Geek Chic

Machine Aesthetics, Digital Gaming, and the Cultural Politics of the Case Mod

Bart Simon
Concordia University, Montreal

This article explores the relationship between computer gamers and their machines in an effort to characterize cultural attitudes toward the materiality of information technology. Whereas dominant culture desires a world in which information technology performs seamlessly within the fabric of everyday life, case-modding gamers prefer to foreground both their computer machinery and their virtuosity in its manipulation. Instead of desiring the disappearance of machines into the background of a world that those machines produce, case modders revel in, and indeed identify with, the material guts of their computer systems. This machine aesthetic is explored further in the context of the LAN party, where the case modders’ machines become as much of a spectacle as the games on the screen.

Keywords: case modding; hardware; materiality; LAN party; aesthetics

The Cultural Logic of the Information Society

When it comes to experiencing the pleasures of today’s networked virtualities, our bodies and our machines continue to get in the way of a really great immersive experience—or so we have been led to believe. Like other critics before her, Margaret Morse (1998) aptly sums up the cultural logic of digital pleasure-seeking in terms of a desire to escape the human condition. “Travelers on the virtual highways of an information society have,” she writes,

at least one body too many—the now largely sedentary carbon-based body resting at the control console that suffers hunger, corpulence, illness, old age, and ultimately death. The other body, a silicon-based surrogate jacked into immaterial realms of data, has superpowers, albeit virtually, and is immortal. (p. 125)

Although much of the time the notion of abandoning our organic bodies for the endless pleasures of our databased selves seems like so much science fiction, we...
nevertheless encounter a complementary position in the design culture that supplies the predominant medium for our dreams of virtuality.¹

Donald Norman (1998) makes this position clear in the preface to his influential book *The Invisible Computer*.

A major goal of this book is to hasten the day when the technology of the computer fades away out of sight . . . hiding the computer, hiding the technology so that it disappears from consciousness, letting us concentrate upon our activities, upon learning, doing our jobs, and enjoying ourselves. The goal is to move from the current situation of complexity and frustration to one where technology serves human needs invisibly, unobtrusively: the human-centered, customer-centered way. (pp. vii–ix)

Norman’s point is to help foster a design culture that would put the genuine needs and desires of human users first, but what does this mean in a culture dominated by the fantasy of escaping the vicissitudes of our organic bodies? And what are the cultural politics of a design aesthetic that privileges the human desire to transcend the human condition?

In my view, these two features define the dominant cultural logic of our information society: first, a desire to escape (or transcend) the limits, frailties, stresses, and politics of the human condition, and second, an imperative for users to ignore or forget the very material condition of the realization of that desire—the operation of the computer itself. Under the mantra of user-friendliness, even Norman’s more human-centered version of user-friendliness, ideal users should not be aware that they are users of machines at all. Although it is certainly possible to investigate this idea in the context of Norman’s own influence over paradigms of interface design and human-computer interaction, I want to suggest that there is no better model for thinking through the implications of this than in the cultures of computer gaming. Indeed, it is at the heart of gaming culture that the desire for escape and the imperative of invisible computing have reached their pinnacle in increasingly visceral user experiences of immersion and tele-presence, so much so that digital games have now become highly sought-after models for education, workplace, and military computing. And yet, as I will argue later, it is in the cultures of gaming, and specifically in local area network (LAN) party gaming, or lanning, where the desire for escape and the imperative for invisible computing meet their sociomaterial limit in a form that raises interesting questions about the cultural politics of personal computing and the possibilities of revisioning contemporary digital culture.

**Invisible Computing and the Desire for Escape: Mac versus PC Redux**

In 1996, Sherry Turkle wrote about the imperative of invisible computing and used it as a kind of preface to her investigations in *Life on the Screen*. Following up
on work from her earlier book (Turkle, 1984), the introductory chapter sketches some early cultural history of computing through a discussion of the technological, cultural, and aesthetic obsessions of the hacker and hobbyist communities of the 1970s. Turkle describes how through the popular consumption of computers, the hackers' and hobbyists' fascination with hardware and software has quickly given way to users' preoccupation with hardware and software effects—the surface effects of computation that take the form of user-friendly applications. Indeed, as scholars like Thierry Bardini (2000) have argued, the concept of the computer user developed in corporate research and marketing through the 1970s and 1980s and came to loosely specify a subject who was only interested in, and capable of understanding, the direct effects of software applications.

Norman would call this move from a hacker-hobbyist-centered technology to a user-centered one a move toward computers as information appliances, kinds of everyday objects, for which knowledge of how it works is not necessary to use it. This for him is the goal of good technology design. Turkle, however, had a different story to tell. She associated the hacker's and hobbyist's relation to their hardware with a kind of materialist and modernist aesthetic, which came to be represented by the IBM PC and the MS-DOS operating system. These computer moderns valued being close to the guts of their machines and the control that was afforded to them by their esoteric expertise. The new users of the 1980s wanted none of that: theirs was a postmodern aesthetic emblematized by the Apple Macintosh. Turkle (1996) writes,

The Mac encouraged users to stay at a surface level of visual reproduction and gave no hint of inner mechanisms . . . . The user was presented with a scintillating surface on which to float, skim and play. There was nowhere visible to dive. (p. 34)

