

## The First Latina Hackathon: Recoding Infrastructures from México

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### Abstract

An event advertised as the first all-women’s hackathon in Latin America was held in México in 2015. Highly ephemeral but also highly visible, the hackathon functions as a critical site to examine how communities crystallize and evaporate, and how participants actively negotiate their hacker identities and practices across boundaries of nation, gender, race, and ethnicity. Popular discourse poses inclusivity within maker/hacker groups by proposing ways to get different or “diverse” participants to join events aimed at empowering their communities. I explore how members of marked groups are called upon to construct and manage these differences themselves within hacker spaces and “maker” formations. I first highlight how participants at the women’s hackathon aligned themselves with structures of expertise as they negotiated normative constructions of gender and femininity. Hackers continue these negotiations when they get caught up in Mexican nationalist pushes for productivity. In the final section, I unpack a surprise visit by *abuelitas* (grandmothers), who taught everyone a lesson on the invisibilized labor that supports communities of hackers. In a space usually reserved for young makers who understand “new” technologies, they claimed their space within “progress” and reasserted undervalued domestic work as foundational for other type of work. By weaving these three threads together ethnographically, I suggest the ways in which differences become important as Latina hackers differentially position themselves, but also align themselves, with the contradictions of treating code work as coded labor.

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## Introduction

The first women's hackathon in Latin America was held in México in 2015. I was a participant-observer in the event as part of a broader ethnographic project where I explored what "hacking" meant to research participants and how they incorporated elements of the hacking ethos and identity into their practices. Between 2013 and 2017, when I conducted research, the proliferation of hackathon events coincided with hype from economic analysts projecting that México was set to emerge as the "Aztec Tiger" economy. Popular media outlets announced that México was undergoing rapid economic growth that would lead to an increase in standard of living.<sup>1</sup> During this time, the reforms enacted by President Enrique Peña Nieto's administration followed a developmentalist logic aimed at moving México beyond low-wage factory jobs and toward an entrepreneurial economy. In line with such capitalistic impulses, government-sponsored hackathons fit into the larger Mexican political-economic landscape as spaces to keep recent university graduates busy, as potential generators of companies that could create jobs for these graduates, and as the type of infrastructure that could help México emerge on the global innovation stage.

I began my fieldwork as the technical instructor for a six-week "incubator-style" course designed to teach entrepreneurship and mobile internet technology skills to Mexican students. The workshops took place at the National University of Mexico (UNAM) in 2013 and were sponsored by MIT's Global Startup Labs. The program is part of MIT's International Science and Technology Initiatives that "promotes development in emerging regions by cultivating young technology entrepreneurs" (MIT Global Startup Labs, n.d.). Within days of releasing an online application to university students via email lists and social media, there were hundreds of applications submitted and dozens of email inquiries from potential applicants. Of the thirty-two students selected, only four were women. Similar distributions were also common in the over twenty hackathons I attended; despite the "openness" these technological communities promoted, participants at the events and spaces were overwhelmingly men. The explicit all-women dimension of this hackathon was designed to flip the script. Of the over three hundred women who registered for the event, about half participated. By one of the organizer's accounts, this was the largest number of women gathered around the theme of computing technologies in contemporary Mexican history.

Although the women's hackathon provided the opportunity to notice *differences*—such as what is different in México or how Mexicans or Latin Americans operate hackathons differently than those held in the US and Euro-

## Special Section: Computing in/from the South

American orbits—I do not intend my approach to rely solely on comparison. Instead, I focus on how research participants position themselves in relation to multiple and intersecting markers of difference. I ask how they reconfigure narratives of progress at the same time that they negotiate ideals of competitiveness and autonomy that accompany most tech entrepreneurship. How do participants figure and reconfigure structures of belonging, recognition, and visibility within socio-technical configurations?

Hackathon events function as ideal research sites to examine the construction and management of differences and their intersections. Highly ephemeral but also highly visible, hackathons allow a sharp view of how different “communities” crystallize and evaporate. I highlight how participants’ code work is aimed at simultaneously enacting “hacker” identities as well as inhabiting, elaborating, and reconfiguring demographic identities organized around parameters of gender and race.

While hackathons take on very different modes of participation depending on the group of organizers and sponsors, the basic idea of the form is that an interdisciplinary group of (mostly) young people show up to meet other hackers or entrepreneurs over the course of a weekend. They work to prototype project ideas that might resolve an issue related to an organizing theme for the hackathon. Themes such as healthcare, inequality, and climate change make frequent appearances. Participants then present “pitches” to a panel of experts who judge the viability of the proposed projects, which usually offer technological or technocratic solutions to the identified problem.

The all-women’s hackathon hosted at UNAM in 2015 was part of a trend that emerged during my fieldwork, in which organizers claimed to have created “firsts” in hackathon worlds: the first hackathon for Latinxs, the first hackathon in <insert your favorite Mexican city or favorite US metropolitan city with a high Latinx population>, the first hackathon by and for women in México, etc.<sup>2</sup> The event was initially advertised as the first “for women by women” hackathon in Latin America. Because the event was partly sponsored by US universities (and later companies), and it would include presentations by female and Latina-identified professors from the United States, the event quickly became the first hackathon for Latina women, not just for Mexican women. As one of the organizers, Saiph, explained the event, “A female hackathon. A Latina hackathon. We are fighting to incorporate two minorities at once!” Saiph was a Mexican computer science PhD student at the University of California, Santa Barbara. Like many of the organizers, she traveled between the US and México and had experience with the

hackathon circuit on both sides of the border. She also had experience with constantly shifting between “Latina” and “Mexican.”

