



<http://www.diva-portal.org>

Preprint

This is the submitted version of a paper published in *Journal of Documentation*.

Citation for the original published paper (version of record):

Sköld, O. (2015)

Documenting Virtual World Cultures: Memory-Making and Documentary Practices in the City of Heroes Community

Journal of Documentation, 71(2): 294-316

<https://doi.org/10.1108/JD-11-2013-0146>

Access to the published version may require subscription.

N.B. When citing this work, cite the original published paper.

Permanent link to this version:

<http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-247471>



Journal of Documentation

Documenting virtual world cultures: memory-making and documentary practices in the City of Heroes community:

Olle Sköld

Article information:

To cite this document:

Olle Sköld, (2015), "Documenting virtual world cultures: memory-making and documentary practices in the City of Heroes community", Journal of Documentation, Vol. 71 Iss 2 pp. -

Permanent link to this document:

<http://dx.doi.org/10.1108/JD-11-2013-0146>

Downloaded on: 16 February 2015, At: 04:38 (PT)

References: this document contains references to 0 other documents.

To copy this document: permissions@emeraldinsight.com

The fulltext of this document has been downloaded 19 times since 2015*

Users who downloaded this article also downloaded:

David Bawden, David Bawden, David Bawden, (2015), "Documents and people, Otlet and Heidegger: Ron Day's Indexing it all", Journal of Documentation, Vol. 71 Iss 2 pp. -

Isto Huvila, David Bawden, (2015), "The Unbearable Lightness of Participating? Revisiting the discourses of 'participation' in archival literature", Journal of Documentation, Vol. 71 Iss 2 pp. -

Ruben Verborgh, Seth van Hooland, Aaron Straup Cope, Sebastian Chan, Erik Mannens, Rik Van de Walle, David Bawden, (2015), "The Fallacy of the Multi-API Culture: Conceptual and Practical Benefits of Representational State Transfer (REST)", Journal of Documentation, Vol. 71 Iss 2 pp. -

Access to this document was granted through an Emerald subscription provided by 232583 []

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

Documenting virtual world cultures: memory-making and documentary practices in the City of Heroes community

1 Introduction

In *The Archeology of Knowledge*, Foucault famously states that the archive dictates what can be said, thought, and known in a social system at a certain time and place (Foucault, 1982 [1969]). Taken generally, Foucault's assertion illuminates how the doings and workings of the present are inextricably linked to how the past is remembered. Remembrances of the past are, in this view, enabled and structured by the range of documented information kept available in archives and other repositories of various kinds. A significant portion of more recent research in this vein has been informed by a sociomaterial perspective: the triumvirate of present doings and workings, memory, and information about the past (documentation, recall, use) are increasingly viewed as reciprocally entangled with the sociocultural practices and affordances of the information repositories of the context under study (e.g., Latour, 1987; Berg, 1996; Brown and Duguid, 1996, 2000; Frohmann, 2004). Studies on how the documented past interacts with, and is put to use in, the dealings of the present have also been conducted in areas such as law enforcement (Trace, 2002), gourmet cooking (Hartel, 2010), theatre production (Davies, 2008), and healthcare (Berg, 1996; Heath and Luff, 1996; Berg and Bowker, 1997; Østerlund, 2007).

There is, however, a significant gap in this research front regarding virtual worlds. Despite being the object of study in a wide array of inquiries (e.g., Taylor, 2006; Boellstorff, 2008; Pearce, 2009), little analytical attention has been paid to virtual world community memory-making and recording of things past. Virtual communities are widespread and highly distributed social formations of importance on the present-day Internet. Virtual worlds are here understood as "interactable computer-facilitated representations of space" (Sköld, 2013, para. 4). Prominent instantiations of virtual worlds are online multiplayer games like *World of Warcraft*, free-form online social spaces like *Second Life*, and single-player offline games.

The aim of the present study is to explore how virtual world communities use new media as repositories to record information about their past. Such documentary practices are examined as a central feature of the virtual communities' collective memory-making processes (as per Halbwachs, 1992 [1941/1952]). The analysis is based on an interpretative case study of documentary practices in the massively multiplayer online role-playing game (MMORPG)^[1] *City of Heroes* virtual community. The site of inquiry is the community's discussion board '/r/cityofheroes' on Reddit. Starting on the same day as *City of Heroes* (CoH) closure was announced, the study encompasses a period of approximately seven months. The study draws theoretical inspiration from Bowker's work on memory and memory practices (Bowker, 2005), document-focused organization studies (e.g., Berg, 1996; Harper, 1998), practice theory (e.g., Schatzki, 1996), and new document theory along with its associated

works (e.g., Frohmann, 2004; Lund, 2009; Hartel, 2010; McKenzie and Davies, 2010; Turner, 2010).

The present study contributes to the understanding of virtual communities by offering insight into the memory-making interplay between how virtual communities document their past in new media environments, and how such documentation informs present action and perception within the community. The study furthermore sheds light on how the material substrate of community memory is jointly shaped by community documentary practices and the affordances of new media (see Geiger and Ribes, 2011; Sköld, 2013). Lastly, the study furthers documentary practice research by indicating virtual communities as a field of study alongside the currently predominant workplace and natural science settings (e.g., Berg, 1996; Heath and Luff, 1996; Frohmann, 2004).

In its attempt to shift research on documentary practices and memory-making toward MMORPGs and virtual world communities, this study aligns itself with LIS inquiry into ‘serious leisure’ as suggested by Hartel (2003) and pursued by Kari and Hartel (2007), Lee and Trace (2009), Hartel (2010), and others. Gaming is an important part of contemporary culture and a cherished leisure activity; it is additionally a catalyst for meaningful experiences of joint learning, collaboration, and social interaction for many people. To investigate memory-making and documentary practices in virtual world communities is hence to make a relevant contribution in the field of information studies research on the “pleasurable and [the] profound” (Kari and Hartel, 2007, p. 1133).

2 Literature review

Memory, virtual community, and media affordances

The prefix ‘virtual’ denotes the primary distinctive characteristic of virtual communities: their pivotal locus of communication is networked media. As shown by Kendall (2002) and Taylor (2006), virtual communities also employ several additional modes of interaction that are not bound to online environments, including conventions, meet-ups, and the use of specific vernaculars and other markers of identity. Virtual communities are heterogeneous and exist in many configurations and circumstances, and they have diverse purposes and fields of activities (Ellis *et al.*, 2004). The kind of virtual community of concern in this study is distinguished by the fact that its members are principally bound together by a commonality of interest like work or leisure activities—in the present case, involvement in the MMORPG-style virtual world CoH—rather than geographical proximity and national identity (see Pearce, 2009). Because community membership is based on the essentially inclusive principle of interest, virtual communities of this variety are dynamic both in terms of population and individual members’ commitment and activity (Wellman, 2001).

Memory is an essential component in the functioning of any social entity (communities, organizations, nation states, individuals) (Anderson, 1983; Walsh and Ungson, 1991; Featherstone, 2000, 2006). However, memory should not be viewed solely as the ability to make images of the past tangible. To remember is also to constitute the present by putting understandings of the past to work.

Remembrances inform decisions and form the basis of opinion, action, and experience. To remember is, in the words of Bowker (2005, p. 15), a means to frame “the present in a particular way: it is a tool with which to think”. Accordingly, inquiries into the workings of community memory-making can provide substantial insights into how communities make sense of the present by employing conceptions of the past.

Generally speaking, to remember is to recall and retain things of the past in the present. In order to do so, individuals, communities, and other social formations draw on an assemblage of phenomena that carry a mnemonic function, for example places, organizational structures, culture, and documents (Nora, 1989; Walsh and Ungson, 1991; Halbwachs, 1992 [1941/1952]; Berg, 1996). Memory, as argued by Chun (2008), is an active process and not a singular act; to remember is hence to continuously engage with the things around us that retain memory. Since memory is not static, this process can be understood as an on-going negotiation of remembrance where perspectives shift and things fade in and out of focus.

