The Importance of Feminist HCI – How Feminism in HCI and Design can Influence Users

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Abstract

Feminist design may influence not only its users but also more generally society. Through analysing three examples of feminist design within human-computer interaction (HCI), it becomes clear how designers and researchers have an important ethical responsibility to include feminist perspectives in their design processes. The analysis also shows, how this needs to be done with care and a certain level of flexibility towards the need of different women.

Introduction

There are many designers and researches that have explored Feminist HCI until this point in time, all with the same underlying message, that feminism in HCI is important to not only talk about but also include. Their work and conclusions might differ in terms of what approach to Feminist HCI is the best, but it is clear that it is needed in order to generate good design and good technology in general. The authors main inspiration was Woytuk et al.´s [13] work in *Touching and Being in Touch with the Menstruating Body* that takes an intimate look at the menstruating body and gives critical insight into the experience of menstrual technology.

Background

History of Feminism
There have been different waves of feminism throughout the years, all marking major events for women's rights and equality. Early feminism had a few selective incidents in ancient Rome, after Plato, in ancient Greece, had said that women have natural capacities, which are equal to men. This caused women to start protesting against a law, which prohibited them access to certain goods [10].

In modern times, what has been named the first wave of feminism, began when the suffragettes started to claim their right to vote and participate in the democratic government in multiple countries in the early 20th century. Through their first successes and male job losses during the great depression, women started to work. After the second world war the United Nations form to establish gender equality by declaring: "we the peoples […] reaffirm faith […] in the equal rights of men and women" [13].

During the second wave in 1979, the convention to remove all discrimination against women was adopted by 189 countries, not only to fight against discrimination but also for equality of all forms between women and men. The second wave also included movements for minorities, such as black feminism [10].

Through the vast introduction of media worldwide during the third wave, the attitude towards women is being shaped. While there still is a lot of sexism represented, it is also a place where those stereotypes are being challenged. Critics of the second wave also continue to demand rights and equality for female minorities, such as women of colour, religious minorities and lesbians [13].

The fourth wave, which describes the decade we are currently in, includes the women's rights march on the 21st of January in 2017, which 3.5 to 5.5 million people attended worldwide, in solidarity for women's rights [11]. Digital activism is at a rise, including hashtags supporting movements to end violence against women and for gender equality. Following the current pace and trends, the Global Gender Gap Report from 2020, is projecting, the overall global gender gap to close in 99.5 years, across the 107 countries covered by the report [10].

History of Feminism in HCI
Just as in Feminism, HCI can report different, in this case, waves of design work. The first wave was mainly focused on the machine, while the second wave already had its focus on the user. The third wave realises the complexity of HCI, which needs to take into account factors such as issues in culture, emotion and general life experience [11].

Feminist HCI is an area in research, which combines human-computer interaction with feminist thinking [3]. It has only been around for approximately a decade, so the establishment of Feminist HCI is still in the early stages. Feminist thinking started in the humanities and focused on women's rights and since then has moved towards social sciences.

The conversation around women and their experience in the field of HCI began in 2010 at the international conference of human-computer interaction [2]. Discussions in the further years included related topics,

Figure 1: These images show two of the tools, which are part of the curious cycles kit in Woytuk et al.´s paper.

Figure 2: This image shows an electrical breast pump by the brand Medela.

such as women in leading roles, life and work balance for women in HCI, diversity within gender, ethnicity and race in HCI and many more.

Analysis

To gain insight into the influence of Feminist HCi on its users, we will focus on three concrete examples. The first example stems from the paper by Woytuk et al. [13] in which they did a study on their curious cycles kit and the menstruating body. The second example discusses breast pumps, based on the paper by D´Ignazio et al. [4]. The last example is about a fanfiction archive designed and used by women, from the paper by Fiesler et al. [6].

Menstrual Technology
Woytuk et al. [13] state that the avoidance of the female body comes from a historical context, in which the hidden body parts are an immediate connection to their sexual function. Their research through design approach wants to challenge women with exactly this avoidance.

In their own curious cycles kit (Fig. 1), they put a lot of thought into the material of the products, which helped participants to connect to the values towards their menstruating bodies. The stereotypical aesthetic designs, which can be described with adjectives such as cute, childish and girly, were heavily rejected by the participants, especially in connection to their menstruation [13]. Current menstrual app designs were described as "immature" and "innocent" looking. If one would search the term *menstruation* in the app store of their phone, they would find a plethora of apps that correspond with the adjectives just mentioned. Almost without exception, those designs include shades of

pink, purple and red, heart, flower and butterfly icons and some even contain illustrations and stickers of seemingly prepubescent girls (Fig. 4a, b and c). Those designs portray all the stereotypical associations that are made with women and the female body, distracting any observant from its actual use, which is to track menstruation cycles [13].

