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Algorithmic Cruelty and the Hidden Costs of Ghost Work

Indifferent Design and Its Unintended Consequences

Most on-demand workers accept an uneven workflow as part of the API landscape, but software bugs can make the work feel even more precarious. In 2013, a glitch in the system caused Joan's MTurk account to be abruptly suspended—an on-demand worker's worst nightmare. "I never received any emails notifying me of a software issue; I just knew I couldn't log in anymore," she says. "I called customer service and was told I had to wait until the site fixed the issue. The suspension cost me close to \$200. I lost high-paying work because of a problem on their end, not because of the quality of my work." On-demand workers like Joan have no way of knowing what's happening, much less recourse when things go awry. After 40 hours of being locked out, Joan got her account back. But the experience left her wary. "It was 40 hours of not knowing whether or not I was going to be able to do my job or maintain my income, and all for reasons that were not disclosed to me."

In 2014, Eric Meyer, a web design consultant and author, coined the phrase "inadvertent algorithmic cruelty" to describe a flaw in computational design—a lack of empathy.¹ It poignantly captures Joan's experiences with ghost work. Meyer first used the phrase in a blog post in response to Facebook rolling out its "Year in Review" feature, which shows people highlights of their year in pictures. In Meyer's case, the app worked as designed—it showed him pictures from his past year. The problem was that his five-year-old daughter, Rebecca, had died of brain cancer that year. Later, in an essay for Slate.com, Meyer wrote, "A picture of my daughter, who is dead. Who died this year. Yes, my year looked like that. True enough. My year looked like the now-absent face of my little girl." He acknowledged it wasn't a deliberate attack, just an unfortunate result of code. "Algorithms are essentially thoughtless," he wrote. "They

model certain decision flows, but once you run them, no more thought occurs.”

When the design of an algorithm, platform, or API lacks thought and is unleashed on unsuspecting consumers, people like Eric Meyer suffer the unintended consequences. When “thoughtless processes” are introduced into the workplace, especially one with low-income earners who have little bargaining power and with a lot to lose, the unintended economic and social consequences are severe.²

Ghost work markets do not make the transaction costs associated with getting work done evaporate. Instead they shift those costs to on-demand workers and requesters. While software can be fixed, the bigger issue is a system that turns a blind eye to workers when things break down. As of today, on-demand platform companies and those using them to hire workers have no terms and conditions that compel them to be accountable to workers. Even the payment obligations of this new form of employment are left to glitch-prone software.

More specifically, workers absorb the cost of searching for work, learning how to do tasks, and communicating when things fall apart. Requesters absorb the cost of finding talent, building trust, and maintaining accountability with the workers. These transaction costs, which disproportionately fall on the workers, arise due to inadvertent algorithmic cruelty in the design of the platforms and their APIs. Software systems, used by both platforms and requesters, are too rigid and unforgiving to deal fairly with all of the complexity involved in hiring workers, evaluating their work, and paying them. So the humans, on both sides of the market, are left with the task of resolving these complexities at their own expense, though the workers bear the heavier brunt of these costs.

The Cost of Doing Business

At the heart of the on-demand economy is the premise that relying on ghost work cuts transaction costs and, therefore, boosts profits. Transaction costs are those expenses associated with managing the production and exchange of goods or services. Nobel laureate Ronald Coase, a key contributor to modern economic theory, popularized the notion of transaction costs, though he did not coin the phrase itself. His seminal 1937 article “The Nature of the Firm” was published only two

years after Wagner passed the National Labor Relations Act. In it, Coase argued that businesses had to coordinate their operations, such as finding, hiring, and training workers, to reduce market frictions. The only route to lower costs and to turning a profit hinged on making businesses run as smoothly as possible. In essence, he was the first economist to theorize how to produce at scale through modern private enterprise and profit from a well-oiled org chart.

Ghost work economies sell themselves as software that can eliminate the expensive frictions of searching, matching, training, communicating with, and retaining workers. Yet, as Coase might have warned, communication and coordination among workers, and between workers and their employers, not only is necessary but is actually money well spent. For all the claims that ghost work can combine algorithms, artificial intelligence, and platform interfaces to replace the company's function as "the entrepreneur-coordinator, who directs production,"³ there is evidence to the contrary. The transaction costs of ghost work don't melt away. Instead they are shifted to the shoulders of requesters and workers. Requesters must juggle all the management that typically comes with scoping a new project and handing it to a new employee. They spend extra time and energy explaining tasks that they thought needed no explication once converted to code and relayed via APIs. Workers pay a disproportionately higher price: they lose their time, even their paychecks, with no opportunity to appeal any mistreatment. Many of the transaction costs passed on to requesters mirror those shouldered by workers. Each hurdle faced demonstrates that ghost work isn't working smoothly for anyone involved.

REQUESTING WORK: TRANSACTION COSTS

The most commonly reported requester difficulty occurred in the process of matching a worker to a task. Requesters reported posting a task and then receiving a flood of applicants they would then have to sift through and vet, especially for larger, more complex tasks. A communications specialist at a PR firm said, "It's overwhelming how many people you get, because those people are very eager to do the work and it can be difficult to tell if they can actually do the projects." This is the flip side of workers being hypervigilant, as constantly being alert for good work also results in requesters getting flooded with applicants, which makes picking a worker hard. Another marketing manager said, "Especially when you're getting responses from around the globe, sifting through all those people can be

painful.” Vetting workers was a time-consuming, manual process that often involved a phone or Skype call. A VP of communications at a startup discussed the importance of getting the vetting done right: “A lot of the workers have good technical skills but poor communication skills, so you have to really vet for this. I’ve also had situations where the website they created might look good, but then you have another person come in later to do work on it and they find dirty code and unfinished code. So now I do more due diligence in selecting workers.”

