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Gaming the Edition: Modelling Scholarly Editions through Videogame Frameworks

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Gaming the Edition: Modelling Scholarly Editions through Videogame Frameworks

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The need for interaction within dynamic discourse fields is foreshadowed by Steven Jones when he claims videogames "represent sophisticated ideas of what it means to enable on a digital platform the dynamic, networked, collaborative construction of the social text," much in the tradition of social-text theory ("Second Life" 268-70). Drawing on the parallels between textual studies and game studies, Jones uses *Spore* as an example where players perform the roles of content editors. Extending such a model to a hypothetical textual editing environment, he argues that players and textual analysts could engage through "complex, collaborative modeling" in a space where the text is never fixed, but remains "open, shared, and infinitely alterable" ("Performing the Social Text" 289). We see a player's editing practices as powerful and necessary activities, and all videogames necessarily expose us to that revision and versioning process, no matter how restricted their parameters are.

Games are thus provocative objects and spaces through which we can better understand this post-processing activity in two significant ways. First, many games teach people to become more proficient players by encouraging and rewarding specific trajectories that accord with the overarching motivations of the game designers as well as the physical specifications of gaming systems. Second, the social structures that are generated and supported in multiplayer games, particularly massively multiplayer online role-playing games (MMORPGs), allow this learning process to be redefined and reinforced by a community of players within a persistent game environment.

With these dynamics between editing and playing in mind, how might a multi-contributor scholarly editing game function? Or put differently, how might we game the scholarly edition? For instance, what benefits might result from designing digital editing environments that help people "level up," learn, and negotiate stages of editorial expertise? Beyond the learning potential offered by gaming techniques, what interventions could be made in traditional editorial processes? Rather than simply mapping existing editorial conventions onto a screen, how might the very workflows and roles of scholarly editing be transformed through gaming, especially social gaming? Finally, how might the processes and products of scholarly editing change within and alongside the materiality of new platforms, particularly networked environments that afford collective intelligence, collaborative authoring, algorithmic interpretation, and unique machine operations?

We ask these questions in full awareness of the criticisms directed at gamification, particularly Ian Bogost's claim that "gamification is bullshit. . . . More specifically, gamification is marketing bullshit, invented by consultants as a means to capture the wild, coveted beast that is videogames and to domesticate it for use in the grey, hopeless wasteland of big business, where bullshit already reigns anyway" ("Gamification" n. pag.). Bogost's major complaint is that the complexities involved in gaming processes are being exploited by business marketing strategies and turned into simple, repeatable, and proven techniques. In short, the specific, contextual functions that distinguish videogames from other forms of mediation, communication, and narrative are reduced to pure facility and rendered accessible to value production and measurement.[1] Bogost further points out that "[g]ame developers and players have critiqued gamification on the grounds that it gets games wrong, mistaking incidental properties like points and levels for primary features like interactions with behavioral complexity," and concludes that "games can offer something different and greater than an affirmation of existing corporate practices." We agree.

Bogost's other work, including *Persuasive Games* and *How to Do Things with Videogames*, affirms and reinforces his recognition of the unique potential of game environments and processes to effectively house complex structures and content while intuitively indicating forms of interaction. Rather than applying the simplistic approach to platform design offered by gamification, a deeper application of gameful design would allow us to build a rich, procedural editing environment that would be accessible to new editors as well as experienced editors unfamiliar with digital environments (or games). Our resistance to gamification is reinforced by

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the work of Jesse Schell (2008), Jane McGonigal (2011), and James Paul Gee (2007). Elsewhere, Henry Jenkins—who has also repeatedly criticised the gamification trend while recognising the teaching potential of games—reflected on his decade-old work on the “Games to Teach” project at MIT by affirming that “[t]he power of games is in part that they provide such clarity in defining the roles and goals, that they helped us to know what to do and how to do it, and as such, they motivate deeper forms of learning” (“Shall We Play,” n. pag.). While this last statement about “deeper forms of learning” is somewhat vague, it nevertheless gestures towards the idea that games are not just valuable knowledge-building environments, but also provide situations in which players can become more fundamentally educated about a particular practice or process.

If such an environment were constructed to frame and facilitate textual editing practices, then media-specific forms of participation could intuitively foster “procedurality,” which Annette Vee describes as the practice—often associated with computational culture—of breaking down “complex processes into smaller procedures” (Hunter “Interview,” n. pag.). Jenkins’s comment also affirms how games engage players in participatory learning opportunities, or learning through praxis. That many of these systems are carefully designed to generate specific outcomes makes tacit learning through games a seductive, but not necessarily sinister, endeavour. And we argue that game-based learning-by-doing via a self-as-other interface can encourage experimentation, offer a laboratory space to players, and generate a metacritical awareness of social and technological processes. Learning with games also encourages players to reflexively assume certain roles and perform specific tasks, which change from editorial project to editorial project.

In the spirit of this possibility, and recognizing the unique aspects of videogames while remaining conscious of Bogost’s cautionary critique, our research team is exploring the opportunities that emerge from reimagining electronic editing environments through videogame structures, design principles, cultures, and procedures.[2] The perceived connection between game playing and editing means that modelling a digital editing environment as a gamespace explicitly recognizes this already-implicit association and would encourage the expansion and reiteration of current editorial methods and practices, without responding to them in a reactionary fashion. However, because practices inevitably change across and are shaped by platforms, print-based editorial processes, methods and cultures would inevitably be entangled with the material specifications of a digital environment.

Defining a Model and Articulating Research Questions

The focus of our Implementing New Knowledge Environments (INKE) research team is on the creation of “models.”[3] We understand a model as:

1. an abstract description of a complex entity or process,
2. a plan from which an object is made or shaped,
3. an “exploratory device” (McCarty “Knowing”),
4. a flexible guide for construction, reconstruction, and replication (McCarty “Humanities Computing” 1232),
5. a plastic representation that allows people to iteratively investigate a given system’s properties and the ways that alterations affect processes, properties and products, and
6. an articulation of beliefs or ideologies, which are often invisible and conducive to standardization (Bowker and Star 308).[4]

This article is the cornerstone of our efforts to construct a coherent model for a dynamic editorial gamespace that can be used to engage with and beneficially shape the continuing, vexed migration of editorial practice and peer-review into digital environments. This work also contributes to answering three of the four research questions relating to INKE’s focus on digital environments and scholarly editions:

1. How do we engage knowledge-building communities within the space of the electronic edition as well as through the documentation of process, dialogue, and connections in and around such editions?
2. Within digital environments, how much can we play with the kinds of work, skills, and participatory breadth required in current “scholarly edition” processes before that term no longer defines the kinds of work taking place? Are there limits of implementation that respect existing editorial best practices while also seeking to productively push such traditions?
3. How can dynamic digital editions enable people to become specialized contributing editors through work on the edition itself, adjudicated by software as well as an editorial community?

