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# Designing Cultural Participatory Platforms as Multi-Space Environments: A Cross-Media Approach

**Marta Severo[1], Céline Morin[2]**
[1] University Paris Nanterre, msevero@parisnanterre.fr
[2] University Paris Nanterre, celine.morin@parisnanterre.fr

*This paper explores the evolving landscape of cultural participatory platforms. Scientific research on this subject tends to identify and describe two opposing phenomena: on the one hand, amateur platforms rooted in participatory culture, and on the other, institutional platforms, often embodied as crowdsourcing tools. We argue for the interest in overcoming this opposition and for studying the circulation across distinct digital spaces with diverse affordances. Based on the concept of 'cross-media,' we aim to propose a new theoretical and empirical approach for analyzing and designing cultural participatory platforms. A complex methodology, combining quantitative and qualitative techniques, is defined to analyze the different digital (amateur and institutional) spaces related to the 1 Day 1 Soldier project. Building upon this case study, this paper contributes a theoretical and empirical framework for understanding participatory platforms as dynamic, multi-space environments that accommodate diverse collective and individual needs.*

**Keywords:** participatory platform, cross-media, culture, affordance, design.

## 1. Introduction

On January 25, 2018, Le Monde hailed the extraordinary success of the project *1 Day 1 Soldier* (in French, '*1 Jour 1 Poilu*'). In a very short span of time, hundreds of voluntary contributors completed almost 1.4 million records of soldiers who 'Died for France' in the First World War on the participatory platform *Memory of Men* (https://www.memoiredeshommes.sga.defense.gouv.fr/). This platform, created by the French Ministry of the Armed Forces, offered an annotation interface that allowed users to complete or correct digitized files reporting information on French soldiers killed in battle. What makes this case particularly interesting is that volunteers didn't just utilize the institutional participatory platform; they also initiated a Twitter hashtag, a Facebook group, and a Facebook page to organize their participation. As the journalist from Le Monde highlights, "the 'indexers' are not professionals; they receive no remuneration for this painstaking work. Sunday genealogists, meticulous archivists, history buffs, retired military personnel – they are the small hands behind this collaborative operation on an unprecedented scale" (our translation). Contributors were motivated by their interest in genealogy or war history, a spirit of inquiry justified by personal purposes (such as discovering the history of their grandfathers or great-grandfathers), but also by pure passion and a desire to contribute to a cultural mission: the reconstruction of a shared memory.

This story is representative of a contemporary trend. In recent years, citizen participation has significantly increased in the cultural field. One of the primary outcomes has been the proliferation of digital participatory platforms – digital environments that enable voluntary contributors to express themselves by

posting, annotating, or commenting on content about their cultural objects [1]. Initially, Web 2.0, through its various tools (blogs, social networks, wikis, crowdsourcing platforms, etc.), empowered pro-amateurs [2] to share and disseminate their knowledge within these new digital spaces, fundamentally based on the democratization of expressive possibilities [3]. Subsequently, in response to this emerging trend, several institutions also adopted participatory platforms to facilitate citizen participation in their activities and contribute to their knowledge.

Scientific research in this area tends to identify and describe two opposing phenomena: on one hand, amateur platforms, and on the other, institutional platforms. Amateur platforms are initiatives undertaken spontaneously by groups of amateurs, artists, or enthusiasts, who can rely on commercial platforms (e.g., Soundcloud, YouTube, etc.) or association-based digital environments (e.g. Wikipedia) designed to promote individual expression and creation. Conversely, institutional participatory platforms are projects initiated by institutions (mainly archives or libraries) that allow non-professional voluntary contributors to participate in the knowledge-building process concerning cultural objects managed by the institution itself, through tasks like transcribing texts or annotating images. These institutional platforms have developed as a distinct phenomenon alongside amateur platforms.

This paper argues for the interest of overcoming this opposition and for studying the circulation between different digital spaces. Anchored in the concept of 'cross-media,' it aims to introduce a new theoretical and empirical approach to analyzing and designing cultural participatory platforms. Initially, it provides a brief overview of studies on amateur and institutional platforms. This leads to the rejection of the notion of the platform as a singular and self-contained digital space, favoring instead a cross-media perspective that conceptualizes the participatory platform as a multi-space digital environment. Subsequently, the paper explores the potential transformation of this theoretical approach into an empirical tool for analyzing cultural participatory platforms. A comprehensive methodology, incorporating quantitative and qualitative techniques, is defined to analyze the various digital (amateur and institutional) spaces linked to the *1 Day 1 Soldier* project. Ultimately, acknowledging the limitations of this methodology, we propose adopting the cross-media perspective as a design methodology that comprehends how participatory projects could accommodate the diverse needs of contributors alongside the varied affordances of digital spaces. Our hypothesis posits that a participatory platform should be designed as a multi-space environment to effectively address the distinct needs of the participants who will engage with it.

## 2. Theoretical exploration of cultural participatory platforms: Institutional VS amateur platforms

Digital participation is a popular topic among scholars focusing on the field of culture. Starting with seminal studies such as Henry Jenkins's work on convergence culture [4] and Lawrence Lessig's exploration of remix culture [5], numerous researchers have delved into the role of digital tools in supporting individual and collective expressions related to cultural objects and experiences. Within this domain, scholars typically identify two primary types of participatory tools: amateur platforms and institutional platforms.

