Chapter

8

Reconceptualizing Video Games for Community Spaces

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Experiencing art in a community context changes the character of the experience in beneficial, interesting, and dynamic ways. Video games, an interactive media art, are perhaps the most dominant form of art happening today. Yet, compared to other art forms, video game experiences in community spaces are few and far between. Technical challenges and the stifling economic forces commanding the game industry and game culture can provide explanations for this scenario. These forces have shaped a limited conception of video games that widely dictates the types of games that are developed as well as how and where players consume them. However, while modern mainstream commercial games have largely evolved into a form unsuitable for community spaces, there exists historical and current design paradigms for video games intended for such spaces. In particular, the burgeoning medium of augmented reality (AR) fits naturally into community spaces, as demonstrated in mainstream examples such as Snapchat *ART* and *Pokémon GO* (Constine, 2017; Niantic, 2016). Through examining the qualities of video game formats that succeed in community spaces in contrast to the prototypical format of the home video game, I hope to raise awareness of a broader conception of video games and urge game developers toward applying their craft in more community spaces through emerging media such as AR.

Defining Video Games in Community Spaces

To understand the desired outcome of more video games in community spaces, some definitions are necessary. "Community spaces," in this context, refers to physical locations shared by community members from multiple households. While this definition includes public spaces, it does not require public ownership or official sanction. For example, both a privately owned bar and a public park can be community spaces.

The physical distinction is important here as well. In this definition I am intentionally excluding virtual communities, such as communities that exist within

a mediated experience and those defined exclusively by common participation in a mediated experience. Prominent examples of such communities can be found within video games and social media. The intent of excluding virtual communities is not to discredit or undervalue them. In fact, the label "virtual" itself is perhaps misleading, as it implies not real, and many consider these to be real communities. They are just not linked by in-person interaction and physical space, elements that shape experiences in unique ways. Attracted by monetization potential, game development and social media companies already invest heavily in virtual communities and tools for fostering them (Vivas, 2017). In other words, there are plenty of communities of gamers, but comparatively fewer examples of video games in community spaces.

Within the context of this chapter, a video game in a community space must also include the participation of multiple members of the community. As a result of mobile gaming, including mobile AR gaming, many people play video games while they are in community spaces. However, it is important to distinguish games played in a community space that preclude participation from other members of the community, from games that include participation from multiple members of the community. For example, someone playing *The Legend of Zelda: Breath of the Wild* on their Nintendo Switch in the park would not count as a video game in a community space, as the gameplay is a private experience (Nintendo, 2017).

Likewise, though an AR experience might inherently use the player's physical space within gameplay, it does not fit this definition unless it can engage multiple participants within that space. For example, the AR game *Ghost Detector Radar Camera* involves the player searching their surrounding physical space for virtual ghosts that appear in their device's onscreen camera view (First Class Media B.V., 2017). However, the game does not facilitate interaction with other community members.

This requirement of participation from multiple members of a community space is not limited to synchronous participation. For example, a statue in a park is art in a community space even though the community members that stop and admire it may do so at different times. Likewise, a Nintendo Switch kiosk in a Target store running *Breath of the Wild* is a video game in a community space, even though it is still a single player game. After any given play session, the game remains for the next community member to try. In *Pokémon GO*, players must move physically near virtual gyms that are linked to real world GPS coordinates to interact with them. Though there may be no community members present at that time, players interact asynchronously with previous players who have visited the gym.

Complicated scenarios emerge when considering the case of multiplayer gaming. Two or more physically present players participating in a local multiplayer game in a community space fits this definition of a video game in a community space. It happens in a community space and involves multiple members of that community. For example, two friends playing *Mario Kart 7* together in the park counts as a video game in a community space (Nintendo, 2011). A group of people playing a local multiplayer game in a community space can attract other community members to

join. Permanence is not a requirement and an event-based model for video games in community spaces is a viable approach.