The last question opens a window of opportunity to consider game structures as a means to this end. However, simple compatibility or overlap is not enough to justify this kind of cross-pollination. What follows, then, is an explanation of why the transformation of both scholarly editing and gaming is feasible and desirable. Indeed, this framework is one (among many) ways to meet the challenge of maintaining scholarly projects within a social edition context. It also points to the multiple ways in which scholarly editing is being redefined through computational platforms and cultures.

Contexts for Gaming the Edition

Our model for a collaborative environment used to produce electronic scholarly editions is inspired by a range of existing projects, with an emphasis on implementing emerging environments for knowledge work to transform the scope of editorial practice and to lower the

barrier-of-entry into large-scale scholarly editing projects. Our framework is especially influenced by, and builds on, Peter Shillingsburg's concept of the knowledge site. Whereas the knowledge site traditionally invites people to interpret textual material *after* it has been prepared by an editorial team, we seek to include scholars as contributors throughout the process, encouraging them to develop expertise through their investigations into the multiple possibilities of the text at hand.^[5] By conceptualizing editorial interpretation as acts of negotiation or choice, whereby the contributing editor navigates the multiple permutations of the digital text, we seek to extend editorial practice through alternative modes of production. As Sukanta Chaudhuri writes: "electronic media function in [a] uniquely interactive mode, allowing receiver-intervention at every stage: whether by manipulating hyperlinks, or by actually adding material which then determines the future course of the text. Further, reading an e-text (and still more operating a computer game) involves a greater degree of direct physical action than reading traditional texts" (87). Indeed, by inviting people to participate in the formation of an edition by exploring, sorting, and linking contextual material with textual variants, digitally-framed editions can explicitly transform passive acts of reading into active instances of editorial intervention.

Newcomers can thus practice scholarly editing through direct participation in the processes of edition production, and lead editors can expand the scope of their digital projects as well as their understanding of what it means to edit.^[6] Neil Fraistat and Steven Jones explore these possibilities through their concept of "immersive textuality," whereby the textual properties of a document become interactive in digital environments, revealing critical interpretation as consisting of acts of textual modification, transformation, and deformation. Fraistat and Jones write about their use of Villa Diodati, an installation of the EnCore Xpress multi-contributor, object-oriented digital environment (MOO) that was hosted on the Romantic Circles website: "This makes the MOO a perfect medium for what we at Romantic Circles are calling pedagogic editions, editorial environments that enable students to inhabit a poem or novel, engaging them in the process of arranging texts in order to interpret them, helping them to recognize the multiplicity of versions and the relatively ephemeral, contingent, and constructed nature of those versions, engaging them in the collaborative material production of literary texts" (71).

Following Fraistat and Jones's immersive textuality, as well as Drucker and Nowviskie's speculative computing (2004), this perception of a text as an inhabitable environment is crucial to our project, and we agree that environments should allow people to become more familiar with the inherent but not always obvious fluidity of a text's relatively unstable transformations through its history of production and circulation. In addition, we seek to blur the distinction between the pedagogical edition and scholarly edition, since online environments for scholarly editing can allow for scaled collaboration on the production of editions, where one or more editors use the project to develop expertise while expanding the scope of the project and the variety of technical expertise it encourages.

Put differently, our Gaming the Edition model re-conceptualizes editorial choices as acts of textual negotiation and experimentation, or play, which render explicit the forms of editorial work and collaborative practice used to produce scholarly editions by turning them into formalized ways of interacting with the text. This framework transforms textual editing through the unique affordances of digital environments, while remaining flexible enough to accommodate a range of editorial practices. We seek to learn from the groundwork laid by Ronald McKerrow, W. W. Greg, and Fredson Bowers, while accommodating fluid text editions informed by John Bryant and sociological approaches in the tradition of D.F. McKenzie. We encourage fluid text approaches that read meaning through textual difference, bibliographic approaches that explore the authority of the copy-text, and genetic edition approaches that reveal the genesis of the published text. All of these possible editions are enriched by a diversity of textual interpretations shared through formal systems of knowledge creation. And we imagine these approaches transparently and flexibly co-existing or at least existing in parallel in the same editing environment: our model posits a centralized platform that hosts different editing projects which are open and discoverable. Conceivably, then, editors and their project communities could engage with, come across and/or explore other projects and methods in the same working environment.

Another critical thread that contributes to our model involves the questions of collaboration and scale introduced by the idea of the social edition. As Ray Siemens *et al.* explain, the integration of social media tools into digital editions "has a destabilizing effect; such tools facilitate a model of textual interaction and intervention that encourage us to see the scholarly text as a process rather than a product, and the initial, primary editor as a facilitator, rather than progenitor, of textual knowledge creation" ("Toward Modeling the Social Edition" 453). The social edition that Siemens *et al.* envision

employs new and emerging tools for interaction around such activities as transcription, bookmarking and bibliography-building, flagging and tagging, commenting and annotating, linking to contextual material (especially for names and integration of bibliographic information), glossary and other analytical functions, and all other pertinent activities that sit at the evolving intersection of social media and the electronic scholarly edition. Relying on dynamic knowledge building and privileging process over end result, this expansive structure offers new scholarly workflows and hermeneutical method that build, well, on what we already do. (453)

We seek to further investigate how editorial expertise and methods can be shared with a range of contributors in digital environments, while still encouraging a collaborative community of contribution and critical debate. In other words, we seek to examine what new opportunities exist for expanding and re-imagining how we undertake and share textual studies work through online projects that are built to grow and change in response to the needs of its audiences. As such, our model is inspired by projects such as the Walt Whitman Archive, Ivanhoe, Kenneth Price's consideration of scale and use, and Johanna Drucker's emphasis on discovery, learning, and reader contributions via her SpecLab research. As McGann details in "From Text to Work,"

social digital editions can better reflect multiple and specialized readings, thus showing how texts are social artifacts. Elsewhere Lisa Samuels and McGann describe scholarly work, editions, and translations as “performative deformation.” McGann’s *Radiant Textuality* expands on this, suggesting that this processing work manipulates text and facilitates perceptual presentation for the reading and understanding of that text within a particular space (113-16). [7] Most importantly, though, a game-based editioning environment could provide a space for various, performative acts of composition to come together in what McGann calls “N-dimensional space” (i.e., the intersections and incommensurability of planes and perspectives). Such an environment would not only acknowledge and collect a variety of practices in a common forum of scholarly work; it might also lead to a heightened awareness amongst scholars that the work we do is necessarily an act of “deformance,” to use Samuels’ term.

