# Individuals Responsible for Video Games: An Exploration of Cataloging Practice, User Need, and Authorship Theory

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#### **Abstract**

- **Purpose**: Author information is one of the primary metadata elements for information access. While assigning "author(s)" has been relatively straightforward in library systems for textual resources, challenges have emerged in recording creatorship information for collaborative creative works, with surrogates erring on the side of caution and providing little information. This study aims to present improvements to the conceptual understanding of collaborative creatorship and relevant cataloging practice in video games.
- **Design/methodology/approach**: The current study is a theoretical investigation of the authorship role of individuals in collaborative creative works, using video games as a case study. The investigation is based on the literature on video game user needs and authorship theory.
- Findings: Reviews of literature present a disconnect between video game information user needs and currently available author information in library systems. Further analysis of the author/creator concept reveals insufficiencies in adopting auteur theory as the theory is applied to film. Exploration of access practices for other large collaborative creative products and an analysis of user tasks show potentially fruitful directions for future studies. This study recommends identifying primary roles that individuals adopt in video game creations and leveraging crowdsourced-creator information in library databases to enhance the visibility of author information for video games.
- Originality: By incorporating authorship theories and research from various domains such as film studies, intellectual history and library and information science, this study provides interdisciplinary, theoretical considerations as well as practical suggestions to enhance the current cataloging practice.

*Keywords*: Authorship, Authorship theory, Cataloging, Collaborative authorship, Information needs, Video games

#### 1. Introduction

It has become commonplace to note that video games have become one of the signature emergent media forms of the late 20th and early 21st centuries. In the 50 years since video games became widely available in the marketplace (both Pong and Magnavox Odyssey having been released in 1972), the technological capacities of games, as well as the ambitions of game designers, have steadily increased. Concomitantly, the public perception of games has shifted dramatically. Once seen largely as disposable entertainment fodder, games now serve myriad social and functional purposes, connect communities the world over, and command an industry whose economic might rivals that of film and far exceeds that of music. A rising tide of commentators and players now argue that, *pace* Roger Ebert, video games, like film before them, have transcended humble origins as cheap entertainment and developed into a medium for artistic and creative expression. Alongside this transition, video games have begun to make their way into the collections and catalogs of libraries, particularly public libraries and specialized media collections.

As they have with other creative media, questions arise as to how to classify and categorize video games, in order to 1) help those interested in video games locate games they will find useful and 2) link games with each other based on shared qualities. People with an interest in video games use a plethora of conceptual strategies to better understand and evaluate those games, as well as to discover games they have not experienced (Lee *et al.*, 2013). The strategies users employ to explore otherwise unknown resources, in turn, impact the provision of metadata in information resources. Common categorizations for games in online resources include classification by gameplay mechanics, narrative content, and visual style, to name just a few (Cho *et al.*, 2018; Cho *et al.*, 2020; Lee *et al.*, 2017a; Lee *et al.*, 2018). Gamers also use what resemble more traditional metadata categories, e.g., title, year of release, publisher, and creator(s). This last, however, is not always easy to discern or even conceptualize for video games.

Recent research in the area of information studies for video games has resulted in the development of an information schema for games, but elements capturing authorship or creative input are not yet present in the schema's most recent release (Lee *et al.*, 2017b). While video game user studies seldom explicitly explore user needs for recorded creator information relating to video games, very recent work has begun to point out the lack of authorship credits given to video game creators and to assess this as an information problem (Švelch, 2021). The author/creator element in metadata schema is an important nexus for user interest. Providing names of individuals who contributed to the making of creative works (in this article, *creative works* is used in the legal sense to mean a tangible product resulting from intellectual and

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<sup>&</sup>lt;sup>1</sup> The music industry's revenue for 2019 was approximately \$21.5 billion (Watson, 2020), and the film industry's 2019 revenue was \$101 billion (Escandon, 2020), while the video game industry's 2019 revenue was \$152.1 billion (Anderton, 2019).

<sup>&</sup>lt;sup>2</sup> Ebert, who as the film critic for the *Chicago Sun-Times* was instrumental in translating the artistic language of film for the wider moviegoing public, first expressed the position that video games are inherently unworthy of artistic consideration in his "Answer Man" column in 2005 (prompted by the film *Doom*), and went on to defend it several times, most vigorously (and famously) in the 2010 essay "Video Games Can Never Be Art". See <a href="https://www.rogerebert.com/roger-ebert/video-games-can-never-be-art">https://www.rogerebert.com/roger-ebert/video-games-can-never-be-art</a>

creative effort) enriches audience understanding, indicating how the artistic products were made and offering a way to link to other works the creators contributed to. This, in turn, can lead to discovery and further exploration of similar resources based on an information seeker's interests or judgment of artistic quality and creative reputation.

