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SOCIAL CURATION: COLLECTIVE PARTICIPATION IN THE CURATION OF DIGITAL-VIRTUAL MUSEUM ENVIRONMENTS

Curadoria social: participação coletiva na curadoria de ambientes digitais virtuais de museus

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ABSTRACT

Objective: The objective was to study a form of Digital Curation that contemplates social participation, that is, a curation model in which the community participates in its processes, and, consequently, feels represented, with a participatory, horizontal and inclusive approach.

Methods: The methodology is descriptive and exploratory, with a literature review and research on web environments and initiatives that disclose the practice of social curation.

Results: In the international context, some authors have addressed the social aspect of curation through the participatory approach. However, it was not possible to identify national authors who approach this perspective in the literature. The study observed that the Museu da Pessoa is pioneer in collaborative curation. International initiatives demonstrate the openness to participatory curation, transforming the community into cultural heritage curators.

Conclusions: Netizens have become co-curators of cultural memories in digital-virtual environments, and the curation can now count on the participation of the community in the reconstruction of the narratives of cultural heritage in hybrid environments. Participatory approach promotes equity in the relationship between the institution and society, democratizing access to transcultural heritage and enabling Social Curation.

KEYWORDS: Digital Curation. Information and Communication Technologies (ICT). Social Curation. Design Thinking. Participatory Approach.

RESUMO

Objetivo: O objetivo foi estudar uma forma de Curadoria Digital que contemple a participação social, isto é, um modelo de curadoria que a comunidade participe em seus processos, e, conseqüentemente, sinta representado, com uma abordagem participativa, horizontal e inclusiva.

Método: A metodologia é descritiva e exploratória, com uma revisão de literatura e exploração de ambientes e iniciativas na web que evidenciam a prática de curadoria social.

Resultado: No contexto internacional, alguns autores têm abordado o aspecto social da curadoria por meio da abordagem participativa. No entanto, não foi possível identificar autores nacionais que abordem essa perspectiva na literatura levantada. Observou-se que o Museu da Pessoa é pioneiro em curadoria colaborativa no Brasil. Iniciativas internacionais demonstram a abertura para a curadoria participativa, transformando a comunidade em cocuradores de herança cultural.

Conclusões: Os internautas transformaram-se em cocuradores de memórias culturais em ambientes digitais-virtuais, e a curadoria pode agora contar com a participação da comunidade na reconstrução das narrativas de sua herança cultural em ambientes híbridos. A abordagem participativa promove equidade na relação entre a instituição e a sociedade, democratizando o acesso à herança transcultural e possibilitando a Curadoria Social.

PALAVRAS-CHAVE: Curadoria Digital. Tecnologia da Informação e da Comunicação (TIC). Curadoria Social. Design Thinking. Abordagem Participativa.

INTRODUÇÃO

Information and Communication Technologies (ICT) allow museums to transform themselves into institutions that converge their traditional facet with the digital-virtual facet, which is considered an extension of physical institutions and an expansion of access to cultural heritage and conversation with individuals and communities. For museums to be represented in digital environments, their collections must go through a Digital Curation (DC) process, which, in turn, ensures fluidity in these environments and performance in different contexts and on multiple platforms.

The DC of digital or digitized objects is fundamental nowadays, as DC guarantees their preservation and their long-term access on the Web. The pandemic caused by the Covid-19¹ highlighted the need for the DC of cultural heritage when it caused the closure of 90% of museums worldwide, of which 10% have not reopened until the moment of this research (UNESCO, 2020). The digital-virtual environment has become the main means of communication, interaction and approximation for people/visitors who browse the hybridized museums.

In the context of digital environments on the Web 2.0, the digital-virtual museum emerges from the convergence between spaces of different physicalities: one material, physical and technological, therefore, digital, and the other representational and conceptual, the virtual (KAHN, 2018). Both digital and virtual complement each other and, through curation, they provide access, objectual resignification and the reconstruction of polysemic narratives existing in museum collections.

The new reality imposed by the pandemic has forced institutions to create new ways to provide access to culture and education in the context of the sanitary restrictions (UNESCO, 2020). ICOM's first guideline to museological institutions to involve remote visitors during the social distancing was to display their collection online (ICOM, 2020).

For museums to share their collections, organize online exhibitions and provide access to cultural heritage in the digital-virtual environment, these must be digitized and curated. The presence of museums in this environment is an opportunity to promote heritage, to extend the enjoyment and the relationship with visitors beyond the museum and, ultimately, to encourage co-creation processes with the audience (ICOM, 2020). Unesco

¹ It is a respiratory infection caused by the SARS-CoV-2 coronavirus, potentially severe, highly transmissible, which began in December 2019 in China and spread throughout the world, requiring quarantine and lock-down to contain the outbreak. Available at: <https://bvsms.saude.gov.br/covid-19-2/>. Accessed on: 31 May 2022

(2020, p. 4) highlights the role of museums in society: They not only preserve our common heritage, but also provide spaces that promote education, inspiration and dialogue. Based on values of respect and cultural diversity, museums strengthen social cohesion, foster creativity and are conveyors of collective memory.

