

FROM PIXELS TO PRAXIS: DIGITAL-FIRST MUSEUM PRACTICES AND CURATING

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Web curating and digital practices in museum settings have become increasingly significant following the COVID-19 pandemic. This shift has prompted institutions to rethink curatorial and research strategies, expanding beyond the traditional format of physical exhibitions and embracing the potential of digital engagement or hybrid formats. During the pandemic, the initial digital adoption across institutions served as a lifeline. However, the Bogotá Museum of Modern Art (MAMBO) recognised that simply adapting physical content to digital formats does not fully utilise the potential of digital media.

Through the establishment of the MAMBO Research Centre, the museum shifted towards projects specifically grounded in digital media.¹ The MAMBO residencies programme emerged as a foundational initiative within the Research Centre, focusing on the intersection of digital tools and artistic and investigative practices in museums. By launching open calls directed at both national and international audiences, the museum aimed to expand the reach of its permanent collection, improve accessibility, and contribute to its knowledge construction.

We have directly shaped and carried out this programme by responding to two key needs we identified in art museums in general, and at MAMBO in particular. On the one hand, we recognised the need for open-ended research formats that respond to more dynamic research methodologies to engage with a museum's content, including—but not limited to—the collection and archive. On the other hand, there is the desire to create an ideal environment for researchers and thinkers to engage with the museum's content while delivering innovations in both form and content, derived from digital platforms and the new exhibition formats they disclose.

In this paper, we explore how two projects derived from the residency programme address these needs, redefine the concepts of “research” and “curating,” and introduce renewed paradigms for offline-online interaction and access in art institutions. To set the framework for our analysis, we first provide a contextual overview of online and web curating, focusing on Colombian digital practices. This situates the case within the Global South, where digital-based projects like the one at MAMBO are scarce due to technical limitations, lower technological penetration, and differing perceptions of relevance compared to the Global North.² However, these projects prove valuable precisely because of their singularity.

This article analyses *pixel quadrants*, a videogame by Sebastián Mira, and *my computer is afraid of dying*, a web-based project by Federico Reyes Mesa. These case studies illustrate how digital-first projects contribute to the museum's knowledge construction and enrich its modes of representation and outreach. We also examine the residency programme's methodology, which provides emerging researchers with opportunities to engage with MAMBO's

collection and exhibitions through digital practices. By fostering research and offering hands-on experience, the programme allows participants to work closely with museum staff and attend group sessions with guest advisors. Finally, we discuss how these digital practices build upon early net art initiatives while evolving beyond their institutional critique and counter-cultural roots. By integrating digital media, these projects mark a shift towards broader public engagement and participation, transforming the museum's role in cultural production.

Contextual Foundations of Digital Art

The genealogy of the connection between art and the digital realm has evolved significantly over the past thirty years. In its early stages, when the web was characterised by independent indexed lists and lacked the monopolisation of Big Tech companies, curating became an integral part of the digital experience. In her analysis of web-based art, curator and independent researcher Marialaura Ghidini discusses the evolution of digital platforms and their role in curating art online, in which the collaborative production, open access, and peer-to-peer sharing that dominated the web's early culture found resonance in curatorial and artistic practices.³ Net artists were at the forefront of this movement, utilising code and online platforms to bypass traditional third-party mediators—including curators—and engaging directly with digital content.

In the late nineties, online curating blurred the boundaries between curators, mediators and artists. This decentralised approach disrupted conventional curatorial norms, redefining how contemporary art was presented, accessed and how audiences engaged with it. Curators were no longer gatekeepers in the traditional sense; instead, they shared their digital discoveries openly, fostering a participatory form of cultural production. In this vein, initiatives like *Net Art is not dead. It just smells funny* in Latin America and platforms such as *ada'web* in the Global North exemplified this shift.⁴

It is important, however, to recognise the asynchronous levels of technological development and adoption between the Global North and the Global South. In Colombia, for instance, internet adoption reached just 3.4% at the turn of the millennium—compared to 50% in the U.S., 40% in Western Europe, and 20% in Eastern Europe.⁵ In this context, web-based art remained niche, accessible primarily to those with the economic and technical capacity to engage with it. This disparity positioned web-based artistic creation in Colombia as an experimental and counter-cultural space available to few, and appreciated by even fewer. In a context where cultural consumption is already considered a position of privilege instead of a basic need, paired with a digital adoption that as of today only hovers around 83%, explains the limited reach of this particular form of cultural practice even to this day.⁶