The desire for information about individuals working as game creators is manifest in the metadata contributed to crowdsourced online databases of video game information, such as MobyGames (https://www.mobygames.com), where metadata including information about responsible individuals is meticulously cataloged and interlinked by game enthusiasts in a manner similar to the cataloging of information for film and television on IMDB (Internet Movie Database) and for sound recordings on Discogs. In addition, the importance of individual and group creator information is commonly discussed in video game communities. Online video game communities and fan forums often share their opinions and information about different creative roles responsible for making video games, such as game music composers and designers (GameUser-16-32-128, 2009; saikron, 2014); in doing so, they spontaneously capture metadata about game creators and other individuals that are important to their experience of the games. The game industry itself has even begun to recognize individual creators for their contributions in awards ceremonies; while some major awards bodies in video gaming, such as the Game Awards<sup>3</sup> and the Golden Joystick<sup>4</sup>, concentrate on rewarding developer studios, others, such as the Game Developers Choice Awards<sup>5</sup>, devote some focus to highlighting the efforts of specific game creators.

Video games are frequently produced by one or more corporate bodies overseeing development, publication, and distribution. In library cataloging, when organizations issue resources, they are treated as authors (Abrahamse, 2021). However, like other complex creative endeavors, video games are often created collaboratively, and multiple creators are usually involved in the process of planning and making games. Although the publisher, as a corporate body, is habitually provided on game packaging, individuals who contribute are not always presented on the distribution package in an obvious and organized fashion; if they are, it may not be done using consistent wording that indicates responsibility. Thus, it can be challenging to identify the name(s) of people who are creatively responsible for the games. Yet "the concept of authorship is central to how libraries organize their collections" (Abrahamse, 2021, p. 242), and some entity must ultimately have responsibility for the video game.

Facing the problem of who (or what) to assign a creator relationship to in library metadata, libraries often present a producing company or distributor name as the author/primary contributor of games. After all, this aligns with the notion of commissioning a work (Bantinaki, 2016), as the publisher is likely the commissioner of the video game (O'Donnell, 2014). See Figure 1 for an example of a record for *Persona 5* in OCLC WorldCat with the author and the

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<sup>&</sup>lt;sup>3</sup> See <a href="https://www.nytimes.com/2021/12/10/business/the-game-awards.html">https://www.nytimes.com/2021/12/10/business/the-game-awards.html</a>

<sup>&</sup>lt;sup>4</sup> See <a href="https://www.nintendolife.com/news/2021/11/here-are-all-the-winners-from-the-2021-golden-joystick-awards">https://www.nintendolife.com/news/2021/11/here-are-all-the-winners-from-the-2021-golden-joystick-awards</a>

<sup>&</sup>lt;sup>5</sup> See <a href="https://www.ign.com/articles/hades-game-of-the-year-2021-game-developers-choice-awards">https://www.ign.com/articles/hades-game-of-the-year-2021-game-developers-choice-awards</a>

All Authors/Contributors field; only the publisher, Atlus U.S.A., is indicated. This is a simple solution that aligns with the spirit of a corporate body creatorship, but it provides no information on the scores of individuals (or artists (Bantinaki, 2016)) who may have worked on the release and whose creative vision is realized in the end product.

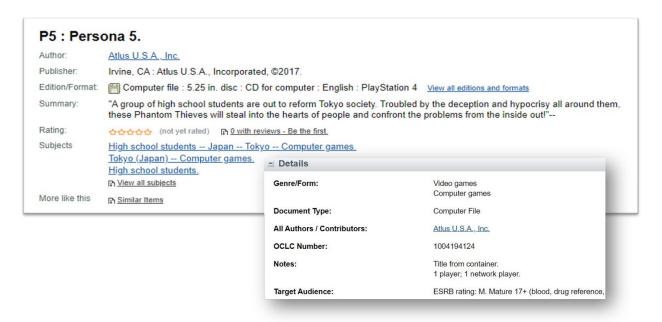


Figure 1. Snippet of the OCLC WorldCat English-language record for Persona 5 (2017), retrieved from <a href="https://www.worldcat.org/title/p5-persona-5/oclc/1004194124&referer=brief">https://www.worldcat.org/title/p5-persona-5/oclc/1004194124&referer=brief</a> results

Game scholarship, game criticism, and accounts of actual game development suggest other ways of thinking about authorship and creativity in the medium. In some cases, game creation is handled by a designer or design team that has strong creative control over the game's elements (Bogost, 2015); in other cases, it is a large-scale, organized collaborative labor effort (Schreier, 2017; O'Donnell, 2014) that may not even be useful to understand as a process of authorship per se. Many video games, especially major commercial releases, are in some ways akin to Hollywood film productions with respect to creation, since dozens of people can have creative input. For film, the executive producers, producers, directors, actors, screenwriters, cinematographers, score composers, and costume designers are all potential nodes for discovery; they are all highly specialized and may engender devoted followings. For video games, the roles are less standardized than in film, and there may be even more of them that are relevant to user interests, such as directors, story writers, graphic designers, character designers, and music composers. How can the complexity of video game creation be captured in information systems in a way that permits libraries to provide robust access to all potential users of the catalog—not only through the identification of sought resources but also the discovery of relevant new titles?

Presented as a theoretical inquiry, this article addresses the following questions:

- **RQ1**: How is video game authorship conceptualized? How is this reflected (or not) in library catalogs and online, crowdsourced databases?
- **RQ2**: How useful is the term "author" or "creator" as a metadata element for video games, understood as large-scale collaborative, creative works?

