

DESIGN CULTURE(S)

Cumulus Conference Proceedings Roma 2021

Volume #2

ARTIFICIAL ARTIFICIAL
LANGUAGES
LIFE LIFE
MAKING MAKING
NEW NORMAL
MULTIPLICITY
PROXIMITY
RESILIENCE
REVOLUTION
THINKING THINKING

**Design Culture(s)
Cumulus Conference
Proceedings Roma 2021**

Volume #2

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DESIGN CULTURE(S)

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Volume #2

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of Art and Design Education and Research

Rome 2021

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DESIGN CULTURE(S) | CUMULUS ROMA 2021
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The chain reaction. How to design a process for transforming museums by rethinking the role of personnel

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Abstract | The museum system is changing. The change affects the approaches, methodologies and practices involved in all the museum's established functions: research, acquisition, conservation, communication and exhibition of man's cultural heritage and environment. In this renovation process, to which the adoption of digital technologies has made a significant contribution, the design practice becomes more central every day. The involvement of different types of audiences led to a significant disconnection between the museum and its operators. When not involved in the transformation process, the museum personnel remain estranged, isolated by a use of languages unfamiliar to them. In this context, can the activation of co-design processes lead operators to be triggers in the management of the museum renovation process? Based on the preceding assumptions, is it possible to design an adaptive process to enhance the contemporary museum?

KEYWORDS | MUSEUM TRANSFORMATION, INVOLVEMENT OF PERSONNEL, CO-DESIGN, DESIGN PROCESS, ADAPTIVE SYSTEM

1. Introduction

In their tangible and intangible heritage, museums preserve traces of history, collective memories, elements of material culture that contribute to defining cultural identity, locally, nationally and internationally. With education, study and enjoyment as their primary purposes, museums play an important role in promoting knowledge by sharing their documentation and collections; furthermore, they also encourage civic pride.

As a “Non-profit, permanent institution in the service of society and its development” (ICOM, 2017) the museum is strongly related to the historical geographical social and political context (Mairesse, 2018). For this reason, the significant socio-economic changes that occurred in the last twenty years led to important transformations in museum practices. Changes affect approaches, methodologies and practices in all the established functions of the museum: research, acquisition, conservation, communication and exhibition of man’s cultural heritage and environment (Sandahl, 2019). In this process of renewal, design practices are becoming increasingly central (ICOFOM/UNESCO, 2018; Irace, Ciagà, Wolf & Trocchianesi, 2014; Maroević, 1998).

The exhibition project originally intended to study and define the relationship between architecture and museum collections by designing the environment to display the heritage taking into account both the layout of the objects and the configuration of the exposition. In this situation the architect received the description about the museum collections from the curator, who was responsible for the research on the subject.

The focus of the exhibition project, centered on the relationship between space and collection, was later extended to the relationships between man, collection and space. The project – tailored to specific categories of visitors – involved curators and educators who worked together to define different profiled paths, based for example on the selection of languages, ages or on a particular disciplinary area of interest. Furthermore, the wish to allow the visitor more freedom, led the designer to provide a set of points of interest among which the visitor can move independently and modify his path in real time. The interaction between the visitors and the museum’s collections becomes more direct: visitors can independently choose the objects to explore and how much time to spend on each artifact.

The visitor’s involvement depends, of course, on her individual sensitivity and culture, but it also varies according to the way in which the objects are displayed and communicated. By interpreting the aims of the curators and by gathering all the information about the collection, the designer can emphasize one or more aspects of each piece, and define how visitors can interact with it, considering both the scientific and the emotional spheres. Each object on display represents in and of itself many different aspects: historical evidence, an example of a production process, a scientific discovery, a piece of memory and much more.

