Para-Social Presence for Companionship: A Case Study on Pokémon Go

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Abstract

Based on the Domestication Approach, this study examined how users utilized a mobile augmented reality system (MARS) to fulfill their companionship needs. Pokémon Go, a MARS, was used as the research tool to explore both online and onsite presence. Prior studies found the MARS fulfilled several users' needs. There was a lack of studies in understanding the relationships among MARS users, social networks, digital content, and the environment. An ethnography research method was conducted between 2016 and 2020. Results showed that the MARS users built friendships with other users and media characters (i.e., Pokémon). Both their human friends and Pokémon always kept company with them no matter where they went. The interaction between online and onsite and the friendships between real people and media characters seemed to be blurring because of the MARS.

Key words: Mobile Augmented Reality, Para-Social Presence, Companionship, Pokémon Go

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Augmented reality (AR) is a technology aiming to merge digital content and real-world environments in real-time. With smartphone and wearable communication and information technologies (ICT) are ubiquitous, mobile augmented reality systems (MARS) have evolved to become one of the most exciting media. They open various opportunities for users to experience and interact with digital content at the physical locations on the move (Kourouthanassis, Boletsis, Bardaki, & Chasanidou, 2015). One aspect of the MARS is used for storytelling and story consuming at the locations (Pavlik & Bridges, 2013). John Pavlik and colleagues call those MARS content as "Situated Documentaries" that the MARS embeds multimedia presentations in the real world for users to consume at the location (Hollerer et al., 1999; Pavlik, 2001). When users are at locations where events reported on originally occurred, they use their MARS to retrieve situated documentaries about the events. At Columbia University, researchers are working and testing a series of situated documentaries that are demonstrated by the MARS. One of their key results shows that the MARS adds a layer of information at the locations for its users. It brings a different user experience of media consumption at locations (Pavlik, 2001). Pavlik and McIntosh (2006) also argue that a situated documentary is best called "context-aware" media content. With a MARS, users are immersed in a three-dimensional aural and visual re-creation of the past. They believe that a MARS is a virtual time machine enabling the users to visit past time and events. They argue that the MARS will be more popular with the continued development of the mobile interfaces and the mobile broadband systems.

Many MARS are designed to encourage users to retrieve and consume the situated documentaries at the locations. Scholars and researchers (e.g., Azuma, 1997; Höllerer & Feiner, 2005; Hollerer, Feiner, & Pavlik, 1999; Pavlik, 2001) comment that MARS could be utilized in

several fields, such as annotation and visualization, architecture and archaeology, assembly and construction, entertainment, geographic fieldwork, journalism, maintenance and inspection, medicine, military training and combat, navigation and path finding, personal information management, tourism, and urban modeling. For example, a study that reports that MARS for tourists offers interface elements for search and browse through timely and updated information at the locations (Yovcheva, Buhalis, & Gatzidis, 2012). For a museum example, the Museum of London has a free MARS, Streetmuseum, for users to seek historical photographs in locations throughout the city (Sinclair, 2014). The early MARS design is offering "clicking-and-viewing" with limited interaction between MARS content and users. However, other MARS, such as Pokémon Go, offers more interaction opportunities among users, digital content, and environments.

MARS is pervasively becoming used because of Pokémon Go by Niantic (Liberati, 2018). With a careful MARS interface and content design, the MARS offers more than "situated documentaries" to its users. The MARS users (i.e., Pokémon trainers who catch, train, care for, and battle with Pokémon) are wandering trails, parks, and city streets with PokéStops and PokéGyms after works and schools. The PokéStops and PokéGyms are the virtual locations that are assigned to fixed locations in the physical world. The MARS users spin PokéStops and PokéGyms to collect items, such as PokéBalls which are used to catch Pokémon and PokéGifts which are used to send to other Pokémon trainers. The PokéGifts, PokeStops, and PokeGyms show location information with images. They walk, play, and adventure with their PokéBuddy which is a chosen Pokémon while they are commuting. They make sure to hatch eggs while they are on the move. During weekends or the Pokémon Community Days, they walk and take photos with their PokéBuddies and their family members together. The Pokémon Community Days are