On the other hand, a mobile gaming session involving virtual community members connected via an online multiplayer system would not count. For example, one person playing a Snapchat Snappable AR game while waiting for a bus, then sharing it over the Internet with other players who are not physically present, would not fit this definition of a game in a community space (Snap Inc., 2018).

What Changes When Art Moves into Community Spaces

Virtual communities, despite their merits and the impressive strides of technology, remain lacking in some of the desirable qualities of physical community spaces. The COVID-19 pandemic is a testament to this. Everyone experiencing the pandemic with the privilege of access to virtual communities is surely appreciative of them. But this experience has also punctuated the fact that virtual does not equal physical. Remote work, while quite feasible in many cases, is different from being in the office (*Monster Poll Results from Work in the Time of Coronavirus*, 2020). Remote learning is not the same as in-person school (Boyd, 2020). Zoom happy hour is not the same as meeting up at the local tavern after work. Likewise, listening to an MP3 is not the same as attending a concert, nor is watching a movie at home the same as seeing it in the theater. Mainstream technology has allowed communities to transcend physical distance, which is an amazing feature. However, it has not yet completely duplicated the dynamic elements of communities bound by shared physical locations. Those frustrated with teleconferencing hiccups might understandably suggest that fidelity is the key difference between virtual and in-person experiences. Yet, fidelity is not the only factor. After all, the audio quality of concerts is commonly worse than that of studio recordings, but fans still flock to live performances. Despite our technological advances, there are qualities that are challenging to reproduce virtually.

Presence

Art in community spaces brings people together. Experiencing art in a community context makes audiences feel like they are a part of something bigger. This can be understood as presence. It adds an element of perceived authenticity. Both the physical world and audiences add presence to an experience, and art in community spaces leverages this. While perhaps related to fidelity, synchronous experience, or liveness, affects our experience of art in community spaces beyond these factors (Auslander, 2008). I have a T-shirt from *AEW Revolution*, a professional wrestling show that I attended in Chicago. The shirt has the name and date of the event, plus the phrase “I was there” printed on the back. This slogan capitalizes on the unique sensation of being present in a community experience. Many others also viewed the event live on pay-per-view and probably had better views of the in-ring action, but they could not join in the electricity of the communal applause, boos, and chants. They were not there.

Discovery

With the emergence of digital streaming platforms, we live in an era of on-demand art consumption. However, it is difficult to demand something that you do not know exists. This contributes to a discovery problem wherein audiences only experience content and ideas that they already know and like. Thankfully, art in community spaces can foster discovery. A new art installation can capture a passerby's attention. Going to a bar or coffee shop and discovering live music or an open mic night can add an unexpected and dynamic element to the experience. While many concertgoers seek specific acts, a captivating performance by an opening band can mean a new and unexpected addition to the regular playlist rotations. By bringing together community members and giving them something to discuss or participate in together, art in community spaces helps people discover new social connections. In its subversion of the on-demand model of art consumption, art in community spaces exposes people to diverse content and ideas that they might otherwise never have encountered.

Enchantment

Related to discovery is the sense of enchantment. Consider the sense of mystery and wonder of exploring a place for the first time, showing up on the first day of school, or going on a first date. As we prolong our exposure to new elements, we naturally map and rationalize them. Through this process we more narrowly define what's possible, dispelling the sense of enchantment. The dynamic and unpredictable possibilities of art in community spaces elevate their vibrancy and raise an air of enchantment. Stumbling across a street performance or discovering a newly painted mural can pleasantly interrupt a person's highly mapped and efficient routes through everyday life.

In contrast, experiences that exist outside of community spaces are often dictated by intentionality and control. Behavior outside of the parameters of user expectations is considered a defect. A chance conversation with a random bystander at a bar is sociable, but an uninvited participant in a Zoom meeting is an offense (Meadows, 2020). When we engage in a virtual community, we expect a high measure of control. I can choose who to follow and who to mute. The same forces of intentionality and control that dictate virtual communities are characteristic of art experiences that occur in private. I choose what music to listen to, show to watch, or game to play. I control the timing of these activities, the environment they take place in, and who is among the audience.