In the pandemic context, to fulfill their role, museological institutions are forced to use ICT to maintain contact with the audience, especially to explore the potential of social platforms, responsible, for the most part, for interaction. Many museums have their collections curated, but not open to the public in their digital environments, which only serve as spaces for disseminating the activities carried out in face-to-face environments.

In such a scenario, society's participation in the curation process is questioned, as the DC model proposed in 2008 by Higgins (2008) and accepted in 2010 by the Digital Curation Centre (DCC) is especially aimed at preserving digital objects and considers the current netizens or informational subjects as mere 'users'. The objective is to study a form of DC that contemplates social participation, that is, a curation model in which the community participates in its processes, and, consequently, feels represented, with a participatory, horizontal and inclusive approach.

Practical examples of the potential of people's participation in the DC are observed. In addition to facilitating the work of information professionals, they can present innovations in information and knowledge organization and representation.

To investigate such situations, the methodology is qualitative, exploratory and descriptive in nature. The qualitative approach was chosen for its use in Social Sciences, as it considers the subjectivity of the research problem and is able to delve into the complexity of the behavior of phenomena (MINAYO; SANCHES, 1993). The research is exploratory and descriptive for "providing an approximate overview of a given fact" (GIL, 2008) and for working with a little explored topic.

The first stage of this type of research consisted of a bibliographic survey on the main database in Information Science: Brapci, Scopus, Scielo, Periódico Capes, in December 2020 and January 2021, using the following keywords (in Portuguese and English): Digital Curation, Social Curation, Participatory Approach, Social Museology, Social Museum. The search was limited to a 10-year period, and articles that brought the terms in the keywords, title and or abstract, as shown in Chart 1.

Chart 1 – Articles on the research topic

Period: 2011-2021	Number of articles				
Database and keyword	Brapci	Scopus	Scielo	Capes	Total
Digital Curation	52	103	6	50	211
Social Curation	0	0	0	5	5
Participatory Approach	16	13	34	185	248
Social Museology	24	8	14	0	46
Social Museum	53	24	57	0	134
Total	145	148	111	240	

Source: by the authors, 2021.

The search retrieved few studies on Social Curation in the context of Information Science which justifies and further strengthens the need for research on participation by stakeholders in the digital environments of museums. These collected data enabled the construction of a theoretical framework on DC, its processes, and on a possible approach that demonstrates the participation of the stakeholder in the curation process. The second step of the research involved a search with the keywords Social Curation and Museum in the Web 2.0 environment, in January of 2021, for practical initiatives in which there was social participation in curation processes, favoring the elaboration of considerations on the investigated subject.

1 EMERGENCY AND TRANSFORMATIONS OF THE DIGITAL CURATION CONCEPT

According to Sabharwal (2015, p. 11) “the definition of curation - rooted in fourteenth-century practices and associated primarily with museum artifacts - has undergone significant changes due to the influence of emerging technologies and the rise of interdisciplinary scholarship”. The concept of DC emerged in an inter-institutional and interdisciplinary way that requires “knowledge of applicable technologies that were not included in predigital curation practices and involves a life cycle” (SABHARWAL, 2015, p. 14). The change is verified by the introduction of new digital formats, devices and information production methods. Digital objects included in existing museum collections to be accessed require new methods of preservation in the digital-virtual environment (SABHARWAL, 2015).

According to Higgins (2011), the DCC was created in 2004, a distributed collaborative service center aimed at curating digital information to deal with conceptual and practical transformations derived from the expansion of artifacts resulting from the sum of collections

and their simulacra. The author highlights that the third meeting on digital preservation and curation, which had DCC as one of the organizers, concentrated on political and technological issues, as well as the processes for both curation and preservation, and the need to understand the curation process.

DCC briefly defined the DC as the long-term management and preservation of digital data and information (2004). Beagrie (2004, p. 7), on the other hand, provided a more detailed definition, explaining that “Digital Curation refers to actions needed to maintain digital research data and other digital materials throughout their lifecycle and over time for current and future generations of users”. Implicit in this definition are the processes of digital archiving and preservation, but they also include all the processes necessary for good data creation and management, and the ability to add value to data to generate new sources of information and knowledge. The curation actions comprise three activities: curation, preservation and management, differentiated by Lord and McDonald as (2003, p. 12):

Curation: The activity of managing and promoting the use of data from its point of creation to ensure it is fit for contemporary purpose and available for discovery and reuse. For dynamic datasets, this can mean continuous enrichment or updating to keep it fit for purpose. Higher levels of curation will also involve maintaining links with annotation and with other published materials.