A Glossary for Gaming the Edition

Game-related ideas of play, challenge, achievement, nonlinear narrativity, and procedural rhetoric are specific concepts that could be meaningfully employed and adapted when modelling the scholarly edition as a social edition enabled by game-based processes. When considering these game-related ideas, it is important to understand how games and players relate to each other through various actions, whereby videogames become more than a matter of player interaction or activity. As Alexander Galloway observes, videogames consist of both operator actions and machine actions: “machine actions are acts performed by the software and hardware of the game computer, while operator actions are acts performed by players... Locating a power-up in *Super Mario Bros.* is an operator act, but the power-up actually boosting the player character’s health is a machine act” (5). For our particular purposes, the appeal of Galloway’s paradigm is that it demands a thorough, and quite material, understanding of how games and models work. A model is at once a plan and guide for individual, social, and machine behaviours, and our glossary for gaming the edition corresponds with this articulation.

Play

There are many different definitions and applications of play, and in game studies this array has led to a rich field of critical response. For instance, in *Rules of Play: Game Design Fundamentals*, Eric Salen and Katie Zimmerman define play as “free movement within a more rigid structure” (304). Play, then, is an activity that can be used to establish the range of motion allowed by the system. Play acknowledges flexibility and limitation or—more accurately—flexibility within a (known) set of limitations. In this case, the limiting system(s) would include a primary text, editorial principles, and disciplinary standards (e.g., the Modern Language Association’s Guidelines for Editors of Scholarly Editions) as well as an editorial platform, which would perform its own set of machine acts. That said, the remediation of scholarly editing (from print to digital media) requires unpacking how a platform would inform and shape editing practices, game design, and play. For instance, what kinds of affordances should be preserved from scholarly editing in print traditions, which should be modified, and which should be jettisoned? Even if preserved, how would such affordances morph in digital environments, especially given machine feedback? And what are the limits and boundaries of scholarly editing activity that need to be respected for this model to remain what people consider scholarly? By asking these questions, we can begin to understand play as an essential problem-solving strategy that emerges from restricted conditions, the conditions of scholarly editing included. We can also understand how play becomes a crucial element and experience of videogames.

Described by Galloway as a “diegetic operator act” (i.e., “direct operator action inside the imaginary world of gameplay”) (22), play is a valuable approach to encountering complexity and obscurity and has been well established during the last three decades of game history and practice (not to mention centuries of other media). Not only is play a tool for negotiating the parameters and materialities of a given game to achieve one’s goals; it also reminds contributors that the possible range of play or individual expression is necessarily mediated and influenced by a game’s model, hardware, software, and design. In the case of an editing game, play would therefore involve more than mere “input,” or what Galloway calls “nondiegetic operator acts” (i.e., actions “executed by the operator and received by the machine”) (12). For example, players would be able to choose from an array of editorial strategies and techniques, rearrange or randomize a text’s layout or structure, and annotate with and through algorithmic methods. These practices could be used to reinforce the idea that affordances enabled through alternative media apparatuses can produce unanticipated editorial opportunities, reminding players that although editorial control in game-based environments is mitigated by machine acts, the multimodal interaction enabled by N-dimensional space facilitates flexibility and encourages a significant level of play.

Such an approach would not only offer an intuitive environment for scholars new to editing; it would also offer game-based rules and processes for experienced editors to engage their practice in new, collaborative, and media-specific ways. Perhaps more importantly, such practices would also transform editing in a way that corresponds with tendencies and conventions of most networked media (in a way similar to the “social edition” approach described by Ray Siemens *et al.*), which frequently mobilise social relations with other contributors (e.g., other people playing an editing game and contributing to a social edition) as collective knowledge production. Play in a scholarly editing game could also involve regular feedback from both the platform and an editorial community. And this feedback could be tied to observable or transparent procedures, challenges, and rewards at work in the game itself—all parts of the learning process for editorial players, across a range of experience and familiarity with textual editing.

Challenge

In game studies, challenges are best understood as necessities both prompted and generated (largely, if not entirely) by a game's design and its machine. In order to be met, they require feedback from a player or operator. They are milestones linked to levels, stages, and sequences. They correspond with goals, aims, and desires. And meeting them is usually rewarded with feedback in the form of, say, power-ups, points, sounds, and difficulty adjustments. They are tied to what Galloway describes as "nondiegetic machine acts," integral to the gaming experience but not necessarily internal to a machine (28).

If, in an editing game, players were made aware of specific challenges that are not only common in traditional editing practices but also arise from migration to new editing environments, then the editing space could be structured to encourage players to overcome those challenges via creative experimentation and collaboration. For example, the structures of MMORPGs support a broad spectrum of player styles and opportunities and can be looked to as an existing paradigm from which to draw inspiration. They include various types of challenges, presenting problems and obstacles that require mass mobilisation (e.g., sheer numbers) of players, small groups of like-minded participants, or single player engagement. As social phenomena involving networks of players and machines, such challenges can instantiate an optimistic and iterative approach to difficulty, prompting players to strive for "epic meaning" (McGonigal 112), or the idea that players are working to achieve and contribute to something greater than themselves. While scholarly editions may not promote "a better world" in the same way that Jane McGonigal's "serious games" or "alternate reality games" do, modelling a digital scholarly edition through gameful design is similar to Luis von Ahn's idea of "games with a purpose" ("gwap") that Ian Bogost mentions in *How to Do Things with Videogames* (121). Rather than focusing on and rewarding a single task or objective (as in the case of, say, the gamified tagging in Google's Image Labeler), an editing game could allow for a purposeful experience that encourages the player to work on, and learn from, an interrelated set of practices. For instance, players could set challenges themselves, pursue those challenges through an array of avenues or procedures, and revise or mod the game's editorial workflows, milestones included.

Achievements

While achievements and rewards could be considered synonymous when it comes to videogames, it is useful to think of an achievement as a particular kind of reward. Whereas rewards evoke closure, recognition, and transition—and are usually awarded to the player following the completion of a particular challenge, level, or task—achievements in games act as incentives that promote continued engagement and motivation for players as they progress through particular activities. Regardless of their placement, function or signification, rewards and achievements signify the development of player knowledge and expertise. By extension, they affirm player actions. Like challenges, achievements are non-diegetic machine acts. They link machine-generated rewards to contingencies and player behaviour.