While intentionality and control in some contexts are clearly desirable, such as in the realm of business productivity, they minimize organic discovery and the enchanting feeling of unlimited possibilities. As Sue Ding puts it in her thesis on enchantment and location-based media, "In the constant push for efficiency and discipline, our world is disenchanted of magic and mystery." (Ding, 2017). Art in community spaces enhances everyday life by imbuing presence, discovery, and enchantment into our environments.

The Lack of Video Games in Community Spaces

According to the Entertainment Software Association:

> More than 214 million people in the United States today play video games one hour or more per week. 75% of all U.S. households have at least one person who plays. In sum, 64% of U.S. adults and 70% of those under 18 regularly play video games (Entertainment Software Association, 2020).

Revenue from gaming has surpassed all other entertainment media categories (OppenheimerFunds, 2018). However, despite their popularity and commercial dominance, there is a lack of video games in community spaces. Video games almost exclusively happen on personal screens. Players purchase video games and play them on their TV, computer monitor, mobile device, or VR headset. Opportunities to engage with video games outside of this model are relatively uncommon. While game-centric events exist, most are essentially professional trade shows designed to market the biggest commercial games, as opposed to community art exhibitions. In contrast, consider the local music scenes that thrive in many metropolitan areas. In such areas, at least prior to the COVID-19 pandemic (and who knows what the future holds), community members could attend shows featuring local musicians daily. Shows could take place in a public street or park, in a restaurant or bar, or at a dedicated music venue. Consider visual arts, where opening receptions invite community members to gather over discussions of new art; or restaurants and coffee shops host walls featuring rotating displays from local artists. There are few parallels for video games. Game industry economics and the related social construct of the "gamer" have shaped our cultural conception of video games as a form that is largely incompatible with community spaces.

The Commoditization of Video Games

The development budget required to create a mainstream game has skyrocketed to tens of millions of dollars and continues to rise. While improved and cheaper development tools like Unity, Unreal Engine, ARKit, and ARCore have proliferated, the increased fidelity and scale made possible by such tools and related technological innovations have led to an arms race of complexity in game content. This, in turn, has led to ever-increasing consumer expectations in the amount and type of content in games. Additionally, the greater accessibility of increasingly powerful development tools has created crowded market conditions that drive a parallel marketing arms race as publishers and independent developers compete for the attention of consumers (Koster, 2018).

Considering the scale of investment necessary to develop a game in this environment, the conservative gatekeeping of publishers should come as no surprise. Sequels or clones of successful games make for safer investments as marketers can leverage existing fan bases. Creating annual editions of sports games and other franchises allows developers to save money by reusing existing art, sound, and code assets. In this way, though gamers might complain about the lack of original IP and

concepts in games, consumer demand for games to include more and higher fidelity content has directly contributed to this dearth of originality.

Further, the crowded market has caused consumers to adopt more stringent criteria for filtering what they invest their time and money in, thus framing questions about what to play as economic decisions. Game journalism fuels this commoditization of games by distilling criticism down to a question of whether a game is worth buying. If you ask someone if they would recommend a game, it is not uncommon to hear, "It's fun, but not worth the full price." Pick a game on Steam and read the user reviews. Inevitably there will be some version of this cost-benefit analysis. As competitive market forces have driven prices down and the length of games has increased, players compile vast backlogs of games to play. As a result, audiences increasingly consume only the games packaged in the formats that yield the most fun per dollar investment (or, as prices approach zero, per unit of time) (Portillo, 2014). This leads to consumers being less willing to risk investing in genres of games outside of what they have enjoyed in the past. Distribution platforms have keyed in on this, creating recommendation algorithms that simultaneously feed on and accelerate this trend (Robertson, 2019). These forces limit audiences to experience only (what publishers—or algorithms—perceive as) the most commercially viable games existing within the parameters of what players are known to enjoy. While video games are an art, this intense capitalistic framing of games as commodities clearly stifles creative diversity and the artistic expression of game developers. This system has narrowed the popular conception of video games as a commodity incongruent with community spaces.