one-a-month events featuring a particular Pokémon that appear at a higher rate at the assigned local times. The MARS users showcase those photos on social media. They use social media to exchange information on how to catch, hatch, and train Pokémon. They also form social media groups for getting people to raid together or chasing rare Pokémon. The MARS interactions are online and offline as well as onsite and offsite with users and non-users. Liberati (2018) argues that Pokémon Go users intertwine digital content with environments into their everyday life. Prior studies on Pokémon Go user experience focus on early adopters (Althoff, White, & Horvitz, 2016; Nedelcheva, 2016; Paavilainen et al., 2017). This study is interested in how the long-term MARS users make sense of the location, the MARS content, and the surroundings.

With mobile devices, both digital content and expert experience from social networks could be embedded in everyday life at the locations at any time. Mobile device users seek, capture, store, share digital content at the locations. User experience (UX) at the locations is augmented by the digital content (Liberati, 2018). Additionally, mobile media have the capability to bridge the human connections at any time at any place (Kopomaa, 2000; Ling, 2004). Mobile media scholars and researchers (e.g., Harper, 2010; Katz & Aakhus, 2002; Ling, 2012) argue that the mobile media blur the online and offline social network presence. Mobile device users utilize their social networks to learn and share location information by making calls, sending images, and texting their friends and family members. For example, mobile device users use their phones to seek product information from both online resources and human references to make their shopping decisions in front of the products or at the check-out counters. They search product prices and reviews online or call their friends and family members who have expertise in the products to assist their shopping decisions at the shops. The presence among online content,

offline content, online social networks, and onsite people in anywhere at any time are intertwined at the locations via mobile devices.

The popular MARS, Pokémon Go, provides an opportunity to examine a blurring line between physical presence and telepresence among users, digital content, and the environment. The MARS users are making sense of the digital and physical surroundings when they use the system. When the MARS users walk around the real world, Pokémon appear on the system. The users throw PokéBalls to catch them. The goal is to collect them and fill out the PokéDex that is the place to show if the Pokémon has been seen or caught by the Pokémon trainer. The MARS users careful examine and select which Pokémon to keep and which Pokémon to transfer for candies based on the Pokémon individual value (IV), the Pokémon combat power (CP), the Pokémon trainer's personal preferences, and their friends and family members' suggestions. They also take photos of their Pokémon at selected locations. They share and discuss those photos with others. The social aspect of the MARS ranges among users, human friends, Pokémon trainer avatars, and Pokémon from online and offline. The interaction environments include physical locations, physical locations with virtual spaces, and online spaces. Since Pokémon Go was released in July 2016, it intrigues studies in many fields, ranging from health (Althoff et al., 2016; Howe et al., 2016), philosophy (Liberati, 2018), and safety (Colley et al., 2017), and UX (Aluri, 2017; Paavilainen et al., 2017). Many of these studies focus on investing in the early adopters. This study is interested to explore the long-term users' experience to learn how the MARS is incorporated into everyday life.

Theoretical framework

This study was interested to learn the intertwine among MARS users, digital content, and environments. According to the telepresence theory, telepresence was defined as "the experience

of presence in an environment by means of a communication medium" (Steuer, 1992, p.75). The theory suggested that the structure of the medium affected the interactivity of the users, resulting in the medium's usage (Song & Zinkhan, 2008). It seemed to be a good theory to examine the MARS impact on its users. Additionally, research found if an individual became dependent on media and/ or media content to fulfill his or her certain needs and goals, the media and/or media content became more important to that individual. Media Dependency Theory also stated that the individual did not depend on all media and media content equally and people might be more dependent on certain media for information or sources in times of change or when there was an increase in uncertainty (Ball-Rokeach, 1998; Ball-Rokeach & DeFleur, 1976). In terms of understanding the relationships among MARS users, digital content, and environment, this study paid attention to interactions among users, non-users, onsite content, online information, onsite spaces and online spaces to learn the perception and motivation of the MARS experience.