In her effort to read aesthetic modernism and postmodernism into the history of computing, Turkle (1996) renders the final position thus, “The struggle is often fought out between those who put their faith in reductive understanding (the moderns) and those who proclaim such ideas bankrupt or at least impractical (the postmoderns)” (p. 43). And so the story has gone: The modern computer aesthetic of the hacker takes on an increasingly embattled position with the rise of the seemingly postmodern Windows interface (which creates a surface layer over MS-DOS) on one hand and, on the other hand, a concurrent lockdown on proprietary hardware. That is, hardware becomes increasingly resistant to hacking and user manipulation as the industry introduces bios menu systems, safeguards for components, and sealed-case computer systems (precursors of modern-day notebook computers). Much of this history of the successful commercialization of the personal computer seems to reflect this loss of depth so that the success of the personal computer depended, in retrospect, on users not needing to know how their machines worked. Success depended on making the personal computer a black box in all the senses that Bruno Latour (1987) once described.
Friedrich Kittler (1995) has referred to this form of black-boxing of the PC as a kind of friendly secrecy system. “Firstly, on an intentionally superficial level” he writes, perfect graphic user interfaces . . . hide the whole machine from its users. Secondly, on the microscopic level of hardware itself, so-called protection software has been implemented in order to prevent “untrusted programs” or “untrusted users” from any access to the operating system’s kernel. (p. 3)

Kittler’s argument here is the beginning of a potent materialist critique of the computer industry. Users are, in an important sense, locked out of the technology for their own good (but, in fact, it is for the good of the existing military-industrial-political complex). Yet, according to Norman (1998), this kind of lockout is simply good design.

There are some more suggestive variations on this old story. In 1994, Umberto Eco famously mused on the two cultures’ (modern and postmodern) problem in a different form in one of his regular back-page columns for an Italian newsweekly. “I am firmly of the opinion,” wrote Eco, that the Macintosh is Catholic and that DOS is Protestant. Indeed, the Macintosh is counter-reformist. . . . It is cheerful, friendly, and conciliatory; it tells the faithful how they must proceed step by step to reach, if not the Kingdom of Heaven, the moment in which their document is printed. . . . DOS is Protestant, or even Calvinistic. It allows free interpretation of scripture; demands difficult personal decisions, imposes a subtle hermeneutics upon the user, and takes for granted the idea that not all can reach salvation. . . . Windows represents an Anglican-style schism, big ceremonies in the cathedral, but there is always the possibility of a return to DOS to change things in accordance with bizarre decisions. . . . And machine code, which lies beneath both systems (or environments, if you prefer)? Ah, that is to do with the Old Testament, and is talmudic and cabalistic.”

Within the more evocative frame that Eco provides, Turkle’s and Kittler’s concerns with surface and depth access to the software and hardware of computers are recapitulated in terms of the link between knowledge, practice, and spiritual enlightenment (and this is the logical corollary to the gamer’s immersive pleasure). It is of course possible to continue Eco’s line of thinking with each new iteration of Windows software becoming ever more global in its reach, such that icons on a desktop often no longer refer to data stored on the computer running Windows at all but rather to data on a computer elsewhere. Networking threatens to disperse depth completely so that there is simply nowhere beneath the surface to go, just an ever increasing chain of semantic associations (represented by chains of icons, hyperlinks, and Web site redirects). The actual data then are in the hands of fewer and fewer system operators. This befits one side of the Anglican schism, whereas on the other side there is the increasing popularity of Linux and the open-source movement, an esoteric software cult with its strange brew of arcane programming techniques, masculine entrepreneurialism, and social-democratic ideology.
The debate has been intriguingly taken up with more nuance by Sean Cubitt (1998) and Graeme Kirkpatrick (2003), but even as these authors challenge Turkle’s overly binary postmodern logic their emphasis remains steadfastly on the question of software. Yet, at this level, the reformation Linux movement’s antagonism toward the increasingly Catholicized Windows OS remains consistent with Norman’s (1998) views. The problem is that Windows, driven by the narrow corporate imagination of Microsoft, simply gets in the way of the needs and desires of the users. Linux then is a means of taking back a measure of control, but the movement is also constantly threatened by its own lack of user-friendliness, in Norman’s sense of the term. We might argue that the debate at this level remains depthless, since as Kittler (1995) argues, all software is ultimately reducible to hardware as the material condition for the expression of any operating system or interface no matter how cabalistic it may be.

Indeed, for the early hackers and hobbyists, manipulating software meant manipulating hardware. It was not possible to just be a programmer; one was also, in the most basic sense, a mechanic. The software hacker and hobbyist, the professional programmer, and even the idea of the user are products of a series of counter-reformation transformations in computer systems that increasingly generate distance between the motherboard (the *mobo*) and the screen. And yet even the most abstract representations of binary code depend on the concrete configurations of this material substrate. With this in mind, the trope of the black box can be taken literally, except that in the case of most computers the box is classic IBM beige.

On the whole, Turkle’s thesis about the Mac-Windows postmodern aesthetic may frame a discussion about the aesthetics of hardware as well as software. Indeed, an important aspect of this postmodern aesthetic is to protect the user from the hardware entirely. Norman’s postmodern and neocatholic aesthetic ideal then would not simply be the sealed case (emblematized perhaps by the iMac G3 computer of the late 1990s) but rather a ubiquitous and invisible system that seamlessly blends into the background of the user’s life. This is a desire represented by the strangely commercial sounding term *ubicomp*, which is a catchall term for the practice of integrating computing directly into the environment and forgoing the box-like form of the computer altogether.

