



From Authorship to Authoring: Critical Literacy, Expert Users, and Proprietary Software

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Abstract

This essay argues that new authoring environments fundamentally change the authorship paradigm. Four kinds of critical literacy may be useful to produce computational media that responds appropriately to the larger rhetorical context of software culture. These critical literacies include not only writing code, but also learning a range of user interfaces, participating in design practices for debugging programs, and recognizing the norms of digital labor workflows and systems of credit.

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When we talk about teaching digital literacy in the context of design, “literacy” itself can be a problematic term because it relegates a given type of subject matter to the lower realms of remedial education. The word may also fail to render the subtleties of many types of human-computer interaction (Wysocki and Johnson-Eilola, 1999), in which the process of reading and writing text through display media—such as screens—or input devices—such as keyboards—constitutes only a tiny part of the many ecosystems of distributed cognition at work in the globally networked computational media systems that compose, extrapolate, share, surveil, and otherwise manage the digital files through which we construct and make sense of the world.

The conventional wisdom among those who study participatory culture is that user-friendly interfaces and inexpensive technologies provide an ideal way to understand best practices in generating digital compositions designed for public audiences. With access to technologies such as Google Docs (Dunn et al., 2013), iMovie (Staples, 2010), and YouTube (Carter & Arroyo, 2011), new composition pedagogies are being promulgated that urge instructors in writing studies to adopt software that students may already use and then to aggregate evidence that the practices of reflection, assessment, imitation, and invention among developing multimodal composers could eventually become transferable to the print-based forms of scholarly production valued in the academy. Interacting with common graphical user interfaces to which many people are already accustomed appears to lessen the problem of steep learning curves. Interpreting file structures in Microsoft Office or timelines in iMovie seems to require little more than common knowledge to enter a community of practice.

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Others argue that more erudite forms of literacy, such as writing code in the lexicon of particular computer programming languages, is the only way to empower students, even if faculty may lack confidence in their ability to master arcane subject matter in a new discipline, and writing program administrators may be concerned about developing an appropriately fault-tolerant pedagogy (Sample & Vee, 2012). Unfortunately, as Michael Mateas (2005) observed in his work on “procedural literacy,” all too often students first encounter writing code in “a first language course in which students are asked to learn the grammar and vocabulary, read and comment on literature, and write short stories all in one semester.”

Furthermore, to teach students the new forms of advanced digital fluency prized in professional work environments, a literacy around subcreation—or the building of entire virtual worlds (Wolf, 2012)—requires the contributions of many cadres of composers and the non-linear technological workflows that characterize digital story space construction (McDowell, 2013). Much more rarified kinds of expertise and more restricted types of access shape discourses in formats that use proprietary software for extremely specialized digital design activities, such as 3D modeling, animation, and compositing. Important public forms of expression are determined by the coordination of teams of artists manipulating advanced software made for specialized uses that simulate virtual reality with compellingly vivid and immersive means to establish the credibility, authority, and immediacy of certain messages. The means by which audiences perceive “optical media” rendered on the one-dimensional axis of computer code (Kittler & Enns, 2010) or abstracted “technical images” generated by non-human automata to represent conceptual relationships rather than physical objects (Flusser, 2011) are shaped by algorithms that represent the physics of incredibly intricate rhetorical worlds with countless agents and objects inventoried in databases. Visual effects in feature films, architectural models for public comment, reconstructions of accidents and crime scenes judged admissible in court, and even scientific claims may be represented by digital files created by proprietary software designed for highly trained users, such as Autodesk Maya.

With the rise of “authoring tools,” “authoring systems,” and “authoring languages,” traditional modes of “authorship” by autonomous individuals have taken a profoundly computational turn toward adapting to new communities of practice devoted to “authoring” instead. For example, Pat Harrigan and Noah Wardrip-Fruin (2009) devoted half of *Third Person: Authoring and Exploring Vast Narratives* to modes of “authoring” characterized by narrative extent, world continuity, character continuity, continuity in cross-media universes, procedural potential, and multiplayer interaction. Much has been made of the difference between “friendship” and “friending” (Wittkower, 2010) and the way that affiliation has now become operationalized in the era of social media, but have we adequately contemplated what a similar shift in word form means for making the transition from authorship to authoring?

It may be useful to consider both the “unit operations” (Bogost, 2006) at work in new forms of rich media composition and the infrastructures and platforms needed to support resource-intensive “expressive processing” (Wardrip-Fruin, 2009). Media authoring of 3D virtual environments may require intensive investments of labor and capital (Losh, 2013) in a matrix of power relations that often reproduces the kinds of structures of inequality that writing classrooms generally aspire to level. In *Software Takes Command*, Lev Manovich (2013) observed that such software packages have become increasingly complex in order to enhance the possibilities of information visualization and that this complexity in turn fosters the development of particular global aesthetics, in fields such as architecture, as communities of designers pursue similar representational strategies. Programs such as Maya “can usually display the model in at least a half a dozen different ways,” from wireframe to fully rendered versions, while the artist may be manipulating “dozens of separate objects each having dozens of parameters” (p. 75). Manovich additionally claimed that such software promotes not only a particular relationship with a suite of tools but also a workflow process. He argued that “the visual aesthetics of hybridity that dominates the design universe” is propagated by such production workflows, and that “the same techniques and strategies” are deployed “across this universe—regardless of the output media and type of project” (p. 306).

The transparency of the workflow—a sequence of rationalized administrative processes through which a piece of work passes from conception to reception—is of critical concern to media authoring industries. Michael Nitsche (2008) argued that the structures of a 3D creation program like Maya “can evoke certain readings of space” as well as enable certain modes of authoring, and thus being literate in Maya allows a user to both read and write richly detailed virtual worlds (p. 164). However, the non-intuitive (or even counterintuitive) customs of that workflow process may only be explicable by initiates in the corporate inner circle who have become acclimated to common labor practices. Tutorials and user manuals may leave out critical information for novices about how to manage complex highly collaborative and geographically distributed projects with elaborate file structures and multiple versions of the same scene or character.

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