Finally, prior research found that telepresence consequences included arousal/relaxation, empathy, persuasion, and others. This study was especially interested to explore MARS companionship. The situated documentaries by the MARS provided rich interaction opportunities. Media researchers studied the perceived relationship that traditional media users developed with media figures, such as celebrities, actors, presenters, and fictional characters. The concept of para-social interaction became well established in the media and communication fields for decades (Giles, 2002). Research on traditional media (e.g., TV, radio) use found that media users interacted with media figures, but not identified with those figures. To understand the companionship from media figures to media users, Horton and Wohl (1956) first argued that the interaction between media users and media figures produced a form of para-social relationship, to which the users responded as though in a real-world social relationship. In other

words, media users reacted to media figures as if the figures were part of the user's peer groups. Media users and media figures did "claim and achieve intimacy with what are literally crowds of strangers" (p. 216). Media users knew the media figures as they would their own friends. Giles (2002) suggested that para-social interaction may be viewed as "usual social activity" (p. 280).

Mark Levy (1979) commented that although the media users did not communicate directly with the media figures, media users were still said to interact with the persona because users argued that they "benefit from the persona's wisdom, reflect on his advice, sympathize with him in his difficulties, [and] forgive his/her mistakes" (p. 70). In the researcher's viewpoint, para-social interaction was considered complementary to social communication. He studied 24 participants who watched television news regularly in Albany, New York and found that 53% of research participants reported that they had some level of para-social relationship with media figures. His participants commented they occasionally responded to a newscaster's opening greeting or sign-off. They also felt "upset" when the anchorman's absence. They seek for companionship from television figures. His participants appreciated the "presence" of the newscasters when they were alone. Those participants also felt sorry for the newscaster's mistakes.

Another example was by Orlik (2016). The researcher used retro TV, which was the updating of ten- or twenty-year-old television series rather than simply re-airing the original episodes, to examine the media users' needs for companionship. He argued the characters in retro TV became part of user's lives and became their friends. He cited professor Geist's observations on interactions between the characters in retro TV and media users as users developed the bond with the TV characters because users grew up letting their favorite TV characters into their living rooms every week. It was natural that users wanted to see those

characters again twenty years later and checked in with them and made sure the characters were turning out all right. In addition, he cited Michael Antecol's definition of para-social interaction as followed:

> A relationship of friendship or intimacy by a television viewer with a remote media character It is based on affective ties by the viewer with the media character. As such it may take the form of seeking guidance from the characters, making friends with them and imagining being part of the program's social world (Michael Antecol, as cited in Orlik, 2015).

Auter and Palmgreen (2000) commented that the para-social relationship was like interpersonal relationships that the interaction was one way only. The researchers also believed that understanding para-social relationship from media content to media users provided significant insight in audience and media relationship. As para-social relationships increased, media consumption increased to maintain the relationship/friendship (Rubin, Perse, & Power, 1985). Prior para-social relationship studies examined relationships between children and their favorite television characters (e.g., Hoffner, 1996), listeners and talk show radio hosts (e.g., Rubin & Step, 2000), fans and celebrities (e.g., Alperstein, 1991), and followers and bloggers (e.g., Colliander & Dahlén, 2011). Results showed media users developed the para-social relationship with the media figures.

Research also showed that media users utilized the media content (i.e., media figures) to fulfill some of their companionship needs. Rubin and colleagues (e.g., Armstrong & Rubin, 1989; Rubin, Perse, & Power, 1985) began to develop scales to test the para-social interaction in the 1980s. They used the term of "companionship" to describe the para-social interaction between media users and media figures. Those relationships included both verbal and non-verbal interaction. The current study was interested in understanding if there was a relationship between the media figures of situated documentaries (i.e., Pokémon and avatar) and their users. It was

also interesting to learn if those MARS media figures could fulfill their users' companionship needs. A MARS mediated the "context-aware" media content at locations with high mobility and accessibility. The MARS provided new opportunities to examine the para-social relationship between media users and media figures with the locations.

