Breaking Gender Code: Hackathons, Gender, and the Social Dynamics of Competitive Creation

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Abstract

The hacker is 18-25-year-old, college educated, white, and male. This is a stereotype that not only accurately depicts much of computing professionals but creates active barriers for anyone who deviates more than slightly from this expected, and legitimate, identity. Hackathons are spaces in which the dominant identity is most visible. This project will account for the apparent absence of women in creative coding – e.g. hackers - by examining the forums of hacker culture; gaining skills, sharing knowledge, and collaborating to become technically proficient in programming. I will conduct an ethnography of gender-based collaboration in the rituals of hackathons. I hypothesise that hostile masculinity both masks and deters women's participation. It will be proposed that collaboration and mixed gender spaces are more productive, and that the domination of hackathons by 18-25-year-old, college educated, white, males deprives hacking and hackathons of substantial technical talent. The proposed project contributes to debates on gender performance and representation in hackathons and associated computational cultures.

Author Keywords

Gender; Masculinity; Visibility; Representation; Programming; Hacking

ACM Classification Keywords

H.5.3 Group and Organization Interfaces; Collaborative computing, Computer-supported cooperative work.

Background

My doctoral research at the Oxford Internet Institute (Oii) focuses on the gendered disparity of women's visibility in hacking culture in online and offline spaces. The spaces of identity politics in computational culture is a field I have researched beyond subversive and creative hacking prior to my doctorate. My undergraduate degree thesis focused on the power relations of sexuality and gender in geographical dating apps, such as Tinder and Grindr. The project examined the radicalisation of the self as an overt object and subject of consumption and disposability, looking at how desire in the dating market is repackaged in the refinement of distaste, such as "no fats, no femmes" or "over 6ft only". My Master's thesis focused on the performances of gender in anonymity on the social networking site Reddit.com. It surveyed: Advice Animals meme genre (r/AdviceAnimals); anonymous self-portraiture for the purposes of crowdsourced abuse (r/Roastme); and collective action by volunteer content moderators (the Reddit Revolt). My background focuses on gender performances and representation in computational culture.

Workshop Motivation & Themes

The CHI hacking and time-bounded events workshop will give me the chance to critically examine methods for investigating spaces of hacking and creative coding. The project is divided into three ways in which gender in hacking and creative coding might be understood. They are directed at differing levels of technical competencies and context: Knowledge sharing; anonymous participation; and the lived experience of coding. Firstly, knowledge sharing will be evaluated through those seeking and providing educational materials and advice on Python programming. Secondly, the invisibility of gender, and thus assumed maleness, of accessible and subversive technical spaces shall be examined through natural language processing on dark web forums and expert-exchanges such as StackOverflow.com. Finally, competition, cooperation, and visibility as aspects of the creative coding identity will be examined through an ethnography of hackathons.

The participant observation made possible by hackathons is a crucial aspect of this workshop. The opportunity for research exchange, sharing of practical experiences, and exploration of potential applications of the research is unique. The workshop provides an exciting opportunity to explore the methodological approach and implication of my research. As such, the primary themes of interest are the examination of the theoretical spaces of hackathons and the mediation of interactions. In looking to the gendered etymology of these spaces, I advocate an approach founded in critically assessing the telling of history, that is, explanation of women's absence beyond origins. The historically based approach shall be built on to form an understanding of the ecology of, and interaction within, these spaces in which the anonymity of online participation is revoked, in favour of an embodied experience. The project will focus on gender in the ritualism of hackathons, and how performances of gender are reshaped in a culture that relies on immateriality and disembodiment.

Brogrammers

Overt sexism and hyper-masculinity has emerged in hackathons and similar social computational events in recent years; the brogrammer. Reiterating internet culture's fondness for portmanteaus, a 'brogrammer' is a combination of the term 'bro' (as in brother) and programmer. In April 2012, the term brogrammer erupted into the public consciousness due to *Mother*

Jones article titled *'Gangbang Interviews' and 'Bikini Shots': Silicon Valley's Brogrammer Problem.'* The article pointed to how conceptions of geek-ness have been recast with "a competitive frat house flavour", exhibiting the hypermasculinity commonly associated with the culture of fraternities. There are many notable instances of such hetero-masculine behaviour, usually justified through employing a measure of humour. At the TechCrunch Disrupt 2013 conference the fictional mobile app 'TitStare' was pitched. The app was intended to be satirical, based on images of men staring at women's breasts. Such discourses are typically of the masculinity that surrounds the emergence of the brogrammer culture as an evolution of the uncool 'geek'. Such evolution points to how masculinised discourses and misogynistic actions are evidence of a replicating pattern in computational development, rather than the growing pains of a maturing field.