In the context of an editing game, achievements could operate as a feedback mechanism that validates contributions to a network of peers, rather than abstracting rewards as trophies that have little meaning. Achievements also provide granular documentation of tasks accomplished in a collaborative workflow—an ideal resource for academic recognition on large, collaborative projects. With recognition in mind, a scholarly editing game should probably avoid leaderboards or competitive play. While a lack of competitive play brushes against the very nature of most gaming environments and experiences, more collaborative styles of play, exploration, and achievement (common in many cooperative multiplayer games) can foster a sense of individual accomplishment alongside the integration of intrinsic rewards. As Mikael Jakobsson's research on the Xbox 360 achievement system demonstrates, the fact that Xbox 360 Live members can see each other's achievements and scores (across all games they play) can create a climate conducive to "persistence, coveillance, and open-endedness" (n. pag.). However, achievement visualizations and rewards that are not tied to the theme of the games being played are extraneous and tend to resemble "loyalty programs" conducive to facile gamification, branding, and an alienating sense of competition.

In short, while a scholarly editing game would need to involve a system of rewards—including individual, granular achievements (which would be used by players to secure institutional and/or professional recognition for their constructive contributions to the edition environment) and larger-scale, public levels of graduated expertise (that would be used to generate access to different kinds of work within the environment)—it would also need to avoid frameworks conducive to discouragement. Videogames are relentless at employing negative reinforcement to curtail non-productive behaviours or actions, and they frequently use machine acts to condition players to perform specific tasks in specific ways so that the game can progress as intended by its designers. Since consequences are often temporary or lack weight (e.g., in-game death leads to a restart of an earlier saved state, or in-game failure results in an easy restart), games have been accused of catering to and becoming too easy for players. An alternative to this approach is to impose limitation conditions on players (e.g., permadeath, where you can restart but lose all accumulated experience; or bottlenecks, where alternatives are blocked until a specific problem or conflict is overcome). Through these conditions, games encourage players to succeed via consequences for success and failure that are designed to be equally effective motivators. Yet these same conditions may render games unappealing or too conducive to competition.

Nonlinear, Dynamic Narrativity

Many videogames are structured in a nonlinear fashion. Due to consumer demands and

appetites, even the most linear of games involves some player input and thus possesses some form of choice and replayability. In this spirit, electronic editing environments that support editorial players need not always adhere to a singular editorial practice. Editorial environments, akin to game spaces, must be flexible enough to embrace the textual bibliography of McKerrow and Greg while also supporting genetic editing practices and McKenzie's sociological approach. We propose, then, seeing the "edition" as being only one "view" or one "performance" of a greater breadth of archival materials, and electronic editing environments as spaces that simultaneously support and contain multiple editions.

While establishing a game theme, the edition would be structured in a dynamic way that allows for play, as noted above, to take place in a complex feedback loop between player and machine. The individually or collectively set goals and achievements platform would allow for more dynamic forms of engagement (i.e., there is no single way to achieve a task). Such a variable, adaptable platform would allow for players to edit more freely, including an array of nondiegetic and diegetic operator acts. As already mentioned, Steven Jones sees videogames as social objects that, similar to texts, only attain their meaning through engagement with the player or reader. Here, engagement not only consists of play, but also allows players to assume specific roles through content creation and content sharing. Jones argues that in textual editing spaces and gaming environments (such as *Spore*), players can mobilize modeling to visualize interpretations. He then calls for humanities infrastructure that allows for "interpretive consequences" within a social and structural space, a space where players learn through "complex, collaborative modeling" in which knowledge is acquired through that process of "manipulating representations" (289).

Returning to Galloway for a moment: Jones is deeply aware of the complex relations between operators and machines, and his emphasis on infrastructure underscores how games cannot be reduced to one side of that relationship. Additionally, shared infrastructure would afford a distribution of multiple editorial practices across networked peers, and the dynamic nature of editorial space allows for multiple types of textual emendation to coexist, without obscuring, disrupting, or otherwise contradicting each other. To be sure, this shared infrastructure would play a significant role in shaping the trajectories of editorial practices, which are—and have always been—dynamic and nonlinear in character.

Procedural Rhetoric

In *Persuasive Games*, Ian Bogost offers a unique way to understand the specific operations and functions particular to videogames, and he reinforces the productive sense of mutual imposition between operators and machines:

I suggest the name procedural rhetoric for the new type of persuasive and expressive practice at work. Procedurality refers to a way of creating, explaining, or understanding processes. And processes define the way things work: the methods, techniques, and logics that drive the operation of systems, from mechanical systems like engines to organizational systems like high schools to conceptual systems like religious faith. Rhetoric refers to effective and persuasive expression. Procedural rhetoric, then, is a practice of using processes persuasively. More specifically, procedural rhetoric is the practice of persuading through processes in general and computational processes in particular. (2-3)

Additionally, Bogost asserts that a game's "arguments are made not through the construction of words or images, but through the authorship of rules of behavior, the construction of dynamic models" (Bogost 125).

Not only does this claim parallel the idea that prototypes are arguments (Galey and Ruecker 405); it also confirms that a scholarly edition environment would embody a fundamental argument about editing, while possibly heightening our understanding of procedural rhetoric—or persuasion through operator and machine processes—by encouraging and distributing editorial negotiations across an array of processes.

Towards a Prototype

A prototype for gaming the edition could and should encourage the opportunity for people to learn through practice, to incrementally contribute to an edition and to be connected to an editorial community as they learn about traditional editorial process and practices. However, should there be room for further, more fundamental modification? Game modders do more than play; they practice transformative play (Salen and Zimmerman 305), which overflows the more rigid structure or system that play is usually contained by. Modders do more than re-skin assets; they change the game, essentially changing the environment, its resources, and its functions (Anthropy 71). The ideal electronic editorial space would help players become more knowledgeable and self-aware contributors to editorial communities. However, it could also educate them to become modders. By locating the edition's formation in a multi-contributor digital environment that can host an emergent multiplicity of edition opportunities within its borders, people who reach particular milestones of practice (as monitored by levels and achievements) could be encouraged to playfully explore ways in which editorial theory and practice are transformed by such an opportunity. These practices are compatible with the imperatives of both getting it right and doing it better, simultaneously enabling multiple project types within a single environment: tracing a particular version or narrative through the editorial possibility field could co-exist and engage in a feedback loop with another effort to correlate the version history of the primary text's garden of forking paths with the reefs of secondary scholarship that build up around these editions. This centralization of a diverse knowledge community of theory and practice is necessary, because while the digital environment can simulate traditional conditions, its necessary collaboration between machines, operators, and persuasive processes both allows and demands that that we do something different and connective. Potentially, then, digital editing spaces will play host to projects and communities,

yet will also generate opportunities for changing the nature of what scholarly editing is (or is conceived as being).