Such shuttling between ethnic, racial, and national markers can only be understood by thinking transnationally. On the one hand, people like Saiph were positioned by Mexican developmentalist narratives as forward-thinking, mobile, tech-savvy subjects worthy of representing México across national borders. Both of her parents were professors who had raised her with what she called a “growth mindset.” As she reflected on her experiences on both sides of the border, she told me, “I was privileged in coming from a family where they believed I could do anything I set my mind to and [they] did not have limiting beliefs. It is [only] now that I see that privilege because I have had to interact with people who have much more limiting beliefs about what Latinas can do.” Saiph went on to provide anecdotes about multiple times that researchers did not believe she had implemented computer projects she had designed and developed herself. Her father, the head of a bio-robotics laboratory at UNAM, was also one of the organizers of the hackathon, using his connections with other academic administrators to make the event a reality.

Although Saiph came from a relatively privileged upbringing and represented a select minority of the Mexican population, she was positioned as a generic “middle-class” Mexican citizen who had obtained her mobility and other freedoms by working hard. At the same time, she confirmed nationalist narratives that the software industry was the key to meritocratic progress (see Radhakrishnan, 2007). On the US side, meanwhile, identifying as Latina/o was for her and others like her inextricable from the shifting political economy of race. As an “emerging middle class,” a homogenous Latino collective is sometimes celebrated for their coming of age in America, while the same group is at other times represented as an economic liability that takes jobs, resources, and benefits from “regular” Americans (Dávila, 2008). The strategic use of the Latina/o marker by people themselves points to the mobile and nomadic nature of the signifier; it functions as a political rather than a descriptive category (Aparicio, 2017). Catherine Sue Ramírez (2004a), for example, traces the usage of “Latina” by self-proclaimed “Third World women” as a site of identification for women across the Americas to create the “geographical bridges” necessary for “borderland feminism.” Thus, while resignifying the event from a “Mexican” to a “Latina” hackathon might seem like a simple way to make the event more inclusive, participants’ decisions about how to identify and relate to one another within the hackathon were always in the context of shifting (and conflicting) markers of difference constructed in relation to US/México politics.

In her research with Indian software developers in Berlin, Sareeta Amrute (2016) shows that encodings of class frequently clash with encodings of race. For her research participants, the “software developer” marker grants workers an entry to the type of cultural capital necessary to identify as middle-class, while the “Indian” marker casts them as racialized software developers. Race and class intersect across a terrain of transnational labor that values technical expertise yet differentially recognizes and rewards this expertise. These racialized and ethnicized workers plug into highly coded and particularized lateral spaces that cross national borders, yet rely on infrastructures that mobilize networks and workers to respond efficiently to market conditions, and shift among different systems of codes that enforce ethnic discipline and social cohesion in segregated labor sites (Murillo, 2020; Ong, 2006). Similarly, I suggest that hackathons can be examined as spaces where hackers come to perform their willingness to become the coding (and coded) workers of the future.

Hackers at the women’s hackathon, despite their (presumably) rising authority as “coders” or “hackers” in México, remained marked as “Mexican” coders (regardless of what gender they identified with) once they transited across nationalized borders, whether physically or “virtually” (see Aneesh, 2006). At the same time that people such as Saiph shuttled between “Mexican” and “Latina,” they found themselves strategically calibrating their alignment with the promise of liberation that the hackathon discourse offers, and what the hackathon might offer realistically and more immediately on the ground for the attendees who populate these raced and gendered spaces. The “hacker” marker worked as badge of authority in the space of the hackathon, but also worked as an underspecified concept that created ties with representatives of collectives, companies, and universities who many times position themselves differently along political and ideological lines. As hackathon participants aligned their “Latina” and “hacker” subject positions to work on their projects, they also engaged in other kinds of work to manage the multiplicity of their identities by gendered, racialized, ethnicized, and national markers.

Popular discourse poses inclusivity within maker/hacker groups by proposing ways to get different or “diverse” participants to join events aimed at empowering their “communities.” In what follows, I explore how members of marked groups are called upon to construct and manage these differences themselves within hacker spaces and “maker” formations. I first highlight how participants at the women’s hackathon aligned themselves with underlying structures of expertise as they addressed normative constructions of gender and femininity. By using

computer development kits that allowed them to work at a higher level of the computing stack, they were able to assert their own knowledge without getting lost in the lower layers of coded abstractions. In the next section, I explore how hackers continue these negotiations when they get caught up in Mexican nationalist pushes for productivity. Although the “smart home” theme of the hackathon could be framed as reproducing gendered divisions of labor, interviews and participant observation reveal that entanglements of gender, technology, and domesticity were actively negotiated. In the final section, I unpack a surprise visit by *abuelitas* (grandmothers) who taught everyone a lesson on the invisibilized labor that supports communities of hackers. By infiltrating a space normally populated by young technology-producers who represent “progress” and “modernity,” their very presence re-established undervalued domestic work as foundational for other type of work. By weaving these three threads together ethnographically, I suggest the ways in which “differences” become important as women hackers differentially position themselves, but also align themselves, with the contradictions of treating code work as coded labor.

## Stacking Expertise and Coding Femininity

During a preliminary organizing meeting for the women’s hackathon, veteran hackathon attendees chimed in on what features they thought would make the event successful. Some ideas aligned with what other scholars and organizers have identified as key elements of a feminist hackathon, including a focus on both technical and non-technical solutions to the agreed problem space, a commitment to sustaining the community of practice formed during the event after the fact, and a valuing of learning over invention to create a more inclusive environment composed of subject matter experts as well as marginal users (D’Ilgano et al., 2016). The event would be held over the weekend but designated hacking spaces would shut down over night, allowing participants to go home and return early the next day. Parents would thus feel comfortable granting permission to their daughters to participate in an event that did not involve being out late at night. Removing the night work from the hackathon effectively intervened in cultural conventions of staying up all night that continues to be celebrated in computing communities and is many times unappealing, impractical, or unsafe for women (Ensmenger, 2010). Additionally, in order to get as many women as possible interested in technology and software development, regardless of their background or level of expertise, organizers decided to work with Arduino kits. Arduino is an open-source electronic prototyping platform used to develop interactive electronic objects. These kits included components that might be used to design devices for a “smart home” with minimal coding experience required.