The Gamer Metanarrative

In Western culture, a dominant metanarrative has emerged that has cleft a perceived division between "gamers" and "non-gamers." Despite statistics indicating that over 50% of US adults regularly play video games, only about 10% self-identify as gamers (Duggan, 2015). There is an aging stereotype that gamers are "isolated, pale-skinned teenage boys […] hunched forward on a sofa in some dark basement space, obsessively mashing buttons" (Williams, 2005). The gamer stereotype reflects the narrow conception of video games and contributes to the relative lack of video games in community spaces.

Many who identify with the gamer label interpret the culturally dominant form of the commercial video game as the superior and true representation of interactive media art as opposed to casual, educational, or so-called "serious" games, for example (Vanderhoef et al., 2013). Meanwhile, attitudes about video games by those who *do not* consider themselves gamers, again largely inspired by the most visible commercial video games, have led some to dismiss video games as an art form or even blame them for societal problems (Ebert, 2010; Morin, 2019).

In a culture where work ethic is a key value, the word "game" denotes frivolity to those who believe video games are for children. It is easy for Western culture to understand a sculpture within the context of public art, but it relegates video games as children's diversions. The early marketing of video games toward young boys (e.g. Game Boy) helped instill a lasting conception that only young boys can or should

enjoy them (Lien, 2013). In this way, the gamer metanarrative hampers diversity both in the types of video games that are created and the audiences that experience them. This in turn has a dampening effect on the diversity of game developers, as the gamer metanarrative's myopic conception of video games shrouds the possibilities of the medium from potential creators.

There is not an intrinsic quality of video games that alienates people[1]. Nor does it make any sense to binarily sort people with the culturally loaded term "gamer." Given the growing ubiquity of games, this is as absurd as sorting people into "music listeners" and "non-music listeners" and judging them across a variety of unrelated categories. Commoditization drives commercial games to have complex control schemes and long-term time commitments, as well as extensive marketing campaigns featuring stereotypical tropes. This ostracizes unfamiliar audiences and adds to the social construction of the gamer metanarrative, which contributes to the myopic conception of video games that keeps them out of community spaces.

It is noteworthy that the conceptions of who gamers are and what content is acceptable in games have been increasingly called into question in the wake of more ubiquitous game platforms (such as mobile devices), Gamergate, and the social justice movements of the early 21st century. Publishers are realizing that a more diverse audience might buy games, too (Alexander, 2014; Sheffield, 2013). However, despite evolving demographics and attempts to reach them with more diverse content, rigid conceptions about the formal elements of video games and the spaces they should inhabit have remained largely unchanged. In other words, *The Last of Us Part II*, possibly the game industry's biggest release in 2020, may feature a gay female protagonist, but you still play it on a screen in your house with a gamepad (Naughty Dog, 2020; Sherr, 2020).

Formats for Video Games in Community Spaces

Beyond the economic and cultural obstacles facing video games in community spaces, designers must consider formal challenges. Special hardware is required, which can limit creators and audiences to those with financial privilege and specialized technical expertise. On the other hand, a viewer can admire a sculpture in a gallery, field, or town square with no need for power, far less vulnerability to weather, and no hardware or training requirements.

Analysis of the suitability of existing formats for video games in community spaces illuminates these challenges as well as strategies for overcoming them. Accordingly, video games in community spaces must present two qualities to be effective: access and attraction.

Criteria for Analysis

These criteria are multifaceted and intertwined. They play key roles in a video game's ability to evoke the elements of presence, discovery, and enchantment that characterize art in community spaces.

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[1] It is some of the adopted conventions of the game industry such as long play times, byzantine rules, and a lack of diverse content that are alienating.

Access

Access describes how easily audiences can access an experience. In the context of games in community spaces, access relates specifically to existing community members. A game designed for a specific community space does not need to be accessible to audiences outside of the community space.

Presence cannot happen without access. While physical access to a video game in a community space is clearly essential, players must also be able to easily access its core functionality and essence in order to truly experience it. This means interactions must be clear and highly usable. Further, it is important to evaluate access from the perspective of how easily creators can author experiences. Ideal formats are not limited to those creators who can afford immense budgets.