Isolated initiatives by pioneering figures such as Santiago Ortiz, Mauricio Arango, or Marta Patricia Niño, are concerned with open-source software, copyleft, and early mapping technologies. Moreover, works related to marginalised communities such as *AIDS* (2005) by Santiago Echeverry set

the stage for the first online institutional exhibition titled *Net Art Colombia: Es feo y no le gusta el cursor* (2007) [Colombian Net Art Is Ugly and Does Not Like the Pointer] by the Banco de la República Cultural Center. The exhibition, curated by Juan Devis, was a watershed moment for arts in the country, showcasing digital means as a valid artistic medium in a museum setting. Culminating two years of research into the scattered creative efforts of artists dispersed throughout the country's cities, the exhibition presented a thorough analysis of the tendencies of emerging technologies, sharing methods, and countercultural stances in the context of a country with limited social and economic means to fully accept a nascent artistic language.

From Niche to Mainstream

Building on these early efforts, public engagement with digital culture underwent a significant shift in the 2010s. The widespread adoption of smartphones transformed how audiences interacted with museums, galleries, and cultural institutions, paving the way for a more accessible and immersive experience. Social media further enhanced participation, allowing users to share experiences and engage directly with cultural institutions. Colombia experienced a similar path to device adoption as other nations from the Global South: leap-frogging fixed internet terminals or desktop computers and directly adopting mobile connectivity, which today represents 88.9% of all internet connections in the country.⁷ In this context, mobile devices reshaped interactions with cultural content online, compelling institutions to adopt digital strategies to connect with a newly tech-savvy and socially connected public.⁸ This transformation has presented a paradox for cultural institutions. On the one hand, digital and mobile platforms offer widespread dissemination of content and invitations at virtually no cost, particularly when compared to traditional printed exhibition invites. On the other hand, institutions remain reluctant to accept the capacity of these digital platforms to host fully-fledged, authentic pieces of art, or to serve as surrogates for exhibition spaces or curatorial scripts.

As museums transitioned into the digital age, this tension became increasingly evident. Institutions desired to democratise the museum experience through media, enhancing public access and engagement. Simultaneously, they felt compelled to control and mediate these digital experiences to ensure the intended reception and dissemination of their content.⁹ Consequently, integrating digital elements into curatorial frameworks became a complex challenge.

The COVID-19 pandemic accelerated this transition, forcing museums and cultural institutions to migrate online, making digital engagement a necessity rather than a choice. As human-centered AI curator, digital humanist and researcher Gaia Tedone notes “particularly after the year 2020, migrating online became not a choice but a forced condition.”¹⁰ This compulsory migration exacerbated an identity crisis that museums had been facing, as they struggled to address the social, educational, and aesthetic challenges posed by network ecologies while exploring the creative and aesthetic potential of these interconnected systems.¹¹

As digital culture and online ecologies researcher Ioanna Zouli argues, museums have been slow to fully integrate digital culture as a fundamental aspect of the art history they represent.¹² They struggle to understand network ecologies as dynamic systems that extend beyond mere communication platforms, which limits their engagement with the broader potentials of digital culture. This balancing act between technological innovation, art historical traditions, and institutional strategies remains a complex challenge.

MAMBO Residencies Programme

The evolving dynamics between museums and network ecologies, particularly in the wake of the pandemic, provide essential context for understanding MAMBO's residencies programme. The programme builds upon the history of networked art and digital curation by intentionally designing projects that emerge from digital-native practices, rather than merely extending existing physical or archival content online. Like early pioneers of digital art who disrupted traditional curatorial roles, MAMBO's programme responds to contemporary challenges in the museum sector, where digital spaces are no longer supplementary but central to institutional strategy.