Three material properties of computer systems make these developments possible. The first is miniaturization. The computer no longer needs to occupy a whole room and with increasingly smaller footprints may fit neatly under a table or on a desk, taking up no more room than a lamp. The second is physical design. No longer conceived as a box, the computer may be increasingly camouflaged as an everyday consumer object or hidden completely from sight. With the advent of home wireless networking, the object may even stand alone or beside lamps, bookshelves, stereos, and so on. The third innovation is the LCD and plasma screen that can maximize contact with “life on the screen” and minimize awareness of the material conditions that enable that contact. Larger, clearer screens (and screen content) with smaller
footprints engage the eye and help to distract from the computing machinery that is hidden or camouflaged. Advertising copy for the most recent iMac G5 sums up these developments nicely:

Yes, there really is a computer in there. The iMac stands as a model of great design, suspended gracefully in mid-air, perfectly balanced. With hardly any desktop footprint, iMac conceals almost an entirely new interior as well as an extraordinary range of features to enhance your digital life. That’s no easy feat.6

Of course, we have been living with this consumer ideal for some time now, and computer systems that can command the highest prices are those that can come closest to making themselves invisible in the senses I have described. Although Apple continues to be successful in exploiting this aesthetic, the cultural desire is nevertheless supported by other companies such as Microsoft, Dell, Sony, and LG Electronics, to name a few. I am not suggesting anything new by pointing out there is something of a Disney World ideology going on here, where the user’s engagement with technology is imagineered as a pleasurable ride (one only need think of the fantasy of living in Bill Gates’s house: a kind of technological pleasure dome). But the Disney World ride is crucial for reflecting on the double articulation occurring in this contemporary computer aesthetic. On one hand, hide the hardware or disguise it (and this includes giving your computer and its data online access to technicians who can theoretically keep your system in tip-top shape while you sleep). On the other hand, make the experience as spectacular as possible so the user forgets that the hardware is there.

The latest iMac G5 and dual-core model points us directly at where we need to go next analytically. The computer is barely there, and all that is left is a screen that draws us in with what we might call techniques of spectacular verisimilitude, on one hand, and techniques of immersive interactivity, on the other. While I develop an analysis of these techniques elsewhere, Andrew Darley (2000) provides the basic ground needed by considering digital games as new media with the capacity to represent increasingly fantastic content realistically while allowing for ever higher degrees of interactivity in a kind of “vicarious kinaesthesia” (p. 157). The more we are drawn to focus on the screen, the less we are concerned with hardware, which in any case is increasingly less visible. These technologies of the screen are designed now to produce engagement and immersion so that you can lose yourself in your pleasure or, increasingly, in your work.7

Machine Knowledge and Game Culture

This latter observation prompts my current research on the cultures of digital gaming because it is with computer games that the techniques of verisimilitude and
interactivity are most developed. The more or less explicit goal of game designers and gamers alike is to be immersed in the game (if not to be tele-present in the game world itself), and indeed, most would subscribe to the contemporary aesthetic I have described, desiring large, even multiple, screens and powerful but small or hidden computers. This aesthetic is not represented so much by the iMac, however, which has almost no presence in gaming culture, but by traditional console systems like the Nintendo GameCube, Sony PlayStation, and Microsoft Xbox. These are literally dumb systems for smart homes, designed to function more or less invisibly as a routine piece of consumer electronics in the delivery of gaming entertainment. In truth, these systems dictate what can be considered mainstream gaming culture, as most of the revenue of the digital gaming industry is drawn from the sale of console titles.

Like the iMac aesthetic, the goal of console and console game design is to minimize the hardware and maximize the spectacle of the gaming experience. It is a basic truism of game design that if a player has to fiddle too much with the console controller, then the game will not be commercially successful. Indeed, this has certainly been part of the problem in designing games for the personal computer, where the traditional interface of the keyboard is often seen as a hindrance to good game play. It is interesting to note that for game-studies scholars, the most social forms of gaming, massively multiplayer online games and LAN parties, remain steadfastly tied to the PC platform, and although there are important forms of console-game sociality (Dixon & Simon, 2005), these have received significantly less attention.

The cultural logic of mainstream gaming then is, for the most part, consistent with the stories told by Turkle, Eco, and Kittler. Yet as prevalent as this postmodern aesthetic would appear to be, it is constantly threatened by contradiction (much to the chagrin of game designers and the joy of hardware company CEOs and shareholders). The desire for more engaging and immersive experiences requires ever more prodigious computing power implemented at ever increasing rates. The cycles of expectation and pleasure in game culture spin faster than hardware manufacturers can match, such that a truly black-boxed system becomes almost irrelevant the day of its release. Because of this, hardware innovation occurs not at the console but with the seemingly modernist throwback of games played on personal computers. At least until recently, with the innovation of so-called next-gen consoles, which combine a console-like aesthetic with the computing and networking power of a PC, most game innovation has been timed to more or less yearly developments in core processor speed and graphics cards for PCs.