The use of digital technologies has made it possible to develop a multiple and simultaneous experience that can intrigue an extended audience with different needs and expectations. The visitor experience, led by personal devices, or mediated by the use of

proximity systems, offers the visitor an immersive and synesthetic experience (Bowers et al. 2007; Dal Falco & Vassos, 2017; Sayre & Wetterlund 2008; Villeneuve, 2013). A subsequent phase that expands the boundaries of the design process is the use of coding. The IoT and the use of interaction design shift the focus towards the study of the interaction between the visitor and the cultural heritage collected in the museum. The use of augmented objects defines new opportunities of experience between the physical and the multimedia fields. These tools make it possible to enjoy an interactive environment in which the visitor is directly and physically involved in an experience of knowledge and discovery that can enhance the cultural heritage through a historical contextualization or a futuristic simulation (Claisse, Ciolfi & Petrelli, 2017; Hornecker & Stifter, 2006; Not et al. 2019; Zancaro et al., 2015).

2. Participatory strategies as practical ways to enhance traditional cultural institutions

The researches on interaction design and visitor experience bring museum studies to propose a possible transformation of this context. This research path began in the '90s with a new phase of awareness for museums. A decrease in the audience, due to the lack of correspondence between the multicultural/digital world of people at large and the perception of a traditional institution frozen in the past, led curators to reflect. Their own programs were focused on a well-established segment of visitors, with specific cultural interests and civic values. They were generally older people with a high cultural level and little diversity, while increasing segments of the population were turning to other sources of entertainment, learning and communication (OECD/ICOM, 2019).

Though they also worked on reviewing information and theoretical content, museums identified participatory strategies as practical ways to enhance traditional cultural institutions to attract a wider audience. Visitors had to be actively engaged as cultural participants and not be considered as merely passive consumers (Moura et al., 2011).

For this reason, visitor-centered museums focused on promoting participation by diversifying and enhancing the visitor experience. This goal, which supported both the educational and recreational role of museums at the same time, was promoted in different ways by involving a plural audience – young school children, advanced students, general visitors to the locality, international or national tourists, or specialist researchers – in different practices and processes (Giaccardi, Palen, 2008; Anderson, 2004).

Below is a description of some of the most common practices used by museums to involve, broaden and diversify the audience, illustrated by some significant examples.

Exploring the sciences through wonder and surprise

These experiences, designed and developed within science centers and children's museums, since the Sixties and Seventies, seek to educate a greater range of people, focusing on entertainment and on the direct involvement of the visitors, in particular children. In this type of museum – of which the San Francisco Exploratorium, founded in 1969, is considered a paradigm – the exhibition project relies on interactive engagement, leveraging wonder and surprise to convey learning to the visitor through a recreational approach to the exploration of natural science phenomena and technology, making science visible, touchable, and accessible to a wide variety of people.

Extending Human Rights by improving accessibility and inclusion

The “museum for all” focuses its research on the exploitation of the visitor experience for an expanded audience, placing keywords such as accessibility, inclusion and usability at the center. Of significant importance in this field is the project coordinated by Corey Timpson for the Canadian Museum for Human Rights in Winnipeg. On this occasion he wrote the Canadian Museum for Human Rights' inclusive design and accessibility guidelines. They can be consulted, updated and implemented online by the community.

Offering opportunities of meeting by rethinking guided museum services

The project Multaka: Museum as Meeting Point – Refugees as Guides in Berlin Museums works on widening the public and on a different experience of the heritage. Involving refugees in the museum experience, the project trains Syrian and Iraqi refugees to be museum guides, so that they can provide guided museum tours for other Syrian and Iraqi refugees in their native language. Facilitating refugee access, the Multaka project, which in Arabic means “meeting point”, helped refugees to find social and cultural points of encounter and to increase their participation in the public sphere. Started in December 2015 with the involvement of four Berlin museums, the project very successfully became an international programme with a huge public.