Zouli argues that museums often struggle to integrate digital culture into their institutional frameworks, viewing digital platforms as mere communication tools rather than integral to the museum experience.¹³ The 2024 MAMBO residencies invite thinkers and researchers to explore MAMBO's collection, archive, and exhibitions, fostering dialogue through the accessibility and experimental potential of digital platforms. These projects stem from digital investigations rather than mere translations of the museum's physical holdings, challenging museums to fully embrace digital culture as a legitimate art historical context.¹⁴

By fostering projects that inherently rely on digital methodologies, MAMBO's residencies advance an approach that acknowledges the autonomy of digital art forms and engages directly with audiences who are increasingly participating in online and networked environments. In this way, MAMBO aims to contribute to the evolving conversation about how cultural institutions can meaningfully incorporate digital tools—not only to democratise access but also to innovate within curatorial and research practices.

The residencies programme included a series of mentorship sessions with both external and internal experts at the museum. These sessions, which ranged from think-tank discussions to individual consultations, provided the residents with essential research foundations to develop their projects, drawing on interdisciplinary approaches and research-creation methodologies.¹⁵ Additionally, the residents worked closely with museum staff, collaborating on topics and themes relevant to their projects and reporting their own findings and contributions. In this context, the resident is not only seen as a mere recipient of information but as an active agent who contributes to the institution's digital transformation.

pixel quadrants (2024)

The first initiative resulting from the residencies programme is *pixel quadrants*, led by Sebastián Mira as part of the Digital Residency.¹⁶ In their project, Mira reimagines scenes from Rodrigo Callejas' paintings using digital props and architectural visualisation tools. Callejas' scenes, which portray a technologically speculative reinterpretation of the Colombian landscape, provide fertile ground for contemporary reinterpretation through 3D virtual environments. (Fig. 1 and 2)

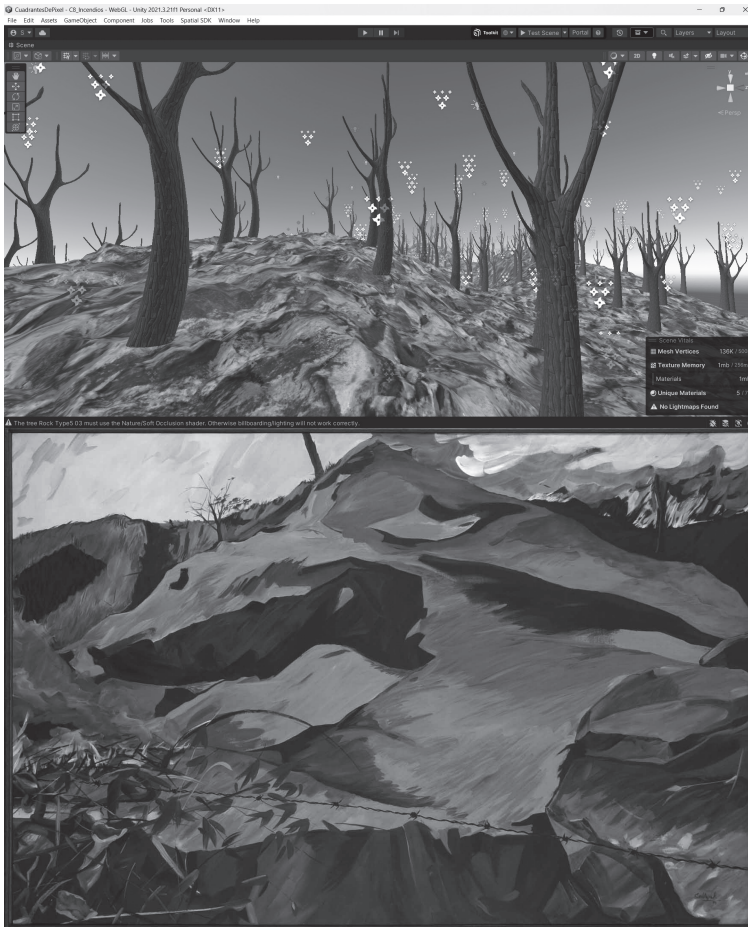


Figure 1. Top: Sebastián Mira, *pixel quadrants*, 2024. Residencies programme at the Bogotá Museum of Modern Art. Bottom: Rodrigo Callejas, *Incendio*, 1979, oil on canvas. MAMBO Collection. Courtesy of the Bogotá Museum of Modern Art.