We begin by examining the existing organization of video games in two online contexts: librarian-driven and user-/gamer-driven. Next, we consider theoretical approaches to considering an individual's authorship contribution in multi-author, large-scale collaborative creations. Finally, we assess how libraries can consider adapting their practices to enable improved access to video games in libraries.

# 2. Existing practice relating to video game authorship and creator representation in online systems

In this section, we examine and illustrate two types of online systems containing information about video games: library catalogs which provide access to library collections, and crowdsourced online platforms which provide information about video games. Each has unique approaches to representing authorial information in its description of video games as well as constraints.

#### 2.1 Current library treatment of video games

Initially focused on books and print media, libraries have increasingly devoted resources to collecting and subsequently creating metadata for audiovisual formats. Film and recorded music have become common in library collections; relatively new is the inclusion of video games. A lag in thinking of games as a legitimate patron interest, acquiring games, and finding viable ways to provide access to them is evident. As an example, a 2010 report on video game preservation commissioned by the Library of Congress still wrote of library video game collections largely in the future tense (McDonough, 2010, p. 20). Today, public, academic, and special libraries all maintain collections of video games, for the purposes of both entertainment and study. Although several researchers have discussed the importance of adequately recording (and cataloging) information about video games in libraries and other relevant databases (such as De Groat, 2015; Ferguson, 2016; McDonough, 2010; Robson *et al.*, 2020), there has been little to no discussion of author or creator issues in particular.

In 2018, supported by IMLS Grant, the Online Audiovisual Catalogers (OLAC) Cataloging Policy Committee and their Video Game RDA Best Practices Task Force released a report on *Best Practices for Cataloging Video Games: Using RDA and MARC21* (Online Audiovisual Catalogers, 2018a). The question of ascribing authorship status to individuals involved with video game creation is addressed as follows:

<sup>&</sup>lt;sup>6</sup> Consider, for example, the University of Michigan Computer and Video Game Archive: <a href="https://www.lib.umich.edu/locations-and-hours/computer-and-video-game-archive">https://www.lib.umich.edu/locations-and-hours/computer-and-video-game-archive</a>
Citation for this article: <a href="Cho. H.">Cho. H.</a>, <a href="Hubbles.C.">Hubbles.C.</a> and <a href="Moulaison-Sandy.H.">Moulaison-Sandy.H.</a> (2022), "Individuals responsible for video games: an exploration of cataloging practice, user need and authorship theory", <a href="Journal of Documentation">Journal of Documentation</a>, Vol. ahead-of-print No. ahead-of-print. <a href="https://doi.org/10.1108/JD-10-2021-0198">https://doi.org/10.1108/JD-10-2021-0198</a>

[...] it is not clear that any of them would be considered a creator of a video game, especially since RDA 6.27.1.3 identifies video games as generally collaborative works. None of the categories in the [Library of Congress-Program for Cooperative Cataloging Policy Statement] LC-PCC PS 19.2.2.1.1 "Corporate Bodies Considered to be Creators" is applicable to games (p. 65).

Instead, the report suggests making added entries for the publisher and game developer, which is consistent with the way directors or actors, for example, are treated in catalog records for films.<sup>7</sup> But does prescribing such treatment undermine the value of including the creative roles of individuals in video game records? The addition of names for publishers and game developers in the catalog record is also recommended, without necessarily making added entries for all names recorded. In practice, if authorized access points are not provided for individuals, then the names of those recorded in the "credits" field of the MAchine-Readable Cataloging (MARC) bibliographic record will only be searchable through a keyword search. Also, a cursory search of OCLC WorldCat and of the catalogs of large public libraries in the United States and Canada confirms that catalogs have erred on the side of adding little to no authorial information about individuals. Catalog records for video games are often minimal, limiting their usefulness in search and retrieval.

Beyond publishing the Best Practices for Cataloging Video Games (Online Audiovisual Catalogers, 2018a), OLAC also issues a 67-term vocabulary of genre terms to describe video games (Online Audiovisual Catalogers, 2018b). These terms can be applied in MARC records, but the question remains as to how consistently these OLAC best practices and resources are consulted and the products applied. Despite the guidance, these practices might not be put into play. Workload and training affect the quality of output; the cataloger might be trained primarily in working with print media or different audiovisual resources, or the OLAC resources might be unknown to the cataloger. Further, the cataloger might not be well acquainted with video games as a medium, or with the nature of the information that can be provided. Finally, catalogers might not have time or resources to create full records for video games, since audiovisual resources may be considered ephemeral (i.e., not a long-term addition to the collection) and primarily searched by title, with the gaming system perceived as the only other essential information to provide. In this environment, discovery is not supported. Public libraries, in particular, might use records purchased from a vendor that do not adhere to the somewhat rigorous standards put forth by OLAC.