Collecting testimonies by redefining exhibition paradigms

Museums established with the aim of commemorating and passing down an event or a socially relevant local phenomenon also focus on the participation of visitors. In this case the contribution can come through the donation of an object/personal effect or through the sharing of a direct or indirect testimony on the topic. In the latter case, the testimony contributes both to the definition of the exhibition and the creation of a local or global community. Examples of this type are war museums, such as the Italian War History Museum in Rovereto which since 1921 has been dedicated to the experience of the Great War, the “Museo Audiovisivo della Resistenza” in Fosdinovo, inaugurated in June 2000, about the experience of resistance on the Gothic Line, or the most recent one in Sarajevo, the “War Childhood Museum” founded in 2017, which tells the experience of war from the point of view of a child.

All the practices of involvement described here are processes that aim for greater visitor engagement in the transformation and renovation of the traditional museum.

The interpretation of the new needs of an ever-widening audience together with the adoption of digital tools and technologies encourages museum curators to open up to a multidisciplinary community of experts. On the one hand, the definition of the exhibition cannot prescind from the multi-transdisciplinarity of its contents, on the other, the experience requires the input of experts in the social sciences such as ethnographers and anthropologists as well as the contribution of legal and administrative offices, and many other professionals.

Although the actors in the process are growing in number and range, the design process of the exposition still proposes the five most common stages: Planning, Research/Interpretation, Design, Production and Installation.

The process is shared with other experts only in the planning, research and interpretation phases, which can be summarized with the term “definition phase”. But “museums, should add a new exhibition paradigm that does not resolve issues into a pre-determined message, is proactively multidisciplinary, and has embedded multiple worldviews without editorial judgement”. (Macleod et al, 2018, pp. 34-44).

This format, which involves all the stakeholders – museum curators, visitors, personnel, designer facilitator, or other experts –, could lead to collaborative solutions that can reflect personal ideas and lead museums to act as agents of change in their socio-geographic context.

This process, generally known as co-design, finds its references in a much wider practice used both in public administrations and in business contexts.

3. The involvement of different stakeholders in co-design processes with citizens and companies

The involvement of different stakeholders in a project is a common practice in the field of design. Methodologies that relate the designer to other stakeholders are usually linked to the Scandinavian tradition of Participatory Design (Kleinsmann & Yalkenburg, 2008), although it is possible to trace some foundations in authors such as William Morris and Gregor Paulsson (Holmlid, 2009).

This field is rich in approaches identified by different shades of meanings, such as: participatory design, co-creation, co-design, etc... One of the most widely-shared definitions in academic literature is the one by Sanders and Stappers (2008, p. 2): “Co-creation is a very broad term with applications ranging from the physical to the metaphysical and from the material to the spiritual, as can be seen by the output of search engines. By co-design we indicate collective creativity as it is applied across the whole span of a design process [...]”.

In Urban Planning, the first experiments and theories were shared in the Sixties. According to Kamacı (2014): “While it is commonly accepted that citizen participation is not a tool but the main goal of the urban planning, there is almost universal uncertainty as to the best way of citizens’ involvement in urban planning.”

Though the real effectiveness of the process is questioned by some (Wallin, 2013), there are many different tools that can be adapted to different situations and goals in urban planning. Some areas of intervention for participatory processes in urban planning could be, for example: the redevelopment of abandoned buildings, the conversion of a district, the revitalization of a green area. Whereas the tools are divided, more specifically, into three different types: exploratory, conceptual and deliberative.

The first group includes, for example, established formats such as focus groups or world cafes. In the second group there are tools such as design laboratories or open space technology. The third group includes methods for collective decisions, such as informed surveys or public debates.

The documented examples of urban regeneration processes through participatory design are numerous and it is not always possible to define their importance. To name just a few we might mention: “Coltivando”, the university community garden of the Politecnico-Bovisa campus (Meroni, 2013), “the MIL project”, focused on the physical and social regeneration of buildings from the 1970s in the city of Malmö, or “La Kumpania” an intercultural project designed to connect Roma and Italian women through food and cooking traditions, to resolve problems of conflict in the complex area of Scampia (Naples).

