

When the Virtual and Real Worlds Collide: Beginning to Address the Clash Between Real Property Rights and Augmented Reality Location-Based Technologies Through a Federal Do-Not-Locate Registry

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ABSTRACT: Following the release of the hugely popular augmented reality location-based game, Pokémon Go, legal questions began to arise about how the game fit with modern property laws. Because the game encourages individuals to visit real-world locations, many property owners near public parks or landmarks saw an increase in foot traffic that sometimes resulted in trespass or damage to their property. This Note examines the legal ramifications of games or other technologies like Pokémon Go within the current state of the law and subsequently provides suggestions for the law moving forward. This Note ultimately advocates for a government-run registry created through responsive regulation at the federal level. A Do-Not-Locate Registry would provide a sufficient avenue for protecting property rights while still considering the inevitable evolution of future augmented reality and location-based technologies.

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I. INTRODUCTION

In July 2016, Jeffrey Marder noticed an unusual number of individuals lingering outside his West Orange, New Jersey home.¹ Phones in hand, some of these people knocked on his door and requested access to his backyard to “catch” Pokémon characters.² The game developers of the massively popular mobile game, Pokémon Go, had digitally placed these characters on Mr. Marder’s property.³

Meanwhile, nestled against Lake St. Clair on a quiet cul-de-sac, the Dodichs enjoyed the municipal park near their Michigan home.⁴ Normally, 15 to 20 visitors used the park at any given time.⁵ But in July 2016, several

1. Consolidated Amended Class Action Complaint at 5, 12, *In re* Pokémon Go Nuisance Litig., No. 3:16-cv-04300 (N.D. Cal. Nov. 25, 2016) [hereinafter Complaint].

2. *Id.* at 12.

3. *Id.*

4. *Id.* at 14.

5. *Id.*

hundred individuals, mostly staring at their cellphones, overran the area.⁶ These masses paid little regard to property owners in the neighborhood, parking in front of driveways, trespassing on lawns, damaging landscaping, and looking into windows.⁷ When asking one of these Pokémon Go players to exit her property, Mrs. Gotts-Dodich received a reply of “shut up B****, or else.”⁸

To stop these alleged property violations, the Dodichs first went through the game creator’s procedures for removing game elements from an area.⁹ In reply to their multiple complaints, the Dodichs only received boilerplate responses from the game creator, Niantic.¹⁰ Niantic did not remove Wahby Park from the game.¹¹ As a result, the Dodichs were left with no other option than filing suit against the company.¹²

For years, the 62 residences of the Villas of Positano condominium complex sat peacefully near the Hollywood Beach Boardwalk.¹³ These Floridians are members of The Villas of Positano Condominium Association, which is responsible for maintaining the facilities and property.¹⁴ With the release of Pokémon Go in July 2016, the Villas residents were overwhelmed with hundreds of individuals “behaving ‘like zombies, walking around bumping into things.’”¹⁵ Soon after, the Villas residents learned that “PokéStops” could be found on their private property.¹⁶ Additionally, they discovered that rare Pokémon spawned on the property late at night and into the early morning.¹⁷ As a result, Pokémon Go players allegedly trespassed on

6. *Id.* In the weeks following, at least five Pokémon Go players were ticketed for misdemeanor trespass for being present after hours in Wahby Park, the land across from the Dodichs’ home. Beth Dalbey, *Pokémon Go Players Arrested for After-Hours Play at Park*, ST. CLAIR SHORES PATCH (July 18, 2016, 6:49 PM), <http://patch.com/michigan/stclairshores/pokmon-go-players-arrested-after-hours-play-park>.

7. Complaint, *supra* note 1, at 15.

8. *Id.*

9. *Id.* at 16. The game developer, Niantic, provides a brief form for anyone seeking to remove a PokéStop or Gym, two in-game elements that attract users. *Request Removal of a PokéStop or Gym*, NIAN TIC, https://support.pokemongo.nianticlabs.com/hc/en-us/requests/new?ticket_form_id=341148 (last visited July 5, 2017) (clicking the dropdown bar under “PokéStop/Gym issue,” “Private property” is listed as a reason for requesting removal).

10. Complaint, *supra* note 1, at 16–18.

11. *See id.* at 19 (indicating that players continued to congregate at the park, including organizing Facebook events).

12. *Id.* The Dodichs and other neighbors also took their grievances to Detroit’s Fox News affiliate and eventually to St. Clair City Council. Hannah Saunders, *Neighbors Fed Up with Pokemon GO Players in Park Ask City to Act*, FOX 2 DETROIT (July 31, 2016, 6:35 PM), <http://www.fox2detroit.com/news/local-news/183850427-story>.

13. *See* Complaint, *supra* note 1, at 12–13 (showing *Figure 3*, a map of the Villas location with game elements laid over).

14. *Id.* at 5.

15. *Id.* at 12.

16. *Id.* PokéStops are in-game locations where players can receive items. *See infra* note 45.