What would this environment look like? Again, we see an "edition" as being only one "view" or "performance" of a greater breadth of archival materials. If digital editions are to take full advantage of their environments (rather than simply emulating print traditions), then they need to visibly include both process and product, and offer more and more diverse opportunities for editorial diligence, perspective, control, and debate to their audiences. In this way, the digital editing environment will serve as both a learning space—where the traditional theories and practices of scholarly editing are put in practice—and as an innovative humanities laboratory—where experts and novices can discuss and play with editorial conventions and methods. A prototype would carefully manage, balance, and support the training, education, and creativity of players, increasing and diversifying opportunities for contributors. Top-down forms of authoritative and exclusive editorial selectivity become ironic and anachronistic in dynamic digital environments, which privilege "a new kind of scholarly discourse network that eschews traditional institutionally-reinforced hierarchical structures" (R. Siemens *et al.*, 70). We are modelling the digital scholarly edition as a social edition gamespace in which individuals would facilitate their own learning, contribute content to projects that rely on integrated communities and—at certain levels—would be able to experiment with the influence and opportunities that the social conditions of the environment offer to the future of scholarly editing theory and practice.

Videogames have lately shunned user manuals in favour of "leveling up" their players. In other words, introductory activities give players enough basic skills in a low-risk way to begin to learn the environment and familiarize themselves with the rules of the game. However, this low-risk activity still impacts and leads to persistent consequences in the game world and, as players gain experience points and new opportunities are presented to them, these educational levels blend seamlessly into the consequential work and problem-solving at the center of the larger game. In addition, many of these initial tasks are incorporated into the central game narrative as ways to establish credibility and earn the trust of the inhabitants of the game environment (see *Final Fantasy*, *Dying Light* and *State of Decay* games for examples). Our goal is to model a scholarly editing system that relies on these game-based affordances to initiate people into a particular editing process (in the same way that players are initiated into a rule-based game environment), to establish a means of initiating them into and earning the trust of a knowledge community, and to expose people to particular editorial theories, thus educating them about traditional editorial approaches and contributing to a larger literacy regarding editorial work. Regardless of whether people work towards the goals of individual editorial practices or participate in a mass literacy exercise relating to editorial theory, their participation is consequential: that is, they will have the opportunity to make valuable contributions to existing projects and also to broader conversations about scholarly editing. Unlike the playful work involved in exploring the ways that existing editorial principles persist or falter in new knowledge environments, this learning work (i.e. transcription, proofreading, collation, metadata encoding, schema validation, etc.) is akin to the "grinding" work (i.e., doing repetitive tasks in order to achieve enough experience to level-up or to open new opportunities) that all players have to experience in an MMORPG. Although these smaller-scale tasks and processes are often seen as tedious, they can motivate and affirm players to persist and advance, as well as giving them a foundation of experiential knowledge.

As novice editors gain more experience, they will advance to higher levels of use, gain more ability, and take more control over the default settings of the system. When leveling up, people accomplish several goals: 1) they gain access to more features and contribution potential; 2) they gain authority among the team, perhaps represented as named titles or positions; and 3) they have more of their work represented in the environment's reporting structures.[8] By extension, they become more adept at editing procedures, and they increase their metacritical awareness of editorial theory and practice in an environment that, at least ideally, encourages creativity, play, collaboration, and problem-solving (see Figure 1).

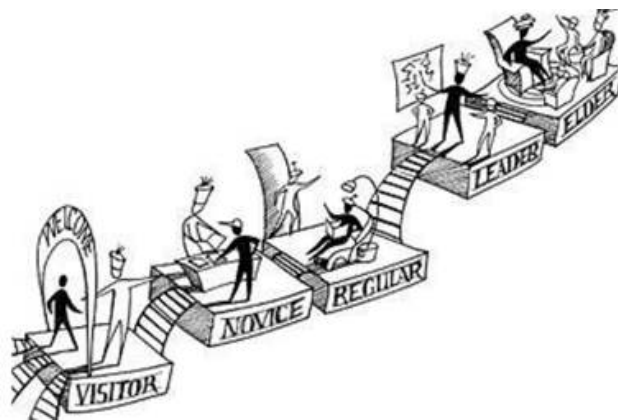


Figure 1: Modelling training and learning opportunities in the digital edition environment. Levelled expertise produces incremental opportunities for participation, while mentorship and creative collaboration takes place at all levels (illustration from Kim 17).

In our model, this socially-enabled editing activity is driven by game-based processes that facilitate editorial initiation, validate and confirm growing editorial skills, and guide contributors towards a lucid awareness of editorial processes and practices while encouraging play. We imagine this engagement of an editorial knowledge community occurring in a space that not

only supports multiple skill levels and theories of editorial practice, but which also federates interoperable database archives, in the same way that NINES, 18thConnect, and MESA aggregate primary resources and provide tools for making use of such material. Regarding the relationship between editions and archives, Kenneth Price claims, "To meld features of both—to have the care of treatment and annotation of an edition and the inclusiveness of an archive—is one of the tendencies of recent work in electronic editing. . . . In other words, in a digital context, the 'edition' is only a piece of the 'archive,' and, in contrast to print, 'editions,' 'resources,' and 'tools' can be interdependent rather than independent" (n. pag.).

Following from this statement, the digital learning commons suggested by our model would host numerous editing projects and initiatives that would draw from, collate, and correlate material from the existing archives that the site federates. In other words, scholarly editions would live in the same environment as the various sources that they draw from. There would be opportunities for co-ordinating editors to establish larger editorial frames around a specific work, groups of work, or particular themes or topics. Within these larger frames, layers of possible contribution would be defined by managing editors, and player-editors would be encouraged to contribute to multiple layers. Editing projects within the larger frames could include deformative, correlative, and annotative editing practices, but rulesets would have to be defined by each managing-editor for particular layers. Multiple managing editors could therefore explore the same framed group by creating distinct environments that favour their own particular editorial practice or approach. In this way, multiple versions or visions could co-exist in the same collective space similar to the ways that teams or guilds occupy multi-contributor game worlds and interact in collaborative or competitive ways.[9] We imagine that editors who initiate specific layers within particular frames would have the choice to either select from a list of predefined templates (relating to the affordances traditionally prefigured by specific editorial intentions and categories) or customise their project by populating a list of configuration parameters. In this way, the overall environment would not only preserve traditional editorial practices but also leave room for transformative invention at the project level. New contributors would be allowed to join existing project layers (selecting projects that most appeal to their incoming editorial interests) and to make contributions to such projects relative to their experience (time + work + community validation). Intro-level activity would be akin to game trainers, which produce accomplishment and advancement in the space of particular projects while also familiarizing players with particular interfaces, tools, and editorial methods. When contributors have achieved enough experience (and have gathered a certain amount of positive feedback from peers working on or organizing that specific edition), they fulfill the player-apprentice role. Having already joined established and personalised networks of like-minded editors at varying levels during their progress, contributors would then become able to innovate, initiate, and lead new project layers as, say, managing editors and eventually establish distinct frames as co-ordinating editors. Players would be rewarded for working on more than one edition in more than one way, and participation in multiple projects could be required for specific validation and feedback (see Figure 2).