Memory-making is a term of broad use in studies concerned with the topic of memory (e.g., Eastwood, 1993; Low *et al.*, 2012). Often, it represents a view of memory as something contingent on the activities of individuals and social groupings rather than being the mere result of events and experiences. The specific sense in which the notion of memory-making is employed in the present study is derived from Bowker’s (2005) work on memory and memory practices, but has been narrowed down to denote the process in which memories emerge as a result of interactions with recorded information. Transposed to the environment of /r/cityofheroes, memory-making is the interplay between how information about the past is recorded on the discussion board and put to work in the present by the CoH virtual community. Bowker (2005) points out that the act of documenting information that supports memory can be coincidental and unconscious, as well as deliberate and motivated by a vast array of reasons, such as to maintain a particular culture (Featherstone, 2006; Pearce, 2009), to create an information resource for fellow community members (Harviainen *et al.*, 2012), or simply to record one’s opinion on a matter for future readers. Therefore, the making of communal memory can also be structured by accounts, stories, and states of affairs that are recorded for other reasons than to inform about things past.

Multiple studies show that the sociocultural life of virtual communities is deeply entangled with their new media environments (e.g., Rehn, 2001; Taylor, 2006; Hine, 2009; Harviainen *et al.*, 2012; Grek Martin *et al.*, 2013; Sköld, 2013). Thus, it is plausible to explore new media as repositories that enable and support the memory-making activities of virtual communities. Blogs, discussion boards, Twitter, databases, and other new media platforms accordingly function as *lieux de mémoire* (Nora, 1989)—sites where memory is embodied—of virtual communities by retaining information that the communities’ members document with varying degrees of awareness and varying intentionalities.

In the sociomaterial analysis of information, a medium’s properties (e.g., of storage, recall, and communication) influence the way in which it is—and becomes—a co-constituent part of human practices (Berg, 1996; Berg and

Bowker, 1997; Bowker, 2005). This relationship between a medium's materiality and its modes of use is abstracted by the term 'affordance', coined by Gibson (1979). Also web services have affordances, i.e., varying strong potentialities for different types of actions: Facebook, rife with ways to register biographic information and personal relationships, will encourage interaction of a different nature than, for instance, the image board 4chan^[2], where no user registration is available and all contributions to the site are anonymous. The study of new media as an information repository and a site of virtual community memory-making must consequently account for the medium's affordances as well as the sociocultural practices of the community.

3 Theoretical framework

Documents and documentary practices

A significant body of research has used the notion of document to denote the variety of objects, including memos, notes, records, and other (often mundane) artefacts of recorded information that daily circulate in organizations, communities, and other social formations. The notion of a document is analytically useful, as theorized by Buckland (1991, 1997) and Lund (2009; see also Frohmann, 2004; Hartel, 2010; Turner, 2010), because it moves to the forefront the socioculturally bound activities whereby information is committed to a medium of some permanence. This position is seconded by among others Trace (2002, 2007) and Østerlund (2007), who show the connection between documents' institutional and organizational contexts of creation and the way in which documentary work is carried out, i.e., what is documented and how. The document viewpoint also accentuates the role and function of documents in various instances of the social world, like professional practice and working life (Berg, 1996; Harper, 1998), collaborative work (Heath and Luff, 1996), and knowledge creation and sharing (Latour, 1987; Frohmann, 2004).

Of special interest here is the relationship between documents, communities, memory, and memory-making. Generally put, previous document-centric studies have noted that documents reciprocally shape and are shaped by the community to which they are connected. Brown and Duguid (1996) assert that documents enable communities by providing sites where the shared practices, knowledge, viewpoints, etc., of the community are created and negotiated. Document creation and the essential role of documents in communities, organizations, and other social settings (such as society as a whole) are in many ways connected to memory and memory-making. Documents allow access to information about past affairs and events. To this effect, Walsh and Ungson (1991)—writing in the field of organization studies—posit documents as a pivotal external mnemonic aid in memory retention and recall. Smith (1974) presents a more wide-reaching interpretation of the connection between document and memory by arguing that documents are the primary source of knowledge in a society and a major shaping force in how social phenomena appear to its members. Besides the work of Smith (1974), studies by Berg (1996), Trace (2002), and Shankar (2009) moreover analyse documents as a crucial resource in memory-making by stressing how the notion of a document ties

together representations of the past with present goals and prognoses of the future.

An analysis of the discussed document- and memory-focused research suggests that a link can be established between documents and memory on one hand, and between documenting and memory-making on the other. Documents fixate information about the past and structure, to a certain extent, the evocation of memory. For a community or another social entity to engage in memory-making—to consciously or unconsciously record information about the past that comes to structure memory recall and retention—documenting activities of some form need to take place. Virtual communities use new media as important information repositories. In the vernacular of this study's theoretical framework, new media are document repositories and nexuses of document circulation for virtual communities; new media are sites where virtual communities' collective memory is embodied and negotiated.

In order to gain insights into the memory-making processes of virtual communities it is crucial to investigate their doings with documents, their documentary practices. In the practice theoretical view advocated by Schatzki (1996) and Reckwitz (2002), practices are routinized and everyday doings and sayings performed in correspondence with knowledge and know-how, perspectives, artefacts, and the other specifics entailed in their sociocultural context. Documentary practices are the mundane and situated ways in which documents are created and put to use, particular to one sociocultural system (see Trace, 2011 for an overview of research on the related concept 'document work'). Berg (1996) and Frohmann (2004) describe practices with documents as the reason why documents play important and multivalent parts in the sociocultural dynamics of various spheres. In situation with virtual communities, Sköld (2013) draws on document theory to propose that posts and comments on virtual community-related new media sites can be fruitfully analysed as documents, and that posting, commenting, linking and liking, sharing, and so on, are examples of virtual community documentary practices.

The present study suggests that the documentary practices of virtual communities, whereby information is materialized, accessed, and negotiated in new media environments via posts, comments, up-votes and down-votes, are a key aspect of the communities' memory-making processes.

4 Methodology

In this study, virtual world community documentary practices and memory-making are investigated in a case study of the CoH community's activities on their dedicated Reddit discussion board /r/cityofheroes (<http://www.reddit.com/r/cityofheroes/>). Following methodological cues provided by Geiger and Ribes (2011) and Sköld (2013), the present study explores the CoH community's practices by analyzing the traces they have left on /r/cityofheroes, not by direct observation of the practices themselves. The case study is hence archival in scope; it focuses on a collection of documents originating in the day-to-day activities on /r/cityofheroes in order to gain insights into the dealings of

the CoH community and, by extension, into the broader phenomenon of virtual world community practices in new media environments.

4.1 *City of Heroes and Reddit*

CoH was an MMORPG-style virtual world in the superhero genre, developed by Paragon Studios and Cryptic Studios, and published by NCSOFT. The game was released in North America in April 2004 and in Europe in February 2005. CoH was structurally similar to *World of Warcraft* and other contemporary virtual worlds of the MMORPG variety in that it had level^[3]- and loot^[4]-based gameplay progression that players could pursue alone or in groups. Two expansions of CoH were released: the initially standalone *City of Villains* (2005) and *City of Heroes: Going Rogue* (2010). On the 31st of August 2012 CoH's publisher NCSOFT announced that, to general surprise, the virtual world would close in three months' time. CoH's final day of service arrived on the 30th of November 2012. After the shut-down, the virtual world servers were taken offline along with CoH's official site and discussion boards. However, /r/cityofheroes, a fan-created resource with no official affiliation with CoH or dependencies on the terminated services, stayed online and remained active.