On one hand, amateur platforms, rooted in the participatory culture movement [3], initially emerged as spontaneous initiatives of citizens, exemplified by the case of Wikipedia. Enthusiasts of music, arts, and cinema embraced various digital spaces (such as blogs, forums, and wikis) to share their own creations and critiques of cultural objects (such as movies, songs, photos, and books) to which they feel intimately connected [6]. The influence of social media on this phenomenon has been significant. As Nancy Baim highlighted regarding music social media [7], they have facilitated the formation of 'networked collectives' where not only cultural producers but also audiences play an active role. Likewise, Jean Burgess [8, 9] examined online video platforms, particularly YouTube, and emphasized how users engage with platforms to create and share content, shaping cultural discourse and fostering new forms of participatory culture. Today, amateur platforms are often managed by commercial entities that have developed business models around users' passions [10, 11]. Examples include platforms like Instagram for photography, Spotify and SoundCloud for music creation, and WattPad and LibraryThing for writing and reading.

On the other hand, within the institutional context, the term 'participatory platform' is often synonymous with a crowdsourcing platform [12] – a digital tool provided by an institution to non-professional voluntary contributors for executing simple tasks, such as transcribing handwritten texts or indexing documents. These tasks are precisely defined to generate standardized data that can be integrated into institutional databases. This type of platform is frequently employed in citizen science projects as a means to involve

citizens in co-constructing scientific knowledge [13]. An example is the Zooniverse platform [14], hosting numerous citizen science projects connected to institutional databases, including the "Shadows on Stone: Identifying Sing Sing's Incarcerated" project, where participants transcribe hand-written admission registers to unveil the hidden histories of those incarcerated at Sing Sing Prison from 1865-1925. Many libraries and archives have also embraced such tools to enhance the quality of their digitized collections. The Library of Congress's 'By the People' portal (https://crowd.loc.gov/) is a notable example, bringing together various crowdsourced transcription projects linked to the institution's digitized collections.

The distinction between amateur and institutional platforms primarily lies in their distinct affordances. Drawing from ecological psychology in contrast to cognitive psychology [15], the concept of 'affordance' depicts how an organism perceives and interacts with its environment, raising inquiries about the interplay between the organism and its environment, as well as "perception and action, metaphor and learning, and techniques for input and output" [16]. Ian Hutchby [17] further enriched the concept by describing affordances as not always directly perceptible but potentially discovered or revealed through individuals' interactions and practical experiences.

Later on, in communication studies, affordances came to be extensively employed to describe "how a media or a tool affords uses to individuals" [18]. However, many scholars have noted how it has rapidly become an ambiguous concept with several, even contradictory, meanings [19], although with the benefit of providing "a kind of middle ground between technological determinism and social construction" [18, 20]. Understood as a "multifaceted relational structure" [21], affordances have also been taxonomized by Conole and Dyke [22], who list, as main traits of information and communication technologies, accessibility, speed of change, diversity, communication and collaboration, immediacy or surveillance – among others. More recently, Treem and Leonardi [23] have proposed visibility, persistence, editability and association as the main affordances of social media.

Regarding amateur platforms, scholars tend to identify similar affordances with the ones of social media. Affordances of these platforms can be grouped into three main properties: the digital identity, the social network and the freedom of expression [24, 25]. 'Digital identity' refers to how the user can build a profile that can be watched and evaluated by other users. Consequently, participants on amateur platforms are usually interested in building their e-reputation and entering in challenge and game dynamics with other users in order to endorse their identity. With 'social network', we point out that amateur platforms afford connectivity, allowing users to establish and maintain relationships with other individuals across geographical boundaries. The ease of connecting with others fosters the formation of diverse networks, promoting social interactions, facilitating the exchange of ideas and fostering a sense of community. With 'freedom of expression', we refer to the fact that amateur platforms are perceived as democratic and horizontal spaces where everyone can create and share their own content and can interact with the content published by others through likes, comments, and reactions. The only rules are dictated by the interface of the platform: for example, the length of the message on Twitter; or the absence of links in Instagram messages.

As regards the institutional platforms, studies have identified affordances that can be grouped around three properties: knowledge, empowerment and standardization. 'Knowledge' underlines how the focus of these platforms is the product rather than the producer: the crowdsourced knowledge, the collected information. Sometimes the participation is completely anonymous, in other cases users have an account but they don't have a public profile; in few cases, users can build a digital identity, but it will be less visible of the generated data. 'Empowerment' indicates that these platforms have affordances to reinforce competences of individuals, with different backgrounds, through the contribution to scientific knowledge [26]. They can provide tutorials, guided tasks, peer correction et other kinds of activities that empower participants. If participation and mutual help are fostered, most tasks are carried out individually and gained expertise cannot be shown to other users. And 'standardization' underlines that institutional platforms offer predefined ways of expressions, for example pre-filled forms, checkboxes, buttons to click or other tools that do not really allow users to generate their own content. Such affordances are necessary to guarantee the quality of the generated data and their compatibility with the existing scientific knowledge.

Our hypothesis is that this state of the art is unsatisfactory. We argue that throughout these definitions of participatory platforms, one salient blind spot is how scholars tend to identify specific affordances for one digital platform, hence reinforcing the idea of each platform being an autonomous space. However, the

reality is more complex than this. Articulations between platforms through affordances is yet to be fully understood, as users actually tend to accumulate, combine, migrate, abandon or rediscover them. Interestingly, traces of this particular issue can be found early in the literature: for example, according to Gaver, exploration is intrinsically articulated to the concept: "affordances of complex objects are often grouped by the continuity of information about activities they reveal" [16], suggesting that affordances can be 'sequential' (leading to information about other affordances) or 'nested' (grouped in space). But even with a concept such as the one of 'imagined affordances,' which considerably shifts the focus on users and aims to be "flexible and robust enough for the complex emerging socio-technical relationships in social life" [18], platforms are mostly understood independently of each other (Facebook, in that instance).

