



Article

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Design, Digital Humanities, and Information Visualization for Cultural Heritage

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Abstract: In this essay, we are interested in investigating some of the possible relations between design and digital humanities. In particular, we analyze the contribution that communication and interface design can bring to digital humanities. In a scene currently characterized by a heterogeneous set of activities and humanistic, technological, and cultural studies, the involvement of design seems confined to the development of digital instruments in accessing, exploring, and manipulating cultural data. How can design and the humanities work in an interdisciplinary way in order to shape new digital means to explore humanistic content? This essay presents four case studies (three of them developed by the authors), each of which suggests some methods and tools focused on the interdisciplinary relationships of scholars. The findings are both models of collaboration and models of digital architecture (data visualization) and showcase applied digital interactive platforms that present several paths to discovering different levels of content in the fields of art, psychology, literature, and history. In conclusion, this essay presents a manifesto focusing on ten points of virtuous relation between design humanities and the field of information visualization.

Keywords: data visualization; digital humanities; cultural paths; information design; design and humanities



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1. Introduction

In terms of content production, research into new digital communication registers has given shape to both aesthetical and technological evolution. The whole cultural system is taking action to develop a digital version of itself that is possibly complementary to the physical one. Conceiving digital humanities as a discipline means being aware that the focus will be on the reorganization of knowledge, necessarily considering ongoing transformations and having as a goal the redefinition of cultural practices. We are talking about social transformations, which are at the root of cultural transformations and which inevitably trigger innovation processes [1].

In this essay, we are interested in investigating some of the possible relations between design and digital humanities. In particular, we analyze the contribution that communication and interface design can bring to digital humanities. In a scene currently characterized by a heterogeneous set of activities and humanistic, technological, and cultural studies, the involvement of design seems confined to the development of digital instruments in accessing, exploring, and manipulating cultural data. Instead of this, the performative and interpretative character of design—together with its capability to structure and model—should be considered as the central feature of the study of and in the digital medium. In a context where “making” is acquiring a fundamental role in the production of new knowledge, transforming scholars and researchers into thoughtful professionals, design can make theoretical and methodological contributions to the definition of new heuristic investigation processes. Over the years, the research groups DeCH—Design for Cultural Heritage and DensityDesign, from the Design Department of Politecnico di Milano, have carried

out different works, matured through direct collaboration with research groups dealing with digital humanities. They have developed collaborative models for interdisciplinary research focused on the definition of new hybrid forms of thought, thanks to the sensitivity and tools set up by designers, computer scientists, and researchers in humanities. In this framework, the visualizations and interfaces stop being considered objects. They rather become the expression of a strong influx of new ways of seeing, thinking, and building with and through digital technologies [2].

As Elli states [3] (p. 907): “Data visualization and its practices have been used in several fields during the last decade [4]. This is due to its capability to give shape to complex phenomena and to make them accessible both to the public and to experts in the field. Humanities are no exception and have been experimenting with similar practices, at times leading to interesting and meaningful results [5], at other times pointing to challenges or mismatches [6–8]. In fact, as Druker states, practices of data visualization have arisen from disciplines such as statistics, empirical sciences, and business and have been shaped by them according to their needs. As those disciplines are so different from humanities, data visualizations need to undergo a process of criticism and adaptation in order to support humanistic inquiry, a process that gives priority to interpretation, ambiguity, inference, and qualitative over quantitative judgment” [9].

If we deal with the relation between image and visual narration, we cannot but refer to the concept of the Iconosphere: “the sphere which creates the set of images of a precise cultural context, of the technologies with which they are produced, developed, broadcast, filed, and to the social uses which these same images are subject to” [10] (p. 18). The design of communication cannot but take into account the social responsibility that ensues from this; the relation with social and philosophical positions, which rediscuss the terms of visual culture in contemporary society, becomes a necessity and an incentive to push data visualization projects towards a “value-oriented and mindful use” of the image, of the data, and of the narration that is being built up.

One can argue that, starting with the beginning of the last century, we have witnessed growing interest in the role of vision in disciplines (mostly belonging to humanities) traditionally not based on the role of images. Consider, for instance, historical studies and the documentary role of images or the establishment of visual anthropology. This makes even more interesting the possible synergies and relations with the disciplines of the project, historically focused on visual culture.

The British blueprint (mid-1950s) of cultural studies has shed light on the complexity and the contradictions of the dynamics of symbolic production. It is evident that the role of images has strongly influenced the processes of symbolic codification and de-codification. “*Cultural studies* have passed onto *Visual Culture Studies* an attention to the straightforwardly political dimension of academic research and the tendency to question distinctions and established rules—for instance the distinction between “high” and “low” culture (...) in order to include among the objects deserving to be analysed also the most popular and mass cultural forms” [10] (p. 22).