Some platforms provide guidance in the form of ratings or a reputation score, as described in [chapter 1](#). Requesters used this information to varying degrees. Some reported using them, others took them with a grain of salt, and yet others ignored them completely, thinking they could be manipulated, since there is usually no verification or validation. Another issue with ratings and reputation scores is that they don’t transfer from platform to platform. A worker could have a stellar rating on one platform but, when they move to another, have to start from scratch. Many requesters reported that ratings and reputation scores are not as good as portfolios of prior work and lamented that platforms make it difficult to see prior work. A marketing manager at a previously mentioned engineering firm crystallized this feeling: “I would say that [the] profile of the freelancer should be more open. I understand that the companies they have worked for won’t really allow freelancers to display the work they have done for them, but details around what was delivered would certainly help.” In general, requesters use on-demand platforms to source workers but found vetting them to be time-consuming. As a result, we will see the requesters often try to do this as few times as possible and reuse workers they’ve already vetted. Vetting workers, a transaction cost that, in the staffing agency setting, is absorbed by the agency, gets passed on to the requesters in the on-demand platform model.

After a requester chooses a worker, the next step in the process is actually getting the work done, and here, too, we see a number of transaction costs from the requester perspective. A number of these costs arise because the on-demand worker, once hired, temporarily becomes part of the firm until the work is completed. They are essentially a new employee, with no training, on their first day, assigned to do a task remotely. The cost of training is borne by both requesters and workers. But if workers do subpar work, it gets rejected and they don’t get paid. If requesters get subpar work, they can simply choose not to pay and find another worker.

One of the first issues that comes up is establishing a relationship based on trust and accountability in this setting. It takes time to build trust between two people, but this is at odds with one of the major draws of using on-demand workers—to gain access to labor quickly. The rating and reputation systems that platforms implement, described above, are an attempt to convey trust through an API, but these are incomplete solutions. A procurement manager at an industrial supply firm said, “There’s always a trust issue. We either trust they actually have the qualification they say they do and we just bring them on, or, if it’s a more critical task, we’ll bring them in for a 10- or 15-minute conversation first. I mean, this is all we can really do; at some point you have to have faith in a person’s professionalism.”

These trust issues can spill over into accountability issues. In a traditional staffing-agency model, if a worker does labor that is below the hiring firm’s standards, the agency can be held accountable. But in an on-demand setting, there is little accountability. An online retailer who sells gifts and curios said, “We had nine rounds of recruitment firms and didn’t find the languages that we needed or coders. Then we finally get this guy, and he was a nice guy and he knew the stuff. And we were just gearing up and he just ghosted.” The retailer was helpless once the worker disappeared. In addition, if a relationship with a requester sours, an on-demand worker can restart with a new requester, which further erodes any sense of accountability on the worker’s part. The marketing manager for the online education company said that freelancers “have a casual attitude. When we work with [full-time employees], they know they’re being judged and appraised. When it comes to freelancers, for them it is one project and then they will have another project with some other company. They carry that type of attitude, which actually brings a lot of the trust issues to the table.”

The benefit of allowing any worker to work for any requester, which is a design decision that most platforms make, has the unintended consequence of eroding accountability. The lack of accountability brings about another transaction cost borne by requesters in that they have to manage, and even micromanage, workers. Another marketing manager reacted to the lack of accountability by monitoring the workers closely: “I ask for daily updates from freelancers. They work remotely, so managing them is tough, but having them send a daily update helps. By getting the daily update, at least I know beforehand a deadline might be missed and I can put a contingency plan in place.”

It can be hard for on-demand workers, who usually work remotely, to observe, absorb, and act according to the culture of the hiring firm. For example, the engineering firm marketing manager said, “I think the major pain point is that, since these people are not from our organization, they are mostly not aware about our timelines, procedures, guidelines, and way of writing. Every company has a different culture, and it becomes really difficult for freelancers to follow a single culture, since they might be working with five different companies with five different cultures and guidelines.” Corporate culture can affect the expectations that requesters have for the work submitted and, in turn, affect the actual product produced by workers. Not being able or willing to absorb the culture of the hiring firm can result in on-demand workers submitting work that is not appropriate for the company, as the marketing manager found out when working with a designer: “He used to deliver good work, but our company had a problem with his bright colors. He was advised to use more blue, gray, and darker shades, but instead he used vibrant colors . . . Even after explaining to him many times our way of doing work, he just couldn’t abide by company standards.” Another marketing manager, in advertising, said that explaining the culture, something that is difficult to build into an API, to an on-demand worker is yet another transaction cost borne by the requester: “I can’t expect a freelancer to have a firm grasp on our culture—that’s not the nature of a freelancer—so it’s really up to me to make sure their output meets company standards.”

Trust, accountability, and culture are social aspects of the general work environment. One of the main technical challenges involved in hiring on-demand workers is giving them access to the necessary tools and data. Requesters overwhelmingly expected workers to have their own software tools to bring to the job. A communications specialist at a direct mail company said, “Yes, we assume they can do the job they’re hired for, and if that requires certain tools, then, yes, we assume they have those tools. That’s part of being a freelancer: you’re independent. We aren’t going to provide a freelancer with tools or train them; we’re going with a freelancer so we can avoid making those investments.” A full-time employee would be given all the software tools necessary to do his or her job. But in the on-demand labor setting, this cost is transferred to the workers. A manager at a consulting company said, “Imagine somebody saying that he can draw the architecture but doesn’t have AutoCAD. That’s not helpful at all, so yes, we need to make sure they have the necessary tools to get the job done. If they don’t, then we find someone who does.” Requesters can

improve their bottom line, since they don't have to provide software tools for on-demand workers.

