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**Hackathons as Co-optation Ritual:  
Socializing Workers and Institutionalizing Innovation in the “New” Economy**

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### Abstract

Hackathons, time-bounded competitive events where participants write computer code and build apps, have become a popular means of socializing tech students and workers to produce “innovation” despite little promise of material reward. Although they offer participants opportunities for learning new skills and face-to-face networking, and set up interaction rituals that create an emotional “high,” potential advantage is even greater for the events’ corporate sponsors, who use them to outsource work, crowdsource innovation, and enhance their reputation. Ethnographic observations and informal interviews carried out at seven public hackathons held in New York City during the course of a single school year show how the format of the event and sponsors’ discursive tropes, within a dominant cultural frame reflecting the appeal of Silicon Valley, reshape unpaid and precarious work. Writing code and building apps for free becomes an extraordinary opportunity, a ritual of ecstatic labor, and a collective imaginary for fictional expectations of innovation that benefits all. Despite participants’ dual emphasis on the pleasures of participating and the benefits they hope to derive, hackathons are a powerful strategy for manufacturing workers’ consent in the “new” economy.

*Keywords:* new economy, digital labor, digital technology, affective labor, tech culture, collective effervescence

Every week, public hackathons in major cities and regional high-tech centers around the world bring together hundreds of computer engineers and other highly trained professionals in exhausting, time-bounded, and labor-intensive contests to demonstrate their craft by writing code to create new digital products. The usual challenge is for teams of participants to work overnight to build an API (Application Program Interface), a set of programmatic steps to develop software applications, which have become essential elements in the digital platform of almost every kind of organization. When time is up, the teams present short demos of their work, and judges, who often represent the sponsors of these events, select the winners. Sponsors include business corporations, government agencies, and nonprofit organizations, and they offer fairly modest prizes. Winners may take home free software or prize money, from a few hundred to a few thousand dollars. Occasionally, first-place winners will get an opportunity to bring their idea to a larger, national or international contest, where they will compete with winners of similar hackathons. Conceptually and programmatically located between a Pillsbury Bake-Off and the reality TV show *Shark Tank*, hackathons ask much of their participants but promise little in return. Why, then, have they become so popular?

We refer to their popularity with some degree of caution. Although 54,000 participants entered U.S. hackathons for college students in 2015 (<https://hackathon-workshop.github.io/>), and AngelHack, a leading for-profit organizer of public hackathons, managed at least 300 of them around the world between 2011 and 2016 (interview, marketing officer, February 2016), most people who work outside the “tech space” still haven’t heard of them. Many prototypes that are developed during hackathons,

even winning projects, are not really usable (DiSalvo, Gregg, & Lodato, 2014); for this reason, some tech companies, like Intel, have decided that hackathons are not worthwhile (Gregg, 2015). Yet these events now play a significant role in the discourse and practices of technological innovation and the broader culture of the “new” economy. In one digital researcher’s words, “hacking [has] become hegemonic” (Gregg, 2015). Hackathons help to form both a vernacular culture inside the social world of digital technology and a repertoire of everyday social and cultural practices in other spaces, institutions, and economies (Coleman, 2010). They translate the values of a longstanding hacker subculture into new work norms, socializing workers to create new products and institutionalizing team work under time pressure as a process of innovation. Most important, hackathons reorganize work space and work time, using rituals of play and pleasure to co-opt a wide range of talent into the service of corporations and the state without offering participants full-time jobs.

Hackathons, therefore, should be seen as a paradigmatic event that indicates some of the fault lines of an emerging production system. Like the Balinese cockfight analyzed by the anthropologist Clifford Geertz (1973), the hackathon is both an institutionalized social gathering and an unpredictable social situation; it mobilizes participants according to an established belief system and offers them a known repertoire of social roles; and it reinforces a status system outside the event, in the larger culture and society. However, as Geertz’s critics have pointed out (Sewell, 1997), paradigmatic social events must be understood in a broader, more dynamic structuration framework—which, for the hackathon, is the post-financial-crisis restructuring of the contemporary economy by corporate capitalism, on the one hand, and digital technology, on the other. Hackathons are significant because they shape space and time for the emergence of new social constructions that mobilize societal resources, minimize dissent, and legitimize new patterns of social, political, and economic control (Boltanski & Chiapello, 2005). To understand how this works requires bringing together a fine-grained ethnographic analysis of the event itself and its structural and temporal context.

We propose to interpret computer coding at hackathons as both self-exploitation and self-investment. As in other types of unpaid, low-paid, or speculative work in creative industries that rely on highly valued skills, motivation to participate in hackathons relies on complementary forms of social capital and emotional ties, from networking with potential employers and investors to interacting with old friends (Mears, 2015; Neff, 2012; Neff, Wissinger, & Zukin, 2005). In its determined subversion of everyday organizational routines, the event embodies a set of quasi-Orwellian precepts that have practically become axioms of the new economy: Work is Play, Exhaustion is Effervescent, and Precarity is Opportunity. Hackathons’ social practices convert these discursive tropes into a performative culture for a tech-dominated, post-financial crisis economy, where “it’s the romance, not the finance, that makes the business worth pursuing” (Komisar & Lineback, 2000; Thrift, 2001). In this case, the “romance” begins with hackers’ subculture, and innovation is their “business.”

### **Historical and Theoretical Background**

#### **Hacker Subculture: Work is Play**

Hacking was initially an activity for individual nerds and geeks who mastered esoteric computer languages in the early days of university-based computer programming (Levy, 2010 [1984]). An identifiable set of cultural practices emerged, for example, at MIT in the 1960s and 1970s, where some graduate students worked through the night to solve programming problems, waiting for turnaround time to see if their program was successful. This style of work, and the face-to-face interactions that

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spontaneously occurred around it, gradually developed into an associational hacker culture. In the U.S. and other countries where computers first became popular, informal meetings and clubs of young, amateur hackers were energized by the collaborative (and competitive) tinkering of a Do-It-Yourself (DIY) ethic related to 1960s counter-culture. By the 1980s, the development of personal computing brought more efficient tools in the form of smaller machines that many hackers built themselves from available electronics components, and quicker processing time. Before the Internet was widely accessible, hacker culture spread by means of newsletters like those of the Homebrew Computer Club in Silicon Valley, whose members included Apple founders Steve Jobs and Steven Wozniak, as well as others who went on to found and work for important tech companies.