Archiving: a curation activity which ensures that data is properly selected, stored, can be accessed and that its logical and physical integrity is maintained over time, including security and authenticity.

Preservation: An activity within archiving in which specific items of data are maintained over time so that they can be accessed and understood through changes in technology.

This differentiation, which facilitated the understanding of the division made by the DCC and Beagrie (2004) in the definition of curation, summarizes it in management and preservation. Lord and McDonald (2003) highlighted that, despite the difference, the three activities are related as “preservation is an aspect of archiving and archiving is an activity needed for curation” (LORD; MCDONALD, 2003, p. 12).

In 2007, Higgins (2007) presented a “Draft DCC Curation Lifecycle Model”, opened for public consultation and was published in the International Journal of Digital Curation in 2007. In 2010, the Curation Lifecycle Model was adopted by the DCC². The model allows an overview of the stages or phases for adequate curation, as it identified the sequential curation actions within the digital object's lifecycle (HIGGINS, 2008). For the author, actions

² Available in: <https://www.dcc.ac.uk/guidance/curation-lifecycle-model>. Access in: 31 mai. 2022.

can “ensure the maintenance of authenticity, reliability, integrity and usability of digital material” (HIGGINS, 2008, p. 135).

The actions are planned in the conceptualization, as it presents a macro (structure) and micro (implementation) view of the DC. Macro actions are: description and representation information; preservation planning; community watch and participation; preserve and curate. Micro actions are: create or receive; appraise and select; ingest; preservation action; store; access, use and reuse; and transform. Occasional actions are also described: dispose, reappraise and migrate. The lifecycle focuses on data for its curation, composed of data sets (in a database) and digital objects, either native digital or digitized.

According to Higgins (2008), Conceptualization is responsible for designing and planning the creation of the digital object, as well as capture methods and storage options. It is the phase taking place before the production of the digital object. Planning involves people, content and technology:

[...]“people” include stakeholders such as archivists, librarians, faculty, researchers, administrators, technologists, and perhaps a variety of representatives from the community surrounding the university; “content” includes digital objects in cultural heritage collections, electronic records and research data; and “technology” includes the repository platform, computers, cameras, digitization equipment, software, storage mechanism, and storage media (SABHARWAL, 2015, p. 97-98).

In addition to the three components involved in Conceptualization, and highlighted by Sabharwal (2015), other issues also need consideration: copyright, which implies access to the collections; development of collections, which defines the profile of the museum and its collection, and influences the assessment of the collection; capture methods, metadata and classification schemes for the collection, which change according to the museum's profile; media formats vary according to use and quality - whether access will be to the original file or high quality digital copy, whether aimed at digital preservation or web access (which are lighter and with lower quality); and the use of social tags (social tags) for classification on social networks, which do not support standard classifications (SABHARWAL, 2015). These issues need to be discussed and considered in the planning for structuring and implementing the DC process, which differ from one institution to another.

In the information description and representation stage, the metadata creation and management are established by curators and cataloguers before their registration. According to Higgins (2008), administrative, descriptive, structural, technical metadata and preservation metadata are attributed according to appropriate standards, which ensure the

description and control of the data in the long term. Preservation planning is a plan for digital preservation throughout the lifecycle of the digital object, which may include planning the management and administration of all curation actions (HIGGINS, 2008).

In Community Watch and Participation, information workers must keep an eye on appropriate community activities, and participate in the development of shared standards, appropriate tools and software (HIGGINS, 2008). Regarding this action, Sabharwal (2015, p. 102) highlights the importance of the community, as "the curation process involves stakeholders who use, evaluate and comment on the collections". Unlike Sabharwal's humanist view, Higgins' definition is not clear about social engagement, as the potential of informational subjects is limited, when she names them as users and re-users of information.

The curate and preserve phase comprises an ongoing process that "the curator must be aware of and undertake management and administrative actions planned to promote curation and preservation throughout the curation lifecycle" (HIGGINS, 2008, p. 137). Planned actions are implemented through sequential actions, which start with the creation and receipt of data.

The create and receive phase is divided into two actions: data creation and data reception. Higgins (2008, p. 138) describe them as follows:

Create data including administrative, descriptive, structural and technical metadata. Preservation metadata may also be added at the time of creation. Receive data, in accordance with documented collecting policies, from data creators, other archives, repositories or data centers, and if required assign appropriate metadata.