Considering the specific case of participatory platforms, a switch of perspective is necessary to fully understand them as multi-space environments. As the case of *1 Day 1 Soldier* shows clearly, contribution around a specific topic rarely is limited to a specific platform, either amateur or institutional one. Genealogists or amateurs of the war can contribute on an institutional platform such as *Memory of Men*, a few minutes later on a commercial site as Geneanet or on a wiki as Geneawiki. Even when they focus their action on a specific project as *Memory of Men*, the institutional platform is not the only environment that hosts participation, but volunteers can create and use other digital spaces, such as social media accounts, that can better support their action. Based on this, we argue that these different digital spaces are necessary because they have complementary affordances that match the motivation of different types of users. In the next paragraph, we propose to reverse the approach by focusing on the actors of participatory platforms rather than of the digital platform itself. To do this, we will explore the interest of employing the concept of cross-media in order to change the perspective on participatory platforms and catch and understand actors' trajectories between platforms.

## 3. Participatory platforms as cross-media spaces

The concept of platform has been particularly popular within the last fifteen years, drawing attention to industrial strategies, potential monopolies, (de)regulation, digital labour, and so on [27]. Throughout the scientific exploration of these platforms-related issues, one definition stays predominant: that of a unique place where exchanges take place (notably commercial ones) [28]. As shown in the previous paragraph, such a vision is mainly grounded in the idea that each platform has specific affordances functional to the type of exchanges it hosts. Yet, we argue that, considering the specific case of participatory platforms, a switch of perspective is necessary to fully understand them as multi-space environments. To do so, we have to reverse the approach by focusing on the actors of participatory platforms. Mobilizing the concept of cross-media can help understand actors' trajectories between platforms. The interest of adopting a cross-media approach is to follow the exchanges between people and their contributions from one digital space to another by placing the emphasis on the impact of the affordances of each space on the participatory structure. Our suggestion is to use "cross-media" not as an essential trait of industrial or institutional strategies but as an engaging motivation for cultural participatory actors.

Cross-media is traditionally defined as the publication of content across multiple media, channels or platforms. Much like the notion of affordances, the boundaries of the cross-media concept remain vague and inadequately defined. If the term is mostly found to designate the "cross-media ownership" in Jenkins's seminal work [4], others argue that cross-media and transmedia can be interchangeable concepts [29]. But two main differences can be noted: firstly, cross-media designates how content can be published through multiple platforms whereas transmedia refers to cultural content unfolding across multiple media, but where each of these media allows for a new facet to the story, enriching the material and emotional experience of the audience. Secondly, cross-media encourages audience participation, even interactivity. An interesting proposition is to define cross-media instinctively of "cross-media research", the latter being "a conceptual and methodological area investigating communicative practices, needs and appropriations across a variety of different media in a way that reflects the interrelations between them" [30].

Researchers have argued that the overall idea of "cross-media" can be traced back to the uses-and-gratifications research [31] but that cross-media strategies have entered a whole new realm with the advent of digitalization or even "deep media" [32, 33]. Namely, the "differentiation of technologically based media", the "connectivity", the "omnipresence" and the "rapid pace of innovation" of media, as well as the "unseen level of datafication" have all changed the landscape of (cross)media research [30].

According to those authors, a demarcation line in the cross-media research has been drawn between the "individual" perspective and the "social domains" perspective – the former describing how cross-media can be used by users as a "media repertoire", combining user-centred perspective, entirety and relationality [34], the latter designating "media ensemble", meaning "media-related communicative practices of the actors involved in them" combining constellation of actors, relevance frames and communicative practices [35]. The main problem is that the existing research rarely articulates the two. Indeed, many cross-media studies discuss mainly industrial strategies, may it be news work [36, 37], marketing [38], cultural production [39] or narrative expansion [40]. But the individual engagement remains largely disjointed, from both the "social domains" perspective and the actualization of the platforms' affordances. Yet, as Schrøder [41] argues, "audiences are inherently cross-media" because "people in everyday life, as individuals and groups, form their identities and found their practices through being the inevitable sense-making hubs of the spokes of the mediatized culture".

Efforts to identify cross-media research have led to various taxonomies, among which two tripartitions are particularly worth mentioning. Bjur et al [42] have suggested understanding the field through research into the functional differentiation, into situations and into patterns of cross-media practices; while Ibrus and Scolari [43] proposed to grasp textual, economic and institutional perspectives. Indeed, regarding institutions and amateurs, Giaccardi and Palen [44] have explored these cross-media dynamics in heritage practice, insisting on how "combining technical infrastructure with diverse media and actively promoting social interaction are vital steps to support the tensional relationships between past, present and future" but still, the approach focuses on an institutional example rather than amateur engagement, that of an "early instance of cross-media infrastructure", namely the Virtual Museum of the Collective Memory of Lombardia. This allows the authors to suggest recommendations for cross-media interaction design.

In our study, the interest of a cross-media definition is to adopt the conceptual and methodological approach to cross-media research in order to follow the exchanges between people and their contributions from one digital space to another, by placing the emphasis on the impact of the affordances of each space on the participatory structure. The meeting between institution and amateur takes place with different methods and objectives depending on the space where it takes place. Each space provides a functional framework for successful bonding.

## 4. The cross-media as an empirical tool for analysis

4.1. The case study: Memory of Men VS 1 Day 1 Soldier

The case of *1 Day 1 Soldier* constitutes an excellent example of a cross-media participatory platform due to its presence in three digital spaces. In 2013, the Ministry of the Armed Forces launched the institutional platform *Memory of Men*, aimed at collaboratively transcribing the 1,400,000 records of the 'Dead for France' database. Shortly thereafter, Jean-Michel Gilot, a volunteer with a passion for genealogy and military history, initiated the *1 Day 1 Soldier* challenge by creating a Twitter account (@1J1Poilu) and a corresponding hashtag (#1J1P [#1J1P is the short form of '1 Jour 1 Poilu', the French translation of '1 Day 1 Soldier'.]). The concept behind the '1 Day = 1 Soldier' challenge was that if at least 800 individuals indexed one file per day, the database could be entirely transcribed in less than 5 years.