The intensity of all-night hacking to write computer code, and the quasi-Orwellian precept that this kind of work is “play,” were normalized in the rapid growth of tech firms in California’s Silicon Valley and new media firms in New York’s Silicon Alley during the 1990s. Although hackathons may have emerged as a specific, organized event in some tech firms at this time, they only began to reach a wider public when they were initiated internally at Yahoo in 2005 (<https://blog.chaddickerson.com/2006/10/03/yahoo-open-hack-day-how-it-all-came-together/>) and Facebook in 2011, and promoted on social media (<http://www.mtv.com/news/1660747/facebook-diary-trailer/>). Hackathons transformed the associational community of amateur hackers into an occupational community (Van Maanen & Barley, 1984) of computer engineers, “developers,” and “builders.” Then, with changes in digital technology after 2003, the growth of social media, and the relative ease of creating and using apps, hackathons infused the spirit of the occupational community into the social and cultural practices of the broader, tech- and knowledge-driven economy.

After 2006, when Yahoo opened hackathons on their Silicon Valley campus to participants from the public, in a self-described weekend “festival” with a rock concert and picnic (<https://blog.chaddickerson.com/2006/10/03/yahoo-open-hack-day-how-it-all-came-together/>), and then organized public hackathons in New York and other cities around the world, the range of sponsors rapidly expanded. Universities were among the early adopters (interviews with founder of hackathon association, New York City, 2015, 2016). By 2015, hackathons were sponsored by all kinds of for-profit corporations, government agencies, and non-governmental organizations—and looked very much the same around the world (Briscoe & Mulligan, 2014; Gomez Cruz & Thornham, 2016a, 2016b; Haywood, 2013; Irani, 2015; Johnson & Robinson, 2014; Komssi, Pichlis, Raatikainen, Kindstöm & Järvinen, 2015; Söderberg & Delfanti, 2015).

Clearly, sponsors aim to benefit financially and operationally from the prototype API’s that participants create. However, participants hope to benefit by honing skills and learning new ones, networking, and gaining recognition for their work and talent. Yet for the most part, hackathons reflect an asymmetry of power in favor of corporate sponsors. Hackathons incorporate the unpaid labor of entrepreneurial, highly skilled “builders” and “developers” into the production process and attempt to institutionalize innovation that sponsors can exploit. For this reason, they represent both a business strategy and an ideological project. At their broadest reach, hackathons are a multi-site mechanism for both “manufacturing” innovation and “manufacturing consent” (Burawoy, 1982).

## Data and Methods

### The Hackathon Landscape

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To understand how hackathons work, and how different groups of participants experience them, we used a combination of ethnographic observations and interviews at seven hackathons, all held in New York City between October 2015 and May 2016 (Table 1). Most of the city's hackathons are scheduled during the school year because of the large number of college students who are available to participate (interview, "hackathon curator," February 2016). Our sample represents 5 percent of the total of 140 public hackathons held in New York during the calendar year 2015, a number that we counted using several specialized websites in the tech space (for current listings, see Devpost 2017 and NY Hackathons 2017; other links that we used no longer work or are no longer available.)

As in other cities, hackathons in New York are organized by corporate, government, and nonprofit sponsors, and they address challenges of different types—often, involving building an app—in different economic and functional sectors (see Figure 1). Although finance, media, health care, real estate, and fashion are important to the city's economy, and are rapidly adopting digital technology, the major share of hackathons in 2015—more than thirty—were sponsored by educational institutions, mostly research universities and public high schools. Twenty-three hackathons were sponsored by nonprofit organizations such as Women in Tech or the New York City government for various social and civic causes. Nearly as many, twenty-two, were sponsored by individual companies, including startups, in various fields, from media to 3D printers. (Organizations that sponsored more than three hackathons each in 2015 are shown in Figure 2.)

This pattern of sponsorship is not surprising. Research universities are aggressively developing computer science capacity to generate intellectual property, gain prestige, and prepare students for the job market. Moreover, because New York is a national center of nonprofit and philanthropic organizations, the city has emerged as a hub for civic tech, i.e. nonprofit, nonpartisan applications of digital technology that aim to improve citizen participation and work for the public good. On the other hand, the low number of hardware and biotech hackathons reflects the small size of those sectors in New York compared to Silicon Valley and Boston, respectively. It is somewhat surprising that financial institutions, which are aggressively adopting fintech, i.e. digital technology for financial transactions, sponsor few public hackathons. But this may reflect those firms' preference to keep such events in house or to acquire new technology by buying startups.

The organizational size of hackathon sponsors varies from startups with few employees that have recently gone through a first round of seed funding to large, publicly owned corporations and the New York City government. (See Figure 2). Of the biggest U.S. tech corporations, only Netflix does not appear among the main hackathon sponsors, unlike Google, Microsoft, Facebook, and Audible, a division of Amazon. Many sponsors supply hackathon participants with a public data base, and some corporate sponsors like IBM or Amazon contribute their own software or software development kits (SDK's) so participants will use and improve them. Other sponsors, like General Assembly and WeWork, contribute free use of their coworking space, which is ordinarily limited to members and users who pay rent. As might be expected, the headquarters of most corporate sponsors are located in New York (Goldman Sachs, Etsy) or its close suburbs (IBM, Audible), but others, like Intel, MasterCard, and Samsung Studio, are transnational, and a few, like MailChimp, are located in other U.S. cities. Software and cloud computing startups generally sponsored the smallest number of events, although YouTube also sponsored only one, and Mongo DB, a New York-based startup for cloud computing, sponsored the most (nineteen).