Requesters overwhelmingly used the same technique, maintaining their own trusted pool of workers off the platform, to overcome, or at least mitigate, these difficulties. Requesters build this trusted pool by repeatedly hiring and trying out workers.⁴ First, requesters come to on-demand platforms to find and source workers. They take the time and effort to vet them, and those who pass are given a task. After the task is completed, those workers who performed well are added to the hiring firm's internal database of trusted workers. Then, when it comes time to hire another on-demand worker, firms start by looking in their trusted pool.

From a requester perspective, there are quite a few benefits to this approach. First, it saves money. Requesters meet workers on a platform, then, if they are good, they take the relationship, and future jobs, off the platform. Since platforms usually charge the requester some percentage of the fee paid to workers, requesters can save money by circumventing the platform, which improves the requester's bottom line. Second, hiring from a trusted pool allows a requester to vet workers and to show them the corporate culture and expectations just once and then recoup the cost of doing so by repeatedly hiring from the pool as the need comes up. Third, hiring from a trusted pool mitigates the risk that requesters face when hiring an on-demand worker. There is less chance of an incompatibility due to personality or work style. Fourth, if a worker has been hired before, he or she can build, or at least begin to build, a relationship of trust with the requester. In general, requesters feel that it's important and valuable to build relationships with the workers, as doing so leads to better outcomes.

Perhaps because requesters found a relatively straightforward way to mitigate the transaction costs passed on to them, they overwhelmingly reported that they would recommend using on-demand workers to others. The advertising firm marketing manager went so far as to say, "I would rate it an 8 out of 10. The quality of work that they deliver and the skills they bring with them makes a great impact on the project meeting the client's expectations." On the other side of the market, it's doubtful that workers would rate ghost work "an 8 out of 10."

Ghost Work's Hidden Pain Scale

The burden of transaction costs used to fall on companies, but now it falls squarely on the people doing ghost work. Imagine a pain scale of the sort found in a doctor's office, with a smiley face at the low end and a wail at the top end. Algorithmic cruelties inflict pain on workers that can be mapped onto the scale. In some cases, the burden is a mere annoyance, a minor paper cut. Those little cuts may look like time lost to seeking work and understanding the work. But other times, small annoyances can fester into a more painful situation, one that becomes a drain on a worker's time and energy. This level on the pain scale may look like executing a job without any feedback or in isolation from peers and colleagues. What tops the pain scale for most workers is the risk of not getting paid. Most workers have zero recourse if something happens to their account and they aren't paid for their work.

The harsh irony is that ghost work platforms and individual requesters wash their hands of the pain they inflict on workers. Companies, from MTurk to Uber—and this is key—view workers as mere customers who are selling their labor, as they might sell their used record collection or rent a spare bedroom. In the eyes of ghost work companies, customers come to their sites strictly of their own volition. And, as customers, they can leave at any time.

Again, from a company perspective, workers are costs and liabilities. Customers are free agents, buying and selling at their own risk. Yet when workers are not acknowledged as the essential engine driving commerce between ghost work platforms and requesters, it's the workers who suffer the most. As a direct result, the status of a workforce of millions is left in limbo.

1 TO 3 ON THE PAIN SCALE: HYPERVIGILANCE SPUN AS FLEXIBILITY

The ability to see good work, on a reputable platform, and pluck it from a stream of projects hinges on a worker's capacity to be in the right place at the right time. These workers must cultivate a hypervigilance that would have made Coase's head spin. In interviewing dozens of on-demand workers, we saw two types of hypervigilance. The first was the need to spend hours wading and sorting through spam or suspicious offers for "at-home work," searching for legitimate work on a legitimate platform. Because there are no legal requirements screening who posts work to on-demand marketplaces, workers had to make sure they weren't signing up to a site that was simply looking to harvest their email address or that would open them up to identity theft.

Lijo, 24, works for a business processing organization and lives in Bangalore, India. He learned about MTurk from a flyer stapled to a tree. He called the number, and the person who answered told him an account on the platform cost 1,000 rupees (almost \$14). Unaware that registration on MTurk was actually free, Lijo negotiated the price down to 600 rupees (\$8.25)—all he could afford at that time—and bought an account. The person explained the basics of how to use MTurk, but once Lijo was on his own, he quickly got confused. A year later he'd earned about \$20 (roughly 1,450 rupees). "MTurk was a terrible investment of time," he says. "I didn't learn anything and risked sinking time into work that had no security. There is no person, no office, no one to answer questions." Since platforms do not vet the requesters or their tasks, workers are left with the problem of finding a reputable platform with work that is worthwhile on their own.

Many of India's on-demand workers are wary of unscrupulous companies. Most of the country's workers have a personal or family experience of being bamboozled by a fly-by-night contracting agency that made big promises but fell short in providing paid work. For instance, in the 1990s, a spate of call centers opened in the country. The companies would hire Indian workers and then disappear three weeks later, leaving unfulfilled promises of paychecks in their wake. That experience has left many young people like Lijo suspicious of online jobs that may be phishing for information or trying to fool them into working for free.