Sabharwal (2015) points out that data creation can be the recording of historical or cultural events, considered immaterial heritage in museums, such as oral histories (eyewitnesses to a critical first-person account of events)³ or institutional events. For the author, administrative, descriptive, structural, technical and preservation metadata document the creation, provenance and other important data in the lifecycle of digital objects. New dimensions extend the use of metadata in the digital environment, and make them essential, in addition to acting in the information representation, in facilitating access, interchange between systems, technical and semantic interoperability. Metadata are presented as a solution to the preservation problem based on the identification of a set of data and information, expressed in the form of metadata, which anchors the management processes of digital preservation (SAYÃO, 2010).

³ An example of this initiative is the *Museu da Pessoa* in Brazil. It is a virtual museum of records of life histories. Available in: <https://museudapessoa.org/sobre-o-museu/>. Access in: 23 jun. 2022.

Some software and digital systems carry out the DC and facilitate the work of curators. The used software must be based on metadata standards established by international organizations and councils, such as Dublin Core, ISAD(G), LIDO, EAD, MARC 21, Mets, OAIS, Premis, among other standards. Some free software such as Archivematica, Dspace, AtoM and RODA follow these standards, among other standardized norms that include administrative, descriptive, structural, technical and digital preservation metadata. The information professional, therefore, needs to turn their attention to choosing the appropriate software to meet the institution's needs.

As for receiving collections from donors, provenance is important in the DC. It is the history of ownership and transfers of the collection throughout its lifecycle, information recorded in the field of provenance of technical metadata. The reliability of the collection and repository depend on the integrity of these data (SABHARWAL, 2015).

Data appraisal helps to define the values of the collections, among which, in the museological context, are evidential, informative, historical and cultural. The selection of data should reflect the institution's policies and legal regulations. Data needs to be appraised and selected for curation and digital preservation.

Ingest is the “transfer of data to an archive, repository, data center or other custodian” (HIGGINS, 2008, p. 138). The phase involves legal, intellectual and technical aspects. “Laws govern the transfer of intellectual property and the protection of privacy, and no popular demand or other interests may supersede these laws” (SABHARWAL, 2015, p. 105), which affect the open availability of collection information. The need for an XML metadata spreadsheet with the descriptions of collections and items is an example of a technical aspect that conditions the import of data into a repository. These technical requirements occur because the design and ingest process, of mass or unitary import of items, differ from one system to another (SABHARWAL, 2015). In this sense, in addition to skills in the area of information and curation, technological knowledge is demanded to understand the design, processes, workflow and functioning of digital repositories for proper and efficient use.

Finally, the Preservation Action is responsible for undertaking “actions that ensure long-term preservation and retention of the authoritative nature of the data” (HIGGINS, 2008, p. 138). They, therefore, must ensure authenticity, reliability, integrity and usability. Systems based on the OAIS model and other international standards aimed at managing and preserving information must ensure these elements to digital objects. In the archival context, it refers to reliable digital repositories for digital archival documents. According to Conarq

(2015), a digital repository to preserve them and provide access to them for as long as necessary.

Lampert (2016) recommends Archivematica for digital preservation of digital objects as it is a complete software. According to the author, Archivematica's main feature is digital preservation based on emulation, migration and normalization strategies, and stands out for the generation of information packages for admission, access and archiving according to the OAIS model (LAMPERT, 2016). Higgins (2008, p. 135) mentions that the OAIS Model is for system construction: "Workflow design, management issues, identification processes and use of best practice can all be enhanced through the application of standards such as OAIS (International Organization for Standardization [ISO], 2003) and ISO 15489 (ISO, 2001)".

Using the model facilitates data exchange and interoperability among systems. In addition to Archivematica, Dspace and Roda are also to be considered. To access information, Archivematica needs to be converged with AtoM, both free, created by Artefactual System, or other systems interoperable with it. All these repositories are free and open-source software, under Affero General Public License (GNU), which offers the freedom to study, modify, improve and distribute modified versions. In addition, the programs are in perpetual beta, in constant update and improvement through feedback from the user community of free systems in digital curation and preservation.

The storage phase includes ways to securely store the digital object, which depends on the institution's technology and financial resources. Short-term storage methods typically include a computer's hard drive, other devices (such as a flash drive), and networked intranet drives. However, in the long term, the use of specific hard drives, network drives and cloud-based storage are common, but are not equivalent to preservation despite periodic backups (SABHARWAL, 2015).

Storage in curation repositories, commercial or free (open source), can be physical, virtual or cloud-based, "which raises questions about the quality of storage media, integrity of files and directories and the frequency of backups" (SABHARWAL, 2015, p. 107). Open standards are fundamental for preservation, as there is freedom regarding data migration in case of a possible change in the system change.