According to the rules of the challenge, once a file was annotated on the institutional platform, the same information needed to be published on Twitter along with the hashtag #1J1P. This Twitter publication allowed the project coordinator to monitor contributions, maintain a volunteer ranking, and acknowledge the more active participants. Throughout the challenge, the coordinator organized several 'special operations' which involved setting specific deadlines and indexing objectives (e.g., completing all files related to *Tour de France* locations). At the conclusion of each special operation, the coordinator congratulated the winner of the challenge and commended all participants on Twitter. This approach led to a rapid increase in participant numbers, growing from a few dozen during the initial days of the challenge to 1000 in less than a year. Subsequently, in 2015, the initiative expanded to Facebook, encompassing the creation of a dedicated Facebook page where participation rules for the challenge were formally outlined for the first time, as well as a private group that provided participants with a more operational space for communication [The project's website, launched in September 2015, served as a showcase for journalists by publishing press releases and the results of various special operations. It really didn't concern the participants].

While contributors on the institutional platform exceeded 2,500, those who actively engaged in the challenge through Twitter and Facebook numbered only 300. Nevertheless, the latter group completed more than one third of the indexing tasks. This cohort primarily comprised genealogists (both volunteers and professionals) and military enthusiasts, many of whom were descendants or relatives of war victims. The majority of these individuals can be classified as amateur-professionals, participating in indexing out of passion and curiosity, while executing the task with the level of expertise and commitment comparable to that of professionals. What unites these contributors is their shared love for knowledge and homeland.

To study this case, it was imperative to build a methodology centered on the concept of cross-media. The aim of this section is not to provide an exhaustive analysis of the case, but rather to underscore the value of developing a methodology founded on this approach. Firstly, we detail the techniques and data that were chosen. Subsequently, we present the primary findings gleaned from employing this protocol. Lastly, we critically reassess the merits and limitations inherent in a methodology grounded in a cross-media perspective.

4.2. Methodology
Opting to embrace a cross-media approach entails primarily ensuring that the methodology is equipped not only to scrutinize the digital spaces themselves, but also to examine the movement of actors and information between these spaces.

Regarding the analysis of the digital spaces, we employed distinct techniques for each space:
- The institutional platform *Memory of Men*: (i) socio-semiotic analysis of the interface and its evolution over time, using captures from the Wayback machine; (ii) quantitative analysis of the 'Dead for France' database, encompassing crowdsourced data. This database, available on the website, unfortunately doesn't track participation but solely presents the final data.

- Twitter activity: (i) quantitative analysis of a corpus of tweets containing the hashtag #1J1P, accessible through INAthèque [The web archive of the French audio-visual content]. This corpus, consisting of 104,612 tweets (of which 58.6% are retweets), is almost comprehensive with respect to the original interactions. It spans from November 17, 2013 – the day of the first informal tweet – to May 24, 2018, when the data collection concluded; (ii) socio-semiotic analysis of a sample of tweets and the associated profile accounts; (iii) analysis of internal digital space indicators such as retweets and mentions using digital methods [45].

- Facebook activity: (i) quantitative analysis of Facebook page data extracted using the Netvizz application [46] [Today it didn't work anymore because of changes of API Facebook policy.]. This application facilitated the extraction of posts (up to 1000), reactions, and comments. The data, anonymized before extraction, covers the period between September 4, 2015, and May 25, 2018. In total, the posts elicited over 27,000 engagement actions, primarily in the form of 'likes,' but also encompassing shares and comments; (ii) socio-semiotic analysis of a sample of posts, accompanying comments, and reactions; (iii) analysis of internal digital space indicators like reactions via digital methods.

Concerning the analysis of actors, we adopted an action-research approach which enabled us to amass rich material derived from participant observation, informal interviews, and semi-directive interviews. Our interviews included the leader and webmaster of the institutional platform, the challenge coordinator and administrator of the Twitter account and Facebook page, the administrator of the Facebook group, and a few volunteers. This array of material empowered us to identify circulations that were not easily traceable through data analysis.

4.3. One platform, three digital spaces

Drawing upon this methodology, we were able to discern that each space presents distinct affordances to its users. Each space encompasses its unique writing rules and formats, its distinct set of participants, its particular system of authority and organization, and also its own social function. These attributes can be succinctly summarized as follows.

Based on this methodology, we could observe that each space offers different affordances to the users. Each space has its own writing rules and formats, its own actors, its own system of authority and organization, and also its own social function. We can briefly summarize these features as follows.

|  | **Memory of Men** | **Facebook** | **Twitter** |
|---|---|---|---|
| **Content format** | *Standardization*: Institutional writing (records), constraining contribution format imposed by the interface | *Free expression:* Emotional writing, free format chosen by each contributor | *Free expression + standardization:* Challenge's writing mixing records and emotions, standardized format chosen by each contributor |
| **Actors' organization** | *Empowerment:* Only the institution defines the rules; the platform empowers contributors | *Social network:* Only the amateurs define the rules; the platform builds sociability and mutual sharing | *Social network+ Empowerment:* Amateurs and institutions interact for adjusting rules and building collaboration |
| **Social function** | *Knowledge:* Action builds knowledge useful for the institution | *Digital identity:* Action enhances the personal motivations and identity of the contributor | *Knowledge+ Digital identity:* Action serves institutional need of building knowledge and contributor's need |
| **Platform type** | Institutional platform | Amateur platform | Border space |