Reddit is a popular social news website with solely user-provided content. The site is structured in many 'subreddits', i.e., discussion boards dedicated to a particular topic, cause, or hobby. In order to start threads and submit comments, users are required to register a Reddit user profile. Profile registration is free and open to all. Besides providing a venue for posting content, Reddit also allows registered users to up-vote or down-vote threads and comments, thus affecting their visibility on the site. Reddit's affordances facilitate the sharing of links to web resources of all kinds, whether they are photo albums or other websites. A click on the title of a thread that solely consists of a link to an image will directly show the image in the browser window, whereas a thread with the same content on a traditionally designed discussion board would display only a post containing the image URL. Reddit is therefore suitable for the sharing of images and links, and it takes very little effort to submit a post—the required minimum is a title and a URL.

4.2 *Material*

The study of the CoH subreddit /r/cityofheroes spans the time frame from the 31st of August 2012 to the 10th of April 2013 for a total of 140 threads, 849 comments, 2712 votes, and the traces of 229 unique users^[5]. Constructed from averages, the typical thread on /r/cityofheroes during the studied period consists of a link to an externally hosted image, a title provided by the 'thread-starter' (TS), 6.06 comments, and 19.4 votes. Of the 140 gathered threads, 25.7% were started with so-called 'self-posts'. A self-post is a text submission that does not link outside of Reddit. The remaining 74.3% of the thread-starter posts (henceforth 'original posts' or OPs) contains a title provided by the TS and a link to some external resource, for instance an image-sharing website. The high number of externally linked OP:s can partly be explained by the interconnected factors of Reddit's affordances (see above) and Reddit usage culture. Tables 1-4 provide additional quantitative overviews of the data gathered from /r/cityofheroes. Table 4 indicates that user participation on /r/cityofheroes during

the studied period of time was asymmetrical in the sense that a prolific few account for significant portions of the thread-starting and commenting interactions.

[Insert Table 1 here]

Table 1. Quantitative overview of threads and comments on /r/cityofheroes.

[Insert Table 2 here]

Table 2. Quantitative overview of users on /r/cityofheroes.

[Insert Table 3 here]

Table 3. Quantitative overview of votes on /r/cityofheroes.

[Insert Table 4 here]

Table 4. Quantitative overview of user thread-starting and commenting activity on /r/cityofheroes.

4.3 Method

On the 10th of April 2013 all threads submitted to /r/cityofheroes in the studied time frame were captured using Evernote and the Evernote plugin Web Clipper. The data was analysed using a cyclical analytical method inspired by grounded theory (Glaser and Strauss, 1967; in particular Charmaz, 1983). Initial work consisted of coding the captured material according to the topics that emerged during the first steps of analysis. The coded material was then grouped to allow for a high-level analysis of patterns—termed ‘representations’ in the analysis below. Subsequent efforts aimed to falsify, verify, or adjust the tentative codes, groupings of codes, and patterns by comparison to the data. Descriptive statistics (see Tables 1-4) were used to complement the interpretative inquiry.

The non-probability research design manifested in the case-approach and data-sampling methodology of the present inquiry was chosen because it is geared towards selecting sources that provide rich “cultural data” (Wildemuth and Cao, 2009, p. 129) on the phenomenon under study. Following this methodological rationale, the choice to study CoH and /r/cityofheroes was justified by two principal considerations of data richness and availability. First, CoH was chosen because the announcement of CoH’s imminent closure plausibly made documentary practices linked to memory construction a priority in the CoH community, hence making these themes more easily discernible in the data. Second, when the data gathering was initiated, the shut-down of CoH was fairly recent; relevant data pertaining to this event would probably be easy to find in abundance.

As is commonly the case with MMORPG-communities, the CoH community is distributed in the sense that it employs many places of online interaction, for example Reddit, the CoH wikis, other discussion boards, and Youtube. /r/cityofheroes was selected as a data source above other CoH-related web resources because of its size and level of activity. The subreddit was active enough to provide interesting data while the comparatively limited number of users and threads also made it suitable for an interpretative case study covering an extended amount of time. There are several limitations to the study that

impact the generalizability of its results. Documentary practices and memory-making probably differ to varying extents across virtual world communities. Also, practices relating to documents and memory are not necessarily the same on /r/cityofheroes and other new media sites connected to the CoH community due to diverging platform-specific affordances and local patterns of use.

5 Analysis

Analysis of the data revealed that the CoH community recorded five principal representations of CoH's past on /r/cityofheroes during the period of study (Table 5). The representations are neither exclusive nor all-inclusive, but taken together they provide insight into how the CoH community employed /r/cityofheroes as a repository to create, circulate, negotiate, and store documents containing information on CoH's past (see sections 5.1.1-5.1.5) in support of communal memory-making (5.2). Below, the representations are presented in descending order of how frequently they emerged in the studied data. The threads are referenced in reverse chronological order with #1 being the last document submitted in the studied time frame, and #140 being the first. Explanations of key gaming concepts and expressions used by the CoH community can be found in the endnotes. The anonymity of the online contributors in this study is protected by the use of pseudonyms for the contributors' Reddit screen names.

[Insert Table 5 here]

Table 5. Overview of the five principal representations of CoH's past.

5.1 Representations of the past

5.1.1 Game world

[Insert Figure 1 here]

Figure 1. A screenshot posted by InfernalHibiscus, captioned with the description “This is my Bats/Tarps [Bots/Traps] Mastermind. I miss him sometimes” (#44).

The CoH community voluminously documented CoH as an audiovisual space consisting of player^[6] and non-player characters (NPCs)^[7], locations, buildings, landscapes, and items—a game world. Unlike the other representations of CoH's past in this inquiry, the game world of CoH is

recorded in the majority of cases by images, sound files, and videos rather than text. The most common type of image is screenshots of showcased characters or groups of characters, often accompanied by captions like “This is my Bats/Tarps [Bots/Traps] Mastermind” (#44, see Figure 1) or “City of Heroes Justice Server Group Photo”^[8] (#123). Screenshots and videos of iconic in-world places and scenic vistas (e.g., “Meteor Shower in Night Ward”, #27) are also well represented. Collaborative dimensions of community documentary practice emerge clearly in the work of pictorially representing the CoH game world. Commonly, this collaboration consists of sharing information on the places depicted in the images. To provide an example, Ipivi posts a screenshot of a player character, and provides the following annotation in a comment: “That's

my Archery/Storm corruptor, and I've already forgotten which trial that staging area is in. One of the incarnate ones, I think. Magisterium?"^[9] (#32). Fonay confirms Ipivi's guess: "Yep, that was the starting area of Magisterium" (#32, also #43).

The pictorial documentation of the CoH game world (and its annotations) is not limited to recording what a certain player character, group, or place looks like; several threads also explicitly seek to contextualize the submitted images with experience-based accounts of player activity. In Odahi's thread *My main badge-whore, Spikopacarba, farming Hold Badges in Warburg*^[10] (#52), as the title aptly describes, the OP consists of an image showing a player character performing what can be described as one of the defining activities in a MMORPG-style virtual world: to repeatedly accomplish specific tasks that reward resources of some kind (the "farming" of "hold badges") (also #95). The aural aspects of the CoH game world are mainly recorded by way of links to the virtual world's official soundtrack (#47, 71, 121) and video captures of in-game activities (#70, 79).

5.1.2 Experience-sharing

[Insert Figure 2 here]

Figure 2. A depiction of Jo_Nah's commemorative player character 'GuruDude' at the moment of server shutdown (#100).

Shortly after the CoH shut-down, Neala submits the thread *Lost Connection to Mapserver*^[11] (#102) to /r/cityofheroes, commemorating CoH and its community. In a comment to Neala's OP, Ixtuf shares a story

detailing his or hers landmark experiences as a player of CoH: the first group mission, the final battle, the favourite character, and the final action before the servers went offline. Neala's OP, Ixtuf's comment, and the other comments in thread #102 document CoH as a site of player experience; a representation of CoH's past recorded through the lens of player in-world experiences. It is, together with 'game world', the most encompassing representation with reference to the number of associated threads. A wide variety of experience-sharing recorded CoH from this perspective. In the thread *Go home Winter Lord, winter is over!*, started by Bokuge with an image-post, community members submit their experiences from a particular seasonal event which, among other things, contained a fight against the enemy 'Lord Winter' (#7). Here Toqam writes, "The original winter lord event was some of the most fun I had in an MMO^[12] ever. People were teaming up with everyone they could find, people were standing around chatting up a storm and it was smiles all round" (#7; similar threads include, e.g., #7, 2, 11, 13, 14, 21, 28, 29, 39, 41, 53, 55, 64).

