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Pokémon GO as an Advertising Platform: The Case for Locative Advertising in Location-based Games

JOHN DUNHAM, Niantic x RIT Geo Games and Media Research Lab, Rochester Institute of Technology, Rochester, USA
JIANGNAN XU, Niantic x RIT Geo Games and Media Research Lab, Rochester Institute of Technology, Rochester, USA
KONSTANTINOS PAPANGELIS, Niantic x RIT Geo Games and Media Research Lab, Rochester Institute of Technology, Rochester, USA
NICOLAS LALONE, University of Nebraska at Omaha, Omaha, USA
MICHAEL SAKER, University of London, London, UK
DAVID SCHWARTZ, Rochester Institute of Technology, Rochester, USA

Traditional location-based advertising (LBA), such as billboards and signage, has long been a staple of direct-to-consumer advertising. In recent years, however, the prominence and popularity of location-based games have made digital LBA even more appealing. This article draws on an original research project devised to explore a notable gap in the literature on locative media: the impacts of LBA on small businesses in the location-based game *Pokémon GO*. The project was conducted between August and October 2021, employing semi-structured interviews with 35 businesses leveraging Niantic's sponsored location LBA. Our findings indicate that (1) participant businesses found location-based game advertising to be rewarding, (2) LGA can act as an amenity offered by the business, and (3) local community is an essential factor for success in location-based game advertising. In sum, this research demonstrates that local businesses could successfully utilize LGBs like *Pokémon GO* to advertise themselves.

CCS Concepts: • **Human-centered computing** → **Human computer interaction (HCI)**; **Collaborative and social computing;**

Additional Key Words and Phrases: Location-based Games, *Pokémon GO*, COVID-19, Advertising

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Authors' addresses: J. Dunham, Niantic x RIT Geo Games and Media Research Lab, Rochester Institute of Technology, 1 Lomb Memorial Dr, Rochester, NY, 14623, USA; e-mail: jfd2017@rit.edu; J. Xu, Niantic x RIT Geo Games and Media Research Lab, Rochester Institute of Technology, 1 Lomb Memorial Dr, Rochester, NY, 14623, USA; e-mail: jx3896@rit.edu; K. Papangelis, Niantic x RIT Geo Games and Media Research Lab, Rochester Institute of Technology, 1 Lomb Memorial Dr, Rochester, NY,14623, USA; e-mail: kxpigm@rit.edu; N. LaLone, Rochester Institute of Technology, 1 Lomb Memorial Dr, Rochester, NY, 14623, USA; e-mail: njligm@rit.edu; M. Saker, University of London, Northampton Square, London, EC1V 0HB, UK; e-mail: Michael.Saker@city.ac.ukedu; D. Schwartz, Rochester Institute of Technology, 1 Lomb Memorial Dr, Rochester, NY, 14623, USA; e-mail: David.I.Schwartz@rit.edu.

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1 INTRODUCTION

In late 2019, Niantic announced their "sponsored location" program, which enabled businesses to advertise in Location-based Games, particularly *Pokémon GO* (Niantic's flagship title) [42]. While this sponsorship is not the first instance of advertising in location-based games, it nonetheless represents one of the first examples of small businesses gaining access to this kind of service. Significantly, Niantic extended free membership to this program to 1,000 businesses [41], effectively exposing several small businesses to **location-based game advertising (LGA)** for the first time. This advertising model leverages the hybrid nature of location-based games, enhancing the physical location of the business with either a stop or gym (**points of interest (POI)** in *Pokémon GO*).

The promise of LGA presents an advertising modality in which the consumer, in being served these advertisements, directly benefits from the advert in their ludic activity. As these adverts are PoI in the game world, they allow players to update their image of the city [37]. This process instills a sense of brand awareness and provides a more concrete understanding of the business's location. Furthermore, as this advertising model leverages PoI in location-based games, which frequently deliver in-game rewards to players, this might also engender positive associations with the businesses in player perceptions [56].

The present research article represents the conclusion of the late-breaking work contributed by Dunham et al. during the 2022 CHI session [14]. The article contributes to our understanding of locative advertising by describing 35 small business owners participating in Niantic's sponsored location program during 2021. We completed interviews with these businesses between August and October of 2021. The following research questions drive our research.

RQ1 How do business owners perceive LGA?
RQ2 What are the perceived critical factors in advertising success and failure in LGA?
RQ3 What are the pain points associated with LGA?

As a result of these questions, our research highlights three key findings: (1) participant businesses found LGA to be rewarding, improving brand recognizability for local commerce; (2) LGA can act as an amenity offered by the business; and (3) businesses perceive local community as an essential factor for success in LGA. Furthermore, we outline initial best practices for integrating LGA into future location-based games.

2 BACKGROUND

First, this section introduces non-location-based game locative media, which pioneered several themes explored in this research. Second, we provide a brief overview of socialization in location-based games (namely *Pokémon GO*) to contextualize assertions about local communities in *Pokémon GO*. Finally, this section concludes with a critical consideration of **location-based advertising (LBA)**.

2.1 Locative Media

As noted in the introductory section, location-based games represent the overlaying of digital information onto physical locations, frequently implemented as mobile apps [5]. In general, this digital projection onto concrete space can be considered locative media, or media where the user's physical location impacts the presented information. These projections can enhance the imageability [1998]—a measure of a user's mental image—of the city as they recontextualize the space occupied by users [45]. *Pokémon GO* is one of the more popular location-based games at the time of writing, earning over $1 billion US in 2020 alone [2020], and the probe leveraged in this study. A litany of locative apps exists that paved the way for *Pokémon GO* to emerge. For example, Foursquare [2009]

is a seminal **location-based social network (LBSN)** from 2009 that enabled users to "check in" at physical locations and, therefore, share this information with other befriended users [47].

For our purposes, Foursquare is a progenitor of many concepts that form the heart of modern locative media, particularly territoriality. Foursquare users could check in at locations with the capacity of becoming the "mayor," effectively the digital owner, of the place if they had visited it the most in 60 days [31]. In other words, Foursquare leveraged locative technology to create a social network wherein users could claim digital ownership over physical locations [31, 47]. Interestingly, investigating user experience of this platform indicated that check-ins were largely performative, with players presenting an alternate digital self through the mechanisms, as noted by Lindqvist et al. [2011] in a study of Foursquare. Papangelis et al. [2020] support the notion of a disjunct digital self in a follow-up study through a separate locative media probe. The notion of users' performative self is crucial, as it indicates that users of locative media mediate their presentation of self when engaging with it [47]. User mediation of the digital self parallels Goffman's dramaturgical lens of human behavior, wherein the individual has a public and private persona [20]. Returning to locative media, a performative digital self suggests that the norms of the local community impact how app users interact with PoI.

A decade later, Foursquare no longer has the mayor mechanic; however, the performative phenomenon continues in other applications with location-aware mechanics such as Yelp [2004], Twitter [2006], and Facebook [2004]. One such expression of this phenomenon is also present in local businesses that engage in locative social media, as noted in Humphreys et al.'s study of small business owners in New York City and Melbourne [24]. Here, Humphreys et al. highlight that social media platforms enable businesses to control how information about their location is disbursed to potential customers [24]. These results have important implications for locative media's ability to mediate perceptions of entities and, importantly, the value of locative media in heightening brand awareness through PoI. Mechanistically, this advertising is how the business mediates its presentation on the platform.