State of the Art and Literature Review

Bourdieu [11] affirms that the field of cultural production is not only related to production but also to a wider social context. He calls this the “field of power”. The value of the latter is its symbolic dimension. While the field of culture has relative autonomy, its boundaries are permeable, and this permeability is an interesting aspect of contemporary society. The challenge of the design approach is to intervene within these boundaries and rethink new forms of knowledge.

In contact with technology, the historical–critical approach creates languages. This aspect requires a re-reading, in a critical way, of the potential of the experience of knowledge and its forms of representation. Technology offers interesting tools to collect, to organize, and to express data in an innovative way; the task of design is to define forms and relations between technologies and content. According to Panikkar, design should transform the

“invasive” technological model in a relational model, which he calls “tecni-culture”, where people have an awareness of the potential of technologies and can take part in the experience of knowledge [12]. Fifty years ago, Licklider affirmed that every discipline linked to creative processes (and to the humanities too) in the future will be linked with information technology, contributing to its development [13].

In this paper, we will also tackle the field of digital humanities, a term covering a wide range of activities, from online preservation and digital mapping to data mining and the use of geographic information systems. Although human sciences have been slow to embrace the digital field, humanities and social sciences are currently the emerging domains using high-performance computers and the derivative interpretative tools.

Currently, in Europe, ten nations have embarked on a large-scale project to digitize arts and humanities data [14].

Therefore, with the emergence of new technologies, we change the way in which we teach and carry out research. Not only do the tools change but also the means of creating and transmitting the architecture of knowledge. This is why we not only speak of tools and methodologies but also of new forms of experiencing knowledge. In this field, the design approach can bring new visions and know-how.

In the transition towards a means of accessing knowledge where interdisciplinarity is the keyword, the linear learning process proves to be ineffective, while we assist in the emergence of a rhizomatic pattern. In this fundamental shift, the designers’ capabilities of pasting together the different findings are of high importance and are mainly visual. As with other disciplines, the humanities are increasingly expressing a specific interest in the “visual practices” that characterize the design process, recognizing visualization as a “sensory form of knowledge” [15].

The exponential growth of data and information visualization as a common, shared language in public communication domains (such as journalism and advertising) is making many branches of learning focus on the fundamental role of pictures and images in thinking.

Everything that we think of is based on pictures; concepts are perceptual images, thinking processes are the treatment of these images, and pictures are the main organizational devices in thinking processes [16]. The etymology of the English noun “insight” (latin: in-tuere)—often used to define the scope of information and data visualization—clearly reveals the relation between visualization and thought: to transform information into knowledge and insight intrinsically means to activate our visual senses.

The definition of information design in the domain of computer science and HCI also highlights the relation among pictures (visualizations), design, and knowledge processes: information design is the “design of external representations to amplify cognition” [17].

To reinforce the idea of visualization as a tool for thought, we use the definition of visualization as a transformation process within the data, information, knowledge continuum (DIK): “visualizations are not merely final outcomes of data representation, information and knowledge. Instead, they must be conceived as transformation processes within the DIK continuum. In fact, visualizations allow users to gather data, information, or knowledge (materials), visualizing them in an artifact is information, which can create new knowledge (objective) in the recipient” [18].

Especially when working with data and information in the domain of digital humanities, there is a need for a specific mode to manipulate the data: research on an explorative approach that overcomes the limits of the traditional tools and methods for visual analysis and exploration is ongoing and still in its early stages. Looking at the data from different points of view, without having a defined starting point; exploring different aspects of the data or the many dimensions of a phenomenon; embracing uncertainty and ambiguity, noise, and errors instead of trying to fix them—all these needs are evidence of complexity and constitute a challenge for the humanities and an opportunity for design scholars.

Historically, design has always dealt with complexity, with ill-defined or nasty problems [19,20]), by drawing from heterogeneous disciplinary fields and activating a trans-disciplinary circulation of concepts. In communication designers, this natural approach is

supported and reinforced by the ability both to make patterns visible and to take the points of view of different users. This is a user-centered approach that produces visual prototypes as cognitive tools: designers make problems and ideas visible, creating frameworks that give a visual meaning to complex information, and in doing so they can push beyond the direct mapping of quantitative data towards the visual narration of values and qualitative information that the humanities are seeking [21].

2. Information Visualization: Between Design and the Humanities

To explore the relationship between design and the humanities, we use the “manifesto” proposed by Del Nero [22] in 2019 as a possible critical platform. The latter represents a common ground reaffirming the role of information visualization in the field of digital humanities, as well as the contribution of design to shaping the narrative and the experience of access to knowledge. Thanks to this and to ten points, it is possible to establish a common vocabulary and method in order to create a collaborative trans-disciplinary environment. In particular, the convergence between the different areas working on the communication and valorization of cultural heritage enables us to mix praxes—i.e., quantitative with qualitative research, data with information, a general with a specific view—to enrich the experiences of people when exploring and understanding not only the content but also the relationships among it and the context, the uncertainties, as well as fragmentation.

