settings. Even the former president of EA Canada, Glenn Wong, looking out over his company's spectacular Vancouver-area facility, once admitted that it was "just candy": "Here it is, 3:30, a gorgeous afternoon, and my soccer field is empty. But I can tell you that at 3:30 this morning, there will be 75 people in this building working their butts off" (cited in Taylor 1999). Why? "The guts of it that makes it a cool place to be is that the people here want to win. Trying is nice, making mistakes is okay, but it's all about winning." Wong has on occasion been even franker, declaring, "If a 60-hour work week is your maximum, then this isn't the place to be" (cited in Lazarus 1999). "It's not unusual for these guys to work 21 hours, sleep on the couch and get up and start working again" (cited in Littlemore 1998). Pausch is therefore quite correct when he warned his students, "EA employees must be willing to work very hard" (2004, 12). But he might have amended that remark, adding that EA's norm of "performance" depended on the routinization of unpaid hours as an expected part of work—fulfilling, in other words, the classic definition of *exploitation*.

Conflict: Crunch Time

This brings us back to our point of departure-the scandalous networked outburst of EA Spouse, and the issue whose disclosure so deeply embarrassed not only EA but the whole video game industry: the length of the working day. In the industry as a whole, hours of work vary widely, depending on the company, the stage a team is at in the development process, a worker's role on a project, and the worker's slot in the hierarchy. But as one interviewee told us, digital play is an industry where the "circadian rhythm is regularly broken." "Crunch time" is the industry term for an ostensibly unusual period of crisis in the production schedule, when hours intensify, often up to sixty-five to eighty hours a week, sometimes more: one-hundred-hour weeks are not unheard of (IGDA 2004a). The root of crunch time lies in the time sensitivity we have already mentioned, such as working to meet deadlines for sales seasons and licensed media events. For smaller studios, the need to meet the development milestones set by publishers or to make the design changes they demand provides additional pressure; and for all companies, the complexity of game production, the likelihood of unanticipated bugs, and the difficulty of synchronizing the cycles of large teams do indeed provide plenty of opportunity for sudden emergency.

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But although the term suggests a state of exceptional crisis, abundant testimony shows that crunch time often becomes normalized over long stretches of the production cycle: it becomes "built into the equation" (Hyman 2005; see also IGDA 2004a, 19). But EA Spouse (2004), speaking of the "crunch" in which her partner suffered, wrote: "Every step of the way, the project remained on schedule. Crunching neither accelerated this nor slowed it down; its effect on the actual product was not measurable. The extended hours were deliberate and planned; the management knew what it was doing as it did it." In the discussions catalyzed by EA Spouse, an excuse given for this is that the "garage invention" model at the roots of the game industry is not well fitted to meet large-scale production; the "working anarchy" of small studios, while perhaps favoring creativity, does not scale. In this logic, the overwork issue is a problem of industry "maturity," a failure to develop sufficient managerial skills and organizational competence to keep pace with success, and, by implication, a problem that could be dealt with by a process of education. There is some validity to this explanation. But it has one obvious weakness. If recurrent crunch time results from insufficient managerial experience, one would expect the worst offenders to be new, small companies. And there is no shortage of horror stories from such places. But EA Spouse's complaint deals with a well-established studio: EA has been making games since the early 1980s. Many of these games are among the most formulaic-and hence planable-products in the business. If any company could be expected to overcome the managerial problems of preventing overwork, it would be EA. Normalized crunch time therefore points to an elementary economic fact: it is a good deala steal, in fact-for game companies.

In the United States, the Fair Labor Standards Act exempts companies from paying overtime to computer professionals engaged in a strictly defined set of tasks and making over a certain amount per hour: this is often interpreted as a blanket excuse to withhold all such payments. However, each state has its own regulations; the employer must follow the law or rule that provides the greatest protection to the employee. Labor law in California, where EA and other major publishers have studios, stipulates that companies do not have to pay overtime to software programmers if they make more than US\$41 an hour and engage in advanced creative or intellectual work. In Canada, British Columbia, Alberta, and Ontario also have overtime exclusions for high-tech workers, and in British Columbia, EA and other game companies lobbied vigorously to secure this deregulation. EA Spouse's blog post coincided with other revelations about working conditions in the game industry. These included lawsuits by disgruntled employees at major studios and reports on working conditions from the professional associations of workers in the industry. Together these disclosures about the video game business threw into sharp relief three aspects of cognitive capitalism we have highlighted here: first, and most obviously, the working conditions of the cognitariat, but also, arising from this, questions of ownership and intellectual property, and of globalization, transnational capital mobility, and world-market networks.