2.2 Socialization in Location-based Games

Researchers have extensively studied the nature of socialization in *Pokémon GO* and its impact on the game. Prior work has shown local communities to exhibit strong communication and social interaction between players of the game [13, 16, 36]. Territoriality claims over space frequently mediate social interactions in this context, manifesting in playful antagonism between players and resulting in the sense of ownership of physical space through the digital self [45, 46, 49]. Equally—and, of course, before the COVID-19 pandemic—contextual dynamics [2000] between players often resulted in a great deal of in-person interaction [2019] during in-game events such as community days and raiding [48]. Community days are social events in *Pokémon GO* where pokémon spawn more frequently, encouraging players to go out and play the game (in pre-pandemic contexts) [40]. Raiding is a communal activity wherein multiple players come together to challenge enemies in-game that must be defeated with the help of other players [40].

These community dynamics and player tendencies for territoriality are vital to Niantic's objective of making PoI a means of advertising. Small and medium businesses have recently been given access to LGA through Niantic's "sponsored location" program [42]. In the program, a small or medium business—five or fewer storefronts [2020]—can register its location in *Pokémon GO* as an in-game PoI for a nominal fee. This so-called sponsored location allows the business to create and modify its presence in *Pokémon GO*, sponsor in-game events (disabled at the time of inquiry due to COVID-19), and start in-game promotions. For $1 US a day, the business is given a pokéstop (the lower tier of PoI), and at $2 US, the PoI becomes a gym; both levels provide the business with

analytics about their location. Business owners can control their digital presence directly through Niantic's program, allowing them to brand their location as they see fit in the context of location-based games.

2.3 Advertising in Games

Before exploring advertising in location-based games, it is crucial first to explore extant research conducted within the context of more traditional gaming. Of course, advertising in video games is a phenomenon that has been around for a while. Advergames have existed since 1983, with the arcade version of Tapper [1983] and the home console game Kool-Aid Man [1983]. Also known as custom branded games [2014], advergames are long-form advertisements that integrate a business brand with ludic engagement as either a free promotional game (Chex Quest [1996]) or a paid product (Pepsiman [1999]). As seen in Lee et al. [2014], when coupled with brand interactivity (e.g., consumer interaction with mascots, slogans, and brand images), advergames have positive impacts on brand attitude and higher purchase intentions in users. Recent work by Zhao and Renard [2018] also indicates that playfulness (engagement in ludic activity for one's own sake) in viral promotion advergames correlates positively with intending to share the games with other possible consumers. Advergames, therefore, represent a valuable tool for marketing a brand and improving brand associations for the players [50, 55].

The **Interactive Advertising Bureau's (IAB)** Game Committee notes two additional forms of advertising in the space of video games: in-game ads and around-game ads [25]. A banner advertisement or pop-up on a website hosting a game or game skinning is considered around game ads by the IAB, as the advertisement doesn't directly impact the ludic experience [25]. Around-game ads differ significantly from advergames in which the core advertisement is critical to the ludic play experience.

In-game ads represent a middle ground between these two forms of advertising. Static in-game billboards are traditionally the most representative of this flavor of game advertising [25]. Martí-Parreño et al. [2017] studied the impact of this variety of advertising in racing games where the researcher could leverage diegetic billboard advertising, finding it had positive outcomes for brand recall and recognition in familiar and unfamiliar brands alike. Notably, however, familiar brands tended to require fewer repetitions in-game than those players who lacked familiarity. Work conducted by Palmas et al. [2021] indicates that observers of gameplay featuring static in-game ads have better brand recall than their peers who played the same game. Palmas et al. suggest that the players having worse brand recall is an artifact of low gameplay skill, necessitating more engagement in the gameplay, distracting from the advertising. Furthermore, this work [2021] indicates that interactive contact with the advertisement fosters better brand recall, reinforcing work conducted about advergames [30].

A third in-game advertisement model, value-exchange, offers players in-game rewards in exchange for interacting with advertisements [25]. Value-exchange advertisements have seen increasing popularity in the mobile gaming market. It can be considered an expression of prior findings in the study of game advertising (Palmas et al. [2021]; Lee et al. [2014]). Google best practices claim that this advertising model is surprisingly popular, alleging that 50% of users would be disappointed if value-exchange ads were removed based on an internal Google study [21]. An economic analysis by Guo et al. [2019] reinforces the lucrative nature of value-exchange ads, provided reward revenue exceeds the customer's nuisance cost.

Before including small and medium businesses, the value-exchange model was employed in *Pokémon GO*. Businesses such as Starbucks and McDonald's reached deals with Niantic, creating PoI that offered rewards at franchise locations with the appropriate branding in the photo disk (a part of the visual representation of a PoI in-game) and PoI description [52, 54]. These PoI represent

the core location in-game for players to acquire the necessary resources. Niantic also offers an advertising model wherein brands can sponsor geolocated gifts for players in-game, which provide resources after, connecting the brand directly to the reward [43].

2.4 Location-based Advertising

Shortly after launching the sponsored location program, and in light of the COVID-19 pandemic, Niantic also launched the "Local Business Recovery Initiative" [41], which allowed communities to nominate small businesses for inclusion in the sponsored location program for a year free. Thus, the sponsored location program tethers to the community, establishing community engagement as a vital component of this advertising. Further still, observations show that small businesses already have a high degree of enmeshment in their local communities, particularly in the context of social media [53]. Indeed, small businesses can engage in the community meaningfully to engender brand awareness, sentiment, and purchase [2015]. Community engagement may be as simple as responding to posts or making posts on Facebook [2004] pages for the business or brand [2012, 2015]. We can consider these interactions through Goffman's dramaturgical lens of human behavior (i.e., separation of public and private personas) [1959], as entrepreneurs attempt to embody a public persona for their business. While nominally distinct from the individual's identity, this embodiment of identity represents the business owner attempting to engender customers to accept the business and themselves [28].

Locative media augments LBA of old (e.g., billboards and signage), allowing advertisements to address the consumer directly through direct marketing based on location in real time [4]. For example, billboards, a ubiquitous form of classic LBA, offer direct marketing in static, public locations. Due to their static nature, billboards not only are expensive but also only market to a subsection of the business's potential customer base. In locative media augmented LBA, a digital billboard can be leveraged to serve the advertisement to potential customers in a geographic region for lower costs [3]. Work conducted by Xu et al. [2009] indicates that mobile, multimedia, and LBA leads to more favorable consumer responses than traditional advertising. Further, the distinction arises from a perception of increased value in mobile LBA, as the information is generally more relevant to the consumer. Gebreselassie [18] highlights a caveat to preferences regarding digital advertising; in less developed countries, more traditional non-digital techniques, like billboards, are still the most popular modality.

Following this, a perception of value leads to better advertising outcomes, as noted in Wang and Sun [56]. Mobile LBA with location-aware services has promise and value to businesses in the general case. Despite how long advertising has been incorporated into location-based ludic experiences (e.g., Angry Birds [15, 23] and Ingress [38, 39]), there is a limited investigation of marketing potential in location-based games. Wu and Stillwell [2017] conducted a survey (N = 352) of *Pokémon GO* players, finding that spatial presence positively influenced user attitudes toward and intention to visit sponsored locations. Frith [2017] approached the subject matter from the perspective of the businesses themselves, noting that businesses with in-game POI tended to see higher foot traffic. Moreover, the studied businesses engaged with the community through the purchase of in-game items called "lures" that summoned Pokémon to the POI. In addition to Pokémon, these "lures" lured players to their location, increasing foot traffic.

While advertising through location-based games such as *Pokémon GO* is a familiar frontier, there still exists a considerable gap in the literature on this subject, and one we address with this research. This article, therefore, seeks to reduce the knowledge gap of LBA through location-based game impacts, achieved through a set of qualitative interviews with small business owners enrolled in the Niantic sponsored location program. In the following section, we will outline this research's methodological approach.