On the one hand, we could clearly deconstruct the overarching theme of a “smart home” as a way to reproduce gendered conventions of domesticity and divisions of labor. One could argue that designing the perfect home for women by women helps to further an ideology of women’s place in the home; they’re designing the perfect home so they can feel comfortable and stay there, where they belong. However, the dichotomy between the domestic and public sphere has been critiqued as a socio-historical construction that does not represent the experiences of women in México specifically and Latin America more broadly, where domestic activities are intimately connected to and in constant interaction with markets (Montoya, 2002; Nieto, 2004). Even with growing opportunities for women in México to maintain “formal” part-time or full-time work outside of the home, many times they continue to use strategies already common in their communities to juggle multiple commitments related to work and family life (Peterson, 2014). Sasha Constanza-Chock (2020) argues that the “hacks” that occur within “subaltern design sites” such as the home never receive the same recognition or resources as those marked to be properly technologically innovative within the bounded space of hackathons and hackerspaces (p. 140). In this sense, the title that was chosen for the hackathon, “#FixIT,” pointed away from the infatuation with newness that often permeates hackathons and instead focused on working with existing socio-technical objects and configurations, effectively calling attention to “hacks” that were already taking place within the home.

Thus, the women at the hackathon did not appear bogged down by the “home” aspect of the event and instead used their enthusiasm to create an intimate space and experience. Following their lead, I was often less interested in what was *made* in these hacker and maker spaces, seeking rather to explore how hacking functioned as a mode for these participants to intervene in and position themselves in relation to existing socio-political structures (Ames et al., 2018). To unpack the social dynamics and the work that happened within the women’s hackathon, I start by treating “expertise” as an inherently racialized and gendered category (Irani, 2018), and by exploring what it means to navigate between distinct layers of the software coding environment.

As I discussed in the introduction, many of the hackathon events I participated in were aimed at empowering particular groups that had been marginalized or underrepresented in the tech industry. The hype around the events was usually framed around these groups of people becoming empowered by using technology but also by actively participating in building the technology that they might use.

This has become important in México, as government programs (and many times academic work) frequently frame technology experts as passive recipients or followers, perpetually dependent on foreign “cultures of innovation” (Medina et al., 2014). In short, the liberatory potential of the technologies, for advocates of these hackathons, rested on the premise that users could now become producers.

Jason Edward Lewis (2016) has proposed a similar vision, writing specifically about Indigenous people—a vision in which active technology users can take control of their future by “populating the present social imaginary with fully empowered subjects of a future imaginary” (p. 234). In this way, he argues, users can appropriate technology to create Indigenous stories, characters, and epistemologies through which people can articulate dreams and aspirations, in order to help Indigenous people create a future imaginary at the same time that they become present in that future. In this view of community empowerment, marginalized populations appropriate new technologies for their own ends. In just this way, the women’s hackathon, as framed by Saiph, was meant to bring together a group positioned at the intersection of different marginalized categories (Latinx, women); this newly formed “community” would convene, develop, and appropriate new technologies, and use these technologies to resolve issues they have judged important to their collective well-being and future livelihoods. In the case of this hackathon, those issues circulated around the setting of the home.

Any technology has configurations and conditions of possibility that are hidden from the average user. Lewis (2016) uses the analytic of “the stack” (p. 242) to help us understand how these hidden conditions are organized and, often, kept out of view. In the computing domain, a “stack” refers to the interrelated and interdependent layers of hardware components and software protocols that make high-level computations and programs possible. To move from the bottom of the stack (machine code) to the top of the stack (programming languages and systems) means traversing the corresponding circuits, microchips, and computer code that can be part of each “layer of abstraction” that makes up the system. In the professional software world, for example, a “full stack developer” is a (highly sought after) software programmer who possesses the technical proficiency to work at any level of the stack. Thus, Lewis proposes that for Indigenous people to completely infuse their worldviews and future aspirations into the system, they must become involved and be adept at navigating all layers of the stack. Only by fully and comprehensively participating in this way, can we increase our ability to “make the technology speak in the way that we desire” (Lewis, 2016, p. 242).

## Special Section: Computing in/from the South

While I (and many tech enthusiasts) find Lewis's vision compelling, it offers a proposal that depends upon long-term education and training (whether formal or informal) and involves focused attention and practice that can take months, years, or generations—certainly more time than is provided in the space of the hackathon, or even several hackathons. A common scene that unfolds at many hackathons is one in which, after introductions and the idea/design phases of technical projects, one person—usually a man (Dunbar-Hester, 2014)—takes command of implementing a working prototype, claiming because of technical prowess an authoritative, expert position. This often cuts against desires for the inclusive, collaborative development of expertise.

Indeed, a common scenario within hackathons is that pre-configured teams of experts arrive at the events in order to maximize their possibility of “winning” the event. In other cases, individual “experts” would rush to form the ideally structured team according to (other) expert guidelines. One “ideal” team I frequently heard described was one composed of a hacker (a person with programming skills), a hustler (a person with business skills), and a hipster (a person with marketing/design skills). In other cases, the newly formed small teams would, for the most part, effectively divide themselves up into the experts and the novices, at least along dimensions of technical proficiency. In the end, an expert programmer would be the one responsible for implementing the working project.

At the women's hackathon, as participants attempted to shuttle between “novice” and “expert,” there were several people who came to occupy “mediator” roles, attempting to activate an apprenticeship model for empowerment. I frequently saw these mediators—well intentioned, to be sure—approach their work with an overwhelming congeniality, eager to see themselves as empowering a particular group or determined to resolve a relevant social problem. Unfortunately, as experts and mediators took command, the development of proficient technology users, those who might be able to traverse distinct layers of the stack, proved to be more idealized fantasy than implementable project.