The potentiality of mixing these different contributions is well translated into the practice-based research developed in actual projects and meta-explorations. From a general point of view, the selected cases show that pictures and visualizations are above all organizational devices, which work with the structure of concepts and phenomena, placing the elements in space and time and connecting them to show a pattern that often is a network.

In the following case studies, the challenge is to embrace the “horizontal variable landscape” as a metaphor to visualize, thanks to computational tools, documents as minimum units in a virtual space.

2.1. Case Study “Atlante Calvino” (Calvino Atlas)

The research project “Atlante Calvino: Literature and Visualization” (<https://atlantecalvino.unige.ch/> (accessed on 14 June 2023)) (Figure 1) was funded by the Swiss National Fund (2017–2020) and was developed by an interdisciplinary team of literary scholars from Unité d’italien de l’Université de Genève and information designers from *DensityDesign*, Politecnico di Milano. As Mondadori, the publishing house, holds the rights to Calvino’s entire oeuvre, they, too, took part in the research project.

Italo Calvino was born in Santiago de Las Vegas in 1923 and died in Siena in 1985. He is one of the most famous Italian contemporary authors and the experimental approach at the basis of his work makes him the perfect subject for this kind of research.

The analysis focuses on three aspects: dubitative text, setting places, and the shape of writing. These aspects are visually translated into interactive paths, which the user can follow and discover.

The main goal of the research was to link traditional literary criticism with visual methodologies in order to analyze complex systems. The researchers involved worked on new ways to create data visualization systems that support close reading [23], the method used in the interpretation of literary criticism.

Each path offers an analysis developed into three stages. The first one, by the title *Phenomenon*, focuses on more tangible aspects. For instance, in the case of doubt, all the occurrences related to fog (and its synonyms) have been collected; in the case of shape, all the lists have been selected. The second stage, by the title *Process*, tries to understand the dynamics at the basis of each phenomenon. Finally, the third stage, *Problem*, examines those issues that address the expression of each phenomenon linked to the process. Starting from these paths and stages, eight datasets and nine visual data processes have been developed. Each of them has a main view useful for scientific queries and an in-depth table with a

specific focus on the hermeneutic process. Each visualization is interactive and equipped with legends, search bars, filters, and captions.

This approach enables a systematic analysis of texts in a way different from traditional literature studies, i.e., by framing a critical topic through a selection of paradigmatic passages from the entire work of Calvino [24].

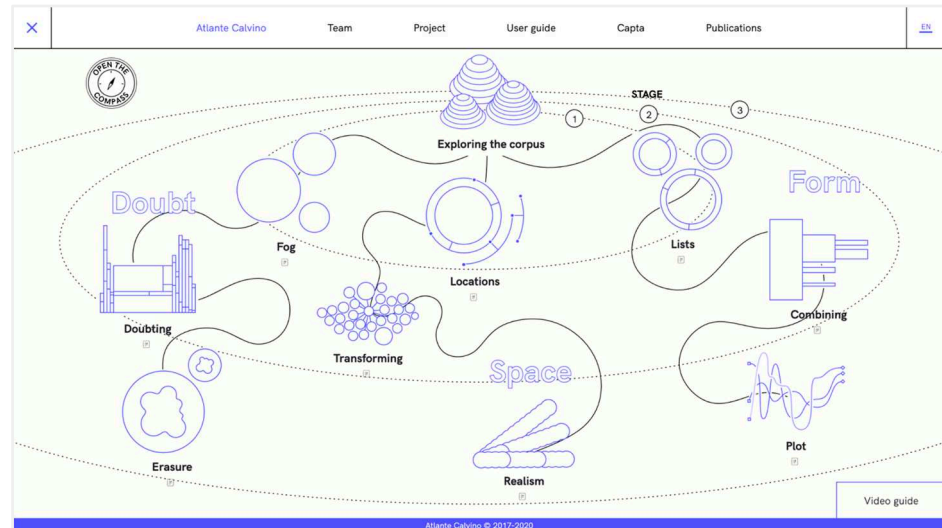


Figure 1. The visual index is the homepage of the *Atlante Calvino* project. All visual content of the project is accessible through the different interactive icons (Ángeles Briones, Beatrice Gobbo, Serena Del Nero, Tommaso Elli, and Michele Mauri).

The second visualization (Figure 2) is related to the path on Spas4ce; its title is *Transforming*, and it collects all the places where Calvino’s stories are set. Listing the places in his novels is a way to reflect on how Calvino represented reality.