Within the PC industry, the strategy for dealing with the contradiction between the desire for spectacle and the desire for invisible computing has been a kind of increasingly modular system of upgradability. Again, in line with Turkle’s postmodern aesthetic, the idea is to plug and play new components (mainly video cards, but also DVD drives, random access memory (RAM), sound cards, monitors, and networking equipment), but despite the promise of the industry this has been far from
an automated process. Gamers especially are called on to share some understanding of the functional relation of individual components, even if they need not understand how each component works. They must understand, for instance, the basic system requirements to run the game as well as some of the basic features of their video cards. The basic degree of machine knowledge here far exceeds that of most other software applications, as casual perusal of the minimum requirements listed in small print on a game box will demonstrate. Note that within casual game culture we are already well beyond the abilities or desire of the average console gaming or nongaming user who is more likely to live with an aging postmodern spectacle—perhaps a Pentium II running Windows 98 (like the degraded face of California’s Disneyland)—or throw away the whole system and buy another rather than try to replace a component. What I am starting to suggest here is that given the material conditions for the satisfaction of desire (more spectacular and interactive games), the gamer is in a sense invited to dig beneath the surface effect of the game in order to understand how to produce that effect. In this sense, the game paradoxically turns the user’s attention back to the hardware.

We can see this more clearly as we move deeper into game culture where another kind of user appears. This user is the hardcore gamer (a kind of actors’ category, although there are many subtypes). Hardcore gamers tend to be skilled players with advanced knowledge in the specifics of game play and the cultural scene more generally. This knowledge includes, at base, the ability to evaluate the power and potential of a computer system for different kinds of play. These gamers know how to read and evaluate ads for computer systems and frequently shop for deals on components on eBay. Although often a standard high-end system will do for playing many games, for a certain genre of games this system knowledge is put to more exacting use in the play of the game itself. Games like Quake, Unreal, and Counter-Strike are examples of multiplayer networked shooting games (sometimes called first-person shooters). They are played online or in a LAN arrangement (large groups of these are called LAN parties), and the matches start and end quickly, lasting from seconds to minutes compared to other kinds of digital games. In these so-called twitch games, response time is crucial, and although player skill is an important factor so is the machine the player uses. Features of the system such as the speed of the central processing unit (CPU) and the system bus, RAM capacity, interface quality, and video frame rates can affect game play, and a good player may be handicapped by using lesser equipment than an opponent. Hardcore players seek to avoid lag, on one hand (where visual information about what is happening lags behind what happens in the game), and visual (and other sensory) glitches, on the other (objects are not where they are supposed to be). Some rudimentary knowledge of the machine infrastructure is thus essential to the mastery of the game itself. We can now begin to see how the hardcore gamer is pushed to delve even deeper into his or her operating system not simply to have the experience (as with the more casual console gamer) but to intensify and control it.
Gaming at the LAN Party

A perfect location to continue this investigation is the LAN party. Now a common subcultural feature of most urban cities, these events resemble a cross between a rave and NASA mission control. Sometimes small and intimate and other times large and sprawling, a LAN party involves connecting a few or hundreds of PCs in a local network for the expressed purpose of multiplayer networked gaming. The primary motivation is pragmatic in the sense that gamers seek to reduce the latency, or lag, effects in their games by more directly connecting their computers rather than playing online. The LAN gaming experience in this sense is more pleasurable than playing online. The players supply all the computers, screens, and peripherals, and the organizers of the event handle network administration. The largest LAN parties feature hundreds of computers networked in large gymnasiums or warehouses that allow for constant gaming over a 48- or 72-hour period. When they are not gaming, players eat, sleep, and socialize within the confines of the event. Although gaming activity is more or less constant, the bigger events are organized around competitions, often with corporate sponsorship, that culminate in matches between the best players displayed on large screens for the players-turned-spectators.

A large LAN party is a sight to behold. On entry, one encounters row upon row of personal computers with players (a demographic composed of mostly young men) staring intently at their screens and talking out loud to their teammates. Between each match there are pauses for consuming junk food and energy drinks and to discuss tactics with other players face to face. At first glance, the LAN party is a perfect exemplar of digital cultural desires to escape the organic body. The LAN network is, for the most part, seamless and fluid and allows for a screen-based experience that is thoroughly engrossing and entirely otherworldly (especially after 72 hours of constant play). But careful scrutiny of the scene reveals some curious contradictions. First and foremost, the perfection of the network depends on the proximity of organic bodies and machines. There is no operational metaphor of the global village here, as online gaming over the Internet is simply too “laggy” and too frustrating for high-level play. Second, over time the organic bodies of the players appear to be a limit on play, as players must stop for eating, bathroom breaks, and sleeping. And yet it is clear that the games themselves do not define the limits of the LAN party, as players on break socialize between the rows of computers; exchange software, music, and films; drink in the bar; smoke outside; and engage in a host of other embodied practices normal to human sociability. Third, and most important for my argument in this article, is that here and there all through the rows of computers stand what can only be described as spectacular machines.

Sitting on the table beside the screen that glows with images of the game being played is the computer. But this is no beige box; this is a “modded” PC. In the simplest mods, the side of the metal casing has been cut out and replaced with a piece of Plexiglas that reveals the inner chip boards and cables of the computer. These are
illuminated with colored neon-like lighting highlighting custom components. The fancier systems feature more artistic cuts to the casing, intricate paint jobs, and water-cooling systems that seem to be borrowed directly from a science fiction film. Not all computers at the LAN party are like these, but the modded systems stand out, often in bold contrast to the imagery on the screen beside them. In a culture dominated by the dream of ubicomp and the immersive pleasures of the screen, what is the significance of these modded systems that seem to draw our attention in precisely the opposite direction of our current postmodern machine aesthetics?