Besides in-world action reports complemented by screenshots and captions, as exemplified above, there are also records of how time spent in CoH intertwined with life outside of the virtual world—e.g., Jo_Nah's sharing of the story and the screenshot of 'GuruDude', a character created in memory of a deceased family member (#100, 125, see Figure 2): "I made a character in memorial to [the family member]. He wears a kilt and has long hair and a beard just like [the family member]. He carries around a giant hammer and is invincible. I don't play him a whole lot because its tough" (#125).

5.1.3 Product

[Insert Figure 3 here]

Figure 3. DjinnNJuice's photograph of a City of Villains poster, signed by members of the development team, represents CoH as a product (#138).

In a significant strand of practice that emerged on /r/cityofheroes during the studied time frame, documents were created detailing CoH's past from a product viewpoint. One day after CoH's end, Forox shares a story of contact and consumption: "I remember first being

shown the game from my dad before he and my mom got divorced and he moved away. He got me a subscription and I played with him as much as I could. [- - -] I slowly lost interest but I brought it up a few months ago, and heard about it's downfall" (#90). Similar accounts of how community members first came to play CoH and what they have replaced it with after CoH was taken offline are given by among others Eroou, who was introduced to CoH by merchandise (books) (#92), and found in Cuiliv's thread *What Games/MMOs are you playing as a replacement to CoX?*^[13] (#19).

The practice of documenting CoH as a product is also mediated by a range of threads that record information on CoH's former market value, customer base, and competitors (other MMORPGs). CoH is additionally depicted as a former part of the video-game industry in that it had NCSOFT as its publisher and owner, and Paragon Studios as its developer (Figure 3). To illustrate: in the weeks following CoH's demise, Oyadda (#72) and Woebi (#73) submit links to interviews with former Paragon Studios developers focusing on the reasons behind the virtual world's end, the final moments of CoH, and experiences from working on the development team. Koowiz's thread *No NCSOFT titles/content/\$\$\$ ever. Never ever.* (#48) and the threads of Hacow (#15), Okahi (#54), and Fodep (#84) critically document how CoH was managed, as a product, by NCSOFT. These threads express an exasperation over the end of CoH, mostly because NCSOFT's decision is perceived as hard to justify from an business standpoint. The threads stress that CoH still was a economically viable, competitive product with a strong brand and a vibrant and growing player-base at the time when the service ceased. In part because of the business argument and in part due to the way in which the publisher communicated and carried out the shut-down of CoH, NCSOFT's actions are depicted as unethical towards its customers—the CoH community.

5.1.4 Lore and story arcs

About five months after CoH's final day of operation, Aseeby introduces the thread *CoX redditors, What was your favorite arc ?* [sic] by writing "As my memories of the good times had with CoX start getting a little fuzzy, I reminisce about my favorite stories" (#1), thereby inviting community members to share stories about their favourite narratives in CoH. Aseeby's thread and its twenty-five comments illustrate how CoH is documented as a locus of narratives, story arcs, and lore. The documented lore includes information about the general mythos of CoH like bosses^[14], other NPCs, events, popular sayings ('memes', for instance "It was a Nemesis plot", #4, 8, 61, 70, 72), and narrative explanations as to why things were as they were in the game world—for instance the discussion in thread #78 about the role and function of NPC Amanda Vines. Story arcs can

be understood as instantiated segments of lore that give narrative context to CoH's quests, i.e., missions that players embark on alone or together with other players. Such story arcs are reviewed and compared on /r/cityofheroes during the period studied; for example, see Aseeby's thread as described above. The threads also contain expositions of the lore by request of community members (e.g., #83). In addition, CoH's termination itself is recorded from the viewpoint of lore and story: "The thing that hurts the most [- - -] [i]s that the world isn't going to continue on", writes Galgal, and continues, "Every NPC had a backstory, every zone had tales to tell" (#93). CoH's closure is here viewed with despondency because it means that some story arcs will never be finished and that certain lore will remain ambiguous (see also #87, 118).

5.1.5 Mechanics

Approximately two weeks before the end of CoH, Jotoya submits a thread titled *What game are you defenders & controllers switching to now?*^[15] to /r/cityofheroes (#110). "I loved my Emp[athy] Defender & Fire Controller in CoH", Jotoya writes, and asks, "Any recommendations for a great dedicated PvE^[16] healing experience or something with CoH Controller-like support^[17] mechanics?". In the first comment, Oilvo responds: "Nothing. Every game I've tried outside of CoH leaves me cold". Oilvo's sentiment is subsequently echoed by four separate community members before a suggestion is made in response to Jotoya's inquiry: in a four-part response, Zikiji writes, among other things, "I have been playing some LOTRO [Lord of the Rings Online]. [- - -] [T]he Captain in Lotro has some skills which resemble empathy defender".

The discussion taking place in thread #110 construes CoH as a virtual world that was set apart from other virtual worlds by its boundaries of player interaction, i.e., the specific ways in which players could interact with the game world and each other. Several other threads found on /r/cityofheroes instantiate this particular documentary practice of representing CoH as a certain set of gameplay mechanics. Kecus's thread *The controller archetype* (#75) and its comments closely mirror Jotoya's thread and the discussion it stimulated. In a thread started almost four months after CoH was taken offline, Ipuga expresses a difference between how CoH and other MMORPGs position the player in relation to the computer-controlled enemies of the virtual worlds, thereby deciding the prerequisites of high-level gameplay (#16): "I miss feeling powerful in a game", Ipuga nostalgically reflects, and continues, "With the right amount of inf [a currency in CoH] spent, you could make almost any character into a viable solo powerhouse"^[18]. Similar patterns of documentation are found regarding community members' favourite character archetypes ("DB [Dual Blade]/Willpower Brute", #59), powers (#18, 66), and play styles ("healing/support", #110).

5.2 Documents put to work: memory-making in /r/cityofheroes

The memory-making oscillation between (documented) conceptions of times past and present outlooks clearly emerges in relation to the various representations of CoH's past. In threads #75 and #110, Jotoya and Kecus posit migration to another virtual world as a reasonable response to CoH's impending closure. This course of action, as well as migration-destination selection, is informed by the

memory of CoH as a virtual world made deeply enjoyable and unique by virtue of its *mechanics* (5.1.5). Similarly, many threads provide mnemonic support for a view where CoH was set apart from other virtual worlds by its rich tapestry of *lore and stories* (5.1.4). Threads on /r/cityofheroes also speak of CoH as a profitable *product* (5.1.3) that was removed from the market not due to lacking revenue, a fading player-base, or failing community support, but for reasons that are hard to comprehend and justify. From the viewpoint of memory, this collection of threads provides an information source that paints the picture of CoH as a product that was successful until the very end, despite its hasty and complete demise. Koowiz's comment in document #48 describes this view poignantly: "They [NCSOFT] essentially murdered a still living MMO". The analysis shows that the representation of CoH as a *game world* (5.1.1) infused with social and cultural meaning, and as a site of *experience* (5.1.2), principally, but not exclusively, informed a notable span of community efforts—projects, activism, community management—that emerged after the announcement of CoH's closure. The aim of these efforts was to protest and act with the intention of stopping CoH from being taken offline, and to make sure that CoH would survive in the eventuality that the decision to shut it down was carried out.