3 METHODOLOGY

We conducted semi-structured interviews with participants of Niantic's sponsored location program. The first author acquired participants with the collaboration of Niantic's operations department. Collaboration with Niantic allowed the first author access to a list of users who expressed interest in participating in future studies. Furthermore, we acquired access to the documentation provided to users at the start of their participation in the program, giving context to user education in Section 5 of this work. Three factors determined interview eligibility: (1) the business participated in the sponsored location program within the last year, (2) the business self-identified as a small to medium business, and (3) the business had previously consented to participate in studies of the program's efficacy with Niantic. We offered participants no additional incentives for participating in interviews.

In total, we invited 166 businesses to participate in these interviews. Sixty-three businesses consented to participate in the study; however, only 36 completed their interviews during May 2022. Of the 27 businesses that failed to complete their interviews, one dropped out, deciding the discussion would be pointless, citing low interaction with their PoI. In another case, language barriers prevented the completion of the interview. The remaining businesses in this category did not attend their scheduled interview time. Finally, we discarded one of the 36 completed interviews as the content diverged too far from the study's stated goals.

Demographically, our participants came from four countries: the United States (19/35), Canada (11/35), Mexico (4/35), and the United Kingdom (1/35). The average number of employees ranges from 2 (typically run by couples or partners) to 100 (a local entertainment center), with the median number of employees being 6. Although the largest businesses, in terms of payroll, were found in the United States, the surveyed Canadian businesses were more likely to have an employee count greater than 10. Five of the 11 observed Canadian businesses have more than 10 employees, compared to U.S. business rates of 4 to 19. Neither Mexico nor the United Kingdom had any businesses with an employee count of more than 10.

We enabled registration for the interview through the usage of the external online calendar tool Calendly [9]. The participants scheduled the date and time of the interviews. When registering, the calendar tool asked participants for names, email addresses, and business names. The registration also presented the informed consent document to be approved by the participant or flagged the interview for a deeper discussion of the participant's rights before conducting the discussion. We gave all participants a pseudonym to ensure anonymity (see Appendix A).

Interviews began with a summary of the informed consent document outlining the rights of participants concerning the interview. All participants assented to being recorded through Zoom [60], with each interview taking approximately 30 to 45 minutes to complete. Structurally, the interviews were centered on three core categories: (1) demographic information surrounding the business, (2) reasons for joining the program and broad outcomes, and (3) direct questions about the features afforded to sponsored locations. Collaboration between the authors of this article and Niantic's operations team generated a set of 20 questions rooted in these three core categorizations (see Appendix B). We also included clarifying questions to improve the fidelity of participant responses. More precisely, we designed questions and possible follow-ups as clarifying questions. For example, "Do you find the sponsored location valuable to your business operation?" was followed up with "What would you be willing to pay for this service?" The wording of these questions was deliberately open to allow the interviewer to modify the language to match the conversation flow to elicit contextual information surrounding the participant's response. As interviews progressed, these clarifying questions were subject to alteration to accommodate unexpected information from the participants.

Immediately following the interviews, the authors also had brief discussions about the interview content and the relevance of these points to the underpinning exigency of the project. Following the completion of interviews, the first and second authors of this article conducted independent inductive thematic analysis [2018, 2006] of five randomly selected interviews (using the Ubuntu *RANDOM* construct). We conducted inductive analysis iteratively, coding participant interviews directly from interview quotes. These codes—typically related to common trends or stand-out experiences (e.g., issues with a feature's usability or how the participants used promotions)—were further refined into broad themes independently by the coding researchers. Furthermore, we leveraged an iterative process of generating codes and reviewing previously generated codes to refine the preliminary thematic framework suggested by the coders. After generating preliminary codes and themes, the authors then developed a thematic framework through consensus. Procedurally, each author presented their initial coding and theming to other authors, recording codes, core themes, and quotes on a physical whiteboard. The authors then debated the value of the generated codes and themes, addressing potential biases in the coding processes and encouraging reflexivity in the remaining analysis [35]. The first author then used the resulting thematic framework—described below—to assess the remaining 30 interviews [2].

The core themes identified through this process include (1) local community impacts, (2) business enrichment through *Pokémon GO*, (3) pain points in running a location, (4) business type and engagement model, and (5) participant satisfaction with LGA. Furthermore, the authors of this work synthesized these themes to generate design recommendations for LGA going forward. The following section will anonymize participants using alphanumeric identifiers. The first character, B, represents the participant's status as a business. Each business is then assigned a two-digit number between 01 and 35 arbitrarily. Table 1 presents each assigned identifier with demographic information for the associated participant.

4 FINDINGS

In terms of the types of businesses questioned, we've separated them into five categories for analysis: **friendly local game store (FLGS)** (10/35), entertainment venues (6/35), retail (6/35), restaurants (9/35), and professional services (4/35). FLGSs are locations where customers purchase products and engage in ludic activities, such as playing **trading card games (TCGs)**, board games, or wargaming. These locations have a high degree of brand integration with *Pokémon GO*, and nearly every business of this classification (9/10) considered the sponsored location program, as explicitly noted by B12, "a kind of cross-promotion." Entertainment venues ranged from bowling alleys to museums, while professional services included health, tax, and miscellaneous services. Retail venues were similarly diverse, although characterized by a low product integration with the Pokémon franchise in this study. Restaurants were both sit-down and take-out, selling a wide variety of foods.

4.1 Business Enrichment through *Pokémon GO*

Three participants began to treat *Pokémon GO* as an amenity they offered upon joining the sponsored location program. In short, *Pokémon GO* was a new service they could offer their customers. The perception of *Pokémon GO* as an amenity was especially apparent for FLGSs, with one store comparing a *Pokémon GO* gym (B05) to having "free wifi or having beverages … available in the shop." In other words, some businesses understood this digital overlay as providing customers with a feature that made frequenting this establishment desirable. LGA transcended mere advertisement; instead, it added value to the entire business model.

Some of the businesses (11/35) aligned with this sentiment were generally more tightly entangled with the Pokémon franchise in that they sold products or ran events that directly interfaced

with the brand. Brand integration typically manifests in the sale of the Pokémon TCG and the operation of tournaments in our participants. Businesses that leveraged LGA in this manner near unilaterally (10/11) expected customers to remain at the location for extended periods. The stops/gyms in these instances would serve as an activity to keep the customers rooted to the location between rounds, which could be enhanced by scrupulous owners who augmented nearby stops using in-game lures (as players cannot lure gyms).

For example, one FLGS owner (B05) described having a store phone to facilitate this behavior and further augment the customer experience.

> *We also have a store phone that has an official [store name] account on it that we can use whenever a guest comes in and says they're looking to trade … [or] they need to complete [another task in game], … we can facilitate that using that phone.*

In having a store phone, the business makes explicit the active role the business is taking in the *Pokémon GO* game experience. As a result, this process recontextualizes that space to be one of ludic engagement with *Pokémon GO*, allowing for stationary play of the location-based games.

Examples of this level of integration were rare; however, many participants (9/35) repeated a familiar refrain: COVID-19 made running events unappealing. While some locations used their new gym or pokéstop to draw players during in-game events (12/35), in-person events were frequently taboo. In addition to the more altruistic rationales questioning the morality of running in-person events, others were more practical. Local ordinances forbade gatherings and carried harsh penalties for locations deemed responsible for localized outbreaks. As one FLGS noted (B12):

> *There's no in-store gathering right now [as] we don't have the staff or the inclination with the delta variant to have 50 people in our location. If we become a super spreader, they shut us down for three months.*

Such a shutdown could be the death knell for many of the studied businesses, which operated, in some cases, on thin margins. When a business considered *Pokémon GO* as an amenity, a strong relationship with the community was essential for perceptions of the program's success. However, local *Pokémon GO* culture directly impacted the efficacy of community outreach, as we explain.