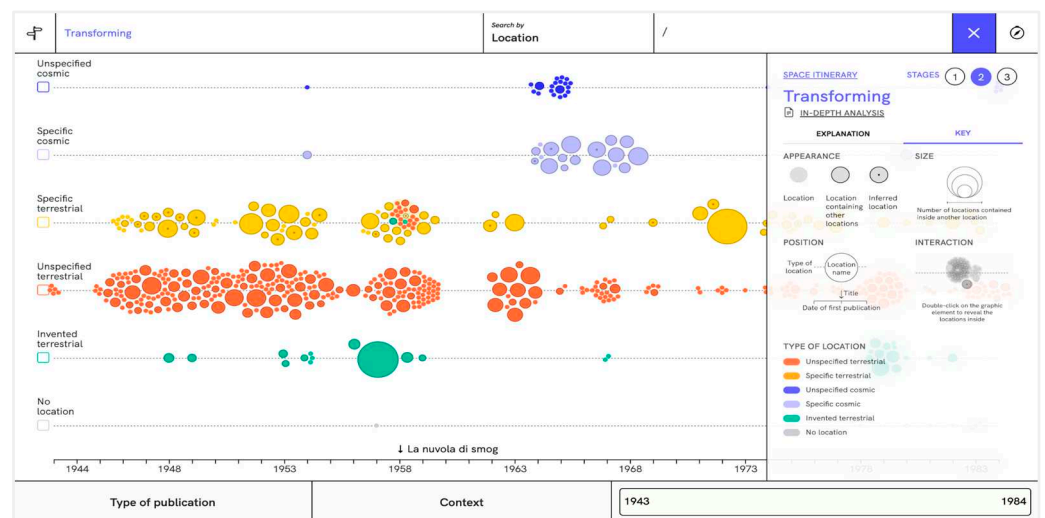


Figure 2. The visualization represents the places in the whole oeuvre of Calvino. Each circle corresponds to a specific place. The colors represent the six categories described in the text, while the dimension specifies the number of places located in a specific main area (Ángeles Briones, Beatrice Gobbo, Serena Del Nero, Tommaso Elli, and Michele Mauri).

The places are organized into three categories: *specific terrestrial* (they can be found by using geographic coordinates) and *no specific terrestrial*; *specific cosmic* (they can be found in the cosmos) and *no specific cosmic*; *invented terrestrial* (a generic space that does not exist,

although it is inspired by a real one) and finally *anywhere*. The places are represented as circles of different colors according to the different categories; on the horizontal axis, one can find the publication dates, while, on the vertical axis, the six above-mentioned categories are provided. The analysis of these data shows the relationship between Calvino and realism, as well as the gradual detachment from reality in his novels.

2.2. Case Study *Symbolum*

The project *Symbolum. Christian Symbolism Mystagogic Itinerary* (by D. Falzone and D. Ghiraldini, supervision: P. Ciuccarelli and R. Trocchianesi) shows interesting relational paradigms between design and the humanities, in terms of artistic content and design practice.

The goal of the project is to promote an important group of frescoes and paintings in religious buildings in Alto Adige. The work is developed on two levels: in the geographical context, through a system of scattered information, wayfinding, and graphic displays, as well as on the web through the realization of multimedia artefacts considered as training tools addressed mainly to teachers and researchers in the field of the history of arts. The basic research started with the collection of a significant number of images referring to sacred symbols in the paintings and frescoes in the target area. The project was developed thanks to the constant dialogue between designers and theologian and art critic Paul Renner.

Documentality theory considers works of art as a particular type of document called “registered artefacts” [25]. Therefore, the work of art is, first and foremost, a material object, a handmade product characterized by a specific registration. In this case, the works included in the *Symbolum* archive are a semantic vehicle, i.e., they “bring” other things, as [26] would say. The challenge of the project is to create infinite narrative itineraries from the symbolic landscape available. This means creating hypertextual visual stories and developing a language able to give shape to a specific “poetics”.

Visual poetics is the branch of cultural and visual studies focusing on visual and painting rhetoric. Rhetoric can be found in any type of figurative image. An image is “of” something; therefore, content is the matter or meaning contained inside a representation. There are two main sources of content: firstly, events, scenes, and real people (facts); secondly, human imagination (fiction) [27]. The words “content” and “object” (in the philosophy of arts) are often used in an interchangeable way, but between them one can see a difference: the art object.

The project *Symbolum* plays with the different levels of interpretation of manifest and latent content. Barthes introduced the terms denotation and connotation to distinguish between meanings of the first level (literal) and of the second level (associative). These, in their turn, originated a third level of meaning, which he called myth [28]. One can stress the close parallelism between Barthes’ thought and the historical critical methods of analyzing art called iconography and iconology. According to Panofsky, iconography is descriptive and classificatory, while iconology is interpretative. In this project, we have focused on the iconological discipline connected to design as the interpretative feature is essential to allow more levels of experience of the cultural heritage. Moreover, according to Panofsky, there are two levels of interpretation, factual and expressive: by “factual”, we mean the recognition that a painted object is really an object; by “expressional”, we mean the way in which it was painted [29].