The involvement of different stakeholders is not a prerogative of urban planning alone. More recently, this approach has also been used by companies with the intent of boosting innovation processes, strategically reorganizing the company or imagining new solutions and services, especially through the methodological tool of design thinking (Beckman & Barry, 2007; Leavy, 2010; Martin, 2009; Ward, Runcie, & Morris, 2009).

Design thinking is a methodology that has been developed by many authors with different points of view (Cross et al., 1996; Badke-Schaub et al., 2010) and has the merit of extending the practice of design beyond its traditional sphere (Brown, 2008).

One of the fundamental assumptions of design thinking is precisely the collaboration between people, bearers of different knowledge who cooperate to achieve a result that must have economic and technical feasibility and desirability for the user.

There are many examples of the use of design thinking by companies in different sectors. They include the case of PepsiCo (Adi, 2015) in the packaging sector, for example, or Deutsche Bank in the field of financial services (Vetterli et al., 2016) and IBM as a company with high technological content (Lohr, 2015).

The sequence and the development of a participatory process changes according to the fields of intervention and the tools used.

Although it is not possible to find a single key of representation, since each case is characterized by many different variables – from the goals, to the tools that are used, to the different personalities and areas of expertise involved – we can try to trace some models that schematically synthesize the main phases (Fig. 1).

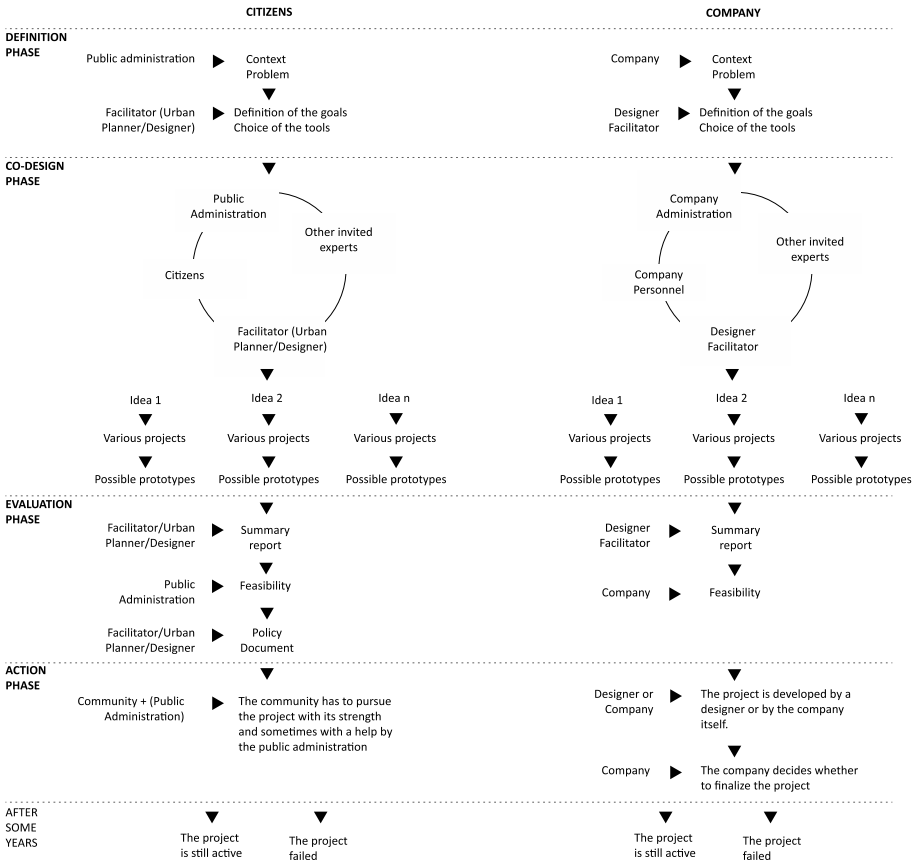


Figure 1. Co-design processes referred to citizens and companies.

