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# Forward to the Past: Nostalgia for Handwriting in *Scribblenauts* and *The World Ends with You*

Aaron Kashtan <akashtan\_at\_ufl\_dot\_edu>, Department of English University of Florida

#### Abstract

Claims of the supposed disappearance of materiality in digital culture often entail a nostalgic reimagining of the supposedly embodied, personal or creative aspects of earlier writing technologies, including handwriting. Although handwriting was never a fully embodied writing technology, critics of transparent computer graphics often characterize it as such. This revisionist nostalgia for handwriting is evident not only in critical literature but also in contemporary graphical media such as video games.

Two recent Nintendo DS games, *Scribblenauts* (2009) and *The World Ends with You* (2007), represent two alternative modalities of such nostalgia for handwriting. *Scribblenauts* claims to fully restore the creative properties of handwriting, but inevitably fails to do so. By contrast, *TWEWY* claims to offer not handwriting itself but a digital- and DS-specific equivalent. Therefore, it opens up possibilities for critical reflection on the past meaning of handwriting and on the future of the values that handwriting has come to symbolize.

# Introduction

In this essay I discuss two recent Nintendo DS games, *Scribblenauts* (2009) and *The World Ends with You* (2007), as examples of nostalgic fantasies of handwriting. Nostalgia for handwriting, and more generally for the materiality of older media in general, is a common trope in contemporary discussions of medial change. However, such discussions often understand older media as being more fully material than is in fact the case. When this assumption is not challenged, it leads to attempts to recapture the materiality of older media using the tools of new media — attempts which inevitably fail, as my discussion of *Scribblenauts* will show. On the other hand, in my discussion of *The World Ends with You*, we will see that nostalgia for the materiality of older media can also be mobilized productively: such nostalgia can prompt a critical examination of the question of why materiality is desired in the first place.

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Materiality has emerged as a key issue in many recent discussions of digital media and its relation to older media.<sup>[1]</sup> While materiality is a notoriously slippery concept, for the present purposes I will define it, adapting Johanna Drucker, as the physical, embodied substrate of a sign — as those aspects of a sign which are excessive to its signifying value. For Drucker, any sign involves "two major intertwined strands: that of a relational, insubstantial, and nontranscendent difference and that of a phenomenological, apprehendable, immanent substance" [Drucker 1997, 43]. For example, any given instance of a printed letter Q can be understood either from the viewpoint of its semantic value or from that of its material aspects, such as its typographic properties, the type of ink used to print it, and the material substrate on which it is printed. These latter features are surplus to the signifying value of the letter — a Q is still understood as the "same" letter when any or all of the above-named features are altered, within certain limits — but they connect the letter to the cultural context from which it emerges.

The introduction of digital technology inaugurates a crisis for traditional models of materiality. In pre-digital media, the connection between material and signifying aspects of a sign is unbreakable; any printed, painted, or handwritten sign is literally inseparable from its physical support and its material properties. Digital technology is often understood, however, as introducing a gap between these properties of the sign, such as by separating what Matthew Kirschenbaum

calls *formal materiality* (briefly, what a sign looks like) from forensic materiality (what it actually consists of) [Kirschenbaum 2008, 9–10]. Digital technologies like virtual reality and video games are therefore often criticized as disembodying the sign or as unmooring it from its materiality. Casey Alt, for example, notes that "Virtual Reality has signified for most critics a superficial doubling of surface reality that privileges visuality in such a way as to more strongly foster an eye-mind link that has little, if anything, to do with the particular materialities of human embodiment" [Alt 2002, 387], although he goes on to significantly complicate this claim.

At stake in such polemics over materiality is the question of what happens to the *embodied self* when changes occur in the technological tools whereby that self communicates itself to the world. Older media technologies — photographic film and movable type, for example — may be understood (at least naïvely) as being embodied in the same way that human beings are, as having something "to do with the particular materialities of human embodiment." By virtue of their embodied nature, analog and mechanical technologies seem to osmotically absorb the idiosyncratic properties of the embodied self that uses them. The supplantation of such technologies by digital technologies may thus be understood as a supplantation of the embodied self. The link between embodiment and selfhood is especially strong in the case of the mechanical writing technology I will discuss here, *viz.* handwriting, and the fate of handwriting may be seen as an index of the fate of selfhood in the digital era.

# **Fantasies of Handwriting**

Handwriting, by definition, is evidence of the presence of the writer's body at the place and time of writing.<sup>[2]</sup> Moreover, handwriting necessarily involves a certain excessive component not reducible to its signifying value. The shape, line weight, and other graphic properties of a given handwritten letter are necessarily present, but are not required in order to differentiate the letter from other letters; that is, all these properties could change, at least within a certain limited range, and the letter would be recognizable as the "same" letter. The excessive aspects of handwriting are an index of the physical and gestural activity of the hand that produced the letter. Because handwriting reveals both the fact of the writer's prior bodily presence and the idiosyncratic qualities of the writer's gestural movements, it is often understood in a more general sense as graphically embodying the writer's personality or self. For example, the nineteenth-century pseudoscience of graphology held that a person's character could be read from the graphic properties of his or her handwriting. Indeed, because this theory presupposes that people have a unique and unchangeable personality, it appealed to nineteenth-century Americans who were faced with the loss of other traditional grounds for subjectivity [Thornton 1996, 109 and passim]. Similarly, the Belgian comics scholar Philippe Marion uses psychoanalytic theory to argue that lettering is a privileged sign of the unique enunciative entity responsible for a comics text [Marion 1993]. Such theories of handwriting hold that in writing by hand, one creates an inscription which functions simultaneously as a trace of one's bodily presence and as a physical object that exists independently of oneself. According to these theories, in writing by hand, one literally writes oneself into the world.

This, however, represents not a factual account of handwriting but what I would call a *fantasy of handwriting*, because the assignment of positive connotations of personality and subjectivity to handwriting is a modern invention which becomes imaginable only after the confrontation of handwriting with alternative writing systems. When handwriting was the only writing technology available to individuals, it was often an index of conformity, not individuality. In eighteenth-century England and America, handwriting was one of several arts devoted to "the faithful representation of one's place in society" [Thornton 1996, 35]. In Victorian America, handwriting was a means of revealing character, but in the sense of moral uprightness, not idiosyncratic uniqueness. Sloppy handwriting might have connoted dishonesty and lack of character rather than positive unconventionality [Thornton 1996, 52]. Handwriting historically often served to mechanize the body rather than liberating its kinesthetic potential; for example, the purpose of the Palmerian practice of handwriting pedagogy was to "[turn] the handwriter himself into a machine" capable of competing with assembly-line technology [Thornton 1996, 177]; (see also [Thornton 1996, 21–61 passim]).