17. Complaint, *supra* note 1, at 12.

the property, talking and playing music at a level that disrupted residents attempting to sleep.¹⁸ These players often parked illegally, left garbage, and, due to a lack of public restrooms in the area, used the Villas' landscaping to relieve themselves.¹⁹

The Villas' developer submitted multiple complaints to Niantic, requesting the company remove these game elements from the Villas' private property.²⁰ After Niantic merely returned an automated reply without taking action, the developer "was forced to hire off-duty police officers to patrol the [property] from 11 p.m. [to] 4 a.m."²¹ The Villas of Positano Condominium Association filed suit in September 2016.²²

These complaints of plaintiffs in the *In re Pokémon Go Litigation* are not unique. Following the summer 2016 release of Pokémon Go, everyday people were forced to grapple with augmented-reality location-based gaming like never before. Because the game developer did not respond to initial complaints, the company has now been dragged into court for this potential class action suit, which will likely be both financially draining and time consuming. And while the court system is one avenue to assert these property rights against the trespassers and the game causing the disturbances, this Note argues that regulation at the federal level is best equipped to vindicate the property owners' interests while still allowing for flexibility in technological advancements.

Part I of this Note examines the emergence of augmented-reality technology and the development of location-based gaming, specifically through the immensely popular game, Pokémon Go. Part II discusses some potential claims against location-based game companies under our current law and why such remedies are inadequate to address this emerging area of technology. It looks to potential legal solutions for unique problems

18. *Id.* at 13.

19. *Id.* Similar to the Dodichs, the Villas at Positano residents made local news when contemplating legal action. Todd Tongen, *Hollywood Condo Association Considers Lawsuit Against Pokemon Go*, LOCAL 10 NEWS (Aug. 5, 2016, 5:18 PM), <http://www.local10.com/news/weird-news/hollywood-condo-association-considers-lawsuit-against-pokemon-go>. During the live broadcast, the footage shows droves of Pokémon players strolling the boardwalk late at night, as well as an individual trespassing onto the Villas' private property to catch a Pokémon. *Id.*

20. Complaint, *supra* note 1, at 13.

21. *Id.*

22. Class Action Complaint at 19, *The Villas of Positano Condominium Ass'n, Inc. v. Niantic, Inc.*, No. 16-cv-05091-JCS (N.D. Cal. Sept. 1, 2016) [hereinafter *Villas Complaint*]. Overall, the decision by the judge to consolidate these cases is reason for pause. Marder, the Dodichs, and the Villas all have very different claims, alleging different types of disturbances and degrees of injury. While Marder more or less is presented as a picturesque older gentleman yelling at kids to get off his lawn, the Villas suffered an economic injury when forced to hire an off-duty police officer. When considering all three complaints bring forth unjust enrichment and nuisance, it will be interesting to see if all three types of claims could prevail. Because they might be "similarly situated," the variability between these plaintiffs, and undoubtedly among future plaintiffs, could create some interesting questions surrounding damages.

emerging around this genre of video gaming, specifically the common-law theories that plaintiffs are using in current litigation and how the Lanham Act might provide an avenue for a trademark suit.

Finally, Part III explores legislative routes to protect property interests in the face of location-based technology. First, it looks to possible local, state, and federal legislative solutions. Milwaukee County, Wisconsin's proposed ordinance will exhibit how local governments are struggling to address location-based technologies. Next, it discusses the State of Illinois' proposed statute that considers policies analogous to the Digital Millennium Copyright Act's takedown procedures. It considers federal regulations imitating the National Do-Not-Call Registry in the form of a Do-Not-Locate list. It then argues that these potential legislative solutions should be part of a collaborative conversation between regulators and the regulated industry to create standards that will not only foster accountability but will also allow for flexibility in technological developments.

II. THE EMERGENCE OF AUGMENTED REALITY TECHNOLOGY AND LOCATION-BASED GAMING

This Part first outlines the development of the augmented-reality technologies and location-based gaming, as well as some of the ramifications that flowed from Pokémon Go's July 2016 release. Next, this Part reviews the current law that is potentially applicable to plaintiffs seeking to preserve their property interests against location-based video gaming companies. After touching on the common-law causes of action that plaintiffs have used in current Pokémon Go litigation, this Part concludes by exploring the Location-based Video Game Protection Act that the Illinois legislature proposed following Pokémon Go's release.

A. THE ADVENT OF AUGMENTED REALITY TECHNOLOGIES

No longer just a curiosity for technology enthusiasts, augmented-reality ("AR") applications ("apps") are being downloaded onto smartphones across the globe.²³ Estimated to be a \$90 billion market by 2020, AR technology shows little sign of a quick burnout.²⁴ AR technologies cover a large umbrella of interests, industries, and devices and do not adhere to a standard definition.²⁵ However, University of Washington researchers note six general

23. Prior to the popularity of Pokémon Go, upwards of 250,000 registered developers were creating AR apps. Dean Takahashi, *The DeanBeat: What Pokémon Go has Done for Augmented Reality*, VENTUREBEAT (Aug. 26, 2016, 8:00 AM), <http://venturebeat.com/2016/08/26/the-deanbeat-what-pokemon-go-has-done-for-augmented-reality>.

24. *Id.* Compare this AR \$90 billion industry estimate with a mere \$30 billion estimate for virtual reality. *Id.*

25. TECH POLICY LAB, UNIV. OF WASH., AUGMENTED REALITY: A TECHNOLOGY AND POLICY PRIMER 1-4 (2015), http://www.franziroesner.com/pdf/Augmented_Reality_Primer-TechPolicyLab.pdf. Further, augmented reality sits on a spectrum of "Mixed Reality" technologies. For Milgram's Reality-

properties most AR apps contain. Specifically, they: (1) “Sense properties about the real world”; (2) “Process in real time”; (3) “Output information to the user, including via visual, audio, and haptic means, often overlaid on the user’s perception of the real world”; (4) “Provide contextual information”; (5) “Recognize and track real-world objects”; and (6) may “[b]e mobile or wearable.”²⁶

Unlike virtual reality, which facilitates full emersion into a simulated world, AR typically uses a device, usually a smartphone or glasses, to overlay digital images onto the real world by employing the camera, sound, and display functions of that instrument.²⁷ Essentially, the actual world is supplemented—“augmented”—with computer-generated images and sounds for a person to experience.