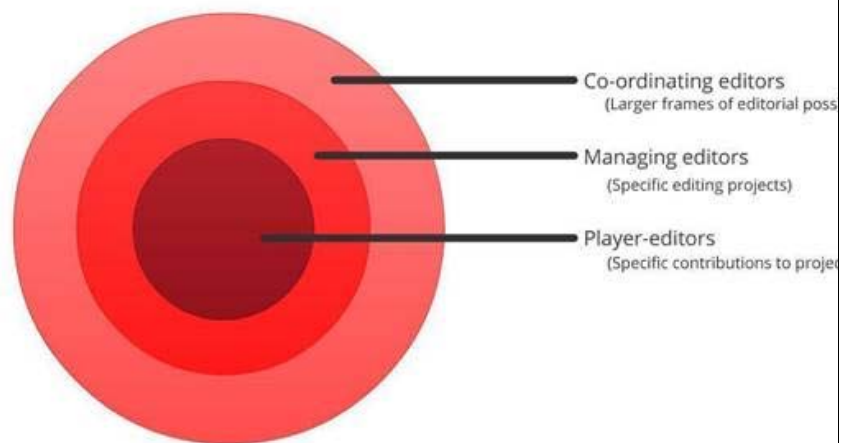


Figure 2: Expanding layers of editorial opportunity in a digital editing environment

Although such an environment would balance achievement (for the purposes of professional recognition and accountability) with an approach that is much more lateral and collaborative (e.g., encouraging teams and communities through the layering and frame structures), hierarchical structures may be partially preserved (where desired) in order to ensure scholarly validity and the overall acceptance and valuation of this initiative by the larger scholarly community. However, those hierarchies are not simply in place to segregate skilled from unskilled participants, or to encourage exclusive practices. They would be utilized to identify expertise levels for the purposes of facilitating mentorship and exchange, as one of the duties and responsibilities of achieving higher-levels of accomplishment in this environment would be to assist those who are at earlier stages of learning and practice. In spite of the levelling mechanism that likely needs to be in place to acknowledge progress, inspire motivation, and reinforce responsibility, the unique aspects of digital editing spaces would encourage the

friendships. All WoW guilds share some fundamentally rewarding characteristics regardless of their areas of specialization. In addition to a sense of belonging and community, they provide various in-game benefits based on the level of the guild and the communal actions of the guild members. These benefits are available to all active guild-members, rewarding teamwork and dedication. WoW guilds have a built-in ranking system that can be modified by the guild creator who has the power to promote, demote, and ban players based on the rules and behavioural guidelines of the guild. The various ranks come with their own responsibilities, with higher-ranks typically gaining more freedom and control in the guild. Joining a guild is voluntary and eligibility for membership is ultimately determined by the guild's creator.

WoW-style guild-based apprenticeships offer a useful model for the ways that player-editors can contribute to and benefit from various editorial communities and projects within a digital editing environment. At its core, our model is based on a three-tiered system (see Figure 2). Tier One involves "co-ordinating editors" developing large frameworks that encompass certain styles or types of project. These co-ordinating editors can be likened to the WoW design team at Blizzard: they create and offer high-level moderation for the larger framework within which players can develop specific guilds (and conduct all other in-game activities). Tier Two focuses on "managing editors," "maximum level" player-editors who can innovate, initiate, and develop various projects and project layers. These projects are what contain the elements of guild-based apprenticeship. The managing editor is the project creator (likened to the guild-leader) and determines the goals, ranking structure, required skills, and recruiting methods for the project, based on their own experiences and expertise as a scholarly editor. The projects would have, at their heart, the social, collaborative elements of a WoW guild. This social element would be integrated into the prototype's interface and would involve, say, a live chat feed, a list of online and offline "guild members," and the ability to send private messages to fellow player-editors (in any role) and annotate most (if not all) aspects of the project. New player-editors would be encouraged to not only undertake their specific "levelling" task(s), but also observe the work of others, ask questions, seek advice from more experienced editors within the "guild," and question the processes that they operate within.

While the social networking aspect of the guild-model is important, this model also allows for increased crowdsourcing, collaborative work, and innovation, not incredibly unlike existing digital humanities projects (e.g., Transcribe Bentham). Just as in WoW guilds—where players team up to accomplish goals that exceed the knowledge, time, and resources of any one individual—player-editors would be encouraged to work as a community, combining their unique skills and perspectives into a diverse, dynamic scholarly collaboratory. By extension, achievements would be monitored and rewarded at both the individual and guild/project levels. For example, if individual player-editors were to acquire physical, hard-copies of primary source texts and bring these acquisitions to the group, then their contribution and effort would be acknowledged by the community both through real-time notification in "guild chat" and through a form of representational acknowledgement in the form of achievements. Guild structures would enable collaborative editing projects to acquire hard-to-reach copy-texts by mobilizing their distributed contributors, and by incentivizing the challenge of acquiring rare or remote source material. Similarly, guild/project achievements—those that the community collaboratively accomplished—would be rewarded to the guild as a whole.

This WoW-inspired guild-based apprenticeship model draws from the overarching idea that editors are akin to players who are educated about editorial ideas as they contribute to an editorial gamespace, and is one of many possibilities available for making persuasive use of game paradigms in a social edition environment. However, as with any modelling initiative—especially one predicated on a paradigm so distinct from the traditions normally associated with editorial theory and practice—we anticipate some significant resistance and concerns, which we attempt to address below.

Concerns

Contributions across a Range of Experience

It is easy to imagine a situation in which an established scholarly editor becomes offended by the necessity of working through preliminary levels of achievement in our model of a digital editing environment. However, in this environment, everyone will initially and necessarily be new contributors, given the unique and innovative nature of the specific configuration between the gamespace machine and its operators. The simplest way to understand this anticipated problem is to look at the way that current videogames require all players—even the most experienced and accomplished ones—to go through the same initiation process. This requirement is attributed to the fact that game systems are all slightly (and sometimes significantly) different for each new game. Levels of access and difficulty gradations are not only necessary to initiate the player into specific editorial parameters (for the layered edition at hand). They are also necessary at the level of software. However, because we do not envision a broad distribution of digital edition environments, it is conceivable that—even though all contributors would initially be new or novice players—this education phase would also be made necessary due to the novelty and unfamiliarity of platforms and software, regardless of anyone's editorial knowledge.