If we look first at the immediate flash point of labor-capital relations, EA Spouse's blog came as several groups of game development workers were launching class-action suits against their employers. One, Kirschenbaum v. Electronic Arts, filed in California, alleged that EA had improperly classified some of its employees so as to avoid paying them overtime (Feldman 2004). The claimant's lawyers argued that their client's job as an image production employee was not covered by California's overtime exemption because the job did not involve original, creative work (Takahashi 2004). In 2005 the case was settled out of court, costing EA \$15.6 million. The settlement, which specifies that future entry-level EA employees will not receive stock options but will be eligible for overtime pay, has been hailed as marking a revolution in Silicon Valley culture. Meanwhile a second suit along similar lines was initiated by Leander Hasty, an engineer, revealed to be the husband of EA Spouse, a.k.a. Erin Hoffman-and eventually settled out of court for \$14.9 million. A third suit by Tam Su was initiated in Florida. In 2004 a similar case, although involving the falsification of time records, was brought against Vivendi Universal Games (Smith 2004). In 2005 another class-action suit for unpaid overtime was brought against Sony Computer Entertainment. In 2006 a similar case was launched against EA's rival publisher Activision (Sinclair 2006).

At the same time, the International Game Developers Association (IGDA 2004a, 2004b, 2005) issued its reports on "quality of life" in the industry. Its conclusions were stark. While a majority of workers found their jobs stimulating, the industry was characterized by a culture of "forced workaholism" (IGDA 2004a, 6). While acknowledging that some game companies had responsible and humane management strategies, the report's aggregate portrait was of "horrible working conditions" (IGDA 2004b, 1). More than half of respondents said that "management sees crunch as a normal part of doing business"

(IGDA 2004a, 19). For just under half of respondents, overtime was uncompensated—and when it was, it was usually in the form not of direct payment but of time off at project completion, royalties, or profit sharing; only 4 percent of companies paid overtime in cash. The report highlighted stress and health issues. Asked how they felt after extended periods of crunch time, the responses of workers interviewed by the IGDA ranged from "exhausted" to "flipped out" (2004a, 71). There were many accounts of the damage done to social and domestic relationships. IGDA (2004a) discovered an exceptionally high rate of turnover in the industry, with a growing number of game developers leaving the sector altogether: more than 50 percent plan to leave the industry within ten years, 35 percent within five years.

Why do game workers put up with these long hours? Demand for skilled programmers and designers is high. Companies anxious about losing talent would seem to have an incentive to treat workers well. But while experienced game workers are in short supply, new entrants are plentiful and well aware of their disposability. Though excessive hours are widespread, they are disproportionately endured by the youthful contingent, whose stamina helps set a studio norm of overwork. One studio owner we spoke to, who had also worked for other developers, was straightforward: "Companies tend to get these young guys that come out of film school, game programming school, or art school and get them to work their asses off. The mechanism for doing that is the game industry's corporate culture: 'You don't have to leave because we give you all the Pepsi and all the potato chips you'd ever want.'" And while smaller studios can offer chips and a couch to sleep on, the attractions proffered by larger ones, such as EA, are more extravagant.

These various reports and the discussions surrounding them also raised the gendered nature of the video game workplace, with the "long-hours culture" seen as both a cause and effect of the industry's institutionalized sexism (Haines 2004a, 13). As a masculine dungeon, the game studio is a place of creative camaraderie, technological intensity, and cerebral whimsy, but it is also often obsessively hard driving, punishingly disassociated from rhythms of domesticity, sleep, and nourishment. The hours of work are a barrier to women, who often carry the responsibility for familial care—a barrier felt either as outright exclusion or as a "glass ceiling" halting promotion. Conversely, the female contribution to game development work is usually in the classic invisible role of reproductive labor, covering the deficit of household tasks and emotional labor of which their exhausted partners are incapable. This, of course, was precisely the position from which EA Spouse wrote: disgruntled workers refer to studios such as EA as a "divorce factory" (cited in Takahashi 2004).

As the disclosures multiplied, debate among game workers about remedies for the labor crisis raged. Two different approaches emerged. One, a conciliatory line, advocated an educational strategy to enlighten management on "best practices" to minimize the situations that provide the official pretext for crunch time (Della Roca, cited in Hyman 2005; Howie 2005). The other, more militant approach insisted that the large publishers would not "benevolently change today's abysmal work conditions without pressure," and argued for unionization (McPherson, cited in Hyman 2005). Some drew parallels with the tumult in Hollywood in the 1920s and 1930s that resulted in the formation of the Screen Actors Guild and Writers Guild of America, and others looked to labor initiatives in other high-tech industries, such as WashTech (Washington Alliance of Technology Workers), a local of the Communication Workers of America organizing Microsoft workers and temporary tech employees (see Brophy 2006).³

Game companies, too, responded to the dissent. There was a flood of promises to improve working conditions. UbiSoft's Montreal studio appointed a "VP of continuous improvement" to address quality-oflife and workflow issues and created a sixty-person bureau de project dedicated to "planning and streamlining production," with one aim being to reduce crunch time (Chung 2005). At the same time, some corporations asserted that long hours arise "more from a certain bravado or peer pressure than from management" (cited in Hyman 2005). In EA's response, the desire to prevent unionization was unambiguous. While claiming that EA is "in the forefront" of addressing "work-life balance," and also promising some reforms, one of the publisher's HR executives warns against "people who want to step in and take a piece of the pie or get in the middle of things without contributing to the growth of the business" (cited in Hyman 2005). Many workers and labor-law specialists were skeptical about the flurry of corporate good intentions; the lawyer representing the Kirschenbaum case said that "most employers rely on their employees being hesitant to bring lawsuits and just hope it will blow over" (Graves, cited in Chung 2005).