Although some are skeptical about the future potential of AR,²⁸ leaders and investors in the field are writing a different narrative.²⁹ Pokémon Go might not have been the most accurate “AR” first impression for the general public because of its more simplistic use of the technology. Regardless, it has cleared the initial hurdle for more advanced AR platforms to enter the mainstream in the near future.³⁰ Soon after the release of the game, Mark Zuckerberg noted that “virtual reality and augmented reality are go[ing] to be the most social platform that has ever existed.”³¹ Zuckerberg believes that these technologies will be a part of most people’s everyday lives within the

Virtuality (RV) Continuum and an explanation of the sliding scale, see Joshua A.T. Fairfield, *Mixed Reality: How the Laws of Virtual Worlds Govern Everyday Life*, 27 BERKELEY TECH. L.J. 55, 67–75 (2012).

26. FRANZISKA ROESNER ET AL., AUGMENTED REALITY: HARD PROBLEMS OF LAW AND POLICY 2 (2014), <http://www.franziroesner.com/pdf/ar-law-upside2014.pdf> (citation omitted). Roesner’s short piece provides a broader scope of AR applications, as well as pictures of a variety of these technologies for context. *Id.*; see also generally TECH POLICY LAB, *supra* note 25.

27. Takahashi, *supra* note 23.

28. Dean Takahashi, *Riot Games Investor Mitch Lasky is Wary About Funding VR*, VENTUREBEAT (July 20, 2016, 1:30 PM), <http://venturebeat.com/2016/07/20/benchmarks-mitch-lasky-is-wary-about-vr-investments>.

29. Sunny Dhillon, *Stop Referring to Pokémon Go as Augmented Reality*, VENTUREBEAT (July 14, 2016, 6:01 PM), <http://venturebeat.com/2016/07/14/stop-referring-to-pokemon-go-as-augmented-reality> (the author is a venture capitalist, and the principal and cofounder of Signia Venture Partners); Dean Takahashi, *How Corporate Strategic Investors Look at AR/VR Deals*, VENTUREBEAT (Sept. 19, 2016, 9:01 AM), <https://venturebeat.com/2016/09/19/how-corporate-strategic-investors-look-at-arvr-deals> (discussing the opinions of Verizon Ventures Director, Ed Ruth; former LucasArts chief, Darrell Rodriguez; and Spin Master vice president of production, Nick Beliaeff). For a more nuanced take on the AR and VR industries in the immediate future, see Dean Takahashi, *The DeanBeat: The Road Ahead in VR and AR Will Have Two Steps Forward, One Step Back*, VENTUREBEAT (Dec. 16, 2016, 8:00 AM), <http://venturebeat.com/2016/12/16/the-deanbeat-the-road-ahead-in-vr-and-ar-will-have-two-steps-forward-one-step-back> (including quotes from John Riccitiello, CEO of Unity Technologies).

30. Dhillon, *supra* note 29.

31. Mark Zuckerberg, *Townhall Q&A in Rome*, FACEBOOK (Aug. 29, 2016), https://www.facebook.com/zuck/videos/vb.4/10103066366848051/?type=2&theater¬if_t=live_video¬if_id=1472479398600104#.

next ten years.³² Zuckerberg is not alone in reaching these conclusions on the movement towards integrating augmented and virtual realities in the real world; other industry leaders, like Apple's CEO Tim Cook, agree that AR will be increasingly incorporated into society.³³ The staying power of AR is secure and not at all exclusive to hardcore gamers, or even the gaming industry in general. Countless AR tools are advancing the fields of medicine, education, business, the military, and sports.³⁴

B. LOCATION-BASED GAMING AND POKÉMON GO

The roots of modern location-based gaming technologies can be traced to "geocaching," which allows individuals to use GPS devices to discover hidden items placed out in the world.³⁵ And although there were some location-based games for cellphones in the early 2000s before the advent of smartphones,³⁶ a clear trailblazer for Pokémon Go was the 2013 release of

32. *Id.*

33. Oscar Raymundo, *Tim Cook: Augmented Reality will be an Essential Part of your Daily Life, like the iPhone*, MACWORLD (Oct. 3, 2016, 10:40 AM), <http://www.macworld.com/article/3126607/ios/tim-cook-augmented-reality-will-be-an-essential-part-of-your-daily-life-like-the-iphone.html>; see also Ross Gerber, *Pokemon Go Just The Tip Of The Spear As Augmented Reality Rips Into World Of Mobile Gaming*, FORBES (July 28, 2016, 4:54 AM), <http://www.forbes.com/sites/greatspeculations/2016/07/28/pokemon-go-just-the-tip-of-the-spear-as-augmented-reality-rips-into-world-of-mobile-gaming/#7b43fb70552e> ("Pokémon Go's success has firmly established augmented reality as the go-to paradigm for both new and re-introduced mobile gaming titles moving forward."); J. Gerry Purdy, *Analyst Angle: Pokémon Go—a Fad? Yes, but it Legitimizes Augmented Reality*, RCR WIRELESS NEWS (Aug. 10, 2016), <http://www.rcrwireless.com/20160810/analyst-angle/analyst-angle-pokemon-go-fad-yes-legitimizes-augmented-reality-tag9> (noting that AR will continue to expand, especially in the business sector); Dean Takahashi, *HP Labs Chief Shane Wall Shares His Views on Science Fiction and Tech Reality*, VENTUREBEAT (Oct. 2, 2016, 12:10 PM), <http://venturebeat.com/2016/10/02/hp-labs-chief-shane-wall-shares-his-views-on-science-fiction-and-tech-reality/view-all>.