Attraction

Attraction is the ability to catch the attention of passersby and compel them to participate. In this way, attraction is an essential element for discovery. Successful attraction can draw a crowd. In her essay about media of attraction, Rebecca Rouse describes attraction as "the inciting of wonder or astonishment" in the spectator (Rouse, 2016). This description draws clear connections to enchantment. Media of attraction are better suited for imbuing environments with a sense of enchantment.

The Home Video Game Format

The current home video game format is the result of the commoditization of video games and the gamer metanarrative. It can work in community spaces, but it wasn't designed for them. It is included here as a point of departure and to help explain why its design paradigm is not suited for community spaces. That said, it still occasionally occurs in community spaces, such as museums, coffee shops, and game industry event show floors.

Access

With the proliferation of home video game consoles in the 1980s, game design began to increase in complexity and shift away from a pay-per-play session model. As a result, both the total playtime of games and the length of the typical gameplay session have increased. In 2019, the average video game play session was 1 hour and 22 minutes (*Market Research: The State of Online Gaming – 2019*, 2019). In a community context, players may not have anticipated encountering the game to begin with, so the cost of playing (in time *and* money) should be kept low to encourage new players to try. Extended gameplay sessions afford steeper learning curves and dedicated tutorials. This requires players to play even longer before accessing a game's essential experience. Further, in scenarios where only a limited number of players can play at once, long play sessions can block new players from participating as earlier players occupy the experience.

For creators, while console game development is expensive and closely gate kept, developing a home video game for the PC can be relatively accessible. It can be done with standard PC hardware and there are numerous tools and tutorials available

freely online. However, deploying PC games in community spaces faces logistical challenges. They require a power supply and shelter from weather. They cannot be left unattended, as the general public could steal or damage the relatively delicate hardware.

Attraction

Game developers are very adept at creating attraction within the virtual worlds of their games, but the external, physical presence of home gaming hardware is not inherently designed for attraction. When combined with large TV screens and loudspeakers (elements not baked into the format), the compelling graphics and sound design of home video games can create attraction. However, when left unattended between play sessions, these games appear stagnant and boring. They do not restart themselves and may be left in states especially inhospitable to new players. Imagine a player quitting on a difficult part of a game that they could not get past and then leaving it as the starting point for the following player. As a result of more complex designs, many home video games require spectators to have experience with the game to fully appreciate what is happening on screen. Watching an esports broadcast of a game that you have never played immediately illustrates this issue (Marshall, 2017).

Because video games are developed and tested using personal computers, it can be simplest for developers to showcase their work using the natural interface of the PC: a mouse and keyboard. But these devices were created for typing and navigating desktop productivity software, not playing video games. The multitude of buttons on a keyboard without any intuitive natural mapping to the in-game actions they correspond with can intimidate or confuse uninitiated users. For some, the interface of the keyboard and mouse represents work or official business and has an air of privacy that does not invite public use. A gamepad is better. It has fewer buttons and thus fewer controls to learn. The ergonomic shape of gamepads invites users to pick them up. They are specifically associated with games. But the modern gamepad reflects the complexity of modern console game design. While a gamepad has fewer buttons than a keyboard, it still harbors enough complexity to confuse new players. The gamepad is meant to universally support any game. While intuitive patterns do exist (such as the analog stick controlling character movement), control schemes are not standard across all titles. Further, there is no standard gamepad. While Nintendo, Microsoft, and Sony each use similar controller layouts and shapes, button labels are different for each console vendor.

The Arcade Game Format

The arcade game cabinet is the classic form of presenting video games outside of the home, and in arcade games we can see an example of more accessible video game design. Arcade hardware is designed to withstand the abuse and wear and tear of prolonged public use. The presentation, control schemes, and game mechanics of arcade games are designed to maximize approachability and minimize learning curves.