As Shown in Fig. 1, excluding stakeholders and tools, the two processes are quite similar in the first two stages (Definition and co-design phase). The diagram intentionally omits timing information because they can vary according to the type and the complexity of the problems to be faced. The co-design phase, for example, can be unique, but it can also be repeated several times with the same or with different stakeholders.

In the evaluation phase of the first process – the one referred to citizens – the facilitator usually prepares a summary of all presented projects, then the public administration can make an assessment of the submitted proposals and define their feasibility and their technical requirements according to the regulations. Finally, the facilitator delivers to the community a policy paper that defines the guidelines. At the end of the process, often supported by the public administration, it is usually the citizens who carry out the approved projects.

In the second process – the one referring to companies –, after the designer-facilitator delivers a summary document that collects the best ideas, the company itself decides whether and how to carry them forward. In this case, a project assignment could be entrusted to the designer, or the development and realization of the idea could be handled by the company itself.

4. Co-design processes in museums

The cultural heritage and museums in particular may also be considered as stimulating fields where we can find experiences of participation of different stakeholders. These kinds of interventions usually aim to create a network of people to improve the museum experience and to expand the audience with which to share the material and immaterial culture preserved by the museum.

There are many people that can be involved in these kinds of activities: organizers, designers, museum personnel (both the scientific and technical staff), visitors and an extended network of people involved in the museum's activities.

An interesting co-project based on a three-year research study was developed by the Planetarium and Science Museum of Rio de Janeiro City and the Pontifical Catholic University of Rio de Janeiro (Moura et al., 2011). The project originated with the aim of renewing some of its spaces, services and installations to offer a visiting experience suitable for many types of users. It began with an ethnographic study, a co-design workshop and a Blank Model prototyping session. "Together with children, teenagers, teachers, designers, computer scientists, and astronomers, amongst others" the experience aimed to "explore collaborative exhibits; interact multimodally; immerse in collective play; co-construct knowledge and share ideas about astronomy and other related sciences; and participate in mentorship networks together with other visitors and museum staff" (Moura et al., 2011, p. 152). During the co-design workshop, participants generated a great number of ideas. The most frequent insights were: "Create an immersive experience" and "Provide interactivity". At the end of the experience, the most interesting ideas were prototyped.

Another case study based on co-design processes in museums is *Museumix* (Rey, 2017). The format, invented in 2011 by Stéphanie Bacquère, Samuel Bausson, Julien Dorra, Diane Dubray, Yves-Armel Martin, Christophe Monnet and Marie-Noéline Viguier, and repeated

every year, consists in a three-day immersive co-design workshop that aims to reinvent the way in which the museum's contents can be presented to the public, by connecting with the museum staff and interacting effectively with other professionals. Museomix has involved more than 1000 participants for each year of activity and many museums around the world. This format has several goals: exploring new possibilities for the museum, imagining new ways to welcome visitors and interact with the collections, integrating the maker and digital cultures into the museum institution, opening the museum to the community through a new type of collaboration (companies, schools, artists), connecting the local culture with the global network of Museomix, training the staff to develop new skills and combine their know-how with that of other professionals. The basic team is composed of communicators, developers, designers, content experts, makers and facilitators. Museum personnel and visitors can interact with the working group in every moment. After the three days of intensive co-design activity, the teams share their prototypes with the other teams, as well as with visitors. Feedback is provided through an evaluation document. Finally, the projects can be shown in the museum exhibition as simple prototypes, or they can be developed, become stable, or simply be abandoned.

From further investigation of this case study, in interviews with some of the curators directly involved in the Museomix experience, we discovered that many of the projects would involve the visitors in an interactive experience. Furthermore, in most cases, the projects were abandoned immediately after the co-design experience or several years later. A restricted number of prototypes have been developed and are currently shown in the exhibition. Some of them need maintenance or a renewal.