Case Modding and the Hardcore Gamer

I want to argue that these modified, or modded, computers (hardware, not software) are a product of the contradiction implicit in gaming culture specifically and everyday digital culture more generally. The desire for a better play experience that drives the hardcore gamer to know his machine and to make the time to transport it all the way to a LAN party (when he could just be playing online) ultimately leads back to the material hardware as the necessary condition of the game in the first place. Consider this point in the context of an excerpt from the front page of a magazine dedicated to modding:

Modding is part science and part art. The science involves overclocking, adjusting processor and memory timings to crank up your computer’s power. The art is taking raw components made of silicon, plastic, and steel, and combining them into a satisfying, visual feast. A modded PC is definitely not something you hide under a desk or tuck away in some dark corner. Mods are meant to be tinkered with and admired.

At the digital gamer’s LAN party, the functional power, visual aesthetics, and embodied sociality of the modded computer are apparent in their most visceral form, but cultural extensions of this exist in the private spaces of computer hobbyists tinkering at home; in the commodified spaces of computer stores, custom-computer manufacturers, and industry-sponsored modding contests; and in hundreds, if not thousands, of online modding forums from around the world.

Before I present a closer examination of the specific cultural politics of the gaming-based case mod, I will more concretely consider the relation between visual aesthetics and functional power. Case modding of the kind I have described earlier ostensibly began with users’ desire to increase the performance of their computer systems by overclocking the CPU. Overclocking as a cultural practice refers to a number of technical procedures for increasing the processing speed of computer components beyond the manufacturer set limit. Skilled and knowledgeable users are able to exploit the built-in variability of computing speed by making adjustments to CPU clock speed and the system bus speed via dip switches on the system motherboard or by some other...
means. By this practice, they may effectively turn a slower computer into a faster one. What started as a more or less inexpensive way to keep up with exponential rises in computer processing power during the 1990s soon became a matter of purely technical virtuosity, where users would buy the latest and most powerful computers on the market and then overclock them to see who could produce the best performance.

Functionally speaking, such a practice is meaningless, and overclockers tend to spend little time running applications on overclocked systems (because their performance generally does not improve much). Instead, they use various software for measuring and rating system performance to publicly display the results of their tinkering on Web site forums and the like. There are, however, two kinds of computer applications where overclocking can be functionally useful. The first is in high-end mathematical computing, where higher processing speeds may shave hours off a computation; science and engineering graduate students in universities most often perform this kind of modding. The second is in first-person shooter games (the kinds most often played at LAN parties, for example), where overclocked CPUs and especially video cards may give a player a significant advantage in the game (Claypool, Claypool, & Damaa, 2006).

But even this is only effective to a point. Gamers into modding are also fond of overclocking high-end computers beyond any game-based usefulness. This in turn becomes a kind of game that may be observed at LAN parties, as the modders place their systems beside each other and, using system measurement software, see who can push their systems the furthest before they become unstable. The ludic quality of such competitions can be seen in this advertising copy of an ATI-sponsored overclocking competition at a Dallas LAN party event:

The world’s top overclockers are gathering in Dallas, Texas in February for a circuit-smokin’ board barbeque, a sadistic attempt to torture technology until it submits. Why? Because it’s wrong. It’s wrong to wring more power and performance from PC components just for the gleeful delight of proving it can be done. It’s sinful to enjoy the smell of melting solder just for the smug satisfaction of higher frame rates. And it’s downright immoral to crank higher clock speeds far beyond what the Chip Creator intended. But what if—you were given permission to try to suspend the laws of nature? What if the Chip Creator actually helped and encouraged you to inflict indignities upon the mightiest hardware ever developed? If you are a “dark-side overclocker,” then ATI’s first-ever Overclocking Competition Event gives you a chance to redeem yourself and apply your evil talents for good.

The point of overclocking, in any case, is to push the system beyond normal operating parameters, and although this act usually voids the manufacturer’s warranty, it is nevertheless a practice that is generally tolerated and even sometimes exploited by the industry, as in the example above.
Aside from issues of consumer politics, a major motivation behind overclocking is the risk it poses to the operating system and the hardware itself. Overclocking increases the amount of heat produced by the system, which can result in serious instabilities in the operating system (the software) and a potential for melting system components (the hardware). This is a kind of hot-rodning for geeks, as the machines are pushed as close as they can get to the breaking point, with the ultimate loss being a spectacularly fried motherboard (and tales of such losses abound within modding culture). The reference to hot-rodning is intentional of course, as this kind of tinkering with the performance limits of machines is hardly specific to computers, and indeed, case modding often borrows directly from hot-rodning culture in terms of its aesthetic (Colwell, 2004).

It was a simple user innovation then that led to the merging of functional modding with case modding. As the heat of the more powerful processors became a major problem for overclockers into the 1990s, it was found that simply cutting a blow hole in the casing of the computer would help dissipate the heat and further the performance ends of the overclockers. Of course, this could also be achieved by removing the casing altogether (or one side of the casing), and it is not at all uncommon for overclockers to do this, but the problem then becomes dust accumulation (dust acts as a kind of thermal insulation). On the outside of the case, simple holes gave way to finely cut motifs using a Dremel tool, and on the inside of the case the holes and cuts were augmented by the addition of user-mounted fans, heat sinks, and sophisticated water-cooling systems. Almost all user modifications in this sense revolve around solutions to the problem of heat dissipation.