The interactive digital device *Symbolum* gathers 230 symbols, 125 meanings, 6 semantic areas (God, Christ, Good, Evil, Man, Church), and 5 visualization modes (alphabetic order, semantic density, spatial distribution, timeline, typology). The goal is to succeed in creating new tools for the study and the learning of the history of arts. The users—be they students or teachers—can create customized itineraries to discover symbols and meanings in the collection of works of art. From this perspective, it is fundamental to single out the modes and processes of the choice, the relation between symbols and the geographical context, the relation between symbols and meanings, the relation between symbols and the timeline, and also the possibility to choose more images and symbols and compare them. The system is based on a “horizontal” synthetic visualization (map) with the possibility of going

“vertically” in depth (files). This configuration allows a type of browsing based on the possibility of reconfiguring the map for each query in a dynamic way, which generates a different iconographic landscape each time (Figure 3).

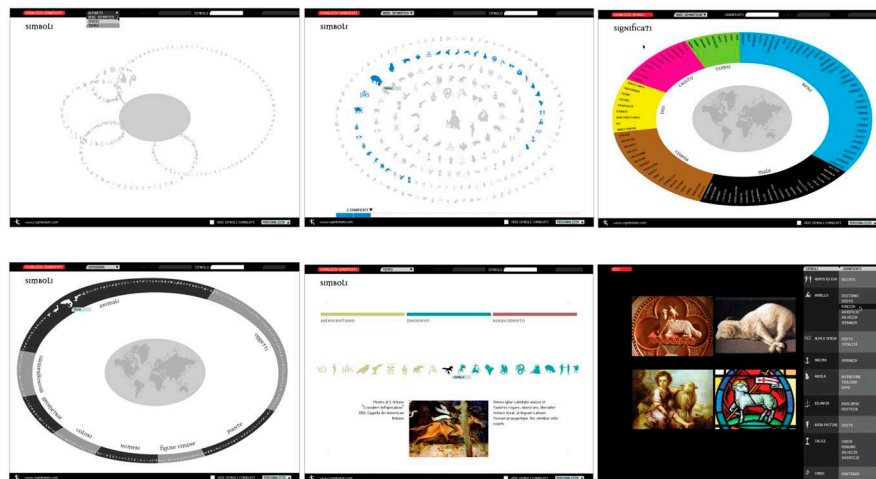


Figure 3. Some screenshots of the multimedia tool *Symbolum* (by D. Falzone e D. Ghiraldini, supervision: P. Ciuccarelli, R. Trocchianesi, P. Renner).

Humanistic skills—specifically, the collaboration with theologian and art critic Paul Renner—have come into play in three moments: (i) during the critical analysis stage, through the instruments that analyze and fathom the complexity of Christian symbolism, i.e., the spatial, temporal, and cognitive dimensions; (ii) during the meta-design development stage, in the choice of the artists and works that support the understanding of the representation of the divine mystery in contemporary art and to build a repertoire of inspirational references for the graphic layout of the project—these references have been collected according to seven styles and design attitudes, namely hiding/confounding, complicating, simplifying, neutralizing, mixing, decomposing, and stratifying; (iii) During the stage of creation of the semantic infrastructure for the supervision of the research process, encompassing the development of the design key that defines the previously mentioned six semantic areas [30].

3. People at the Center of the Crossroad of Digital and Humanities

The other strategic role played by design—specifically, interactive data visualization as well as interface design—is related to the people involved in the communication action. The technological side of digital humanities [31] provides fertile ground for the activation and mediation of participative processes [32]. The possibilities supplied by the digital interactions within the heritage field, in situ, online, or *onlife*, make the experience of *cultural* users meaningful, and, according to Ausubel’s idea of associative learning and knowledge acquisition, impactful [33]. Furthermore, they often are a chance to improve accessibility and inclusion at a social and individual level, and they foster the sharing of implicit knowledge from *experts* to the wider public.

3.1. Case Study Aspi

In the following, we present the case of Aspi, which stands for Archivio storico della psicologia italiana. Le scienze della mente online (Historical Archives of Italian Psychology. The sciences of the mind online, <https://www.aspi.unimib.it/> (accessed on 14 October 2023)).

In this case, the intersection between humanistic and technological knowledge is mediated by the design component, which finds in interactive data visualization a tool to create documents, archives, and primary historical sources. The latter become accessible by contextualizing them within a framework that makes them comprehensible.

Firstly, the historical–relational dimension among people, places, and events studied by the humanists (historians and archivists) and narrated by the archive is made explicit through the visual interface. The interactive and dynamic interface graphically showing the protagonists of the history of Italian psychology and the “quality” of their relationships is a means of making such connections visible (Figure 4).