Access

Arcade games represent the genesis of commercial video games, and early arcade games such as *Pac-Man* were not designed for extended play sessions (Namco, 1980). After all, a long play session means slower monetization, as typical arcade games charge players per play session. If an experience is intended to welcome unfamiliar players rather than intimidate them, players must be able to learn how to play as quickly as possible—perhaps in a matter of seconds. Short play sessions help accommodate busy schedules.

Arcade games, with their intuitive designs, can be more accessible for non-gamer audiences than typical video games designed for play at home. However, some of the same reasons that make them so suitable also render them impractical as an accessible format for creators. Arcade cabinets' bulk and durability, while great for standing up to abuse, also makes them expensive and difficult to deploy or relocate. This makes arcade cabinets less desirable for one night only shows. Their custom interfaces are intuitive but prohibitively expensive and difficult to fabricate. In addition, while arcade cabinets are more durable than home gaming formats, they must still be sheltered from weather and require a power supply, restricting the spaces they can be deployed in.

Attraction

Arcade games are designed for attraction, competing with one another in rooms lined with arcade cabinets. Unlike home video games, they evolved under separate economic forces where attraction defined success. Their physical forms, augmented with lights, speakers, and moveable parts, are designed to catch attention. When arcade games sit idle, they enter into an "attract mode" designed to showcase their gameplay and lure in passersby.

While a given home video game might be designed intuitively and may only use two buttons, the gamepad interface still has many buttons, labeled generically as A, B, X, Y (among others) to support many possible games. In contrast, arcade game cabinets typically house a single game, and their interfaces are designed specifically for that game. As a result, an arcade game can label buttons as "Jump," "Shoot," or any other gameplay function and leave out any extraneous buttons. These simpler appearances are more attractive for new players.

However, many arcade games eschew such abstract control schemes altogether in favor of more intuitive and exciting metaphors. For example, driving games employ steering wheels and pedals. Shooting games employ gun-shaped controllers that the player aims at in-game targets and shoots by pulling a trigger. Dance arcade games are controlled by dancing on a platform. There is even a Japanese arcade game about flipping tables, *Cho Chabudai Gaeshi!*, that uses a flat table-shaped surface attached to a hinge as a controller (Taito, 2009). In the game, the player flips the hinged surface to simulate the act of flipping a table. The spectacle of these interfaces attracts audiences.

Some arcade games employ additional screens that show off gameplay to attract bystanders. For example, the VR arcade game *Virtual Rabbids: The Big Ride* uses a

large screen above players to showcase the experience that the players are witnessing in their head-mounted displays (LAI Games, 2017). *Mario Kart Arcade GP* employs cameras to superimpose photographs of players over their avatars for one another to see (Namco, 2005). This use of mixed reality (MR) enhances immersion, creating attraction for spectators and players alike.

The Bar Trivia Format

Anyone who has been to a restaurant or bar with video trivia has witnessed an implementation of the bar trivia format. While it might not be what someone thinks of first when imagining a video game, it is an effective format for video games in community spaces. The essential elements of this format are distributed interfaces for participants and a centralized communal output source (usually a TV) for facilitating the game. Some non-trivia examples fit this format as well. The Jackbox Games series of party games, where players use their mobile devices for input and share a TV to facilitate the game, when deployed in a community space, fall under this umbrella (Jackbox Games, 2014). The game *Johann Sebastian Joust* provides another interesting example of the format. This no-graphics game uses PlayStation Move controllers as distributed input devices and uses music for communal output.

Access

These games are typically easy to play with short and intermittent play sessions, opening them up to a greater number of players. Distributed input devices open the format up to as many players as there are devices. If a given community space, such as a bar, had greater occupancy than the number of devices, access could be problematic. Allowing users to use their own mobile devices can open the experience more broadly and offset some of the costs for the operator. However, this subjects the experience to the inequity of the digital divide. This format also requires at least one communal screen or another output device oriented such that all players can see (or hear) it, as well as a computer to drive the output device and synchronize the experience between the distributed input devices. These elements have associated costs and logistical challenges from weather, required power supply, and the need for a space that promotes access to as many users as possible.