Eventually, the distinction between the inside and the outside of the case collapsed, and Plexiglas windows and even Plexiglas cases were made to show off internal modifications to the system. This now ubiquitous innovation (it is very common to see windowed cases sold in computer stores) was intended to frame both the technical and aesthetic skills of the user in modifying the system. Even further, mods were both highlighted and augmented by the addition of LED and cold cathode lighting (usually purchased from hot-rodning retailers), which were used to show off a sophisticated cooling system, an extremely expensive component, or a homemade cut or configuration while imparting a eerie-colored neon glow to the whole machine that has now become typical of most case mods.

Although most case mods retain the basic box shape of the casing, it is also quite common to paint the cases (which is in fact the simplest case mod—a practice that certainly predates the Dremel holes initiated by the overclockers) or add other decorations. Some case modders change the form of the case, and these always tend to be spectacular and draw a crowd at LAN parties. Computer cases have been made in all manner of shapes and sizes, although science fiction and fantasy themes usually predominate.

It is worth mentioning briefly that professional and amateur artists and designers also have a history of modifying the form of the computer case, but I am here...
attempting to differentiate this kind of artistic and design practice from the functional machine aesthetics that informs case modding practice within gaming culture. What started as a practical solution for cooling overclocked systems has become, among gamer-modders, a means of self-expression and, importantly, a means of demonstrating machine knowledge and skill. Cuts in the casing evolved into different kinds of shapes, and modders began using the holes, almost paradoxically, to increase the visibility of internal components that they had rigged themselves. The most valued modded systems or rigs often have individual names (e.g., hardwig, macro black, silver star, etc.), and they are displayed on Web sites along with details of their construction. In this sense, modded rigs become objects of pride, desire, and fascination as well as a material symbol of the users’ mastery over their machines.

Within LAN party contexts, however, having a modded rig does not necessarily mean that the user is a better game player. In fact, some lanners are condescending of modders who think that fancy lights will make them better players. The most serious lanners actually tend to favor very small-form-factor, cube-like cases with handles that make them easily portable (this in itself has its origins in a kind of minimalist case mod), and they emphasize skill over machine performance in game play. Nevertheless, case mods are often prominently featured at LAN parties, and many gamers go to LAN parties simply to show off their own, or to see other, case mods. It is the mostly unintended cultural politics of this display that I am most interested in.

**From Screen to Machine**

In the case of LAN party case modding, it would seem that the postmodern aesthetic, which privileges the screen, is turned on its head. Trends in modding call for larger and more visible cases to allow for the manipulation of components as well as the addition of aesthetic features like cold cathode lighting. Instead of being made invisible, these systems are intended for display, not like the streamlined commercial design of the iMac but rather a more garish presentation of technical virtuosity. That is, unlike Norman’s Catholic/imagineered design aesthetic, case mods are made to stand out as complex machines that have been tampered with by human users. How then can we best make sense of this within the context of game culture?

At LAN parties, it is easy to see how the spectacle of the hardware case mod competes directly with the game itself. The case in this sense acts as a kind of distraction from the virtual space of the game by drawing the eye away from the screen, but in point of fact, this is a perspective more suited to the point of view of the spectator. For the player, it may be more accurate to suggest that the case mod helps constitute a broader experience of the game that is no longer simply confined to the screen. In either case, the case mod unsettles what would otherwise seem like a perfect exemplar of Turkle’s postmodern screen culture. It is too simple, however, to suggest that
the case mod’s embodied materiality challenges the desires of disembodied virtuality of the gamer. The situation is more interesting than this and more complicated. Sean Cubitt (1998) suggests that what is required is “dismantling the binary to build a concept of mediation between presence and absence, the fuzzy, analogue and shifting distance between the materiality of media, people and their objects” (p. 21). Consider, then, the ways in which the case mod and the game are aligned in a kind of comediation.

First, even from the point of view of the spectator, we can see how there is some continuity in the visual field. The typical neon glow from the case can be consistent with the glow on the screen, and although it is true that the case becomes a source of light that may interfere with a players’ focus on the screen, more often than not it acts as a kind of mood lighting that extends the game environment around and beyond the screen. This effect is especially evident in LAN party games that tend to feature more science-fiction-like or cyberpunk-like environments so that the neon glow of the case mod simply echoes the typically neon lighting in the metallic dark corridors of virtual environments in games like Quake Arena or Unreal Tournament. In addition, the components illuminated by the case mod lighting are often consistent with the game world content as well. Representations of hacked-up computers, tubes, cables, and bits of metal are used liberally by game designers to signify the erosion of social order and an absence of civilization. Gamers are well habituated to this symbolic convention from playing solo games where the decay of the structural environment serves as a notice of impending combat (a convention used to greatest effect in the Doom franchise).

Related to this continuity in the visual field then is the material symbolism of the case mod. Many players pay direct homage to certain games by reproducing images from the game or the game aesthetic in the form of their case mod. In this way, case mods not only act as expressions of the gamer-modder’s identity but also as material instantiations or enhancements of the gaming experience. There is a sense in which these case mods allow for the game to continue even when the game itself is not running. The machine sits on the table acting as a persistent material token of an otherwise ephemeral virtual world. The reference to the game world may be direct, as in case mods that reproduce images from the game, or indirect as a material instantiation of the individual resourcefulness, creativity, and sense of style of the modder-player. Some modder-players talk about how gaming on their modded systems helps them “get in the zone.” Other mods are designed to represent not the player’s relation to the game so much as the player’s perception of her or his avatar’s relation to the game world, and this way the case mod may become prop for a kind of role-play.