The modern understanding of handwriting as expressive of the writer's unique character is therefore largely attributable to the encounter of handwriting with — and replacement of handwriting by — print and type. Handwriting takes on connotations of uniqueness, personality and embodiment precisely because of its contrast with newer technologies that appear to lack these connotations. For example: "The introduction of the typewriter, for instance, shifted the emphasis to

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the standardization of script, but it may even have increased the notion of authenticity associated with handwriting" [Neef et al. 2006, 8]. The Arts and Crafts calligraphy revival, which emphasized "the characteristics which distinguish one person's hand from another's " qtd. in [Johnston 1939, 180–181] and sought "to affirm the value of human individuality" [Thornton 1996, 181], explicitly critiqued the mechanization of handwriting by printed copybooks. At stake in fantasies of handwriting, then, is a certain traditional concept of the self as uniquely embodied, as irreducibly bound to its material instantiation. The fantasy of handwriting develops as an attempt to defend this concept of the self against technologies that seem to replace the material, bodily self with a mechanical or digital surrogate.

However, if fantasies of handwriting do no more than lament the loss of the fully embodied self, they risk becoming purely nostalgic in the restorative sense.<sup>[3]</sup> In order to be productive, fantasies of handwriting need to acknowledge that handwriting, and the self it connotes — a self characterized by individuality, subjectivity and embodiment — is *always already a lost object*. Its embodied and individualizing aspects come to prominence only when threatened by mechanical technology. In the absence of such threats, these aspects of handwriting often fell below the threshold of attention. Analogously, the typewriter might initially have seemed like an ominous symbol of the mechanization and disembodiment of writing, but when compared to the word processor, the typewriter may become nostalgically reenvisioned as an embodied mechanism. (As Arthur Conan Doyle observed, because each typewriter has a unique pattern of deterioration, typewritten text can be as idiosyncratic as handwriting (qtd. in [Gitelman 1999, 215]).

Fantasies of handwriting are created only in retrospect, as a product of the same process of technological change that renders handwriting obsolete. Therefore, these fantasies are based on a revisionary, imagined version of handwriting, which is not necessarily functionally identical to "originary" handwriting (i.e. handwriting as it existed before typewriting or word processing). As Svetlana Boym argues,

The object of nostalgia is further away than it appears. Nostalgia is never literal, but lateral. It looks sideways. It is dangerous to take it at face value. Nostalgic reconstruction is based on mimicry; the past is remade in the image of a present or a desired future, collective designs are made to resemble personal aspirations or vice versa. [Boym 2002, 354]

If the introduction of digital media results in nostalgia for earlier writing technologies, then this nostalgia refers to objects that never truly existed and are constructed only retroactively. The values for which handwriting is cherished were not necessarily present or noticeable before handwriting had anything to be compared to. Therefore, nostalgia for handwriting is deeply ambivalent: it wishes to return to an original condition of handwriting, but knows such a return is already impossible as soon as the need for it is felt.<sup>[4]</sup> Moreover, because fantasies of handwriting arise only after handwriting becomes practically obsolete, they are typically promulgated using the same technologies that they critique. <sup>[5]</sup> In order to be honest rather than purely ludditical or atavistic — in order to be reflective rather than restorative, in Boym's terminology — fantasies of handwriting need to acknowledge the profound gap between originary and reenvisioned handwriting.

For example, Sven Birkerts, a notable opponent of digital technology, observed in 1996 that word processing destroys the commitment to truth that characterized handwriting and typewriting. Because correcting errors on a word processor is a trivial task, the writer no longer needs to think carefully before writing [Birkerts 2006, 157]. This claim is a classic piece of revisionary nostalgia. It advocates a simple return to the past, ignoring the fact that such a return is no longer possible, and not least because the past is only constructed in light of the present. Until Birkerts used a writing technology that enabled him to correct errors effortlessly, he presumably didn't realize that difficulty in correcting errors was beneficial. In a text written ten years later, Birkerts admits that he has been forced to accept the use of digital technology. Though he still writes his first drafts in longhand, he now e-mails them to his editor, and his house is full of technological gadgets, including a PlayStation [Birkerts 2006, 231–232]. As a reluctant convert to digital technology, he feels "like a man living in exile [...] operating provisionally, skeptically, not letting himself form deeper ties because he believes he will one day be returning home" [Birkerts 2006, 234]. Yet Birkerts admits that this belief is not a sincere one, that he knows he can't return from the Babylonian captivity of computers to the Zion of manual writing. Birkerts's revised argument is an example of a reflective fantasy of handwriting, which acknowledges that to remember handwriting is also to retroactively construct it. Here the fantasy of handwriting becomes not merely a lament for the loss of the handwritten

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self, but a meditation on the conditions of possibility of that self.

## Handwriting in Video Games

Contemporary video games represent an important site of both restorative and reflective fantasies of handwriting. It seems counterintuitive that a digital technology could operate as a means of remediating and recollecting a manual one. Yet as alluded to above, fantasies of handwriting arise only due to the replacement of handwriting by more efficient technologies. It's therefore perhaps inevitable that these fantasies should be communicated by means of those technologies.

Handwriting, typing and mental writing had a surprising degree of importance at the origins of video gaming, and their widespread replacement by graphics produces a sense of nostalgia for these modes of interaction. Nick Montfort reminds us that "early interaction with computers happened largely on paper: on paper tape, on punchcards, and on print terminals and teletypewriters, with their scroll-like supplies of continuous paper for printing output and input both" [Montfort 2004, n.p.]. For example, Will Crowther wrote Adventure (1975), the first text adventure game, on an ASR-33 Teletype, an interface that preserved the embodied properties of the typewriter, and he may have corrected his code in pen or pencil [Montfort 2004, n.p.].<sup>[6]</sup> The game was created in tandem with a hand-drawn map of part of Kentucky's Mammoth Cave, which was based on computational line plots of data gathered by Crowther and other cavers with compasses and measuring tapes [Jerz 2007, ¶59]. At the origin of Adventure, and thus of a certain tradition of narrative video gaming, are various processes of embodied writing. Playing text adventures equally involves real or metaphorical writing. The text adventure game involves the exploration of a simulated world which is not visually depicted, so to navigate that space effectively, the player must develop a functional understanding of its geography and the contents of each of its locations. One way to do this is to imagine what the gameworld looks like. This process is comparable to writing or drawing because it involves the creation of a visual artifact (imaginary in one case, real in the other) which didn't exist before and which is to some extent unique to oneself.<sup>[7]</sup> Another way to understand the gameworld visually was to map it on paper. Accordingly, hand-drawn and hand-annotated paper maps were an invaluable accessory to early Adventure players [Montfort 2004, n.p.].