4.2 The Influence of Local Culture

Areas with low foot traffic host a number of the surveyed businesses (9/35) where car culture was more common, meaning customers were more likely to arrive by car. Frequently, these businesses described being in more secluded spaces or locations on highways. Car play involves players using cars to move between points of interest, as observed by our participants (despite warnings from the *Pokémon GO* app). Locations requiring a car to reach them aren't ideal places to engage in the play of location-based games. However, of the nine participants describing their location as getting more car traffic, six surprisingly reported foot traffic increases. B21 offered player curiosity as one potential explanation for this disconnect:

> *I know for me and other players, if you see a new gym, you just say, "Oh, let's just walk by it!" That brings people in, and [they] check you out. I think it's very helpful [to] business owners.*

B10, on the other hand, highlighted the proximity of their location to local play communities:

> *[Our region] is spread out, it's not like a city, so [the Gym] made it more centralized … [rather than] going 10 or 15 minutes up the road to the municipal building, or a new town. So me putting the gym there, I think, kind of helped some people that don't want to drive that far.*

This explanation appears to be more tied to rural locations than urban ones in which there's a greater average distance between POI. However, the most striking rationale for the increase came from B06, who described a local community that practiced "small business local support … [by being] more engaged in their local areas." B06, however, also appeared to be more active in reaching out to the location-based game community:

> *We could see customers who are playing Pokémon GO, we start talking to them, … [then] they bring a friend … from out of town [for] community day. We've been known as the place to come [to play Pokémon GO].*

B06's success indicates that business engagement with the location-based game community begets engagement from the community. Moreover, some participants (12/35) wanted to facilitate these engagement conversations by leveraging physical promotions such as window clings. As B11 notes: "We use that poster, and then people know … even if they're just playing *Pokémon GO* if they want to escape the elements [they can] come in and play, that they have a place."

The three remaining cases appear to be more tied to the behaviors of the local players. These local players, according to B33, were more focused on raiding and considered the sponsored gym as just another stop on routes that are more or less optimized to maximize gains from raiding:

> *I'm just assuming that the Pokémon GO folks are just the … diehard [ones] that are driving around … to get the benefit of the special raid and then move on [saying,] "I don't need to go into the game store and buy a Pokémon pack … I'm not into that."*

The disconnect between players using the stop and patronizing the location hints at the local *Pokémon GO* community having some bearing on the program's efficacy.

4.2.1 Perceptions of Success. Overall, 20 of 35 of the surveyed businesses reported increases in their foot traffic. Business owners reporting this increase generally appeared to believe that the program was doing *something* to draw attention to their store. Most business owners who saw foot traffic increases gave explanations similar to B21's. Twenty-six participants believed that the sponsored location served as a means of brand awareness, with 15 reporting increased foot traffic. Participants perceived the location in-game as a digital billboard. Bookstore B23 joined the program for this reason:

> *[We joined to] get some neighborhood recognition, so people realize, "oh there's a bookstore over here." People that play Pokémon GO might not notice us because we are kind of in an out-of-the-way location.*

B23 also reported that this perception was effective for their business:

> *[We got] a different clientele to notice us and stop in, [or] at least pull into the parking lot [to] do the gym or a raid … [Some of] these people came into the store to look around.*

FLGS B04 mirrors B23's sentiment:

> *Many people have come [to the store], and they tell me that they [found] us because they [saw] the stop of the business and in the small description it says we're a hobby store.*

These two stores operate on separate engagement models. The bookstore expects more transitory interactions, and the FLGS expects sustained customer interactions, suggesting a business-agnostic quality—vis-a-vis how they interact with customers—for the value of the locations as billboards.

Despite apparent merit in the program for brand awareness and increases in foot traffic, some participants (8/35) who reported increases in foot traffic also appeared to be unsure of the program's efficacy. This lack of certainty was a broader trend, with 19 businesses reporting uncertainty about the actual efficacy of the program. This uncertainty appears to be related to the local community not communicating *Pokémon GO* as a factor in patronizing the business. A lack of interaction over the game with businesses is likely rooted in communal norms, as noted by B13: "Players are really trained, not to bug the businesses there's a gym attached to, … I think the entire community is trained, not to disrupt." Niantic offers some tools to counteract this attribute of local communities, but only some participants in our sample used them.

4.3 Operating a Location

Niantic gave participant businesses access to an administrative interface that afforded them basic control over how their location was presented in-game: location photo, description, and analytics. Users were informed of this program in the initial start-up email for setting up their digital location. Despite the tools' existence and introduction in the startup email, many participants (17/35) reported being utterly unfamiliar with the interface. B16 offers the most common explanation for this knowledge gap: "I got the initial email about how to set it up, ... but I've kind of forgotten, and I haven't been asked about it until now." B16 suggested reminder emails to business owners when asked for a potential solution.

4.3.1 Sponsored Location Analytics. Seventeen participants reported a lack of awareness of the tools, and 11 also reported uncertainty about the efficacy of the location for advertising. However, only one of these businesses reported a lack of access to analytics as a source of uncertainty. Instead, low interaction from the community was the more common pain point. The usage of the analytics assuages low certainty in the sponsored locations. However, the participants without tool awareness declined to speculate on the potential efficacy of analytics to assuage uncertainty.

Overall, participants didn't report using the analytics frequently, with only 12 claiming to have used them when they had their location. Moreover, those aware of the interface didn't always view it as a solution for determining advertising success (4/35). For B07, the analytics were too general to be meaningful:

> *It doesn't give me enough information to really make an informed decision on changing anything. The analytics are fairly basic; it's mostly just gameplay, so it doesn't really tell me about the demographic.*

The lack of specificity was a common critique of the resource, although several participants (2/35) acknowledged potential privacy issues in addressing this concern. COVID-19 also impacted the effectiveness of the analytics in participants' eyes due to increased interaction distances and changes in the administration interface's features.

Participants generally considered the analytics as a novelty. However, unlike most businesses, two (2/35) participants reported using analytics for business decisions. FLGS B04 used analytics as a tool for discussing business plans with stakeholders: "The analytics are always a good tool to see how we are doing [and if] we are freezing (*sic*) in the numbers, we can discuss what we can do." Similarly, B31, a restaurant, used analytics to decide the day to run a promotion. "We used data from the analytics to set up a promotion on Wednesday … [because] Wednesday has the most traffic or the most users of the application." However, existing knowledge of the game and Wednesday Raid Hours may have impacted B31's experience with the analytics.

4.3.2 Sponsored Location Promotions. In addition to the analytics, participants could leverage the admin interface to launch promotions. Niantic support staff must approve promotions before

going live in the game. Seven participants directly leveraged this feature, and one of those had just started their promotion at the time of the interview. The businesses leveraging this utility frequently linked promotions to store events or customers' life events (e.g., back to school). B11, for example, coordinated promotions with "anytime [they] had a new big product coming out … [and used] it as an advertising tool, [but] we haven't offered discounts." Interestingly, B11's not offering a discount represented a motif in the participant reports, as businesses were already operating on slim margins.

These promotions weren't always successful, with three reported as having no positive outcomes. Interestingly, there was no common trend among these failed promotions. B30 only had one person take advantage of the promotion, speculating, "[maybe] the promotion is not attractive enough. There's not a lot of benefit from the sponsored promotion." B24 thought the promotion system was "suspended for a while during COVID," blaming the system rather than their promotion. However, the most interesting reason for "failure" was reported by B15, who thought "a lot of people didn't take [the promotion] up because they wanted to support us." Once again, we must recognize the value of the local community of players in locative advertising.