The Oblivious Hacker

Hackers are radicals, new revolutionaries, and rebels with a cause (Coleman, 2015; Taylor & Jordan, 2004). They are on the frontier of computing, yet, despite claims to a meritocratic community there is less women in hacking than other computing cultures (Adam, 2004; Jordan, 2016). In exploring the depths of online anonymity, a challenge to the dominant masculine narrative has not been voiced. Scholarship often points to the dearth of women in creative technical labor, with minimal causal exploration of the absence (Jordan, 2016; Levy, 2010). However, Tanczer (2015) has shown that women do participate in the social spaces of hacking online, masked by the obliviousness of male discourse. My doctoral thesis addresses how such women negotiate the assumed gendered hostility of hacking's technical spaces, and how femininity may be rendered invisible in a bid for legitimacy. The following section outlines the roles and stereotypes attributed to women in computational culture than can account for a historical absence of a visible critical mass, despite prominent individuals.

The Social Justice Warrior
Eric S. Raymond (2015) dismisses those who critique the male dominance of programming as Social Justice Warriors (SJWs) and the "enemy" of the hacker's "cult of meritocracy". Whilst SJWs can be taken to refer to any individual with socially progressive ideas surrounding identity politics, in computational culture it is a term more commonly used pejoratively. Its negative use gained prominence during the Gamergate[1] controversy, with Massanari (2015b) highlighting it as an epitome of toxicity in technology culture. A SJW is motivated by personal validation rather than political conviction. In providing a voice counter to the painting of hacking as meritocratic, feminist voices calling for more women in computing can be perceived as a moralising project or imposition (Ahmed, 2010). Such dominant perspectives leave little room for critical analysis of women's absence, and examination of the benefits of their inclusion in technical spaces and events.

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[1] Concerns issues of sexism and progressivism in video game culture, stemming from a harassment campaign of women in the industry beginning in August 2014, nicknamed GamerGate.

The Hacker's Wife

Adam (2003) proposes that scholarly works have done much to marginalise the role of women in hacking, whilst pointing to their absence. Levy's (2010) work *Hackers: Heroes of the Computer Revolution* begins with a "Who's Who" of hacker culture. The list references fifty-two men, ten computers, and three women. All the women are discussed in terms of being a wife, permitted into the physical spaces of hackers by marriage, despite their own hacker credentials. In reflecting on the history of hacking, Adam (2003) asks how the rhetoric of equality and open meritocracy arose in the first place. Himanen's (2001) *The Hacker Ethic* is proposed as a source of such a narrative, placing little emphasis on actants (Coleman, 2015). Adam (2003) holds that material barriers to women's entry into hacking are rarely noted, such as the long hours and late nights of hackathons which are juxtaposed to narratives of domesticity and childcare in femininity. In seeing hacking as being normatively masculine in the retelling of history, the justifications for women's absence default to precedence: if there were never women in technical spaces, there must be an explanation – usually based on pseudo-psychology or 'personality differences'.

Breaking Gender Code

Women have founded projects that reimagine the physical spaces of hacking. Stemming from the ideology of and discussion on *The Geek Feminism Wiki* (2008), hackerspaces have physically emerged as spaces in which femininity in hacking is normative and necessary. A hackerspace is an arena in which individuals with a common interest in computers or technology can socialise and collaborate, operating like an informal hackathon. Since 2010, hackerspaces have spread quickly across the USA, influenced by the dominant German based model in their understandings of openness based on interest, rather than having a pre-proven ability, unlike *The Hacker Ethic*. In recent years, several feminist hackerspaces have emerged, such as the 'Hacker Gals' in Michigan (est. 2014). Whilst scholarly contributions address the closed off nature of the hacking community and privilege of meritocracy, little work addresses the progressive and feminist politics of alternative spaces (Toupin, 2014).

Figure 1. Mothership HackerMoms was the first-ever women's hackerspace in the world founded in April 2012.

Organised Resistance: Hackathons & hackerspaces
Hackathons are fundamental to the culture of inclusive creative coding in hacking. Coleman (2010, p. 49) argues that online interaction or "networked hacking" should not be seen to displace physical interaction, rather, the "two modes powerfully reinforce each other". Hackathon's are ritualistic and "ingrained in the ethos of coding" (Leckart, 2012, p.109 cited Jones et al , 2015, p. 325). Jones (2015) proposes that they are not merely occasions of technical work, but rather they express ideological tenants such as individual competencies. For example, 'Hackermoms' is a women's only space which promotes a 'DIY ethic' with on-site childcare encompassing domesticity into hacking. In a more traditional sense of time-bounded technical events, hackathons are emotionally charged, as interpersonal relationships manifest and the prosaic nature of hacker's online social world is ritually embodied. In these transient physical spaces, a hacker's identity as a woman is made salient no longer digitalised and anonymous. Women also organise ideologically in these spaces, often developing informal procedures to encourage female participation (Coleman, 2010). Thus, spaces of resistance, and the code they create, are fundamental to the analysis of gendered practise in creative coding.