A simplified model of the co-design process in a museum can be represented by the diagram in Fig.2. The process itself is very similar to the one referred to the citizens and the one related to the company, but in this case, there are some changes in the final stage of the process. Projects, in fact, can be proposed by many different stakeholders (co-design phase) and developed by a restricted number of people (curators, designers, technical staff). This leads to a great initial effort to have rough prototypes at the end.

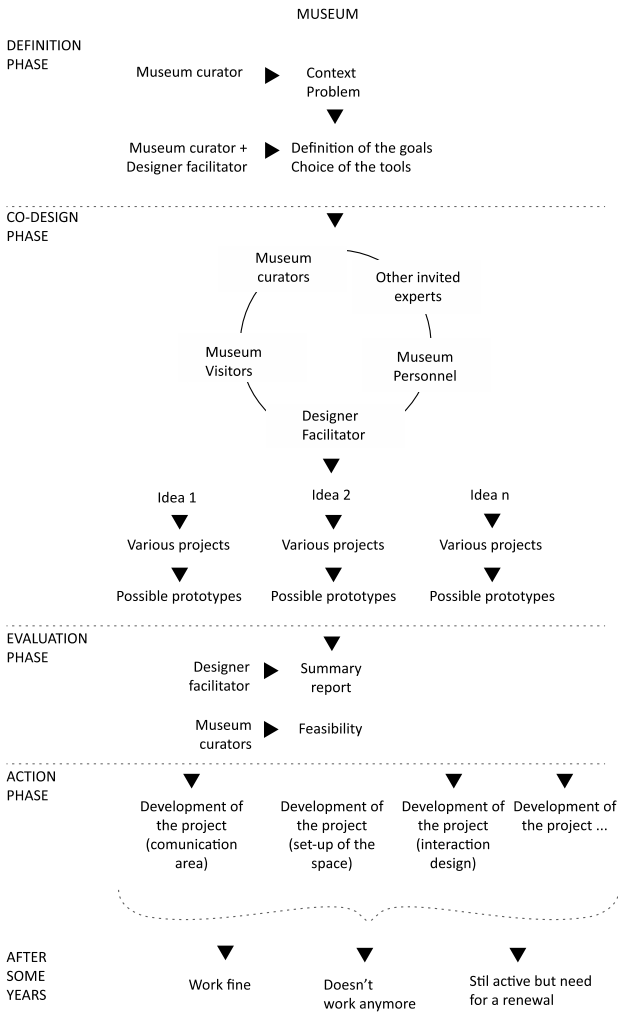


Figure 2. Co-design processes in museums.

Although there are many positive aspects to a co-design process, there are also some limitations. For example, at the end of the process, though many ideas are considered, only a few of them will be developed and displayed in the museum. Furthermore, these projects, usually related to the involvement of the visitor in an interactive experience, often have to be updated. Furthermore, the maintenance or the renewal of the technology used in these kinds of installations must be carry out by professionals with specific expertise. So, during

the last few years, many design studios have developed more and more specific device apps, multimedia tables or augmented reality objects for experiencing the heritage.

On the one hand, this has led to the involvement of different types of audiences, but on the other, it has caused a significant disconnection between the museum and its operators (Not, Petrelli, 2019; OECD/ICOM, 2019; Wolf et al., 2015).

If not completely involved, the museum personnel remain estranged, isolated, due to the use of languages they are unfamiliar with. To ensure that the museum personnel becomes aware and engaged, it is important that they be more involved. Participating in the co-design process can be a starting point but is not enough.