B20 modified its location's description to advertise a quarterly—free—collectible pin to drive customers to the store, which resulted in the business "getting 7 to 12 people in the first week" arriving to claim the promotion. In the eyes of this business, using the location as a promotional tool did drive customers to their store. Participants also leveraged social media in conjunction with the stop, using the stop as more of a lure to potential customers. This technique was more in line with traditional advertising modalities and was generally successful.

4.3.3 The Sponsored Location Learning Curve. While participants leveraged the Niantic offered tools, they described a reduction in usage over time. The limitations of the features participants could use on their location reduced their tool usage. One participant (B03) pointed explicitly to the fact they "can't actually schedule any events right now with the restrictions due to COVID-19." They lamented an inability to sponsor raids, the premier event in *Pokémon GO*.

In general, however, most participants (19/35) did not manage their virtual location through the supplied tool. For some (8/35), this was due to their frantic schedules. B26 considered learning the tool "at the bottom of [its] list with a bunch of other things that [they] haven't finished." To participants in this category, their existing responsibilities outweighed the perceived value of using the tool to manage their location directly. In the case of the remaining participants, the reasons for low usage patterns ranged from insufficient technical expertise to forgetting the tool existed. Generally, participant responses point to the tool needing to be easier to use for the value it gave. However, the difficulties of using the management tool were surprisingly not coupled with whether the participants were satisfied with the program or whether they had not recommended it.

4.4 Satisfaction: It's Not Just Business

Nearly every participant (32/35) indicated that they had been playing the game before joining the sponsor program, which factored into their desire to join it. These participants also frequently expressed explicit dedication to the game. Members of B23's business "are all addicted to *Pokémon GO*," motivating the business to join the program. As noted above, dedication to the game was only one of the driving factors for this business to join the program (see Section 4.2). Existing domain expertise with the franchise and *Pokémon GO* is the most vital driver.

In some cases, the participant was even a leader in their local *Pokémon GO* community. The owner of entertainment venue B28 was "a community leader. When [anybody] had questions, [they were] one of the guys they came to." Before joining the program, their business had already been a PoI in the game, and it was already a minor focal point for play in the community. Joining

the program converted their stop to a gym, which allowed for new types of play at the location, particularly raiding: "Many people would come in, hang out, and do the raids at the [business]." B28 expressed overwhelming positivity about the program, focusing on its ability to drive foot traffic and highlighting its appeal for entertainment venues with sustained customer interaction models. However, there needs to be more certainty about the actual income afforded by the program.

Participants (6/35) also reported a sensation that having a managed in-game location made them feel accepted by not only *Pokémon GO* but also the broader Pokémon franchise. To some, such as B04, joining the program "[gave] some prestige to [their] business." B31 felt they were accepted and were "joining a big thing" in *Pokémon GO*. This sensation results in the participants feeling as though *Pokémon GO* or the Pokémon franchise tacitly approves of their business in accepting them as a location in the game. Businesses that expressed this sentiment were unilaterally satisfied with the program.

Yet, participants who played the game didn't necessarily express gratification with the program overall. Of the six participants expressing a negative experience, a common refrain was again the ambiguity of the analytics, as summarized by B08:

> *The biggest thing for us is it's just hard to tell a tangible result from [the program]. So [if] we could figure out how to do that, I think it would be a more beneficial service.*

Similarly, participants were frustrated with the program's reduced services, particularly the ability to launch events at their location, with B24 highlighting their frustration as being "due to the COVID suspension."

Similarly, mixed reception to the program (9/35) focused on the gaps in the feature set and was generally optimistic, focusing on the potential over the current features. B03 expressed a tentative optimism that they could use the program to offset slow days: "If I made it so that every week on Saturday," the business's slow day, "we could schedule an event to get people into the store, then that might actually turn into income for us." Other participants cited the pandemic as a mediating factor in their neutrality to the program. These participants expressed fears about running events and engaging in outreach, with some businesses, such as B11, planning events for the future: "Once the pandemic goes away, we might start offering a discount just to see how many people are actually using it." Neutrality was also a trend among businesses with low integration with their location who were in the program for their gratification. In these cases, because participation centers on personal gameplay, the cost to sponsor the location would be prohibitive, as B16 notes: "It's more of a personal investment, I would pay more than … the average <business> shop. [Targeted online ads] don't tend to go over more than ten, fifteen dollars a month."

4.4.1 The Cost of Doing Business. Positive satisfaction with the program (20/35) highlighted foot traffic and a feeling of acceptance, as noted above. Satisfaction, however, doesn't seem to be necessarily linked to perceptions of cost for the program. Despite the high positive satisfaction rate, only nine participants believed the program was worth the current price (Niantic suspended payments at the time of the interview). Those businesses that found the price reasonable were generally entertainment venues (6/35), which viewed the expense as easily recoupable given their business model. B28 elaborates on this point:

> *It's foot traffic; it's people coming to the business. … Whether they come in and buy a soda for 1 dollar or they go in and spend 50 dollars on whatever the products that your business might offer. Even if ten people walk by, … and you only get one to come in your store, and you make 50 dollars off of one person, that's still 50 dollars more than you would have ever made if [the PoI] wasn't there.*

The remaining three businesses found the cost of the advertising to be within their budgets.

However, not all participants accepted the standing pricing model; razor-thin margins, the aforementioned disabled features, and unclear returns contributed to the general resistance to the current pricing model ($1 US a day for a stop, $2 for a gym). A large number of participants (16/35) found the current pricing to be too high for their business. B22 elucidates: "60 [US] dollars a month is a lot of money for us, so I think that I obviously have to discuss [that with my partner]." Local currency compounds this problem, as was highlighted in our interviews with Canadian and Mexican participants. Local costs are on different scales based on location in the United States, and much less in other countries. B13, a Canadian business, explicitly called this discrepancy out in their interview: "[I'd pay] probably about twenty dollars a month, and that's Canadian. I think your price in US Dollars is a lot."

The remaining participants (10/35) sat on the border between acceptable and unacceptable pricing. These participants had conditions for their support of the pricing, as in the case of B19, who is reserving judgment until they have better analytics: "Two dollars a day could be worthwhile, but I don't know until I'm able to measure out the analytics to say this is worth it." B10 was waiting for the reinstatement of an in-game feature to draw conclusions:

> *I understand that it is a gym and it's an ex-raid gym, but the ex-raid passes aren't live right now. I'm assuming that [will] be pretty valuable once they're back.*

In these cases, participants looked to the potential of the sponsored location rather than judging on its current COVID-19 suppressed form. B10's interview also highlights a general trend of belief (9/35) among the participants that gyms were generally more valuable than their stop counterparts, focusing on the ability to raid afforded by gyms.

4.4.2 Would They Recommend It? Finally, tangible results, pricing, or program satisfaction affected the likelihood of recommending the program to other businesses. An overwhelming majority of participants (29/35) would recommend or had recommended the program to other small and medium businesses. Some recommendations naturally aligned with the participants' experiences. Indeed, all participants who reported a positive experience (20/35) with the program recommended it, citing their experiences as a motivating factor. The remaining nine participants willing to recommend the program had mixed feelings about their experience (8/35) or were generally unsatisfied (1/35). In the case of the participant who reported low satisfaction, they had previously introduced the program to other business community members before recognizing their dissatisfaction. The remaining participants recommended the program conditionally relating to business type, highlighting businesses like "gaming cafes" (B09) or a "gaming house" (B14). For the remaining six, participants cited the cost of the 555 program, geographic issues, and concerns over features.

5 DISCUSSION

5.1 Research Question 1: Business Perceptions

Our participants generally found LGA to have a positive impact on fostering awareness of their respective brands. Although this increase wasn't unilateral, most businesses studied (26/35) considered the sponsored location program a good shepherd for brand awareness. PoI advertisement acts as a digital billboard to the players, highlighting businesses savvy enough to appeal to them through their ludic experience.