Although seats are limited, entry prices to hackathons are generally low, varying from free admission (sometimes in the form of refundable tickets or rolling release of tickets) to \$10-\$20.

### Sample and Field Work

Following online announcements of hackathons throughout the school year, we chose a convenience sample of seven hackathons, representing a variety of economic sectors and sponsors (see Table 1). In contrast to digital ethnographers who have tended to observe hackathons in the public and nonprofit sectors of civic tech (Gomez Cruz & Thornham, 2016a; Gregg, 2015; Irani, 2015; Lodato & DiSalvo, 2016), we sampled six events sponsored by for-profit businesses and one civic tech event which, however, was sponsored by an accelerator that is supported in turn by two for-profit businesses. To get access to these events, the senior author reached out to the organizers, explained our research interest, and secured free access for the junior author, whose age and physical appearance matched those of hackathon participants. Sponsors also agreed that the junior author could take notes and photos, and speak with participants. We wanted to find out what kinds of people participate in hackathons, their motivations and career goals, and what they feel they gain from participating. For sponsors and others who work at these events, we wanted to understand how they operate, and how hackathons contribute to their organizational goals. Most hackathons are weekend events, lasting from 24 to 36 hours, from Saturday morning to Sunday afternoon. We made our observations and interviews during the first and last few hours, which allowed us to observe opening talks, work time, and final demos, and to speak with all groups of participants throughout the process about their experiences and perceptions. We were not so interested in technical procedures or content.

The junior author made a comprehensive field log containing thick descriptions of participants and activities, notes on casual conversations during breaks, and notes on sponsors' talks and participants' demos, and we reviewed all of these together after each event. Both of us also did follow up, semi-structured, face-to-face interviews with participants, sponsors' representatives, other judges and mentors, employees of organizations that facilitate and track hackathons, and founders of local hackathon associations. All 46 interviews, ranging from informal ten-minute talks at the event to more formal two-hour sessions scheduled after the hackathon ended, were also carried out between October 2015 and May 2016, and included 32 hackathon participants and 14 organizers. At all times we told participants that we were researchers interested in the digital economy and the lives of tech workers in New York, and that we had the approval of our university's institutional review board to do the interviews and observations. No organization or participant refused to speak to us; most were eager to share their experiences. Nonetheless, we have provided pseudonyms and generalized identifying information to preserve our respondents' anonymity.

The first hackathon that we attended, the Hearst Immersive Hack, was sponsored by Hearst, a transnational media corporation with headquarters in New York; Made in NY Media Center by IFP, a non-profit collaborative workspace financially supported, in part, by the New York City Economic Development Corporation; and AngelHack, a for-profit hackathon facilitator. It offers a good example of how all hackathons look and work.

### The Hearst Immersive Hack

The Hearst Hackathon began on Saturday, October 24, 2015, at 9 a.m. and ended 32 hours later, on Sunday afternoon. It took place at the Made in NY Media Center by IFP (Independent Filmmakers' Project), a 20,000-square-foot former industrial space in DUMBO, a neighborhood at the epicenter of Brooklyn's new media district. Around a hundred participants gathered around four sets of long tables with extension cables next to a large window that offered an impressive view of the Manhattan Bridge. Electric outlets were set up everywhere so participants could power up the laptops, desktop computers,

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other assorted hardware, and android phones they would need. Overhead, fluorescent lighting illuminated the space. Motown soul music played softly in the background. A large table offered coffee, juices, sodas, potato chips, fruit, cookies, and water bottles for participants to serve themselves. All in all, it was a pleasant and hip environment for tech work.

Besides the work tables, other tables held games to help participants relax and hardware-- Google goggles, 360 VR goggles, game pads, motion detectors—that would be used to build the hackers' innovations. A sponsor table held free T-shirts and stickers from Hearst. A large screen showed the schedule, and an even larger one presented continuous videos of deserts, forests and outer space. To one side of the main room, classroom-style spaces with glass walls would allow participants to collaborate in a quiet working environment. On another side of the room, a large cafeteria lounge, with couches and a ping pong table, surrounded by plants, provided another space to work or relax. Purple couches in the corner suggested a place for naps. Opposite the lounge, IBM and HP had set up information desks, where their representatives, like Hearst's, gave out free T-shirts, leaflets, and stickers. During the hackathon, they would also provide participants with technical assistance and API information.

Most participants were visibly male (80 percent), Asian (50 percent), and white (40 percent). They were between the ages of 18 and 35, and many turned out to be students. They tended to work in teams of three, four and five, although we also saw ten working solo. Almost all were dressed casually, some in comfortable track suits, others in shorts, but several adhered to a business casual look, and one or two wore suits. The environment was youthful, and it was clear from accents and conversations that participants came from different regions of the world.

A digital marketing specialist from AngelHack who was working at the event explained the rules and gave us a tour of the space. First she asked us to sign the Hackathon Participation Agreement that all participants must sign. According to this agreement, and according to common practice at all the hackathons we observed, all code must be written onsite. Other than that, almost anything goes; participants can use any coding languages or open-source libraries. The agreement also specifies that participants may work individually or in teams of up to five people. Although it is not mentioned in the agreement, another AngelHack employee working at the event told us that participants can build their teams in advance through a special global hackathon website ([www.hackathon.io](http://www.hackathon.io)). Moreover, the agreement guarantees participants' right to the intellectual property (IP) they create, although this is a difficult right both to define and enforce (Popma & Allen, 2013; Steele, 2013).