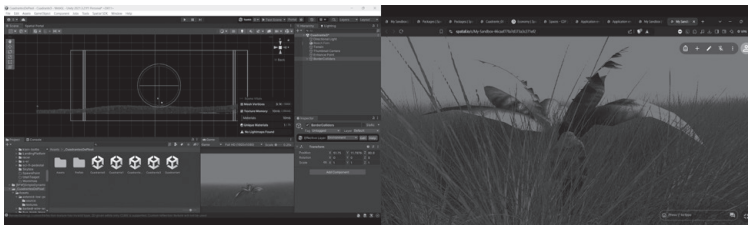


Figure 2. Sebastián Mira, *pixel quadrants* in process, 2024. Residencies programme at the Bogotá Museum of Modern Art.

The project departed from historical research and a detailed formal analysis of Callejas' works in the collection, as well as through conversations with the artist.

Direct access to the original pieces proved crucial, as the scale of details, gestures, and materiality of his canvases informed Mira's approach to recreate the experience, rather than its semblance. This departure from proportionality or veracity in favour of the experience of witnessing the pieces firmly places Mira's efforts in a realm beyond academic accuracy and into curatorial considerations of the exhibition format.

pixel quadrants not only creates an interactive platform that explores virtual landscaping, but also reflects on the relevance of video game platforms and virtual environments as formats to expand and subvert the institutional retrospective show. The proliferation of video game engines in contemporary art correlates with the increased gamification of everyday activities such as exercise, sleep, or shopping through increased tracking via smart watches, rewards accounts, and subscription services. Rather than merely presenting yesterday's paintings framed in today's aesthetics of user interfaces, Mira's project expands on the ubiquity, non-linearity, and narrative rewritability of video game platforms, now expanded into a harbour for the exhibition space. The museum building is cast as an eerie shell with multiple portals, in which each work by Callejas is both gate and destination.

This project is framed in the lineage of net art in Colombia by using game platforms in a critical and satirical manner, allowing open ended, vague and wonder-inducing digi-scapes that contravene the determinacy or linearity expected from the platform it is hosted on. By choosing to host their intervention openly in spatial.io, Mira exploits the virality of experiences on social media, either physical or digital, thus embracing the institutional migration online.¹⁷ This portrayal of the institution, however, forgoes the responsibility of communicating its content as if it were propaganda, allowing for broader potentials of digital culture and networked ecologies to emerge. (Fig. 3 and 4)



Figure 3. Sebastián Mira working with *Narco's Dog*, Rodrigo Callejas, 1987, oil on canvas. MAMBO Collection. Photo by Juan Yaruro. Courtesy of the Bogotá Museum of Modern Art.



Figure 4. Sebastián Mira, *pixel quadrants*, 2024. Residencies programme at the Bogotá Museum of Modern Art.

While the production process of the piece may resemble a traditional curatorial exchange between curator and artist, Mira's project activates collaborative, peer-to-peer and distributed access to the work and collection through public engagement. Through various LAN parties, guided tours, and hybrid activations, Mira created an experience that activates works locked away in the museum's permanent storage while hosting an experience that remains

completely new and authentic.¹⁸ As the traditional guided tour does not apply when talking and navigating from various terminals, the public activations carried out by Mira could also be framed as performative lectures, interactive panels or navigable essays.

This form of public engagement with the device prompts inquiries into the roles of visitors, users, and consumers involved in the project. While the online platform presents the first layer of access to Callejas' work for many visitors, it also presents an enhanced (or one may say altered) experience of his oeuvre, in a platform where contemplation of the artwork is indivisible from user choice and determination. The multiple start and finish points through which the show can be traversed, and the length and depth of the experience each user may have with the show, place an inherently higher degree of agency in the hands of the visitor, now turned into a type of co-author of the exhibition experience.

my computer is afraid of dying (2024)

Initially focused on conventional historical research for the 2024 exhibition programme—including the temporary exhibition *Fetish: Material Conversations*—Federico Reyes's project began as a residency in the curatorial department. Over time, the research evolved into a mediation device, creative practice, and web performative tool.

The exhibition *Fetish: Material Conversations* (2024) highlighted works from MAMBO's collection that incorporate notions of rituality, ancestrality, magic, eroticism, occultism and animism, breaking from the rational and secular nature usually associated with modern art and delving into practices where intuition and spirituality are indistinguishable from artistic creation. (Fig. 5)



Figure 5. Installation view *Collection on Stage #5: Fetish: Material Conversations*, 2024. Photo by Juan Yaruro. Courtesy of the Bogota Museum of Modern Art.

