

Article

Continuity: Sharing Space in teamLab's Digital Ecosystems

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Abstract: In 2021, the Asian Art Museum of San Francisco inaugurated the opening of its new contemporary wing with *teamLab: Continuity*. The immersive exhibition spanned six galleries and was fully interactive via sensors and digital projection mapping technology; flowers bloom and grow, flying crows burst into colorful chrysanthemums, and butterflies are born or killed at a moment's touch. The digital objects dynamically interact with one another and with humans, blurring boundaries between art, participant, and technology. This article examines *Continuity* as a "collective interactive experience" situated within a digital ecosystem. It explores teamLab's approach to the natural environment and its digital replication, with a focus on the relationship between humans and machines in shared exhibition spaces.

Keywords: interactive digital art; immersion; collective experience; exhibitions; media installation; projection mapping; virtual art; digital ecosystems

1. Introduction

As you approach the newest special exhibition space at the Asian Art Museum of San Francisco, you are confronted with a gaping dark chasm (Figure 1a).¹ Anticipating the vivid and mesmerizing space you have seen on social media, you walk through the door-frame and allow darkness to envelop your body. Your senses are immediately bombarded. You enter the world hidden beyond the entrance hall and simultaneously process an overwhelmingly sweet smell, a serene celestial soundscape, and a vibrant digital ecosystem of blooming cosmos flowers and orange spider mums, shimmering swarms of butterflies, and darting white crows (Figure 1b).

You shake off your disorientation and join the awestruck and gleeful people sharing this experience. The walls and floor are covered in varieties of flowers and leaves that grow, scatter, and wilt at your touch. Butterflies cheerfully navigate the environment until accidentally trampled or hit by an unsuspecting passerby (Figure 2). Crows that are caught or crash headlong into an obstacle suddenly burst and turn into a chrysanthemum (Figures 3 and 4). You continue to weave around fellow visitors as you explore this digital realm. With strategically placed mirrors and shiny floor tiles, some rooms appear to recede into infinity. One area births a kaleidoscope of butterflies while another generates a murder of crows. A school of fish rushes from one side of the exhibition space to another, shaping a path according to the human bodies obstructing the floor (Figure 5). As the potential for interaction within the environment becomes clear, you begin to join others growing flowers, catching crows, and taking photographs of the digital ecosystem in which you now play a part.

Time passes and the seasons change. The chrysanthemums of autumn give way to the deep blue pansies and violas of winter, followed by the geraniums and pink cherry blossoms of spring and the golden sunflowers of summer (Figures 6–9). Still, every visitor's action in the space has a consequence; standing still will grow a bed of flowers, grazing a hand along the wall may kill butterflies or crows; fish divert around the sea of people grouped in the room. The environment reacts and responds to the presence of both digital and human presence unique to each moment and relies on active engagement with the



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space. Even when you are ready to exit the exhibition, your impact on the environment remains for the next wave of awestruck visitors while you rejoin the more “traditional” gallery spaces of the museum.

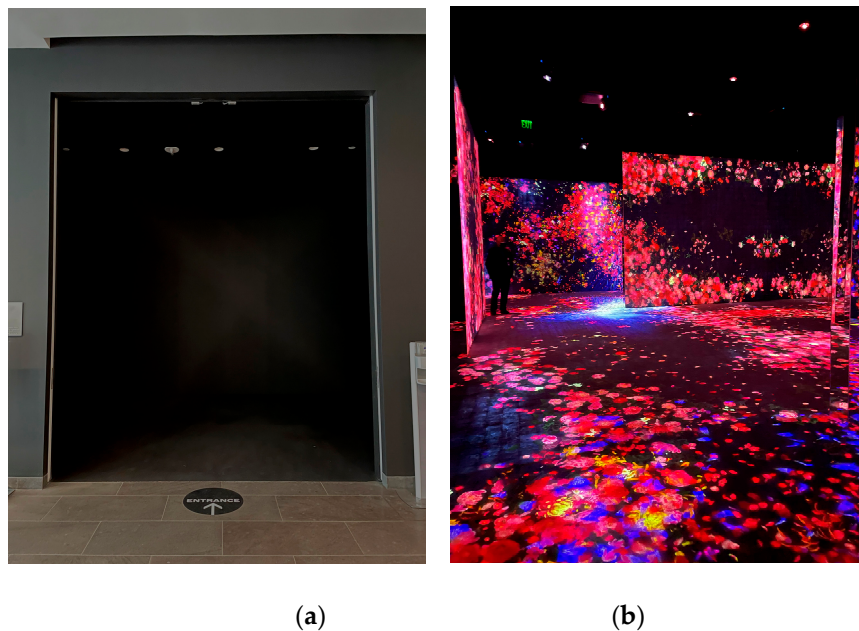


Figure 1. (a) *teamLab: Continuity* entrance, 2021–2022, Asian Art Museum of San Francisco; photograph by the author, 2022. (b). *teamLab, Forest of Flowers and People: Lost, Immersed and Reborn*, 2017/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.

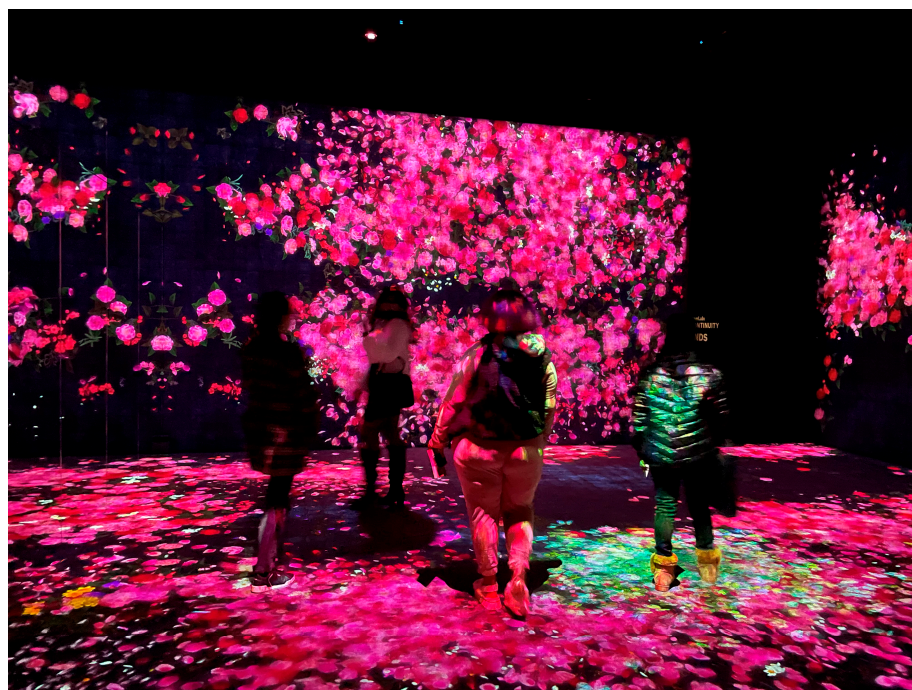


Figure 2. *teamLab, Forest of Flowers and People: Lost, Immersed and Reborn*, 2017/2021 and *Flutter of Butterflies Beyond Borders, Transcending Space*, 2019/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.