The OLAC report, Best Practices for Cataloging Video Games (Online Audiovisual Catalogers, 2018), considers video games as a format, catalogs as a search environment, and libraries as creators of metadata that will exist in a much larger library data ecosystem. The report defines the publisher to be the main responsible body for the work, a notion that

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<sup>&</sup>lt;sup>7</sup> Providing "added entries" means that the access point for the individual or publisher, etc., should be searchable as an Author/Creator in the library catalog's "author index." Again, this will be consistent with the way that director or actor names might be searched in a catalog's "author index" when associated with a film. Citation for this article: Cho, H., Hubbles, C. and Moulaison-Sandy, H. (2022), "Individuals responsible for video games: an exploration of

Abrahamse (2021) considers a "useful fiction that an organization can in some sense behave like an individual with respect to creating resources" (p. 243). One example in the *Best Practices for Cataloging Video Games* shows authorized access points for two of a sample game's publishers, the studio, one software developer, one screenwriter, and the author of the book on which the game was based; it does not, however, align with the limited degree of access observed in the records we evaluated through OCLC WorldCat, nor does that record seem to align with general notions of agency in authorship as carried out by individuals.

Library catalogs cannot be searched for information that has not been added to the catalog. Further, information transcribed exactly from a resource or copied from an online venue will have limitations in how it is searched—only a search of the keyword index will be able to retrieve those records. This is different from records where the cataloger has supplied an authorized access point for the individual in question. Authorized access points are indexed in the author index so these names can be searched a second way. Because they are "authorized," they are linked to authority records for the individuals, which will correct for common alternate spelling the searcher might include. For example, Gunpei Yokoi (often transliterated Gumpei Yokoi) was a game designer for Nintendo involved in the creation of *Donkey Kong*, *Super Mario* Bros., and Metroid. The authorized access point for Yokoi (i.e., Yokoi, Gunpei, 1941-1997) is documented in an authority record: https://lccn.loc.gov/n2011029030. Although the non-Latin version of his name is automatically provided in the authority record, any library system using this authority record will be able to direct users to the items by Yokoi if the author index is searched for 横井軍平. By not requiring users to know specifics of how an individual's name appears on a resource (which script is used, for example), including the authorized access points in records allows for better search and more powerful retrieval.

#### 2.2 Practices in online communities and databases

Compared with library databases, online databases containing information about video games tend to contain more thorough creator information. For example, MobyGames, an online video game database whose purpose is "to meticulously catalog all relevant information—credits, screenshots, formats, and release info—about electronic games", 8 encourages game users to contribute information. Due to this crowdsourced data-obtaining strategy, MobyGames's credits information is often exhaustive. For *Persona 5*, the MobyGames record shows all of its 720 contributors (711 developers, 9 thanks), distinguishing different creative contributions such as director, character designer, and composer (Figure 2).

<sup>&</sup>lt;sup>8</sup> https://www.mobygames.com/info/faq1

Persona 5 Credits 720 people (711 developers, 9 thanks)			
Staff			
Director	Katsura Hashino		
Character Designer	Shigenori Soejima		
Composer	Shōji Meguro		
Original Story Concept	Katsura Hashino		
Lead Scenario Planner	Shinji Yamamoto		
Scenario Planner	Yuichirō Tanaka, Keisuke Makino, Atsushi Watanabe, Azusa Kido, Nanako Kobayashi, Kazuyo Murakami, Emiko Tsuda, Teppei Kobayashi, Hirotaka Mizuno, Masaru Hatano		
Lead Event Planner	Mitsutaka Tamari		
Event Planner	Korechika Tachibana, Takanobu Otowaki, Takayuki Noguchi, Tomoyo Takahata, Kiyohito Itō, Nobuyasu Ushio, Hiroshi Ito, Aya Nagara		

Figure 2. Example of a MobyGames credits information on Persona 5 (partial record)

Similarly, other crowdsourced resources like Wikipedia also include and distinguish different creator roles for video games: Developer(s), Publisher(s), Director(s), Producer(s), Designer(s), Programmer(s), Artist(s), Writer(s), and Composer(s) are often included in articles for games (see Figure 3). The list of creative contributors is not as exhaustive as that of MobyGames (and ultimately cannot be so given Wikipedia's standards regarding notability and trivial content), but it still provides some level of knowledge about creative responsibility. While OCLC's English record of the same game has only the publisher's name as All Authors/Contributors (see Figure 1 in the introduction), these crowdsourced, user-based online databases tend to have rigorous information about creators. It is probably not reasonable to expect library records to include all of the information contained in the records of a site like MobyGames; it is no more useful to list every one of the 700+ named contributors to a game like Persona 5 in a library catalog record than it would be to enumerate the hundreds of stuntmen and digital effects artists in the end credits of a modern superhero film. Nevertheless, the mere existence of such exhaustive databases suggests a keen interest on the part of gamers and game enthusiasts. It also potentially flags an unmet user need for creator information to be included in resources that provide information about and access to video games.

P-Studio Developer(s) JP: Atlus Publisher(s) NA: Atlus USA PAL: Deep Silver PAL: Sega (Royal) Katsura Hashino Director(s) Katsura Hashino Producer(s) Naoya Maeda Designer(s) Programmer(s) Yujiro Kosaka Artist(s) Masayoshi Suto Shigenori Soejima Shinji Yamamoto Writer(s) Yuichiro Tanaka Katsura Hashino Composer(s) Shoii Meauro

Figure 3. The Wikipedia infobox from the article on Persona 5 (2017) (partial record)

## 3. Defining authorship and its application to games

Who creates a video game? Answering this question is a necessary and basic task for any video game cataloger, but it is deceptively complex. Assigning an author or creator relation to a video game presupposes a theory of who a creator is. However, there are multiple models of creatorship that influence how users seek information and how information providers, in turn, supply it. Many of these theories predate video games (having been developed for other types of media), and they often map poorly when applied to games, in ways that may impede search and discovery for those seeking information on game creation.