*Table 1. The affordances of the digital spaces related to the case study.*

## *Memory of Men*: the space of the institution

To become a contributor to *Memory of Men*, you must register on the site. There is a single contributor interface where user contributions are highly regulated. The annotation form includes specific fields, most of which require users to select a value from a series of predefined options. Other fields, such as 'Place of death', are freely editable. However, the interface does not offer a comment field for adding free-form observations. Writing on this site is primarily an individual experience. Generally, users approach the platform with a personal motivation to discover or verify their own origins. This individual annotation experience leaves no space for the expression of personal emotions. Indeed, the entry form does not provide room for the soldier's history; it does not allow, for example, explanations for the cause of death (due to a CNIL ban) or information about the soldier's family or personal life.

The writing rules are established by the institution, which defines all aspects in detail: the conditions and modalities of access to the platform, the fields available for indexing, the permissible values for each field, as well as the type of interface and its editorial style. Through these (seemingly) technical choices, the institution shapes the level of expertise required of the platform's users, encompassing genealogy and history knowledge, as well as computer skills. Another characteristic of this space is its limited collective and interactive dimension. The only elements hinting at a collective aspect are the annotator's rank and the total number of registered platform users. However, users lack profiles and are unable to establish connections with other users.

Considering these factors, *Memory of Men* emerges as a digital space where the principal affordances of an institutional participatory platform can be found: knowledge, empowerment, and standardization. In it, writing is regulated by the institution through a standardized format defined by the platform's interface. Amateurs participate according to institution-established rules. Indexing in this space is inherently an individual experience, devoid of interaction either with the institution or with fellow amateurs. This experience aims to generate a sense of empowerment tied to the production and acquisition of knowledge about the history of the First World War. The resulting memory is a collective heritage memory that leaves no space for sharing emotions, memories, and meanings connected to the transcribed records.
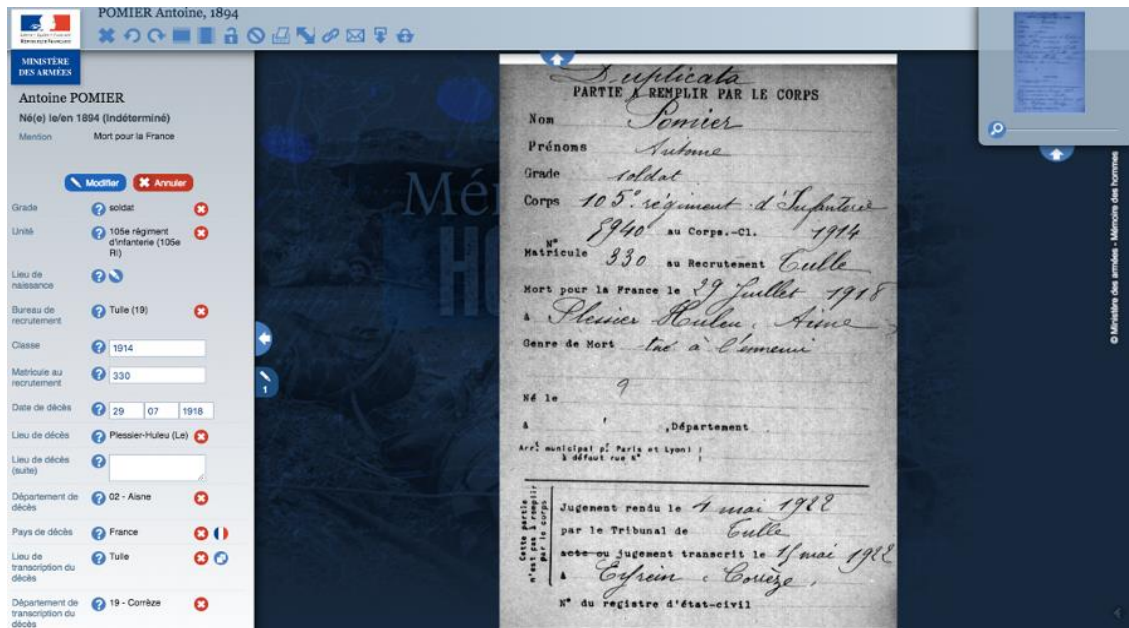
*Figure 1. Memory of Men indexing form.*

**The Facebook page and group *1 Day 1 Soldier*: the space of the amateur**

The analysis of the institutional space reveals that volunteers recognized the necessity to seek out other arenas for self-expression. The Facebook space, comprising a page and a group, was launched in September 2015 to address this need.

Regarding the page, it is administered by Jean-Michel Gilot, who holds the exclusive right to post messages. The wall is animated with a daily message presenting the record indexed by the Twitter account @1J1poilu. The administrator also shares messages concerning pivotal moments of the challenge: indexing milestones (barometer updates), media announcements, and posts related to special operations. Facebook enables the composition of lengthy texts with diverse formatting options and content types (images, videos, etc.). These technical capabilities offered by Facebook align well with the emotional dimension evoked by the challenge on this platform. The objective is to pay "a form of homage," transcending the mere act of "enriching the national archival heritage" as seen on *Memory of Men*.

All the records presented in the Facebook posts follow a consistent structure, such as: "#1J1P August 6, 1917 Gregoire LEONI, 38 years ... died of his wounds at the temporary hospital No. 7 in Salonika (Greece). Native of ..., he was incorporated in the .... Memory of Men file transcribed on ... http://tinyurl.com/y73meulu...". The coordinator may elaborate on details of the soldier's life or provide personal comments. The competitive aspect of the challenge is subtly present, with the posts refraining from discussing the annotation process and associated archival research activities; instead, they directly present the content of the transcribed records. The institutional dimension is largely absent. While the *Memory of Men* platform is mentioned in each message, it disconnects from its affiliation with the institution and patriotic mission. It becomes a medium for storytelling.