Examples of community protests are found in a range of documents on /r/cityofheroes (#117, 122, 125, 126, 127, 128) that contain videos and screenshots of a large-scale community protest against the closing of CoH called "Unity Rally". Furthermore, many documents detail community projects and activism aimed at perpetuating community access to CoH despite NCSOFT's decision to terminate the service, by, for instance, establishing non-official ('private') servers or crowd-funding the development of a spiritual successor to CoH (#5, 23, 30, 36). These efforts entailed, among other things, encouraging the community on /r/cityofheroes to stay active in order to persevere: Epoqun writes, "It's been quiet here [on /r/cityofheroes]. Too quiet. [- - -] We can make this a big place—I believe in you. Come on. It's not over yet" (#69).

6 Discussion

Studies of memory in organizations, science, and professional practice have shown it to be a key factor in how things are known, situations perceived, and courses of action decided upon (Walsh and Ungson, 1991; Berg, 1996; Bowker, 2005). In this research, memory as such is understood as a distributed phenomenon consisting of cognition, practices, and artefacts functioning as mnemonic devices, like organizational records, medical journals, and other types of documents. The present study has attempted to transpose the inquiry of memory and documents to the—from this perspective—hitherto scarcely explored arena of virtual world communities and new media. Informed by new document theory (e.g., Lund, 2009), a broad span of document-focused organization studies (e.g., Berg, 1996; Harper, 1998), practice theory (e.g., Schatzki, 1996), and Bowker's studies of memory (2005), a case study was carried out to investigate how the community of the now defunct virtual world *City of Heroes* (CoH) used the Reddit discussion board /r/cityofheroes to

document information and make memory. The period of study encompassed the virtual world's final three months and the four months following its demise.

Documents in virtual communities and other social formations are created for a multitude of purposes, as observed by Geiger and Ribes (2011). For this reason it is difficult for document-focused inquiries to delineate the purposes and intents that are connected to people's dealings with documents. However, by taking a broader view of the form and function of documents in the context under study, such inquiries can often provide fruitful insights into document-related activities on a more general level (Geiger and Ribes, 2011). The case study showed that similar limitations have applied here. While it was hard to draw conclusions about the motivations of individual community members, the study clearly indicates that the CoH community with varying levels of intentionality employed /r/cityofheroes as a repository to record information on a range of pasts, relating to CoH as a *game world* (5.1.1), a *product* (0), a *game* (5.1.5), and as a nexus of *narratives* (5.1.4). Also, information on individual community members' *experiences* with CoH (5.1.2) was detailed in the documentation that was created, read, negotiated, and stored on /r/cityofheroes during the time frame of the study. In line with the findings of previous research on the function of documents in social formations (e.g., Berg, 1996; Berg and Bowker, 1997; Harper, 1998; Davies, 2008), documents and documentary practices were seen to play an important role in the sociocultural life of the CoH community.

Specifically, the analysis laid bare the community's memory-making processes, in which the various documented conceptions of CoH's past were put to work in the present, informing action and viewpoints in the community (5.2). The prominence and variability of memory-making processes and documentary practices in the sociocultural life of the CoH community can be explained, in part, by the deliberate timing of data collection vis-à-vis the ending of CoH.

The present inquiry's specific contribution to the fields of memory and document studies is its investigation of how virtual world communities document their communal past in new media environments, and how this documentation functions as the material substrate of community memory. To give an example, the CoH community created documents that support the memory of what CoH looked and sounded like. This was done by linking screenshots and audio files to /r/cityofheroes. Other documentary practices facilitated access to descriptions of CoH's gameplay and narratives. Insights into the documentary practices and memory-making processes of virtual communities furthermore contribute to the understanding of virtual communities themselves. As shown by Bowker (2005), practices of recording the past and memory-making are intimately related to how things are understood in the present. Knowledge of how virtual communities create resources in support of memory, that is, what kinds of pasts they document and how they do so, lays bare the current workings of the community. In the case of the CoH community, the study showed that their multi-front documentary efforts were directed towards recording information about CoH as a virtual world (graphics, audio, mechanics, narrative), as a product in relation to similar products, and as the basis of individual and communal social experiences. At the most basic level, the community's efforts to record information about CoH demonstrated a drive, in part, to counteract the loss of

the virtual world by making sure that ample documentation is available to support reminiscing. Looking at the memories supported by the documents on /r/cityofheroes, a view emerges where the CoH community preserves and propagates the memory of CoH as a virtual world that was competitive and distinguished in terms of the quality of its gameplay, narrative context, and community. To ‘make memory’ in this manner—to reiteratively embody and mobilize the past to inform and justify a course of action or perspective in the present, here by documenting CoH as phenomenon of quality and uniqueness—can additionally be interpreted as a way for the community to react to CoH’s announcement of closure by reinforcing internal and external support for protest, petitions, and other activities.

A related point worth mentioning is that no dissolution of the Reddit CoH community was observed during the four months of study that was conducted after the closing of CoH. The shut-down affected interaction on /r/cityofheroes in the sense that documents detailing it were to a greater extent employed as points of access to characters, places, events, and other now lost phenomena. After the CoH’s closing, depictions of the past were rarely used to marshal support for action. In her study of the diasporic virtual world community of *Uru*, Pearce (2009) notes that the community members instantiated items and environments from *Uru* in the new virtual worlds to which they had migrated. These items and environments filled an important function in the maintenance of *Uru* culture and identity in the community. In the case of /r/cityofheroes and CoH, it can be hypothesized that the community’s memory-making and practices related to documents (creation, negotiation by commenting and voting) detailing bygone events and phenomena, played a similar role in the sustenance of the community. /r/cityofheroes offered an opportunity to connect to CoH and the experience of being a player, even though the virtual world itself had become inaccessible. As a final note on this point it is worth mentioning that software developer Missing Worlds Media—founded in 2012—has managed to attain funding to create the MMORPG *City of Titans*, the self-proclaimed spiritual successor to CoH, via a campaign on the crowd-funding facilitator site Kickstarter.^[19] Missing Worlds Media managed to raise over \$678,000 (with a goal of \$320,000) in a thirty-three day time frame. The funding campaign itself took place after the present study had ended, but the project was mentioned directly several times in the data (e.g., #23, 36, 76) along with general expressions of the positive desirability of a successor to CoH (e.g., #48, 51, 73). It can be suspected that the memorialization and commemoration of CoH that took place on /r/cityofheroes, and other CoH-related online resources, played a part in strengthening the community’s willingness to contribute financially to the development of a game that is marketed as a replacement of CoH at the level of game world, player experience, narrative, and game mechanics.

Moreover, the present study adds to current knowledge on the interplay between the affordances of new media and the documentary practices of virtual communities. In the studied material from /r/cityofheroes it is clear that Reddit, viewed as an information repository, has a set of affordances that interacted with the practices of the CoH community. One of the most prevalent affordances is the previously mentioned posting system, which is designed to encourage and

facilitate the submission of links, images, and other content. Going back to the material gathered on /r/cityofheroes, this affordance can partly explain the overall large amounts of screenshots and images of the game world. Also, /r/cityofheroes and many other Reddit discussion boards lack guiding information that are perpetually kept on the board's front page, e.g., 'stickies'. Stickies and functionally similar webpage sections generally establish rules or express visions, missions, or viewpoints that are deemed sympathetic by the moderators and the board's community. The lack of documents that could fill this sort of normative function, in combination with the high posting tempo generated by Reddit's inherent encouragement to submit comparably incomprehensive OPs, hypothetically led to the prevalence of isolated rather than collaborative documentary practices on /r/cityofheroes. Even though the documents created on the discussion board during the studied time frame were thematically associated, as shown in the analysis, there are only a few instances of explicitly collaborative documentary efforts. If Reddit had been designed differently, the documentary practices of the CoH community on /r/cityofheroes would have recorded CoH in a different manner, which, in turn, would have impacted community memory-making.