Literature review

Pokémon Go user experience

Research on why users adopted and addicted to Pokémon Go has been conducted. Results showed that the users tapped the MARS into nostalgia, adopted the MARS in transmedia storytelling, and played the MARS with groups (Tang, 2017). Tang (2017) argued that the MARS users utilized the system to fulfill their childhood dream to be Pokémon trainers. Those MARS users made other non-users to get involved in the system. The researcher claimed the MARS users evolved the system to be a social norm that users brought more people to use the system.

Prior studies on the Pokémon Go user experience (UX) found some trends in the use of the MARS. Paavilainen et al. (2017) found that the MARS users reported that the system was entertainment, socialization, and nostalgia as a positive experience. The MARS added a layer of fun when the users were strolling around, walking with their dogs, and exercising. It made a connection within the social network from both online and offense when they played together. The MARS users accomplished their childhood dreams to be Pokémon trainers by using the MARS. Similar findings were reported in another study from Malaysia (Ghazali, Mutum, & Woon, 2019). On the other hand, technical problems, urban-rural gaps, and misuses of the MARS were reported as some negative UX in Paavilainen et al. (2017) study. The MARS users

reported that there were fewer Pokémon, PokéStops, PokéGyms in rural areas. They also disliked other users cheating, spoofing, and stealing the PokéGyms. In the project, inter-generational activities were mentioned. The researchers pointed these activities were remarkable phenomena and suggested for future investigation in this area (Paavilainen et al., 2017).

Colley et al. (2017) research found that the locations in the Pokémon Go had strong correlations with the real-world locations. In other words, the research found that the rural places, such as in the countryside and in the woods, and the people who lived in them were substantially disadvantaged in the system because of the fewer Pokémon and PokéStop. The MARS users also reported that they visited new locations because of the MARS. When they were out to catch Pokémon, they reported that they spent money at the locations.

Interactive Media and Companionship

Several mobile music device studies found that mobile music device users utilized their devices to keep them companies while commuting in cities (Bull, 2000; 2007). Antonucci (1990) argued that companionship referred to the direct effect model of social support (as cited in Leung & Lee, 2005). Leung and Lee (2005) implied that people might receive direct advice, information, suggestions, relaxation, and other types of social support from interactive media (e.g., mobile phones, Internet, MP3). The researchers mentioned that people received positive social support via interactive media in the emotional/informational and positive social interaction dimensions. They conducted a face-to-face structured questionnaire interview study with 1192 respondents in 2002 in Hong Kong. Their study found people who had strong social support (i.e., received and gave love, affection, sympathy, guidance, advice, information, and social companionship and spent time with others in leisure and recreational activities) in both online and offline had better qualities of life.

Various interactive media studies showed that users utilized their media to seek information, get advice, kill times, maintain relationships, and keep them entertained while on the move. Examples included Rakow and Navarro (1993) studied how mobile phones allowed mothers to manage their children and homes when they were away from their homes and children whereas their husbands utilized the mobile phones to fulfill their wives' "special needs of protection" (p. 144). Similar "mobile parenting" findings were found in Timo Kopomaa (2000) and Rich Ling's (2004; 2008; 2012) studies.

The mobile phone also can function as a "pacifier" for adults since it supported connections, and in particular emotional connections, with their family. The mobile phone can help users who were away from home to fill in time gaps and deal with loneliness. In addition, it can be used to ask for advice from loved ones at homes (Geser, 2006). Chen and Katz's (2009) study found American college students used their mobile phone to maintain their relationships with their families while they were away from homes and with their friends when they were at schools. Participants in their study reported that they made voices phone calls to family members and used social media and text messages to communicate with their friends. Participants called their family members anytime because they knew that their family members were going to be always available for their calls whereas they were concerned their friends' time availabilities at the moments. Moreover, another study found that mobile phone users used their devices to ask for prayers for their issues and concerns while they were in needed (Baesler & Chen, 2013).

Summary

Prior studies on Pokémon Go found that challenge, competition, ease of use, enjoyment, nostalgia, outdoor activity, and socializing were reasons that users used the MARS (Hamari, Malik, Koski, & Johri, 2019). In this study, the researcher aimed to explore if the MARS

fulfilled the users' companionship needs. Because the traditional media provided companionship to their users (Colliander & Dahlén, 2011; Hoffner, 1996) and mobile interactive media always connected their users to their social network (Ling, 2004, 2012), it was important to learn in what ways the new media (i.e., MARS) could fulfill users' companionship needs.