A last point on this alignment between the game and case mod is that there is a symmetry expressed between the power of the gamer (to break norms, to play out fantasies, etc.) and the power of the modder to control the machine at its material limit. It would be an error to conceive of this relationship of power as one-sided, however. Although there is no doubt that the gamer and the modder both share in the
desire for power as a form of individual control over an other—either another player, the application software, or the machine itself—there is also present in the gamer-modder ethos a desire to experience wonder and to lose control in an experience of the sublime. This is the desire to lose oneself in the game world as well as to marvel at the capacity of the machine to produce such visions, a symmetry that one can see in gamers’ use of the term *awesome* to describe both a sublime gaming experience and a beautiful machine.18

In these ways that I have only just begun to describe, the material expression of the case mod helps constitute the game experience as something that is not reducible to the postmodern analytics of the screen. At the same time, however, the modded machine certainly unsettles the immersive and interactive experience of the surface effects of the software interface by calling attention to the material conditions of its production. Indeed, the visibility of the machine can make it difficult to suspend disbelief and lose oneself in the game in the naïve sense that most game designers aspire to. Despite its consistent neon glow, the case is still a reminder of the mundane world dominated by never-fast-enough computers, insufficient memory, laggy networks, and the interminable interruptions of human bodies. Sometimes, the case is simply more engaging than the game itself, and it is not uncommon at LAN parties, for instance, for gamers to break out into long conversations around one or another modded rig. This too can be seen as an important part of the gaming experience, but it suggests a redefinition of that experience away from the mainstream digital cultural and commercial logics of pure immersion and virtualization and more toward the material pleasures of embodied practice.

**The Case Mod Aesthetic**

No matter how beautiful the form of the case mod, it is crucial to note that serious modding is not simply a matter of display. The old iMac G3 featured a transparent case that revealed circuit boards beneath (in what is now a common design aesthetic for a host of consumer products), but this is a false depth, and with apologies to Turkle, a truly postmodern aesthetic. The old iMac offers us a simulacrum of the modern with a circuit board you can see but cannot touch. My argument here is consistent with that of Marcel O’Gorman (2000), who writes,

> If you look closely into the translucent shell of an iMac what do you see, really? A few circuits leading to a metallic bloc with air vents. In effect, all you can see beneath the translucent plastic veil of the monitor is the real casing of the monitor. The colorful shell of the iMac should be considered an additional layer between the operator and the computer. . . . It is an illusion, a lie, a fashion effect designed to simulate the lifting of a veil. . . . The transparent hardware case instills us with a false confidence by transforming daunting technologies into familiar fashion. With this confidence in place the
user is free to forget about what the circuits and chips are actually doing beneath the polished graphical user interface. (p. 2)

Are window-case mods no different than the old transparent iMacs in this regard? Are these mods really superficial with respect to acknowledging and understanding the role of the technology in the production of the gaming experience? The aesthetic of the case mod is, in fact, precisely the opposite of the old iMac. The case mod does not express a depth that one can see but not touch; rather, it expresses a depth that must have been touched directly by the hands of the user. This is well represented by the hundreds of case mod Web sites that can be found on the Internet. The typical practice on these forums is to post a picture of one’s complete mod along with a visual description of how the mod was accomplished as well as the performance data for the system. Visitors (mostly other modders) then rate the mod and add their comments. It is clear from these Web sites that the value of the mod does not rest with the final state of the system but with its transformation. Moreover, mods that seem to merely be copies of those that already exist or, worse, that seem to have been purchased rather than constructed by the user are subject to vehemently negative criticism. It is crucial then that the mod demonstrate the hand of the user in its construction and presentation.

At the same time, the case-mod Web sites display a communalist ethic typical of other Internet-based groups. Transparency in the description of construction is encouraged so that others can benefit from the knowledge and innovate further. Although this has become more of an issue in recent years with the initiation of corporate-sponsored case-modding competitions (leading to increased secrecy about upcoming mod projects), the modding community nevertheless values its ability to share knowledge, skill, and materials independent of, and often resistant to, formal commercial organization.

Finally, a crucial component of a quality case mod is not only that it works but also that it works well in terms of computer performance. The overall visual aesthetic of these modded gaming systems has a number of subcultural reference points: car culture, raves and techno club culture, industrial chic, science fiction films, and computer games themselves. Yet despite the development of case modding as a form of folk art, it remains intimately tied to machine performance. For this reason, the most apt subcultural comparisons are probably hot-rod car culture and perhaps high-fidelity audio culture. Both of these, also very masculinist, subcultures value the visual aesthetics of machines combined with demonstrations of functional performance. Importantly, the visual layer of windows, lights, painting, and Dremel cuts must serve as conduits or frames for the substantial technical accomplishments of the modder. The relationship is synergistic, however, so that a machine that performs well but has no visual style has as little value to the modder as a machine that has an innovative visual style but does not function.

