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Abstract

Today the halls of Technology, Entertainment, and Design (TED) and Davos reverberate with optimism that hacking, brainstorming, and crowdsourcing can transform citizenship, development, and education alike. This article examines these claims ethnographically and historically with an eye toward the kinds of social orders such practices produce. This article focuses on a hackathon, one emblematic site of social practice where techniques from information technology (IT) production become ways of remaking culture. Hackathons *sometimes* produce technologies, and they always, however, produce subjects. This article argues that the hackathon rehearses an *entrepreneurial citizenship* celebrated in transnational cultures that orient toward Silicon Valley for models of social change. Such optimistic, high-velocity practice aligns, in India, with middle-class politics that favor quick and forceful action with socially similar collaborators over the contestations of mass democracy or the slow construction of coalition across difference.

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Introduction

In the last decade, work practices associated with software production have come to signify collaboration, voluntarism, optimism, and wealth, tested in software practice and ready to enter new domains of public life. Technology, Entertainment, and Design (TED) talk curator and ex-*Wired* editor Chris Anderson (2012) wrote:

The past ten years have been about discovering new ways to create, invent, and work together on the Web. The next ten years will be about applying those lessons to the real world.

Anderson's prediction—one which he pursues through his own enterprises in innovation evangelism—voices a broader enthusiasm for bringing Silicon Valley's practices of hacking, designing, and crowdsourcing to the practice of public life. This celebration of scientific and engineering ethos in everyday life in the United States and Europe lags behind formerly colonized countries like India, where modernizing nationalists have long held up scientists and engineers as model citizens (S. Roy 2007; Abraham 2006). Scientific and technological practices do not only make knowledge and things, people also draw on the legitimacy of technoscience to remake culture.

This article focuses on a hackathon, one emblematic site of social practice where techniques from the Web make their way into "the real world." Hackathons bring software programmers and designers together for multi-day, voluntary software production sprints. Although hackathons ostensibly produce "demos" (software prototypes), this article argues that hackathons more powerfully produce entrepreneurial subjects. They manufacture urgency and an optimism that bursts of doing and making can change the world. Participants in hackathons imagine themselves as agents of social progress through software, and these middle-class efforts to remake culture draw legitimacy from the global prestige of technology industry work practices. The article uses ethnographic and historical methods to make the case.

Hackathons *sometimes* produce technologies, and they always, however, produce subjects. Science and technology studies (STS) has long examined the subjects and social orders reproduced and valorized in practices of

scientific and technological production. These forms of technologically productive social life emerge at the intersection of systems of gender, economy, and politics (Philip, Irani, and Dourish 2012; Mukerji 2009; Daston and Galison 2007; Helmreich 2000; Traweek 1988; Haraway 1985). These analyses show how features of the social world—from networks (Latour 1993; Collins 1974) to staid fashion (Traweek 1988)—bear on the production of science and technology. A number of scholars have inquired into the forms of personhood, from parents (Cussins 1996) to open-source programmers (Kelty 2008), brought into being when people enter into relations with one another and the world mediated by technology and scientific knowledge.

At hackathons, epistemology and the emergence of technologies—strengths of STS analysis—are both at play. However, this article argues that STS expand its attention to how technological practices themselves become models extending into other parts of public life. This article focuses on one instantiation of this extension, that is, a hackathon. This article argues that the hackathon rehearses an *entrepreneurial citizenship* celebrated in transnational cultures that orient toward Silicon Valley for models of social change. A hackathon is not just a place where technology gets made. I will show that its conveners propose it as a pedagogy of entrepreneurialism to manage the politics and energies of Indian development. In projects of Indian nation-building and transnational development alike, projects to promote entrepreneurialism promised that individual aspirations and productive activity could produce social surplus, national development, and global progress. In this milieu, the hackathon celebrated an ethos of driving toward software demos, curtailing debate, and limiting difference among participants. This ethos is one mode of anticipation, as characterized by Adams, Murphy, and Clarke (2009, 247), “a way of actively orienting oneself temporally . . . a regime of being in time” (see also Cross 2014). The hackathon celebrates the entrepreneurial actor who experiments in a world characterized by complexity and drives past contestation toward demos that mark experiments in progress. Such optimistic, high-velocity practice aligns, in India, with middle-class politics that favor quick and forceful action with socially similar collaborators over the contestations of mass democracy or the slow construction of coalition across difference.

The Promise of Entrepreneurs

The hackathon is one of a number of spaces that have become transnationally legible emblems of innovation, from the design studio to the fab lab.

Innovation promises to generate material and financial abundance, increasing the size of the economic pie as an alternative to redistributing it. In debates on how to stimulate innovation, a turn to the promise of entrepreneurs is rarely far behind—both in Indian nation-building projects and in international development agendas.

The social category of entrepreneur is a focus of Indian debates about economic and cultural development. The ascendance of the entrepreneur represents a shift from the early decades of independence, when the Indian nationalist economic project celebrated producer citizens, that is, farmers (Philip in press), factory workers, and small village producers. These national masses would produce goods for an industrializing, import-substituting domestic economy (S. Roy 2007), while the country's middle classes were to act as planners, administrators (Deshpande 2003), and rural reformers (Blom Hansen 1999, 52).