34. Patricia Brown, *How to Transform Your Classroom With Augmented Reality*, EDSURGE (Nov. 2, 2015), <https://www.edsurge.com/news/2015-11-02-how-to-transform-your-classroom-with-augmented-reality> (education); Jeff Donlan, *Pull a Body Apart With This Augmented Reality App*, VOCATIV (July 29, 2016, 11:31 AM), <http://www.vocativ.com/346195/pull-a-body-apart-with-this-augmented-reality-app> (medical); Project Esper, 3D4MEDICAL, <http://completeanatomy.3d4medical.com/esper.php> (last visited July 5, 2017) (medical); Andrew Rosenblum, *Augmented Reality Glasses Are Coming To The Battlefield*, POPULAR SCI. (Apr. 22, 2015), <http://www.popsci.com/experimental-ar-glasses-offer-marines-hands-free-intel> (military); Heather Swick, *3 Common Augmented Reality Examples In Sports*, ONEFIRE (July 29, 2016, 10:30 AM), <http://blog.onefire.com/3-common-augmented-reality-examples-in-sports> (sports); Takahashi, *supra* note 33 (business and industry).

35. Clinton Nguyen, *5 Amazing Location-Based Games That Made Pokémon GO Possible*, BUSINESS INSIDER (July 13, 2016, 5:30 PM), <http://www.businessinsider.com/pokmon-go-5-location-based-games-that-made-the-craze-possible-2016-7>. Going back before computerized technologies to the middle of the 19th century, "letterboxing" was similar to geocaching, encouraging individuals to find hidden boxes by using hints left in local newspapers or spread by word of mouth. *Id.*

36. *Id.* (noting that in 2002, a Swedish game named "Botfighters" allowed location information to link cellphones and computers to facilitate battles and form teams). In 2003, the game "Mogi" mimicked the concept of geocaching but through cellphones instead of GPS laid

Ingress. This game allows teams of users to tag and control different real-world locations through an overlaid virtual map.³⁷

The market for location-based games has developed and evolved with technology over the past two decades, and its recent embrace of AR was the next logical step.³⁸ Apps like Field Trip show the convergence of location-based activities with AR technologies beyond playing a video game.³⁹ The app operates on the Google Maps platform and notifies users when they are near points of interest, providing a brief informational description; and restaurants, noting their customer reviews.⁴⁰ The success and continuing evolution of these and other apps suggest that this Note's solution can go beyond the gaming industry and apply to location-based AR technologies more generally.

Although the emergence and mass popularity of Pokémon Go caught consumers and others off guard, there is no indication that location-based gaming, specifically gaming now utilizing an AR platform, shows any signs of being a fluke in the advancement of the technology industries. While the mobile phone app Pokémon Go is not what some would refer to as "real" AR⁴¹ since the game platform does not dynamically respond to a real-world environment in real time, this game nonetheless acted as a catalyst for viable AR concepts to burst into mainstream gaming entertainment.⁴² Pokémon Go is a collaboration of three companies: Niantic, The Pokémon Company, and

over the streets of Tokyo. *Mogi=Socially Connected GPS Gaming*, WIRELESS WATCH JAPAN (July 2, 2004), <http://wirelesswatch.jp/2004/07/02/mogi-socially-connected-gps-gaming>.

37. See Greg Kumparak, *Niantic's New Invite-Only "Portal Recon" Tool Lets Players Vote Real-World Locations into Ingress*, TECHCRUNCH (Nov. 17, 2016), <https://techcrunch.com/2016/11/17/niantics-invite-only-portal-recon-tool-lets-players-vote-new-real-world-locations-into-ingress> (explaining the steps for a certain real-world location to become a point in the game).

38. See generally Will Fulton, *5 Great Location-Based Games That Aren't Pokémon GO*, DIGITAL TRENDS (July 18, 2016, 12:40 PM), <http://www.digitaltrends.com/gaming/best-location-based-gps-games> (noting a variety of location-based games with more recent titles incorporating AR).

39. Katherine Boehret, *Oh, the Places Your Phone Will Find*, ALL THINGS DIGITAL (Dec. 3, 2013, 3:14 PM), <http://allthingsd.com/20131203/oh-the-places-your-phone-will-find>; Chris Burns, *Field Trip: The Google Map App You Never Knew You Wanted*, SLASH GEAR (Jan. 20, 2015), <https://www.slashgear.com/field-trip-the-google-map-app-you-never-knew-you-wanted-20365399>.

40. Boehret, *supra* note 39; Burns, *supra* note 39.

41. Dhillon, *supra* note 29 (noting that legitimate "[a]ugmented reality requires computer vision and dynamic mapping of the real world environment around you" and that Pokémon Go would be more aptly referred to as "location-based gaming").