Christina Dunbar-Hester (2016) has found a similarly aspirational, but not quite functional, apprenticeship model present in her work with radio activists across do-it-yourself (DIY) and maker spaces. Within these spaces, activists promote their vision for a self-sustaining participatory structure, one in which self-guided discovery and learning can provide a heightened sense of agency to participants, where the demystification of technology can lead to a leveling of expertise through pedagogical activities. In this vision, as time progresses, novices are

meant to become experts and the field of experts within a group will increase, broadening the capability to recruit more novices, in a self-sustaining novice-expert model. Instead, Dunbar-Hester (2016) found novice participants frustrated and alienated as they attempted to learn from experts in compressed time frames. She notes that although activists self-consciously tried to distance themselves from competitive and exclusionary aspects of some electronics and engineering cultures (see Abbate, 2012; Chun, 2013; Turkle, 1984), the technical pursuits they offered often ended up being intimidating and unappealing. A consistent situation across Dunbar-Hester's (2016) spaces was that "the *burden* of participation fell disproportionately on women and technical novices" (p. 92).

I encountered similar dynamics across my research sites. The burden of *participation* often fell on novices, while the work of *implementation* was taken up by the technical experts, who often derived great satisfaction from that work, not always realizing that they might be enacting exclusionary practices.

Whether novice or expert, however, participants at the women's hackathon seemed to escape the burden that fell on either, more so than at other hackathon events. . By avoiding the pitfalls of trying to gain *too much* expertise, or technical knowledge, and focusing instead on the top layer of the stack, in this case in the form of the Arduino kits—in this case in the form of the Arduino kits—participants worked at the appropriate level of the computing stack (or layer of expertise). The Arduino kits allowed them to use coder tools (programs and apps) to manipulate data along with electronic components. In this way, they were able to effectively perform their burgeoning Latina-maker subject positions.

The atmosphere of the 2015 women's hackathon at UNAM was overwhelmingly congenial and designed to foster inclusivity; the message of increasing representation in technology cultures and software development was never far from participants. The first day of the event opened with female role models who described software as "algo que te extiende, que te libera" (something that extends you, that liberates you), and attempted to convince young women that coding was far more social than popular imaginaries made it out to be. "La calidad de nuestras vidas depende de la calidad del software que construimos" (The quality of our lives depends on the quality of the software we build), another presenter confirmed. Together with other presenters, this person reminded attendees that software development as a profession was not at odds with normative ideas of femininity—which she associated with standard roles of wife and mother—if this was how young women wanted to assume their professional and social roles. She followed a line that might be familiar from the work of such

scholars as Sanjukta Mukherjee (2008), who has argued, on the basis of her fieldwork in Bangalore, that software work has been constructed as empowering for women in parts of India because its flexibility is compatible with normative feminine roles of wife and mother.

In a México where a growing segment of the population is claiming a middle-class identity, sometimes this means living in safe environment surrounded by “tranquilidad” (Pertierra, 2015). Most of the time “middle-classness” means enrolling children in extracurricular activities and/or private schools, family vacations, and especially access to “modern” household appliances (Escobar Latapí & Pedraza Espinoza 2010). The speakers at the women’s hackathon pushed toward this tranquilidad and comfort by promising the attendees that (1) they did not have to abandon their important family roles if they chose to become professionalized working women, and that (2) learning to code might allow them to make their home life even more comfortable and compatible with complex schedules and multitasking. Whether one could be a professional woman and a super multitasker in reality was another story. For women across the world who enter the IT workforce or related entrepreneurial initiatives, they must not only learn the skills of their trade but also, more often than men, consistently convince customers and colleagues of their experience and expertise (Mitter, 1995).

While the women’s hackathon provided the space to reconfigure ideals of gender in relation to technology, many of the circulating discourses tended to be anchored in gendered discourses of putting the family first and respectable femininity. Similarly, scholars who have conducted research with women from the Global South who enter the information technology workforce find that these women calibrate their careers and individual aspirations in relation to the well-being of their family. Some women decide to slow down their climbing “up the ladder” or give their career up altogether if they feel they are at risk of becoming bad mothers or not living up to the expectations of their in-laws (Radhakrishnan, 2008). They might push the boundaries of respectable femininity by asserting that they will not be constrained by family, but always want to be considered *of* the family (Amrute, 2016).

At the women’s hackathon, the family, often narrowly defined within México as heterosexual and patriarchal, gave burgeoning hackers a referent to negotiate normative roles of gender and femininity as they assumed “expert” roles in the software coding worlds. In the next section, I highlight how my research participants continued these negotiations in relation to nationalist pushes for productivity.

## Hacking Time

D'Ignazio et al. (2016) lay out premises for feminist hackathons, asserting that one important feature of such an event is that it "intentionally architects media attention in order to advocate for the issue." Saiph certainly prepared for media coverage similarly. She stated in an interview, "Para mí lo importante era mostrar al mundo que tenemos mujeres creadoras; hay chicas emprendedoras y todas ellas unen sus diferentes talentos para desarrollar nuevos productos" (For me, the important part is to show the world that we have women makers; entrepreneurial young women exist and all of them unite their talents to develop new products). This "productive" aspect was picked up by media outlets. An UNAM engineering professor was quoted in another news report:

Los proyectos que les propusimos son la base de dos cursos que ofrezco: de robots móviles y de casas inteligentes; tomamos las prácticas que hacemos ahí y las modificamos para que las trataran de hacer en dos días. Es más, me burlaba de algunos de mis alumnos y les dije: ellas lograron lo que ustedes no pudieron en un semestre.

(The projects we proposed were based on two courses I offer: mobile robotics and smart homes; we took the practices of the courses and modified them so they could take them on in two days. Actually, I made fun of some of my students and I told them: they [women] accomplished more than you were able to in one semester.)