Attraction

The bar trivia format is an example of what Rouse describes as unassimilated media, which she contends is an essential quality for media of attraction.

> […] they are not part of the fabric of everyday life, retain some novelty, and often have no formal, codified training for associated practitioners. Unassimilated media are not restricted to new technologies; assimilated technologies may be combined in new ways to create convergent media artefacts that also lack assimilation (Rouse, 2016).

Through its novelty, this unassimilated format evokes attraction. Witnessing a group of players stalking one another in *Johann Sebastian Joust* demonstrates the attractive nature of unassimilated media.

Additionally, specific formal elements of the bar trivia format generate attraction. If the distributed input devices are left on restaurant tables or spread out visibly throughout a community space, they can attract players. If players' own mobile devices are used as input devices, information about how to join the game can be physically distributed throughout the community space, or perhaps announced by a host. The communal output device that facilitates the game is an essential element for attraction in this format. A communal screen can catch the attention of spectators, attracting them to become participants. Allowing players to enter a name, which is then broadcast to the occupants of the community space via a screen, is a compelling feature. The knowledge that others will witness a player's actions adds presence and validates the experience.

Augmented Reality

Since AR is inherently connected to physical space, it is a natural format for video games in community spaces. While AR comes in many forms, the prevalence of AR mediated by mobile devices, as popularized by the likes of *Pokémon GO* and Snapchat, makes this format immediately viable for game developers.

Some AR is designed for any space, such as Snapchat filters that overlay animal features over users' faces; while other AR is location specific, such as the gyms in *Pokémon GO*. While either modality, in the right conditions, can technically satisfy the requirements established in this chapter for games in community spaces, AR anchored to specific locations is a closer match to examples of more traditional art in community spaces. The genre of location-specific AR can be even further subdivided into two categories: AR designed so contextually that its meaning only works in a specific location, such as adding virtual labels beside each president's image on Mt. Rushmore, and AR arbitrarily linked to a specific location, like a gym in *Pokémon GO* linked to a McDonald's restaurant. The presidential labels only make sense in the context of Mt. Rushmore. However, the Pokémon gym could be anywhere the game designers see fit (in this case, driven by paid sponsorship). Both subcategories can work well for games in community spaces and impact access and attraction (Sharma et al., 2017).

Access

Mobile AR uses a more embodied interface than traditional video games, with a combination of the touch screen, motion control, GPS, and camera hardware. The intuitive metaphors of physically aiming a mobile device's camera to control a view of the world or moving through physical space to move an avatar make the fundamental AR experience easy to learn.

The spatial possibilities of AR affect access. With mobile AR, while the experience can still be spatially connected to a community space, the computing power and hardware required to host the experience are moved to end users' mobile devices. This drastically expands the spaces capable of hosting an AR experience. As smartphones are battery powered, the host space no longer requires a power supply. Further, since the smartphones are not permanently fixed in the host location, they do not require weatherproofing. With smartphone-based AR, installations can become

nimbler with no physical footprint. For example, a physical mural is a great example of the enchantment of community art, but it requires its own wall to inhabit.

Yet, even when a physical area becomes constrained, AR allows an infinite number of possible experiences to occupy that same space. In addition, the scale of an AR installation can range from as small as the face of a playing card to encompassing an entire city. Installations can be designed to scale with player participation. For example, with AR, a player could build a virtual sculpture that grows as other players add to it. In contrast to street art like graffiti, unsanctioned AR is more difficult to detect and prohibit. This raises complicated ethical questions. For example, it may take extra elbow grease to remove a physical graffiti tag, but the means for removing it and understanding its removed status are clear cut. Removing an AR installation can be less straightforward (Wadhwa, 2016). Regardless of such issues, AR clearly makes a greater range of community spaces accessible to game developers.

The minimum cost of creating an installation falls without the requirements of physical installations, custom hardware, and custom physical interfaces. There are increasingly powerful tools available to developers—such as ARKit, ARCore, and Unity MARS—that simplify the complexities of AR development. These factors open the format to a greater number of creators. Professors John T. Murray and Emily K. Johnson write more about this in their chapter for this book, *XR Content Authoring Challenges: The Creator-Developer Divide*.