Methods

This study took a mixed-method approach, focusing on two primary approaches for understanding the sense--- of the presence of using the Pokémon Go. Pokémon Go was selected because it was the first normalizing MARS for the masses. It soon became a global cultural phenomenon. It dominated the download chart in the AR category (Iqbal, 2020). Cities around the world incorporated the MARS to attract users to visit the cities (Niantic, 2020). It was one of the most used and profitable MARS in 2016 (Fitzpatrick, 2016). Until 2019, it ranked the second highest-earning mobile game in the world (Taylor, 2019). An interesting finding was that the MARS was not taking the time that would be spent on other apps. It actually was converting non-mobile time into mobile time (Iqbal, 2020). In other words, it seemed that the MARS users might have domesticated the MARS into their everyday life.

An ethnographic research method which combined online and onsite participant observations, and serval in-depth interviews with the participants were conducted. The research sites included a college town in Ohio, and a city in New York as well as the Kaohsiung city in Taiwan. A Taiwanese Facebook Group page and two American Discord Channels were selected to be online observation sites because they matched the onsite observation locations. The researcher analyzed onsite fieldnotes, online posts, and online messages from Facebook and Discord, to learn patterns and motivations of the MARS experience. The selected participants were users who reached the Pokémon trainer level cap (i.e., Level 40) and regularly used the

Pokémon Go for more than 5 days a week. The ethnographic method was a qualitative research method where researchers observed and/or interacted with a study's participants in their real-life environment. The researcher spent time and lived in those three locations while conducting the research. The research approach was a method for understanding the social contexts in which both users and media were embedded in the environments (Dourish, 2007). The ethnography research process involved extended observations of a culture-sharing group (i.e., Pokémon Go long-term users) through participant observation to look for patterns of values, behaviors, beliefs, and language of a culture-sharing group. In other words, the researcher was immersed in the day-to-day of the people and observed and interviewed the group participants (Creswell, 2013).

Since the launch of Pokémon Go in 2016, the observations were conducted for over 4 years. The researcher participated in the raids and community days. By July 2020, the researcher participated in over 7000 raids. The observation times for each was on average 30 minutes. Observations times ranged from mornings to nights. Field notes and photos were taken when the situations were allowed. The researcher paid special attention to interactions (1) between the MARS users and non-users; (2) between the MARS users and other users; and (3) between the MARS users and Pokémon/ avatars. The interviews were conducted in between Fall 2019 and Spring 2020 to learn in detail how to interpret the users' behaviors that were identified from the observation data. Based on Morse's suggestion, this study approximately aimed to interview 30-50 participants (Morse, 1994). In the end, when attended over raids and interviewed more than around 30 participants, there were no more new findings to be found.

When conducting ethnographic research, the theory was an important aspect to guide research attention (Creswell, 2013). The Domestication Approach provided the theoretical lens for empirical and methodological analyses in this study. The Domestication Approach advanced

by Roger Silverstone and Leslie Haddon was relevant to considering for this research question because it explained the process in which the use of technology became an integrated part of everyday life (Haddon, 2003; Silverstone, Hirsch, & Morley, 2005). The Domestication Approach had four partial phases or processes: appropriation, objectification, incorporation and conversion (Silverstone et al., 2005). In the context of considering the MARS being 'domesticated', the process included: appropriation was the MARS leaves the world of a "product" and was taken by an individual or a household and owned, objectification related to how the MARS was given a place and role by the individual or household's aesthetic environment; incorporation was the ways in which the MARS was used and fits into the individual or household's everyday life; and conversion was the process through which the relationship between the individual or the household and the outside world became articulated. Prior studies on the Domestication Approach found mobile media users perceived gratifications in the area of fashion, status, and sociability (Hijazi-Omari & Ribak, 2008; Lemish & Cohen, 2005; Katz & Sugiyama, 2006). The current research intended to utilize the Domestication Approach to seek for using patterns in each stage within Pokémon Go use.