The participation agreement also set out the event's two challenges. Using tools and SDK's for augmented reality (AR), virtual reality (VR) and the internet of things (IoT), provided by such companies as Oculus, Microsoft, and Samsung, as well as API's from Hearst, participants may either (1) create "something unique and cutting edge" or (2) create something new that "integrate[s] the Hearst API and immersive technology into [their] existing business plan." Participants who choose to do the latter "will also compete to pitch their startup idea to Hearst CTO [Chief Technology Officer] Phil Wisner and a panel of influential leaders." Aside from that opportunity, participants could win one of three prizes: a Grand Prize of \$10,000 plus a 6-month membership in a Community Workspace (the Made in NY Media Center), the Startup Challenge Prize of \$5,000 plus an Oculus Rift Development Kit, or the Fresh Code Challenge Prize of \$5,000.

Within an hour of the opening, participants were hard at work behind their computers or talking with teammates. Tables were covered in laptops, desktop computers, mouse pads, virtual reality



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goggles, Google goggles where people placed their smart phones, notepads, pens and pencils, empty soda cans, and plates full of food leftovers. No music disturbed the work area. The bright lighting was dimmed after 9 p.m. People refrained from making a lot of noise, although you could certainly hear communication between groups. Many participants were excited and ran from table to table sharing their results.

By early Sunday afternoon, only 60 to 70 of the initial 100 participants remained. The judges--a handful of people including the Hearst CTO, a marketing entrepreneur, an artist/VR researcher, and the founder of a fashion tech think tank who also serves as the editor of a tech magazine--visited each work table, where participants had set up their projects. Every team or solo participant made a two-minute presentation followed by one minute of Q&A with the judges. "Who slept less than 5 hours? Who slept less than 2 hours? Which of you didn't sleep at all???" exclaimed a representative from AngelHack.

The judges made quick evaluations based on creativity, simplicity, "impactfulness," and design. The winners included *Beat Reader*, a program that allows users to browse Hearst articles hands-free while listening to music; *Bytes*, a news data visualization app for the Apple Watch; and *Allright Satellite*, a mixed reality (AR+VR) educational platform that uses physical cards to teach children about the solar system. After the judges conferred and announced the winners, participants who were still awake celebrated at an after party where alcohol, for the first time, was served.

"Why do we do this?" asked a Hearst representative who announced the winners to the electrified crowd. "Hearst, one of the largest media companies in the world, wants to highlight the importance of virtual reality in the *ecosystem*. We want you to be exposed to each other. We want to continue the *startup track*, continue the conversation throughout the entire *ecosystem*!"

On our way out we briefly spoke with a hackathon participant who had designed an app for food visualization. "Was it worth it?" we asked. "The city never sleeps, the same with us," he replied.

### **Discussion: Discourse, Effervescence, and Interaction**

The Hearst hackathon exhibits all the main themes of this type of event: creativity and collaboration, exhaustion and achievement, a strong belief that present work will bring future financial reward if you can pitch your idea to the right investor. Participants work in a heightened state of seamless "flow" where external structures hardly seem to matter (Csikszentmihalyi, 1990). Together with the sponsors' representatives, they are caught up in each other's emotions through a process of rhythmic entrainment (Collins, 2004, p. 108). Their emotions and interactions become attuned to each other. This process is aided by the sponsors' representatives, who work hard on several levels, both before and during the event, to make the hackathon a success. They help participants to connect to each other; to network with corporate sponsors, who are also potential investors; and to understand their location in "the entire *ecosystem*" of tech and creative firms and the nonprofit organizations that partner with them.

Participants are well aware of these opportunities. Despite the waves of excitement, even euphoria, at times, in the room, they express a calculated sense of how they might use the event to promote their career, confirming both Zelizer's (2012) definition of relational work and Neff's (2012) depiction of tech workers in the new economy as entrepreneurial "venture labor." By mobilizing both self-interest and collective effervescence (Durkheim, 1995 [1912]), in ritualistic discourse and interaction

rituals (Collins, 2004), the hackathon acts as a multimodal platform for building social capital as well as facilitating and institutionalizing innovation. Yet the hackathon's corporate sponsors are front and center in control of the event. Only two or three participants at any hackathon we observed voiced criticism of, or skepticism about, this situation.

From all our interviews and field notes, we identify four main discursive themes shared by hackathon sponsors and participants: aspiration, the balance between recreation and career, reputation, and innovation. These themes acknowledge the importance of affect and collective effervescence in tech work, but they also underline a shared acceptance of calculated self-interest and an asymmetry of power in favor of corporate sponsors. Both stylistically and emotionally, some themes emphasize the "romance" of tech work, while others focus on the "business."

### Aspiration

From their first words of greeting, and even in preliminary online announcements of the event, sponsors fuel the romance of digital innovation by appealing to hackers' aspiration to be multi-dimensional agents of change. "Doers, makers & disruptors," the announcement for a fintech hackathon held in New York one weekend in December, 2015, calls out to them. "We Want You!" (<http://breakthebankshackathon.com>). This hackathon was sponsored by TransferWise, a peer-to-peer, international money transfer startup that was founded in Estonia in 2010 and, with six rounds of funding from investors, including the Silicon Valley venture capital firm Andreessen Horowitz, is trying to expand in the U.S. (<https://www.crunchbase.com/organization/transferwise#/entity>). But the announcement does not mention the company's business goals. Instead, tweaking a well-known Silicon Valley trope, it calls out to "Maverick Developers and Designers, Business Gurus, Creative Sparks,...all those with a desire to *change the world of banking for the better*" (emphasis added). This aspirational approach is also appropriated by the sponsor's representative at the event. "We are here to build a mission, not a company," he tells the hackers.

In her opening talk, a MasterCard executive flatters the participants at MasterCard's Masters of Code Hackathon, held in November 2015. "You people are natives to the Internet and you are the best in the world," she declares. "You are master artisans like in the Middle Ages. You have the ability to make beautiful things. Beautiful things *that people want and that will go viral around the world.*" Despite the strong hint about consumer demand in this remark, the MasterCard executive does her best, like the sponsor's representative at the TransferWise event, to downplay the company's business goals. Instead of prodding the hackers to create marketable products, she says the event is all about the sponsor helping *them*: "We want to help you open up to venture capitalists, start paths, funds, private equities." Indeed, participants should not even think of MasterCard as a financial institution: "We are not a bank. We want to showcase your ideas, your passion and your creativity," even if the ultimate goal is, in fact, "to create the best consumer experience."