The crisis also highlighted other aspects of the industry, including its growing concentration of ownership, the consolidation of control in the hands of large publishers, and the consequences of risk-averse dependence on clones and franchises. One element in the lawsuits against EA was the deskilled, routinized, and rationalized nature of work on games such as those in its sports franchise: under California labor law, as already mentioned, only creative workers are exempt from overtime payment, and the plaintiffs' case against EA was that their work was not at all creative. Many game development workers, however, tolerate bad or monotonous working conditions because they see a period of corporate drudgery as a step to starting their own companies. In this respect, the EA Spouse disclosures coincided with, and fueled, a wave of interest in the prospects for indie game studios, expressed in initiatives such as Manifesto Games. These projects express the aspiration of game developers to increase their control over the quality and content of their work, constructing small companies committed to realizing the creative potential of games. However, the notoriously high rate of business failures in the video game industry and the costs of development discussed earlier mean that a worker considering starting or joining such ventures must calculate the likely possibility that his new job may vanish within a year or so-or, if successful, be bought up by EA or some other giant publisher. This was a point raised by EA Spouse, who cites the "collapse of dozens of small game studios, no longer able to acquire contracts in the face of rapid and massive consolidation of game publishing companies," as a reason why EA could get away with its alleged "If they don't like it, they can work someplace else" policy.

The EA Spouse crisis also overlaps with the issues of globalization and outsourcing addressed in the preceding section. In the wake of lawsuits, EA had decided to "move hundreds of employees to Florida and Canada after being forced to reclassify which positions are eligible for overtime in California" (Feldman 2005). Human resources manager Rusty Rueff cited EA's success in finding thirty people on short notice for the relocated project as an example of the success of the E-Recruiter database we described earlier (Muoio 2001). And more far-reaching relocation was on the minds of both workers and managers. EA's appointment to its board of Vivek Paul, vice chairman at Wipro, one of the leading companies performing software outsourcing work in India, was seen as a sign that EA was looking toward centers on the subcontinent to find a cheaper labor force (Takahashi 2005). Not surprisingly, EA's capital flight is a source of consternation for employees. "You can never take the full fear out of it," said one executive, referring to the effect of EA's overseas initiatives on its work source: "We're trying to make it an opportunity to develop skills around managing offshore projects and managing a distributed development environment" (cited in Overby 2003). One of EA's newer job classifications is, in fact, director of sourcing. The consequences of this on games workers are hardly lost. One game development worker told us:

In my opinion, it's always been just a matter of time before, say, you get a place like Prague that has the same set of circumstances with a highly skilled workforce—and their discrepancy between the currencies is even greater. The other one that kind of scares everybody is Bombay—this big high-tech scene in India. It's the same thing: you've got a lot of talented people and they can undercut us. . . . You know, it's only a matter of time.

How justified these fears are is hard to say: but games workers can learn from their predecessors in auto factories and shipyards that the mere prospect of relocation is often enough to quash dissent. The huge fixed investment represented by EA and other big publishers in places like Vancouver, Montreal, and California will probably ensure that in the near to mid-future, much of the high-concept game development remains at these locations, even if formulaic components are increasingly outsourced. In the longer term, the cognitariat of game development will have to wage its fight for survivable working hours across a global battlefield.

M.U.L.E. Kicks Back

One of EA's earliest games was *M.U.L.E.* It was set on a fictitious planet where players accumulated surplus value by purchasing robotic wage slaves who were then put to work extracting resources. When they stored up enough profit, player-capitalists could buy still more labor and land, creating a virtuous circle of ever-expanding profit accumulation. Released in 1983, *M.U.L.E.* stood for "multiple use labor elements." It was, in essence, a simulation game of the relationship between labor and capital. The game sold only about fifty thousand copies, but it is no mere footnote to game history: Will Wright was inspired by it and even dedicated one of his games to *M.U.L.E.*'s designer (Gorenfeld 2003). In turn, as we have seen, the profits generated by Wright's spectacularly successful *Sims* franchise bulked up EA's coffers, furthering the company's power to act as a major force in the concentration of ownership in the game development and publishing sector. *M.U.L.E.* may be a forgotten classic to most gamers, but