The Facebook page enables other contributors to express themselves through reactions ("like" or "sad") or comments. Frequently, these contributions serve as opportunities to convey emotions or personal experiences. The 955 analyzed posts garnered over 18,000 "likes," with an average frequency of 19 per post. They were shared 3,789 times (an average of 4 shares per post) and received 2,285 comments on average, with each post receiving at least 2 comments. Considering other reactions, which allow users to express more specific sentiments, the "sad" button was the most utilized (2,701), followed by "love" (528), while "wow" (89) and "grrr" (40) were less common. "Haha" (7) and "grateful" (7) were rarely used. In general, these reactions enable users to establish a sense of solidarity or support for the challenge. As for comments, many convey gratitude or support for the campaign, often from individuals new to the challenge or not actively participating. Yet, there are also contributors who employ comments to convey emotions and personal experiences. Lastly, it's worth mentioning a user who subverts the hierarchical structure of

the page by posting a comment (almost daily) containing information about the indexed record. In conclusion, the Facebook page concentrates on individual stories, constructing a shared memory that complements the collective institutional memory shaped by *Memory of Men*.



*Figure 2. Example of post on the Facebook page (dedicated to Georges Caron's record).*

The private Facebook group, titled 'Great War - Challenge #1JP,' is co-managed by Jean-Michel Gilot and Fabien Laure, a professional genealogist who oversees 25 other similar groups. The group, which had 222 members at the conclusion of the challenge, serves the purpose of providing a space for all participants to express themselves, in contrast to the Facebook page where only Jean-Michel Gilot can post messages. Several Twitter users have joined the group, occasionally indicating their pseudonyms from the other platform to be recognized by their peers. For these individuals, the group transforms into a backstage of the challenge.

Initially, members use this space to chronicle their individual indexing journeys. Subsequently, they raise technical inquiries, often quite specific. These queries may involve challenges in deciphering the text of a record or resolving errors that the contributor is unsure about (such as duplicates or spelling mistakes). However, more frequently, the messages revolve around sourcing information. These communications underscore the contributors' level of expertise. Although the group ostensibly presents itself as a space of camaraderie and mutual exchange, a more nuanced analysis unveils a spirit of competition prevailing in most interactions. For instance, posts frequently become occasions to share the number of records annotated by a participant. Furthermore, during special operations, the Facebook group facilitates contributors who are not on Twitter to share their lists of annotated records. Moreover, presenting a technical question often doubles as a challenge to others and an opportunity to showcase the competence of the individual who posted the question. On the whole, the group evolves into a sphere for cultivating one's standing as an amateur-professional vis-à-vis other members.

In conclusion, it can be affirmed that Facebook, encompassing both the page and the group, constitutes the domain of the amateur. Herein lie the characteristics of an amateur participatory platform: digital identity, networking, and free expression. Facebook underscores contributors' identities, enabling them to elevate their recognition through content publication and competitive interactions with other users. On the page, the administrator, the sole entity with posting privileges, establishes the guidelines of memorial writing that brings to the forefront the individuals concealed behind each soldier. In the group, each member retains the autonomy to decide the style and substance of their message. The restriction of content to group members fosters spontaneity and freedom, enabling users to champion the "memorial power of the Great War." The

network structure inherent to social media fosters not just mutual sharing, but also a sense of social competition that reinforces the participatory challenge. Ultimately, this space accentuates the human dimension of the conflict through an unbridled writing style that carves space for contributors' emotions and personal experiences. In short, the Facebook realm assumes the role of an exclusive amateur territory, entirely devoid of institutional presence, where discourse thrives as a peer-to-peer exchange. In this light, the contrast between this digital space and the institutional one appears to reinforce the concept highlighted by the current state of the field – the distinction between institutional and amateur participatory platforms

**Twitter exchanges #1J1P: the space of the challenge**

The Twitter space holds a privileged status within the challenge, serving as its primary arena for the first two years. Here, writing is regulated both by the participants, who adhere to self-imposed rules, and by the platform itself, which imposes constraints such as message length. Each participant develops their distinctive writing style, while adhering to a form of standardization. @1J1Poilu structures all tweets uniformly, commencing with the hashtag and followed by the soldier's name, age, occupation, place of death (along with the reason for death), and a link to the record on *Memory of Men*. Often, the record's image is incorporated alongside the soldier's photo or the image of the source document. Other users also post tweets for each transcribed record. While some provide basic information, including key details from the record and the link to the institutional platform's file, others offer additional information about the soldier, such as their occupation or reason for death. Overall, participants lean towards a standardized format inspired by *Memory of Men*. They select a rule and maintain consistency across their tweets to showcase their expertise. Unlike the institutional interface, the primary content change is due to contributors' interest in unearthing and sharing details of each soldier's life that cannot be accommodated on the institutional platform.