The professor's comments echoed much of the rhetoric that circulated during and after the event—that is, that these young women were highly productive and that they were able to accomplish more than male students had in an entire semester. At the same time that they positioned themselves in relation to narratives that promoted the "promise of technology," that new technologies and corresponding entrepreneurial practices could help young people succeed quickly and dramatically (Shankar, 2008), the women also took seriously the call to show that they could surpass their male maker/hacker counterparts.

Whether the "all women" dimension of the hackathon was effective or not, and whether it increased their productivity, depended on who you asked. As participants organized into teams that were composed of diverse disciplinary backgrounds—among undergraduate students there were computer engineering, mechatronics, industrial design, political science, and philosophy majors—I served as floating mentor/ethnographer, circulating between the scattered university spaces and helping with ideas, implementations, and pitches while I asked about

the explicitly gendered dimensions of the event.

Mariana, a skilled and amiable computer science student whom I knew from the coding bootcamp I had administered several summers before, confirmed her excitement for the all-women structure: "En otros espacios, los hombres nos reclutan solo para que hagamos sus apps lucir bonitas" (In other spaces, the men recruit us just to make their apps look pretty). I had spent several months working with Mariana in a coding bootcamp, where many times she encountered masculinist assumptions and performances of technical competence. At the very least, the women's hackathon provided a space for her to feel comfortable enough to call out the gendered power dynamics she had experienced within the unmarked (or by its unmarking actually marked as "inclusive") space where we had worked together previously. This is particularly important as women are often asked to "speak up" in order to show their value within software design spaces (Irani, 2019, p. 102). The women's hackathon gave Mariana the space to speak up about the very power dynamics that framed her as an unimportant contributor in the male-dominated space.

When I asked another young woman what could have attracted more participants to the event, she responded bluntly, "más hombres" (more men). Here she was confirming that not all participants were feeling the "all-women" camaraderie the event attempted to create. Pilar, a mechatronics major on the same team, disagreed with her colleague, telling me, "Las mujeres tenemos en el chip ser competitivas contra una y otra. Si fuera con hombres, decimos, 'no podemos,' y no nos activamos" (We women have in our chip to be competitive against other women. If [the hackathon] was with men, we'd say, 'we cannot,' and we do not activate).

Pilar's comments align almost perfectly with the language of "reforms" that in México has traversed decades and morphed alongside political parties and corresponding campaigns. These programs often call for young people to learn English and the latest technology in order to claim their place in the "global" economy; they are encouraged to take matters into their own hands and assume their role as technical, non-complaining citizens. The manifestation of these programs under the tenure of President Peña Nieto, when the hackathon took place, called for spaces that promised to instill in young people the same chip, here using an image of computing. "Todos con el mismo chip," went the slogan. Pilar's comments took up the same "chip" metaphor, and she differentiated between male and female "chips." She claimed that her competitive "chip" was activated within the space of the hackathon. This effectively confirmed the

## Special Section: Computing in/from the South

government's construction of modern co-working spaces across the country, aimed at indexing a newly forming "innovative culture"; the spaces function as efficient and scalable way to "develop," "modernize," and appear economically competitive. More importantly, spaces such as the hackathon function to keep recent graduates looking busy.

A 2010 study showed that about seven million young people aged fourteen to twenty-nine in México were either looking for employment, not enrolled in school, or fell under the broad category of "not economically active" (Instituto Mexicano de la Juventud, 2010). This label is accompanied by a more colloquial term, *ninis*, short for "ni estudian, ni trabajan" (don't study, don't work), often used to refer negatively to young people who have become a burden to Mexican society or economy.

This labeling also has its counterparts in other parts of the world. Vered Amit and Noel Dyck (2012) highlight the bureaucratic category of NEET (Not in Employment, Education, or Training) used to describe young Brits. The authors point to a specific category of youth all over the world who have been affected by economic restructuring. At the same time as these young people are pointed to as indices of social breakdown, they are also sometimes framed as agents of social change and progress.

The busy hackers within México's "modern" spaces might effectively dodge the problematic categorization of *ninis*; they inevitably perform for various publics the role of knowledge workers enthusiastically connected to their computers.<sup>3</sup> While most of the hackathon participants were indeed students, some who showed up were recent graduates who were technically unemployed. Their participation in this and other hackathons reflects an overall preference by young people in México to prefer to work within community or university-sponsored events before participating formally in government and formal politics (Ricuarte Quijano, 2018), as well as a growing inclination to hone their "code work" within these hackerspaces to think with/against social and political institutions (Beltrán, 2020). As anthropologists have shown, the question of how young women from the Global South spend their time, and whether it's leisure, pleasure, or "work," is a critical site to investigate constructions of gender, productivity, and social change (Amrute, 2016; Fleming, 2018; Krishnan, 2018).

Whether it was an attempt to evade the *nini* category, or a conscious effort at self-improvement (whether it was related to the job market or not), the young women took the call to be productive within the hackathon very seriously. Many I spoke

to agreed that the second panel of speakers should be cancelled; they claimed that the presentations were effectively “wasting their time.” Those who had been to other hackathons felt that since those other events did not have any additional presentations, it was unfair that the extra time commitments at the women’s hackathon cut into their hacking time. Time constraints created anxiety amongst the groups. One team told me to go away when I approached and started asking questions because I was “wasting their time.”

I didn’t take offense to being referred to as a “waste of time.” I was conscious that I might be framed as an intruder, particularly by young women who were new to a hackathon space and had not worked with me in other hackathons or the MIT bootcamp at UNAM. When I asked Ximena, a graphic designer I had built confidence with over the years, about my presence at the hackathon, she said, “En tu caso tal vez está bien porque estudias hackathones. Pero ser antropólogo no te hace diferente tampoco. Al final eres un hombre que va por ahí, criticando, siendo el especialista...No puedes entender lo que es estar aquí celebrando con mujeres, celebrando estar juntas” (In your case, I guess it’s ok since you study hackathons. But being an anthropologist doesn’t make you different either. In the end you’re just a man going around, criticizing, being the specialist...You can’t understand what it means to be here celebrating women, celebrating being together).