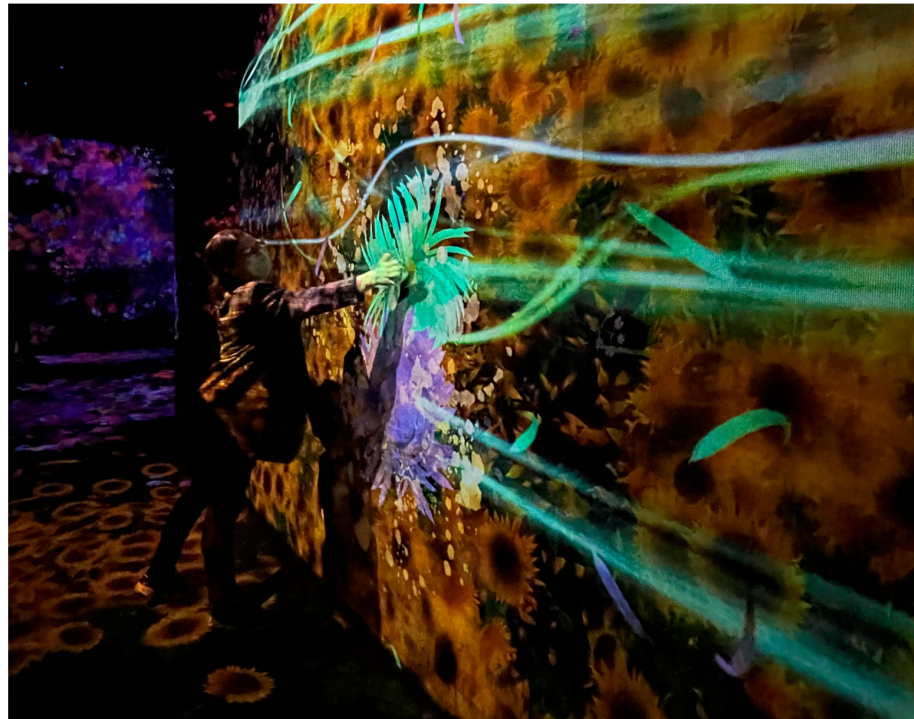


Figure 3. teamLab, *Forest of Flowers and People: Lost, Immersed and Reborn*, 2017/2021 and *Crows are Chased and the Chasing Crows are Destined to be Chased as well, Flying Beyond Borders*, 2018/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.

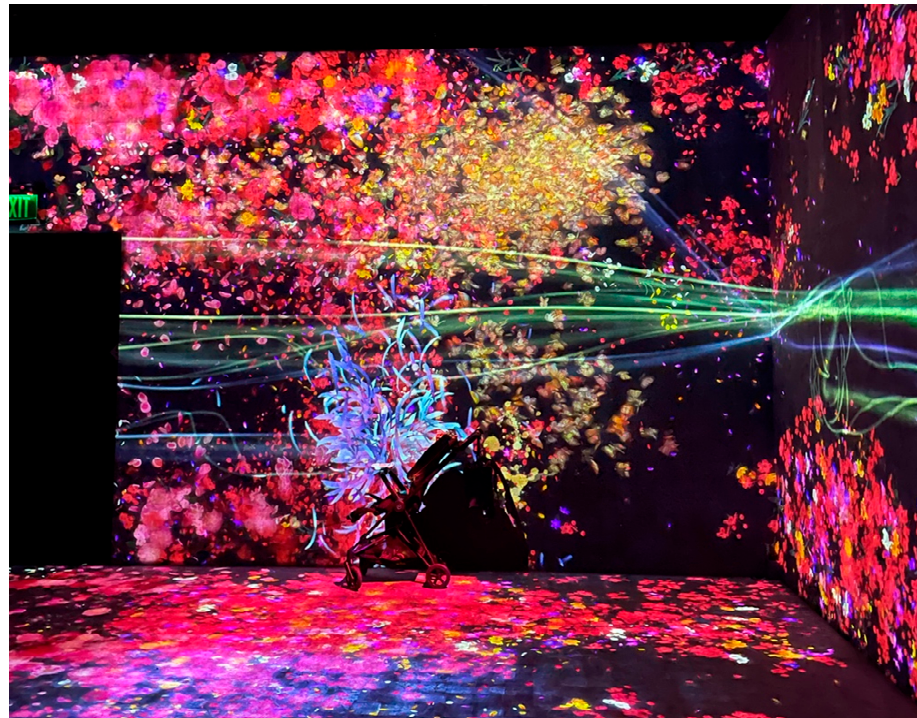


Figure 4. teamLab, *Forest of Flowers and People: Lost, Immersed and Reborn*, 2017/2021, *Flutter of Butterflies Beyond Borders, Transcending Space*, 2019/2021, and *Crows are Chased and the Chasing Crows are Destined to be Chased as well, Flying Beyond Borders*, 2018/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.

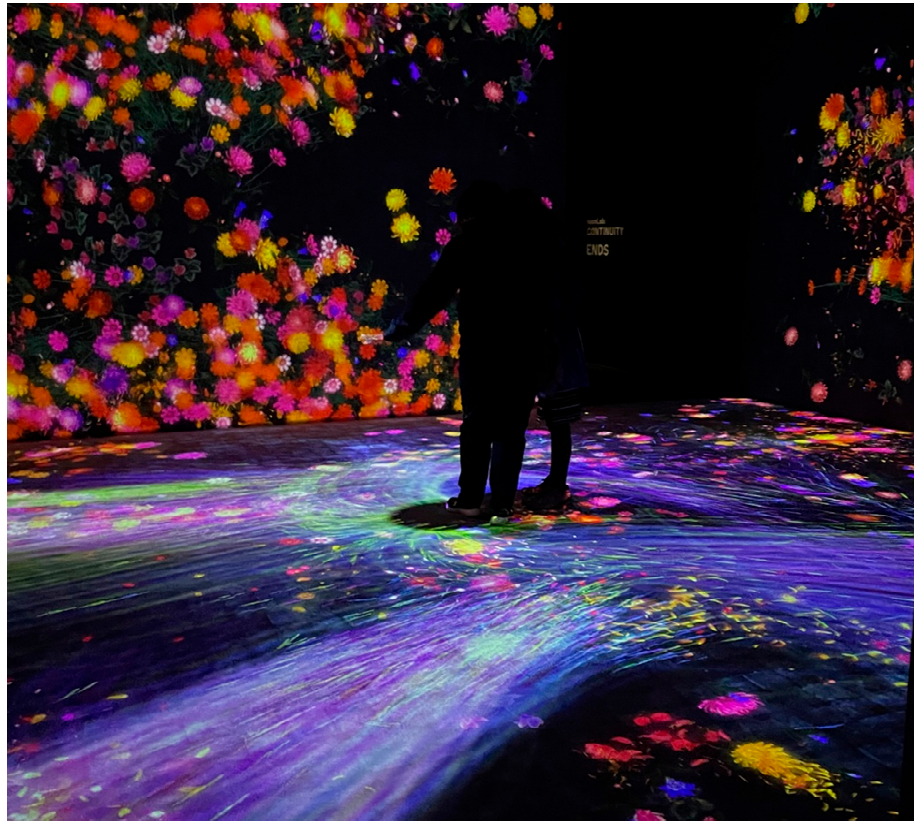


Figure 5. teamLab, *Forest of Flowers and People: Lost, Immersed and Reborn*, 2017/2021 and *The Way of the Sea, Flying Beyond Borders—Colors of Life*, 2018/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.