The study also brings empirical insight into what might be called the 'preservational capacity' of new media (see Sköld, 2013) and how it potentially connects to virtual community memory-making. In new media environments, communicative acts—for example, submitting a question in an online discussion board—in many instances also are acts of documenting—the thread is archived and made available after the discussion is concluded (see Bowker, 2005; Chun, 2008; Ernst, 2008; Ernst, 2013). In the CoH case study, there is a plethora of documents created with the purpose of supporting memory recall, e.g., a document containing a screenshot album of an iconic building in the virtual world. Even more instances exist where the document emerged seemingly without such intent, like a question being asked or an opinion voiced. Documents in this latter category nevertheless contain recorded information on CoH, and are equally accessible and searchable as those with explicit documentary ambitions; thus, they can also serve as the basis of memory-making. Consequently, 'traces' of activities in present-day information repositories are left both in logs and other lower-level records and in the repository's front-end interface (Geiger and Ribes, 2011).

A related discussion that the present study contributes to concerns the applicability of the metaphor of the archive to accentuate the preservational capacity of the Internet (see Bowker, 2005; Lymn, 2013). This extension of the concept of archive has been criticized by, among others, Ernst (2013) and Chun (2008), who find that the notion becomes generalized to the point where it loses meaningfulness. This critique possibly has merit. It is reasonable to state that the Internet possesses archive-like qualities without being an archive, defined as a collection of documents resulting from archival work like selection and appraisal, *per se*. However, the present study seems to provide empirical indications that it is possible to argue that the Internet—specifically new media sites like Reddit—is used *as an archive* by virtual communities to engage in memory-making, i.e., to serve as a site where recorded information important to

the communities' memory processes is stored and accessed. The notion of an archive carries different connotations and disciplinary associations than, for example, Nora's (1989) concept of *lieux de mémoire* and can serve to expand the conceptual repertoire and agenda of virtual community research. Featherstone (2006, p. 594) writes about the "diasporic archive" or "migrant archive" as attempts by "migrant groups to engage in imaginative and creative work to form new collective memories, which are distinct from the official memories of the host and former home societies". Such concepts can perhaps yield interesting results as instruments of analysis in the study of virtual communities that have lost, or are in the process of losing, their virtual world.

The assertions of the present study are limited to what can be said on the basis of the inquiry of Reddit and the CoH community during the months preceding and succeeding the closure of their virtual world, a circumstance that is fairly particular. Future research should broaden the scope of study, looking at virtual world community documentary practices and memory-making in offline settings, other new media services, and additional social formations. Also, research aiming to investigate how virtual world documents are written, similarly to how Heath and Luff (1996) examine medical practice and medical records, would generate fruitful ethnomethodological insights that would complement the results of this study. Literature furthermore suggests that future studies with a slight topical shift in focus would greatly benefit the direction of research outlined here. A critical component of memory and recorded information is selection; studies show that nothing is remembered without something being forgotten, and a documented phenomenon is always recorded only in part, never as a whole (Cook, 2012). Inquiries into the practices of selection, prioritizing, and the mechanisms of forgetting in virtual community-related new media environments would hence be an essential complement to research.

Additionally, the results of the present inquiry are relevant for future research on organisations. The study suggests that new media can be understood as information resources whose content, form, and order of what is recorded in them are conjointly shaped by local sociocultural practices and the affordances of the platform. Walsh and Ungson (1991) assert that organizational memory is supported by many phenomena, among others records and archives both of an internal (e.g., in-house records and minutes) and external (e.g., information recorded elsewhere, for instance by competitors) nature. To have knowledge of how organizational members document the doings and the workings of their organization in new media environments is crucial to any thorough understanding of how organizational memory is created, maintained, and shifted in present-day society. To be readily aware of the patterns of information creation and use in professional settings is essential for a good understanding of organizational practice, as previously indicated by Berg (1996), Trace (2007), and Østerlund (2007).

Perhaps the most significant inference from the foregoing discussion is that the study of new media from the viewpoint of documents and memory opens up new avenues of thought and inquiry. Analysis of what is documented in new media can tell researchers about how people experience and understand joint

leisure and collaborative activities and the role of these phenomena in their everyday social worlds. Studies aiming to investigate new media documentary practices in, for example, virtual communities or organizations can also serve to illuminate how community and organizational members' experiences, understandings, and actions concurrently form and are formed by the new media environment. Research in this vein, the present study not excluded, represents a shift away from focusing on how topics are discussed in new media toward a more comprehensive analysis of what is documented in various new media services—viewed as distinct information repositories with a set of affordances and specific and dynamic patterns of use.

7 Conclusions

The aim of this study has been to explore how virtual communities use new media as a repository to record information and support memory-making. The study's principal finding was that virtual world communities employ new media to document and negotiate a range of pasts, and that the recorded information about these pasts is used both to reminisce and to inform actions and perspectives in the present. Previous studies on memory in the digital arena have observed an increased prevalence of documentary practices in contemporary society and culture (e.g., Bowker, 2005; Parikka, 2013). More often, and in more ways, are people in varying social settings using digital information repositories to document the past for some purpose or another. An anecdotal example, which arguably resonates with most Facebook users' experiences, is the constant stream of party-, vacation-, and leisure-related Facebook-wall updates and photographs that seeks to portray times spent in a productive and glorious manner (see Sinn and Syn, 2013). By exploring how new media documentary practices connect to virtual world community memory-making, the present study is a step in the direction of gaining insight into the important component of recording and representing the past in contemporary digital culture—how new media affect our everyday struggle to make sense of the present by making memory.

To conclude, the study of virtual world documents and online community practices is of importance beyond the scope of leisure- and organization inquiry. New media is increasingly a part of service provision that once solely involved offline interactions. Games and gaming are to a greater extent used in a wider range of professional settings—from military to healthcare to education. This trend, which makes virtual environments and online media proxies for or augmentations of 'real life', makes it necessary for information scholars to understand how the full range of human information behaviours, including documenting and memory-making, emerge or are replicated online. Given the increasing prevalence of games and gaming practices in professional contexts and the closeness of online and offline practices, the many facets of contemporary information behaviour can best be understood by inquiry into all of these interconnected aspects—that is to say, the exploration of what is seemingly taking place offline and in professional circumstances can arguably be complemented by insights gained by studies on online leisure activities. The

advantages of such a compounded research approach have been demonstrated in the present study, perhaps most notably in the extensive use of document-focused organization studies research in the investigation of the CoH virtual community and /r/cityofheroes.

References

- Anderson, B. (1983), *Imagined Communities: Reflections on the Origin and Spread of Nationalism*, Verso, London.
- Berg, M. (1996), "Practices of reading and writing: the constitutive role of the patient record in medical work", *Sociology of Health & Illness*, Vol. 18 No. 4, pp. 499-524.
- Berg, M. and Bowker, G.C. (1997), "The multiple bodies of the medical record: toward a sociology of an artifact", *The Sociological Quarterly*, Vol. 38 No. 3, pp. 513-537.
- Boellstorff, T. (2008), *Coming of Age in Second Life: An Anthropologist Explores the Virtually Human*, Princeton University Press, Princeton, NJ.
- Bowker, G.C. (2005), *Memory Practices in the Sciences*, MIT Press, Cambridge, MA.
- Brown, J.S. and Duguid, P. (1996), "The social life of documents", *First Monday*, Vol. 1 No. 1, available at: <http://firstmonday.org/ojs/index.php/fm/article/view/466/387> (accessed 5th of March 2014).
- Brown, J.S. and Duguid, P. (2000), *The Social Life of Information*, Harvard Business School, Boston, MA.
- Buckland, M. (1991), "Information as thing", *Journal of the American Society for Information Science*, Vol. 42 No. 5, pp. 351-360.
- Buckland, M. (1997), "What is a 'document'?", *Journal of the American Society for Information Science*, Vol. 48 No. 9, pp. 804-809.
- Charmaz, K. (1983), "The grounded theory method: an explication and interpretation", in Emerson, R. (Ed.), *Contemporary Field Research: A Collection of Readings*, Waveland Press, Prospect Heights, IL, pp. 109-126.
- Chun, W. (2008), "The enduring ephemeral, or the future is a memory", *Critical Inquiry*, Vol. 35 No. 1, pp. 148-171.
- Cook, T. (2012), "Evidence, memory, identity, and community: four shifting archival paradigms", *Archival Science*, Vol. 13 No. 2-3, pp. 95-120.
- Davies, E. (2008), "The script as mediating artifact in professional theater production", *Archival Science*, Vol. 8 No. 3, pp. 181-198.
- Eastwood, T. (1993), "How goes it with appraisal?", *Archivaria*, Vol. 36, pp. 111-121.
- Ellis, D., Oldridge, R. and Vasconcelos, A. (2004), "Community and virtual community", *Annual Review of Information Science and Technology*, Vol. 38 No. 1, pp. 145-186.
- Ernst, W. (2008), *Sorlet från Arkiven: Ordning ur Oordning*, translated by Andersson, T., Glänta, Gothenburg.
- Ernst, W. (2013), *Digital Memory and the Archive*, edited by Parikka, J., University of Minnesota Press, Minneapolis, MN.