As Indian policy makers liberalized the economy, entrepreneurship rose to public prominence as an engine of economic growth through events both at home and abroad. At home, the growth of IT companies such as Infosys and Wipro became symbols of new industries that could spring forth when skilled Indians don't "wait for the government" to plan growth (Upadhyia 2009, 79-83).¹ Abroad, successful Indians in Silicon Valley became nationalist symbols of masculine, technical, and business achievement (Chakravartty and Sarkar 2013; Dasgupta 2008; Chakravartty 2001). These achievements signaled fuller participation in a modernity defined through colonial and developmental projects (Upadhyia 2009; Dasgupta 2008; Redfield 2002; Pigg 1996; Escobar 1995; Adas 1989). While IT success legitimized entrepreneurialism as a modern project, the capaciousness of entrepreneurialism as a social category accommodates India's rural and informal economies. In this project, Indians dispossessed of land and livelihood become instead "billions of entrepreneurs" (as one Harvard professor optimistically puts it; Khanna 2013). If India's large population once seemed a drain on state resources, policy makers now saw it as a source of generative value—"from sink to source" (Gupta 2006).

International development foundations, nongovernmental organizations (NGOs), and agencies have also mobilized around the idea of the entrepreneur as a driver of grassroots, large-scale social change. Major players in transnational development, including the Gates Foundation, Rockefeller Foundation, and US Agency for International Development, support micro-finance, education programs, and even innovation labs to promote enterprise formation in Africa and Asia. These projects cast entrepreneurs as collaborative rather than agonistic, technical rather than political, and

constructive rather than complaining (see Drayton 2011; Bornstein 2007). The US Department of State has even turned to entrepreneurship as a way of producing a civilian “development community” abroad, inoculating people around the world against the temptations of terrorism by enlisting them in the promise of entrepreneurial growth (Clinton 2010, 21). The devolution of development from national governments or major construction projects to cohorts of entrepreneurs accompanies the expansion of finance capital into poorer countries through microlending (A. Roy 2010; Elyachar 2005), as well as a response to critiques of development expertise (Escobar 1995; Ferguson 1994) as oppressive and universalizing (Elyachar 2012, 117). The emphasis on entrepreneurship particularly accompanies the infusion of high technology industry wealth into the work of development through philanthropies such as the Bill & Melinda Gates Foundation and Google.org.

In projects of Indian nation-building and transnational development alike, projects to promote entrepreneurialism promised that individual aspirations and productive activity could produce social surplus, national development, and global progress.

A Brief History of Hackathons

The spread of hackathons over the last decade, out of open-source software production and into corporate and nonprofit worlds is symptomatic of the promise of entrepreneurialism at work.

In its most basic form, a hackathon is an intense, multiday event devoted to rapid software production. Hackathon organizers invite programmers, designers, and others with relevant skills to spend one to three days addressing an issue by programming and creating prototypes. Organizers offer a space, power, wireless Internet, and often food. Participants bring their computers, their production skills, and their undivided attention. Hackathons usually happen at night, on weekends, or during conferences—times away from routine obligations to family, managers, or long-term plans. Participants form work groups, explore ways to address the focal theme, and push toward a “demo”—a piece of software that supports storytelling around future technologies and use (see also Smith 2009). At the end of a hackathon, those who managed to build demos might show them off, speculate about their futures, promise to continue the work, or just shake hands and say good-bye.

Hackathons developed first in open-source cultures as a way for participants in globally distributed open-source projects to work together,

face-to-face for short periods of time. These open-source hackathons were a way for programmers already familiar with one another to take advantage of rare moments of geographic copresence. Face-to-face, programmers normally only connected online could quickly locate and fix bugs in project code by pointing, talking, and guiding with their whole bodies. These hackathons allowed for intense collaboration among programmers with already deep ties to the open-source community (Coleman 2013, 209). The name hackathon has only stabilized in recent years; early instances of such events included varied names such as Hack-a-Ton, Codeathon, and Hacking Days. The label hackathon has grown in use as the appeal of these short-term production sprints has spread.

In recent years, companies, NGOs, universities, and even government agencies have taken up hackathons as a means to recruit volunteer labor, generate interest in social or technological platforms, and use participants to explore possible futures for a host organization. In 2013, for example, nonprofits and government bodies across the United States participated in a National Civic Day of Hacking, an intense Saturday of coordinated digital volunteerism. While early open-source hackathons often focused on improving, repairing, and maintaining shared infrastructures, the hackathons have also grown to cultivate speculation about technological futures. The company Facebook regularly hosts hackathons to explore future projects and also to inculcate in employees the ability to “move fast and break things” (Fattal 2012, 940).² Institutions as large as the United Nations or as small as a co-work space might put on hackathons to brainstorm the organizations’ problem, energizing volunteers to generate large numbers of approaches to the issue. Such hackathons might generate ideas for social ventures, tools for mapping water in crisis regions, or prototypes of future startup offerings. These hackathons are more than just a way of exploring possible futures; they can also become rehearsals for future employment, partnerships, or investments. The events often end with participants showing off their work to venture capitalists, philanthropists, or recruiters—those with the power to invest money, time, and connections into the software futures on display. Much of what people build in speculative hackathons never gets built at all.