*Figure 3. Example of tweet of @1J1Poilu (dedicated to Georges Caron's record).*

This memorial aspect is intertwined with the competitive spirit of the challenge, often imbued with playful undertones. While participants assist one another, an undercurrent of competition persists. Possessing an advanced grasp of the subject matter, sources, and indexing methods, participants utilize tweeting as a means of demonstrating their genealogical expertise, attaining individual acknowledgment rightfully due

to them. Despite the project coordinator's efforts to underscore the collective nature of the task force, tweeting remains a solitary journey. Genuine interactions among contributors, predominantly carried out through mentions rather than retweets, are infrequent and involve a select core of contributors. An examination of the mentions' network reveals three distinct communities. The first community, predominantly linked to the @1J1Poilu account and boasting the most members, is closely aligned with the challenge. The mention @1J1Poilu serves as a reference point for members to allude to the challenge. This community boasts the highest number of active users, with most messages corresponding to the publication of *Memory of Men* records. The second community, connected more closely to the accounts of journalist Stéphanie Trouillard and genealogist Thierry Garrel, who play a prominent role in promoting the challenge, primarily comprises thank-you tweets exchanged among contributors. This community represents a group united by existing friendships or professional relationships, primarily fueled by a shared passion for genealogy. The third community, primarily linked through mentions of @MDHDefense (the institutional account), predominantly features technically oriented messages where users seek assistance or interface modifications from the webmaster.
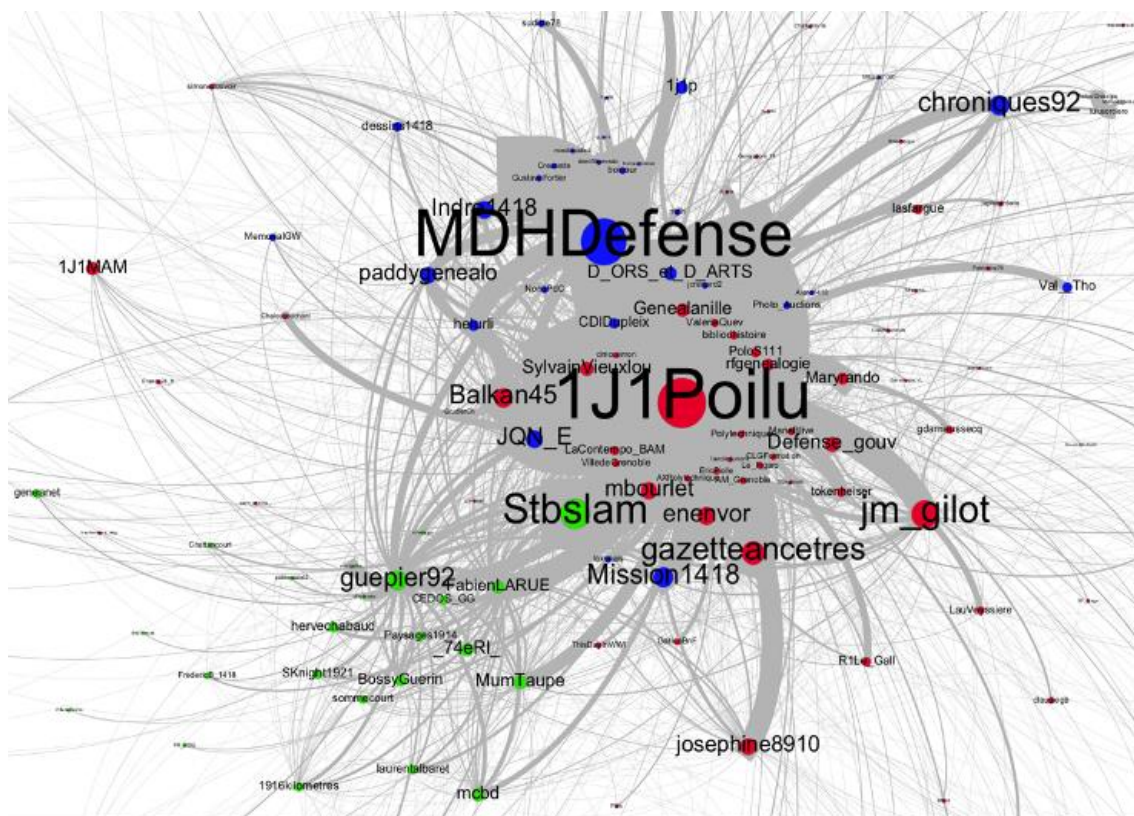


*Figure 4. Mentions network. Nodes represent accounts, links represent mentions. The size of the node is proportional to the number of mentions received. The nodes are colored on the basis of an automatic modularity classification (Gephi) which identifies 3 main classes. Zoom on the center of the network.*

This final community of mentions indicates the presence of the institution on Twitter, albeit in an 'informal' capacity through the figure of the *Memory of Men* webmaster, fostering communication with the participants. Alongside its highly hierarchical structure, the institution endeavors to establish connections with contributors through channels beyond the institutional platform. The webmaster simultaneously administers the institutional Twitter account (@MDHDefense), using it to address contributors' technical inquiries. Contributors, in turn, leverage this tool to establish direct lines of communication with the institution. These off-platform exchanges frequently assume a friendly and informal tone. In contrast to this intimate rapport with the webmaster, the relationship between contributors and the Ministry of the Armed Forces remains mostly absent. As the webmaster elucidated during our interview, "delineating the parameters of this association with amateurs is no straightforward matter". For instance, the #1J1P team goes unacknowledged in the official press release following the conclusion of the crowdsourcing campaign, as "For *Memory of Men*, all contributors are equally significant – whether they have made just five

contributions or thousands. Acknowledging *1 Day 1 Soldier* would introduce distinctions in importance among annotators, while in reality, every contribution is pivotal to the project's success."