5. Transforming museums by rethinking the roles of the personnel

Museums, strongly linked to their historical, geographical, social and political context, represent possible fields for enhancing local identities. They preserve heritage traces of history, collective memories and elements of material culture in which citizens can recognize traces of their origins. Places for dissemination and sharing of knowledge, oriented towards education and leisure, museums could be configured as new hubs of a possible cultural network, strategic points that recognize the potential inherent in updating the museum experience to connect to a wider network on the territory. The museum opens up to the local community and considers new public and private actors with which to collaborate on virtuous projects, it opens towards new audiences in integration projects aimed at defining a wider community. But if the opening process does not include the network of professionals and the personnel working within it, the museum risks missing a great opportunity.

The involvement of the personnel in co-design processes in museums would give solidity and durability to the entire process of transforming the museum. The personnel, always present, can contribute to the process starting from the first phase (Fig. 3) by contributing to the definition of the state of the art. Participating in sharing the tools and objectives that will be used in the co-design process creates awareness of the problems identified as a priority by management and curators, and of all the information that constitutes the context of the project.

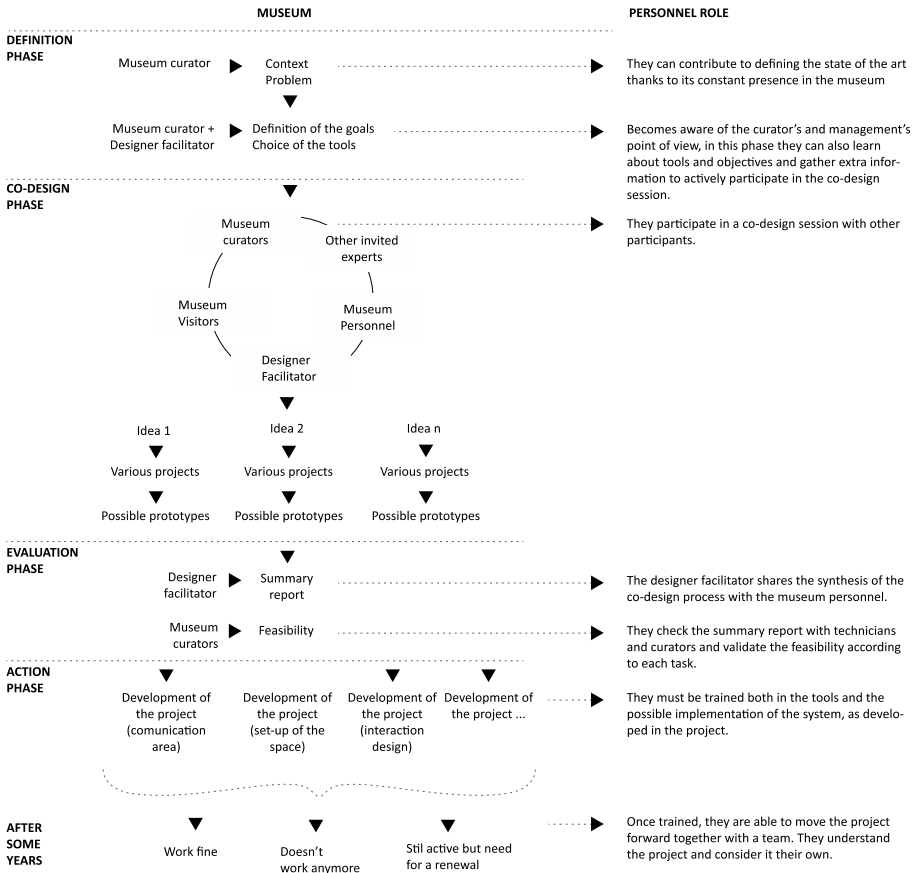


Figure 3. The role of personnel in a co-design process.

Awareness of the system makes the personnel feel they are an active part of the co-design process by sharing possible solutions. Following the definition of the summary report, the museum personnel will participate actively, together with the technicians and curators, in verifying the feasibility of the project. The personnel will be then trained to contribute to the realization of the solution, to its updates and its possible implementation. If staff members feel comfortable supporting or leading participatory activities, the project could go far.

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