Hacking Citizenship in Delhi

I encountered the hackathon that is the focus of this article and the broader promise of entrepreneurialism during fourteen months of ethnographic fieldwork in design studios in Delhi, India. Fieldwork consisted of five

phases, namely, a two-month pilot study of a design studio in Delhi, followed by nine months of intensive fieldwork spanning 2010–2011, followed by one-month visits in 2012, 2013, and 2014. For nine months, I observed the design studio almost daily and participated in its work, much of which hinged upon enacting and promoting entrepreneurial work practices that combined product design, management, and media production expertise. Over the course of fieldwork, I generated detailed field notes containing thick description of daily activities, as well as video and audio recordings of collaborative design sessions, including those of the hackathon that I focus on in this article.

This hackathon was organized by a senior member of a Delhi design studio. I participated in the hackathon and also spoke with each participant in the hackathon outside the convener's presence to understand participants' varied perspectives. I analyzed the hackathon by drawing on these conversations, on the contexts of the studio's other activities, and on histories of Indian development and nation-building participants drew on in organizing social practices of production. The hackathon exemplified and celebrated the forms of entrepreneurial technology work upon which a range of professional and policy actors hinged their hopes for Indian development.

Evanglizing Entrepreneurialism

The hackathon that is the focus of this article took place at a Delhi festival celebrating design, entrepreneurship, and media activism as practices of national development and citizenship. The festival, which I will call Open-Lab here, celebrated "action" across various professional domains—business, sociology, development studies, engineering, and even literature, for example. Like the well-known TED conference, the festival showcased inspirational stories of small group achievement. Speakers took the stage to talk about projects across a range of social causes, including education reform, domestic violence prevention, sanitation, and even feminist literature. Organizers encouraged speakers to talk about the messiness of their work processes and project failures, along with successes. As a graphic designer organizing the lineup explained, "We want to show that all this design thinking is not just idealistic; it's something you can actually do."

Organizers sought to transform attendees from spectators of action to practitioners of action. To this end, the festival included not only TED-style presentations, but group workshops ranging from hours to days during and in the run-up to the festival. Participants in these pre-festival workshops would spend up to a week together producing prototypes, films, and demos

that they would display in a busy, glass-walled gallery next to the festival's main stage. Festival goers moving between the entrance and the stage would walk past and through the artifacts; organizers hoped that these projects would symbolize seeds of future change from the cohorts of entrepreneurial professionals participating in the festival. The hackathon themed around "open governance"—the focus of this article—was one such workshop, designed to turn participants on to innovation as a civic practice.³

Yoking Entrepreneurialism to Nation-building

OpenLab festival organizers posed participants as agents of cultural transformation. Banners hung around the festival site labeled the events transpiring as "activism," "heritage," and "reform." These key words linked entrepreneurial technology production practices at the festival with more familiar language of post-Independence nation-building. Planners linked nationalism with design, management, and technology practices in day-to-day life at the studio as well. For example, the hackathon convener prepared a slide deck to drum up support for various social and policy design initiatives. The deck moved from managerial box-and-arrow diagrams on one page to an iconic sculpture of Gandhi leading Indian masses on the next. These symbolic practices placed the hackathon, and the festival more broadly, only partly in a genealogy of software production. Organizers also placed these practices within nationalist histories that located the individual as the seed of mass transformation. The hackathon was one opportunity for participants to experiment in such transformative practices.

Organizers tethered the disparate design, music, and media projects together under the banner of "alternate paths to creative thinking and action" to transform India and the world. "Alternate" was an adjective rarely explained or defined in everyday talk at the studio. The sensibility expressed with that word only became available to me, as an ethnographer in passing comments and moments of breakdown. The professionals with whom I worked used "alternate" to mark a difference from state- and private-sector development practices that they critiqued. They saw design and social entrepreneurship as alternatives to centralized state planning schemes that privileged the technical and administrative without accounting for consumer desires or market forces, to political leadership that seemed populist rather than efficient, and to a culture of the "argumentative Indian" (see Sen 2006) that privileged "cerebral" analysis and "talk, talk, talk" over proposition and action. Their critique was not limited to the public sector. They also saw design and social entrepreneurship as an alternative to

export-oriented, for-profit ventures that commodified Indian lives and labor with no thought for Indians' aspirations and identities (See also Nadeem 2011; Mankekar 2011; Aneesh 2006). Their frustrations with politics and development expressed a particularly middle-class outlook toward Indian politics and what ailed it, but also overlapped with transnational diagnoses that prescribed entrepreneurialism as a cure for ailments of globalized capitalism.