Taking my cue to be a “productive” member of the hackathon instead of asking and trying to understand so much, I worked with teams to put together their final pitches for their designs. We perfected speeches and added the final bells and whistles to the presentations. Overlooking us in the engineering building was a commonplace “Silicon Valley map.” The dated poster showed an illustrated map of the San Jose, California region with dozens of company names superimposed on the map, representing the company’s geographic location. The poster was a sobering reminder that this hackathon was meant to mimic the high-paced, competitive cycles of technology-driven capitalism that characterized Silicon Valley (see Jones et al., 2015).<sup>4</sup>

It was also a reminder that productivity as a unit of measure, rather than a calling, comes from technologies of efficiency that came to prominence with an industrial-managerial orientation that established the language and practice of productivity. The capitalist highjacking of productivity might be implicit in the poster, but one thing that might be difficult to discern from the visual is that the history of productivity is gendered. Melissa Gregg (2018) shows how the gradual retreat of the office secretary in the service of others’ productivity has been offset

by technologies that continue the same tradition of entitled delegation. For an elite group of professionals, new technologies provide the socio-technical infrastructures that enable them to *practice* productivity. Whether new technologies would make life easier for the women at the hackathon, and how they might position themselves in relation to the home vs. professional life dilemma, was up for debate.



Figure 1. The team that told me to go away because I was wasting their time allowed me to snap a picture while they were hacking and receiving guidance from a mentor more interested in hacking and less interested in asking. Photo Credit: Author.

Also up for negotiation was whether the presentations “wasted their time” or whether the all-woman design of the hackathon was a positive or negative aspect of the event, as the quotations in this section demonstrate. But one thing that all participants agreed on (and made evident) was that they were nervous for their final presentations—the spotlight was now on them to show how much they had learned and what they had spent the weekend *making*.

## *Abuelitas* as Infrastructure

The nervousness that the young women demonstrated during their final pitches was warranted, for different reasons. For one, the event was not entirely all women. As different teams took the stage to present their home improvements, the young men who had participated as mentors during the weekend stood alongside the walls of the auditorium, arms crossed, dressed with black Google

## Special Section: Computing in/from the South

shirts to distinguish themselves and claim authority to the probing gazes they directed toward the stage. In one particularly condescending comment, one of the mentors voiced a demeaning, “Awwwwwww,” as the group presented a prototype of a robot meant to crawl alongside babies to keep them company while mothers were in another room. One young woman smiled uncomfortably; another rolled her eyes.

The presence and help from the young men resembled similar dynamics to those Leslie Salzinger finds in the Juárez *maquiladoras* of the early 1990s. Salzinger (2016) argues that as young women from the Global South became neoliberalism’s preferred workforce, the industrial shop floor became a space for contesting the feminization of the work. Male workers attempted to reclaim the inherent masculinity of the work by constantly teasing, crowding, and “helping” their female co-workers in an effort to put their inadequacy on display. While the hackathons of the 2010s might appear to be a world removed from the industrial *maquiladoras* of the 1990s, the underlying frameworks that constantly “test” the skills and ultimately marginalize women workers stand the test of time, as the “well-intentioned” mentor-helpers reminded us.



Figure 2. The first team gets ready for their pitch as the male mentors stand on the sidelines. Photo Credit: Author.

Under the gaze of these male helpers, then, the teams continued to pitch their projects to an attentive audience. The first-place team used its Arduino kit to present prototypes for intelligent sensors meant to detect when food supplies

were running out; another team presented a key holding device that would alert users when all members had safely arrived home; another winning team created a system that would track their pets around a set perimeter, alerting the user when the pet had left the specified boundaries. As the teams progressively gained confidence, their nervousness eased, in no small part because of the presence of a new group of audience members: mothers and grandmothers who had come to witness the presentations and cheer on their daughters and granddaughters.

The surprise visit from *mamás* and *abuelitas* certainly added a “different” element to the hackathon. I had never seen family members come to cheer on their burgeoning hacker-entrepreneurs at hackathons in the US, for example. Neither had I seen them at the male-dominated hackathons in México. The family ambiance quickly turned the hackathon into an (even more) hospitable event, with lively cheering for family members and extra commentary from the sidelines. As I circled around the room to speak with the family members, I asked one grandmother what she thought about her granddaughter’s smart home prototype. “Lo que no hizo en todo el semestre lo hizo en dos días.” (What she didn’t do all semester she did in two days.)

While the abuelita’s comment was in line with the comments regarding productivity that had circulated throughout the event, the very presence of these older women signaled a departure from the “grandmother” discourse that normally circulates in computing worlds. That is, in addition to the performances of technical masculinity that many times intimidate women from participating in technical cultures, it’s common among computer experts to use gendered language specifically to make women feel like outsiders. In the Free Software community, for example, the term “Aunt Tillie” is deployed to refer to someone who is not tech-savvy.<sup>5</sup> Across communities of computing experts, it’s common to hear subjects urge you to build a system or interface that is “easy enough for your mom/girlfriend/grandmother” to use or figure out.<sup>6</sup> The complementary guidelines for a clear explanation of a complex system is to “describe it as if you’re explaining it to your grandmother.” Ironically, in this imaginary, it is always the grandmother (never the grandfather) who is the willing recipient of (most likely) boring technical explanations. One can imagine the grandmother waiting at home, ready to listen and provide encouraging words on your work in progress. Perhaps in these imaginaries the grandfathers, uncles, and brothers are busy in the co-working spaces becoming the “modern,” tech-savvy, mobile workers of tomorrow. Indeed, the supposedly unmarked hackathon space that takes center stage in the narrative of the ascending Aztec Tiger economy overwhelmingly features men in its protagonist roles.