As video games have emerged as bona fide cultural products, some game critics and scholars have adopted the *auteur* model for understanding games and game designers—existing in tension with game development studios and publishers (who often position the company, rather than its designers, as the sole entity responsible for creative ownership) and fans (whose contributions to crowdsourced game information projects and whose revealed preferences in information behavior suggest a broader notion of collaborative creativity). In the following subsections, we will describe several notions of authorship and examine how they apply to video games in practice.

#### 3.1 Authors and auteurs

In library-scientific theory and actual library practice, the standard framing for understanding and classifying creative works in any medium is traditionally through the concept of *authorship*—that is, a typically one-to-one relationship between a specific individual and a work. Authorship refers principally to *written* works, and since other types of creative media use different terms, such as music composers, artists, photographers, and architects, "creator" often is substituted. However, the conceptualization of the relationship between the created object and the person/persons doing the creating is analogous. The author (or creator) relation has long been one of the principal nodes of access, organization, and categorization for both informational and

fictional/artistic classes of works. The identification of creators with their works, and the value attributed to this relationship, is a complex, large-scale feature of Western life and thought that developed and increased in prominence over the course of centuries, tied to, among other things, the rise of print publishing industries, the invention of copyright, the idea of individualism as promulgated in Enlightenment philosophy, and the Romantic conception of creative genius (Ede, 1985; Goehr, 1994; Rose, 1995). An exhaustive account of the notion of authorship is beyond the scope of this paper; it is sufficient to note that a strong link between creative work and author (or analogous creator) became a central guiding principle for finding, accessing, consuming, and understanding creative works over the span of the last several hundred years.

This traditional notion of authorship remains a powerful interpretive and organizational force, and it is quintessential to library cataloging practices. Yet it is of limited utility for understanding video games. Some small-scale or independently developed games have identifiable single or joint creators, such as Toby Fox's *Undertale* or Rand and Robyn Miller's *Myst*, but the vast majority of games simply do not analogize well to the conceptualization of authorship developed for print media.

This problem is not new, nor is it limited to games. The traditional notion of the author was, at times, difficult to apply to many types of new media from the late nineteenth century on, such as recorded music and film. The development of complex, multifaceted works involving many contributors made the application of a simple creator-creation relation problematical. For instance, who is the author of a musical recording? The composer or songwriter (who may not even be involved in the recording process)? The performing artist(s)? The recording engineer(s)? The producer who organized the recording session and chose the repertory? Similar problems plague author considerations in film; screenwriters, cinematographers, principal actors, directors, and producers all seem to lay claim to aspects of the traditional notion of a work's creator.

As film began to be taken more seriously by cultural critics in the mid-twentieth century, auteur theory arose, offering a (contested) scaffolding for understanding creative vision as it relates to film. Auteurism grew out of midcentury French film theory and was crystallized in writings by Francois Truffaut, a director who fit the definition of the term he was formalizing (Ayres, 2010). Under auteur theory, the director is the 'author' of a film. Directors are understood to be the chief decision-makers who shape the narrative structure and meaning of cinematic works (Carringer, 2001). This allowed for the traditional idea of authorship to be extended to this ostensibly collaborative medium; it alleged that film can be understood as the product of a single coherent artistic vision, in the same way that other works involving multiple hands could be in the past (Sellors, 2007). If Mozart's operas or Rubens's paintings could still be justifiably attributed to those artists as creators (Cronin, 2012), so, too, could Hitchcock's and Welles's films.

Both academic writing on video games and popular game journalism/criticism have noted the possibility of drawing parallels between auteurism in film theory and video game development. The analogy to film is, at times, explicit in the literature. Smuts (2005), in discussing Shigeru Miyamoto (the chief architect behind many of Nintendo's most successful

game series, including Donkey Kong, The Legend of Zelda, and Super Mario Bros.), calls him "the [Sergei] Eisenstein of video games," and notes that he "is often a hero in books devoted to the history of video games. Miyamoto is praised for his ability to create original stories, characters and the look behind captivating and complex games." Similarly, Gates (2018), assessing the career of Hideo Kojima (designer of the Metal Gear series), dubs him "the James Cameron of video games" and describes him as "a maverick auteur with very big ideas, a fetishistic love of technology and a constant need to push his chosen medium as far as it can possibly go." Auteurism is also understood through its embodiment of a set of related ideas (e.g., of authenticity, or innovation, of artistic merit, of craft, of social or political commentary) that are often associated with independent game developers, just as they are with independent filmmakers. Juul (2019, pp. 12-13) suggests that financial and creative independence are strong defining parameters for critics, as well as for game makers themselves, who also identify (or self-identify; Werning 2021, pp. 102-103) individual 'indie game' developers as auteur figures. Many of these concepts are contested, even vexed, notions, especially those of authenticity and of financial or creative independence (Martin & Deuze, 2009); nevertheless, as generally held perceptions, they hold substantial sway in critical and popular understandings of how to consume and interpret indie games.