Perhaps experienced editors, who are familiar with print-based approaches, will even learn some interesting new applications or configurations of the platform from player-editors who have a grasp of how digital mediations influence and even shape practice. In this sense, all initial participants would learn from and teach each other in a flagship environment. And, given that the environment would contain some aspect of unfamiliarity for all contributors, all participants would also be in a position to metacritically reflect on the ways that the configurations of software and machine define and limit their intentions. Such reflections would precipitate a playful reaction to and engagement with the iterative evolution of the overall

system as player-editors gained more power and opportunity. It is important to note that as such an environment would continue to establish itself by hosting new contexts, projects, and experiments: not only would the time invested by contributors result in a progressive level of knowledge within that “world,” but up-and-coming player-editors would always have an opportunity to define their own creative niche of adaptive theory and practice within this frame as they moved into new arenas.

Badges and Gamification

There is a recent trend toward offering “badges” (akin to the badges that Scouting and Guiding organizations award for specific achievements) as alternative means of recognizing and validating extracurricular learning achievements within digital frames. These online signs of achievement are often designed to migrate between social media profiles, thus iconically “tagging” people so that others might, at a glance, recognize their accomplishments, abilities and credentials. Henry Jenkins recognizes that “[b]adges run the risk of becoming ‘gamification’ by another name—that is, a system which does not trust the power of intrinsic motivation and feels the need to add a layer of extrinsic motivation.”

Our model requires an abstract expression of collective contributions (i.e., a bird’s eye view from above) in tandem with an attention to individual changes and differences (i.e., a street view). That said, our model does not entirely discount the use of badges, or something like badges, when gaming the edition. For instance, it is useful to think about the potential of badges as ways of playfully summarizing (publicly or not) the accomplishments of editors at various levels. What’s more, badges could also perform the following functions in a gamed edition:

- **Declaration of Role:** In a collaborative editing environment, badges might not just be used to summarize individual achievements. They could be displayed as a public indication of roles and responsibilities within the environment. These badges would be signs of increased leadership and responsibility for contributors who reached certain milestones.
- **Declaration of Competence:** Badges could also tell others that a specific contributor has achieved a certain level of knowledge or understanding, and they could also be used in editing environments to indicate specializations within more general accomplishment markers.
- **Codify Competence:** The very existence of a badge says, “This is important.” That said, badges may actually create, or help create, areas of expertise. They could also draw attention to emerging digital practices that demand recognition by communities of editors.
- **Reassurance and Confidence:** In some cases, including cases premised on humour and play, badges act specifically to boost the confidence of the badge holder. This approach can be a good, additional reason for using such markers beyond recording and communicating milestones of participation in an online editing environment. In other words, badges could foster affirmative culture within a gamed edition.
- **Acknowledgment and Thanks:** Badges provide public recognition of an accomplishment. Awarding a badge can also make it clear that others really do appreciate and know about someone’s accomplishments. Even in contexts where the use of badges is self-aware or ironic, badges can support a climate of play and humour.

Of course, the actual implementation of badges would demand some careful thinking by editorial teams and designers. Nevertheless, our point here is that, specifically in the proposed model, they should not be discounted in a knee-jerk or reactionary fashion, especially in cases where participants are quite aware of, and willing to toy with, their legacies in education and elsewhere.

Aside from the still-problematic use of badges, is there a way for a scholarly digital environment to usefully recognize and reward contributions in a way that matters both inside and outside its editing space, while still leaving room for learning and creative play and avoiding gamification? In the late 1930s, Johan Huizinga defined a “magic circle” and its relation to play in the following passage from his book, *Homo Ludens*:

All play moves and has its being within a play-ground marked off beforehand either materially or ideally, deliberately or as a matter of course. . . . All are temporary worlds within the ordinary world, dedicated to the performance of an act apart. (Huizinga 10)

While this description could easily be applied to scholarly activity, Edward Castronova has more recently suggested that the boundary between reality and the magic circle is porous, and that the synthetic arenas of play are, instead, “almost-magic circle[s]” (147) that inevitably influence and are influenced by the “real” world and daily life. Castronova’s recognition of the essential interplay between games and the world makes a good case for adapting the “Magic Circle” interface (first proposed by Ruecker, Radzikowska and Sinclair in their book *Visual Interface Design for Digital Cultural Heritage: A Guide to Rich-prospect Browsing*) to express individual scholarly activity within digital editing environments (139-142). The Magic Circle is an information glyph that has been used to provide detailed reports of user activity in wiki environments and to graph textual analysis data (Arazy *et al.*; R. Siemens *et al.*). While the name of this visualisation interface recalls Huizinga’s isolated playground, its value as a bridge between virtual activity in a digital editing environment and actual, measurable professional work takes a Castronova-like approach. It is not simply a badge by another name, nor is it akin to a leaderboard. It is a special sort of achievement mechanism that would function within our model as an expression of one’s relative participation within the context of specific editorial communities. If badges raise concerns relating to Pavlovian motivation and the accuracy of reporting achievements within digital environments, then the Magic Circle interface could replace them as a subtler, more granular, and more comprehensive indicator of contribution.

Bringing game-based ideas into the digital editing environment is less about earning badges than it is about encouraging, building, and managing a set of scholarly editing skills by engaging participants in meaningful and consequential work that blends forms of motivation. We imagine this digital environment as maintaining hierarchies and authority within its own systems (to ensure qualitative results that are compatible with existing systems of professional scholarly merit), even as it functions as an arena of shared interest and shared mentorship where traditional practices exist alongside and within new possibilities. This is not the revolutionary form of peer-to-peer review that Kathleen Fitzpatrick calls for in her article "Peer to Peer Review and the Future of Scholarly Authority," but neither is it a simple repetition of unquestioned traditions with minimal alterations. It is a step towards expanding the diameter and increasing the circumference of what editing processes can involve, while still recognizing traditional economies that work fairly well.

Gold Farming the Edition?

In MMORPGs, the existence and even prevalence of networked racism, sexism, and exploitation are well documented by both scholars and gamers. For instance, Lisa Nakamura notes that gold farming—"or selling in-game currency to players for real money, usually through resellers such as the International Gaming Exchange (IGE) or eBay" (188)—in games like *World of Warcraft* enables a "virtual sweatshop" (199), with farmers "playing WoW in 12-hour sessions and sleeping on pallets" (199). Examples such as these underscore how digital labour is very much embodied and no doubt embedded in material conditions, which are often exploitative or inequitable. Where and when scholars integrate aspects of videogames into their models and projects, they must therefore be acutely aware of how technologies intersect with social justice issues, including the working conditions, identities, and relations of project contributors. Central to these concerns should be mechanisms for all contributors (especially students and independent scholars) to fairly gain credit and compensation, with attribution, for their labour. Additionally, badges and achievements should not replace modes of compensation already in place in existing editorial projects. Finally, when building and implementing projects anchored in gaming, scholars should consult emerging social justice research on videogames, such as essays and games by Merritt Kopas, Anna Anthropy, Amanda Phillips, and Paolo Pedercini. These practitioners are not only highlighting the relationship of social justice to videogames through presentations, interviews and talks, but are also making games that lucidly interrogate the relationship between games, systems, oppression, and injustice.