In fact, this generous interface [34] brings to the surface the depth of human and scientific ties and relationships by translating the data and recurrences collected in a database and fed by the material in the archives. A sortable timeline and a georeferenced map (the primary historical sources exploring the lives, letters, and studies of mind sciences’ scholars) are the other interactive and visual tools that, using archival information, allow even non-specialist audiences to delve into the archives and find their way around them. The experience of the navigation, accessibility, and findability of content was tested on users to verify its effectiveness, efficiency, and pleasantness [35], providing significant feedback with reference to the adoption of visual and narrative models in communication. In particular, while experts preferred the hierarchical interface, laypeople preferred exploration enhanced by the interactive data visualization model.

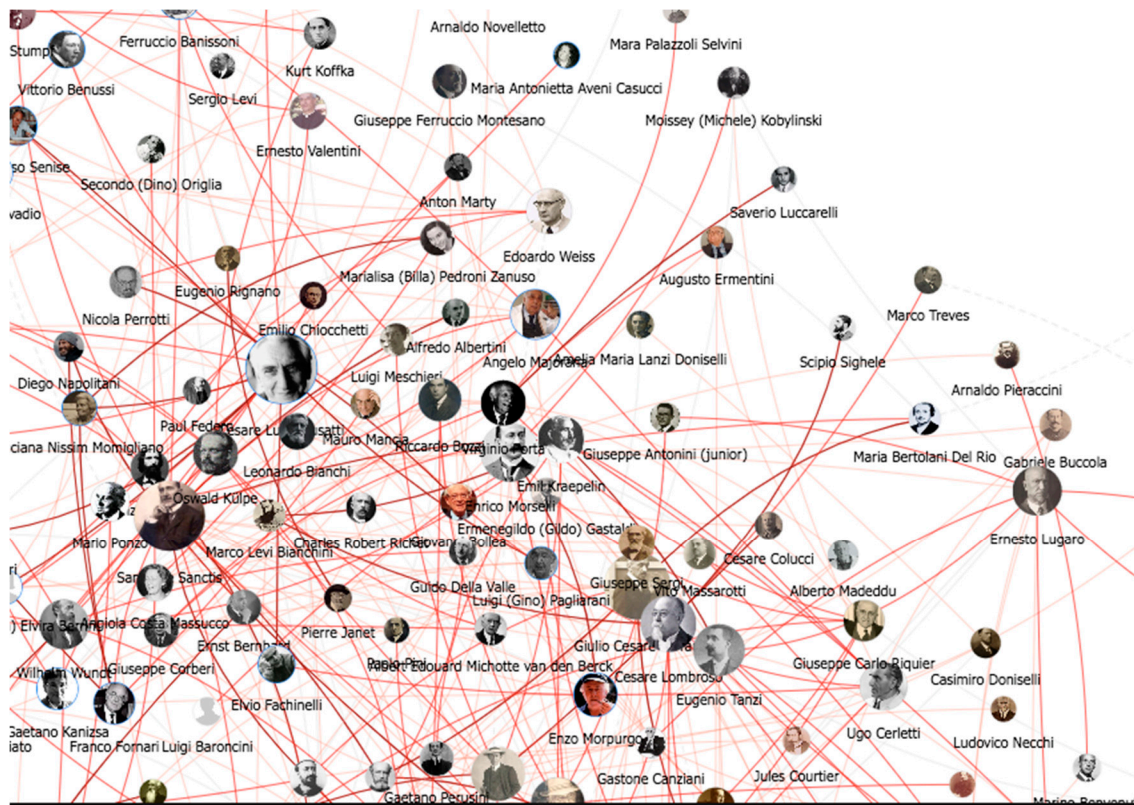


Figure 4. Interactive data visualization of the Aspi archive platform (by L. Bollini and S. Radice, with P. Zocchi, D. De Santis, Aspi) [36].

3.2. Case Study MilanoAttraverso

A second meaningful experience is represented by *MilanoAttraverso. Persone e luoghi che trasformano la città* [People and places that transform the city], developed in 2018 as an initiative by ASP Golgi Redaelli and funded by the Cariplo Foundation. The project’s aim is to be “an open path, a meeting place for different purposes, a surprising journey through Milan’s past, present and future (<https://www.milanoattraverso.it/> (accessed on 1 September 2023))”. It also is a significant improvement in the field of (digital) archives, collecting documents and historical sources in the Milano city area [37]. The challenges in designing the portal were related to the following issues.

(a) There were 43 different institutions collaborating remotely with the *MilanoAttraverso* online platform. The subjects responsible for populating the shared database needed to be completely independent in the process of digitizing the sources and documents from their own archives following a common minimum standard. The activities that had to be carried out were uploading documents and creating curated cards through the back-end interface narrative, cataloguing sheets, and georeferencing the sources. Moreover, links and relationships between the single entries and the institution repository had to be created and documents had to be labeled according to categories and tags.