Compliance with the requirements for access, use and reuse is the "ensure that data is accessible to both designated users and re-users, on a day-to-day basis. This may be in the form of publicly available published information" (HIGGINS, 2008, p. 138). For the author, robust access control and authentication procedure in access systems are also

possible. After the information has been curated, there is no guarantee of access to all netizens with the establishment of access levels.

The transform phase refers to creating new data from the original, “for example: by migrating into different formats; by creating a subset, by selection or query, to create new derived results, perhaps for publication” (HIGGINS, 2008, p. 138). Transformations of data, databases, files, and directory structures are performed by the curator when the technology used to create the content is no longer accessible. Changes also happens with metadata, as metadata interoperability standards, Open Archives Initiative protocols for collecting metadata, and best practices change over time (SABHARWAL, 2015).

In addition to sequential actions, occasional actions are identified: reappraise, dispose and migrate. Reappraise, according to Higgins (2008, p. 138) comprises the “return data which fails validation procedures for further appraisal and re-selection”. Dispose, although a rare action in cultural heritage, can occur in the appraisal or reappraisal, and is constituted by the permanent removal of the collection for its destruction or transfer to other custody institutions (SABHARWAL, 2015). Unselected digital objects are discarded through a documented disposal process.

Migration involves transferring collections to a new repository and migrating data to different formats, transforming the metadata record and reorganizing the collection to adapt to the system structure (SABHARWAL, 2015), as the systems have their own design and operation.

In the DC, for the transform action, that is, the creation of new data from the original, the informational subjects need to appropriate the information. However, as the DC is focused is on digital preservation, social engagement and its contribution to cultural heritage through interaction and appropriation are generally neglected. These gaps are filled with Social Curation, investigated in the area of Digital Humanities, and characterized by including the participation of the stakeholders and society in the curatorship. Social Curation presents a cultural heritage curation model that represents a new direction for curators, its designation implies the convergence of digital and social curation approaches in a dual strategy that combines digital preservation with community participation (SABHARWAL, 2021).

2 SOCIAL CURATION: A PARTICIPATORY APPROACH TO STAKEHOLDERS

By analyzing the actions proposed in the DC model presented by the DCC, it is observed that they are clearly aimed at digital objects to be curated, preserved and made available. According to Rios Perez et al. (2013) the digital content about cultural objects is centralized, produced by specialists (such as curators, historians and archaeologists) rather than being co-created together with visitors. This institutional approach controls and limits the potential contribution of visitors, considering them as mere content users and consumers. Simon (2010, p. iii-iv) claims the need for change in the perspective of cultural institutions as the author expresses five existing forms of public dissatisfaction:

1. *Cultural institutions are irrelevant to my life.* By actively soliciting and responding to visitors' ideas, stories and creative work, cultural institutions can help audiences to become personally invested in both the content and the health of the organization.
2. *The institution never changes - I've visited once and I have no reason to return.* By developing platforms in which visitors can share ideas and connect with each other in real time, cultural institutions can offer changing experiences without incurring heavy ongoing content production costs.
3. *The authoritative voice of the institution doesn't include my view or give me context for understanding what's presented.* By presenting multiple stories and voices, cultural institutions can help audiences prioritize and understand their own vision in the context of diverse perspectives.
4. *The institution is not a creative place where I can express myself and contribute to history, science and art.* By inviting visitors to participate, institutions can support the interests of those who prefer to make rather than just watch.
5. *The institution is not a comfortable social place for me to talk about ideas with friends and strangers.* By designing explicit opportunities for interpersonal dialogue, cultural institutions can distinguish themselves as desirable real-world venues for discussion about important issues related to the content presented.

In the author's view, participatory strategies do not mean the replacement of traditional institutional models, but practical forms of improvement. Participation, in turn, constitutes one of the main Design laboratory techniques in science, disciplines and methodologies to address specific and real problems of the community. Therefore, Design methodologies provide opportunities for a participatory approach in museological institutions and the adhesion of new perspectives that include society.

The proposal for a Social Curation moves towards a participatory approach, which seeks to involve stakeholders and society in the curation process, with the opening of museum, library and archival institutions to the audience/visitors. The trend occurs in brick-and-mortar or digital environments, or even hybridized, in which society feels represented

and can 'be a part of'. The described process is understood to trigger a horizontal dynamic between the institutional relationship and the active stakeholder: subjects who can somehow contribute to information sharing in the environments in question. It is about promoting equity in the relationship between specialized professionals, members, visitors, community participants and stakeholders.