The all-woman's hackathon space, and perhaps even the "smart home" theme of the event, gave the abuelitas the opportunity and confidence to assume roles as active audience members. After the event, I asked Ximena what she thought about her abuelita coming to watch her pitch: "Pues me da emoción. Ella es la que ayuda en todo del día a día. Ella es la que se encarga de todo" (Well, I get excited. She's the one that helps with everything in the day-to-day. She is the one that is in charge of everything.) With recognitions like this by the hackathon participants, the abuelitas became more than cheerful audience members. In a space usually reserved for young makers who understand "new" technologies, they claimed their space within "progress" and reasserted undervalued domestic work as foundational for other type of work. Instead of the grandmothers becoming the referents for non-technical persons, novices who don't understand and thus need to have complex infrastructures explained in very basic terms, here the abuelitas asserted their place as the very backbone of these socio-technical configurations, the necessary defaults for the making and corresponding discourse of technological progress to occur in the first place.

The very presence of the abuelitas, mothers, and families on the sidelines effectively displaced the technical (male) mentors, reminding everyone of the "other" work required to make the projects being presented. The first tactic for a postcolonial computing reads, "When we see a technoscientific object, we investigate its contingency not only locally but in the infrastructures, assemblages, and political economies that are the conditions of its possibility" (Philip et al., 2012, p. 10). If the projects presented at the women's hackathon are the technoscientific projects we need to unpack, in this case, we would have to explore the hierarchies of labor involved in constructing the Arduino chips. The university and its laboratories where the hackathon took place could also be analyzed as infrastructures that required manual labor to construct and ongoing maintenance, which could make us dig deeper into the classed and racialized labor economy in México, connecting these processes to overarching political economic assemblages.

The presence of the abuelitas, however, shifts attention to local and immediate. If the young men in Google shirts observing from the sidelines represent the technical infrastructures these young women are purportedly appropriating and the global economy that they are meant to join, then the abuelitas intervene to remind us of the work required so that these young women could participate in the event in the first place. At the same time, the abuelitas reminded us that while these young men were present being the "expert" moderators of the event, they

were many times absent in other domains of family life, in terms of encouragement and support; the cheering family members on the sidelines were overwhelmingly women (grandmothers and mothers) and children. While some of the abuelitas encouraged their granddaughters to take up the productive discourse of the event, their very presence reminded them not to diminish “other” labor in the name of becoming the productive workers of tomorrow.

After the winners were announced and prizes were distributed, celebrations ensued as the hackathon participants joined their families, some of whom had brought flowers and homemade food to reward their weekend efforts at the hackathon. I approached Mariana as she celebrated with her team, who won second place for “Easy PetCare,” to congratulate her. “¿Qué te parecerían las presentaciones finales?” (How did you feel about the final presentations?) I asked her. “Pues, están más bonitas, ¿no?” (Well, they’re prettier, aren’t they?) Her response was clearly ironic, in relation to the earlier remark she had made about men at other events recruiting her to make their apps “look pretty.”

Mariana’s response also functioned as a way to remind me that perhaps my “end results” type question was in line with a masculinist, results-oriented technical outlook of the world that was missing the importance of what was really going on at the event: solidarity and interventions along gender lines, as peers, mentors, and family celebrated the young women’s weekend efforts. I was part of this group, no doubt, but also an outsider in more ways than one. Here, at the peripheries of the event, in my attempted ethnographic encounters/interventions, I myself was an “exception” (to evoke a coding concept) to what was going on and what was important within the confines of this ritual, a hackathon that had been appropriated for means and negotiations much different than perhaps its original Silicon Valley, US-based variants had been created for.

A straightforward read of the “smart home” design competition at the women’s hackathon in México might appear contradictory. How can any of these technologies be liberating, as some of the speakers preached, if they assume and presuppose that women must maintain their interventions within the domestic space, and their “empowerment” within the confines of the hackathon? This interpretation presumes that it isn’t something the women (organizers and participants) had already discussed, and that it isn’t something that was debated within the space of the hackathon itself. It would also be homogenizing, as the varied responses by my respondents on the “all women” component of the event demonstrate, they all had different takes on the matter. Finally, as Mariana’s ironic comment and posturing shows, there might be spaces of critique within the

hackathon that this male ethnographer does not have access to—rightly so.

## Conclusion

During one of our preliminary organizing sessions for the women's hackathon, one of the male veteran hackers connected to our video conference call from a treadmill. He spent the hour-long session chiming in with comments while he sprinted in his gym clothes. During our introductions, organizers took turns establishing their experience, not only by invoking the software languages and platforms with which they were familiar, but by enumerating the hackathon events they had previously attended. This spirit of productivity, of making the most with one's time while juggling multiple demands, clearly infiltrated the space of the hackathon. Even if there was a deliberate attempt to depart from the "boy's culture" usually associated with technical expertise, or the technical masculinity that precedes computing, the media coverage, as well as the burgeoning Latina hackers, took seriously the call to avoid "wasting" time.

The image of the young man running on his treadmill during the meeting also coincides with the overarching narrative of "catching up" that tends to permeate events designed to empower communities through technology. In a history of computing that forgets "programming" was initially a woman's job (Light, 1999) and a computing industry that has treated women of color as ideal workers to later invisibilize their contributions and labor (Nakamura, 2014; Ramírez, 2004b), the stakes for Mexican woman coders are particularly high. In their case, "catching up" means negotiating nationalist narratives of productivity as Global South countries attempt to perform their departure from "developing country" status, as well as reconfiguring normative feminine roles instituted by nationalist constructions of the middle-class family. Shuttling between "Latina" and "Mexican" requires strategic maneuvering and aligning with overarching processes that have historically shifted markers convenient to locating "cheap labor" and "passive nimble workers" across racial, ethnic, and national boundaries. An exploration of the construction of gender at the women's hackathon thus shows that the management of difference is intimately connected with complex ideologies of productivity and work as well as nationalist and developmentalist projects.