- Featherstone, M. (2000), "Archiving cultures", *British Journal of Sociology*, Vol. 51 No. 1, pp. 161-184.
- Featherstone, M. (2006), "Archive", *Theory, Culture & Society*, Vol. 23 No. 2-3, pp. 591-596.
- Foucault, M. (1982 [1969]), *The Archaeology of Knowledge and the Discourse on Language*, translated by Sheridan Smith, A.M., Pantheon books, New York, NY.
- Frohmann, B. (2004), *Deflating Information: From Science Studies to Documentation*, University of Toronto Press, Toronto.
- Geiger, R.S. and Ribes, D. (2011), "Trace ethnography: following coordination through documentary practices", in Sprague, R.H., Jr. (Ed.), *Proceedings of the 44th Hawaii international conference on system sciences (HICSS-44)*, IEEE Computer Society, Los Alamitos, CA, pp. 1-10.
- Gibson, J.J. (1979), *The Ecological Approach to Visual Perception*, Houghton Mifflin, Boston, MA.
- Glaser, B.G. and Strauss, A.L. (1967), *The Discovery of Grounded Theory: Strategies for Qualitative Research*, Aldine de Gruyter, New York, NY.
- Grek Martin, J.M., Gruzd, A. and Howard, V. (2013), "Navigating an imagined Middle-earth: finding and analyzing text-based and film-based mental images of Middle-earth through TheOneRing.net online fan community", *First Monday*, Vol. 18 No. 5, available at: <http://firstmonday.org/ojs/index.php/fm/article/view/4529/3655> (accessed 5th of March 2014).
- Halbwachs, M. (1992 [1941/1952]), *On Collective Memory*, edited and translated by Coser, L.A., University of Chicago Press, Chicago, IL.
- Harper, R.H.R. (1998), *Inside the IMF: An Ethnography of Documents, Technology, and Organisational Action*, Academic Press, San Diego, CA.
- Hartel, J. (2003), "The serious leisure frontier in library and information science: Hobby domains", *Knowledge Organization*, Vol. 30 No. 3/4, pp. 228-238.
- Hartel, J. (2010), "Managing documents at home for serious leisure: a case study of the hobby if gourmet cooking", *Journal of Documentation*, Vol. 66 No. 6, pp. 847-874.
- Harviainen, J.T., Gough, R.D. and Sköld, O. (2012), "Information phenomena in game-related social media", in Widén, G. and Holmberg, K. (Eds.), *Social Information Research*, Emerald, Bingley, pp. 149-171.
- Heath, C. and Luff, P. (1996), "Documents and professional practice: 'bad' organisational reasons for 'good' clinical records", in Olson, G. M., Olson, J. S. and Ackerman, M. S. (Eds.), *Proceedings of the 1996 ACM conference on Computer supported cooperative work*, ACM Press, New York, NY, pp. 354-363.
- Hine, C. (2009), "How can qualitative Internet researchers define the boundaries of their projects?", in Markham, A. N. and Baym, N. K. (Eds.), *Internet Inquiry: Conversations about Method*, Sage, London, pp. 1-20.
- Kari, J. and Hartel, J. (2007), "Information and higher things in life: adressing the pleasurable and the profound in information science", *Journal of the American Society for Information Science and Technology*, Vol. 58 No. 8, pp. 1131-1147.

- Kendall, L. (2002), *Hanging Out in the Virtual Pub: Masculinities and Relationships Online*, University of California Press, Berkeley, CA.
- Latour, B. (1987), *Science in Action: How to Follow Scientists and Engineers through Society*, Harvard University Press, Cambridge, MA.
- Lee, C.P. and Trace, C.B. (2009), "The role of information in a community of hobbyist collectors", *Journal of the American Society for Information Science and Technology*, Vol. 60 No. 3, pp. 621-637.
- Low, P., Oliver, G. and Rhodes, P.J. (Eds.) (2012), *Cultures of Commemoration: War Memorials, Ancient and Modern*, Oxford University Press, Oxford.
- Lund, N.W. (2009), "Document theory", *Annual Review of Information Science and Technology*, Vol. 43, pp. 399-432.
- Lymn, J. (2013), "The zine anthology as archive: archival genres and practices", *Archives and Manuscripts*, Vol. 41 No. 1, pp. 44-57.
- McKenzie, P.J. and Davies, E. (2010), "Documentary tools in everyday life: the wedding planner", *Journal of Documentation*, Vol. 66 No. 6, pp. 788-806.
- Nora, P. (1989), "Between memory and history: les lieux de mémoire", *Representations*, Vol. 26 No. Spring, pp. 7-24.
- Parikka, J. (2013), "Archival media theory: an introduction to Wolfgang Ernst's media archeology", in Parikka, J. (Ed.), *Digital Memory and the Archive*, University of Minnesota Press, Minneapolis, MN.
- Pearce, C. (2009), *Communities of Play: Emergent Cultures in Multiplayer Games and Virtual Worlds*, MIT Press, Cambridge, MA.
- Reckwitz, A. (2002), "Toward a theory of social practices: a development in culturalist theorizing", *European Journal of Social Theory*, Vol. 5 No. 2, pp. 243-263.
- Rehn, A. (2001), *Electronic Potlatch: A Study of New Technologies and Primitive Economic Behavior*, Kungliga Tekniska Högskolan, Stockholm.
- Schatzki, T.R. (1996), *Social Practices: A Wittgensteinian Approach to Human Activity and the Social*, Cambridge University Press, Cambridge, MA.
- Shankar, K. (2009), "Ambiguity and legitimate peripheral participation in the creation of scientific documents", *Journal of Documentation*, Vol. 65 No. 1, pp. 151-165.
- Sinn, D. and Syn, S. (2013), "Personal documentation on a social network site: Facebook, a collection of moments from your life?", *Archival Science*, 'Online First', published 14th of July 2013, pp. 1-30.
- Sköld, O. (2013), "Tracing traces: a document-centred approach to the preservation of virtual world communities", *Information Research*, Vol. 18 No. 3, available at: <http://InformationR.net/ir/18-3/colis/paperC09.html> (accessed 5th of March 2014).
- Smith, D.E. (1974), "The social construction of documentary reality", *Sociological Inquiry*, Vol. 44 No. 4, pp. 257-268.
- Taylor, T.L. (2006), *Play Between Worlds: Exploring Online Game Culture*, MIT Press, Cambridge, MA.
- Trace, C. (2002), "What is recorded is never simply 'what happened': record keeping in modern organizational culture", *Archival Science*, Vol. 2 No. 1-2, pp. 137-159.