Pundits both champion and criticize the flexibility in these labor markets. Champions see flexibility as the saving grace of the new economy, while critics curse flexibility as a source of downward pressure on wages in the sector. Again and again, those doing ghost work are told what an amazing perk it is that they can work anytime, anywhere.⁵ But more often than not, this so-called perk masks the reality of online work. The most hypervigilant workers, those always looking for the next task, are the most rewarded. In practice, on-demand requesters and the algorithms behind labor platforms automatically generate quick-turnaround deadlines for jobs, even when the work isn't time sensitive or a worker's availability—beyond turning an app on or off—could be added to the decision-making mix. That artificially imposed time squeeze means workers must constantly scan for jobs, especially if they want lucrative opportunities, which get snapped up quickly. In reality, flexibility is a myth. Instead of the utopian vision of an endless stream of online work that a person can dip into between other pursuits, on-demand labor more closely resembles the infamous *I Love Lucy* television comedy sketch with

Lucy and Ethel working on the assembly line at a chocolate factory. As they scramble to keep pace, the pace of work comes faster and faster.⁶

The second type of hypervigilance we saw was the need for workers to be on call day and night. Job posters and platform designers assume that workers aren't navigating other time constraints. But we found that workers had to constantly search for job opportunities they could fit in around other commitments. One example was Natalie, an African American woman who lives with her parents in Queens, New York. The 27-year-old has a bachelor's degree. She likes doing on-demand work from her parents' home because, as an aspiring musician, she can balance her work and her art. But she struggles to budget her time, because the online work is unpredictable. Soon after signing up for one of the platforms in our study, Natalie discovered she had to constantly check project boards for work if she hoped to make any money. "The first worker or workers to respond to a post get the job assigned to them automatically, which was a little frustrating. It made me feel like 'Oh, I don't know if I'm actually going to be able to get work.'" Since platforms only allow workers to pick up tasks on a first-come, first-served basis, workers keep one eye on the platform in case a good task comes up.

In some cases, especially with the larger platforms, companies expect workers to stay logged in to forums, an informal gathering space for sharing information. Diane F., 59, lives near Washington, D.C. She studied biomedical engineering and worked in the field right out of college. But she switched careers early on and spent many years working with computers. Getting laid off from her job at a local university prompted her to look for on-demand work on LeadGenius. "I got unemployment for six months, then I decided perhaps I should look at doing something on my own."

Diane found LeadGenius dizzying at first. "I saw that we [the workers] had to be on HipChat." HipChat is a feature of LeadGenius's platform, an internal chat software. Some workers like the informal conversation in HipChat, but for Diane it was so distracting that she logged herself out. "I would get on HipChat and people were sending smiley faces and talking about what they ate for breakfast, and I've got stuff to do," she says. What she didn't realize was that staying on HipChat was a key job requirement. "They [LeadGenius] expect you to sign in and to be there, even if there's no work." Just before our interview, Diane's account was suspended. One of the reasons, according to the email she received, was that she hadn't logged on to HipChat in more than three weeks. She says, "I thought we

would go onto HipChat when we wanted work, not that I had to be on HipChat all the time.”

Our research shows that workers take advantage of chances to control their time.⁷ We paid MTurk workers to categorize a batch of Amazon product reviews as positive or negative, which could be done in less than 30 seconds each. One-third of the workers had to do each categorization within one minute (no flexibility), one-third had to do each categorization within one hour (some flexibility), and one-third had to do each categorization within one day (lots of flexibility). Workers in each group were given the same number of tasks, and workers were randomly assigned to each group. When given more time to finish a task and gain more flexibility over their schedules, MTurk workers took it.

Recall that MTurk workers can accept tasks and then hold them in their queue to work on at a later time. On average, workers with an extra hour on the clock would start work 17 seconds after accepting it. But workers with a day to turn around tasks would start work slightly more than four minutes after accepting it. At first glance, the difference between 17 seconds and four minutes might not seem that large, but imagine how you’d feel if the longest you could step away from your computer was 17 seconds. Four minutes gives workers like Natalie and Diane the chance to answer a phone call, check on a napping newborn, go to the bathroom, or focus on other, more pressing work and not worry that this job will be taken by another worker. Furthermore, as we gave workers a longer amount of time to complete the task, once workers started the categorizing, they would do more work before taking a break and take a shorter break once they did. Workers, when given more control of their time, spend it wisely, taking breaks as needed and then sitting down and cranking it out when the time fits their schedules. “Flexibility” is an empty euphemism unless workers are able to set and control their schedules on their own terms.

Giving workers some flexibility changes how they spend their time. But how much do workers value flexibility in terms of dollars?⁸ We measured the *compensating differential*—how much more a requester has to pay to get the same amount of work done when they constrain a worker’s time instead of giving them control over their break times—to put a price tag on flexibility. Workers who had worked 0–10 hours in the previous week did not value flexibility as far as we could detect. But workers who did 11–30 hours of ghost work in the previous week valued flexibility so much that they would trade a requester \$0.98/hour to get control of their time. And those who contributed the most, by doing more than 30 hours of MTurk

work in the previous week, valued the flexibility at \$2.37/hour. Similarly, workers who had not set a daily income target for themselves did not value flexibility as far as we could detect, and those who did valued flexibility at \$0.92/hour.

Workers who set daily income targets or do more work quite likely need the money more, and these are exactly the workers who value flexibility the most. They already know how to make the most of their time spent on ghost work. Ultimately, the only workers who can afford to be less hypervigilant are those who don't rely on on-demand labor as their primary source of income. In other words, those who need the money the least have the most flexibility. However, if a worker relies on that income, the reality is that he or she can't afford to look away.