Sponsors cast an aspirational aura around hackers by weaving a discourse that combines tech skills and tropes of creativity, entrepreneurship and innovation. Perhaps more in New York than in many other cities, sponsors assume that participants have either already founded, or aspire to found, a startup. "Raise your hands if you have already started your company!" says the cofounder of a VC-funded real estate tech firm who follows the MasterCard executive in greeting participants at the Masters of Code Hackathon, and around twenty people out of 130 raise their hands. He shares his own story as a serial entrepreneur who started a music production studio when he was twenty years old:

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“That was a painful experience. The company closed and left me with a deep trauma. It took me almost ten years to start a company again.” He’s “not smart like you guys,” he continues, so he left the tech field. He challenged himself by learning a completely different industry and “[meeting] people who were not like me.” This leads to his inspirational message to the hackers: “Think of your lives as a multi-year chess game with the universe,” he says. “Invest in yourself, and invest in your network. Create value in a space that doesn’t have it. And try to keep it simple.”

The Hackathon weekend at TechCrunch Disrupt, an annual conference held for the past few years in major hackathon hubs like New York, San Francisco, London, and, more recently, Shanghai, by the media platform TechCrunch, amps up the tech evangelism by pointing to potential financial rewards. “Products created at the Disrupt Hackathon have seen great success beyond the event,” according to the announcement for the May 2016, New York event, “like GroupMe [a group mobile messaging service] which was created overnight and ultimately acquired by Skype for \$80M” ([http://disruptny2016.devpost.com/?mkt\\_tok=eyJpIjoiT1RSak9URTV0VGMxWxpWwClInQiOiJmck8rTGxwSE45eVhhVctBS3J1aUY4ZlI0eHhTaEY2NFJ2cm1vREtENHplRXxSVNPSXhJKytxeTVCQWdDSUVCeHNEN0FaWTVmTHh1VVIkbUdiWldcl3dBQTV4XC9VT203M3FwUjJxZmlhWT0ifQ%3D%3D](http://disruptny2016.devpost.com/?mkt_tok=eyJpIjoiT1RSak9URTV0VGMxWxpWwClInQiOiJmck8rTGxwSE45eVhhVctBS3J1aUY4ZlI0eHhTaEY2NFJ2cm1vREtENHplRXxSVNPSXhJKytxeTVCQWdDSUVCeHNEN0FaWTVmTHh1VVIkbUdiWldcl3dBQTV4XC9VT203M3FwUjJxZmlhWT0ifQ%3D%3D)). Although the three-person team who won the hackathon only got \$5,000, for using Amazon API’s to build a tool for web designers to make design changes quickly, the TechCrunch representative who interviews them for a YouTube video doesn’t hesitate to suggest that they will want to attract investors to take the prototype further (<https://www.youtube.com/watch?v=k4-83l8TSt0>).

Urban-X, a civic tech hackathon also held at TechCrunch Disrupt, offers a smaller cash prize, \$3,500, but makes a similar appeal to hackers’ aspirational self-image. “Urban-X’s mission is to catalyze, educate, invest in, and advocate for startups who [sic] are shaping the future of cities through technology,” the announcement says. “We are looking to rock the world and make a positive change to making cities more livable and sustainable and we want you to be part of this.” Yet this hackathon’s sponsor, also named Urban-X, is a New York-based accelerator for tech hardware startups founded by Mini-BMW, the German car maker, and Hax Futures, a hardware accelerator with maker spaces in Shenzhen and San Francisco. In other words, despite the hackathon’s mission of using public data to improve citizens’ urban experiences, and “combining IoT and data science to provide equitable insight to citizens and governance” (sponsor interview, May 2016), the event is important because of its potential for developing marketable new products.

## Recreation and Career

Participants are well aware of sponsors’ financial interest in their innovations. “Hackathons are all about the symbiotic relationship between the fun and the business side,” says Lin, a well-dressed participant at the TechCrunch Disrupt event (interview, May, 2016). “It’s...a great way for companies to test their product and possibly recruit talented, smart people. It kind of puts people on trial.” But overwhelmingly, the hackers say they participate for fun. “We don’t see it as arduous,” Lin continues. “You have to understand that this is fun.” His friend Jake, who drove for three hours from upstate to participate, admits, “Hackathons are expensive in terms of time. A full, 24-hour hackathon is just so costly, not only in terms of time but also in terms of energy.” Yet “hackathons for me are fun,” Jake says. “They are also perfect for my creative spur. I work as a corporate consultant and sometimes miss the research thing, the building of things. Hackathons allow me to do this.”

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Another part of the fun is to meet up with friends, some of whom were initially met at other hackathons. Ken, a software developer who lives in the Bronx, comes to the TechCrunch Disrupt hackathon in Brooklyn “to meet new people but mostly to see old buddies and catch up with people I don’t really see any more due to work obligations and distance.” He also mentions the pleasure of collaborating with a team, evoking the collective effervescence of hacker subculture. “I... enjoy working with others in person,” he says, “especially till the early hours of the morning. It’s something you don’t experience in your everyday life. It’s about building something.”

Yet many participants say that, while hackathons are fun, and they enjoy building things with code, the event responds to their pragmatic concern with building a career. Chris, a graduate student at Columbia, came to the Audible hackathon “because [he] like[s] to build things. It’s always nice when you create something from scratch. Oh yeah, and they have free food! It’s like a free party!” But then he segues into a more pragmatic mode. “I am starting out on my career as a software engineer,” Chris says, “and this is like a weekend summer camp that I can also gain something from. It will help me pimp out my CV and build a good foundation.” Like other participants, he uses hackathons to improve his work skills. “What I like about [hackathons] is that they make me work harder and faster,” Chris says, “especially the latter. The free food...is great, but sometimes you are so absorbed, you are ‘wired in,’ you know? So you just shove it in your mouth...I’m sorry,” he quickly adds, ending the interview. “I have to get back to my team now.”