Besides contributing to the curatorial concept, Reyes developed key concepts that shaped the exhibition, such as the relation between magic and the oneiric, the role of translation and interpretation in rituality, and an inherent understanding of digital platforms as expressions of telematic symbolic representations or animistic devices for communication beyond language.

The conceptual development of these key notions was translated into *my*

computer is afraid of dying, a digital platform that borrows from the aesthetics, user experience and conceptual groundings of early net artworks, while making use of contemporary web tools.¹⁹ The title, while anecdotal of the repeated instances of failure of his laptop during work sessions, expands humorously on the animistic nature of digital devices and the uncertainty of their lifespan, further aggravated by the whims of planned obsolescence.²⁰ The platform is divided into various chapters related to religiosity and materiality on the web. The first one is a compilation of videos from web cameras on religious sites, offering the intimate religious experience to the public gaze. The second one compiles AI-powered readings of *I Jing* scriptures, playing with the absurdity of automating spirituality. The third one is an archive of instances where Google Street View records the camera's own shadows, a fleeting reminder of the physicality of this panoptical eye. The final chapter records tours through 3D models of ceremonial or ritual spaces, temples or tombs, available publicly on sketchfab.com further exploring the eerie presence of places for cult devoid of physical pilgrims.²¹ These chapters translate the author's interpretation of curatorial research by means of his frequently accessed online content. (Fig. 6, 7 and 8)

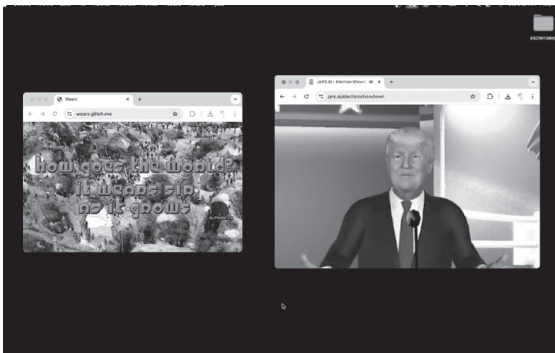


Figure 6. Federico Reyes, *Finally, The Future*, 2024, web project. Residencies programme at the Bogotá Museum of Modern Art.

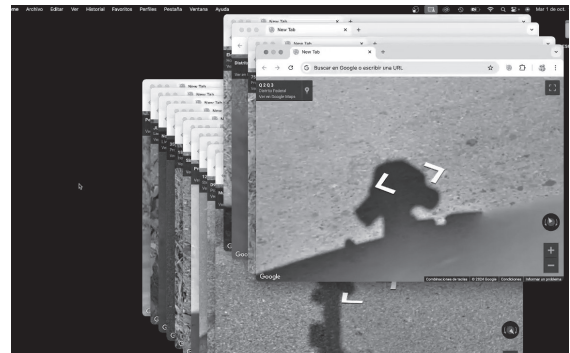


Figure 7. Federico Reyes, *will I burn down my house?*, duration: 17:38 min, 2024, web project. Action: A meticulous search for the shadow of Google's camera in random locations on Google Maps, revealing flaws in the logic behind self-concealment algorithms. Residencies programme at the Bogotá Museum of Modern Art.

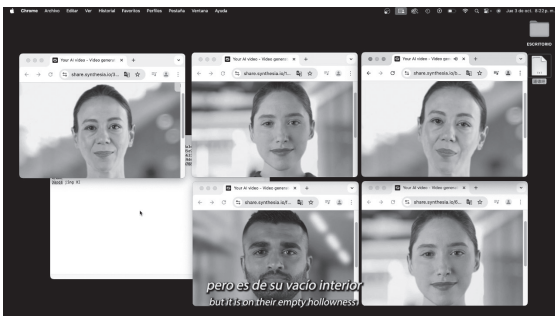


Figure 8. Federico Reyes, 道德經, duration: 04:08 min. Action: Recitation of the eleventh chapter of the *Dào dé jīng* performed by AI-generated characters on *synthesia.io*. This chapter reflects on the value of negative space and emptiness. *my computer is afraid of dying*, 2024, web project. Residencies programme at the Bogotá Museum of Modern Art.