The alternatives showcased at OpenLab consisted of private sector, civil society, and public-private partnership projects that demonstrated a "bias to action"—a member category used by professionals during my fieldwork to mark the tendency to make rather than debate and to experiment rather than plan. The phrase "bias to/for/toward action" was routinely used to describe the figure of an entrepreneurial doer who cut through bureaucratic red tape and lengthy deliberations in pursuit of efficient, inspired progress. Progress, in this professional discourse, often amounted to visible outcomes—services, infrastructures, businesses, and public order—rather than procedural justice or distributions of rights (Truelove and Mawdsley 2011; Lukose 2009; Baviskar, Sinha, and Philip 2006). The bias to action aligned with the celebration of "speed" and "vision" Kaushik Sunder Rajan (2006, 87-88) identified in Indian state efforts to court biotechnology firms to Andhra Pradesh. "Vision," Sunder Rajan observes, "is the distant promissory horizon to set for oneself, whereas speed is the means to narrow that distance as energetically as possible" (2006, 88). The hackathon was one site where participants could fix on a vision and energetically pursue it.

The Practices of the Delhi Hackathon

On the morning of the hackathon, I arrived at the design studio to ready to spend five days on a project. I had come not for any passion for entrepreneurialism, but for an interest in technologies that mediate politics. The convener came in, threw his bags on the table, and asked the studio staff to bring us tea as we took our seats in wicker chairs around the table.

Aspirations for a Hackathon

Vipin, the convener, sat down and asked each of us to introduce ourselves by explaining what we hoped to do at the hackathon. Our stated motivations were varied, but we shared a common desire to "make a difference." Each of us, in different ways, sought to intervene in the operations of the world through "action" and "making." We differed in how we understood the significance of our technical practices.

Vipin was a senior partner at the design studio that organized OpenLab. Like several of his colleagues, Vipin had escaped from tech startups and management consulting to pursue design and development. The hackathon was one of Vipin's many ideas for social enterprises; unlike his larger project ideas, the hackathon was only a few days' commitment.

Vipin recruited other hackathon applicants through an English language call on the festival website, through nonprofit sector mailing lists, and through European "knowledge economy" distribution lists. Not surprisingly, all thirty applicants to the event were professionals or university students, fluent in English, and all except for one were involved in design or software work. Of those, Vipin selected us seven.

Dev, a young web developer from Bangalore, explained that he wanted to see if he could improve the functioning of the Indian state. He explained that with "all the complaining" he heard about how the government "doesn't work," he saw this as "a chance to see if we can make a difference." Nikhil, an ex-startup founder turned software consultant, wanted to introduce government officials to the virtues of technology design more generally: "This could be just jamming the door. Getting the technology in. Ease their lives a bit with technology. So then in the future, even if it is not [this demo], they'll be more receptive [to other technology initiatives]." Dev and Nikhil both echoed broader middle-class Indian optimism about the potential of using new technologies, but they differed in how they characterized that potential.

For Prem, a legal anthropologist, the world of software production promised a more immediate and direct way to make social change than was available to him in his own career: "anthropologists sit and critique things but they never get around to doing anything." All the speech act theory Prem used in his own research could not compete with the seeming tangibility of software production.

Benoy, a design graduate student from Mumbai, had also gravitated toward design's promise of tangible intervention, but he had found that design school and paying clients rarely delivered on that promise. "I want to see if design can actually save the world instead of just making posters for clients about it," he explained.⁴

I was there because I wanted to see what my training in software design could offer when not commissioned by a tech company or a multinational philanthropy, the cases I usually studied and the work I had done prior to getting a PhD. I was inspired by Suchman's "human-machine reconfigurations" (2007) as well as "values" approaches to design (Knobel and Bowker 2011; Borning and Muller 2012). I entered the hackathon thinking it

would be a site to translate critiques and commitments into persistent things.

Our hopes, in varied ways, were to change the world from the design studio, though each of us subtly imagined different ways technology might travel and affect the world. In the social script of the hackathon, demos were the vehicle by which the focused, short-term work of a few could launch out of the studio and into the world, whether by charming government officials, attracting grants, or traveling into activists' hands. These varied futures mobilized our participation, but our task would be to produce the conduit for that future by converging on a vision for a demo.

Code as Change: Codework over Footwork

We began our work by familiarizing ourselves with the workings of the Indian state; the hackathon's theme, after all, was "open governance." A think-tank friend of Vipin's explained protocols of bill drafting in the Indian parliament. He quickly zoomed in on a committee process where the parliament already seeks feedback as a place where our demo could expand public access to the process. As we discussed our experiences with policy news and talked about design possibilities, Vipin pushed a stack of books on "Open Government," exclusively on American case studies, toward me and instructed me to skim for inspiration.

These attempts to familiarize ourselves with the workings of government were interwoven with eruptions of time anxiety. Someone, most often one of the software engineers, would ask us to sketch a production schedule. How long could we talk about the law? Could we set a limit on the time of debate to assure ourselves that we could produce "the demo?" As we negotiated milestone deadlines, Vipin pushed sticky notes around the board representing a provisional agreement for milestones such as "features decided," "first working demo," and "refinement of features." The Sun passed over the sky, casting shifting shadows on the studio whiteboard. Breaks for snacks and dinner were a constant reminder that time was passing.