Even after graphics became the norm in video games, scriptural processes continued to characterize their creation and reception in various ways. Ken and Roberta Williams's *Mystery House*, the earliest graphical adventure game, featured vector graphics rendered with a light pen, some of which were representations of handwriting [Kirschenbaum 2008, 131–132]. Mapping the gameworld on paper was still often necessary even when the gameworld was visually rendered. For example, in *Wizardry* (1981), the dungeons were designed so as to be mappable on graph paper and the manual emphasized the importance of mapping [Barton 2008, 71]. Players of such games also used paper in order to keep track of other relevant information not tracked automatically by the game. Players of games like *Wizardry* and *Ultima* (1980) were heavily reliant on paper "notes, records and ledgers of their individual game experiences" [Myers 2003, 17]. In this respect these games mimicked the non-electronic genre from which they were descended: the "paper-and-pencil" RPG [Myers 2003, 16], whose very name comes from the fact that it employs handwriting as a system of record-keeping.

Over the course of video game history, the embodied and scriptural modes of interaction characteristic of early video gaming were shunted aside by other modes of interaction which claimed to offer greater transparency or immersivity.<sup>[8]</sup>

After *ADVENT* [i.e. *Adventure*], the adventure genre moved through several superficially distinct forms: the original text adventures; graphic adventures (e.g., *Myst*); and third-person graphic adventures (e.g., *King's Quest*). The differences among these were the result of differences among game signifiers; each employed the same basic signification process. [Myers 2003, 15]

These latter genres were functionally identical to the text adventure in terms of gameplay, but their more transparent graphical interfaces decreased the player's ability to inscribe himself or herself into the gameworld. The increasing visual richness of the gameworld deprives the player of the need or desire to imagine it. A game like *Myst*, for example, offers the player little if any opportunity to inscribe anything into the gameworld because that world is already

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prerendered in immense detail. (This is ironic, since the premise of *Myst* is that one can transport oneself into other worlds by *writing* about them, and the infradiegetic texts in the game are handwritten.) Figuratively, as graphics become more transparent, the condition of possibility of inscription on the player's part — the existence of a blank space on which to write — is lost. An analogous development was the introduction of automapping in the late 1980s, which eliminated the need to graphically depict the gameworld on paper.

Mainstream accounts of video game history tend to ignore the loss of the inscriptional and material aspects of video gaming, or to treat this loss as the natural consequence of the medium's evolution toward greater transparency. For example, Julian Dibbell dismissively contrasts *Adventure*'s "laconic text descriptions navigated by means of simple two-word commands" with *Myst*'s point-and-click interface and "complex graphical environments of an almost liquid radiance" [Dibbell 2001]. Dibbell characterizes *Adventure*, with its sparse textual descriptions and its unnatural interface, as the starting point of a teleological progression that culminates in the radiant visuality and naturalistic interface of *Myst* (and now in stereoscopic 3D graphics and controllerless interfaces like Microsoft's Kinect). In presenting transparency as the teleological goal of video gaming, such accounts seek to draw attention away from the possibilities of embodied inscription that are foreclosed by transparency, following what Terry Harpold calls the discourse of the upgrade path:

Because technical innovation in popular computing is driven more by the allure of expanding markets than by something so quaint as a sense of responsibility to historical continuity, commercial discourses of the upgrade path will inevitably promise consumers new and more satisfying interactions, and encourage them to see the older ones as outmoded or no longer relevant. [Harpold 2009, 3]

Yet the disappearance of handwriting also inspires nostalgia for and fantasies of handwriting. Within the video game industry, this began to occur as early as 1983 when Infocom, the preeminent developer of text adventure games, released ads that claimed:

We draw our graphics from the limitless imagery of your imagination — a technology so powerful, it makes any picture that's ever come out of a screen look like graffiti by comparison [...] And you're immersed in rich environments alive with personalities as real as any you'll meet in the flesh — yet all the more vivid because they're perceived directly by your mind's eye, not through your external senses.<sup>[9]</sup>

This claim follows the logic of transparency [Bolter & Grusin 2003, 21–24] in that it characterizes text as *more* visually rich and immersive than graphics, since the power of imaginative visualization is not subject to the limits of current graphical technology. Accordingly, other ads from this campaign criticize the quality of contemporaneous computer graphics.

Yet the ad also implies that text has advantages over graphics regardless of graphics' present state of technological evolution: it begins by claiming "there's never been a computer made by man that could handle the images we produce. And there never will be." Whatever their quality, graphics are limited by technological constraints, whereas mental images are limited only by the player's imaginative capacity and existing repertory of visual experience. (Perhaps deliberately, the Infocom ad fails to acknowledge that these are hardly insignificant limits, or that players might differ in their ability or inclination to visualize.) Moreover, imaginative visualization of the gameworld is an embodied process situated in the player's brain: the ad campaign describes the brain as "the world's most powerful graphics technology." Visualization varies according to the preferences of each individual player, and is thus as personal as handwriting, whereas graphics look the same to everyone. In stressing the value of text over graphics, Infocom nostalgically advocated the personalized aspects of older technology against the allegedly superior transparency of newer technology.

This sort of nostalgia was more restorative than reflective, as it merely argued that the old technology was better than the new one. Such restorative nostalgia is not uncommon in the video game industry: "As game technology has improved and as daily life becomes more saturated with media technology, [...] early video games have also become

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objects of nostalgia in that their low-resolution aesthetics have come to be perceived as a retrospective ideal" [Whalen & Taylor 2008, 7]. Video game nostalgia becomes reflective rather than restorative when game creators acknowledge that earlier video games are retroactively altered in the process of remembering them. Reflective nostalgia can even be aided by the use of the same new gaming technologies that made the old ones obsolete; the superior affordances of new video gaming technologies can be used to open up ways of rethinking and reimagining older gaming genres and technologies. For example, the Nintendo DS *Retro Game Challenge* (Namco Bandai Games, 2007/2009) offers a collection of eight video games that parody or pay homage various NES games; it takes advantage of the superior storage of DS cartridges. What's essential, however, is that the nostalgic game not merely repeat the object of nostalgia; it must also acknowledge the fact that the object of nostalgia is unrecoverable in its originary form. Similar claims can be made about video games that incorporate nostalgia for and fantasies of handwriting. In order to be productive, such games have to take into account the profound gap between handwriting and the digital technologies used to remediate it, rather than seeking to fully restore handwriting to its original state.