42. Throughout this Note, Pokémon Go will be used as the primary example of AR technology confronting the real world. Since this game has been the vehicle for AR discussion, lawsuits, and legislation, it is only appropriate that Pokémon Go plays a significant role here. Public perception of what AR is, rightly or wrongly, is almost exclusively from this game. There is no doubt that Pokémon Go will have a massive influence on the way individuals plan to address AR technology moving forward until more examples of AR enter the mainstream market. While Pokémon Go was not the first AR app, and it certainly appears to not be the last, it will undoubtedly drive the conversation for the near future.

Nintendo.⁴³ The objective of the game is to catch and train Pokémon, animated “pocket monsters,” and battle them at virtual gyms against other users’ Pokémon.⁴⁴ Players also visit fixed places called “PokéStops” to collect helpful items.⁴⁵ Unlike other video games that can be played to their full potential from the couch, Pokémon, PokéStops, and Gyms are all virtually placed in real-world locations and require users to visit a variety of sites, usually parks or other public areas, to best advance through the game.⁴⁶ In other words, players use their smartphones to find digital characters and points of interest in a “real world scavenger hunt.”⁴⁷ This location-based gaming, sometimes referred to as a “Real World Gaming Platform,” uses a smartphone as a mapping or GPS device to find these different aspects of the game.⁴⁸

The summer 2016 release of Pokémon Go incited a cultural craze that made Pokémon Go the fastest game to ever reach 500 million downloads and \$600 million in revenues, achieving these records in roughly three months and four months, respectively.⁴⁹ For a time, Pokémon Go was surpassing Facebook, Twitter, Snapchat, and Instagram with the average amount of time

43. Purdy, *supra* note 33. Niantic was originally a Google project. Mark Bergen, *Why Did Google Get Rid of the Company Behind Pokémon Go?*, RECODE (July 12, 2016, 8:01 AM), <https://www.recode.net/2016/7/12/12153722/google-niantic-pokemon-go-spin-out>. John Hanke, the CEO of Niantic, was instrumental in getting Google Earth operational before developing Pokémon Go. Purdy, *supra* note 33. In the interest of brevity, instead of listing all three companies involved in Pokémon Go, this Note will mention “Niantic” when referring to Niantic, Nintendo, and The Pokémon Company.

44. *Id.*; Zac Hall, *Pokémon Go Overhauling Gyms and Battling with New Items, Raid Features, More*, GTO5MAC (June 19, 2017, 6:43 AM), <https://gto5mac.com/2017/06/19/pokemon-go-gyms-raid-battles>; Andrew Webster, *Pokémon Go is Getting 80 New Pokémon This Week*, CNBC (Feb. 15, 2017, 10:10 AM), <http://www.cnbc.com/2017/02/15/pokemon-go-update-gives-you-more-pocket-monsters-to-collect.html>.

45. Gerber, *supra* note 33.

46. Letter from Courtney Greene Power, Gen. Counsel, Niantic, Inc., to Senator Al Franken (Aug. 26, 2016), [http://www.Franken.senate.gov/files/documents/160826NianticResponse.pdf](http://www Franken.senate.gov/files/documents/160826NianticResponse.pdf) (containing Pokémon Go’s creators’ more complete description, including gameplay screenshots of the game).

47. Elad Natanson, *Pokemon Go—Flash in the Pan or The Future of Mobile Gaming...?*, FORBES (Nov. 22, 2016, 8:00 AM), <http://www.forbes.com/sites/eladnatanson/2016/11/22/pokemon-go-flash-in-the-pan-or-the-future-of-mobile-gaming>.

48. Purdy, *supra* note 33. Pokémon Go is the second game of this type released by Niantic. In 2012, science fiction-themed Ingress also used this location-based style. Ingress used landmarks as “portals,” similar to Pokémon Go’s use of landmarks for gyms and PokéStops. *See* Kumparak, *supra* note 37 (detailing the mapping component of Ingress).

49. Ben Gilbert, *Pokémon Go Has Been Downloaded over 500 Million Times*, BUS. INSIDER (Sept. 7, 2016, 2:05 PM), <http://www.businessinsider.com/pokemon-go-500-million-downloads-2016-9>; Dean Takahashi, *Pokémon Go Is the Fastest Mobile Game to Hit \$600 Million in Revenues*, VENTUREBEAT (Oct. 20, 2016, 6:10 AM), <https://venturebeat.com/2016/10/20/pokemon-go-is-the-fastest-mobile-game-to-hit-600-million-in-revenues>. The Pokémon franchise began in the 1990s with trading cards, a series of videogames for various game consoles, and a television series. Ryan Mac, *The Inside Story of ‘Pokémon GO’s’ Evolution from Google Castoff to Global Phenomenon*, FORBES (July 26, 2016, 8:30 AM), <https://www.forbes.com/sites/ryanmac/2016/07/26/monster-game>.

spent in the app daily.⁵⁰ With over 20 million daily users, it had more daily users than Twitter and more downloads than Tinder.⁵¹ Soon after its debut, the real world began to wrestle with the novel ramifications of a popular AR game.⁵² Businesses and other organizations used the game to boost foot traffic and attendance.⁵³ Some incorporated Pokémon Go into promotions and discounts for players.⁵⁴ Clearly aware of the app's advertising power, Niantic began to sell sponsorships to McDonald's and other corporations in Japan.⁵⁵ Soon after, Starbucks and Sprint began to sponsor Gyms and PokéStops in the United States, paying Niantic for game elements on their locations as in-game advertisements.⁵⁶