Dave, a graduate student at Cornell Tech who was working with his team at the Hearst Immersive Hack on an augmented reality project, expresses the same dichotomous view. “Hackathons are so fun, man!” he says. “It’s all about discovering new technologies. I mean, OK, we end up sleeping for like an hour, but you learn so much here.” Like Chris, Dave is conscious of the need to balance the recreation of hackathons with using them to advance his career. “You must be careful to optimize your chances of winning,” he says. “So you’ve got to balance the fun and the work.” Moreover, like other participants whom we met, he is not averse to networking with a visiting sociologist: “Do you want my email, by the way?” he asks.

Ali, a computer scientist from India who works at a big Wall Street bank, is impressed by the “smart people” who come to hackathons, and he uses the events to try to network with them. “The main thing about hackathons,” he says in an interview after the Breaking the Banks event (February 2016), “is that they broaden your own personal line of thinking and promote collaboration between different people you might not be able to meet easily.” When he was an undergraduate in India, he participated in hackathons every month. But “the ideas were not great,” he says. In New York, by contrast, he believes the creative ideas are terrific and can help him professionally. At the Breaking the Banks hackathon, Ali had a casual chat over a vegetarian lunch with another man from India who works at a hedge fund startup, and he thinks this contact might prove useful in the future. He is also trying to stay in touch with two other participants whom he met at the same event.

Like the graduate students, Ali believes that participation in, and especially winning, hackathons is important for building his resume. Although hackathons do not directly act as a means of recruiting new workers, he says, recruiters want to see how job applicants have performed in them. He estimates that, at his bank, which also sponsors public hackathons, around 5 percent of the 10,000 employees participate in hackathons on a regular basis.

Kong, a computer science student from Singapore who spent 2015 in a study program in New York, participated in several hackathons while he was there. Like Ali and Chris, he has a pragmatic view

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of them. “I wanted to make full use of my time in New York,” he said in an interview after his team won a hackathon (January 2016). “Participating in hackathons is a good way to learn and explore the startup and technology scenes in New York City. The program [I was in] does encourage us to participate in entrepreneurial events and activities, but participation is not compulsory.” What he gained, he says, “is the ability to learn new technology and solve business problems within a short period of time.” Like Ali, Kong credits New York-based hackathons with combining a focus on tech skills, creative ideas, and business issues.

Both participants and sponsors’ representatives say that hackathons are good for building a career. But those who work on the sponsors’ side admit to rarely hiring employees on the basis of their hackathon performance. “We’re here mainly to recruit,” says a corporate sponsor who is working at THack, a hackathon for travel tech. “This is our fifth hackathon this year.” However, “To tell you the truth, we never had any success....I mean, we have recruited like two interns, but that’s it.” Sam, a video game developer, visits many hackathons because he works for a startup in tech recruiting (interview, January 2016). Because of his job, he is always on the lookout for coders and developers, but he doesn’t really think hackathons are a good recruitment tool. He finds them too unstructured. Performance on a hackathon team doesn’t give an adequate indication of ability to work on a “real” team. Even if some talent might be “fished out” at these events, he says, recruiters prefer to rely on traditional job interviews and psychometric tests.

Echoing Ali and Kong, Sam insists that hackathons are most valuable for participants because they train them to found startups. He believes that the events encourage a rudimentary entrepreneurial ambition that, given the right environment, can turn into a marketable concept. When the participants are looking around to form their hackathon team, Sam says, they ask themselves: What will I do? With whom will I do it? Why and how are we doing this? It all starts with describing a problem and finding a solution that fits. At the beginning of a hackathon, the concept’s value is only “theoretical.” But after developing their concept at the event, some participants may be on their way toward establishing a startup.

Nonetheless, Sam remains skeptical about hackathons’ real effects on individual careers. He prefers to emphasize that the event feeds the “romance” of the tech field. Pointing to the job description of “tech evangelist” in many firms, he asks, “Have you ever heard of a proselytizer?” And he answers his own question. “He is like a missionary for tech. He is out to convert you! This shows us that sometimes it’s the faith rather than the knowledge that gets people. It’s the faith that captures people...You can compare it to *fanboyism*, the blind, aggressive devotion that fanboys show to comic books, video games, etc. It’s all about changing the insular culture of tech companies...In a certain way, this promotes a romantic view of everything, which I think is very misleading. We all know that an open, romantic, accessible [tech] ecosystem is a myth.” What Sam sees instead, he says, is an ecosystem dominated by the “Big Five: Google, Facebook, Microsoft, Netflix, and Amazon....They are keeping out the little fish.” In other words, Sam sees the tech space as shaped by an extreme asymmetry of power. For him, this spoils hackathons. “More and more hackathons are corporately sponsored,” he says. “They are less disruptive and less innovative.”

## Reputation

Sponsors’ representatives whom we met at hackathons expressed a similar caution about whether the events really produce innovation. Although sponsors’ challenges explicitly ask participants

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to improve or create marketable products and API's—or, in civic tech, “to explore new ways to use city data, creating new products and services that make cities more livable, efficient, and sustainable” (Urban-X hackathon announcement, May 2016)—sponsors' reps admit this isn't easy. At the hackathon sponsored by Audible, for example, participants were asked to focus on one of four challenges that would make the company's products more attractive to users: to “help users personalize their experience..; tailor the listening experience to a listener's activity, location, or destination..; make an Audible listening experience more family friendly...; [or] figure out which new technologies can help make Audible more exciting...” (<http://www.nycmedialab.org/the-future-of-listening-hackathon>, webpage no longer in existence). Yet an API mentor working at the hackathon tells us that the participants' “projects may become finalized products...but it is also very likely that they will not. It is very hard to come up with something during a hackathon that will be rolled out into production.” More significantly, he suggests, the event is important because it burnishes the sponsor's reputation.