Simon presented, in 2010, principles of participation that can be seen as a guide for museums in implementing the social approach “[...] By pursuing participatory techniques that align with the institutional core values, it is possible to make your institution more relevant and essential to your communities than ever before” (SIMON, 2010, p. iv). For Schilling in 2016, the paradigm shift also required a change in perspective:

[...] first for a re-interpretation of museum objects in a trans-national, cross-cultural way; secondly, for turning museums into open spaces closely following the concept of museums as social arenas; and thirdly, for stronger networking of museums from different countries and subject fields (SCHILLING, 2016, p. 159).

This opening would transform ‘users’ and ‘passive visitors’ of museums into active informational subjects, co-curators of cultural heritage. The institution was, from the described perspective, seen as a platform that would promote interaction with and among people - transformed into content co-creators, distributors, critics and collaborators (SIMON, 2010).

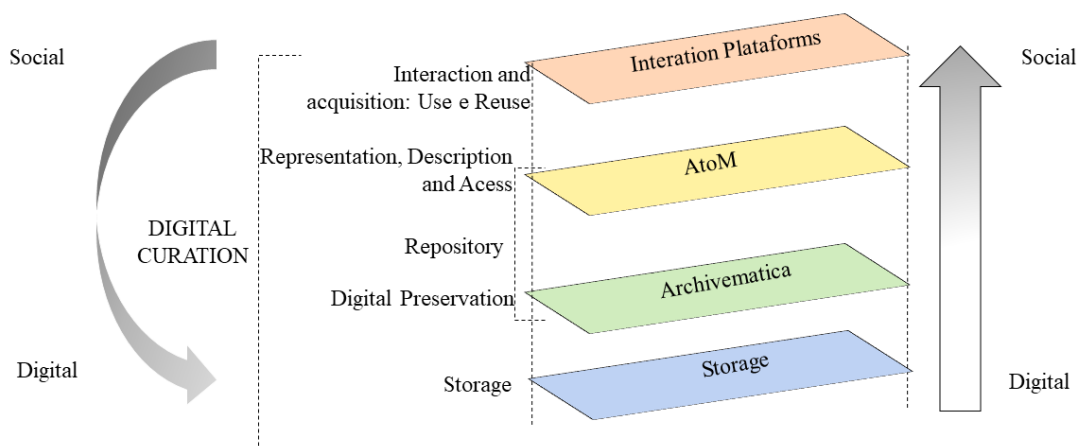
Rios Perez et al. (2013) also stated that digital technologies support the creation of new forms of interaction between cultural heritage institutions and their visitors. They facilitate the transition from consumers to active creators of personal cultural experiences.

Social media stand out as one of the technological resources with the potential to create participatory community engagement due to their personalization capacity, and ability to present a lot of information about a person. According to Simon (2010, p. 5):

There are many people who engage heavily with social media and are incredibly comfortable using participatory platforms to connect with friends, activity partners and potential dates. There are people who prefer social and creative recreational activities and avoid museums because they perceive them as non-social, non-dynamic and non-participatory places.

In the DC represented in a layered structure, social platforms are considered the last layer, that is, the interface of interaction with netizens or informational subjects, as shown in Figure 1. The curation systems AtoM and Archivematica are used, systems of representation and access and digital preservation of digital objects.

Figure 1 – Automated Digital Curation Structure in the AtoM and Archivematica context



Source: by the authors (2021).

The right side of Figure 1 shows the layered structure of the DC (as this study understands them) with systems similar to other digital curation systems: the first layer corresponds to the server, the locus of data storage; the second layer represents the Archivematica preservation system, which treats data for digital preservation; the third one corresponds to the AtoM description, representation and access system, responsible for cataloging and presenting these data for access. The last layer is the interface created for the mediation of cultural content, digital interaction platforms, such as interactive websites, social networks, blogs and others.

Digital interaction platforms become necessary as the curation model is limited and there is no community involvement in its processes. The left side of Figure 1 shows a restart of the process of the derived data curation, resulting from the social appropriation of cultural content, its use and reuse, that is, new creations based on the content displayed on these platforms.

The order of actions in the Social Curation process described above must be inverted to provoke community participation and contributions: it digitizes the cultural collection and shares it on digital interaction platforms so that collective contribution in the information treatment is made possible. This inverse movement promotes multi- or poly-vocal cultural heritage, in which the community feels represented. Rios Perez et al. (2016) highlight that by using these interfaces to support the contributions of the audience or visitors, stories which are unknown or forgotten by cultural institutions can be well preserved and passed on from generation to generation, forming a living heritage. This also contributes to social cohesion, as not only professionals from cultural institutions, but also peers can participate

in storytelling⁴. In addition, the use of social platforms and storytelling help enrich the collections of cultural heritage institutions, engaging their visitors and improving their audience's communication and connection.