- Trace, C. (2007), "Information creation and the notion of membership", *Journal of Documentation*, Vol. 63 No. 1, pp. 142-164.
- Trace, C. (2011), "Documenting work and working documents: perspectives from workplace studies, CSCW, and genre studies", in Sprague, R.H., Jr. (Ed.), *Proceedings of the 44th Hawaii international conference on system sciences (HICSS-44)*, IEEE Computer Society, Los Alamitos, CA, pp. 1-10.
- Turner, D. (2010), "Orally-based information", *Journal of Documentation*, Vol. 66 No. 3, pp. 370-383.
- Walsh, J.P. and Ungson, G.R. (1991), "Organizational memory", *The Academy of Management Review*, Vol. 16 No. 1, pp. 57-91.
- Wellman, B. (2001), "Physical place and cyberplace: the rise of personalized networking", *International Journal of Urban and Regional Research*, Vol. 25 No. 2, pp. 227-252.
- Wildemuth, B.M. and Cao, L.L. (2009), "Sampling for intensive studies", in Wildemuth, B. M. (Ed.), *Applications of Social Research Methods to Questions in Information and Library Science*, Libraries Unlimited, Westport, CT, pp. 129-137.
- Østerlund, C.S. (2007), "Documents in place: demarcating places for collaboration in healthcare settings", *Computer Supported Cooperative Work (CSCW)*, Vol. 17 No. 2-3, pp. 195-225.

¹ *Massively multiplayer online role-playing game*. Abbrev. 'MMORPG' and occasionally 'MMO'. An MMORPG is a role-playing game designed to concurrently accommodate large numbers of players within a virtual world. Gameplay includes solo play and cooperative play against both computer-controlled enemies and other players. *City of Heroes*, *World of Warcraft*, and *Lord of the Rings Online* are examples of games in the MMORPG genre.

² 4chan's URL is <http://www.4chan.org>.

³ *Level*. A numerical measure of player-character (see note 6) capabilities (e.g., a higher level equals more and stronger abilities, increased resilience to harm). Levels are often gained by defeating enemies and accomplishing tasks of various kinds.

⁴ *Loot*. In-game items yielded to players as a result of an accomplishment, often in the form of defeating an enemy or locating a treasure.

⁵ A 'unique user' is a user that has started a minimum of one thread or submitted a minimum of one comment to /r/cityofheroes during the period of study.

⁶ *Player character*. The representation of the player in the virtual world. In CoH, player characters were either superheroes or supervillains of customizable origin, appearance, and capabilities (see note 15).

⁷ *Non-player character*. Abbrev. 'NPC'. An NPC is a character that is controlled by the game as opposed to by the player. NPCs can be both hostile and friendly to the player and often fill various important functions: vendors, task-givers, and key roles in lore and narrative.

⁸ "*City of Heroes Justice Server Group Photo*". As is common in many MMORPG-style virtual worlds, the server infrastructure of CoH supported a number of identical but separate incarnations of the CoH game world, each with its own

population of player characters (see note 6). ‘Justice’ was the name of one of these servers.

⁹ *Magisterium incarnate trail*. Content for max-level players (see note 3) released in 2011. In an incarnate trail, a group of players collaboratively attempted to complete various objectives including defeating bosses (see note 14) and lesser enemies. The Magisterium trail was one of several incarnate trails available in CoH. See also note 16.

¹⁰ *Warburg*. A zone in the CoH virtual world.

¹¹ “*Lost Connection to Mappedserver*”. An error message that occurred when the CoH client could not communicate with the virtual world’s server infrastructure (see note 8).

¹² *MMO*. See note 1.

¹³ The abbreviation ‘CoX’ is sometimes used to refer to *City of Heroes* and *City of Villians* simultaneously.

¹⁴ *Boss*. An often-unique enemy of elevated difficulty that may require the cooperation of several players in order to be vanquished. Bosses are iconic and are often encountered in the end stages of gameplay scenarios (e.g., see note 9). When defeated, bosses generally yield more and rarer rewards (e.g., see note 4) than regular enemies.

¹⁵ *Archetype & power set*. In CoH, a player character’s archetype (see note 6) determined the character’s strengths, weaknesses, aesthetic, and styles of play. Every archetype in CoH had access to two ability sets, so-called ‘power sets’, selected by the player from a pool specific to the chosen archetype. The player character’s combination of archetype and power sets determined the available modes of interaction with the game world and other player characters. In the study, players frequently describe their characters by referring to their combination of archetype and power sets, for example ‘Empathy [power set]/Defender [archetype]’. Other examples are ‘Fire Controller’; ‘Bats/Tarps [Bots/Traps] Mastermind’; ‘Archery/Storm corruptor’; and ‘DB [Dual Blade]/Willpower Brute’. The ‘Captain’ is the equivalent of an archetype in MMORPG *Lord of the Rings Online* (see note 1).

¹⁶ *Player versus environment*. Abbrev. ‘PvE’. PvE designates the part of MMORPG gameplay where players, alone or in groups, seek to defeat enemies controlled by the game (e.g., see note 9). Compare PvP—‘player versus player’.

¹⁷ *Support*. Characterization of a role in group-based play which is primarily aimed at helping other players by healing them (i.e., restoring damage taken), strengthening their abilities, or in other ways facilitating their accomplishment of gameplay objectives (see also note 15).

¹⁸ “*With the right amount of inf [a currency in CoH] spent, you could make almost any character into a viable solo powerhouse*”. This statement says that, given enough in-game currency, almost any combination of archetype and power set (see note 15) could be made very competent at single-player gameplay.

¹⁹ The URL to Missing Worlds Media’s *City of Titans*-kickstarter page is <https://www.kickstarter.com/projects/missingworldsmedia/the-phoenix-project-city-of-titans> (accessed 21st of February 2014).

Acknowledgments:

The author would like to thank the two anonymous reviewers whose comments, suggestions, and criticisms helped to greatly improve this paper. Furthermore, the author is grateful to InfernalHibiscus, DjinnNJuice, and Jo_Nah for consenting to publish their screenshots.



Figure 1. A screenshot posted by InfernalHibiscus, captioned with the description "This is my Bats/Tarps [Bots/Traps] Mastermind. I miss him sometimes" (#44).
451x361mm (72 x 72 DPI)



Figure 2. A depiction of Jo_Nah's commemorative player character 'GuruDude' at the moment of server shutdown (#100).
183x170mm (72 x 72 DPI)



Figure 3. DjinnNJuice's photograph of a City of Villains poster, signed by members of the development team, represents CoH as a product (#138).
270x361mm (72 x 72 DPI)

	No.
Threads	140
Comments	849
Comments per thread on average	6.06
Range of comments per thread	0-40

	No.	Comment
Thread-starters	70	No. of users that have started a minimum of one thread
Commenters	211	No. of users that have submitted a minimum of one comment
Unique users	229	No. of users that have started a minimum of one thread or submitted a minimum of one comment

	No.
Votes	2712
Votes per thread on average	19.4
Range of votes per thread	0-100
Ratio up-votes:down-votes	86:14

	No.	Percentage
Threads started by the 10 most active thread-starters	59	42.1
Threads started by the 20 most active thread-starters	86	61.4
Comments submitted by the 10 most active commenters	242	28.5
Comments submitted by the 20 most active commenters	365	43.0

Representation	Related topics and characteristics	Source threads (e.g.)
Game world	Places, landscapes, characters, objects, soundtracks, fan-art, memorabilia	#3, 32, 44, 51, 70, 105, 138
Experience-sharing	Memorable moments, tales of exploits, events, life outside of CoH	#2, 8, 29, 33, 65, 93, 106, 125, 140
Product	Business ethics, customers, customer relations, game industry, trust, consumers	#15, 19, 48, 73, 90, 92, 110
Lore and story arcs	Narratives, NPC's, bosses, contexts of action, memes	#1, 4, 61, 78, 83, 87, 112, 118
Mechanics	Gameplay, playstyles, requirements (time, skill, gear), comparisons, inquiries, migrations	#16, 18, 32, 59, 66, 75, 110