(b) The people involved were mainly from the humanistic field, i.e., historians, archivists, and librarians, and shared a relatively negative attitude towards digital technologies. Different graphic approaches were adopted to overcome the cognitive friction among the participants and the internal stakeholders, as well as in the participatory activities and qualitative assessment. Visual facilitation, sketched wireframes (low fidelity in terms of final coded interface/front-end, but with a strong look&feel impact) were explored and successfully adopted to make the co-design workshops accessible to future users such as archivists and curators (Figure 5).

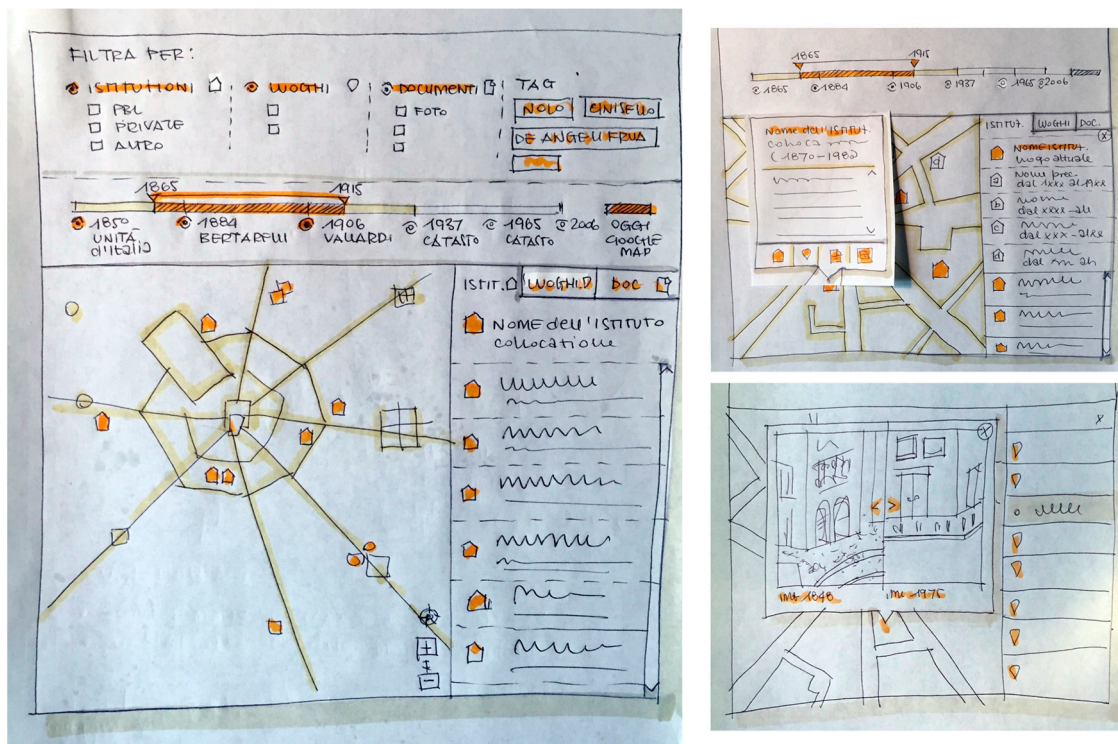


Figure 5. Sketched wireframes of the visual interface look&feel (L. Bollini, S. Radice, F. Sturaro, and M. Zonca).

The project was then assessed and iteratively redesigned, according to human-centered, persona-based, qualitative methods, e.g., qualitative and in-depth interviews and user tests. This process was carried out to evaluate and improve the outcomes and the overall experience among final users, as well as of editors and internal stakeholders.

The collaboration with design experts—scholars and professionals—as mediators between the technical side of the project and the “humanists” from the archive network turned out to be fruitful. The “humanists” could pass on their knowledge and express their perplexities “at the table”, improving the technical side and the overall quality of the project, thanks also to a shared feeling of participation and belonging (Figure 6).