It quickly became clear that we held very different views of how political processes should work. Vipin, the convener, saw the law as a sort of code determining the actions of the governed, but riddled with logical loopholes. What if we made a website where citizens could read and point out weaknesses in bill drafts? Redressing loopholes would, by Vipin's argument, refine incentive and punitive structures and hence better manage India's population in turn. This deterministic understanding of the law grounded

Vipin's belief that improving the text of Indian laws would improve India itself.

Prem, however, was more skeptical about such an approach, and he shared stories that turned Vipin's account of the law on its head, and with it Vipin's imaginary of agency. Prem's fieldwork tracked land rights law from the ministries of Delhi to the village outposts of Maharashtra. He described the laws as ambiguous and conflicting resources for local power contests between mining companies, police officers, landless peasants, and land rights activists. "At the local level," Prem concluded, "these guys can do pretty much whatever they want [with the law]." Prem's account of the law in practice dispelled any fantasy that improving the text of the law alone would improve Indians' lives.

Working with and through these stories, we pursued the demo in interactions peppered with "what if we" and "what could we do." Prem emphasized that one of the things we could do was to help people keep their elected politicians accountable to them rather than other kinds of interests. Unlike the electorally tiny Indian "middle class," Prem pointed out that poorer Indians were usually highly involved with local politicians. The poor needed the politicians to get basic needs; politicians, in turn, needed to turn out votes and many, many Indian voters were poor.

There was one big barrier, Prem pointed out, to taking a web-based approach to opening up politics. Only about 10 percent of Indians, according to one 2012 report, access the Internet (Sengupta 2012), though Silicon Valley companies have been working to extend their reach globally through industry-wide initiatives such as Internet.org (Rosenberg 2013; see also Fattal 2012). Without the Web to connect publics, how could we build software that connected Indians with these legal processes? We discussed possibilities. What if we could get the drafts into existing NGO and activist networks who could organize people around the process? Could we work with them as a way of getting "noise" and voice into the bill drafting process? We began to collectively describe a website to alert activists and NGOs to drafted bills. The site could then collect photographic and digitized paper evidence of constituency demands in response. The responses would then be challenged to the elected official. In other words, we imagined software to elicit and represent deliberations and demands as electoral pressure. Yet Prem warned us, it would require "some REAL footwork" to get "on the street" and work with existing organizations already thinking in terms of political mobilization.

For that week, however, we weren't on the street. We were in the studio. The time, tools, and skills in the room were geared toward "code work," not

“footwork.” Even the kinds of code work we could undertake were limited. Krish, a software engineer, explained to us that in the long term the project could get into rural areas through interactive voice response phone systems, rural kiosks, or short-message-service-based systems. “In Andhra, there’s a women’s radio station,” he told us, “The scope of what we want to envision is THAT. What we implement in five days is probably a website. So we’re going to go to a conversation where we’ll chop off everything. Cut. Cut. Cut. Cut. Cut.”

Felicity Conditions for a Hackathon

Krish’s recommendation underscored the kinds of work that did and did not fit in the space of the hackathon in two ways. First, the hackathon’s potential was premised on taking advantage of the proliferation of the Internet industries’ software libraries, cheap servers, and skilled programmers. Software consultants well versed in platforms such as Drupal, Wordpress, and Ruby on Rails could whip up web-based applications quickly. An experienced programmer could get a Ruby on Rails website with a working user-authentication system, forms to enter data, and web-based displays of the data in thirty minutes so long as they adopted Rails’ default presentations. The growth of new media industries meant that we had at our fingertips masses of already-built web application code modules and software engineers with the skills to use them. Kiosk and radio prototypers, and tools to support them, were by contrast in far shorter supply. Web infrastructures torqued (Bowker and Star 1999) the visions our hacking could manifest while generating a bandwagon (see Fujimura 1988) of digital entrepreneurialism.

Second, the hackathon relied on easy, fast social relations to proceed. “Moving forward” toward the demo only required getting people in the studio on board. Although we could build some software over the next few days, there was no time for “~~real festivals~~”; building coalitions, aligning frames (Snow, Worden, and B~~...~~ delete "is that" trust with activists, NGO workers, landless villagers, or frustrated city dwellers. To get to the demo in five days, the people coming together had to be sufficiently similar, sufficiently flexible, and sufficiently few. The participants all spoke English fluently,⁵ had obtained at least college undergraduate degrees, and had trained as engineers—with the exception of the anthropologist, Prem.

What the hackathon lacked in duration, ~~is that~~ it demanded in intensity. Although there was no time to build alliances or shared agendas, the hackathon demanded the privilege of uninterrupted blocks of time cloistered in

the studio. Prem was shocked that the group saw unpaid work morning-to-night as fun. Those of us with engineering training, by contrast, were well practiced in this cloistered rhythm of code work and casual partnership. Trained as a computer scientist, I found it easy to walk the walk, talk the talk, and keep the pace at the hackathon. My undergraduate life was a long string of group projects in which we urgently coaxed machines and code into compliance. These were the very habits and skills celebrated at the hackathon.