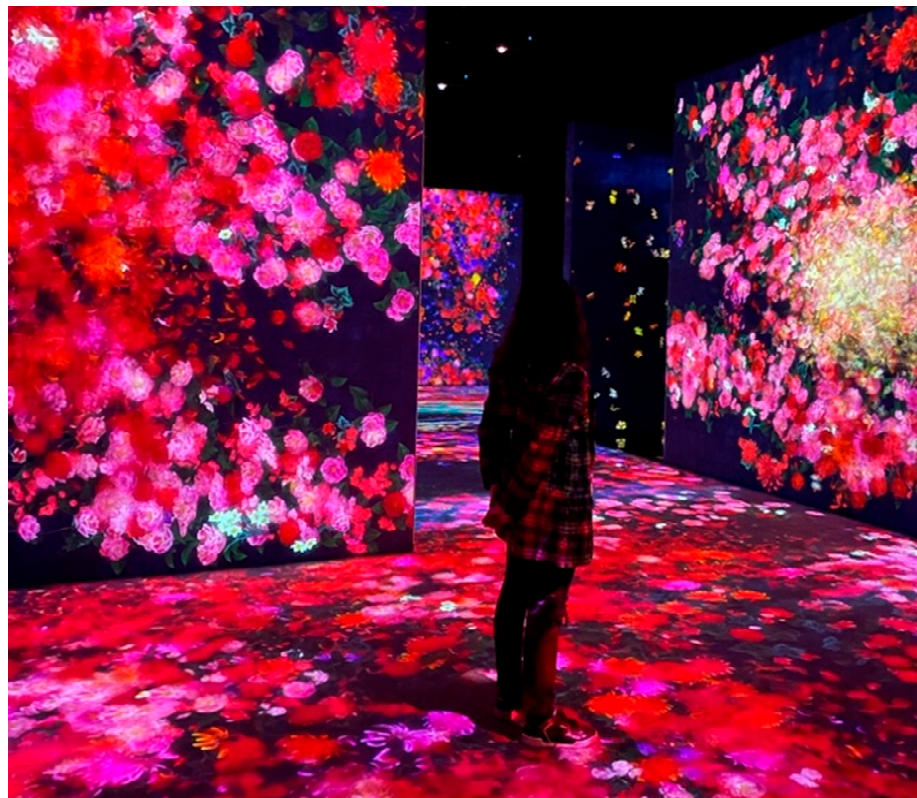


Figure 6. teamLab, *Forest of Flowers and People: Lost, Immersed and Reborn (Autumn)*, 2017/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.



Figure 7. teamLab, *Forest of Flowers and People: Lost, Immersed and Reborn (Winter)*, 2017/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.



Figure 8. teamLab, *Forest of Flowers and People: Lost, Immersed and Reborn (Spring)*, 2017/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.

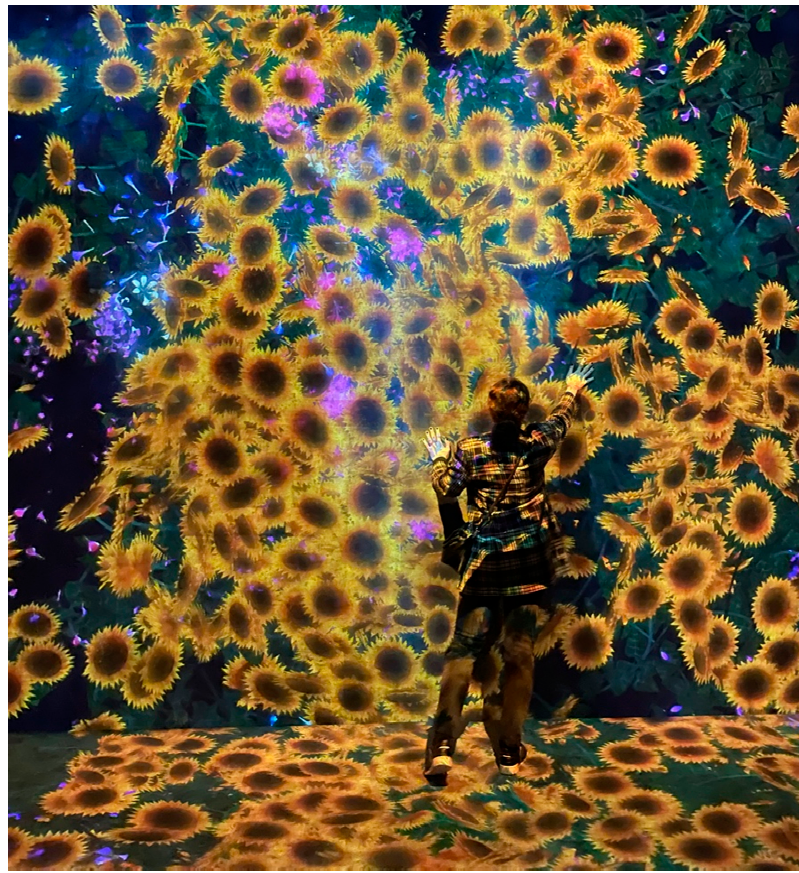


Figure 9. teamLab, *Forest of Flowers and People: Lost, Immersed and Reborn (Summer)*, 2017/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.

This immersive exhibition, titled *teamLab: Continuity*, was on display 23 July 2021 until 28 February 2022, attracting over 125,000 visitors.² According to teamLab, the Japanese artist collective responsible for the exhibition, *Continuity* was so-titled because “everything exists in a long, fragile yet miraculous borderless continuity of life” ([Asian Art Museum Exhibitions Website 2022](#)). People are meant to co-exist within the digital ecosystem, dissolving boundaries between one another, the artworks, and ideas of the natural environment. For this reason, the exhibition is a fruitful example of “collective interactive experience” in digital art. In this type of experience, humans share space with other humans in an environment that relies on physical presence and communal action; the existence of others inherently shapes the experience of the artworks and the themes they address. This article examines *Continuity* as a digital ecosystem that relies upon collective interactive experience for its realization as an immersive exhibition. It begins with an introduction to teamLab—a pioneering collective that has been instrumental in defining twenty-first century new media practice. It then offers a conceptualization of a collective interactive experience in digital art before an analysis of *Continuity* as a lively digital ecosystem. The article concludes with a reflection on collective interactive experience in the post-COVID-19, Instagram-oriented art experiences of the 2020s.