I will demonstrate this by means of case studies of two games for the Nintendo DS handheld system — a system which has unusual material features that, I will argue, make it particularly well adapted to the presentation of fantasies of handwriting. Thus, by examining DS games that take advantage of these features, we can learn much about how fantasies of handwriting are transformed by digital technology.

The DS is unique in that it features two screens. The top screen is a conventional LCD screen, but the bottom screen is overlaid with a resistive touchscreen which accepts input from a stylus or other pointing device. A resistive touchscreen consists of two sheets of electrically resistive material with a gap between them. When the stylus makes contact with the surface of the screen, the two sheets are compressed together, creating an electrical impulse, and the X and Y coordinates of the location of the impulse are registered [Wikipedia 2010a].



Figure 1. The Nintendo DS. This image is in the public domain.

Not all DS games require the use of the stylus at all — for example, *Final Fantasy IV* (2008) and *Dragon Quest V* (2009) use the stylus only for optional minigames. In some DS games — e.g. *The Legend of Zelda: Spirit Tracks* (2009) or

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Dragon Quest IX (2010) — the stylus is used merely as a pointing device, and the player uses it only to perform nondiegetic operator acts or move acts [Galloway 2006, 12, 22]. In other games, however, using the stylus represents an expressive act, i.e. an action that "exert[s] an expressive desire outward from the player character to objects in the world that are deemed actionable" [Galloway 2006, 24]. In DS games, the action expressed by using the stylus is often the act of using a tool, and the stylus often represents this tool, in the same sense in which a theatrical prop sword "represents" a real sword. This is a crucial difference between the DS stylus and other video game control mechanisms. In general, players always perform expressive acts by means of some form of material engagement with the game's control mechanism: "while there is an imaginative form of the expressive act within the diegesis of the game, there is also a physical form of the same act" [Galloway 2006, 25]. However, with traditional control mechanisms the "physical form" and the "imaginative form" usually have little in common. The player pushes a button to make the avatar jump, fire a gun, swing a sword, or do various other acts that are dissimilar to the act of pushing a button. By contrast, with the DS stylus, the "physical form" of an expressive act often resembles its "imaginative form," because the player uses the stylus — an elongated, hand-held tool — to simulate an act that is performed using just such a tool. For example, in Trauma Center: Under the Knife (2005), the player uses the stylus as a scalpel, simulating the act of making an incision by "cutting" along a line drawn on a patient's body. In Grand Theft Auto: Chinatown Wars (2009), the player hotwires a car by using the stylus to unscrew the ignition switch. The player draws a circle on the screen, simulating the act of turning a screwdriver.

Other contemporary gaming systems — the Nintendo Wii, the Sony Move, the Microsoft Kinect — make similar use of analog control mechanisms in order to erase the gap between the physical and the imaginative form of the expressive act. For example, in Kinect Sports (2010), the player plays table tennis using his or her hand as a paddle, or throws a javelin by making the appropriate arm motion. However, the DS differs from these three platforms in that it requires physical contact with a two-dimensional control surface. Using the Wii, Kinect or Move entails making gestures in the air, whether with a control device or without. Using the DS entails making inscriptions on a surface. This makes the DS uniquely appropriate for the simulation of physical acts that involve engagement between a hand-held tool and a flat surface — and the principal example of such an act is writing. The DS is thus particularly well suited to the simulation of handwriting and the promulgation of fantasies of handwriting, and the two games I will analyze in depth both employ the DS for this purpose. Again, these games can be differentiated from games on other platforms that employ interfaces that mimic handwriting. Perhaps the most notable example of such a game is Okami (Clover Studio, 2006), a PlayStation 2 game, later ported to the Wii, in which the player can transform the three-dimensionally rendered gameworld in various ways by writing on it with a "Celestial Brush." Okami, however, is controlled with an analog thumbstick (or later the Wiimote) rather than a true handwriting interface, and thus the player of Ōkami simulates handwriting by performing an act which only loosely resembles the actual act of handwriting. The difference between the Celestial Brush and a real ink brush is obvious — much more obvious than the difference between the DS stylus and an actual pen or pencil.

Using the DS stylus *feels* like handwriting. This perception is reinforced by the material qualities of the system itself, which is about the size and shape of a small paperback volume. Some games (e.g. *Hotel Dusk: Room 215* [2007]) even ask the player to hold the DS sideways, so that the player feels he or she is holding a small datebook or planner in one hand, and writing in it with the other. It's because of the close perceptual similarity between DS writing and handwriting that the DS represents such a crucial test case for fantasies of handwriting. Does the DS merely create a dishonest simulacrum of handwriting, or can the DS open up a space for critical reflection on what handwriting means? My two case studies will address this question.

# Scribblenauts

One of the most heavily hyped DS games of 2009, *Scribblenauts* revolves around a premise which is brilliant in its simplicity. When the player writes the name of any object, within certain limits, that object is created. In other words, if the player writes anything from "scissors" to "sewing machine" to "Cthulhu" (using either an onscreen keypad or a handwriting interface), that object appears in the gameworld. The player can then move it around with the stylus, and it can interact with other objects and with the player character. This simple premise creates the possibility of an arbitrarily large number of object interactions and puzzle solutions. *Scribblenauts*'s lexicon includes tens of thousands of words,

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so any common object the player can think of is quite likely to be included, creating the impression that the player's freedom of action is limited less by the game's lexicon than by his or her imagination and vocabulary.



Figure 2. Cover of Scribblenauts.

*Scribblenauts* presents this gaming mechanic as a remediation of handwriting. To "scribble" is to "write in an irregular, slovenly, or illegible hand through haste or carelessness; also, to produce (marks, a drawing, etc.) or portray (an object) by rapid and irregular strokes like those of hurried writing" [OED 1989]. Although "scribbling" may pertain to content as well as penmanship, the word has strong associations with handwriting. A scribble*naut*, then, is one who writes quickly and playfully, by hand, as a means of exploration — or, by analogy with "astronaut," one who explores the realm of scribbles. On the game's cover, we see the avatar, Maxwell, writing with a pencil. The logo looks handwritten (the two B's look significantly different) and the slogan is set in the Comic Sans font, which mimics the stereotypical handwriting of comic book letterers. In the game, the visual motif of wide-ruled notebook paper, which appears on the handwriting with childhood, and thus promises to return the player to an idyllic former state when handwriting represented a new way of expressing oneself both visually and linguistically. The DS itself is often denigrated as a system for children, perhaps due to this very association of handwriting with childhood as well as to its large library of educational software. *Scribblenauts* seems to accept this characterization and to turn it into something positive, as indicated by one artistic response to the game [Munroe 2009]:



Figure 3. Scribblenauts, from Randall Munroe's webcomic "xkcd".