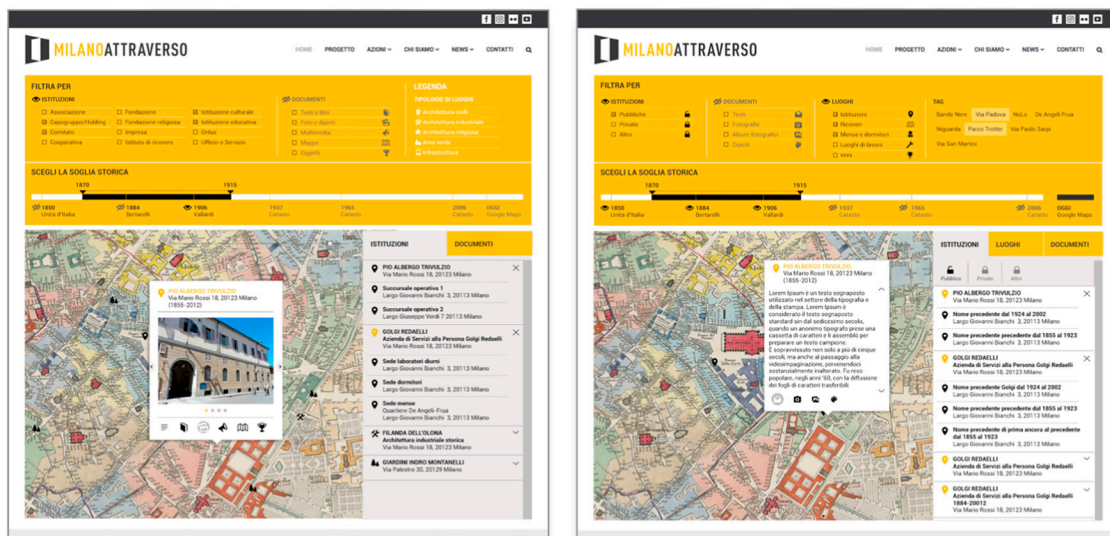


Figure 6. Interactive geobased-data visualization based on historical cartographies (L. Bollini, S. Radice, F. Sturaro, and M. Zonca).

4. Discussion

In the heterogeneous richness of the practices and the fields explored, each project is a specific proposal and a strategic vision. In fact, the projects are shaped by a common approach based, on the one hand, on a human-centered vision of communication processes and, on the other, on the role played by design in bridging and improving the overall experience in the field of digital humanities.

The projects adopt a process that goes through, from the very beginning, a discovery stage oriented as much as possible towards the involvement of people, considering not only the final users but also a wide range of stakeholders. The aim is to make implicit knowledge embedded in information, documents, and data visible and understandable, as in the case of *Atlante Calvino* or the *Aspi Archive*.

To explore possible scalable paradigms, the HCI also verifies the hypotheses embedded in the designed solution. This is done through the evaluation and assessment of users, i.e., qualitative research, user testing, and narrative interviews, to gain insight into people's expectations, behavior, and feedback.

The projects map and systematize, in a bottom-up manner, issues common to many areas of the digital humanities and deductively define possible transversal patterns to propose the possible best practices.

At a more systemic level, they address the need to find a meeting point between technological aspects, platforms, and functionalities that support digitization processes and the needs and methods of the humanities and historical disciplines. In this sense, design plays both a mediating and translating role, especially in the adoption of visualization processes. As mentioned above, the selected cases are also significant for their focus on internal or secondary stakeholders, i.e., cultural operators, curators, scholars, and widespread and collaborative editorial staff, in order to provide these professional figures with easy-to-use yet powerful and scientifically rigorous tools.

For the choice of the technological platforms, i.e., the more specifically digital and interactive side of the selected projects, an open-source perspective is adopted, i.e., development environments based on non-commercial technologies and Linux-based collaborative programming languages. This approach considers not only the technical requirements, but also the sustainability of cultural heritage valorization and management—in particular, easy maintenance; the improvement and portability of formats, data, and content; and economic sustainability in view of the scarcity of funds and investments in cultural

areas. Moreover, at a conceptual level, the democratization of knowledge, the access to knowledge, and the participation in processes of cultural understanding is also considered.

Especially in the case of Aspi, the results were remarkable also from a technical point of view. The project adopted a strategic approach, mixing different technologies and combining their potential. The original database developed on the Ariannaweb archival system (and interfaced in Typo3) was downloaded, normalized, and migrated to the open-source Collective Access platform, which conforms to the main standards in Italian public archives (Sias, Siusa, Portale strumenti di ricerca online e Archivio Digitale, SIRBEC, etc.). The latter was integrated with a servlet/plugin developed ad hoc for WordPress (AchiUI Archive User Interface), the main web publishing platform used in the commercial sector, which is easy to use, customize, and index. The project therefore received help from a specialized structure for archival data management and an accessible and user-friendly interface both for publishers and archivists, as well as end users.

The system was then enriched with a series of graphic libraries that made it possible to translate historical data and editorial content into dynamic visualizations fed by the information inserted and displayed in real time.

The solution developed for Aspi was then scaled, packaged, and commercialized by Promemoria SRL, an Italian company specialized in Collective Access installation and design. The same approach was then adopted for *MilanoAttraverso*, where, in addition to the integrated interface system based on WordPress, a module dedicated to geo-localized information on historical pre-geodetic cartography was developed.

5. Conclusions

Humanistic education helps to apply new ways of thinking to problems that cannot be analyzed in a conventional way. Each great work (literary, philosophical, psychological, or visual) makes humanists want to ask questions, in order to see the whole picture. This way of thinking is what is needed when approaching difficult questions. Moreover, design education—in particular, *design-driven education*—aims to create innovation, draws sceneries, and exploits technical and critical skills that analyze processes and tackle problems in a systematic way. The virtuous relation between the two scientific approaches can trigger interesting models of collaboration, which can bring significant added value to projects characterized by a high complexity gradient.

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