2. teamLab: The Ultratechnologist Group

teamLab was co-founded in 2001 with five members—Inoko Toshiyuki (b. 1977), Sakai Daisuke (b. 1978), Tamura Tetsuya (b. 1977), Yoshimura Joe (b. 1977), and Aoki Shunsuke (b. 1978)—each bringing specialized training in software engineering, robotics, and information technology (Lee 2022).³ The collective calls itself the “Ultratechnologist Group” working to “navigate the confluence of art, science, technology, design and the natural world” ([teamLab Website 2022](#)). Founded as both an information technology start-

up and an art collective, teamLab established a commercial production wing to fund the group's artistic projects. While one side of the company develops search engines, digital products, and office space design, the other creates video and projection-mapped artworks that apply these advanced technologies to the visual arts. Because of this, teamLab's artistic endeavors are intrinsically tied to the commercial and financial interests of the collective in a broader media–technological milieu—a point that cannot be overlooked when situating teamLab between the commercial and institutional art worlds today.

teamLab's first major institutional art presence was at the Musée des Arts Décoratifs in 2008, where the collective exhibited *Flower and Corpse Animation Diorama* (2008) in the *Kansei—Japan Design Exhibition*. Using a dozen screens positioned around the exhibition space, the artwork surrounded visitors with a twelve-scene illustrated story that utilized premodern Japanese perspective techniques ([teamLab Design Exhibition Website 2008](#)). The exposure in Paris and affinity with the Superflat movement brought teamLab to the attention of internationally renowned artist Murakami Takashi (b. 1962), who invited the collective to organize a solo exhibition at the Kaikai Kiki Gallery in Taipei.⁴ *LIVE! (生きる!)* was installed in 2011 and catapulted teamLab into the global contemporary art world. The collective grew exponentially. In 2013, teamLab participated in the Singapore Biennale. The following year, the group signed with Pace Gallery and opened their first exhibition at Miraikan in Tokyo, which attracted half a million visitors. In 2015, the collective represented Japan at the World Expo in Milan, which was closely followed by the opening of DMM.PLANETS Art by teamLab in 2016, their first large-scale immersive exhibition space. teamLab's success of the 2010s culminated in the opening of the MORI Building DIGITAL ART MUSEUM: EPSON teamLab Borderless in 2018, touted as the first-ever digital museum with 107,000 square feet of exhibition space in Odaiba, Tokyo. The need for even more space resulted in the Odaiba location's permanent closure in 2022 after breaking a record for the world's most visited museum, with plans to reopen as an underground attraction in the Toranomon-Azabudai Project's JP¥ 580 billion revitalization initiative ([Steen 2022](#)). The collective's artworks are now in permanent collections of museums worldwide, including the Museum of Contemporary Art in Los Angeles, the Asian Art Museum of San Francisco, the National Gallery of Victoria in Melbourne, and Amos Rex in Helsinki.⁵ Today, teamLab is home to over 750 “ultratechnologists,” bringing together artists, programmers, engineers, CG animators, mathematicians, architects, and designers for both its commercial and artistic wings ([Mun-Delsalle 2018](#)).

The interdisciplinary marriage of engineering, scientific research, entertainment industries, and art in teamLab's practice also represents a growing trend toward commercially oriented immersive experiences. teamLab's model—an artist-run company with integrated studios, Do-It-Yourself approaches, well-equipped collective workspaces, dedicated display space, and funding through ticketed experiences—lead the Research and Development Platform at Serpentine Galleries to label it as a “future art ecosystem” in 2020 ([Serpentine R&D Platform 2020](#)). Indeed, the group's international presence plays a key role in the recent explosion of spectacular, Instagram-oriented exhibitions. In addition to pop-up and semi-permanent displays, the collective has launched projects such as *Worlds Unleashed and then Connecting* (2015), an artwork designed as a “digital dining experience” at MoonFlower Sagaya Ginza in Tokyo. In this immersive experience, projection-mapped algorithms respond to dishes on the table in a luxury restaurant environment ([teamLab MoonFlower Sagaya Ginza Website 2017](#)). At the same time, however, teamLab is an active participant in the mainstream contemporary art world. With representation by Pace Gallery, teamLab's work is regularly included in solo and group exhibitions in more traditional museum and gallery settings. Though this conflation is not new in the long history of new media practice overall, teamLab is poised to further blur the lines between mainstream contemporary art and commercial immersive experiences in today's artistic landscape.⁶

teamLab's work is also deeply rooted in the history of art and technology in Japan, a history that helped establish new media art's mode of production today. Though the collective's approach is related to similar international collaborative studios such as Random

International (est. 2005), Studio Drift (est. 2007), and Forensic Architecture (est. 2010) that engage emerging technologies for their artistic output, teamLab should not be separated from its genesis in modern and contemporary Japanese art history. With a long record of art associations, loosely organized or strict membership groups, and interdisciplinary collaborations across industries, new media artists in Japan were poised to pioneer the model of team-based art production that is prevalent today. Morris Low agrees, arguing:

The media-technological context of digital art in Japan originates in the context of collaborative practices between the digital media industry, research laboratories, programming specialists and research and education centers (sic) bridging the gap between art, design, and science. Technological developments undertaken by large companies such as Sanyo, Sony, or Matsushita, are being linked to Japanese craftsmanship, and in relation to nature and aesthetics. (Low 2009)

New media art in Japan is especially entwined with various interdisciplinary specialties and relies on collaboration between these entities. In fact, Japanese artists were some of the first to join forces with corporate giants such as Canon and NTT (the Nippon Telegraph and Telephone Corporation), a trend that Serpentine Galleries identifies as an important strategy for an “art-industrial revolution” in the 2020s (Serpentine R&D Platform 2020). This infrastructure continues to grow as a model for new media art production and innovation worldwide, and is born from a longer history of collectivity and approach to art–technology projects in Japan that deserve closer examination.

However, in contrast to the avant-garde structure in both Japanese and Euro-American art history of individual artists working to further their own practice within a group structure, teamLab works as a single entity. Though the 750 members of the collective have distinct roles, artworks are developed collaboratively and under the unifying name of teamLab. The group even prefers to conduct interviews about their artworks as teamLab regardless of the individual spokesperson who conducted the interview (Lee 2022).⁷ In addition, apart from traveling installation crews, teamLab’s activity is conducted on-site and in-person at their Tokyo headquarters. This allows the artists to create works that are both conceptually and practically steeped in a collective mindset. According to Laura Lee in *Worlds Unbound: The Art of teamLab*:

... each individual’s embodied contributions are transformed into imaginative acts that develop the image as it unfurls, such that the creative agency of viewers’ communal behaviors plays an authorial role in the work. Thus, teamLab’s emphasis on collectivity and collaboration in its working process—its dismantling of the single-artist model—extends conceptually also to the exhibition context, where individual and communal participation in creative activities represent what teamLab calls “co-creation”. (Lee 2022)

It is this mindset of collaboration and co-creation that informs teamLab’s application of collective interactive experience in their digital art installations. In teamLab’s case, it is the entanglement of their conceptual approach with their working process that generates this type of experience in their exhibition spaces—a point that is particularly salient in the *Continuity* exhibition. The next section thus provides more definition to collective interactive experience as a particular type of interactivity in digital art before applying it to *Continuity* as a lively digital ecosystem.

