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Reflections on an Immersive Virtual Reality Exhibition

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ABSTRACT

This paper aims to report the experience and challenges of the research group Laboratory of Front Poetics (LabFront, CNPq/UEMG) in exhibiting an immersive virtual reality installation during events and festivals of digital arts in Brazil. In this article, questions are raised regarding traditional exhibition processes and those where digital technologies are used. Although our focus is on the Brazilian context, similar difficulties and problems in exhibition design can be seen in other places, such as Latin American and European countries. We will base the discussion on our experience of exhibiting *Olhe para você* (2016) [Look at yourself], an immersive virtual reality work developed by one of the teams of the research group LabFront.

KEYWORDS

digital arts; immersive virtual reality; exhibition; artistic installation.

RESUMO

Este artigo pretende relatar a experiência e os desafios do grupo de pesquisa Laboratório de Poéticas Fronteiriças (LabFront, CNPq/UEMG) ao expor uma instalação em realidade virtual imersiva durante eventos e festivais de artes digitais no Brasil. Neste artigo, são levantadas questões a respeito do processo de exposição tradicional e das exposições onde a tecnologia digital está presente. Através de nosso foco no contexto brasileiro, as dificuldades e fragilidades das expografias podem ser vistas também em outros países, tais como os da América Latina e Europa. Basearemos a discussão na experiência de expor *Olhe para você* (2016), uma obra em realidade virtual imersiva desenvolvida por uma de nossas equipes no grupo de pesquisa LabFront.

PALAVRAS-CHAVE

artes digitais; realidade virtual imersiva; exposição; instalação artística.

I. INTRODUCTION

This paper aims to report the experience and challenges of the research group Laboratory of Front Poetics (LabFront) — certified by the State University of Minas Gerais and registered in the CNPq group directory — in exhibiting an immersive virtual reality installation during events and festivals of digital arts in Brazil. In this article, questions are raised regarding traditional exhibition processes and those where digital technologies are used.

The current contemporary art scenario demonstrates an unawareness about the production of the so-called “digital arts” or computational arts. Many traditional exhibition spaces are unsuitable for digital art, imposing barriers to its institutionalization. Because it is not immediately accepted by legitimating art institutions in the contemporary context, new exhibition circuits emerge aiming to spread, exhibit, discuss, and legitimize the production of digital artworks. This can be seen specifically in Débora Gasparetto’s *O “curto-circuito” da arte digital no Brasil [The “Short-Circuit” of digital art in Brazil]*, in which she offers an overview of the small and faulty circuit of digital arts in the Brazilian scene.

To understand this circuit, Gasparetto assumes that the exhibition spaces are organized by art institutions, cultural institutes, museums, galleries, public or private spaces, physical or virtual spaces, technological centers, and also by the art market (Gasparetto, 2014: 80). In Brazil, the digital art market is still not very significant, which also complicates its institutionalization. Events are also part of the digital art circuit, and they are composed of exhibitions, festivals, biennials, symposia, etc. We also have to consider as part of this circuit the need for publicity in magazines, catalogs, television, and radio, as well as in digital media (Gasparetto, 2014: 82), all of which are part of a process of showing the works before they are seen in the actual exhibition space.

This paper aims to think about exhibition design in places where digital technologies are present, taking into account possible criticisms of contemporary exhibition processes. Although our focus is on the Brazilian context, the difficulties and challenges of exhibition design can be seen in exhibitions in other places, such as Latin American and European countries. For our analysis, we will base our discussion on our experience of exhibiting *Olhe para você* (2016) [Look at yourself], an immersive virtual reality work developed by one of the teams of the research group LabFront.

II. THE EXPOGRAPHY

2.1 *Analog expography*

Exhibition design is a fundamental curatorship element in determining communication between the public and the exhibition. The relation between the arrangement of objects in a space, as well as their presentation, directly influences the communication perception and its production of meaning.

In Figueiredo (2012), it is possible to see the construction of an exhibition design critique, and the relation created when objects (texts, images or products) are exhibited as communicational devices. The author reports the increase in financial support to museums and exhibitions in Brazil in the last decades. However, the production of exhibitions usually highlights them mainly as a form of entertainment, seducing the public through bombastic presentation, but they are not quite able to develop a critical sense on the subject/theme/artist shown.

An exhibition project can influence the success or failure of the communication with the public. Figueiredo emphasizes that it is necessary to distinguish the concepts of communicational success and public success, since overexposure in media, for example, can generate a blockbuster success, but it does not mean that the audience concretely takes in the exhibited content, nor that a critical attitude is created on what has been shown.