“Another very important thing about hackathons,” the mentor says, “is visibility and marketing. Students go back to school, and they will tell their fellow students about Audible. The brand will expand to a larger public.” Another API mentor at the Audible event says that hackathons “are important for companies because they need to maintain their ‘cool’ profile. They need to be able to showcase innovative, new stuff. They need to spread the news.”

Because hackathon participants are professional users of SDK's and API's, they are a valuable group of influencers. But they are also potential hires and proselytizers for the company. Hackathons are useful, the second Audible mentor continues, because they target the participants in both ways. “You basically have companies competing against companies, and hackathons, events, workshops etc. are ways for them to spread their news for marketing purposes, but, more importantly, to find passionate folks. They are competing for people.”

The mentor places this in the context of competition between the “cool” giants of the tech space and Audible, which was acquired by another giant, Amazon, in 2008. “Look how everyone idolizes Google and Facebook!” he says. “They're not only amazing companies with amazing products; they're just so cool! Everyone wants to work there....A company needs to maintain its coolness. Hackathons help companies to maintain this.”

Small startups also use hackathons to market product and reach out to talent, even if they are not sponsors. A VR startup, for example, sent an enthusiastic representative to the Hearst Immersive Hackathon to demonstrate their platform in a short breakout session. Urging participants to download the free videos and API's that the company makes available online, she emphasizes that the startup needs more developers to update its API's. Then the company can expand into more fields. Is she trying to crowdsource innovation or promote the startup's reputation? Either way, both big, established companies and small startups view hackathons as useful, even if the innovation they produce is mainly fictional.

## Innovation

Despite the practical difficulties of developing a marketable prototype in one sleepless night, hackathons establish an important collective imaginary for “fictional expectations” (Beckert, 2016) of innovation in the tech space of the new economy. Like Bell Labs, which established the most influential model of technological innovation in the first half of the twentieth century (Gertner, 2012), and Silicon Valley, which later became the prime locus of tech innovation, hackathons aim to encourage

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collaboration among shifting teams with related but diverse skills. To an outsider, the participants all seem to be “engineers.” But when they introduce themselves, they differentiate between front-end, back-end, and full-stack developers, coders, designers of various kinds, visualization specialists, and even business people. When they form teams, they try to recruit across these different fields to take advantage of their varied skills. The common elements that bring them to hackathons, and hold them together as a team, are the existential basis of hacker subculture: they all like to “build things” with computer code, and they all expect that their collaboration will lead to innovation.

Hackathons are a portable strategy for mobilizing these people to build *new* things with code. They shape a space and time for innovation—indeed, a “space-time” which is based on the shared but mostly fictional expectation that innovation *must* and *will* take place. Certainly a good percentage of participants give up, and most of those who work until the end don’t even place among the winners. But, like Chris, the college student who took part in the Audible event, participants invest their best efforts in hackathons because “they make me work harder and faster.” Chris expects that one day, at another hackathon, he will build a usable innovation. In the meantime, all participants share the expectation that *some of them* will build a decent prototype *today*. They believe this because, on the one hand, they know the lore of hacker subculture, and to a great degree they—and all the hackathon sponsors—share and respect it. On the other hand, hackathons are supported by the hegemonic culture of Silicon Valley and the financial power of the biggest companies in the tech, media, and entertainment industries. Hackathons join the collective effervescence of hacker subculture and the power of these companies to form a compelling space-time for fictional expectations of innovation, whether or not real innovation in the form of marketable prototypes does emerge. As Dilip, a student at Cornell Tech who participated in the Hearst Immersive Hackathon says, “The team building, the work we do till the early hours, sharing ideas, learning about new technologies, seeing how other teams create, being in the same space with companies like IBM, Disney, Microsoft—it’s just so amazing!”

Hackathons transport the space-time of tech innovation almost anywhere. By replicating the event, they diffuse the fictional expectation that innovation will take place. This expectation promises significant benefits for hackers, but even more for sponsors. As Yahoo discovered in the early 2000’s, public hackathons broaden the range of available talent and increase the chances of developing marketable prototypes without adding labor costs. Although sponsors’ representatives admit that these expectations are, to some degree, fictional, they haven’t given up the belief that they derive practical benefits from them. Hackathons enable sponsors to outsource work and crowdsource innovation.

Nonetheless, some participants may not share the sponsors’ market-oriented goals. Margaret, a graduate student at the New School who participated in the MasterCard hackathon, offers one of the rare critical comments we heard at any of these events. “I am discouraged by this emphasis on money,” she says. “I’m interested in brainstorming, creating, and changing the world. The AT&T Hackathon I visited before was much better. They were doing something meaningful. This is all about expanding markets.”

## CONCLUSION

Since the late 1980s, thought leaders in the business world have promoted the idea that highly-skilled and professional workers should take control of their careers by developing an “entrepreneurial” style and marketing themselves for a continual series of job shifts and varied opportunities (Vallas & Cummins, 2015). At the same time, social researchers and journalists have exhaustively documented an

epochal change in the labor market toward less secure employment, with increasing numbers of workers, from less to more skilled, trying to make a living from contract, temporary, and freelance work and pseudo-apprenticeships (Frenette, 2013; Kalleberg, 2011; Perlin, 2011; Smith, 2010). Under these conditions, workers' decisions to perform unpaid labor represent a belief that they are making a rational investment in their future employability, either by improving their technical skills, or building their professional networks, or both (Neff, 2012).