Findings

Mix-presence in everyday life

This study finds Pokémon Go MARS users from all age groups and occupations. It finds all four phases of the Domestication Approach: appropriation, objectification, incorporation and conversion (Silverstone et al., 2005) among the Pokémon Go MARS use. The MARS users are introduced to the system by their friends or family members as well as strangers. Similar to other mobile media studies' findings that users keep using mobile media because of their family members and friends' requests (e.g., Ling, 2012), some MARS users keep using the system

because there is something to do with their family members and friends, and because their family members or friends want them to do so. Some of the adult children teach their parents how to use the MARS. It is also similar to the findings on how people learn to use the mobile media from younger generations (e.g., Correa, 2014).

The MARS users utilize the system to create family activities and memories from onsite and online. Examples include that a husband helps his working wife to battle Legendary Pokémon with his 5-year-old daughter together. His wife calls him and "orders" him to catch some Pokémon "for her" while he walks his daughter and his and his wife's Pokémon Buddies at the park. On social media, posts show that a few MARS users help their family members or friends to catch region-limited Pokémon on different continents when they travel overseas. They also enjoy opening the PokéGifts because "I feel that I visit many places" (a senior female user) and because "I hatch this Canadian Pokémon from a PokéGift that my friend sends me. My friend is taking a family trip to the Niagara Falls" (a male user). It shows that the MARS users have their social network in their pockets. They carry their human and Pokémon network everywhere they go.

The virtual places seem to become a real place for many users. In some PokéGyms, such as PokéGyms locate at parks or temples, a group of seniors get together and drink Taiwanese tea while they are feeding barriers to their Pokémon at the PokéGyms. They team up with other seniors whom they meet on daily basis to battle and occupy the PokéGyms. For those PokéGyms, they become virtual public places for seniors to meet people and exchange information. They often battle raids at PokéGyms and collect items from PokéStops near their homes. For young people, they post images of the PokéStops and the PokéGyms on social media, so they know where to meet others. The MARS users check avatars and Pokémon on the

PokéGyms to see if their friends have been here before. Some of them routinely visit the same PokéStops and PokéGyms on the way to work or on the way to home. Because both PokéStops and PokéGyms have location images, “I use the Pokémon Map to find where to go when I visit a new place. I find the PokéMap with location photos sometimes is better than the Google Map” (a male user).

The MARS users are showing off their badges, medals, items, Pokémon, and their avatars to others both online and onsite as well as both personal social networks and Pokémon networks. It is similar to Katz and Sugiyama's (2006) study that Japanese young mobile phone users use their mobile to make their fashion and social network status. The MARS users also make their status statements to others by using the system. This study finds the primary purposes of the MARS users who show off their badges, medals, items, Pokémon, and their avatars to others are making small talks and creating their stories.

The MARS users struggle to find a “place” to fit the MARS into their everyday life. The Pokémon and avatars are co- presence with them in many everyday activities. Many of them use the MARS between homes and works or near their homes. Some of them have the system “always-on”. Workers and students find breaks to catch or battle Pokémon. Housewives and seniors use it based on their time, locations, and relationships availabilities. They incorporate their social networks with their Pokémon networks. They introduce their Pokémon networks to their social networks. “Everything is real for me. The Pokémon, the avatar, and my human friends are all real” (a senior female participant). The MARS adds a layer of “presence” in their everyday activities.

Similar to other Pokémon Go user experience research (Paavilainen et al., 2017; Tang, 2017), this study also finds the users use the MARS to fulfill their socialization, information,

entrainment, and decision needs. Examples include that the MARS users bring their friends to use the system; they also make new friends because of the system; they exchange both Poké-related and non-Poké-related information online and onsite where are at PokéGyms and PokéStops; they use the system for entrainment purposes, especially when new events introduce; and there are many decisions making process before, during and after using the system. For long-term users, this research finds that the MARS long-term users use the system to have less relationship with nostalgia (Paavilainen et al., 2017; Tang, 2017). Many of them do not have the background storylines of the system. They use the MARS to create their personal stories/ experiences with their family members, their social network, and their Pokémon with locations. It also finds the use of the MARS for fulfilling individual and family needs.