4 TO 6 ON THE PAIN SCALE: ISOLATION AND LACK OF GUIDANCE SPUN AS AUTONOMY

In most cases, people doing ghost work are left to their own devices to navigate the ins and outs of a job. In rare cases are requesters available to answer questions. And indeed, asking a question may result in a delay that costs a worker their job. Instead of risking it, workers dive in and lean on their own ingenuity. Most figure it out as they go, orienting themselves to the task at hand, figuring out what's being asked of them, and learning how to operate clunky, outdated interfaces all while getting the job done as fast and accurately as possible. But working without guidance and in true isolation takes a toll.

At 19, Ayesha was one of the youngest workers we interviewed. We met in her family's house in Hyderabad, India. She is the middle daughter of a joint family with 16 members. Her brothers already worked on MTurk, so they helped her open an account. She is completing grade 12. Ayesha's parents adhere to Wahhabist interpretations of Muslim sharia codes of conduct that, at times, conflict with Ayesha's own interests, like studying to become a doctor and having her own public clinic someday. But Ayesha's mother does feel strongly that girls should work and that working from home is good for girls.

Ayesha told us she feels afraid to work on the MTurk site by herself, because she might make a mistake. Even the smallest error can lead to an account getting blocked, so the stakes feel too high to warrant the risk. As a result, she goes to the site only when her brother is at home, but he works outside the house, so she's unable to work as much as she'd like. "I don't work much, because I am scared." For now, the money, along with any mistakes that Ayesha makes, flow to her brother's account. She hopes to

improve her English and computer skills but doesn't see the site as a way to do more than contribute a small amount of income to help cover household expenses.

Even workers who have a good sense of how to do a specific type of project still work in a vacuum, with no feedback to help them gauge whether they are a good fit for the project other than the initial description of the task posted to the site. Workers don't know if they are technically or culturally competent for a task until they try to complete it. But tackling a job without knowing if they can succeed often presents a new risk. If workers discover too late that they are in over their head, their reputation is at stake, because workers' reputations are linked to tallies of their approval ratings. In other words, if their reputation gets dinged, future job opportunities dry up.

As we described in

Some platforms provide guidance in the form of ratings or a reputation score, as described in [chapter 1](#), most platforms rate workers, in much the same way customers give businesses a Yelp rating, based on feedback from those doing the hiring. Since the platform does not provide any way for workers to get clarification or training, a worker who can't problem-solve on their own risks getting a low rating. For example, one worker we interviewed accepted a large batch of tasks from a requester new to MTurk who was asking workers to read one-sentence product reviews and then rate each product as "useful" or "not useful." The worker dug into the job, reading through pages of one-line reviews and ticking the box that fit his sense of whether each product was worth buying. The worker submitted the tasks for payment hours later, but the requester rejected them all.

Suddenly thousands of that worker's completed tasks were rejected, without explanation. When the worker looked up the same requester's reposting of the task, he noticed that the requester's latest version included one word that had been changed in the instructions. Either this was a completely different task or the requester had added more clarification to what he wanted—*evaluate the reviews, not the products*—and thus the worker's output no longer matched the job. Once the worker contacted the requester and pointed out the change, the requester did pay the worker for the completed tasks. But, to add to the irony, the requester never changed the status of the tasks from "rejected" to "accepted" (perhaps he didn't know how) and the worker's rating on the site plummeted.

To regain his reputation as a reliable worker, he had to effectively drown out the rejected jobs by accepting tens of thousands of penny tasks and doing them all perfectly. Only then did his reputation for accepted

tasks return to its high standing. This is just one of the invisible ways the system advantages requesters over workers. Requesters are seen as visible and valuable customers to the platform, giving them latitude to change a job request midstream without censure. Those performing ghost work are mostly invisible and treated as interchangeable. They must scramble to make do with a system designed to assume that workers could be adversaries trying to game or rip off the customer-requester rather than real people at work, doing their best.

Justin, whom we briefly met in the introduction, where he was doing image-tagging work, had previously had a good job at an upscale grocery store. When his wife landed her dream job in a new city, they weighed the costs of Justin relocating to another store location. The commute would have added hours to his workday. Day care for their two young sons also seemed beyond their means, even with two paychecks. Justin decided to be a stay-at-home dad and try his hand at on-demand work. He went online searching for “work from home,” and MTurk popped up. He’d been using the platform for only two weeks when he saw our call for interview participants on the site and offered to speak with us about his experience.

What frustrated Justin most was seeing some requesters use what he called “a bait-and-switch strategy” to entice workers to accept tasks. He described a recent job he found, where the requester wanted the worker to type up handwritten notes. The example of the work that accompanied the post showed clear notes, but when he accepted the job, the notes assigned to him were, in his words, either “just gibberish or blurred out.” In some cases, he says, “you can return the HIT [job] without having it held against you.” But in other cases, he had no way to know that he was in over his head until it was too late.

That’s what happened the time he took a job identifying features of furniture, such as whether a couch was a camelback or not. Requesters, understandably, keep task previews short, since it’s difficult to gauge how much might be too much information for any given worker assessing a job. That means that previews rarely include detailed descriptions or varied examples of the project. Justin had to gamble with his time and hope that he’d chosen his assignment wisely. In hindsight, he didn’t have enough information to know that he’d made a bad call taking on the furniture classification task. Justin had to spend a significant amount of time scouring the internet for images associated with the terms flashed in front of him before he felt he could correctly answer the questions associated with the task. “That ends up taking far more time than [the task] really needs.” This type of stumbling block highlights a common cultural

disconnect seen among U.S. and Indian workers alike. In this case, Justin's class and work background hadn't infused him with the cultural literacy he needed to identify and define terms associated with upscale furniture purchases. Similarly, we met workers in India hindered by jobs involving things like describing panini makers, a kitchen appliance not commonly found in Indian households.

