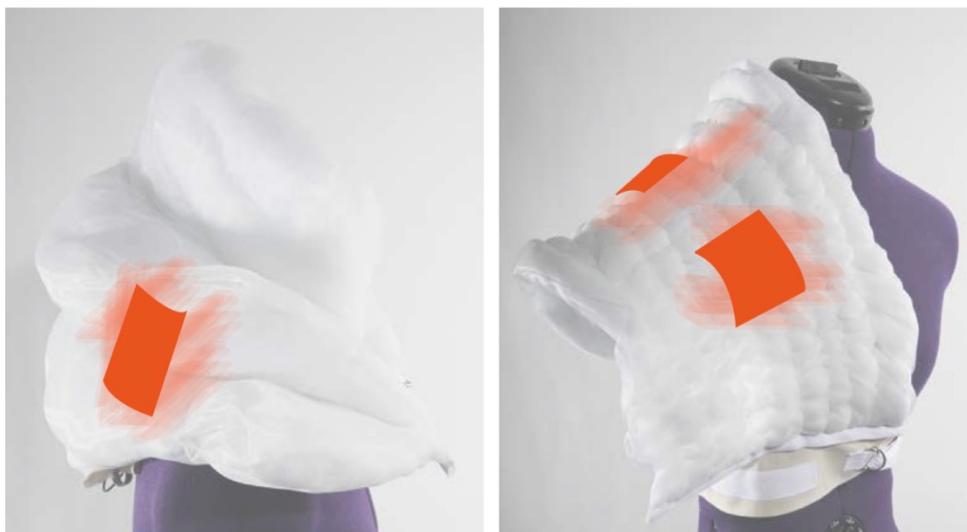


Figure 4- Placement of the heat pads in WARMTH

Ultimately, the team invited participants to wear the artifacts and reflect on how they reacted. Through this experimentation, they realized they could enhance the

experience and explore other choices of material, looks, design and placement of motors in BREATH artifact. And to make improvements in WARMTH, they considered changing the positioning of the heat pads and testing various temperature intensities (10-11).



*Figure 4- Trying out the wearables & reflecting on their reaction*

In conclusion, their artifact highlighted concepts of body, wearables, remoteness and experience. Through BREATH and WARMTH, they proposed their stance on the issue of dislocation and being detached from loved ones by critically questioning the matter and bringing awareness without

providing a solution. They also brought ideas into the future of these wearables. They considered bringing continuous movement or temperature change when the artifacts were apart for an extended period that could unstoppably remind the wearers of remoteness and its impact on the body and life (11).

As claimed in this paper, the absence of physical closeness impacts how we feel. In other words, "Touch and physical displays of warmth or caring are important for human social bonding and psychological well-being (Field [2010](#); Gallace and Spence [2010](#); Jakubiak and Feeney [2017](#)). Evidence suggests that touch, emotional depth or relationship quality, and loneliness are interconnected" (Heatley Tejada et al.). This statement suggests how this deprivation leads to feeling lonely, which visibly affects emotional health and creates experiences of negative feelings. Bringing awareness to the issue of distance is indeed crucial; however, the team's suggestion of extending the sensing pattern to continue for longer may be redundant and overwhelming. It could stimulate overthinking, which could also impact emotional health in the long run. As an illustration of that, a study into the relationship between rumination and loneliness showed "how there might be a bidirectional or even circular relationship between the two" (Yun et al.). Participants in the study "mentioned a circular negative feedback loop, where they reported how loneliness led to rumination, and how ruminating made them feel lonelier, having an adverse impact on their mental wellbeing" (Yun et al.). Taking to account this fact extending the timeframe of the reaction associated with the artifacts could cause more intense negative feelings, which may turn the artifact's initial intention of bringing awareness into a stressful experience.

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