These commitments to hacking hard foreclosed other kinds of wage work or care work. All of us had jobs that more or less allowed us time to participate in the hackathon. Prem had both grantwriting obligations and family obligations weighing on him as he gave each day to the project. The privilege of deferring other responsibilities underwrote the entrepreneurial intensity celebrated at the event.

I was forced to reckon with these presumptions of hackathons when, after a particularly straining debate with the convener, Prem grew frustrated and walked out. He had family to care for and grants to write. Prem decided that the convener was a stubborn technocrat who was mistrustful of democracy. I implored Prem to stay, optimistic that the broader group leaned toward his politics rather than the convener's; he told me he did not trust the convener to follow through on our visions once the demo was done.

With Prem's departure, those who remained struggled to make sense of what had happened. Rather than recognizing the political and structural limits of the hackathon, reactions around the studio instead focused on the ways his departure ran afoul of the ethos of the hackathon and the festival that hosted it. One festival-goer diagnosed Prem as politically inflexible; she had trained at India's prestigious National Institute of Design and explained that political inflexibility was a well-known issue in that college. "Hard-core" and "ideological" people, as she put it, were a known danger to design projects, so much so that her school filtered such students out during admissions interviews. Students with strong commitments were "mentally and politically self-destructive," she explained; further, they sowed discord and threatened the completion of group projects. Counterposed against the imperative to produce design, political contestation became a pathology that endangered the demo.

Vipin made sense of Prem's departure by concluding that his anthropological perspective—once valued for its empirical grounding in the law—now was too far out from the group. Vipin explained that he routinely selected workshop participants to create "comfort . . . because there isn't time. When there isn't time, you don't want to bring people into the room

who are too different from you, who see things differently, or you think might create conflict.” While he sought diversity in perspective to draw information and resources into projects, he had to make sure diversity did not become inconvenient difference.

Although the hackathon might have seemed a space of participatory production, the form of the event constrained both participation and technological imagination. These constraints were more than an unfortunate practicality; this commitment to building, fluent collaboration, and political pragmatism underpinned entrepreneurial citizenship.

Outcomes: A Broken Demo, a Story, and Some Business Cards

What became of the hackathon after Prem’s departure? Despite Vipin and Prem’s conflict, the rest of the team backed Prem’s vision for a system to help poorer Indians, as collectives, communicate with and hold their elected officials accountable. I worked with the other designer to put together a set of graphical renderings of what such a software interface might look like. The software engineers worked on coding pieces of what they hoped would become a database-driven, interactive software demo. We scheduled milestones to test the software before the demo’s launch at the festival.

The night before the launch, neither I nor the other designer had seen a working demo. By the morning, the engineers had built a page with some broken links, some sample text, and a database that didn’t seem to do much. Benoy and I quickly jumped into rescue mode, resuscitating our graphical renderings into a slide presentation we could walk through in the festival gallery—an illustration if not quite a demo. Over the next two days, we took shifts in the festival gallery and walked attendees through our software concept. We gathered some business cards, basked in the interest of festival attendees, and went off to see design talks.

Two years since the festival, the demo sits stored on my laptop. The demo spawned no projects, no grants, and no working software systems. The dispersed participants stay connected through LinkedIn and Facebook and can list themselves as “Fellows” at the festival. The failure to spawn a working system might seem disappointment, but it surprised no one; by the time of publication, none of the OpenLab fellowship projects spawned lasting projects. Nikhil e-mailed me more than a year later, asking if I still had the mock-ups. He had some free time, he told me, and wanted to tinker with building a working version of our demo. Although I sent him the mock-ups, he had not built a prototype to date.

The hackathon did spawn some durable relationships and reinforced others. Vipin and Nikhil began working together on a separate global health contract about a year after the event. Benoy went on to teach design; upon reading the working draft of this hackathon paper, he invited me to give a workshop introducing his Bangalore design students to STS.

Optimism in the Face of Probable Failure

The hackathon's lack of concrete results did not deter entrepreneurial citizens from continuing to try. Days later, Krish spoke on the festival stage and proposed a traveling bus full of educated Indians who could go from village to village, pursuing a series of small, fast reform projects—like a hackathon on wheels. Beyond the festival, hackathons continued to proliferate, as do social philanthropic, corporate, and state efforts to stimulate entrepreneurial citizenship as a vehicle for economic and social development.

How Do We Explain Such Persistence?