And, unlike the job of typing up handwritten notes, which Justin could quickly determine would be a time suck, he took the job identifying furniture, thinking he had the smarts or the intuitive wherewithal to do a good job. But without feedback from the job requester, he had no way to know if his work was meeting expectations, until it didn't. By then it was too late to return the task, redo the work, or avoid having his reputation score dinged for subpar work. "That was the first time I had a job rejected. The job wasn't as easy for me to complete as I thought it was going to be," he says. "I didn't email them about why my work was rejected or challenge the decision. In the end, it's not really worth it." Justin would have to invest even more time trying to pin down what he'd done wrong, with no guarantee that anyone would ever reply to his email. He chose to cut his losses and move on.

In the absence of clear instructions or feedback on work under way, workers like Justin have no way to gauge how to succeed at any given job. Workers learning a new task or mastering a new platform compound this vulnerability. Due to the legal liabilities associated with "curating a workforce," as was discussed in

Some platforms provide guidance in the form of ratings or a reputation score, as described in [chapter 2](#), those employing workers can't provide on-the-job training. As a result, those doing ghost work bear the costs of learning how to navigate not only the task but also the work culture, and they have no chance to ask questions or get feedback from requesters.

7 TO 10 ON THE PAIN SCALE: NOT GETTING PAID WHEN TECHNICAL FAILURE OR HUSTLE IS SPUN AS MALFEASANCE

Even after a person has cleared the hurdles of finding good ghost work, learning the platform's quirks, and completing the task, they still run the very real risk that they won't be paid for their work. Many payment glitches can be traced to errors in the platform design. People who design on-demand job sites assume workers have fast broadband connections and reliable power sources. In reality, millions of people doing ghost work do their jobs with outdated computers, faulty internet access, and even shared IP addresses. In the chasm between the platform designers' mental image

of who is using their product and the reality lies a minefield of potential errors. One wrong step can totally blow up a worker's chance of getting paid.

A change of address, for example, can flag an account as being suspicious. Moshin, 24, lives with his mother in the southern Indian city of Kochi; his father passed away two years ago. He has two sisters who are married and live in the United States. He is studying for a master's degree in computer applications and works part-time on MTurk but feels deeply ambivalent about it since his MTurk account was suspended with no warning and for no reason. He suspects the suspension was triggered when he changed the mailing information for his paychecks. He explains that he felt better having the check sent directly to his uncle, who works in a posh neighborhood, than to his own address, in a makeshift location without reliable postal service. But changing the name and mailing address for his checks meant it no longer synced with the national identity papers he'd used to open the account. He suspects the switch initiated an automatic suspension. Yet, as happened to so many workers we interviewed, Moshin never received any official explanation for the suspension of his account, beyond a vague statement that he'd violated the terms of agreement. The terms of agreement is a multi-page, single-spaced, tiny print that all workers "accept" when they activate an account.

That kind of confusion was rampant among workers we met. Latonia, 28, an African American woman in Atlanta, has an associate's degree in graphic design and moved closer to her family after her father died. She was drawn to ghost work because she likes having several income streams. "I don't like having just one job." But when her mother's internet service was turned off, Latonia got a warning message from her manager on the platform. "That warning kept me from getting certain jobs." Then Latonia's phone, which was her primary conduit to the internet, was stolen. "I couldn't do my work on the phone, and I told my manager that, as soon as I could get back online [I would get to work], but she said, 'You still had to give me a warning,' and I was like 'Okay.' And I thought about it. I was like 'No. I wasn't in the wrong. I'm going to appeal this warning,' but there was no way that I could appeal."

The worst expression of algorithmic cruelty is disenfranchisement. Under the guise of safety, systems designers make it easy to block or remove an account in case a bad actor tries to cheat the system. This adversarial stance means that good workers are sometimes misinterpreted as shady players. Inevitably, mistakes are made. A worker changes an address, loses her internet connection, or shares an IP address with another

worker. Each one of these things is a potential red flag. The algorithmic system sees the flag as a possible security threat and, with no one at the helm to distinguish friend from foe, the worker is penalized. The penalty may look like being blocked or suspended, or having an account deactivated. Again, in an ecosystem in which workers are seen as interchangeable, the system automatically eliminates what it deems bad apples. The sad irony is that even the best-intentioned and most seasoned workers can get caught in the dragnet.

Riyaz, 33, carries roughly 200 pounds on his 5-foot-10-inch frame. He lives a mile outside Vijayawada, a city on the banks of the Krishna River, in India's coastal state of Andhra Pradesh. On the day we met, in July 2013, the temperature was boiling hot, yet Riyaz wore a meticulously pressed blue-and-white button-down shirt, tan chinos, and black loafers. Still, his eyes looked tired and puffy. He held himself with the awkwardness of someone uncomfortable with the weight he was carrying. He mentioned that he wasn't sleeping well because of the stress of long hours, with little relief from looking for work. Members of our research team had taken a cab to his hometown from Vijayawada's one-gate airport—a drive that took about an hour. Per his directions, we met him at a corner store near his home. As we piled back into the cab, Riyaz climbed back onto his motorcycle, and soon our driver was following him down dirt roads, navigating around potholes, goats, and children until we arrived at a simple home near the far edge of the village.