Using a PoI in *Pokémon GO* for LGA forces players to interact with it no less than two times to receive a reward in the form of in-game resources. An increase in awareness aligns with the findings of Palmas et al. [44], who note that interaction with advertising has a positive effect on

brand awareness. These PoI advertisements also leverage the value exchange model of interaction described by the IAB's Game Committee, Google, and Guo et al. [21, 22, 25]. However, the LGA PoI advertisement is more diegetically linked to the context of the game, in contrast to more traditional models, which require the consumer to watch a video or complete a survey; an LGA PoI expects the player to play the game. This design choice in serving the advertisement reduces the nuisance cost [2019] of the value exchange, allowing both Niantic and the business to offer less in terms of rewards while still maintaining player satisfaction. Our participants reinforce this conclusion, generally espousing the program's value to their customers. More tangibly, this satisfaction can result in favorable perceptions of the business, directly leading to positive business outcomes as suggested by Wang and Sun [56]. In our present research, participants support this view, with 20 of the 35 surveyed businesses describing increased foot traffic.

5.2 Research Question 2: Business Outcomes

Despite being common among participants, businesses do not universally observe increased foot traffic. When considering the distinction between businesses located in locations requiring a car and those where travel on foot is more the norm, a similar distribution of increased foot traffic is apparent. For every business that reported no increase in foot traffic, three businesses observed an increase. As such, conveyance means and physical location are low predictors for the efficacy of LGA for foot traffic increases. Instead, a deeper relationship exists between the local community and the efficacy of LGA. Communal norms centered around interference with local businesses appeared to mediate LGA efficacy most directly. Communities with a culture of engaging with businesses, and vice versa, tended to have positive experiences with program results. When engagement came from the business, it typically occurred through event organization, integrated promotions, or even the time-honored tradition [2012, 2015] of social media posts. However, these social media posts directly referenced the status of the business as a sponsored location.

In contrast, more insular communities that avoided contact with businesses tended to house businesses with minimal foot traffic changes due to LGA. These communities had a minimal incentive to interact with local businesses, which lacked a social reward for interaction. Low interaction may also be an extension of territoriality, albeit not so much as players declaring ownership [2011, 2020], but as the tensions between physical and digital ownership. While players can establish a sense of ownership over locations in location-based games, this ownership is ephemeral and contextual when they don't own the property. In contrast, physical ownership (e.g., of a business or a home) appears more concrete to players and takes precedence over the digital world. The dynamic between digital and physical ownership may make players' perceptions of space muddled, making entering territories with these unclear dynamics unappealing or awkward.

The tension of ownership, coupled with the attributes of successful businesses, suggests that when leveraging LGA PoI, LGA purchasers (the small businesses) must engage with the local community of the location-based game. The PoI must incentivize in-person interaction, inviting players to interact with the physical world. By interacting with the player, the PoI, or the business itself, we can reduce the ambiguity produced by the overlay of the digital world. Discussions with our participants (12/35) also suggest that ambiguity is reduced when physical artifacts demark the physical site as a space for gameplay.

5.2.1 The Pokémon Amenity. LGA represents a means for business owners to express a love of the location-based game publicly and semi-privately. For some businesses, the LGA was a public expression in both the digital and physical worlds. In contrast, other businesses elected to keep their expression to the semi-private domain of location-based games. While still public, the location-based game narrowed the expression to a receptive audience, allowing the business/business owner

to maintain a private self regarding the location-based game [20]. A tax adjustor, for example, may want to appeal to players of a location-based game, but the business owner might also be worried about the impact this advertising may have on their perception by the local business community. Local norms may associate the location-based game with frivolity or unprofessional behavior. Consequently, the business might avoid "real-world" associations with the game. However, because the virtual world of the location-based game is opt-in, the business can present a second digital version of itself to an accepting audience [28]. By separating business personas, the business can appeal to two audiences while avoiding the alienation of potential customers. While still a tool for advertising, LGA effectively allows businesses to target a subset of consumers with minimal effort.

At the same time, not all businesses need separate personas regarding the locative media they use to advertise. Many participants, namely FLGSs, integrated the LGA through *Pokémon GO* into their public persona. For some, LGA integration into their public persona manifested as social media advertising or physical artifacts. Others, however, leverage LGA to generate value and enrich customer experiences. For these participants, *Pokémon GO* became an amenity they offered to customers. Like public wifi or a snack machine, these businesses leveraged their participation with LGA to extend and enrich the experience of their patrons. Moreover, some participants in this work supported this point, using LGA to offer new services relating to the game for their players pro bono. Alternatively, the LGA is a focal point for customer conversation and discussion. This effort from the business provides additional interaction rewards to the consumer, strengthening the goodwill engendered by the value exchange already offered by the LGA.

Returning to the tension between digital and physical ownership, the deliberate conversion of *Pokémon GO* to an amenity relieves this pressure. The participants who appeared to have the best success with the program described taking actions that recognized *Pokémon GO* in concrete space. Success through physical recognition of the location-based game suggests that, unlike traditional forms of video game advertisement, LGA for small businesses requires an additional, more personal touch to be effective. Perhaps this requirement derives from location-based games' reliance on the local community. In contrast to older forms of locative advertising, such as signage and billboards, LGA requires consumers who are already familiar with the location-based game to be effective. Nonetheless, players must actively engage with the game while near the location. Even if players exist, they may only recognize the location in the context of the game if they are playing close enough to it. In projecting the location-based game into physical space through direct action by the business, the business's participation becomes obvious, permitting players to engage in the location-based game there. For the producer of the location-based games, this may attract new players, as they now have a location to play the game. This LGA usage can aid the business and the location-based game producer when executed correctly.

5.3 Research Question 3: Sponsored Pain Points

Despite the promise of LGA already discussed, participants didn't find it to be clearly beneficial to their business operations. Nineteen of our participants indicated doubts about the program's effectiveness as an advertising avenue. The local community and business engagement may influence this sentiment; however, we must recognize the problems experienced by participants with LGA management tools.

While tools for management were available and described in the registration email, participants had a relatively high rate of not recognizing they existed. Paradoxically, those participants needed to access the tool to establish their PoI in the first place. This discrepancy points to two critical managerial implications: (1) consumers using LGA need more frequent notification of feature sets, and (2) the cognitive load of these messages should be deliberately light.

When asked for a solution, the participants unilaterally requested additional emails. Some requested an email, but those familiar with the tool requested additional reminders. Indirectly, however, the participants further indicated a need for easily consumable lessons. As our participants were small and medium-sized businesses, time was a premium some couldn't afford. For some, the tools weren't appealing enough to cut into the time the business owner could spend operating their business. Accordingly, short samples of tool usage alongside short instruction or bite-sized lessons may improve the value of the toolset for LGA customers.

To complicate things, many participants had difficulty connecting the analytics contained within the tool to actual business results. The analytics were abstract and more focused on the location-based game aspects of the PoI instead of the business aspects; they expressed no clear linkage between players and business usage. The LGA variation studied didn't integrate with point-of-sale terminals or encourage players to log they had visited the business. Worse still, due to COVID-19, Niantic increased the interaction range for PoI, so players could interact with the stop and not necessarily interact with the physical location [12]. In response to this uncertainty, future work needs to explore incentivization for physical interaction further. Despite the observed flaws with the tools, participants who leveraged the tools were more satisfied with their experiences surrounding LGA. Those participants who had enough time to learn to leverage the tools and analytics may have bought into the LGA more than their peers; perhaps they already had pre-existing confidence in LGA, resulting in them dedicating more time to the endeavor.