Rather than disputing the male stick figure's claim that *Scribblenauts* is a "DS kid's game" or his equation of "DS" with "kids," the female stick figure accuses him of pretentiousness. The point is that *Scribblenauts* is a "kid's game" in a positive sense. It partakes of the optimism of childhood and reminds the player of the novelty and empowerment involved in first learning to write. (This is, of course, restorative nostalgia, as it ignores that the study of handwriting is usually stigmatized in American culture as tedious busywork, and may only be remembered fondly in hindsight).

Scribblenauts offers the player something more than handwriting itself provides, since it turns handwriting into a means of generating magical effects. However, the suggestion is that the differences between actual handwriting and the Scribblenauts interface are differences of degree rather than kind. If Scribblenauts gives the player the magical power to summon objects into existence (or the same level of existence enjoyed by the other preexisting objects in the gameworld), then this is precisely what handwriting does, according to fantasies of handwriting. In such fantasies, handwriting means writing oneself into the world. The handwritten word or the hand-drawn line is a material object as well as a sign — as is whimsically demonstrated in the silent cartoon "Comicalamities" (1928), where Otto Messmer draws Felix the Cat in pen, and Felix then starts to behave independently and interact with his creator. By writing with pen and paper, one creates permanent material traces which are as real as the pen and paper. Thus, in Scribblenauts, when the player writes "shovel," a simulated shovel comes into existence and, within the diegetic world, has at least as much solidity and permanence as the written word "shovel" would in the real world. The game suggests that this simulated object does not merely replace, but is instead identical to, its handwritten name. (By toggling an onscreen icon, the player can tap any object to see its name. When this is done with a player-created object, the game displays the name that was used to create that object, even if it has other possible names.) In Scribblenauts, to write by hand is literally to create objects, and this is presented not as a drastic alteration of the meaning of handwriting but as an unleashing of a magical potential that was always already present in handwriting. Of course there is a difficulty here, in that the words the player actually writes in Scribblenauts are far less permanent than actual handwriting. When the player writes "shovel," each letter of the word vanishes from the screen once written (the game's handwriting interface allows the player to write only one letter at a time), so the handwritten word never even exists as a complete entity. However, the creators of Scribblenauts seem to want the player to ignore this difference between the game's handwriting and originary handwriting.

*Scribblenauts* further enacts the fantasy of handwriting by promising that, through using handwriting to create objects, the player can practice the values of personality and creativity that handwriting represents, by traversing the game however s/he chooses. The game's slogan, "Write Anything. Solve Everything," testifies to this promise of unlimited interactional freedom. On the game's title screen, the player can literally fulfill the first half of this slogan by writing objects without the risk of dying. Of course, the title screen is not actually a game in the strict sense, because games employ "rules and constraints in order to define and bound the play experience" [Tanenbaum & Tanenbaum 2009, 3]. A successful gameplay experience involves a delicate balance between player agency and authorial control, in which the player expresses agency within the contours of an authorial framework.<sup>[10]</sup> This is analogous to how handwriting, as fantasized, involves personal improvisation on predefined letterforms. However, the gamic (i.e. goal-oriented) portion of

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Scribblenauts provides an unusually loose authorial framework, and thus claims to offer the player broad opportunities to express the same sort of creative agency that handwriting represents. In each of *Scribblenauts*'s 220 levels, the player's goal is to obtain a McGuffin object called a "Starite," either by traversing a series of obstacles to reach the Starite, or by fulfilling a predefined condition in order to make the Starite appear. The player can use any object or combination of objects in order to solve each level. Because of the vastness of the game's lexicon, each level (supposedly) has many possible solutions none of which is uniquely correct. Therefore, the achievement of solving a level testifies to the player's ability to think creatively, as opposed to merely reconstructing the solution the developer had in mind. The game even rewards the player for solving each puzzle three times without reusing any words. In playing *Scribblenauts*, then, the player not only writes objects into existence, but does so in a creative, idiosyncratic way, so that the objects the player writes are also testaments to the player's faculty for creative thinking and improvisation.

In short, *Scribblenauts* enacts the fantasy of handwriting in a highly literal way. The game's massive critical and commercial success, despite several widely acknowledged flaws, suggests that this strategy of cultivating nostalgia for handwriting appeals to DS consumers.<sup>[11]</sup> However, the trouble with the fantasy of handwriting is that it is a fantasy — an account of what we *want* handwriting to be, not of what handwriting actually is. The fantasy of handwriting expresses a *desire* to engage in a certain type of material interaction, yet this desire is predicated on a lack: we only want handwriting because we don't and can't have it. When games or other texts try to satisfy the desire for the fantasized version of handwriting, all they can accomplish is to show the unsatisfiability of that desire.

This, at least, is what happens in *Scribblenauts*. This game can only fulfill its promise to satisfy the desire for handwriting if it actually enables the player to use handwriting as an interface. However, in actual game play, the player is discouraged from using the handwriting interface because of its inefficiency. *Scribblenauts* offers two different interfaces: a handwriting interface in which the player writes one letter at a time, and an onscreen keypad. Thus:

The original design of *Scribblenauts* called for writing letters, with the stylus to serve as the main method of word input — we loved the visceral feeling of writing and watching an object appear. [Tringali 2009]

Accordingly, the game's developers, 5th Cell, used the keyboard interface only as "backup" while designing custom handwriting recognition software. However:

Eventually we realized that no handwriting recognition software could operate faster than a keyboard. We still spent time refining the letter recognition, but it was clear keyboard input would be the primary input method for *Scribblenauts*. [Tringali 2009]

Greater speed is the primary affordance of the keyboard interface in *Scribblenauts* over the handwriting interface, and indeed, of typing over handwriting more generally. Despite the best efforts of pedagogues like Austin Norman Palmer, handwriting can't compete with the mechanical efficiency of typing. Indeed, this is one major *reason* for the contemporary privileging of handwriting. For Arts and Crafts calligraphy revivalists, handwriting was valuable because it represented conscious, thoughtful craftsmanship, in contrast to the soulless efficiency of the machine [Thornton 1996, 179–181]. This valuation of handwriting as a sign of individual creative labor is closely allied to *Scribblenauts*'s ideological project. Yet as a fast-paced action game, *Scribblenauts* cannot afford the loss of gameplay speed that handwriting entails, and it gives the player no incentive to use the handwriting interface rather than the keyboard.