Riyaz hadn't always lived in this small town. He moved to Hyderabad in his early twenties to learn computer skills and basic software engineering, with the hope that getting credentialed would give him entry to the city's booming IT sector, one of the largest in the country. As discussed in

Some platforms provide guidance in the form of ratings or a reputation score, as described in [chapter 2](#), Hyderabad was one of the first cities in India to develop infrastructure to attract multinational companies engaged in software development and business process outsourcing (BPO). The city's well-educated and expanding middle class made it a natural location, as did the fact that Hyderabad's residents spoke English as readily as Hindi.

It was in Hyderabad that Riyaz first heard about MTurk. In need of cash, he signed up for the crowdsourcing platform. He did a range of tasks, from surveys posted by researchers to image tagging. He spent more than five months learning how to work on MTurk. One of the ways he found to succeed was by building relationships with reliable requesters. For

example, Riyaz made a YouTube training video for one of his most frequent requesters. The requester liked Riyaz's work and wanted him to help train other on-demand workers in how to do search engine optimization. Riyaz, who'd always been one to go above and beyond for requesters, did the video for free, because he considered it an investment in his future.

Soon Riyaz was making more on MTurk than from any IT job he could find, being a young Muslim man with no contacts in the city. He was earning roughly \$40 a day and identifying more jobs than he could handle. Back in his home village, he had a lot of friends and family members who had basic computer and English literacy but didn't have jobs. So he decided to move home and hire them to work on MTurk out of his family's home. Eventually the ten-member group would call themselves "Team Genius."

Team Genius thrived for more than two years. Then, in March 2014, Riyaz heard reports about some India-based workers having had their accounts suspended. He began to worry about the fate of his account. He had multiple accounts set up through his workers. He knew this could be an issue, but he also knew Team Genius was doing good work, so it felt to him like an arbitrary restriction. But then, one by one, the accounts held by members of Team Genius began to be suspended. Riyaz began to scramble like mad to find more work on any platform he could. He worked around the clock to support those who had become dependent on him and his contacts.

Then the thing Riyaz feared most happened. He got the following email:

I am sorry but your Amazon Mechanical Turk account was closed due to a violation of our Participation Agreement and cannot be reopened.

Any funds that were remaining on the account are forfeited, and we will not be able to provide any additional insight or action.

You may review the Participation Agreement/Conditions of Use at this URL:

<http://www.mturk.com/mturk/conditionsofuse>

Thank you for trying Amazon Mechanical Turk.

Best regards,

Laverne

P.S. We value your feedback, please rate my response using the link below.

Amazon Mechanical Turk

Please note: this e-mail was sent from an address that cannot accept incoming e-mail. To contact us again, select the Contact Us link related to your inquiry below.

Workers: <https://www.mturk.com/mturk/contactus>

Requesters: <https://requester.mturk.com/contactus>

Riyaz was instantly locked out of his account and his pay, with no clues as to how to appeal the decision or how to retrieve the money he'd accrued over the past two months.

As our cab pulled up in front of Riyaz's family home that summer day, we couldn't help but wonder if this was why he looked so exhausted. He parked his motorcycle as we trundled out of the cab. As we were collecting the cab fare, Riyaz waved the cabdriver away, with assurances that he knew the man and "would take care of it later." Before we could protest, Riyaz was leading us into the home he shared with his wife, their two children, and his mother. Inside the simple dwelling was a cement floor and walls painted sky blue. Thin curtains divided the home's main room into a kitchen, bedrooms, and a workspace for Riyaz. Like so many other makeshift home offices, it held an office chair and a small desk. An 18-inch LCD monitor running Windows XP sat on the desk's surface, while a rusty CPU cabinet squatted beneath. A trip to the restroom resulted in an informal tour of the home's back rooms—two bedrooms with twin beds adorned with colorful quilts. Freestanding clothes racks in each room overflowed with a combination of yellow, orange, and red saris alongside black burkas. Minutes later, Riyaz's mother greeted us in Urdu and encouraged us to gather on cushions around the family's low table for lunch.

As we talked about the fate of Team Genius, Riyaz's mother served a lunch of biryani, fish stew, and a spicy chicken dish. He told us how he'd lost his account a few weeks before. He shook his head. It became clear that he felt personally responsible for the livelihoods of nearly two dozen friends and family members. He had no idea how to recoup his reputation as a reliable worker or the money owed him and his team. Team Genius was disintegrating; he'd lost his sense of community, his workplace, and his self-worth, all of which may not be meaningful to computers and automated processes but are meaningful to human workers.

Riyaz told us how he'd reached out to the one person he'd worked with the most on MTurk, the requester for whom Riyaz had made a training video for other MTurk workers. In an email, he implored the requester to

intervene. He asked the requester if he would be willing to contact Amazon on his behalf, to explain that he did good work, that he was a reliable worker, and that he deserved to keep his account. Riyaz never heard back from the man. When he told us the story, it was clear he felt betrayed by someone he considered a professional colleague. Riyaz even went so far as to write a letter to Jeff Bezos. That was a huge risk for Riyaz. The subtext of this work is that workers remain invisible. Standing up and calling attention to yourself is a fast track to getting a “bad reputation.” Jeff Bezos never wrote back.