While many businesses embraced the game, some people criticized Niantic for putting Pokémon Go game elements in locations like the Holocaust Museum in Washington D.C. and the Hiroshima Memorial in Japan.⁵⁷ Although Niantic has procedures available which allow the general public to submit removal requests,⁵⁸ the company initially only responded to high-profile grievances; for example: the Holocaust Museum, the Hiroshima

50. Kavita Iyer, *Pokemon Go Beats Facebook and Twitter in Popularity*, TECHWORM (July 15, 2016), <http://www.techworm.net/2016/07/pokemon-go-beats-facebook-twitter-popularity.html>.

51. *Id.* Some, however, at least partially attribute the success of Pokémon Go to the Pokémon brand and its decades of successful industry presence. Analysis of Pokémon Go: A Success Two Decades in the Making, NEWZOO (Sept. 30, 2016), <https://newzoo.com/insights/articles/analysis-pokemon-go>. While there is certainly branding power present here, Pokémon Go's popularity far surpasses the popularity of other recent Pokémon incarnations. Pokémon Sun and Moon, released after Pokémon Go, rode its success to over 15 million units sold. *Top Selling Title Sales Units*, NINTENDO, <https://www.nintendo.co.jp/ir/en/finance/software/3ds.html> (last updated Mar. 31, 2017). This number pales in comparison to Pokémon Go's popularity and profits, indicating that the location-based augmented reality nature of the game was key to Pokémon Go's success. Dean Takahashi, *Pokémon Go Generated Revenues of \$950 Million in 2016*, VENTUREBEAT (Jan. 17, 2017 12:02 AM), <https://venturebeat.com/2017/01/17/pokemon-go-generated-revenues-of-950-million-in-2016>.

52. It is worth noting that University of Washington researchers predicted some of the novel issues, particularly "distraction[s]," resulting from Pokémon Go. See TECH POLICY LAB, *supra* note 25, at 2.

53. Lucia Maffei, *Pokémon Go Will Soon Get Ads in the Form of Sponsored Locations*, TECHCRUNCH (July 13, 2016), <https://techcrunch.com/2016/07/13/pokemon-go-will-soon-get-ads-in-the-form-of-sponsored-locations>.

54. Abby Kelly, *How Your Small Business Can Capitalize on the Pokémon Go Craze*, FREE ENTERPRISE (Aug. 9, 2016), <https://www.freeenterprise.com/small-businesses-and-pokemon-go>.

55. Maffei, *supra* note 53; Jon Russell, *Pokémon Go Lands Japanese Mobile Operator SoftBank as Sponsored Location*, TECHCRUNCH (Sept. 1, 2016), <https://techcrunch.com/2016/09/01/softbank-pokemon-go-sponsored-location>.

56. Press Release, John Hanke, Pokémon GO, Join Us in Welcoming Sprint as the First Pokémon GO United States Partner (Dec. 7, 2016), <http://pokemongolive.com/en/post/sprint>; Press Release, Pokémon GO, Hello, Starbucks! (Dec. 8, 2016), <http://pokemongolive.com/en/post/starbucks>.

57. Yoni Heisler, *No More Pokemon Go at the Holocaust Museum or the Hiroshima Memorial*, BGR (Aug. 9, 2016, 3:20 PM), <http://bgr.com/2016/08/09/pokemon-go-sightings-hiroshima-memorial-holocaust-museum>.

58. *Request Removal of a PokéStop or Gym*, *supra* note 9.

Memorial, and the Loyola Dunes.⁵⁹ Niantic removed these locations only after the controversies received significant press coverage.⁶⁰ As the overwhelming summer hype of the game subsided, Niantic began addressing some lower-profile removal requests.⁶¹ However, Niantic's initial disregard for everyday property owners' requests should be actionable as a violation of the "bundle of sticks" they are entitled to. These rights must be adequately remedied through some mechanisms beyond what is currently available to individuals or businesses through the law.

III. AUGMENTED REALITY LOCATION-BASED GAMING INTERSECTING WITH THE LAW

This Part explores some potential claims against location-based game companies under current law and why such remedies are inadequate to address this emerging game trend. First, it touches on Niantic's potential liability for the actions of its users. Then it explores a potential trademark claim against Niantic under the Lanham Act. This Part closes by analyzing the common-law theories that plaintiffs are using in current litigation and weighs the potential successes of such claims against the defensive motions filed by Niantic and The Pokémon Company.

A. NIANTIC'S TERMS OF SERVICE AND END-USER LICENSE AGREEMENT

With all the above events and commentaries taking place just weeks after the release of Pokémon Go, it came as no surprise that the potential legal ramifications of the app began making headlines. Most of the plausible legal issues concerned privacy, property, and criminal law.⁶² The Pokémon Go Terms of Service alerts Pokémon players, also known as "trainers," to play at their own risk, urges against trespass and driving while playing, and includes an arbitration clause.⁶³ Pokémon Go also has in-app messages reminding

59. Heisler, *supra* note 57; Kim Janssen, *Lawmaker: Create Pokemon No-Go Zones, Including North Side Nesting Grounds*, CHI. TRIB. (Aug. 25, 2016, 1:59 PM), <http://www.chicagotribune.com/news/chicago-inc/ct-pidgeys-law-pokemon-go-0826-chicago-inc-20160825-story.html>. The Loyola Dunes conservation concerns are what sparked the proposed Illinois legislation previously mentioned. *Id.*

60. Heisler, *supra* note 57; Janssen, *supra* note 59.

61. James O'Connor, *Pokémon Go: PokeStops Can Now Be Removed if Requests Are Made*, VG247 (Aug. 5, 2016, 1:01 AM), <http://www.vg247.com/2016/08/05/pokemon-go-pokestops-removed>.