3. Collective Interactive Experience in Digital Art

Various types of interactive experience can be achieved in digital art—from individual experiences that only engage one participant at a time to distributed experiences that connect participants across shared virtual platforms. In “collective interactive experience,” digital artworks respond to multiple bodies simultaneously in shared exhibition space. Though the type often encompasses digital installation art that offers an embodied, immersive experience, collective interactive experience is not exclusive to a particular medium of artistic production. The public artwork *Impulse* (2015–2016) by Lateral Office (est. 2003),

for example, asked visitors to Montreal's arts district to play on see-saws that responded with light and sound according to the participants' movements and the expanded urban environment (Torre 2018). On the other hand, Brian Knap's *Healing Pool* (2008) utilizes projection mapping and dynamic algorithms to allow people walking over an image to witness its scarring and healing process in a more formal gallery space (Shanbaum 2019). Though these artworks are different in site, material, and conceptual approach, they share the type of collective interactive experience in how participants are meant to engage with the artwork together.

The shared environment in collective interactive experience creates a sense of immersion in the artwork. According to Panayiota Demetriou, "the state of immersion increases if one experiences it with others and with relevance and immediacy" (Demetriou 2018). Whether or not people are physically surrounded by a digital environment, their engagement with the artwork and with others allows them to feel immersed in their experience. The social dimension of this sensation cannot be overstated, as the ongoing interaction between individuals allows them to "suspend disbelief" that they are in a constructed environment.⁸ Demetriou understands this in terms of the "disappearance of signs:" "where to be truly immersed in a situation one must almost forget about the technological infrastructure used, as a type of 'unawareness' to the system in complete captivation" (Demetriou 2018). The focus thus shifts from the technology itself to the experience of sharing an artwork with other people engaged in the same activity.

The co-present nature of collective interactive experience allows artworks categorized in this type to emphasize co-creation, or the realization of works through direct engagement between participants and the art, artist, and/or each other. According to Ben Walmsley, "co-creation represents a broadening perspective of creative production from the individual to the collective and a socially led reconceptualization of creative consumption" (Walmsley 2019). Co-creation relies on the active presence of multiple participants that play a crucial role in generating the artwork itself. This is an important feature of collective interactive experience, as the type insists on engagement between an artwork and many people sharing a co-present situation. Co-creation can also manifest in the working process of an artist collective creating artworks in an interdisciplinary, team-based setting. In an example such as teamLab, the artist group co-creates the environment as a template, which is realized through the collective actions of participants co-creating their experience with the artwork.

Co-creation also recognizes the potential for uncontrolled, unplanned, and improvised action in shared space. According to Kenny K.N. Chow, "interaction between humans and digital environments should be continuous and simultaneous ... a digital environment has to accept user bodily motion as input and present perceivable constant changes" (Chow 2013). In collective interactive experience, these changes occur both by individual participants' actions and the actions of others that share the same space. The environment responds in kind to any motion; when multiple people are engaged simultaneously, the actions of one will fundamentally affect the experience of another. A design that allows for the perception of immediate reaction to bodily movement thus heightens the sense of unplanned co-creation in the space. In fact, Chow argues that participants sharing multimedia space become "co-performers" in a "live" interactive show. He argues:

The multimedia artifact contributes to different versions of the performance, because the generative processes support pseudorandom variation, and interactivity facilitates human intervention. Hence, each presentation is like an improvised co-creation between the participants and the artifact. This kind of co-creation is more improvised than prepared because the designer can never exactly know how or when the participants would take action to interfere with the outcome. (Chow 2013)⁹

Participants' actions bring such artworks to life. Artworks must therefore be able to react and respond to a wide variety of simultaneous actions that could be random and impulsive. For this reason, experiences may be entirely different each time a participant enters into

new collective situations within the artwork—a phenomenon that is especially relevant to the *Continuity* exhibition as a digital ecosystem.

Co-creation is also tied to a sense of play. Especially when participants are joined by close friends and family members, they become comfortable and enjoy the opportunity to explore the limits of the interactive space. Chow contends that, in a lively digital environment, people “build habits to interact with the medium transparently, feel at home in the environment, develop a sense of intimacy and pleasantness with it, make sense out of it, and are encouraged to imagine” (Chow 2013). Miriam Bratu Hansen takes this a step further, discussing how collective play in technological environments could inspire modes of collective action by establishing new relationships between bodies and images (Hansen 2004). Indeed, in a collective interactive environment, participants have the opportunity to re-imagine their relationships with spaces, other humans, and digital technologies. This concept is a core of teamLab’s practice. According to the group: “People think with their bodies as they move through the world, and much of human society has developed through creative achievements born from collaboration and collective play” (teamLab 2016). To teamLab, playful actions heighten participants’ awareness of the world they inhabit and can inspire a reconsideration of their own impact upon shared ecosystems. It is for this reason that the collective rarely publishes instructions or descriptions of how their artworks function, instead encouraging visitors to explore the limits and capabilities of the installations on their own.¹⁰ The next section explores these concepts further, with a focus on the construction of a digital ecosystem in *teamLab: Continuity* as exemplary of collective interactive experience.

4. teamLab: Continuity as Digital Ecosystem

Continuity featured sixteen artworks designed by the teamLab collective, ten of which were iterations of their ongoing designs of interactive digital installations. Using projection mapping and dynamic algorithms, the digital artworks were overlayed onto the Asian Art Museum’s existing floor and temporary walls using fifty projectors and six high-definition screens, and were powered by an air-conditioned room full of computer equipment.¹¹ According to Laura Lee: “Projection mapping is a technique that produces mixed reality by utilizing spatial mapping—the virtual 3D reconstruction of an environment—to convert an object into a projection surface, thereby enabling rich media content to overlay actual objects and environments” (Lee 2022). Despite the necessity for bulky technical components, the meticulously designed and detailed projections allow the ceiling-mounted equipment to fade into the background. The brilliant artworks capture full attention. Because the space feels all-encompassing, the average visitor will likely never notice the tangle of projectors and wires above. When Emily Stokes-Rees visited *Borderless*, teamLab’s exhibition space in Tokyo, she reflected: “As digital art exists outside of the constraints of materiality, in *teamLab Borderless* the building may be a significant physical structure, but somehow its presence—its walls and corridors and ceilings—melt into the background” (Stokes-Rees 2019). Indeed, the design of teamLab’s projection-mapped environments create a highly immersive experience despite the need for technological equipment and presence of immovable infrastructure.

In the *Continuity* exhibition galleries, the projected artworks do not have distinct borders; one area blends into the next and digital creatures, such as butterflies or crows, are free to roam widely. *Flutter of Butterflies Beyond Borders* (2015/2021) and *The Way of the Sea, Flying Beyond Borders—Colors of Life* (2018/2021), for example, overlay into *Forest of Flowers and People: Lost, Immersed and Reborn* (2017/2021) with no clear distinction between where one artwork begins and another ends. The seasons also gradually change—one year passes in the span of one hour—with a slow evolution of flowers and scents according to this lifecycle. The exhibition creates a digital ecosystem, with flowers, butterflies, crows, fish, and calligraphy interacting with both human participants and other digital objects in a constantly evolving space.