During the hackathon, the space of the studio protected the group from uncertainties of working with others so we could stay in the flow of technology design work at least for a few days. This seclusion allowed us to focus on the craft of working with things we understood rather than people we didn't. The hackathon was a microworld filled with representations of the world beyond its walls, such as stories about future use and sample government data. Within the studio, programming tools and networked servers linked us from the studio out into the world. The studio, the ecology of networked computing, and simplified representations of the real world enabled us to build, design, and hope. This organization of space and social life allowed us to focus on the authorship of technologies. Further, the hackathon consolidated our claims on authoring these technological futures by excluding unfamiliar others who might dilute our visions, make claims on authorship, or slow down work toward the demo. The system administrators, code library authors, future maintainers, or even the users who shape the meanings and purposes remained beyond the studio walls—beyond the theater of authorship. Networked computing infrastructures and black boxed computing labors sustain the hackathon participants' belief in technological authorship (see Philip 2005) as something that can come out of a design studio in just a few days.⁶ Users may matter (Oudshoorn and Pinch 2003), but the hackathon organized technological production as if they did

not matter as much as the initiators. The studio is a space for the production of participants' agency as technological authors.

STS scholars have theorized agency as an effect of material-semiotic processes. Examining the act of programming, Paul Edwards has argued that agency through coding depends on the pleasures of immediate control through the representations programming languages make available (Edwards 1990). These pleasures only became available after automated code compilation that removing female computer operators from the man-machine loop (Jain 2006; Chun 2005). The space of the hackathon is considerably larger scale than the man-machine relations theorized by Edwards and Suchman, as it includes multiple people in interactions over a number of days. At the hackathon, we inherited the agencies and excitement of coding, but they became a vehicle for collectively imagining how we might change the world beyond the screen. Our relationships with code and representations offered pleasures of dreaming about possible futures, but our hopes that the demo would change the world relied on yet other forms of black boxed automated labors beyond code compilers—those of server administration, code maintenance, computer manufacture, and repair (Jackson 2013; Philip et al. 2012, 10-11). These were the media ecologies that enabled us to imagine our agencies as instigators of futures. These infrastructures of entrepreneurialism sustained our optimism that by giving shape to pixels and code, we might provoke some kind of change in the world beyond the studio.

A cosmology of complexity also sustained hope in entrepreneurial, rapid, and experimental approaches to change. The hackathon, the festival, and design and management theories in its surround described the world as an interconnected system of actors; this systems perspective enabled entrepreneurial citizens to imagine that small actions could create effects by sending perturbations through extended networks and across scales. One India TEDx, for example, explored the theme “the butterfly effect,” by which a butterfly can flap its wings in one part of the world and create a storm in another. A well-respected design theory book *The Design Way* was subtitled *Intentional Change in an Unpredictable World* (Nelson and Stolterman 2012). While this view enabled individuals to imagine that they might provoke large-scale change outside of social movements or formal politics, the view also suggested that people could not predict, control, or confidently model users or nature. Instead, subjects in a complex world must work between order and chaos, trying and learning as complex adaptive systems (Merchant 2003, 201; Maurer 1995, 114). The approach locates the capacity to adapt in individuals, proposing decisive action, execution, iteration, and flat hierarchies over either participation or autocracy

in organizations (Wood 1989). The bias to action described this way of orienting toward the world.

Business schools and the expanding new media industries have institutionalized this bias to action. A Danish business school called KaosPilots most vividly illustrated this worldview: the school claimed to train students who could pilot the chaos of rapidly changing markets and operating environments. By the time of my fieldwork, these understandings of action and adaptation had gained influence in India through McKinsey consulting publications, *Harvard Business Review*, and the cache of globally visible design consultants who prescribed the bias to action. In their job ads, the design studio that convened that hackathon even included the bias for action among desirable characteristics of aspiring employees. The design studio followed in the footsteps of digital media giant Google, which also hired along these lines. Google's human resource site instructed readers that "Googley" hires are those who have a "collaborative nature" and a bias to action.⁷ Facebook similarly privileges mistakes and experimentation over analysis, as it enjoins its employees to "move fast and break things" (Fattal 2012, 940). The hackathon rehearsed and celebrated this style of production—move fast and rely on extant labor and infrastructure.

Subjects in this complex world saw any action as having multiple possible effects as it perturbed a multiple systems. At the same time, failure to achieve desired effects was no cause to critique one's own process in wider systems understood as capricious and difficult to predict. Seen through the lens of complexity, entrepreneurial citizens' mistakes were hardly cause for critique. Rather, they were expected costs of experimenting in pursuit of social progress.

The Politics of Speed and Vision

The high-velocity, demo-driven collaboration of the hackathon, I have argued, embodied a broader middle-class Indian attraction to fast development with a visionary's hand. The politics of entrepreneurial citizenship were politics of speed and vision, legitimized by IT myths and expanding into other domains of public life.

The politics of speed and vision were legitimized, first, by commonly circulating understandings of how software and design projects succeed. At two different nonprofit meetings I attended in Delhi, for example, journalists and consultants cited "the Steve Jobs model" of designing policy and infrastructure. To these well-off Delhi-ites, Jobs symbolized a strong hand with an aesthetic vision that reorganized the world to produce beauty,

efficiency, and value. In everyday work talk, people invoked “design by committee” to elicit fears of aesthetic disorder and irrational production resulting from democratic processes. Although many of these professionals were familiar, or even enthusiastic, about legacies of participatory design, they debated how participation ought to be cultivated to provide feedback while still allowing designers to speak for what is ultimately good design. In this view, the hackathon’s lack of openness to community or activist involvement was not a drawback; it instead enabled participants to focus and execute a vision. This social organization of production allowed participants to understand themselves not only as code workers but as *authors and originators* of the project.