I will end this discussion by returning to Turkle’s modern aesthetic. We can see now how the case mod unsettles the dominant postmodern aesthetic of the iMac, but
is it that case modding represents a kind of throwback or nostalgia for the early hackers and hobbyists Turkle describes? My reply to this is meant to draw out the specificity of game culture in making sense of an aesthetic that is neither entirely modern nor postmodern in Turkle’s terms. Turkle’s hackers and hobbyists have as the object of their concern the machines in and of themselves. The software and the hardware are themselves objects of pleasure, fantasy, and possibility that help explain the cultural force of dot-com entrepreneurs on one hand and the hacker ethic on the other. For gamers, however, the game (Turkle’s “life on the screen”) is the primary object, and machine virtuosity is simply an unintended consequence of wanting to play games. The gamer-modders are directed toward their machines in spite of themselves so that the same cultural desire to escape their worlds and their bodies inevitably drives them back there again. Normally, the embodied materialities of play are a source of frustration—the body’s fatigue, the network’s lag, and so on—but the case mod turns the machine and the player’s skilled body into a source of pleasure that may be coextensive with the game itself. Such a paradoxical condition of digital culture would not be possible without the postmodern aesthetic impulse to forget its own material trace, so case modding cannot be a return to, or a nostalgia for, a modern aesthetic either.

In the gamer-modder there is perhaps a parable for living responsibly in a digital age. We cannot all be hackers; we have neither the time nor the inclination, but increasingly, we are all gamers. The challenge as numerous theorists, from McLuhan through Baudrillard, Cubitt, Kittler, Latour, and Virilio, have reminded us is in not succumbing to the spectacle of life on the screen without being responsible to it as a contingent material accomplishment. To see and appreciate the technology, to understand its role in the service of pleasure and desire, to make sense of its limits: these are some of the possible politics of the case mod aesthetic.

Notes

1. For a discussion of the concept of the databased self in online gaming, see Simon (2006).
2. Kirkpatrick (2003), in particular, outlines an argument in critique of Turkle and Norman that partly parallels the argument of this article in that a significant feature of the cultural transgressiveness and technological politics of the personal computer stems from its alignment with a more modernist aesthetic impulse.
3. Due to a lack of space, I will omit a more thorough materialist analysis of software code, but a simple glance at hardware advertising in any computer magazine should be enough to make the point. The basic building blocks of any virtual world are speed, memory, and interface, all of which are fundamentally a function of the material possibility of computing. It is also why, in the sphere of technological politics, one needs to attend to the hardware hegemony of Intel as much as the software hegemony of Microsoft.
4. The same actually cannot be said of software, even the Mac OS has some inner code—error codes, for example, or references to memory usage—that occasionally manage to bleed out.
5. For an interesting discussion of cultural concerns with ubicomp, see Galloway (2004).
7. A useful corollary argument to Darley’s (2000) analysis is Sean Cubitt’s (1998) critique of interface technologies as being essentially individualistic (pp. 30-36), but this is a point that can be interestingly developed in the context of massively multiplayer online games, which arguably depend a great deal on the experience of social immersion.

8. Here I am excluding discussions of the gray market for hacked and modified consoles, which as far as I can tell, are deemed a necessity for any serious or hardcore console gamer.

9. For example, some of the minimum system requirements for my PC CD-ROM version of Activision’s Call of Duty 2 reads, “3d hardware accelerator card required—100% DirectX 9.0c compatible 64MB hardware accelerator video card and the latest drivers, Pentium IV 1.4 GHz or AMD Athlon XP 1700+ processor or higher, 256MB RAM (512MB RAM recommended), 4.0 GB of uncompressed free hard drive space.” Although a high-end computer system purchased around the same time as the publication of the game renders the need to know about the system mute, anyone with an older system will have to carefully attend to these specifications in order to run the game.

10. The nature of these games also makes them perfect test beds for new hardware. Computer magazines commonly feature performance scores for hardware running one or more popular twitch games, and students have been fond of using Quake 3 to test network speeds on the Internet2 project (http://www.internet2.edu/).

11. Much of the discussion presented in this section is based on ethnographic fieldwork conducted at LAN parties in Montreal and interviews with LAN party organizers and gamers between 2004 and 2006. For a more extensive discussion of LAN party culture, see Swalwell (2003) and Jansz and Martens (2005).

12. To date there has been very little research on case modding and cultures of hardware modification in general. Far more attention has been paid to software hacking and modding and, most recently, game modding (which is now an intrinsic part of the industry). Game modding is, however, a culturally distinct practice from case modding and overclocking, and the two should not be confused.


14. No scholarly articles on the history of case modding have been written to date. A useful if unsubstantiated account may be found at http://www.virtual-hideout.net/articles/casemod101_history_of_modding/print.htm (retrieved July 23, 2006).

15. I say “skilled” here because manually adjusting dip switches on a circuit board takes no small degree of dexterity and requires some practice.


17. As an observer at LAN parties, it is easy to become engrossed in the case mods rather than the games being played on the screen simply because of the wider perspective and the lack of interfacial connection with the screen. Indeed, it was the experience of being bored watching LAN gaming that I came to focus on case modding in the first place.

18. An interesting site to look at this cross-consumption of virtual spectacle and machine performance is the hardware demo. One famous demo, Nvidia’s Dawn demo (http://www.nzone.com/object/nzone_dawndemo_home.html), demonstrates the performance of GeForce FX 5200 video cards using a photo-realistic animation of a scantily clad fairy.

References


**Bart Simon** is an associate professor of sociology at Concordia University in Montreal. He is director of the Montreal GameCODE project (http://www.gamecode.ca) and is currently doing research on LAN gaming and material culture, human-AI interaction in games, and the cultural sociology of massively multiplayer online games (MMOGs).