An ecosystem is defined as “a biological system composed of all the organisms found in a particular physical environment, interacting with it and each other. Also in extended use: a complex system resembling this” ([Oxford English Dictionary 2023](#)). In *Continuity*, both aspects of this definition are in play. In the first instance, the exhibition mimics biological systems of birth, life, death, and interactive relationships between organisms in the natural world. Digital creatures exist in relation to the projected environment and respond to both each other and the humans sharing the space. In the second instance, teamLab’s design necessitates a complex system of technological components that interact to realize the fabricated environment in a physical gallery. This layering of ecological concepts in the immersive exhibition allows for an understanding of digital ecosystems as both reflections of the operations of the natural world and highly artificial constructions. Indeed, teamLab’s intention to present *Continuity* in terms of “everything exist[ing] in a long, fragile yet miraculous borderless continuity of life” recognizes both the thematic tie to this concept and the fragility of the digital ecosystem as a fabricated replica of the natural environment.

teamLab’s use of interactive technology to produce a convincing digital ecosystem necessitates the perception of liveliness. Kenny K.N. Chow explores the technical requirements for this perception in his book, *Animation, Embodiment, and Digital Media*. He investigates two interrelated concepts of “animated phenomena” and “technological liveliness,” which together produce a digital illusion of life. The term “animated,” which at its core means “endowed with life,” requires a “human-familiar, dynamic, lively *phenomena*” ([Chow 2013](#)). Movement alone does not endow an inanimate object with life; digital animations must also feature fundamentals of natural life, including “reaction to stimuli, adaptation to changes in surroundings, metamorphosis (rapid shape shifting), growth in size or population (gradual change), and even breath (rhythmic and persistent change)” ([Chow 2013](#)). These phenomena—which range from subtle effects to obvious movement—can be digitally replicated as “technological liveliness” that simulates the natural world and works within the logical framework humans have constructed to understand organic life.

teamLab pushes the boundary of Chow’s framework in an ongoing conceptual project entitled “Digitized Nature”. According to the collective: “Nature has formed over a very long period of time. By turning nature into art we can gain a sense of the continuity of nature, that humans do not usually perceive” ([teamLab Digitized Nature Website 2002](#)). In the *Continuity* space, “Digitized Nature” is projected onto inorganic elements; gallery walls and floors serve as the foundation for the artworks’ display. The digital objects are nonetheless lively replications of nature: butterfly wings curl in flight and flower petals drift off their branches and float away as if guided by air currents. Digital elements also react to each other and the gallery itself. Crows will burst into a chrysanthemum if they collide with the few high-definition screens installed in the southeastern gallery. Fish shape their route across the exhibition space according to the other digital creatures in their path. Flowers bloom, grow, and wilt away as the seasons change. These detailed aspects of teamLab’s design and programming realize the projections as co-existent members of a dynamic (though highly constructed) ecological system that realizes an artificial cycle of life. Indeed, the condensed passage of time and change of season every fifteen minutes allows for the perception of the digitized environment as evolving at a recognizable pace despite the unnatural construction of this timeline.

Still, “Digitized Nature” is a simulacrum; it cannot replicate the phenomenological experience of interacting with a living environment. teamLab’s reliance on technological liveliness and dynamic algorithms solidifies their immersive digital ecosystems as controlled, designed, and fabricated experiences. At the same time, teamLab’s reliance on collective human actions to realize the artworks—actions that encourage both physical and social engagement with other living beings experiencing the exhibition together—is fundamental to their approach. At the beginning of the day, the walls and floor are largely blank, and the room is steeped in scented floral perfume.¹² It is the participants’ movements—from actively pressing their body against the wall to standing still for a few moments or roaming the galleries—that slowly begins to grow seasonal flowers and diffuse scent throughout the

space. Butterflies are birthed in *The Void* (2016/2021), a set of blank monitors that explode with life as soon as a person enters the alcove (Figure 10). Crows emerge from *Crows are Chased and the Chasing Crows are Destined to be Chased as well, Transcending Space* (2014/2021), a projected video loop that is triggered by the presence of visitors in its gallery (Figure 11). According to Lee, “it is viewer interactivity that brings the formal configuration of the piece[s] into reality, with the work[s] changing uniquely in relation to the individual, the collective, and the specific moment” (Lee 2022). It is therefore the shared actions of people interacting with the space throughout each day that brings the digital ecosystem to “life”.

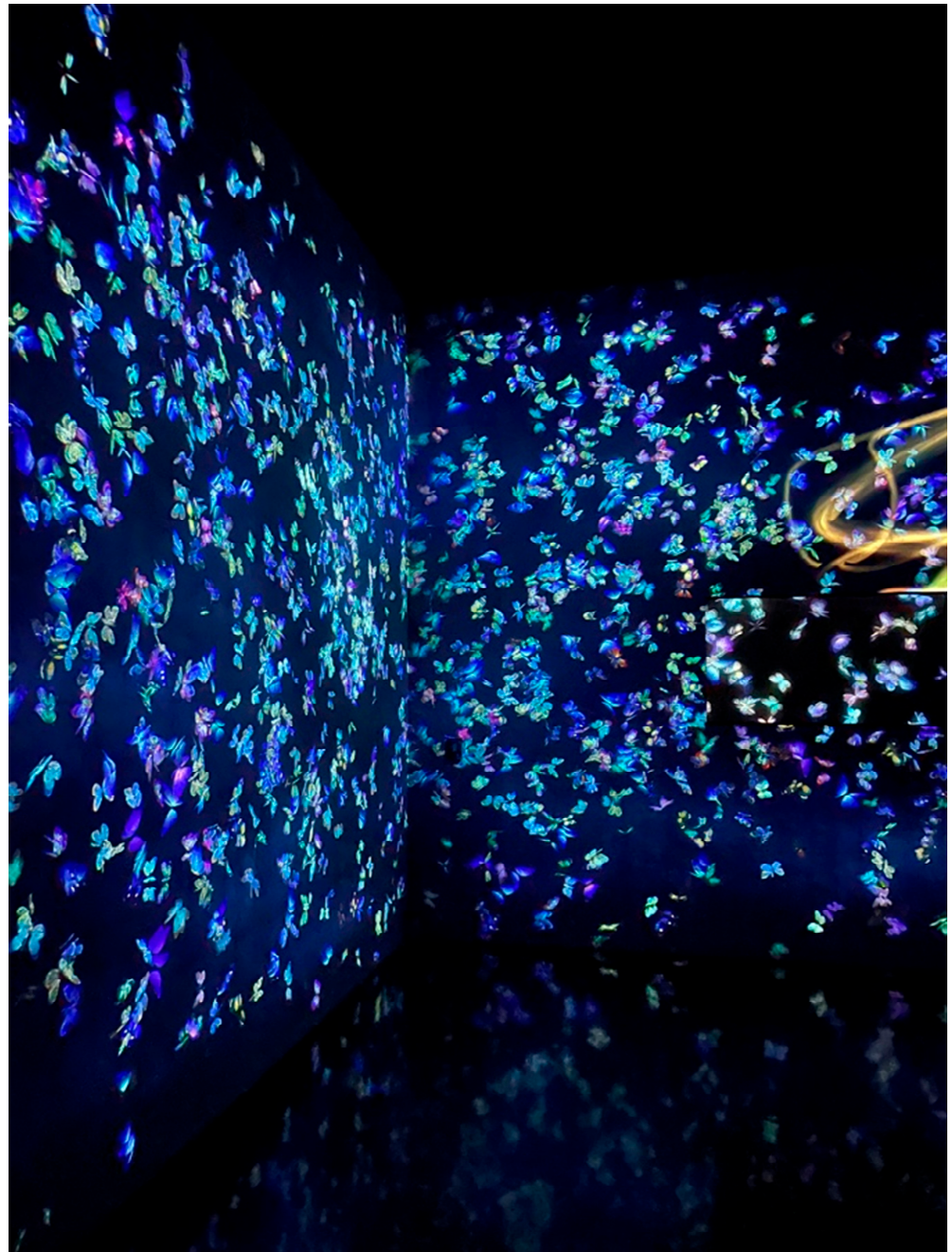


Figure 10. teamLab, *Flutter of Butterflies Beyond Borders, Ephemeral Life*, 2015/2021 in *The Void*, 2016/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.