In conclusion, what proves intriguing is that Twitter emerges as an intermediary realm between *Memory of Men* and Facebook, encapsulating the features of both institutional and amateur participatory platforms. On one hand, Twitter, as a social media platform, emerges as an ideal arena for constructing identity and social networks associated with the challenge. Moreover, while message length is restricted, users are afforded greater freedom of expression compared to the institutional platform, enabling the inclusion of personal soldier-related details or emotional remarks. On the other hand, volunteers naturally adopt norms on Twitter to ensure message standardization and the dissemination of knowledge. Furthermore, tweet interactions transcend mere sharing, encompassing a form of empowerment among volunteers and between volunteers and the institution, represented by the webmaster. Through these attributes, Twitter emerges as a boundary space [47, 48], straddling the line between institutional and amateur domains, facilitating the flow of actors and data between them.

3.4. Interest and limits of a cross-media approach

A cross-media approach, combining social and individual perspectives, allowed us to highlight the multi-space nature of the *Memory of Men* project. At first glance, focusing solely on the social dimension, this participatory project might appear as the juxtaposition of an institutional platform (*Memory of Men*) and an autonomous project (*1 Day 1 Soldier*) based on social media that function as amateur platforms. Taking a closer look at individuals, we were able to identify the connections and circulations between these digital spaces, leading to the creation of a boundary space that shares the affordances of both amateur and institutional platforms. The analysis revealed that this topological configuration contributed to the success of the crowdsourcing campaign by providing each user with a space tailored to their needs.

Undoubtedly, this case demonstrates the value of adopting a cross-media perspective when analyzing cultural participatory platforms. Limiting the investigation to the institutional platform alone would fail to capture the intricate amateur-institutional relationship and the broader participation dynamics that underpinned the challenge's success. However, upon critically reevaluating this analysis, three primary challenges must be considered.

Firstly, this methodology is highly complex and time-intensive. As described in the preceding paragraph, we had to gather data from multiple sources that lacked interoperability. Consequently, building a unified database wasn't feasible, and connections and circulations between spaces had to be inferred based on ethnographic fieldwork. Furthermore, the ability to collect data through APIs was feasible during the time of our analysis (2018-2019), but recent shifts in social media policies have made replicating such a workflow nearly impossible today. Consequently, it can be said that the cross-media methodology relies on a form of resourcefulness and creativity aimed at making the most of available data.

Secondly, ethical concerns arise from this methodology. Tracing actors across different spaces can be viewed as an invasion of privacy. For this reason, we chose not to construct a comprehensive database of users based on various identifiers across platforms. Our analysis of circulations relied on statements from interviews. Ethically, we also chose not to publish any content originating from the private Facebook group. Despite members being well-informed and giving their consent to participate in the research, the nature of posted information often proves too personal for publication.

Thirdly, we must recognize the unique configuration of this case study, which rendered it an ideal example. Indeed, we were fortunate to identify this case at an opportune moment, with ample data available and a high level of interest among actors to collaborate with us. Can this analysis be reproduced? Can this methodology be applied to other cases? Participatory platforms with an institutional core surrounded by social media or Web 2.0 tools accessible to contributors are increasingly prevalent. In some instances, volunteers self-organize similarly to *1 Day 1 Soldier*; in others, the institutional entity establishes and manages complementary spaces on social media. However, each of these projects presents significant challenges related to data retrieval. Based on these considerations, our conclusion shifts the empirical focus. We suggest transforming the cross-media methodology for analysis into a method for designing participatory platforms.

## 4. Conclusions

This study has navigated the intricate terrain of cultural participatory platforms, describing the coexistence of amateur and institutional paradigms. By transcending the conventional opposition between these two types of platforms, we have unveiled a rich ecosystem of interactions and circulations within diverse digital spaces. Amateur platforms, deeply rooted in participatory culture, empower enthusiasts and artists to shape, critique, and share their insights about cultural artifacts. Simultaneously, institutional platforms, embodied as crowdsourcing tools, extend an invitation to non-professionals, transforming them into co-creators of knowledge and custodians of cultural heritage. A theoretical approach based on the concept of 'cross-media' has allowed us to shift perspectives and understand cultural participatory platforms as multi-space environments that combine different affordances for both the social domain and the individual.

The *1 Day 1 Soldier* project exemplifies the symbiotic potential of these platforms, showcasing how collaboration across digital spaces can transcend boundaries and amplify both collective and individual impact. Our hybrid methodology, seamlessly blending quantitative metrics with qualitative narratives, has holistically examined the digital ecosystem surrounding this project, revealing patterns of engagement and motivations. Nevertheless, it has also highlighted important methodological bottlenecks, primarily related to ethical concerns and the non-replicability of the workflow.

In light of these limitations, we propose to take the cross-media perspective further, considering it as a design method rather than solely an analysis method. We suggest that actors (such as institutions and researchers) interested in building participatory platforms for scientific reasons should embrace the cross-media nature of these projects from the outset. The designer should recognize that these participatory projects need to accommodate contributors with diverse needs, attracting them to different digital spaces with varying affordances based on individual and social motivations. To address this, we propose designing participatory platforms as multi-space environments, combining institutional crowdsourcing tools with more flexible spaces for expression, such as social media or wikis. This approach would encourage users to contribute to the project while accepting being present in different spaces, reducing the risk of dispersal onto other less accessible digital environments for researchers. While the scope of this paper does not permit empirical testing of this hypothesis, we present it as an invitation for future research.

Therefore, considering these insights, this paper underscores the significance of adopting a holistic approach in both the design and analysis of participatory platforms. The 'cross-media' lens we advocate offers a framework to navigate the evolving participatory landscape, ensuring that platforms are attuned to the myriad needs and aspirations of participants. The fusion of amateur and institutional approaches enables the creation of spaces that harness the innovative potential of both individual passion and collective expertise. Finally, this exploration of cultural participatory platforms extends beyond academia, resonating with practitioners and policymakers alike. It emphasizes the importance of cultivating inclusive digital environments that empower diverse communities to actively shape culture, knowledge, and memory.

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