Reyes' project is hosted online, accessible both through the museum's website and through a device inside the museum's galleries that hosts *Fetish: Material Conversations*. The interaction with the audience is essential; users must stand away from a smart device for the artwork to activate. Words and images appear on the screen when the camera ceases to detect the user, creating a real-time interaction that generates virtual text based on the exhibition, playing with notions of presence and absence in the devices used to access the web. This fosters a dialogue between online and offline interfaces, exploring "how artworks translate when transitioning from one space to another."²²

The on-site and online presence ensures an experience that is not subordinated to the exhibition, as it can be experienced either with or without the context of the show. The device was activated during a guided tour of the exhibition, engaging with visitors beyond the traditional explanatory role of museum educational content. Furthermore, his translation of historic and curatorial research into a web performative device challenges the translatability of curating and creating across both online and offline domains. Reyes takes on the role of early web curator as content aggregator, linking and blending repositories, libraries, accidental photography and models with his own creations. Traditional notions of authorship are consequently erased, given the variety of sources for his hyper-media library produced and aggregated by both humans and machines. His approach also shatters the invisible frontier between the "high culture" of a museum collection and the "low culture" of widespread, readily available, low-quality and anonymous imagery and text online.

In this sense, Reyes' diplomatic negotiation with institutional validation is key, as it allows his non-conventional approach to his residency to inhabit the museum on its own terms. The digital format allows for continued and remote access for external reading, while also encouraging new modes of interaction and interpretation when activated on-site.

This inconspicuous and clever use of the gadget's inputs updates net art's motif to use available tools for experiencing his exhibition format, as it plays with the user's expectation of a passive and responsive interface. With the normalisation of operating systems, user interfaces, haptic gestures and navigation trees, engaging with a reluctant website poses questions on the accessibility of content while reinforcing his exploration of animism, filled with objects that end up having agency.

Digital Futures and Museums

The integration of digital curatorial practices through MAMBO's residencies programme signals an important shift in how museums can approach research and audience engagement in the digital age. Far from viewing web-based practices as external, these initiatives position digital formats as integral to rethinking how art institutions represent their collections and expand their public outreach. The case studies have demonstrated how decentralised, peer-led engagement can redefine the roles of curators and audiences, fostering new ways of interacting with institutional knowledge.

However, the sustainability of these efforts remains a key challenge. The same fragility that frames a national context with few initiatives in this area makes it imperative for institutions like MAMBO to embed such programmes in their strategic vision, prioritising research, interdisciplinary collaboration, and public scholarship. This first edition of the residencies programme serves as a crucial opportunity to assess its potential, with activities by residents becoming part of the museum's public programming. These activities not only aim to engage the community but also to evaluate the programme's impact on fostering meaningful connections and reshaping institutional practices. Nevertheless, we recognise the significant difficulties in securing consistent funding for projects like this, particularly given the limited financial support that the arts and culture sector has received in recent years.

In many ways, this residency programme represents an open-ended experiment—one that challenges conventional boundaries and invites broader reflection on how museums in the Global South can harness digital tools to remain dynamic and accessible spaces for public engagement and scholarship.

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1
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2
We adopt sociologists Nour Dados and Raewyn Connell's interpretation of the Global South, which includes regions such as Latin America, Asia, Africa, and Oceania. This term, distinct from earlier labels like "Third World" or "Periphery," emphasises the geopolitical power relations that shape these regions' interactions on the global stage, rather than solely focusing on issues of development or cultural differences. This perspective enables a nuanced analysis of the ways in which historical and contemporary power dynamics influence the positioning and agency of Global South regions in a globalised world. In: Nour Dados and Raewyn Connell, "The Global South." *Contexts* 11, no. 1 (February 2012): 12.

3
Marialaura Ghidini, "Curating on the Web: The Evolution of Platforms as Spaces for Producing and Disseminating Web-Based Art," *Arts* 8, no. 3 (2019): 8.

4
Net Art is not dead. It just smells funny is available at: Net Art, "Net Art is not dead. It just smells funny," accessed March 20, 2025, <https://netart.org.uy/>; Ghidini, "Curating on the Web," 2-27.

5
Camilo Andrés Tamayo, Juan David Delgado, and Julián Enrique Penagos, "Genesis of the Internet Field in Colombia: Setting up State-Run Informational Relations," *Signo y Pensamiento* 28, no. 54 (January–June 2009): 244.