Meehan (2020) understands, in this movement, a democratization of cultural interpretation and narratives that activate other, non-institutional voices. For the author, digital museum objects can act, in this way, as transcultural spaces, a space where people and cultures meet. It is an opening for a collective redefinition of collections and a more fluid relationship with the community, proposing a continuous process of critical interpretation (CAGIGAL, 2017).

Museums, on the other hand, by making room for collaboration and collective contribution, can become places of open communication and bring people together. According to Schilling (2016) Isolde Parussel, curator of Museum für Kunst und Kulturgeschichte⁵, noticed a change in the museum's audience through participatory design, they became more diverse and the co-curators felt a strong connection with the museum. The process of planning and curating an exhibition became dynamic based on collaborative techniques, as it aroused the interest and confidence of visitors in the institution. In practice, some initiatives were identified aimed at addressing the participation of stakeholders in the Social Curation.

3 INITIATIVES WITH SOCIAL PARTICIPATION

The potential of social platforms has always been latent on the Web, however, not fully explored by museological institutions. The cultural changes identified in the first decades of the 21st century, however, demanded the exploration of social media for contact with the public. Longo (2020) presents a list of examples of museological initiatives, worldwide, in virtual environments, among which are: portals; virtual tours; online exhibitions; e-learning; online collections; and environments created for children.

Such environments provide open content (collections) to be reused, remixed under a Creative Commons license, they include image, text, audiovisual and audio content; they provide ways to explore curated collections available by museums, through tours,

⁴ Storytelling is about techniques and procedures aimed at telling a story, structured narratives used in various areas of knowledge. Available in: <https://febab.emnuvens.com.br/rbbd/article/view/1408>. Access in: 01 June 2022.

⁵ Museum of Art and Cultural History.

exhibitions and open collections; they develop activities, games, recipes, learning resources, podcast, art creations at home, among other activities (LONGO, 2020).

The Metropolitan Museum of Art has conducted a Proof of Concept Test on Social Tagging between Fall 2004 and Fall 2005. The first tests of recording terms (keywords) in the five available images were carried out by a group composed of 5 librarians and 5 assistants/associates from the Museum's Watson Library. In 2005, the groups were composed of administrative staff and museum volunteers who tagged 30 images presented in an automated tool – developed under the direction of the Museum's Subject Cataloging Committee by Koven Smith (TRANT, 2006).

The results of the Proof of Concept Test with Social Tagging presented both questions and answers about social tagging. The different perspectives between information professionals and stakeholders are highlighted. The test contributed to the development of Steve, a museum's social tagging project, which involves the collaboration of multiple institutions that explore social tagging in art museums (TRANT, 2006).

The initiative by the Nantucket Historical Association (NHA)⁶, from the county of Nantucket in Massachusetts, United States, stands out by making its collection available so that netizens can volunteer and assist in transcribing their manuscripts. According to the NHA (2020a), the idea comes from visionaries Connie and Tom Ciggaran, who understand the importance of digitization and transcription to make their collections available and accessible to everyone. A manuscript transcription guideline instructs volunteer netizens on how to register on the Website and how to contribute to the process. It is possible to view the flow of activity, the percentage of transcription of each manuscript and the revisions, as shown in Figure 3.

Figure 3 – Manuscript Transcription Project Development

⁶ Available in: <https://nha.org/research/the-collections/transcribe-the-collections/transcription-instructions-and-tips/>. Access in: 05 jan. 2020.

Source: NHA (2020b).

Manuscripts need transcriptions and people are invited to be part of this process through dissemination in the digital environment. In addition, the system allows the transcriber to make notes of doubts/questions arising during the process, or information that is illegible, as well as to respond to other notes and view corrections already made by other transcribers. The project discloses the DC potential of the collections in a collective work, and how it can facilitate the work of information professionals.

Another outstanding initiative is that of the North Carolina Museum of Art (NCMA)⁷, which allows internet users to remotely curate an exhibition. The purpose of the Museum is to organize a face-to-face return with an exhibition curated and designed together with co-curator netizens. Netizens collaborate by filling out a questionnaire to compile favorite works from the museum's collection; it reveals possible connections between the museum's collection and other works of art, theme and ideas. The initiative innovates by focusing on the subject and not on works of art. The quiz consists of the following questions: artwork and favorite gallery; the work of art that makes you happy; artwork that makes you think; favorite exhibition; favorite event or concert; favorite park activity; and other favorite experiences or memories at the Museum.

⁷ Available in: https://ncartmuseum.org/calendar/series_parent/ncma_from_home. Acesso on: 05 jan. 2021.

Another initiative is the digital environment created by Chiara Zuanni, in which projects developed by museums during the pandemic period in 2020 are mapped, as shown in Figure 4:

Figure 4: Museum digital projects in the pandemic.



Source: Zuanni (2020).