5.4 Design Implications

The key value of our findings, however, is that they elucidate some critical design implications for both LGA and location-based games. LGA represents a business-directed mechanism for generating PoI. While there is a monetary motivation in the case of LGA, developers could extend these lessons to non-LGA contexts. Furthermore, our explorations of user interactions with PoI provide lessons on properly managing people–place relationships in location-based game contexts.

5.4.1 Reimaging the City. Beyond performance indicators, such as foot traffic, LGA has a potential secondary effect. As location-based games contextualize space, as seen in research by Papangelis et al. [2020], it stands to reason that LGA can similarly do so. Through LGA, a business can purposefully recontextualize its physical location with the location-based game. By adding a PoI to the game through LGA, the business enforces its location as one with an additional ludic context. Businesses, therefore, enhance the customer experience through the digital overlay, potentially altering the value of the location in their minds. For FLGS and entertainment venues, the addition of play opportunities for location-based games is a clear value-add, as the play can serve as an amenity expanding their already existing ludic services.

Yet, this contextualization is potentially valuable even for businesses not entangled in selling ludic experiences. More generally, LGA PoI can potentially adjust the imageability [1960] of the city in the minds of the game's players. Placing a so-called digital billboard at the business location, players who have never visited acquire a digital landmark to orient themselves. These recognizable locations then directly enhance the player's imageability of their locale, introducing the location into their spatial memory.

Coupled with expressions of territoriality as observed by Papengelis et al. [2020] and Lindqvist et al. [2011] in locative media, players have these locations reinforced in their minds. Repetitive encounters with the location may account for enhancements in brand awareness, as observed in non-location-based games by Martí-Parreño et al. [33]. The usefulness of LGA extends beyond merely improving brand awareness or increasing performance indicators such as foot traffic. It may be possible to recover cities digitally by leveraging advertising and location-based games.

Fig. 1. Physical artifacts inviting *Pokémon GO* players to play. Colonie Center, NY (Sept. 16, 2016).

As COVID-19 continues to re-contextualize nearly every aspect of life worldwide, LGA producers could leverage this technology to redirect players of location-based games to perform actions favorable for the local community.

The present research broadly examines the value of LGA in the context of revitalizing and assisting particular small businesses. However, concerted efforts by local business communities or governments could use clusters of PoI to entice players to patronize locally owned stores and services. The consumer of the location-based game content would be exposed to the livery and branding of their local economy, associating them with positive interactions in a ludic context [30]. Players with better associations with local brands may be more likely to express purchase intentions. Adding location data reduces barriers for the player to engage with the business. More importantly, players who develop positive associations with local businesses may be more willing to share their experiences with those who aren't even playing [59]. Future researchers must conduct further explorations of player sentiment concerning LGA.

5.4.2 Permission to Play. While we have observed expressions of territoriality and ownership of hybrid spaces in prior work [2011, 2020], the users in these contexts operated with a degree of certainty that their play was allowed. In pursuing our research questions, a tension between digital and physical ownership was evident. In some instances, players didn't feel they were permitted to play in some spaces or weren't properly motivated to engage in the physical space. However, in cases where participants directly engaged with the local community of players, there was a higher degree of engagement between players and their local communities. Given the importance of socialization in location-based games [2021], it stands to reason that this increased engagement may lead to further adoption or, at the very least, heightened gratification for players of the location-based game.

For this reason, upon launching or promoting location-based games, developers should deploy physical artifacts to signal to potential players that the space is safe to engage in the location-based game. These artifacts can be deployed as window stickers, posters, or even elaborate decorations, as shown in Figure 1. Given the digital nature of location-based games, this may also serve as a means of introduction for new players. Additionally, location-based games can further direct players to engage in local communities when coordinated by a local municipality.

5.4.3 Location-based Games and Social Media. A common request from our participants was to integrate existing social media platforms into the location-based game. A basic social media integration currently exists in *Pokémon GO*; however, players can only share pictures of Pokémon in AR contexts. Our participants expressed a vested interest in social media integrations that would allow them to schedule events and interact with members of their communities on the platforms they use. Beyond a marketing capacity, this is a valuable addition to location-based games. In enabling means for players and businesses to schedule events in the location-based game and propagate them out through common social channels, the developers of location-based games would allow a means by which players could socialize more effectively than observed in prior work [6, 48]. Furthermore, the event schedule could be on user timelines, allowing locations to set the frequency and pace of their events relating to the game. In enabling ad hoc events through social media, developers of location-based games may even see enhanced interaction rates.

5.4.4 Selling LGA to Businesses. Participants indicate that word-of-mouth recommendations for LGA may propagate the service locally, as the recommendation was near universal. Interestingly, participant recommendation tendency focuses on the promise of LGA over its actual offerings today. Future offerings of LGA should endeavor to meet at least some of these expectations to maintain this goodwill.

One of the central issues noted by our participants was the program's overall cost. For many of our participants, the $30 to 60 US a month [2021] cost was too high. Small and medium businesses operate on thin margins, particularly those interviewed in this work. In this regard, expenditures on advertising should have clearly defined outcomes and benefits to attract this customer class. For this reason, social media is prevalent in small and medium businesses, as the cost is frequently nonexistent, and the business owners can see direct results through engagement [28, 53]. In contrast, LGA requires a subscription fee, and the return on investment is ephemeral.

LGA producers need to take steps to enhance the value of analytics or refine the price to be more amenable to the monetary concerns of small businesses. A la carte pricing models where a business pays for a promotion or event may be particularly appealing, as they further enhance the perceived value of the LGA service as an amenity. Additionally, highlighting LGA as a digital billboard and an amenity for a business may be the most appropriate strategy for enticing small businesses to join the program. In this manner, the business's conception of LGA can be less focused on traditional advertising metrics and more on the holistic impacts of entering a physical space into a location-based game.

5.4.5 Breaking the Rules. Our final recommendation centers around the benefits offered and not offered by PoI. Today, most conventional location-based game PoIs offer fixed benefits. For example, in *Pokémon GO*, gyms offer raids and gym battles in addition to limited resources. However, players cannot lure them in exchange for these benefits. Lures in *Pokémon GO* are items that attract Pokémon to PoI. In contrast, pokéstops offer just resources; however, they can attract Pokémon and players alike through lures.

The PoI roles are well defined and codified in the rules of *Pokémon GO* [40], as such a type of contract exists between players of the game and the creators of the location-based game. Because this unspoken contract exists, location-based game developers can bend or break it to emphasize PoI as important. Returning to restoring and reimaging the city (Section 5.4.1), a developer could deliberately modify a PoI to draw players to a specific location. Beyond simply local businesses, as explored in LGA, adjusting the localized value of the space in the location-based game can draw players to historical sites, green spaces, libraries, or other landmarks. In this, location-based games wield awesome power over the hearts and minds of their players; however, further exploration is required to understand how much power this manifests.

6 CONCLUSION

LGA is a new modality of advertising that's not fully understood. While LBA has been employed to great success and well studied, a gap exists in the study and implementation of LGA [4, 56, 58]. The present research, therefore, seeks to address this gap through a collection of semi-structured interviews centered around one of the first large-scale deployments of LGA in a real-world context. These interviews probed three core research questions:

RQ1 How do business owners perceive LGA?
RQ2 What are the perceived critical factors in advertising success and failure in LGA?
RQ3 What are the pain points associated with LGA?

Our findings make three significant contributions to the understanding of LGA: (1) participant businesses found LGA to be rewarding, improving brand recognizability for local commerce; (2) LGA can act as an amenity offered by the business; and (3) the local community is an essential factor for success in LGA.

Based on the present findings, LGA implemented as an in-game sponsored PoI is usually rewarding for the interviewed businesses. Many participants believe that LGA contributed to brand awareness and foot traffic in their locations. Furthermore, some participants recognized the value of LGA as an amenity to offer their customers, enriching their experience and acting as an advertisement. Other participants leveraged the LGA to present an alternate identity to a privileged community free from scorn or social taboo.