Furthermore, even if the player uses the handwriting interface, this doesn't entail a complete revival of handwriting, because handwriting recognition technology involves stripping out the unique and personal aspects of the player's handwriting. According to two experts in the field, handwriting recognition is defined as "the task of transforming a language represented in its spatial form of signifying marks into its symbolic representation" [Plamondon & Srihari 2000, 64]. It operates by recording the temporal and spatial parameters of handwritten traces, preprocessing them to eliminate noise, and then comparing them to a set of predefined letterforms stored in memory. Its purpose is to extract the semantic value of a handwritten message, precisely by abstracting out the excessive and idiosyncratic qualities that make handwriting an object of nostalgia: "[H]andwriting recognition and interpretation are processes whose objectives

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are to filter out the variations so as to determine the message" [Plamondon & Srihari 2000, 64]. *Scribblenauts*, then, can only preserve the idiosyncrasy of the player's handwriting in a figurative sense, if at all, and not in a literal sense.

Finally, writing on the DS touchscreen is an extreme abstraction of writing on paper, because the DS's touchscreen records only the two-dimensional shape of a stroke and the order and direction in which strokes were made. It ignores, for example, the pressure with which the stroke is made, a property which other touchscreen technologies try to preserve. (Wacom graphics tablets, for example, come with a pressure-sensitive stylus).<sup>[12]</sup> Moreover, the touchscreen itself, unlike paper, is a purely two-dimensional surface; it has only one side and no thickness. Nor does the touchscreen perserve the visible traces of what's written on it. When a line is drawn on a touchscreen, it's recorded as stroke data which may be permanently stored in memory, yet the line itself soon disappears. The DS may *feel* more like paper than other video game technologies, yet it is irreducibly *unlike* paper in terms of how it responds to input. In general, the DS does a much more effective job of remediating handwriting than the PS2 or the Wii did (in the case of *Ōkami*). Even so, the DS's version of handwriting is quite far from the real thing.

It would obviously be premature to conclude from this that touchscreen technology is incapable of replicating the "personal" or "embodied" properties of handwriting — if this is true, it's only true insofar as those properties are only ever incompletely present in handwriting to begin with. We can, however, conclude that the DS's handwriting recognition technology is *not intended* to preserve the player's subjective traces. The DS's handwriting interface is a component, not of a dedicated artistic tool like a Wacom tablet, but of a gaming interface. It therefore has to enable *both* player agency, which includes creativity, and *efficient* interaction — which often operate at cross purposes, as demonstrated when 5th Cell ceased development on the *Scribblenauts* handwriting interface. When 5th Cell used the DS to present an uncritical version of the fantasy of handwriting, they failed to do so with complete success, because they ignored the gap between DS handwriting and originary handwriting.

*Scribblenauts*, then, cannot fully satisfy the desire for handwriting in a literal sense, nor does it fully succeed in doing so in a figurative sense by enabling players to exercise the creative agency that handwriting represents. The game often provides insufficient opportunities to exercise creative agency. Many of its levels ask the player to repeatedly perform the same tasks, like killing enemies, flying, swimming or digging through dirt, and only a few words in the lexicon are capable of accomplishing these tasks efficiently. The need to repeatedly perform these tasks forces the player to overrely on certain words, which limits the player's ability to exercise genuine creativity.<sup>[13]</sup>

This isn't to say that *Scribblenauts* can't trigger reflective nostalgia for handwriting on the part of the player — that it can't make the player critically evaluate the difference between originary handwriting and the version of handwriting it offers. Indeed, *Scribblenauts* is likely to produce this effect unintentionally, by forcing the player to observe the incomplete success of its remediation of handwriting. However, it appears that producing critical reflection on handwriting was not 5th Cell's primary intent in creating this game; instead, they sought merely to use the DS interface to satisfy the desire for handwriting. By contrast, *The World Ends with You* makes a more sincere effort to encourage critical reflection on handwriting, because it makes no claim to fully satisfy the desire for handwriting. In examining this game, therefore, we can get a better idea of what a critical, digital version of the fantasy of handwriting might look like.

## The World Ends with You

Developed by SquareEnix and Jupiter, *The World Ends with You* (TWEWY) was released in Japan in 2007 under the title *Subarashiki kono sekai* ("It's a Wonderful World"), and was released in America and Europe the following year.<sup>[14]</sup> Although it resembles a traditional SquareEnix role-playing game (RPG) in many ways,<sup>[15]</sup> *The World Ends with You* is notable for its highly innovative combat system, which requires players to control both the DS's screens at the same time. In combat, the player's avatar, Neku, appears on the touch screen. Over the course of the game, Neku collects objects called "pins", most of which give Neku magical abilities — called "psychs" — when equipped in combat. Each psych is triggered by performing a specified action with the stylus (except for some which are triggered by blowing into the DS's microphone). These actions include touching an enemy, slashing an enemy (i.e. drawing a line across it), drawing a circle on the screen, picking up and dragging onscreen objects, and rubbing the screen repeatedly. Neku's partner appears on the top screen, and the player uses either the D-pad or the action buttons to choose the direction in

which the partner attacks. Since the buttons on the left-hand side of the DS have the same functions as the buttons on the right-hand side, the player uses the non-dominant hand to push buttons while using the dominant hand to control the touch screen. (Obviously, controlling two screens at once takes some getting used to, but in practice the bottom screen usually requires most of the player's attention.)



Figure 4. Screenshots from "The World Ends with You". The exploration interface appears on the left, the combat interface on the right.

Controlling Neku involves the same physical motions as writing or drawing. To control Neku, the player draws straight lines, circles and dots, or drags heavy objects over enemies, as if using a pencil eraser. The game seems to ask the player to press buttons and write or draw by hand at the same time, thus engaging simultaneously in manual and digital means of writing. In short, then, playing *TWEWY feels like* handwriting. Yet, for all the reasons cited above, it's not handwriting; there is a profound gap between *TWEWY* handwriting and originary handwriting. *TWEWY* only detects whether the player has correctly executed the stylus action corresponding to the pins Neku is wearing, and ignores the idiosyncratic aspects of the player's handwriting. This becomes obvious, for example, when Neku wears two pins that require similar stylus actions, such as "touch" and "tap rapidly." The game has trouble distinguishing between these actions because both are represented by the same patterns of stroke data.