The author, with the help of a student, collected a dataset and used Google spreadsheets. In addition, they gathered extra information about projects carried out by museums with the help of a Google form and mapped data on Twitter through tags. To automatically geocode the data, she used GoogleScript to extract the data from the spreadsheet, JavaScript and converted them into GeoJSON to be visualized on the site map (ZUANNI, 2020). For organization, the data were classified into eight categories:

[...] contemporary collecting; social media; streaming content; virtual tours (which might have been conceived in very different ways); online exhibitions; games; educational content (whether targeted at children or more broadly for life-long learning); and activities that do not fall into any of these categories (ZUANNI, 2020, [online]).

The Google form is composed of questions related to the initiatives carried out by the museums, available on the site in English, French, German, Italian, Russian, Spanish and Greek versions for institutions to contribute by answering the questionnaire. This is one of the collection methods performed by the author. The initiative allows museums to contribute with their ideas and have access to museological projects from other institutions to innovate in their interaction with netizens.

Popple and Mutibwa (2016) presented the Parachive project, created in a participatory manner with a series of communities and the collaboration of two institutions,

the Science Museum Group and the BBC Archive. A platform for storytelling, research and curation tools was created. According to the authors (2016, p. 197):

It was co-designed and tested by communities in conjunction with academics, curators and technology developers. Using co-production methods in combination with innovative storytelling workshops and creative technology labs, the project demonstrates the necessity of adopting co-working approaches to the problems of cultural heritage curation, engendering democratic encounters with official culture and developing new partnerships able to consider the challenges of the digital archive.

The result of this project is the Yarn website for storytelling, it offers a series of insights into co-creation methods, the role of the institutional voice, concepts of institutional culture democratization, audience, creative intervention and the nature of open digital public space (POPPLÉ; MUTIBWA, 2016).

In this same line, the initiative of the Museu da Pessoa in Brazil is highlighted. It is a digital-virtual and collaborative museum founded in 1990, in São Paulo, Brazil, which, for years has included people in the curation of their life histories. Currently, there is an open project entitled "Indigenous lives: ancestry lives in memory, coordinated by the Museu da Pessoa, together with Rádio Yandê and Ailton Krenak. It seeks to curate indigenous memory and traditions, and preserve their history. According to the Museu da Pessoa (2020), they will carry out a virtual training in memory and media so that young people from the original communities record the life stories of their elders and preserve the life narratives of their people. The project was selected by the BNDES (National Development Bank) Matchfunding program, combined with a crowdfunding initiative (collective financing), which means that the project depends on the financial support of the netizen community and is also financed by the BNDES bank (MUSEU DA PESSOA, 2020).

The initiatives show numerous paths for the participatory approach, for opening up to the community, and for transforming museum institutions into spaces for conversation and knowledge sharing. Museums must give a voice to their stakeholders and society, to give them a space to be heard on social platforms.

In its report on the impact of the Covid-19 crisis on European museums, the Network of European Museum Organizations (NEMO, 2020, p. 1) stated that rather than waiting for conditions to get back to normality, museums will learn from this crisis on how to respond, mitigate, adapt and integrate. In Foutora's (2020) view, the crisis is an opportunity for museums to take advantage from digital-virtual environments. According to the author, it is likely the crisis will leave behind a stronger impulse for the consolidation of digital heritage

and, thus, museums will be more connected to each other and with their audiences, and even more convinced of the importance of exchanges and cooperation (FONTOURA, 2020).

4 FINAL CONSIDERATIONS

The constant dynamics of society demands that museums be renewed and adapted to new realities. Currently, ICT can be considered the main means of communication between museums and their audiences, and, as a result, new digital initiatives and projects have been developed.

In order for cultural heritage to be effective in these environments, a DC to make it accessible on the Web is deemed necessary. However, the traditional curation actions, taken on traditional brick-and-mortar environments, are not able to include the stakeholders, as their actions are centered on digitized objects or cultural content, and not on informational subjects. From this perspective, the biggest challenge is to control this curatorial process in its entirety, as they propose an inverse flow of Digital Curation and that information professionals need training focused on this type of approach so that this design work efficiently, effectively and constantly at each cycle.

The Social Curation proposal emerges in an attempt to fill this gap, including the stakeholders in its processes, as the participatory approach delivers social cohesion to museums, by considering and democratizing the transcultural narratives existing in society.

Different initiatives worldwide demonstrate the need to change the museums' perspective, and the individuals' desire to participate and collaborate with museums. This desire is configured as a way of establishing and strengthening ties between themselves and the cultural institutions, and should foster the interest of Information Science in studying the subjects' engagement, so that, regardless of the context, they identify, feel represented and take part of the memory presented and preserved in the social institutions of culture.

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