Companionship is among Pokémon, Avatars, and Users

While using patterns for information, entertainment, socialization and decision needs are similar to other media use, the companionship needs that are fulfilling by online friends (as of Pokémon, avatars, and human friends with whom they have online interactions only) and offline friends (as other MARS users and non-users) and by the personal social networks and by Pokémon networks seem to be unique for the MARS use. In this study, pieces of evidence from both observations and posts on the social media show that the MARS users name their Pokémon and talk to their Pokémon all of the time as they are real people. When the MARS users are alone or visit a new place, they make sure their Pokémon Buddy is with them. “During the COVID quarantine, I have the system on all of the time. I don’t feel alone at my apartment” (a female user). They use the MARS to communicate with human friends onsite and online. Sometimes, their avatars represent them to make friendships with others.

From para-social companionship between the Pokémon and the MARS users' side, seniors are found to utilize the system to keep them company all of the times when their children and family members are not available for them. They walk their Pokémon Buddy daily and visit "their" PokeGyms to take care of their Pokémon at the PokéGyms. Housewives are using the system when they are free from their housework and their family. Radway (1991) finds women use romance novels to create a fantasy world for escaping from their everyday housework. However, this study does not have enough data to understand if those housewives are utilizing the system to escape from their everyday realities or if there are other motivations to keep them using the system. Many MARS users also use the system to accompany them between homes and work and between homes and schools. Some of them also "walk" their Pokémon daily as their pets. "Just like walking my dog before. After my dog died, I walk my Pokémon every day now" (a male user). They "talk" to their Pokémon and their avatars all of the time. Before raids, they check other users' avatars in the lobbies to learn the avatars' background.

For the human-to-human companionship side, the MARS users go to PokéGyms and PokéStops to meet their PokéFriends. They build their Pokémon networks on social media and at PokéGyms or PokéStops to battle raids and PokéGyms from opposite teams. They organize events for their online Pokémon networks to meet onsite. They bring their personal social networks to their Pokémon networks. They introduce their Pokémon networks to their personal social networks. They invite strangers to join their online Pokémon networks at the offline PokéGyms and PokéStops. Some examples are demonstrated by the housewives use the MARS with their family members after dinners and other MARS users also incorporate the MARS into their family interactions after dinners or during weekends. It is not unusual to find the MARS users to have more than one accounts or use more than one phones. Those extra accounts and

mobile phones are for their family members or friends who are not able to attend in person. Examples include a mother take her son and daughter's phones to combat Legendary Pokémon while her kids are sleeping. A female MARS user uses her brother's account on her phone to catch Legendary Pokémon because he is busy at work. The MARS users showcase their Pokémon and avatars to other MARS users both online and onsite for making small talks. The MARS adds a layer of the family/ human interaction for those housewives and other MARS users both online and onsite as well as at both virtual and physical spaces.

Finally, the companionship among the MARS users, the Pokémon networks, and the personal networks seems intriguing. Findings include that the MARS users develop companionship with other users and other users' avatars. Those Pokémon and avatars mediate both the human-relationships and the para-social relationships. The MARS users bring their own social networks to meet their Pokémon networks that included avatars, Pokémon and human friends whom they meet in both online and onsite. When they introduce their Pokémon or avatars to other users, it seems that those Pokémon and avatars are real people or their best friends in real world. One onsite note documents that a male MARS user points his mobile phone screen to introduce other MARS users' avatars at the lobby to his friend who is a non-user when they have a chance to say "hello" to real people at the same place before a raid. It seemed that the MARS user does not make a strong difference between onsite people and online avatars. Therefore, he introduces avatars but not the people who those avatars represent to his friend at PokéGyms.

Some of the MARS users identify other users' avatars and Pokémon before they connect the avatars and Pokémon to the users. One post on the Facebook Group Page describes a story how two MARS users meet at a PokéGym by an accident. The story is about a MARS user, Uncle MaDo, reports when he is waiting for a raid at a PokéGym, one stranger knocks his car

window and asks if they had met at another raid as well as if he knows the Uncle MaDo. The user tells the stranger that "…everyone calls me the Uncle MaDo". This is an example how the stranger meets the MARS user's avatar online and match the real person with the avatar onsite. Before raids, the MARS users are busy checking avatars' background on the lobby. Observation notes record "I am apologizing for my sister because her level is very low". The "sister" here is indicated her avatar. During the raids, a note show "Who put the Billsy in the battle? The egg is useless".