Figure 11. teamLab, *Crows are Chased and the Chasing Crows are Destined to be Chased as well, Flying Beyond Borders*, 2018/2021 emerging from *Crows are Chased and the Chasing Crows are Destined to be Chased as well, Transcending Space*, 2017/2021 into *Forest of Flowers and People: Lost, Immersed and Reborn*, 2017/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.

Indeed, the presence of other people is a positive factor in the overall experience of the exhibition. Fellow participants are part of the ecosystem and are seen as co-creators and co-actors in the execution of the artworks. According to teamLab:

Viewers become part of the work. This changes the relationship between an artwork and an individual into a relationship between an artwork and a group of individuals. Factors such as whether there were any viewers that saw the work five minutes before you did, or what the viewer next to you is currently doing, suddenly become important. At a minimum, our interactive installations call more attention to the actions of the viewers around you than would a traditional painting. Unlike a viewer who stands in front of a conventional painting, a viewer immersed in an interactive artwork becomes more aware of other people's presence. The result is that the art gains the ability to influence the relationships between the viewers standing in front of it. And if the effect of another person's presence on the art is beautiful, it is possible that that person's presence itself will be seen as beautiful. (Lee 2022)¹³

In contrast to other museums and galleries that emphasize solo experiences with individual artworks in minimalist, “white-cube” settings, teamLab’s installations rely on the presence of others to activate the vibrant environment for all. According to Lee, “people must necessarily share the spaces for the artworks to properly operate, and the works are designed to encourage communality” (Lee 2022). Collective action is highly valued. However, with its melodic soundscape and gradual seasonal changes, the shared space encourages contemplativeness and awe. Rather than facilitating a fast or high-energy visit, participants are encouraged to slow down (Figure 12).¹⁴ Flowers grow on a delay; it takes a few

moments for people to notice their impact on the environment and the exhibition demands patience to experience the yearlong cycle (Figure 13). Because visitors are not competing for space or time, they are able to exist among the evolving ecosystem as members of a shared experience.



Figure 12. teamLab, *Forest of Flowers and People: Lost, Immersed and Reborn (slow down)*, 2017/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.

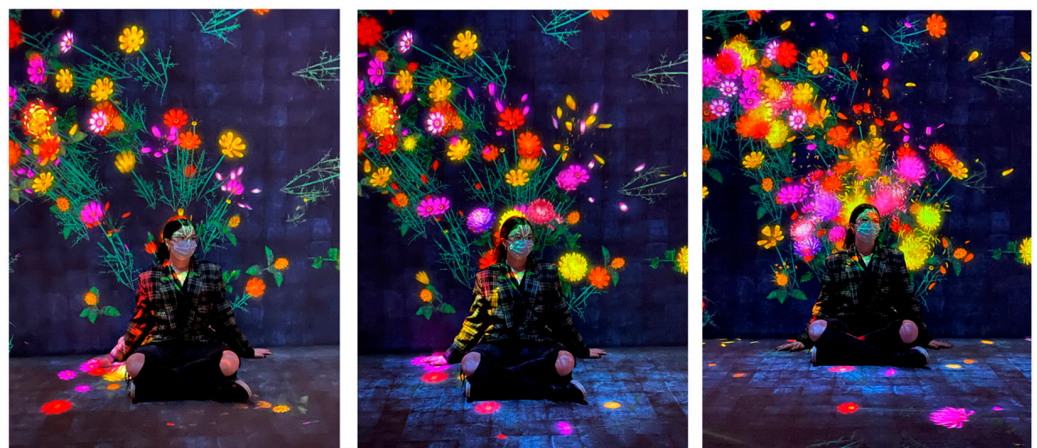


Figure 13. teamLab, *Forest of Flowers and People: Lost, Immersed and Reborn (slow growing)*, 2017/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.

The co-presence of humans, flora, and fauna in the digital ecosystem also reveals teamLab's understanding of the relationship between humans and the natural environment. As mentioned at this article's outset, human impacts on the space have lasting consequences—even oblivious actions may result in the deaths of butterflies or crows and fish must alter their paths in response to human presence. A pessimistic view suggests that digital envi-

ronments such as this may one day be the only interactive depictions of healthy ecosystems left on the planet—especially if exploitive, capitalist systems of resource extraction persist in service of technological development. However, teamLab’s philosophy points to a more balanced approach to humans and nature. According to the collective:

Rather than nature and humans being in conflict, a healthy ecosystem is one that includes people. In the past, people understood that they could not grasp nature in its entirety, and that it is not possible to control nature. People lived more closely aligned to the rules of nature that created a comfortable natural environment . . . we hope to explore a form of human intervention based on the premise that nature cannot be controlled. (teamLab Forest of Flowers and People Website 2017)¹⁵

Instead of presenting a utopic ideal of the natural world or allowing human destruction to create a dystopic future, teamLab demands a dynamic relationship between humans and nature. Human presence is necessary for the artworks to function, and yet, participants fundamentally alter the space with their actions. The ecosystem thus allows for a more nuanced approach to the repercussions of sharing space with both other humans and various living things, even though teamLab’s design is highly constructed and controlled by the collective’s digital approach.

teamLab’s goal is to change relationships between oneself, each other, and the world through art (teamLab Website 2022). By heightening our perceptions of the interrelated experiences we share, *Continuity*’s digital ecosystem is intended to provide a microcosm of relationships in the external world. In fact, Lee argues that the group’s use of digital tools (which could be seen as disembodied artifacts of a technology-driven age) instead “reinsert embodiment and harmonious collectivity within people’s lives” (Lee 2022). In this collective interactive experience, the environment’s embodying elements of immersive imagery, evocative soundscapes, and alluring scents transport participants into a virtual world in which they can imagine new relationships that might transfer to the physical world. teamLab agrees, writing:

With immersion of the body into the artwork, the boundary between the self and the artwork becomes ambiguous. And, through that experience, the boundary between the self and the world begins to disappear. Because our presence and the presence of others can cause change in the shared world of the artwork, it is possible that we will feel ourselves and others meld with the world and become one body. (teamLab 2016)

It is in this setting that people might become more aware of how they intersect with their surroundings and begin to value the shared impact we make upon both each other and the environment. With today’s anxieties surrounding climate change, the fractured political landscape, and adaptations to a post-COVID-19 world, this is an important exercise to emphasize commonalities in the relationships we share in our external lives.