One participant said that cliché designs made her feel stupid and, in some situations, caused an involuntary sexualisation of an intimate, non-sexual, moment. Those instances made her feel out of control as if she was not the one deciding when her body is supposed to be sexual and when not [13]. This feeling of control and ownership not only concerns their body, but also the sensitive information stored in menstrual tracking apps. The provoking design of Curious Cycle focused on tools and materials, which allowed the participants to explore their menstruating bodies without any biased values, such as sexualization and therefore steering away from their own avoidance of the female body.

Postpartum Technology
D´Ignazio et al. [4] mention, that technology and HCI are playing an increasing role in the experience of motherhood and in this example in breastfeeding, which according to a study in 2013 is an underexplored life phase. The current design of breast pumps (Fig. 2), often compared to mobile phones, lacks in design, usability and innovation. The mothers participating in this study described stories of feeling isolated and lonely when having to leave a social setting to use their breast pump [4]. The pumps themselves are perceived as too noisy, making them feel like cows, trapped, immobile and overall belittled. The anxiety that comes with pumping alone, in combination with the isolation,
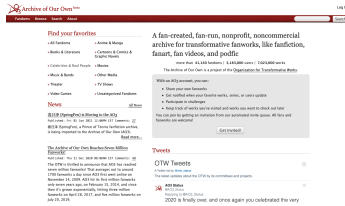
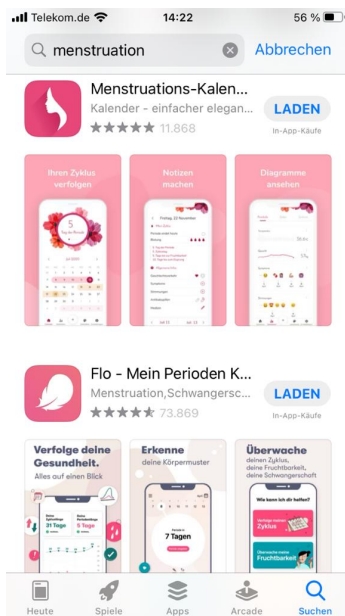Figure 3: This image shows the Homepage of A03.

Figure 4a: This image shows a screenshot of an App Store, when searching for menstruation apps.

has such a big impact on the mothers that it prevents them from relaxing, which influences the amount of milk that can be obtained through the breast pumps, causing them even more anxiety [4].

In the conducted study, the women described their experiences in many negative ways, leading the authors to analyse the most commonly used words, which resulted in a top 10 list of words, that were mentioned over 376 times across the submissions the mothers made [4]. The participants not only got to submit their experiences, they also got to write in suggestions for improving breast pumps. This co-ideation resulted in many interesting insights, that included common, by the industry seemingly overlooked, pain points and opportunities. To the surprise of the authors, most of these by the user suggested features were already existing [4]. This paper shows not only the lack of communication and information flow within the system of postpartum information but also from the suppliers themselves to the mothers.

Fanfiction Platform
The 2008 launched fanfiction archive called, Archive of Our Own (AO3) (Fig. 3), hosts almost 750,000 users and holds over 2 million individual fanfiction works. Fiesler et al. [6] describe that originally, AO3 was not orientating itself at feminist HCI but was focusing on the prioritisation of the needs and values of their community. Both users and designers of the platform are primarily women, who decided to gain back control over space, mainly used by women, but taken over and monetized by men [6]. A big part of feminist HCI on the platform is participation. For AO3 this is a primary motivation for its creation, allowing its users to actively

shape the website. Instead of hiring software developers from the outside, the creators chose to look for talented volunteers within the already existing community and equipping them with additional training if needed. They also have an active Trello board, on which users can leave constructive feedback and feature suggestion [6]. AO3 gives the women a chance to not only define the platform they engage with, but also a sense of security because everything has been designed and is targeted towards them and their needs and desires.

Discussion
We need to pay attention to the user's needs, especially in the context of women's issues, to discover the actual problems that go beyond the service itself. As D´Ignazio et al. [4] argue, in the instance of using breast pumps, the technology itself might not be the reason for the need for improvement, but rather the surrounding circumstances. These could be improved through for example a community-based app for mothers to share their experience and not feel alone [4].