In the wake of COVID-19, AR provides a model for video games in community spaces that requires no shared hardware. However, it is important to consider the impact of limiting access to only those with capable smartphones with specific apps installed and the related ethical issues of the digital divide (Hurley, 2016; Marín-Díaz, 2018). Ideally, public art should not have a price of admission. However, as the cost of such devices falls, AR-capable technology is becoming more ubiquitous, and the tradeoffs could make sense.

Attraction

Attraction in mobile AR is less clear cut than it is with arcade games or traditional art forms. This stems from the fact that the virtual elements of a mobile AR experience overlaid on the physical world are invisible without a mediating mobile device that has a specific app open. This raises two key challenges to attraction: first, the way in which players discover the app on the marketplace; and second, the way in which they discover the location-based experience once the app is downloaded.

Generally, the first issue of discovering the app is subject to the same crowded market conditions of home video games. However, the premise of hosting a game in a community space provides additional avenues for attraction and solving the discovery problem. If the game experience is linked to a specific event, the host of the event can provide details for how to obtain the app. This relates to Rouse's concept of seamed media, which she establishes as a quality of media of attraction.

> The role of the film narrator highlights early film's lack of "narrative self-sufficiency" by emphasizing the seam between physical and mediated modes of performance. Many of today's MR [mixed reality] works are similarly seamed, and likewise not self-sufficient narratively. They require ancillary

> materials, explanations, and even live performers or guides. But it is through this exposure of seams that the audience to media of attraction is made explicitly aware of the technology itself. If leveraged well, this awareness can operate to allow audiences to take meta-pleasure in the mediation presented, in addition to the feeling of immersion. This double sense of wonder at both the mastery of the designer, as well as the wonder or astonishment at the effect of the illusion itself, is at the core of media of attraction (Rouse, 2016).

If the experience is embedded in a public place, the players themselves become a force of attraction. Evidence of the attractive power of AR can be seen in the roving assemblies inspired by *Pokémon GO*. If the game experience is asynchronous and location-based, physical signs can be added to the environment to call out the experience and provide instructions for participating. For example, the *Yellow Arrow* project issued yellow arrow stickers that could be placed in the physical world and linked to virtual messages (Ding, 2017).

There is a strong potential for synergy between street and public art and AR. Players passing by initially notice the public art which can include instructions for further engagement via a mobile device. This attraction synergy can be seen in the *Statue Stories* project in Chicago, where curious passersby can scan QR codes displayed near the statues to hear the figures "talking" as mediated through their mobile device (Kogan, 2017).

Conclusion

Video games in community spaces can weave presence, discovery, and enchantment into our environments—far beyond the possibilities of home video game formats. The commoditization of games and the gamer metanarrative have restricted our conception of video games to a form largely incompatible with community spaces. Through the examination of the game formats above, developers and players can see new avenues for integrating games into community spaces. Expanding the presence of video games in community spaces can subvert and dismantle the restrictive conception of video games. This might seem like an unwinnable scenario where the solution to the problem is blocked by the problem itself. However, game developers and gamers latently understand the promise of games in community spaces. A kindling is there, waiting for sparks. Adventuresome venues, event organizers, and independent game developers must be the ones to take on this mantle. The brutal market conditions of the game industry mean most independent developers will have difficulty reaching audiences through the home video game format. As game developers and designers, we need to create opportunities for experiencing video games in community spaces like those that exist for other media. Let us enchant our communities!

Put it into Practice: An AR Game for a Community Space

Come up with an idea for an AR game hosted in a specific community space. This

doesn't necessarily need to be a wholly original game concept, just one that is not currently associated with your chosen community space. Summarize the concept and describe the community space. Why would this game work well in your chosen space? Evaluate the concept in terms of access and attraction. How could this concept create opportunities for presence, discovery, and enchantment for community members?

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