To develop an exhibition critique, the author bases her argument on writers who are specialized in exhibitions, also on interviews with professionals of diverse areas involved in the creation of museums, and on empirical knowledge. An important starting point for criticizing is to understand who the audience is in the exhibition spaces. Institutions must know their audience to be able to adapt their communication processes so that possible errors can be minimized. Visitors, and the means of communicating with them, can be classified according several categories:

This classification extends from the *specialist* (who completely knows the subject), the *usual tourist* (who is familiar with the subject and wants to develop his knowledge), the *adventurer* (who does not know the subject but wishes to familiarize himself with the information that an exhibition can bring to him), up to the *disoriented* (the one who does not know where to go in an exhibition and looks for a meaningful point to start). (Figueiredo, 2012: 3; *my translation*)

To reach an efficient communication during an exhibition, a good exhibition design project should include options that can respond to all of those visitors. People generally have different levels of understanding. An exhibition focusing on children tends to have different exhibition features from those in which the focus is on adults or elderly people. It is necessary to identify the receivers of its messages (Figueiredo, 2012).

Besides knowing the target audience, Figueiredo points out four possible issues to consider in developing an exhibition design criticism: the exhibition

course presented; the relations of similarity between the rooms; the possibility of analyzing one room at a time; and a more detailed analysis regarding the readability of the texts in the exhibition. The latter reflects major problems in exhibitions around the world. Lack of clarity is more common than it seems: texts are applied on glass cases with no background contrast; lights can focus directly on glass, generating reflections on the texts; lighting can also reflect on texts on bright walls (Figueiredo, 2012).

When we think about a technological art exhibition, there might be other problems due to the specific nature of the exhibited objects, as we will show below.

2.2 Digital exhibition design

As in the physical space there are adjustments for the realization of an exhibition, such as the luminosity of the space, the size of the rooms, the use of resources for isolating or connecting environments, the architecture of the place itself, etc. Cyberspace exhibitions also present their own particularities, such as interactivity, instantaneity, non-linearity, and ubiquity (Santos, 2012: 124).

As in the traditional production of contemporary art, it is necessary to indicate some exhibition aspects when handling an art production that relates to science and technology. Santos (2012) says it is necessary to consider that the exhibition production takes into account three modes of spatialization. The first concerns the way of using the physical space. The second points out the need for considering exhibitions that take place in both physical and virtual spaces. And the last one refers to the spatialization mode of a cyberspace, which enables the development of works with specific features such as virtuality.

A cyberspace provides further information and data that allow users to act as co-authors of the space. Santos states that it is possible to consider two uses of cyberspace: first, as an information and dissemination record; secondly, as a creation space. As a space for dissemination, it spreads out existing information into everyday social reality. It does not explore issues that are relevant issues for virtuality. On the other hand, when the cyberspace is seen as a space for creation, it makes the works created and executed through a process of synthesis available directly in the virtual environment. Generally, these are works that exist only in virtual form and they raise issues that derive from this condition (Santos, 2012: 126).

Another important aspect for the exhibition design of digital works is the technical ability required to manage the costs of assembling and maintaining the samples, as pointed out by Fraga and Marcos Cuzziol (interviewed by Santos, 2009). In *Arte contemporânea em diálogo com as mídias digitais [Contemporary Art in Dialogue with Digital Media: artistic/curatorial conception/and criticism]* (2009), Santos sums up some of the difficulties:

[the difficulties] include the amount of technological devices for the exhibition; their operations; the proximity to the language used; the adaptation of existing physical spaces; the duration of the exhibition (due to the maintenance of the equipment, a factor that differs from the so-called “conventional” exhibitions); and, in some cases, the exhibition of processes — which apparently can be understood as finished artworks — in order to elucidate complex research. (Santos, 2012: 127-128)

It is a challenge to plan the exhibition design of digital works. Some specific adaptations in the physical environment are necessary, such as sufficient electricity sources, adequate lighting, internet access, continuous repairs of the artworks, as well as an appropriate mediation for them that encourages or allows means of interactivity.

In the next section, we will discuss the experience and challenges of exhibiting an immersive virtual reality work in three environments.

III. EXHIBITION EXPERIENCE FROM AN IMMERSIVE VIRTUAL REALITY INSTALLATION

Currently, there are few references to creating an exhibition design that specifically faces the use of virtual reality. The technological resources are in constant modification and several solutions are being launched by the industry (Gobira and Mozelli, 2017). It is possible to say that there are more robust virtual reality applications — which need high-performance computing equipment — and mobile virtual reality applications that use mobile devices as means of interaction.