Deconstructing Resistance
It could be speculated that visibility in hackerspaces continues in the defining of femininity corporeally; one may only be accepted as a woman hacker in the presentation of a female identifying body[2]. Thus, it would be problematic to see feminist hackerspaces and women-only events as cleanly progressive spaces of gender politics; the absence of masculinity defines women-only spaces. As such, masculinity's cultural privilege and normativity in relation to the feminine other is reinforced, and the social hierarchy of hacking as a male space is recreated.

Conclusion: Feminine made visible
In opposition to equality through gendered segregation, what could be considered as meritocratic in hacking spaces would be androgynous collaborative spaces. Research points to how gender balanced teams are more productive on a collaborative level (Song et al, 2015). Female participation in group assignments raises the performance levels of other members of the group, even when gender is not disclosed. Song et al. (2015) speculate that the reason for such improvement is that women act more cooperatively. Terrell et al.'s (2017) study into gender in proposed changes to a software project's code, documentation, or other resources found that women's contributions are accepted more often than men's if their identity is unknown. However, when gender is made salient, women's contributions are 15% less likely to be accepted (Terrell et al., 2017).

Work on gender in computational culture is necessary as women's participation in computing culture and professions has plummeted in recent years. For instance, in 2013, only 26% of computing professionals were female, down from 35% in 1990 (Corbett & Hill, 2015). This decline in participation is unique to computing, with other STEM fields seeing a moderate increase in the same period (Corbett & Hill, 2015). Assessing and increasing the gender balance in hacking can thus serve to benefit creative coding cultures, as

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[2] The conception that an individual can only be believed to be female upon showing a feminine body is a well-known 'rule' of online anonymous forums, often expressed in the adage "Tits or GTFO" (get the fuck out).

even fewer women are perceived to be involved in hacking than other computing fields (Jordan, 2016). Therefore, whilst women-only spaces do provide an arena for women's engagement in creative coding, the gendered division and emphasis on physical visibility reaffirms the narrative of hacking as a masculine practise.

References

Adam, A. E., & E., A. (2003). Hacking into Hacking: Gender and the Hacker Phenomenon. *ACM SIGCAS Computers and Society*, *33*(4), 3. https://doi.org/10.1145/968358.968360

Ahmed, S. (2010). Killing Joy: Feminism and the History of Happiness. *Signs: Journal of Women in Culture and Society*, *35*(3), 571–594. https://doi.org/10.1086/648513

Coleman, G. (2010). The Hacker Conference: A Ritual Condensation and Celebration of a Lifeworld. *Anthropological Quarterly*, *83*(1), 47–72. https://doi.org/10.1353/anq.0.0112

Coleman, G. (2015). *Hacker, hoaxer, whistleblower*. spy : the many faces of {Anonymous}.

Corbett, C., & Hill, C. (2015). *Solving the Equation-The Variables for Women's Success in Engineering and Computing*. *Aauw*. https://doi.org/10.1103/PhysRevA.75.063427

Himanen, P. (2001). The Hacker Ethic and the Spirit of the Information Age. *Max Weber Studies*.

Jones, G. M., Semel, B., & Le, A. (2015). "There's no rules. It's hackathon.": Negotiating Commitment in a Context of Volatile Sociality. *Journal of Linguistic Anthorpology*, *25*(3), 322–345. https://doi.org/10.1111/jola.12104.H

Jordan, T. (2016). A genealogy of hacking. *Convergence: The International Journal of Research into New Media Technologies*, 1–17. https://doi.org/10.1177/1354856516640710

Levy, S. (2010). *Hackers: Heroes of the Computer Revolution - 25th Anniversary Edition*. O'Reilly Media.

Raymond, E. (2015). Why Hackers Must Eject the SJWs. Retrieved April 1, 2017, from http://esr.ibiblio.org/?p=6918

Song, H., Restivo, M., van de Rijt, A., Scarlatos, L., Tonjes, D., & Orlov, A. (2015). The hidden gender effect in online collaboration: An experimental study of team performance under anonymity. *Computers in Human Behavior*, *50*, 274–282. https://doi.org/10.1016/j.chb.2015.04.013

Terrell, J., Kofink, A., Middleton, J., Rainear, C., Murphy-Hill, E., Parnin, C., & Stallings, J. (2017). Gender differences and bias in open source: pull request acceptance of women versus men. *PeerJ Computer Science*, *3*, e111. https://doi.org/10.7717/peerj-cs.111

Toupin, S. (2014). Feminist Hackerspaces: The Synthesis of Feminist and Hacker Cultures. *The Journal of Peer Production*, (5), 1–12.