Critical social researchers relate this behavior to the formation of a broad "entreprenariat" (Lorusso, 2016), a cadre of highly skilled and creative workers who are motivated to be entrepreneurs while lacking a full-time job. This in turn reflects the ideological goal of forming a self-managed, docile population under the state's or corporate control (Foucault, 1991). But the "entreprenariat" is also connected to another ideological shift, which presumably does not value docility: the widespread diffusion, by business evangelists and thought leaders, of startup culture, a new set of discursive frames and social practices promoting small business formation by a professional stratum of young, highly educated workers with tech and creative skills and a resistance to authority (Senor & Singer, 2009). These young professionals, already digital natives, nurture, or can be persuaded to nurture, aspirations to "disrupt" established ways of doing business by developing new digital products like apps. Or they can be motivated to digitally market old products like razors and mattresses in newer, cheaper, or more efficient ways.

Like hackathons, startup culture is propelled by the trope of entrepreneurship and innovation. Both workers and founders are exhorted to keep improving their technical skills, promote their ideas, and lose their fear of failure. This message gained more salience after the financial crisis of 2007-8, when financial institutions and the businesses that serve them, from investment banks to law firms, drastically downsized their workforce, careers in finance became much less secure, and new tech products, from mobile devices like the iPhone to downloadable software packages, made it cheaper and easier for innovative coders to become shoestring entrepreneurs. Although popular forms of entertainment began to glamorize tech entrepreneurs in the early 2000s, an explosion of biographies, reality TV shows, and movies dramatically raised the profile of the cool, heroic startup founder after 2008. The trend got a jolt of mass-market "celebritizing" in 2010-11, when Aaron Sorkin's movie *The Social Network*, about Mark Zuckerberg's founding of Facebook, was released, Steve Jobs's death was widely covered in the media, and Walter Isaacson's best-selling biography of Jobs appeared (Marmer, 2012; Tomkins-Bergh, 2015).

For all these reasons, after 2008, it made sense for tech workers to believe that precarity breeds opportunity. Moreover, this belief interprets unpaid participation in hackathons as a rational strategy of self-investment and self-promotion. It is an insurance policy for those who already have jobs and an aspirational entry point for those who don't. As a form of "chronically inventive learning" for flexible labor in a "shared community" (Thrift, 2005), hackathons are a hallmark of the new economy.

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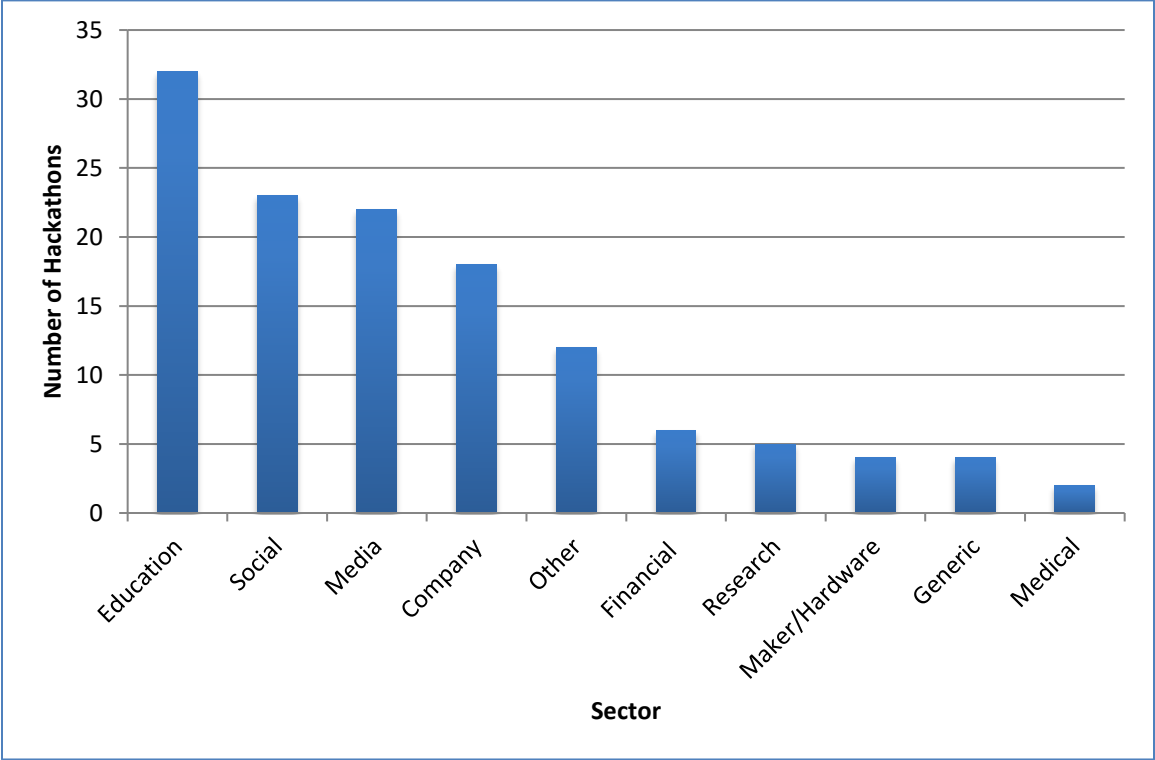
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Table 1. Sample of Public Hackathons, New York City, October 2015-May 2016.

No.	Name	No. of Participants	Date	Sponsor
1	Hearst Immersive Hack	100	October 2015	Hearst, AngelHack, Made in NY Media Center
2	Masters of Code	130	November 2015	MasterCard, AngelHack
3	THack	50	November 2015	Tnooz
4	Break the Banks	150	December 2015	Transferwise
5	Future of Listening	70	April 2016	Audible
6	Disrupt Hackathon	650	May 2016	TechCrunch
7	Urban X	50	May 2016	Mini-BMW, HAX Futures

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Figure 1. All Public Hackathons in New York Categorized by Sector, 2015.



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Figure 2. Organizations that Sponsored at least Three Public Hackathons in New York City, 2015