Another issue is the lack of a diverse perspective and the inherit male bias of technology, which can lead to unreflective assumptions being made, that contribute to fundamental design flaws [11]. As Rode [11] explains, there are different ways in which HCI can choose to engage with gender. The four main orientations are, people who purposely choose not to engage with gender, because they find it irrelevant to their study, people who simply overlook the relevance of gender, people with a hostile attitude towards gender and specifically women, and lastly people who choose to engage actively or passively with gender
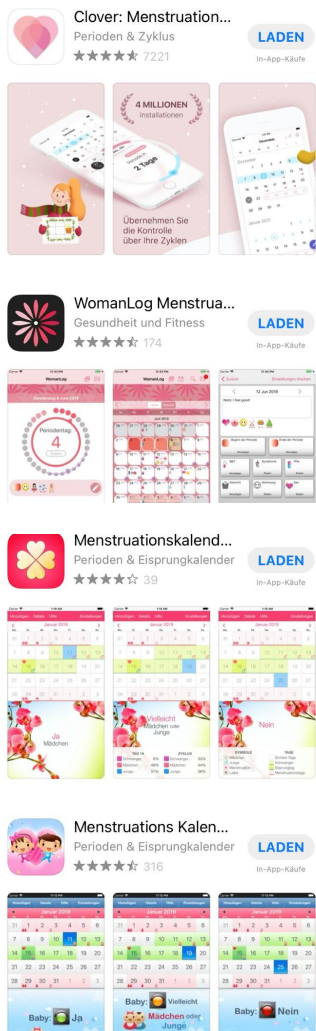
Figure 4b & c: These images show screenshots of an App Store, when searching for menstruation apps.

[12]. Within those categories there are even further distinctions, showing that there are a lot of possible ways to engage with gender and feminism in HCI. Unfortunately, gender is either considered irrelevant to HCI, because its relevance is overlooked, or it is considered with hostility due to the belief that women are lesser creatures [12]. It is not always a matter of right or wrong, with the choice to either include gender or leave it out of the equation, the truth is, that both approaches are relevant in the fight for equality [12]. During times when those issues around gender still play a role, they still need to be addressed fittingly. There are many different approaches to gender in HCI, with relevant arguments for and against them [12]. Rode [11] highlights, that Designers and Researchers need to think about how they want to approach projects, what role gender plays in them and how they can express this role [12]. If gender is relevant for a project or study, they need to take into account what part exactly is relevant and in what way they want to highlight this. And if gender isn't relevant, they also need to ask the question of why it isn't relevant and what context causes its irrelevance.

Woytuk et al. [13] explained, that current "FemTech" products often have the suggesting attitude, that there is something wrong within menstruating bodies, which is in need of fixing and control through technology. The designs do not take into account the variety of bodies and coming with them the different menstrual experiences and rather choose to follow the social norms on how people who menstruate should appear and behave. It is important that we are aware of the effects on knowledge production menstrual technologies have, not only on its users but society as a whole. A part of designing feminist technology and

products is taking into account the messages that materials and overall aesthetics send to the user [13]. As with any type of technology, it is important to look at the cultural context and possible taboos that their designs might have to deal with [13]. When looking at menstrual apps and their design, one seriously questions the user research that has, or in these cases maybe hasn't been done. It is clear from the participant feedback of Woytuk et al.´s [13] study, that the most common design aesthetic is not one that people who menstruate want to see and engage with and yet it is so widely applied.

On the one hand, we should not shy away from feminine design, because doing that almost enforces gendered thinking as if we label it as "bad" or "obsolete". On the other hand, we need to focus on design that is gender inclusive and does not limit women to one niche of designing. This is a topic that is complex and requires sensitivity, but it is a topic that we need and more importantly, openly need to talk about.

As Victor Margolin, cited in [2] writes: "Feminism is the most powerful critique of design history thus far." Critiques that are based on feminism are important to increase the sensibility for issues that surround those concerns [7]. Afterall, human-computer-interactions do not limit themselves and are set out to include all kinds of humans and their different needs.

Conclusion

Feminist Design, in the instance of menstrual technology but also in a general sense, needs to be flexible and accommodating to discreetness and the option to openly show their purpose. Feminist HCI is

not grounded on the mindset that this is "the right thing to do nowadays", but on the fact that it can positively influence HCI and design thinking in general. We all spend a lot of time with technology and on our phones. But especially younger generations, that tend to be more impressionable, are being presented with stereotypical designs daily, shaping their world view on gender and women.

If HCI wants to support a considerate and progressive perspective on gender and shine light onto the disparity of women in this field, it needs to understand that HCI is part of the co-construction process of the female identity in technology [12]. Designers have the opportunity to assign values to the technology they are designing, that can encourage progressive attitudes not only towards gender roles in general but also to feminist values in specific and they should use this power wisely. How we treat gender in HCI is a direct reflection on how we treat gender in society in general. In our society today, there still is a significant disparity in regard to gender and how we treat women and men. If HCI is reflecting gender in our society, then society might be able to reflect how we treat gender within HCI.

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