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Where *TWEWY* crucially differs from *Scribblenauts* is that it acknowledges this gap between DS writing and originary handwriting. It doesn't present the touchscreen as an uncritical restoration of handwriting. It makes few explicit references to handwriting, except that it uses the euphemism "erased" for "killed." Its touchscreen commands are not called penstrokes but "stylus actions." The similarity between handwriting and playing *TWEWY* is not foregrounded. *TWEWY*, then, is not constrained by the ideological project of producing a replica of fantasized handwriting. Its success or failure as a game is not measured by the similarity or dissimilarity of its writing system to the fantasized version of handwriting. Instead of trying to literally recreate handwriting, SquareEnix was able to simply seek to create a system that offers the characteristic pleasure of handwriting: the expression of creative agency through embodied interaction. Combat in *TWEWY* is not handwriting, but it's fun for the same reasons that handwriting is fun. It engages the hand (both hands, in fact) and the rest of the body, whereas combat in other SquareEnix titles is often a boring process of repetitive button-mashing. It allows one to immediately view the results of one's actions, although these results come in the form of damage to enemies rather than permanent inscriptions. Moreover, *TWEWY* offers the player genuine freedom of play style, since many different pins are available and the player can therefore choose the pins that suit

his/her personal play style. Unlike *Scribblenauts*, *TWEWY* doesn't claim that this freedom is unlimited or that the player can "draw anything." Rather than trying to uncritically satisfy the desire for handwriting — a project which is impossible because this desire is based on a constitutive lack — *TWEWY* uses digital processes to evoke the memory of handwriting. It is therefore able to open up a space for critical reflection on what handwriting meant and on how our memory of handwriting might inform our engagement with the post-digital world. This is in keeping with Boym's definition of reflective as opposed to restorative nostalgia:

Restorative nostalgia puts emphasis on *nostos* and proposes to rebuild the lost home and patch up the memory gaps. Reflective nostalgia dwells in *algia*, in longing and loss, the imperfect process of remembrance [Boym 2002, 41]

. Rather than simply trying to revive handwriting (and inevitably failing), *TWEWY* invites the player to notice the gaps between its interface and handwriting, and to reflect on what these gaps might mean.

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*TWEWY* further encourages such reflection by means of its story, which, as with most SquareEnix games, is heavily foregrounded. The *TWEWY* player uses the handwriting interface not only for its own sake, but also as means of progressing through a story in which the values associated with handwriting — creativity and individuality — play crucial roles. (By contrast, *Scribblenauts* effectively has no story; the game never explains who Maxwell is, why he is able to write objects into existence, or what his motivation is for collecting Starites.)<sup>[16]</sup> *TWEWY*'s story argues that creativity and idiosyncrasy are of vital importance, but are not simply there for the taking; these values must be obtained and defended through active effort. Moreover, these values are not absolute. Taken to an extreme, the desire to assert and express the embodied self leads merely to narcissism, to a neglect of the socially situated nature of the self. In order to make productive use of the qualities that handwriting stands for, the writer must realize that handwriting is useless in a vacuum; it only works because of a constitutive gap between the self and the other. Handwriting requires a reader.

The game's setting — Shibuya, the fashion capital of Japan — is portrayed as a space where many subcultures interact, each characterized by particular fashion and lifestyle choices. Shibuya is a space where Neku and his allies are free to define their own styles, to express their personalities visibly. Accordingly, creativity is the guiding principle of the game's protagonists. Neku's role model is a graphic designer named CAT, precisely because of CAT's philosophy of exuberant individuality and freedom (CAT's motto is "Do what you want, how you want, when you want it"). Neku's first partner, Shiki, is an aspiring fashion designer.

Conversely, the goal of the game's villains is to eliminate creativity and individuality, which they see as security risks. Mr. Kitaniji, one of the game's principal villains, calls Shibuya "a cacophony of countless selfish wants" and claims, "As that noise swells, it turns into crime, warfare... All the world's ills can be traced to individuality!" For example, in one episode the villains open a new noodle restaurant and pay a popular blogger, the Prince, to recommend it to his readers. The Prince's fans obediently flock to Shadow Ramen, not because they like the food but because their arbiter of taste tells them to. As collateral damage, Shadow Ramen threatens the existing local ramen restaurant, whose owner, Ken Doi, is guided by his own honest creative compulsions. His motto is "I just serve up the kind of ramen I'd want to eat." Faced with the threat of bankruptcy, however, Ken Doi abandons this philosophy and starts looking for the "next big thing" in ramen. Thanks to Neku and his partner's intervention, however, the Prince becomes ashamed of lying to his readers and of recommending food he dislikes. He retracts his positive review of Shadow Ramen, saving Ken Doi's restaurant. A small battle in the war for creativity has been won. Thus, at the same time that the game stresses the value of creativity and individuality, it stresses that these values are constantly threatened by conformity. Creativity exists in a constant dialectic with conformism — indeed, perhaps it can't exist otherwise, since these concepts are defined by their mutual opposition — and the preservation of creativity is therefore never an uncomplicated task.

This is fortunate, because handwriting is a means of intersubjective communication as well as creative expression. Rather than uncritically praising creativity as *Scribblenauts* does, *TWEWY* suggests that when individuality is taken too far, it leads to solipsism. Creativity and individuality function only within a larger value hierarchy which includes respect for others. Neku's problem is that he focuses exclusively on self-expression, and therefore has little concern for other people; hence the game's pessimistic title. Over the course of the game he learns to collaborate productively with his partners — something which the player is forced to also learn by mastering the game's battle system, which requires simultaneous control of Neku and his partner — and in the ending the title is replaced by the phrase "The World Begins with You." *TWEWY* presents creativity not as an absolute value, but as a function of the democratic interaction of multiple conflicting subjectivities. The game demonstrates this perfectly with its mechanic of branding. The game includes 13 brands of clothing and pins, and each area in the game has a list of popular and unpopular brands. Pins receive a power boost if they belong to a most popular brand, and a penalty if they belong to an unpopular one. Thus, the player has an incentive to be a slave to fashion. However, if the player fights several battles in an area while wearing pins and clothing of a certain brand, then that brand will become more popular and its corresponding pins will become more powerful. Thus the player also has an incentive to be a trendsetter and is not discouraged from dressing the characters according to his or her wishes; however, the player is also encouraged to work at sharing his or her stylistic preferences with others. Much like handwriting, fashion is of little use unless someone else can understand it.

Both these modes of expressing creativity are based on a constitutive gap between the creative self and another self toward whom that creativity is expressed. The DS's remediation of handwriting is necessarily incomplete, failing to permit the player to perfectly express his or her self (because, for example, the DS's handwriting interface works by stripping out the idiosyncratic qualities of the player's handwriting). But this is only a literal example of the way in which handwriting itself is also necessarily incomplete. As Derrida remarks, handwriting works not because of the presence but because of the constitutive *absence* of the self; handwriting serves little purpose when the writer is actually present. Signatures, for example, only work because they're iterable:

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The condition of possibility for these effects [of signature] is simultaneously, once again, the condition of their impossibility, of the impossibility of their rigorous purity. In order to function, that is, in order to be legible, a signature must have a repeatable, iterable, imitable form; it must be able to detach itself from the present and singular intention of its production. [Derrida 1982, 328]

If DS handwriting "detaches itself" from the embodied self that produces it, then it merely functions in the same way that paper handwriting always has.