Unfortunately, Riyaz’s case is not unusual. According to a national survey we conducted in partnership with Pew Research, 30 percent of on-demand gig workers reported not getting paid for work they performed. Workers can lose their job and wages, with no explanation and no opportunity to appeal the cancellation of their account. Companies decide how, or if, workers will receive final payment for work completed. People do not just lose their account access—many workers, like Riyaz, lose their livelihoods.

Is Riyaz’s experience of losing his job through an “at-will” contract just the well-worn tale of what freelancers—the 1099 workforce—face every day? Or is it the harbinger of a new set of challenges and choices that we must all face—and redefine—if we care about the future of work for our generation and the generations to come? Should we apply the tried-and-true wages and hourly employment laws, or do we need a new set of rules?

Any freelancer will tell you—and the literature on independent contract work confirms this—that getting paid can be the hardest part of the job. In 2015, the Freelancers Union, in the United States, found that 70 percent of those freelancing in the current economy do not get paid by at least one client and 71 percent have struggled to collect payment for work at least once in the course of their career.⁹ But the convoluted terms of employment for ghost work have made collecting one’s wages even harder. Most freelancers and contractors have a point of contact at the company, someone to call or email if an invoice goes unpaid. They may even have a contact who will advocate on their behalf if a payment is late.

Conversely, on-demand workers must grapple with faceless platforms. No office manager, staff directory, or help desk offers assistance when things break down. On-demand workers operate as links in a long supply chain of labor, picking up pieces of a larger project and adding their polish before handing them in to be assembled later. Most people who represent links in the transaction will never meet one another.¹⁰ So when a worker like Riyaz has an issue getting paid, he has no clear way to seek redress.

To complicate the scenario further, companies can also get into a bind. For instance, when an account holder or employee's identity comes into question, does a requester or company go ahead and place wages in a potentially fraudulent account or hold on to money owed, until the confusion can be cleared up and the rightful owner is identified? Even though the companies must wallow in a logistics quagmire, they are certainly in a better position to weather the uncertainty than the workers.

No Boss Is Perfect. Neither Is Code.

Workers endure transaction costs, from finding a work platform to finding good work, all the way through to getting the work done while bearing the risk of not getting paid or having their account shut down for opaque reasons.

The vast majority of platform designers and requesters do not intend to be cruel. Platform designers are trying to deliver a seamless process to as many users as possible, including workers. No one is perfect, and neither is code. Computational processes often have unintended consequences. Programs are, as mathematician Cathy O'Neil argues, formally modeled "opinions embedded in mathematics."¹¹ They have no insight into what exceptions to the rule individuals may want or need. And requesters aren't obtuse out of malice. Like workers, many are learning as they go. They can be clumsy at using the site or poor at clearly communicating what they need. And they, too, are often under tight deadlines and demands from their bosses. No matter, as those on-demand workers were left to the whims of algorithms, which can be a cruel arbitrator as of late.

While requesters do endure some transaction costs, workers bear the brunt of them, with far more severe consequences, because they have so little power in this market compared with the requesters and the platforms. Workers have to be constantly on call to find good work, making them appear to requesters to be at their beck and call. Furthermore, these markets are extremely concentrated; for example, on MTurk, approximately 98 to 99 percent of all tasks are posted by 10 percent of the requesters, which exacerbates an economic power imbalance called monopsony.¹² In addition, many ghost work APIs are designed such that requesters post the wage for a task and workers have to either accept the wage or find a different task. There is no room for bargaining. All of these

aspects of ghost work place more market power in the hands of the requesters.¹³

Because platforms get their revenue from the requesters, it is not surprising that they, intentionally or not, confer more market power to requesters. Platforms also have the power to unilaterally decide who does and doesn't have access to their platform. If a platform decides to use an automated process to freeze accounts deemed in violation of the site's terms of service, workers have no recourse.¹⁴ Bad design is behind some of the dismissive, alienating, cruel-seeming functionality of platforms, but not always. In many instances, like providing more guidance or more direct channels of communication and training, platforms are not experiencing technical difficulties at all. As described in [chapter 2](#), traditional employment used to take a long view of workers. Firms used to invest in individuals early in their careers to retain a steady, on-site workforce. Keeping costs down meant gaining loyalty and longevity, striving for workforce diversity to get the most of distinct perspectives; this model no longer fits today's highly specialized, always updating service and information economies.

If on-demand work is a harbinger of the future, it's noteworthy that traditional employment contracts are being replaced by a platform's "terms of service." The obligations in these agreements spell out the limits of what a worker can expect from the platform. They rarely detail how a worker would ever challenge work conditions, beyond deleting their account. And the absence of a physical work site makes matters worse. It's harder to document, let alone witness, how APIs exploit or exacerbate gaps in labor laws meant to protect workers' interests and rights. On-demand workers in the U.S. and India toil outside of any clear employment status. They have little access to protections associated with formal employment, aside from trying to make the case that they should be classified as full-time employees. And on-demand workers have nowhere to turn for advancement opportunities, accommodations for different abilities, laws to prevent discriminatory hiring, or legal recourse against unfair treatment, from wage theft to whistleblower protection.

Eventually all technologies break down. At some point workers need to connect with a human being to seek redress. Resolving that glitch—when an automated process needs a human not just to intervene but to care—lies at the core of getting ghost work to serve customers and workers alike. Since today's workers endure the brunt of the on-demand economy's transaction costs, weathering its most severe consequences, we focus next on how and why workers invest more in their work beyond rationally

reducing the costs of business transactions.¹⁵ As the next chapter attests, workers care about creating value, controlling their time and destinies, and discovering better matches for their interests and talents as much as they care about the size of their paychecks.