62. See Debra Cassens Weiss, *Pokemon Go Spurs Lawyers to Stop and Consider Legal Issues*, ABAJ. (July 13, 2016, 8:00 AM), http://www.abajournal.com/news/article/pokemon_go_spurs_lawyers_to_stop_and_consider_legal_issues (describing the potential legal issues that Pokémon Go could cause).

63. *Pokémon GO Terms of Service*, NIANTIC, <https://www.nianticlabs.com/terms/pokemongo/en> (last updated July 1, 2016); see also Rachel Stockman, *Your Pokémon Go Legal Rights ... Don't Get in Trouble!*, LAW NEWZ (July 11, 2016, 4:46 PM), <http://lawnewz.com/high-profile/your-pokemon-go-legal-rights-dont-get-in-trouble> (advising of the risks of playing the game in light of Pokémon Go's Terms of Service).

trainers of these safety and trespass concerns.⁶⁴ Because of safeguards like the extensive Terms of Service, Pokémon Go Trainer Guidelines, and specific in-app deterrents, Niantic insulated its liability from individual players' actions.⁶⁵ As one attorney put it, "If you do something unlawful while playing Pokémon Go, it's no one's fault but your own."⁶⁶

However, while these factors certainly limit Niantic's liability, gray areas still exist.⁶⁷ The courts will have to decide how far this front-end insulation extends through the current *In re Pokémon Go Nuisance Litigation* and other cases that may try to implicate Niantic for individual players' actions in the future. However, trainers should not hold their breaths.⁶⁸

While the courts are beginning to parse out any liability on Niantic, some members of Congress have focused on user privacy. Stemming from the Terms of Service, concerns about what data Pokémon Go collects from its users has garnished Congressional attention. Senator Al Franken of Minnesota, the Senate Privacy and Technology Subcommittee's top Democrat, formally wrote Niantic in July 2016 raising a variety of privacy concerns. These concerns included Niantic's practices of collecting personal data, controlling different functions of users' phones, and sharing game and user data with interested third parties.⁶⁹ Because the application takes control

64. Bea Mitchell, *Pokémon Go Adds App Safety Warnings to Shift Blame for Human Stupidity*, DIGITAL SPY (July 31, 2016), <http://www.digitalspy.com/gaming/pokemon/news/a803139/pokemon-go-adds-app-safety-warnings>.

65. *Pokémon GO Terms of Service*, *supra* note 63; *Pokémon GO Trainer Guidelines*, NIANTIC, <https://support.pokemongo.nianticlabs.com/hc/en-us/articles/221993967-Pokémon-GO-Trainer-guidelines> (last visited July 5, 2017); *see also* Morris Lilienthal, *Legal Liability with Pokémon Go Accidents*, MARTINSON & BEASON (Aug. 22, 2016), <https://www.martinsonandbeason.com/legal-liability-pokemon-go-accidents> (applying Alabama law to the Pokémon Go Terms of Service); Terrence O'Toole, *The Practical Legal Implications of Pokémon Go*, WILLIAMS VENKER & SANDERS LLC (Aug. 4, 2016), <http://www.wvslaw.com/the-practical-legal-implications-of-pokemon-go> (applying Missouri to the Pokémon Go Terms of Service in favor of Niantic, aside from the binding arbitration clause). *But cf.* Kenneth W. Eng, Note, *Content Creators, Virtual Goods: Who Owns Virtual Property?*, 34 CARDOZO ARTS & ENT. L.J. 249, 255–66 (2016) (discussing contractual unconscionability, including arbitration clause validity, in video game Terms of Service and end-user license agreements ("EULAs"), also known as "click-wrap agreements").

66. Jeremy Byellin, *Pokémon Go: Legal Q&A*, THOMSON REUTERS: LEGAL SOLUTIONS BLOG (July 21, 2016), <http://blog.legalsolutions.thomsonreuters.com/law-and-technology/pokemon-go-legal-qa>.

67. Andrew L. Rossow, *Gotta Catch...a Lawsuit? A Legal Insight into the Battlefield Pokémon Go Has Downloaded onto Smartphones and Properties Around the World*, OHIO STATE BAR ASS'N. (July 20, 2016), <https://www.ohioabar.org/NewsAndPublications/News/OSBANews/Pages/Gotta-catch-a-lawsuit-A-legal-insight-into-the-battlefield-Pokemon-Go-has-downloaded-onto-smartphones-and-properties>.