Perhaps the most developed analysis of game authorship in relation to auteurism is that of Hakimi (2016), who identifies five broad taxonomic categories for video game authorship, based on different approaches to video game creation: Indie, Art, Mainstream Studio, Commercial Auteur, and Auteurist Studio. The divisions are based partly on the 1) *social function* of the game (are they games for the marketplace or are they designed specifically for an art community?), 2) *labor mechanics* of the game's development (is the game designed and coded by a single person or small group, architected by a studio with a coherent aesthetic vision, or overseen by a corporation preparing mainstream, mass-market entertainment?), and 3) *cultural perception* of the game (itself inevitably influenced by the game's own marketing strategy). For Hakimi, then, game auteurism makes sense, but only in some gaming contexts—when a designer or a recognizable studio brand with a consistent design aesthetic or philosophy is asserted as the creative force behind a game.

Adopting auteur theories in video games has limitations (*redacted for reviews*). Using auteur theory as a basis for introducing authorship or creatorship to game information systems would make space for the inclusion of lead designers, and in some cases for development studios separate from publishers ("auteurist studios", in Hakimi's formulation). However, this can only address the top-line creative element of the game. As with film theory, it does little to aid in any understanding of other creative components of the finished work. In addition, it manifestly does not work for games that do not have strong assertions of creative control, including many mainstream commercial game releases.

#### 3.2. Corporate/studio authorship

Rather than assigning the creator role to individual people involved in the game's creation, librarians and other information professionals often instead default to using the game's publisher as creator. In doing so, they adopt an alternate conceptualization of video game authorship, that of studio or corporate creatorship. This mirrors the model of game authorship generally asserted by copyright law, which is the principal intellectual property mechanism governing legal rights relating to games and game makers. Independent video game designers can assert copyright control over their works as 'natural persons' (in the argot of copyright), but many game studios are assigned copyright in their releases as works-for-hire (Ramos *et al.*, 2013, p. 10), in a manner similar to that of film studios. For legal purposes, the company becomes the author of the work (U.S. Copyright Office, 2012), and is often identified as the copyright holder on the box.

This structural framing is maintained both by game development studios and fans. Game companies attempt to create strong brand identities around the styles of games they produce, and in many cases fans buy into, and understand games through, the limited-choice hardware/software environments of game consoles and systems. The framing is compounded by the tendency of many game publishers to minimize the assignation of individual credits in promotional materials and on physical or digital release packages. To a large extent, this reflects a business model built around foregrounding the game company as the marque of quality, rather than any specific contributors or 'star' creatives. Furthermore, there is often tension between distributing and publishing companies, when they are different, over creative control (Williams 2017, pp. 60-62), which increases the number of individuals who could be identified as creative contributors and potentially makes the daylighting of that credit more unlikely (since it might not place one or the other company in the best light). Outsourcing of aspects of game development to subcontractor companies is common for some game studios (Švelch, 2021; Martin & Deuze, 2009), and the details of credit for those elements may not be made public. If the game is based on a preexisting intellectual property concern (e.g., if it is a tie-in with a film franchise), the problem of ferreting out creative responsibility, and therefore attribution, is complicated all the more, since important creative decisions about aspects of the game, like storyline, soundtrack, or costume design, may be made by people who are not affiliated with game development per se at all.

Many games come with some sort of crediting of the creative team that developed the game, but it is rare that they are identified in the purchased product (box, inlay card, or digital download information). There are limited regulatory or industry-standard guidelines relating to crediting in video games (Švelch, 2021), and as such, there is inconsistency in the means of delivering and formatting that information. Perhaps most often, the game may have credits embedded within it, accessible either through the game's play menu or, in some cases, only after reaching the end of the game. This can be extraordinarily difficult for a cataloger to access. Instead, it appears to be fairly common practice for catalogers to assume the publishing or distributing company should occupy the author/creator field in library records—simply accepting

the corporate/legal model of authorship as a function of the commissioning of the work (Bantinaki, 2016).

This differs from common practice with other audiovisual media. For example, music albums are not usually assigned to record labels alone in the author/creator field; the performers are usually credited, and the producer or even the author of the liner notes may be included as well. Films are not usually assigned to the studios alone in the author/creator field, either; writers, producers, directors, and top-billed actors regularly appear in library catalog records along with production studios. Ultimately, the practice of assigning the studio as the creator suffers from the same difficulties as strong-author models; it fails to robustly describe the creative input that went into the game's development in ways that make cataloging records less useful for game information users. Providing game studio information in records is still important, especially for game studios whose works have identifiable and consistent styles, but providing only the studio in the creator field is not a user-friendly paradigm. It provides even less information about the work than would a traditional-author or auteur model, since these typically regard publisher data as important to the record as well.