6
Ministerio de Tecnologías de la Información y las Comunicaciones (MinTIC), "Colombia Llegó a 47,4 Millones de Accesos a Internet, entre Fijos y Móviles 4G, en el Tercer Trimestre de 2023," last modified February 26, 2024, <https://www.mintic.gov.co/portal/inicio/Sala-de-prensa/Noticias/334348:Colombia-llego-a-47-4-millones-de-accesos-a-Internet-entre-fijos-y-moviles-4G-en-el-tercer-trimestre-de-2023>.

7
Ministerio de Tecnologías de la Información y las Comunicaciones (MinTIC), "Boletín Trimestral del Sector TIC: Cifras Tercer Trimestre de 2023," last modified February 16, 2024, <https://colombiatic.mintic.gov.co/679/w3-article-334280.html>.

8
Lachlan MacDowall and Kylie Budge, eds., *Art After Instagram: Art Spaces, Audiences, Aesthetics* (Routledge, 2022), 87.

9
Michelle Henning, *Museums, Media and Cultural Theory* (Open University Press, 2006), 74.

10
Gaia Tedone, "The Paradoxes of Curating the Networked Image," in *The Networked Image in Post-Digital Culture*, ed. Andrew Dewdney and Katrina Sluis (Routledge, 2023), 144.

11
Tedone, "The Paradoxes of Curating," 145.

12
Ioanna Zouli, "Internet Liveness and the Art Museum," in *The Networked Image in Post-Digital Culture*, ed. Andrew Dewdney and Katrina Sluis (Routledge, 2023), 161.

13
Zouli, "Internet Liveness," 153.

14
Ibid., 156.

15
Research-creation has often been framed through Euro-American academic traditions, but Colombia—and Latin America more broadly—has developed its own approaches, deeply tied to local artistic practices, knowledge production, and sociopolitical realities. We draw on definitions from Colombian authors whose work focuses on research-creation within this regional context. Musicologist Ligia I. Asprilla defines research-creation as a methodological approach in which artistic practice serves as both inquiry and knowledge production, reinforcing its validity within academic research. Similarly, scholars Melissa Ballesteros Mejía and Elsa María Beltrán Luengas perceive research-creation as a structured methodology that integrates creative and critical thinking within institutional frameworks. In the residency programme at MAMBO, research-creation enables an iterative, practice-based engagement with artworks and digital practices, positioning the resident as an active contributor rather than a passive recipient of knowledge. In: Ligia I. Asprilla, *El proyecto de creación-investigación. La investigación desde las artes* [The Creation-Research Project: Research from the Arts] (Institución Universitaria del Valle del Cauca, 2013), 9; Melissa Ballesteros Mejía and Elsa María Beltrán Luengas, *¿Investigar creando? Una guía para la investigación-creación en la academia* [Researching by Creating? A Guide to Research-Creation in Academia]. (Universidad El Bosque, 2018), 16.

16
pixel quadrants is available at: Spatial.io, "CuadrantesDePixel," accessed March 20, 2025, <https://www.spatial.io/s/CuadrantesDePixel-67232933c6f66862305dc775?share=2492045319269792986>.

17
Spatial.io is a platform that allows users to create, explore, and collaborate in virtual reality (VR) and augmented reality (AR) spaces. It is commonly used for virtual meetings, events, galleries and exhibitions. Spatial has evolved into a hub for digital creators, enabling them to design immersive 3D environments and showcase digital art, NFTs and interactive experiences.

18
A LAN party is an event where people connect their computers or consoles to a local area network (LAN) to play video games together.

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my computer is afraid of dying is available at: mi compu tiene miedo de morirse, "Info," accessed March 20, 2025, <https://mi-compu-tiene-miedo-de-morirse.glitch.me/info.html>.

20
Planned obsolescence refers to a deliberate business approach where a product's obsolescence is intentionally designed and integrated into its creation from the outset by the manufacturer. In: Kem-Laurin Kramer, *User Experience in the Age of Sustainability* (Morgan Kaufmann, 2012), 15.

21
Sketchfab is an online platform that allows users to upload, view and share 3D models.

22
Ghidini, "Curating on the Web," 19.