In our case, the installation team, whose exhibit situation is analyzed here, chose to develop a mobile application due to its low cost of production and dissemination. The installation was exhibited several times and here we will deal with three of those occasions. The first presentation took place during the exhibition *EmMeio #8* at the National Museum in Brasilia, in October 2016; the second in *Guignard Hoje* exhibition, at the art gallery of Guignard School (UEMG), Belo Horizonte, in April 2017. The third exhibition took place in June of 2017, in Santa Maria/RS, at the gallery of the Federal University of Santa Maria during the Design+ event.

One of the teams of the Laboratory of Front Poetics (LabFront/CNPq) developed an immersive virtual reality installation called *Olhe para você* [Look at yourself] which intended to problematize questions regarding immersion in virtual reality. The installation consists of simulating the interior of a human head, where generative sounds are played whenever the interactor moves his/her head. A mobile device is necessary for supporting the technical development requirements of the installation, coupled with a mobile stereoscopic solution such as a Google Cardboard or similar.

In the case of the exhibition of virtual immersive reality installation *Look at yourself* it is possible to say that the work exists in both spaces, physical and virtual. Its wholeness happens in a virtual space, when the interactor is immersed

through the use of virtual reality glasses. His body is present in a physical space, but his mind is immersed in a virtual world.

The greatest challenge of exhibiting this type of work was the need to adapt the physical environment to support the correct use of the installation. Basically, the installation is an application that works on a mobile device with Android operating system. For its operation, it is necessary to click and open the application, called *Look at yourself*, insert the smartphone in the Google Cardboard (or other) stereoscopic solution, and dress the interactor. The mobile needs to be charged, or connected to a power source. In the latter case, the power cord can disturb the mobility of the installation.

The solution found by the development team (and suggested to the curators of those exhibitions) was to make the download of the *Look at yourself* application available directly to the visitor's smartphone. We also offered stereoscopy solutions such as Google Cardboard during the exhibitions.

Not only at the Design+ Exhibition, but also at the Federal University of Santa Maria, Google Cardboards were attached directly to the ceiling so that they hung, allowing the interactor to use them. At the other exhibition, the cardboards remained trapped on wooden tables and supports. Leaflets with information about downloading the application were posted on the wall, which contained a link for download and also a QR code as an alternative and simplified download. Thus, visitors could install it on their own phones and use it during the visit to the exhibition, as well as elsewhere, provided they had access to a stereoscopy solution. This solution minimized the need for direct mediation with visitors, since it enabled them to perform all these steps. However, it was found that less experienced visitors had difficulties in the application installation process, proving that this stereoscopy solution was not fully effective.

IV. FINAL CONSIDERATIONS

This paper addressed issues regarding the exhibition design conception in the contemporary context and some challenges brought about by digital arts.

As previously reported, the exhibition design process begins when we understand the target audience of the exhibition. Communicational difficulties can be minimized if this audience and the various categories of visitors are taken into account.

The use of many exhibition design resources may distract the public from other aspects of an exhibit and it may not contribute to a critical approach to the work. In exhibitions with technological items, a thoughtful design is particularly important, since the technology itself can act as a pyrotechnic instrument and not provide the necessary foundation for the construction of an adequate curatorial discourse.

Mediation in digital arts exhibitions needs to be rethought and, often, there is a lack of adequate technical knowledge to better manage these exhibitions.

These are some difficulties in the field, and they need to be thought out to present new solutions.

The massive use of virtual reality technologies in the artistic context is still recent. New products and technologies are being developed and launched in the market. The problematization of the use of these technologies becomes necessary, since patterns of development are being adopted by artists and major art institutions.

In the case of the virtual reality immersive installation *Look at yourself*, it showed us that it was not possible to reach the ideal conditions. Its exhibition design would need conditions that the curators of digital arts are not yet providing due to the precariousness of physical spaces which are not yet totally adequate for digital art. Nevertheless, we realized that the use of low-cost equipment facilitated the development of the exhibition design as described in the previous section.

At least with low-cost equipment (such as the use of smartphones and cardboard) the risks of losses and equipment breaks are reduced in the case of the artwork considered here. The exhibition design is also simplified, since it only needs a better description of the use (or download) and a mediator prepared to assist the use of the installation on site, something that happened at least in the opening of the exhibitions in which this artwork was included.

Finally, it should be remembered that the difficulties faced with the design of exhibitions containing immersive virtual reality artworks are only a specific instance of the difficulties of exhibiting all categories of digital art (to a greater or lesser degree). We believe these reflections, based on the experience of Labfront teamwork, can contribute to the field of curating virtual immersive reality exhibitions.

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