#### 3.3 Collaborative authorship theories

The traditional notion of authorship (and, by extension, both auteurism and corporate authorship, as outgrowths of the author-concept) came under scrutiny in recent intellectual history (Inge, 2001). Two main strands of thought challenged the author idea. The first, which was largely an outgrowth of post-structuralist and postmodern literary theory, disputed the notion that any work could be attributed to a single author (Carringer, 2001). For one thing, no one creates works sui generis; any piece of writing is the sum total of the words and thoughts of innumerable others, filched from history and society and then assembled by a compiler masquerading as a solitary creator. Furthermore, readers contribute, perhaps more than authors, to the interpretation and meaning of a work (Inge, 2001), and so perhaps deserve as much the title of author (or the renown apportioned to authors) as anyone anointed with the status of creator. This line of thought became known as the "death of the author" movement, after a foundational 1968 essay by Roland Barthes (Barthes, 1977), and similar strands of reasoning were pursued by thinkers such as Foucault and Derrida. However, the death of the author philosophy poses severe practical problems for the working cataloger; either the creator field would balloon to uselessness, or the creator category would be eliminated altogether. This would serve neither librarians nor their users, and so does not seem particularly fruitful as an avenue for practical reform.

Alongside the death of the author theory, a parallel critique noted examples of many collaborative works throughout the history of the humanities (e.g., co-written Elizabethan plays, most operas, exquisite-corpse stories) and the increasingly collaborative nature of many modern media creations. The collaborativity inherent in many sound recordings and films has already been noted; similar tendencies became manifest in other creative endeavors, such as the products of art collectives, radio and television, comics, scholarly publications, remix cultures (Diakopoulos et al., 2007), and especially creative Web content (software, wikis, collaborative

hypertext fiction). Calls for more sophisticated typologies and tools to wrangle metadata for such collaborative endeavors have arisen of late (e.g., Lee *et al.*, 2008; Literati, 2012; Brand *et al.*, 2015), but actual adoption and implementation into metadata schemes has lagged behind, especially for video games.

Taking the collaborative model of authorship as a general benchmark may prove fruitful for conceptualizing video game creation, especially as applied to library practice. While a small number of games may fall into a more strongly authorial mode, the majority of games (including some labeled by Hakimi (2016) as "auteurist studio", "indie", or "art" games) will have at least several individuals who make significant artistic or design contributions to the game, and who are thus likely to serve as information access points to game seekers. Inevitably, this places burdens both on metadata schema designers, who must manage additional fields, and catalogers, who would need to determine and sort the additional creators into those fields. The payoff for this work is the prospect of meeting, or exceeding, expectations of video game-interested patrons, and potentially, of increasing the visibility of libraries generally as providers of access to games and knowledge about games.

#### 3.4 Principles for library access to authors/creators: User perspectives

The theoretical exploration above of the nature of authorship in video game creation as well as the understanding of user expectations can be brought to bear on library catalogs. For understanding what library catalogs should permit in terms of access, we adopt the framework put forth in the Library Reference Model (LRM) (Riva et al., 2017). LRM takes a broad view of the user population of library catalogs, and includes not only readers and other types of endusers, but also library staff and "other actors in the information chain, including publishers, distributors, vendors, etc." (p. 15). When considering library cataloging records, this broad range of users should be able to 1) *Find*, 2) *Identify*, 3) *Select*, 4) *Obtain*, and 5) *Explore* library resources based on the metadata included in the catalog. Table 1 is reproduced from the report; it gives an idea of how each of these tasks might be interpreted vis-à-vis library catalogs and provides an additional example of how the user tasks might work in the context of access to video games, especially as they relate to authors and creators.

Table 1. LRM user tasks summary with examples (Riva et al., 2017, p.15) and sample user tasks relating to video games.

User Tasks Summary (Riva et al., 2017, p.15)		Sample User Tasks as Applied to Video Games
Find	To bring together information about one or more resources of interest by searching on any relevant criteria	Gamers are able to retrieve a comprehensive list of games 1) compatible with their system, 2) published by a certain studio, or 3) attributed to a well-known developer.

Identify	To clearly understand the nature of the resources found and to distinguish between similar resources	Collection development librarians are able to understand the completeness of their collections in terms of gaming systems, topics and levels, and access to games by well-known developers, e.g., Sid Meier.
Select	To determine the suitability of the resources found, and to be enabled to either accept or reject specific resources	Gamers can select video games based on their diverse needs, such as maturity level or the nature of the content/characters (e.g., Cho & Menking, 2020) and games created by particular game developers they support.
Obtain	To access the content of the resource	Gamers are able to acquire game cartridges or stream content.
Explore	To discover resources using the relationships between them and thus place the resources in a context	Publishers are able to survey the work of competitors by topic, or to survey the evolution of certain developers' career trajectories.

Although the sample user tasks provided in Table 1 seem somewhat straightforward, including enough information in the catalog record to meet the needs of these varied groups is fraught; fortunately, the analogy to film as a collaborative multimedia format with a robust user population in terms of LRM and library catalogs provides a point of departure. Video game records in OCLC WorldCat confirm that the first four user tasks are generally accomplished, but potentially in a limited way, and not necessarily in relation to individual contributions. A game's title and the required gaming system are consistently provided, but without the use of controlled vocabularies, leading to an inability to collocate reliably within the system.