This work also notes the importance of community in the success of LGA, whether existing communities or communities generated by business intervention. Finally, we determined that LGA requires additional care in educating businesses in leveraging it due to its novelty. This education must consider the limited time small businesses have for education.

6.1 Limitations

This work is limited to businesses with English-speaking owners, preventing interviews with non-English-speaking participants in the sponsored location program. However, researchers must check if our findings on LGA are translatable to non-English locales. Additionally, while a partnership with Niantic aided our recruitment efforts, interviews were opt-in, potentially biasing our results toward extremes in user experience. Furthermore, the participants were recipients of aid in advertising, which may bias the present results toward the positive.

The present research highlights a temporally specific snapshot of the studied businesses participating in a limited program. As such, exact replication of our findings is unlikely in future research. However, this work represents an essential initial step in assessing the role advertising plays in location-based games. Location-based games such as *Pokémon GO* are not static things. As the publisher changes mechanics and designed affordances, and the community reacts to these and external changes, we expect that expressions of the present themes may change. Future work should consider the differences in the designed affordances of the LGA studied relative to those described in the present work.

Finally, this work focuses on LGA in *Pokémon GO*. While the design of *Pokémon GO* exhibits similarity to other popular location-based games, such as Ingress [39], affordances have been generated to be interpreted through the processes of social contexts [45]. The mechanics and designs of the location-based game mediate the precise expression of LGA. However, different location-based game mechanics and designs have resulted in similar expressions of player behavior, albeit with different emphases [13]. As such, the nature of *Pokémon GO* may have amplified certain factors in the LGA while suppressing others. In continuing the current literature trend, this analysis focuses on the lived experiences of business owners who participated in LGA rather than the specific

relationships in *Pokémon GO*. As such, this study resembles other studies in the field of location-based games (e.g., methodological framework, interpretive lens, etc.; see Section 3 for more details), building on the existing body of work [13, 45, 46, 48]. This work continues the larger discourse on the attributes of location-based games and their impact on the world. Accordingly, this work must not be interpreted in a vacuum but alongside other location-based game discourses.

6.2 The Future of LGA Research

Research targeting players who encounter LGA in real life is necessary to understand the impacts of the advertising modality on consumers. Researchers should carefully consider the impact of LGA on brand awareness, purchase intention, and sentiment. In the context of this research, we only have business owners' perspectives on their consumers' responses. While the owner's perspective is valuable in comprehending initial perceptions of advertising value, a greater focus on consumers is necessary for future work. Additionally, future work should verify the proposed alterations to LGA made in this work through real-world testing. Altered interfaces and pricing models need evaluation to determine optimal outcomes for the location-based game producer and the LGA purchaser. Future work should also explore our research questions in broader location-based game contexts as the genre expands. Finally, researchers must understand the impacts of LGA on location-based games, considering the following questions: Does LGA impact well-being? How does it affect play rates? Does LGA PoI affect game balance meaningfully? These questions represent a broader scope of research questions and explorations far beyond the context of this work.

APPENDICES

A BUSINESS INFORMATION

B INTERVIEW GUIDE

B.1 Business Information

(1) What products and services does your business provide?
(2) How many locations does your business have?
  (a) Would you consider any of your locations to be rural or urban?
(3) How many employees does your business employ?
(4) What kinds of advertising have you employed for your business before?
  (a) What has been the most successful strategy for your business?
  (b) If it's *Pokémon GO*, what was the previous best strategy?

B.2 *Pokémon GO* Sponsored Location

(1) What motivated your business, in your words, to join the *Pokémon GO* sponsored location program?
  (a) Where did you hear about the sponsored location program?
(2) Did *Pokémon GO* already have an impact on your business in the past before joining the program?
  (a) Was your location already a pokéstop or gym?
  (b) Did you offer a discount to players prior to joining the sponsored location program?
  (c) What are your thoughts on the changes to pokéstop interaction distances?
    (i) How would you like to see changes to interaction distances implemented?
  (d) How has the morale/mood of your business changed since joining the program?
(3) Do you or employees "lure" the stop?
  (a) If you lure the stops, do you notice differences in traffic or spending habits or customers?
  (b) Do you have a culture of playing *Pokemon GO* among your staff (including self)?

Table 1. Businesses—Type, Country, Employee Count

Identifier	Business Type	Country	Employee Count
B01	FLGS	Canada	32
B02	Retail	Canada	3
B03	Retail	Canada	14
B04	FLGS	Mexico	3
B05	FLGS	US	11
B06	Restaurant - Sit-down	US	6
B07	Retail	Canada	14
B08	Entertainment	US	40
B09	Restaurant - Take-out	Canada	7
B10	Service	US	7
B11	FLGS	US	6
B12	FLGS	US	5
B13	Entertainment	Canada	25
B14	Service	Canada	34
B15	FLGS	US	2
B16	Retail	US	4
B17	Service	US	6
B18	Restaurant - Take-out	US	10
B19	Entertainment	US	100
B20	FLGS	US	2
B21	Restaurant - Take-out	Canada	2
B22	Restaurant - Take-out	Canada	3
B23	Retail	US	3
B24	FLGS	UK	2
B25	FLGS	Canada	2
B26	Entertainment	US	9
B27	Retail	Canada	15
B28	Entertainment	US	2
B29	Service	US	6
B30	Restaurant - Sit-down	Mexico	3
B31	Restaurant - Take-out	Mexico	3
B32	Restaurant - Sit-down	Mexico	6
B33	FLGS	US	3
B34	Entertainment	US	10
B35	Restaurant - Sit-down	US	20

(4) If your location has a gym, does it belong to certain teams more frequently?
  (a) Do you see regular players who own the gym?
(5) Do you interact with the *Pokémon GO* community?
  (a) How do you interact with the community?
  (b) If you do, why do you interact with the community?
(6) Have any games impacted engagement with your business before the program?
  (a) After the program?
(7) What benefits did you get out of the sponsored location program?

(a) Did you observe an increase in sales, foot traffic, or customer engagement?
(b) Have you gained returning customers in the months since starting the sponsored location program, and do you think the program is the cause?

B.3 Sponsored Location Features

(1) What features of the sponsored location service did you leverage?
  (a) In-game promotions?
  (b) Change the image once or twice per month?
  (c) Out-of-game promotions?
  (d) Poster/tangible things ("you can play here")?
(2) Did players use or mention in-game promotions when visiting your location?
  (a) Do you consider the in-game promotions digital billboards?
  (b) Did you use the space for promotions at all?
(3) Have you organized in-person interactions with your sponsored location?
  (a) Describe an event you ran.
  (b) Did you employ fliers, banners, special offers, physical advertisements, or special menu items?
  (c) If you organized a physical event, how was it received by the customers?
(4) Have you changed the way you've run your shop since joining the sponsored location program?
  (a) Do you leverage the analytics offered by Niantic?
  (b) Have you made decisions about running your shop based on these analytics (e.g., changing offered goods and services or store appearances)?
  (c) If you don't, why not?
(5) Do you find the sponsored location to be valuable to your business operation?
  (a) What would you be willing to pay for this service?
(6) What features do you envision as being valuable to your business operation?
  (a) What features do you want?
(7) Would you recommend this to someone else?
  (a) Why/why not?
(8) What other (ad) offerings would you like to see offered by Niantic?
  (a) Geofence billboards (new product, such as an in-game item that appears on the map where the player selects it)?
  (b) Would you like to see promotions in gifts from your Sponsored Location?
  (c) Would you be interested in integrating additional multimedia features?
(9) Would you be interested in joining for other games (e.g., Ingress, Harry Potter, and future games)?

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