Preliminary Conclusions

This modelling of digital scholarly editing environments that draw from game-based paradigms is a first step toward re-imagining scholarly edition processes. From general game-related concepts and modding practices to apprenticeship and collaboration models drawn from MMORPG environments, this modelling activity is a way of re-engaging editorial theory and praxis as scholarly editions migrate to new knowledge environments. Although opening editorial projects to new participants might be a frightening prospect for an editor who has spent a lifetime learning the craft, the game-related apparatuses that constitute the framework of this model are intended to reinforce responsible participation, encourage engaged learning processes, support fair and equitable work practices, and establish a sense of confidence and ownership in the collective result for all participants. The social relations that this model fosters—based on videogame affordances and precedents—balance a contributor's rights and commitments within an editorial community, ideally encouraging collegial and responsible contribution.

We would like to end this preliminary work, then, by offering some conclusions that also necessarily function as beginnings for further dialogues and prototyping:

1. New editorial platforms (machines) require new types of operation and new types of operators. The rich tradition of print-based scholarly editing provides a valuable foundation for the ways in which we should negotiate these new knowledge environments. But new media forms offer equally intriguing paradigms and approaches. Most important, we all in some way become novice player-editors and apprentice-learners in digital scholarly edition environments, and this is necessary to not only migrate existing editorial traditions, practices, and methods, but also ensure that the opportunities generated through these digital frames are not overlooked. The value of digital editing environments is their ability to emulate print cultural media and thus preserve traditional approaches while also hosting a broader system of mediation and tools that can support opportunities for continued innovation.
2. In addition to opening doors to innovative editing theories and praxis, digital scholarly editions can and should encourage two types of education simultaneously: the use of the scholarly edition software, and scholarly editing practice and literacy.
3. Game-based affordances and parameters offer an alternative model for organizing, structuring, and validating the use of the social edition model to do scholarly work in digital environments. As strange as this may sound, game paradigms lend "integrity" to social edition processes.
4. Further, models of collaboration found in Massively Multiplayer Online Role-Playing Games, and learning from the way such collaborations and communities are managed (instances of exploitation included) would benefit the understanding and operation of collaborative, dynamic editing environments.
5. Tools such as the "Magic Circle" could be used on their own or combined with a system of achievements to effectively validate the gaming "levels" that various editors have reached within the editing environment. Further, a layered approach to editing work within the space of primary texts would enable comparisons and interoperativity between distinct editorial initiatives and individual contributions.
6. Functionally incorporating recognizable game elements into a digital scholarly edition

environment generates a unique space of education and production that continually demands a performative understanding of the kinds of work that go into scholarly editing. It should also clearly establish who exactly has accomplished that work (and to which level) and credit, attribute, or compensate that labour accordingly.

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[1] In *Digital Labor* (edited by Trebor Scholz), *playbor* (play/labor) is described as an aspect of the digital gift economy, where, for fun, users do something for nothing. McKenzie Wark cautions against the rhetoric of gamification, arguing that it is a simulation of the gift economy, since "it is a game that extracts labor in the form of play" within a reciprocal structure that is not driven by the players but by the business requirements (73-74). Elsewhere, in *Games of Empire*, Dyer-Witheford and de Peuter note that—although videogames can be seen as complex systems that often mirror the real-world mechanisms and economic, cultural, and political operations of global capitalism—gamification reduces games to little more than an engagement-driving, value-producing design strategy (xix-xxx). This exploitation restrictively calibrates the overall perception of games and their identified potential, categorically inhibiting our ability to creatively imagine ways in which games could model alternative economic systems (or avoid them altogether).

[2] In some ways, our model also reimagines videogames. Rather than subscribing to dominant videogame themes and narrative structures, we want to create a game environment that relates to activities and practices we care about: in this case, scholarly editing. While our endeavour is not particularly embedded in social justice issues, it does relate to Anna Anthropy's call (2012) for DIY game makers to create games relevant to them and their personal stories.

[3] INKE (Implementing New Knowledge Environments) is a seven-year Major Collaborative Research Initiative headed by Ray Siemens at the University of Victoria and funded by the Social Science and Humanities Research Council of Canada (SSHRC).

[4] This explicit articulation is not meant to reinforce the ideological determinants of a system, but to expose, interrogate, and experimentally alter them. In other words, while models are value-laden, they do not determine social relations, and their ideological dimensions are not somehow "frozen" or fixed inside technologies, representations, or the like.

[5] In *From Gutenberg to Google*, Shillingsburg notes the following of electronic scholarly editions: "When an editorial project is defined primarily as textual scholarship in the hands of literary scholars who are amateurs in technology but who want electronic presentation and distribution, complicated textual issues often find only tentative technical solutions. Conversely, when a new editorial project is defined primarily as electronic rather than textual and is placed in the hands of technicians who are amateurs in literary and textual scholarship, beautiful and eloquent technical demonstrations present rather obvious, simple, or flawed notions of textual issues... The merits of a knowledge site are not to be measured by the reactions of tourists"

(92). One goal of gaming the edition is to foster increased collaboration and communication between project contributors with a diverse range of knowledge.

[6] D.C. Greetham also notes the possibilities for new editorial practice opened by electronic editions. He writes: "It will surely not be long before it is the norm for editors of literary editions to provide similar reader-manipulated facilities in electronic editions based on the so-called hypertext principle of variant electronic storage. Such editions might properly be called post-critical, in that the editor does not establish a text nor does he or she simply reproduce a previously existing text. Such editions provide the raw materials (through hypertext) for a series of possible conflated editions, in a manner very different from the fixing of text usually associated with critical editions. The future of scholarly editing is clearly a very exciting and provocative one, as these technological possibilities become reality" (357). In addition to what Greetham calls "post-critical" editions, electronic editing environments allow editors to experiment with multiple, different approaches as they produce a digital scholarly edition together.

[7] For more on deformance, see Lisa Samuels and Jerome McGann, "Deformance and Interpretation."

[8] Our approach is informed by existing scholarly crowdsourcing projects. For more on crowdsourcing in the context of scholarly editing, see Causer *et al.* (2012), "Transcription Maximized; Expense Minimized?"

[9] There are many sources to consult for further information regarding the building and sustaining of online communities. A useful article by Andreas C. Sonnenbichler entitled "A Community Membership Life Cycle Model" correlates a number of models of online community membership, revealing that—beyond the ideas presented in this paper—more work needs to be done to explore specific ways to structure the layered community within a multi-contributor digital editing environment.

[11] For more on race and class in WoW, see "Gaming as Writing, Or, World of Warcraft as World of Wordcraft," by Edmond Chang.

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