Most germane to considerations of authorial responsibility is the question of what is included in the records. Based on the literature's clarity on the importance of responsible individuals to gamers and other possible end users (including librarians and publishers and distributors), we conclude that relevant criteria supporting the user tasks include metadata providing access to appropriate individuals, such as directors, graphic designers, and composers. This allows for the fullest interpretation of user need relating to responsible parties that should be captured in the records. In particular, for the *Explore* user task to be adequately addressed, not only should responsible individuals' names already be included in the catalog record as they appear in the credits, but these names should also be provided as authorized access points in order to allow for the collocation of items comprising an individual's oeuvre. Applying this would look like this: Markus Persson and Jens Bergensten, game designers of *Minecraft*, would be included in library catalog records (both appear in the credits for the *Minecraft* game, justifying the inclusion) but also as authorized access points to support collocating all of the products of their work, thereby supporting the *Explore* task.

# 4. Suggestions and future research

When considering the unique nature of video games and the needs of users, the importance of providing metadata that addresses the LRM user tasks becomes more pronounced. Most challenging given current cataloging practice is the *Explore* task. *Explore* requires users to be able to navigate in a way that allows for the discovery of new titles. Known-item searching based on title is currently the most common way to find titles within a library collection. The *Find* task requires the catalog to collocate resources based on criteria important to users beyond the publisher information. After reviewing the literature and library practices for recording video games' and other relevant media resources' author information, we conclude that the ability to *Explore* is restricted at present, as is the ability to reliably find records for games.

Library catalogs remain important nodes for exploration of written resources, at least in part because the catalogs are explicitly thought of in that way, and their records are filled out robustly in support of that effort. Why shouldn't other library resources be treated the same way? Because of the relative novelty of games as library resources, and the well-developed information resources already available outside of libraries (through sites such as MobyGames), it may be tempting to argue that efforts to improve game cataloging would be wasted. Yet if libraries are going to provide access to games, it is not well that they should cede the vast majority of information provision about games to third-party online resources, any more than Amazon or Google Books or Goodreads should take the place of library catalogs themselves. The severe lack of user research on the relationship between video games and library users suggests that we have much to learn about what function libraries serve to game players and devotees, and what function they *could* serve if given more substantial support.

What steps can be taken to promote access through library systems? We recommend that further research be conducted to identify a relatively small number of creative roles that are commonly carried out in video game production and considered important to users. Once these roles are identified, catalogers should be trained to search for the names of the individuals carrying out these roles and to include them as authorized access points – just as catalogers have taken to relying on IMDB and Wikipedia or other online sources when cataloging film, so too should they learn to rely on high-quality online sources that provide information that is otherwise difficult to glean from a box or a disc. This will better enable both the *Find* and the *Explore* user tasks, as well as the rest. High-quality catalogs contain consistent metadata (Bruce and Hillmann, 2004); likewise, this metadata must be integrated into the bibliographic universe that library catalogs represent for it to support retrieval.

There is currently a disconnect between what is prescribed, what is available, and what is needed in library catalog metadata. What can be done to facilitate access to video games in library catalogs, especially while respecting both library theory but also the needs of users as conveyed in the literature? User studies are necessary in this environment. Besides identifying a small set of roles to consistently include, adopting well-established creative roles terminology in the video game domain would help future creation of metadata records for video games. The current metadata standards and terminology often used (e.g., Relator terms) cannot appropriately

capture the diverse creative responsibilities in making video games, which may hinder consistent access to these roles in the catalog. Creation of the list of creative roles in video games and its universal application/use in libraries can help provide access to roles such as "Sequence Director," "Character Design," and "Battle Planner". Developing a taxonomy or a set of controlled vocabulary for creative roles specific to video games can contribute to creating metadata records with attribution that better exemplifies the extent of the work undertaken in the creation of a particular game.

From a practical point of view, it may be inevitable for information scientists and information institutions to start thinking about how to utilize already existing user-created data for incorporation into library systems. Realistically, librarians cannot record nor create hundreds of authority records for responsible individuals. However, current video game users may expect no less than what they are used to seeing from game websites and Wikipedia. Thus, rather than questioning whether user-generated information should be used, instead, the focus should be on selecting and presenting rigorous and accurate information from the massive amount of user-generated data. Future research should address approaches to finding and selecting accurate information from publicly available user-generated information, such as user reviews and crowdsourced databases. Some of the recent studies utilized text-mining methods to identify subject elements of video games like plot/narrative (Cho et al., 2020) and suggest the possibility of more autonomous identification and application of information. We believe this direction of research should continue to move forward.

#### 5. Conclusion

Author information is a key element to finding relevant resources. In this study, we explored the concept of authorship in collaborative creative works, using video games as a case study. Our review and theoretical examination helped us demonstrate 1) the disconnect between video game information users' needs and current library cataloging practices and 2) the challenges of identifying the person(s) creatively responsible for designing video games. We agree that application of auteur theory to video games may not be the best practice; while we acknowledge that there may at times be auteur-like figures in game production, crediting only them disregards other important creative roles. Therefore, we believe that identifying video game creators via the lens of collaborative theories may be more fruitful for future research and library applications. In order to facilitate that, we recommend that future researchers explore how to import online crowdsourced data into existing library systems, taking the LRM user task model into consideration to enhance users' search experiences.

While this study focuses on video games, we envision that our findings can be easily expanded to other types of collaborative creative media, such as museum exhibitions and animations. Additionally, the focus of the current work is video game information users, not creators. Future research on appropriate crediting from creators' perspectives and ethical considerations relating to author information are other critical areas that merit further investigation in library and information science scholarship.

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