The intertwining companionship is founded when the online Pokémon and avatars are introduced to the onsite human friends. Additionally, it could be found when the MARS users (1) "walk" their children with their Pokémon, (2) "take" their children and grandchildren and Pokémon to parks and events together, (3) "go on dates" with their Pokémon and boyfriends and girlfriends, (4) "know" the avatars before or without knowing the MARS users, and (5) "show" how pretty, cute, strong, and good of their Pokémon to others. After the COVID 19 pandemic, Pokémon Go allows remote raiding. "When I see my cousin's avatar stands next to mine in the lobby to wait for a raid, I feel that I am raiding with my cousin who is in a different country now. It feels so real" (a female user). In sum, similar to Majorek and du Vall's (2016) study, the MARS brings users to meet others from online spaces to face-to-face onsite spaces. In this study, the MARS users also bring both human and media characters interactions from onsite spaces back to online spaces. Additionally, the interactions are including both face-to-face interaction and online interaction that happen at the same physical location.

Conclusions

Traditional media (such as television) make users to stay homes and keep users away from outdoor "face-to-face" interaction (Cecil-Karb & Grogan-Kaylor, 2009). Interactive media

(such as mobile media and Internet) invite network friends and strangers to users' homes for interaction and sometime it might cause social/family issues (Castells, Fernández-Ardèvol, Qiu, & Sey, 2007; Hijazi-Omari & Ribak, 2008; Ito, 2005; Ling, 2004). The "face-to-face" interaction has been extended from the real world to the virtual world via interactive media. Social media bring offline networks to online for interactions. Mobile media provide "perpetual contact" with close friends and family at anywhere in anytime (Katz & Aakhus, 2002). In this study, MASR users meet friends from online to onsite as well as from onsite to online. For example, some users first meet online and then go to catch or battle Pokémon together. They share tips and information on how to catch and battle Pokémon in online communities and at PokéStops and PokéGyms. They build friendships with other users and media characters (i.e., Pokémon). The interaction between online and onsite and the friendships between real people and media characters seem to be blurring because of the MARS.

Another interesting aspect of this study is how most of the MARS users make the system to fit into their everyday life. No matter how Niantic makes rules for users to use the system, the MARS users create their own rules. Some of them have more than one accounts for family members. They also help their family members to catch Pokémon when the family members are busy. It seems to imply that media content is opened for the users to interpret and use. The users can make the content fit their needs. They also create their own content to make the system more enjoyable. An user-generated MARS might be a future MARS design implication.

Because the MARS users make their own rules to enjoy the system, they are willing to spend real money on the system to buy items. It becomes a possible business model for Niantic. Additionally, this study also finds location matter to the MARS users. They often use the system near their homes. However, some of them are willing to travel long distances to chasing the rare

Pokémon. Niantic is already testing to promote locations to its users. For example, Niantic has organized offline events in Japan to draw visitors to quake-hit areas by placing more the rare Lapras near the coasts of Iwate Prefecture, Miyagi Prefecture and Fukushima Prefecture, areas affected by the 2011 Tsunami (Tassi, 2016). It might be interesting to look into how the MARS could possibly promote locations to its users.

The current research uses qualitative research methods to understand how the MARS users utilize the system in their everyday life. The results map some interesting design directions for future MARS development. Companionship patterns are clearly found in this MARS study. Users seem to make friendships with their Pokémon. In addition, the MARS also allows users to develop friendships with other users. They are also willing to learn and know the virtual avatars. For future studies, applying the traditional companionship scales to conduct quantitative research might help to generalize with more accuracy than the researcher's personal experience and impressions. Additionally, it might be a need to explore more about the companionship from personal social networks and Pokémon networks as well as in online and onsite situations by using the MARS.

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