The organizers of the event strategically used Arduino kits to place the young women at the appropriate (higher) level of the computing stack, from where they could assert their own expertise without being getting lost in the lower layers of abstraction. Although the "smart home" theme of the hackathon could be framed as reproducing gendered divisions of labor, comments during the event show that

these entanglements of gender, technology, and domesticity were actively negotiated. Some women hackers praised the liberatory potential of new technologies; other women enjoyed the competitiveness and productive time the hackathon fostered; other women resisted the explicit othering and called for more male hackers; other women (the *abuelitas*) made their presence felt and performed their solidarity with the makers-in-the-making, regardless of what was being *made* at this hackathon. Most importantly, from a space usually reserved for young makers to learn new, “modern” technologies, the *abuelitas* asserted their place as the very backbone of these socio-technical configurations, the necessary defaults for the making and corresponding discourse of technological progress to occur in the first place. Indeed, the fact that the hackathon had the theme of the “smart home” might have even helped the grandmothers feel more comfortable attending the event in order to make their intervention in visibility and recognition.

The way that the organizers shifted the name of the event from the first women’s hackathon in México to the first *Latina* hackathon shows how the participants, whether they liked it or not, would become enmeshed in the multiple ways that work and coding get co-produced with constructions of race and gender across national boundaries, always adjacent to capitalist product-driven solutions that value difference when it can be framed as a competitive advantage. From participating in a multitude of technology-focused events in both the US and México, it became apparent that issues of inequality and difference quickly disappeared when conversations turned toward economic development. At one event I attended aimed at Latinx empowerment in Silicon Valley, for example, a panel discussed the importance of racial and ethnic representation within tech companies. In the very next panel on supporting tech startups in México, not one word was said about how the structural hierarchies of inequality in México, nor the processes of racialization that we discussed in the previous panel, could potentially rebound to spaces in México.

This extraction of difference across boundaries is also common to academic work on technology. Kim Fortun (2014) suggests that while STS scholars like Bruno Latour have made science and technology vernacular and thus accessible to ethnographic study, work that privileges practice over structure many times leaves the political-economic largely absent. Moreover, she states, “In the insistence on the meso—a sociology of association—cross-scale interactions and structural conditions seem to be written off...I must call gentlemen’s engagement, coming together around controlled vocabulary meant to cut across difference” (Fortun, 2014, p. 315). In this article, I’ve suggested that an analysis of

the social dynamics at the first Latina hackathon calls for a deconstruction of nationalist ideals of femininity and transnational ideologies of productive time and labor, starting with close attention to the relationship between “experts.”

The challenge is that every time we locate expertise from below, or move across activist communities to collaborate, there is always a risk of leaving out some differences in the name of connecting across others. At this woman’s hackathon, for example, there weren’t any efforts to advocate for non-ableist hacking (Felt, 2019; Yergeau, 2014), or even any language marking the space as genderqueer or trans-inclusive. Some hackathons in the US call for participants who “identify as women in some significant way,” for example (Dunbar-Hester, 2019, p. 27). For a politics of empowerment to be effective, marginalized communities must work together across difference to learn from each other’s’ struggles in order to construct holistic forms of empowerment: political and educational empowerment as well as personal transformation through consciousness (Hill Collins, 1990). The intersectional work has to start somewhere, but with careful attention to who is left out in the movements across the intersections.

This last point is particularly important as expert roles shift and “ethnography” continues to become the trade language to do crucial border-work between ethnographers, academics, community activists, and technology producers. Movements narrowly configured around “technology” will unlikely lead to redressing systemic inequity, but they have the potential to create space to build off of synergies and create other movements altogether. Invoking postcolonial and decolonial thinkers, Anita Say Chan (2018) reminds us that our role as academics is to “think within,” between, and among perspectives that emerge from widely situated movements inside and outside of academia. The role of mentorship and sustained relationships across and within research spaces becomes particularly important to think alongside overlapping and multifaceted movements. This form of research, where scholars claim an investment in the communities they study (because many times they come from these communities) has an established trajectory in ethnic studies disciplines. These methodologies are often relegated to the sidelines, however, disappeared in the name of studies that purportedly take these differences into account in macro-scale theoretical frameworks, or simply passed over by mainstream disciplines that “discover” novel forms of inquiry. If there’s one thing to take from this women’s hackathon, it is that we can always summon the abuelitas to remind us about visibility and recognition, from the day-to-day to the hackathon to spaces of knowledge production.

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## Notes

<sup>1</sup> Newspaper article titles such as “The Comeback Kid,” “Mexico Makes It,” and “The Rise of Mexico,” give a sense of the recent cheers for Mexico’s sudden emergence on the global stage (see, e.g., *The New York Times* article by Friedman, 2013). *The Economist* (2012), for example, predicted that by 2018 “Made in China” would be replaced by “Hecho en México” (Made in Mexico).

<sup>2</sup> To get a sense of how popular these hackathon events were in the years I conducted research, an organization dedicated to enumerating the hackathon events reported that in 2016 there were at least 3,450 hackathons organized, 200,000 participants, and 13,000 prototypes built in over 100 countries (Laudet, 2017).

<sup>3</sup> For another example of how knowledge workers from the Global South come to represent developmentalist narratives of progress, see Okune’s (this issue) study of how “over-researched” Kenyan techno-entrepreneurs come to epitomize the “Africa rising” narrative.

<sup>4</sup> McElroy (this issue) explores how technologists and hackers in Romania negotiate homebrewed technical ingenuity with Western techno-culture and infrastructure, or how they confront “Siliconization.”

<sup>5</sup> See, for example, the writings of Eric Raymond,  
<http://www.linuxtoday.com/developer/2002011401620OPKN>.

<sup>6</sup> Thanks much to Luis Felipe Murillo and Sareeta Amrute for bringing to my attention these examples.

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## Author Bio

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