In encouraging the player to confront the incompleteness of handwriting, then, *The World Ends with You* opens up a space for critical reflection on handwriting and on the concept of the self that handwriting presupposes. It invites the player to ask whether handwriting ever really worked the way it was supposed to, or whether the embodied self of handwriting ever existed to begin with. *The World Ends with You* therefore goes beyond *Scribblenauts* by using the unique properties of the DS to present a reflective, critical version of the fantasy of handwriting.

# Discussion

Nostalgia for older media is a common theme in contemporary critical and popular discourses, and the insights gained by observing the DS's remediation of handwriting can prompt more general reflections on the motivations behind such nostalgia. In what Bill Brown calls the "dematerialization hypothesis" [Brown 2010, 51], digital media are often seen as severing the physical connections that formerly existed between human bodies and technological tools. As an example of this hypothesis, Brown quotes Colin Renfrew: "Because 'the electronic impulse is replacing whatever remained of the material element in the images to which we became accustomed,' the 'engagement with the material world where the material object was the repository of meaning is being threatened' " [Brown 2010, 51]. What the dematerialization hypothesis often assumes, however, is that there *was* a previously existing condition of "engagement with the material world," and that when this condition existed, its beneficial effects were understood and cherished. As seen in the above discussion of Birkerts, these assumptions are questionable. Even if a given medium (e.g., photography or handwriting) ever was fully "material," it may not have been understood as such until it was challenged by a less "material" medium. Therefore, nostalgic appeals to the superior materiality of older media may be unconsciously based on a revisionary understanding of these media. Nostalgia, in such cases, merely expresses a desire to return to a lost home, forgetting that this home never existed to begin with. *Scribblenauts* is a clear example of this pattern.

Nostalgia for media such as handwriting becomes productive and generative, however, when it serves as an occasion for critical reflection on the meaning of the old media. Instead of simply claiming to restore us to a lost condition of full

materiality, this mode of nostalgia asks us to consider: Did we care about this condition of materiality when we had it? If so, why — what sort of values did we attach to it? Now that we've lost this condition of materiality, why do we desire it — what sort of lack does this desire respond to? And would we truly benefit if this desire were satisfied? *The World Ends with You* effectively mobilizes nostalgia to prompt this sort of questioning. At its best, then, the fantasy of handwriting doesn't simply claim to uncritically restore to us the lost power of handwriting; instead, it makes us ask ourselves *why* we want to write ourselves into the world.

#### **Notes**

[1] See [Brown 2010] for a helpful survey of uses of the term materiality in digital studies.

[2] As argued in [Derrida 1982], this presence is always already past; a written sign testifies that its writer was there but is there no longer. The nostalgic discourse of handwriting tends to ignore this fact.

[3] For an explanation of the distinction between restorative and reflective nostalgia, see paragraph 41 below.

[4] I'm grateful to Michael Mayne for his kind assistance with the theory of nostalgia.

[5] According to [McGill 1997], a similarly paradoxical situation resulted in the 19th century when printed writing manuals began to supplant the authority of the individual penmanship teacher.

[6] For a more detailed explanation of this claim, see [Kashtan 2011].

[7] A full explanation of this claim is beyond the scope of this paper. I hope to explain it in more detail elsewhere.

[8] On transparency, see [Bolter & Grusin 2003]. For a detailed account of immersion in video games, see [McMahan 2003].

[9] The Infocom advertisements discussed here may be viewed at http://www.flickr.com/photos/textfiles/sets/72157622111007949/.

[10] When I read the original version of this paper, Professor Maureen Turim asked why the desire for self-expression through handwriting has to be satisfied by games. Games are not a uniquely privileged vehicle for the expression of subjectivity — as are lyric poetry, diary writing or blogging — but some degree of self-expression (or something similar) is necessary to a satisfying gaming experience.

[11] Scribblenauts was the best-selling third-party DS game of 2009 in North America, and fifth best overall, and received numerous industry awards [Wikipedia 2010b]. It achieved this level of success despite being hampered by control probems, such as poor camera control and an unrealistic physics model. A sequel, *Super Scribblenauts*, was released the following year.

[12] Some DS models actually do have the capacity for pressure sensitivity, but this capacity has never been exploited in any commercially released game, allegedly because of concerns that not all DS models would be equally pressure-sensitive. It is also rumored that pressure sensitivity was removed from the DSi, the most recent version of the DS console, because of concerns about damage to the screen.

[13] This problem was partially fixed in the game's sequel, *Super Scribblenauts* (2010), in which 5th Cell made a genuine effort to provide more creative puzzles. However, *Super Scribblenauts* also infringes on the player's creativity in some ways. For example, some of its puzzles only need to be solved once; i.e. the player is not rewarded for finding three different solutions to these puzzles. One reviewer of *Super Scribblenauts* complained that "even though the core mechanics have been refined, the puzzle-themed levels are significantly worse. The carefree freedom from the original has been stripped away, and in the process, the magic has fizzled out" [McShea 2010, ¶1]. Moreover, in *Super Scribblenauts* 5th Cell apparently made no attempt to improve the handwriting interface.

[14] *TWEWY*, unlike *Scribblenauts*, was produced in the Japanese cultural context. Therefore, a full comparison between the two games would have to take into account the differences between Japanese and American views of handwriting, as well as the differences between the Japanese writing system and the Latin alphabet (in Japanese, the distinction between alphanumeric and pictorial signs is not as sharp as in English). A discussion of these issues is outside the scope of the present essay. I will here concentrate on *TWEWY* as received by American players.

[15] See [Barton 2008, 208–228], for a history of this genre and an explanation of its characteristic features.

[16] Some games studies scholars characterize story as merely a cosmetic adjunct to the gamic experience; for example, Markku Eskelinen holds that "stories are just uninteresting ornaments or gift-wrappings to games, and laying any emphasis on studying these kinds of marketing

tools is just a waste of time and energy" [Eskelinen 2001, §8]. Following Tanenbaum and Tanenbaum, however, I suggest that one of the characteristic pleasures of games, especially those in the JRPG genre, is that of engaging participatorily with authored content [Tanenbaum & Tanenbaum 2009, 9]. Story offers the player a motive for playing the game and a reward for doing so successfully.

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