This idealization of speed and vision also followed from an Indian middle-class apathy for slower and messier electoral democracy. At a time when the low-caste groups have mobilized electorally, Indian middle classes advocated for a stronger administrative government modeled after Singapore’s and China’s single-party systems (Fernandes and Heller 2006, 497-98). This middle-class political argument cast popular mobilizations based on caste, regional linguistic identities, or trade unionism as a barrier to rapid infrastructural and economic development. Software hackathons, and the design projects showcased by the OpenLab festival more broadly, allowed Indian participants to imagine filling these gaps through civil society volunteerism. This professional volunteerism lifted the technological imagination out of the domain of popular politics and into the confines of the design studio.

The hackathon’s proposition was that small groups could move fast and *possibly* accomplish great things. Often, as in this case, nothing came of that possibility. Such failure did not cast doubt on the process of urgent, collaborative, and frequent production of the seeds of futures. Rather, the studio was steeped in cosmologies of complexity that rendered success unlikely, but also made any assessments of failure uncertain at best.

Conclusion

In a 2008 talk, Bruno Latour spoke to a group of design historians in praise of design. He reflected on the role designers play in the production of material and, especially, technological culture. To design, he argued, was to act as “a cautious prometheus”—that figure of Greek myth who stole fire from Olympus for the benefit of humans. Latour’s comparison is not out of line. Design theorists and professors recurrently located design’s originary

moment in humans' "design" of fire itself (e.g., Ranjan 2012; Nelson and Stolterman 2012, 11).

By Latour's criteria, the hackathon is a moment of design. Like Latour's designer, hackathon participants proceeded with humility—a tentativeness about the outcomes of their design. Like Latour's designer, we attended to the details, the meanings, and the ethical dimensions of the demo we hoped to create. And, like Latour's designer, we started with the world—stories of users in it and the extant infrastructures ready-to-hand—rather than attempting to begin from scratch. The value of design, to Latour, is that it makes objects into things—into gathering places where politics can play out over "matters of concern" (Latour 2008, 3-6). "The more objects are turned into things—that is, the more matters of facts are turned into matters of concern—the more they are rendered into objects of design through and through" (2008, 2). Such images of design promise norms and forms of craftsmanship, innovation, and concern. These norms, Latour argues, offer a means of social progress for a world where much is in need of redesign, for the sake of people, objects, and the relations among them.

I participated in the hackathon much in the spirit of a critique that had run out of steam (see Latour 2004). I concerned myself to coconstruct knowledge—to make a thing. Although the hackathon did draw people together in a Latourian spirit around a matter of concern, in a very Latourian spirit, this actually existing site of design practice revealed that its politics were in its forms and norms—in its manufactured urgency, in the distance between the studio and the world, and the media ecologies that made it possible to promise to cross that distance without walking it. The hackathon brought people together around a matter of concern, indeed. Festival organizers celebrated that assembly, and those with the privilege to participate, as entrepreneurial citizens who could build the nation and change the world. The care work of footwork, of building shared agendas, or even of caring for kin was kept safely beyond the studio walls so we could drive toward the demo and imagine ourselves as forces for mediated change. Some of the very forms of care that Puig de la Bellacasa (2011) highlights in her response to Latour are the kinds of work devalued in the hackathon—presumed as costs of entry and presumed as conditions for the demo's future sustenance. Through the course of the hackathon, it became clear that the event could not accommodate those for whom it claimed to care. There was no time to care by drawing in those who have been silenced, as de la Bellacasa suggests (2011), and drawing out the time of engagement. There was only time for the entrepreneurial spirit—the spirit by which information economy middle classes could do politics in entrepreneurial time.

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Notes

1. Free market advocates neglect to recognize that India's computing industries were seeded by Indian government research, educational, and business investments well before liberalization (Philip in press).
2. Hackathons became a global media event with an MTV documentary on Facebook (MTV 2011).
3. Several of the organizers specifically used psychedelic metaphors to explain their goals for using media, music, and festivals to transform the consciousness of attendees.
4. Turner (2009) argues that Burning Man functions much in this way for Google employees—as a place to learn the skills of creative information technology (IT) work and to make up for the ways commoditized IT work falls short of the promise of self-actualizing creative production.
5. Despite India's global visibility as an English-language service exporter, English skills were rare. Only 4 percent of Indians of age between eighteen and sixty-five spoke English fluently in 2005 and those fluent speakers are primarily members of the upper castes (Azam, Chin, and Prakash 2010). The English language of this hackathon—that rare and caste skill in India—is the lingua franca of the international software “world of practice” (Takhteyev 2012, 21-24).
6. See “The Cultural Work of Microwork” for another example of how computing infrastructures support entrepreneurial subjectivities (Irani 2013).
7. <http://www.google.com/about/careers/lifeatgoogle/hiringprocess/>.

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