As this article demonstrates, *Continuity* is a useful illustration of collective interactive experience via the development of a digital ecosystem. The exhibition relies on shared space and communal action that fundamentally affects all participants’ experiences, and it is teamLab’s working philosophies that facilitate co-creation and collective play in the exhibition space. As the group asserts: “Our hope is that through enjoying this co-creative experience people may become more creative in their everyday lives” (teamLab 2016). Indeed, teamLab’s works are meant to extend beyond the gallery walls, inspiring a collective mindset in both the group itself and in the participants that experience their installation spaces.

5. Collective Interactive Experience in the 2020s

With today’s proliferation of spectacular immersive art exhibitions worldwide, it is vital to understand how collective interactive experiences are designed and approached. teamLab’s installations—simultaneously a technology showcase, a social media magnet, and an ecological platform for interrogating the human relationship with nature—are important contributions to new media art production and collective interactive experience with digital art in the 2020s. This continues a trend toward what Laura Lee terms “hash-

tag art,” or “contemporary exhibitions that are designed to be visually spectacular and thus lend themselves to picture taking and social media posting” (Lee 2022) (Figure 14). Such experiences do not have to be entirely superficial. Lee argues that social media platforms do not dilute art, but rather facilitate its networked distribution and connection to popular visibility. For this reason, hashtag art “flies in the face of structures of exclusivity that separate art from the masses, with art’s imbrication in the quotidian granting the public influence over its orbit” (Lee 2022). With the rapid expansion of organizations including Superblue, Artech House, and MeowWolf, in addition to exhibitions such as Immersive van Gogh, it is vital to interrogate how these experiences are designed, what larger themes they address, and if their hashtag tendencies are in service of democratizing experiences with art.



Figure 14. teamLab, *Forest of Flowers and People: Lost, Immersed and Reborn* (“hashtag art”), 2017/2021, Asian Art Museum of San Francisco; photograph by the author, 2022.

For its part, *teamLab: Continuity* was instrumental in launching the Asian Art Museum’s renewed dedication to contemporary Asian artists. The Akiko Yamazaki and Jerry Lang Pavilion expanded the museum by seventeen percent, giving unprecedented space for twentieth and twenty-first century art. The museum’s director, Jay Xu, considers the museum’s new vision in terms of “connection:” “Connection of the art of the past with the art of the present . . . of Asian art’s global relevance and the rest of the world . . . (and) of art to life” (Desmarais 2020). Partnering with teamLab for this launch was intentional. Not only does the collective represent cutting-edge artistic production in Asia and internationally, but it also attracts a new generation of donors from the Bay Area tech industry. In addition, the collaboration furthers an ongoing relationship between the museum and teamLab, as the Asian Art Museum was the first in North America to accession teamLab artworks, *Life Survives by the Power of Life* (2011) and *Cold Life* (2014), in 2015. teamLab now bridges experimental pop-up spaces, traditional museum exhibitions and collections, and the commercial design industry. These factors will continue to define and influence both new media art production and the proliferation of spectacular immersive art exhibitions

worldwide, further blurring relationships artists hold with the institutional art world and the experience economy.

Furthermore, and especially in the wake of COVID-19 lockdowns, collective interactive experiences in digital art take on a new tone. *Continuity* itself was delayed due to the pandemic, as the exhibition was intended to launch in the spring of 2020. With the return to in-person museum visits, especially exhibitions that involve interacting with the space and fellow visitors, collective interactive experience feels both heightened and valued in a new way. As museums, galleries, and experimental art centers continue to engage with this type of experience, it is more important than ever to interrogate how collectivity and collective experiences manifest in digital art practices. It is through such experiences that we are reminded how connected we are, and how much we rely on the ecosystems in which we play a vital part.

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Notes

- ¹ For this article, I consider the *Continuity* exhibition as a single borderless installation except for the northeastern room, *Born From the Darkness a Loving, and Beautiful World* (2018/2021), which featured calligraphic *kanji* (the Japanese writing system using Chinese characters) turning into elements of water, fire, and rainbows when touched.
- ² This statistic was shared by Robert Mintz, Deputy Director of Art and Programs at the Asian Art Museum of San Francisco. *Continuity* featured many of the same artworks as those at teamLab: Borderless in Tokyo but was 1/10th of the size.
- ³ There remains an ongoing discussion in the field of global contemporary art on naming conventions for international artists and scholars. Throughout this article, names are listed according to the native custom (generally, for East Asia-born individuals, family name first and given name second; for North America and Western Europe-born individuals, given name first and family name second).
- ⁴ teamLab calls its mode of spatial perspective “ultrasubjective space,” which is a compositional technique that makes 3D space appear “flat” as in traditional Japanese art. This technique is fundamental to teamLab’s practice; it both ties their work to historical aesthetics and allows the group to push back against the dominant mode of single-point perspective in today’s popular imagery. This approach is not unlike that of Murakami Takashi’s, who founded the Superflat movement in the early 2000s to engage with Japanese manga, anime, and other pop culture that relies on “flattened” imagery as a commentary on superficiality in contemporary Japanese culture. See [Murakami \(2000\)](#).
- ⁵ For more history on teamLab, see [Lee \(2022\)](#).
- ⁶ For more on the history of tensions between mainstream contemporary art and new media art, see [Shanken \(2015\)](#).
- ⁷ This approach to teamLab’s collectivism was embraced and understood in [Lee \(2022\)](#). However, it was challenged in the *teamLab: Continuity* exhibition catalogue, which made sure to attribute quotes to specific members of the team and highlight individual members of the collective. See [Oen et al. \(2020\)](#).
- ⁸ The idea of “suspension of disbelief” is important to histories of immersive technologies. The nineteenth century concept originates from poet and critic Samuel Taylor Coleridge’s analysis of live theater, as audiences know that what they are watching is “pretend,” but they are still able to enjoy the experience. See Wilson [Allen and Hayden Clark \(1962\)](#), [Laurel \(1991\)](#), and [Murray \(2016\)](#).
- ⁹ For more on the idea of performance in a media environment, see [Auslander \(2008\)](#).
- ¹⁰ This was discussed with me in an interview with Alexa Canova-Parker, at the time a contemporary art intern at the Asian Art Museum of San Francisco, on August 10, 2021.
- ¹¹ Installation and infrastructure information was told to me in an interview with Robert Mintz, Deputy Director of Art and Programs at the Asian Art Museum of San Francisco on August 19, 2021.
- ¹² teamLab partnered with the perfumer L’Occin in 2016, but *Continuity* used a private Japanese perfumer who designed the original scents. Diffusers throughout the space represent the four seasons, and the scents were replenished every two months. This information was gathered in an interview with Alexa Canova-Parker, at the time a contemporary art intern at the Asian Art Museum of San Francisco, on 10 August 2021.

- 13 See this sentiment expressed in Stokes-Rees (2019) and Senda (2018).
- 14 This point was reinforced in an interview with Karin Oen, curator of *teamLab: Continuity*, on 29 August 2021.
- 15 These concepts are also tied to traditional Japanese values in Shinto. For more on how these traditions impact digital media, see Chow (2013).

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