68. Byellin, *supra* note 66.

69. Press Release, Senator Al Franken, Sen. Franken Presses Makers of "Pokemon GO" Smartphone App Over Privacy Concerns (July 12, 2016), https://www.franken.senate.gov/?p=press_release&id=3512. While Niantic's response stated it had addressed the Senator's concerns, questions still remain on how to move forward with similar games and data collection. Power, *supra* note 46. The European Union was also confronted with privacy issues. Laurens Cerulus, *Pokémon Go Game Violates EU*

of the GPS systems and cameras of users' phones, Senator Franken and others sought to find out the purposes for which Niantic collects user data and what access third parties might have to it.⁷⁰ And while Niantic addressed some of the initial worries around privacy with protective security updates to the app,⁷¹ individual and government interests in protecting personal privacy will continue to be relevant as AR technology evolves.

B. TRADEMARK INFRINGEMENT AS A SOLUTION FOR BUSINESSES⁷²

When Niantic's programs designate in-game locations, the PokéStops and Gyms have a name and photograph with them.⁷³ For example, if a McDonald's were a PokéStop, a player would see a marker on a map located on or very near the McDonald's property. The player could click the PokéStop and see that it was named McDonald's. A photograph, perhaps of this location's storefront or the golden arches sign, would accompany the McDonald's PokéStop.

On a recent trip to Portland, the Author of this Note observed two vastly different businesses, Voodoo Doughnuts and Powell's City of Books. Like the hypothetical McDonald's, these locations were designated as a Gym and PokéStop, respectively. Voodoo Doughnuts is a specialty doughnut shop, popular with locals and tourists for its unconventional treats.⁷⁴ Portland houses Voodoo Doughnuts's original location.⁷⁵ By looking at the company's Instagram posts, it appears Voodoo Doughnuts might welcome the fact that its business is marked as a Pokémon Go Gym.⁷⁶ Following the release of Pokémon Go, the company's Instagram showed off Pokémon themed doughnuts, stating it "[m]ight as well jump on the bandwagon . . .

Privacy Laws: MEP, POLITICO (Aug. 24, 2016, 12:48 PM), <http://www.politico.eu/article/pokemon-go-game-violates-eu-privacy-laws-mep>.

70. Press Release, Senator Al Franken, *supra* note 69.

71. *Id.*; Letter from Courtney Greene Power, *supra* note 46.

72. Because a Lanham Act remedy is applicable to only a minority of real property owners adversely affected by the location-based game, this portion of the Note will only provide a skeletal analysis of the potential trademark violations in Pokémon Go. For more on this general area of law, see generally Melissa Ung, Comment, *Trademark Law and the Repercussions of Virtual Property (IRL)*, 17 *COMMLAW CONSPPECTUS* 679 (2009) (detailing the relationship between developing virtual property concepts and the existing trademark theory and law).

73. *Get Up, Get Out, and Explore!*, POKÉMON GO (last visited July 5, 2017), <http://www.pokemongo.com/en-us/explore> (explaining and providing pictures of PokéStops).

74. *Doughnuts*, VOODOO DOUGHNUT, <https://www.voodoodoughnut.com/doughnuts> (last visited July 5, 2017).

75. *Locations*, VOODOO DOUGHNUT, <https://www.voodoodoughnut.com/locations#one> (last visited July 5, 2017).

76. Portland Pokémon Map, <http://portlandpokemonmap.com> (last visited July 5, 2017); Voodoodoughnut, INSTAGRAM (July 11, 2016), <https://www.instagram.com/p/BHvST2CjZyG/?hl=en>.

#pokemongo.”⁷⁷ While Pokémon Go uses the Voodoo Doughnut brand within the game, the company appears to embrace the connection, or at least recognize the cultural relevance of Pokémon, and generate a profit from Pokémon-themed treats.

A few blocks up from Voodoo Doughnuts is another Portland staple, Powell’s City of Books, which Niantic designated as a PokéStop.⁷⁸ Powell’s City of Books, containing approximately 1 million books, “is the largest new and used bookstore in the world.”⁷⁹ Hypothetically, Powell’s might prefer individuals picking up paperbacks instead of staring at smartphones in the store. While the foot traffic might not have changed in the entire city block that Powell’s Pearl District location occupies, the store visitor makeup shifting from book buyers to Pokémon trainers could certainly give rise to profitability concerns.

If Powell’s Books desired the removal of the PokéStop and Niantic was unresponsive, it might be able to pursue a trademark infringement claim. After all, having a PokéStop designation means that when a player clicks on the PokéStop it is labeled “Powell’s City of Books” accompanied by an image of the storefront and a brief description. To counter the claim, Niantic could put forth a fair use defense, claiming that its use of the mark is not for commercial gain, but rather just a locational reference. If successful in showing that Niantic used the Powell’s Book trademark without permission and, specifically in this instance, tended to show false sponsorship, Niantic would be enjoined against using the mark and could be liable for damages to Powell’s Books. Here is what that hypothetical *prima facie* trademark infringement claim for Powell’s Books against Niantic might look like.⁸⁰

A disgruntled business owner can bring a claim under the Lanham Trademark Act of 1946 (“Lanham Act”). Under 15 U.S.C. § 1114 (1), a trademark infringement claim can be brought against:

- (1) Any person who shall, without the consent of the registrant—
 - (a) use in commerce any reproduction, counterfeit, copy, or colorable imitation of a registered mark in connection with the sale, offering for sale, distribution, or advertising of any goods or services on or in connection with which such use is likely to

77. *Id.* Voodoo Doughnuts followed this initial post with another Pokémon-themed doughnut post on September 29, 2016. VoodooDoughnut, INSTAGRAM (Sept. 29, 2016), <https://www.instagram.com/p/BK8dOebjtW8>.

78. See Catalina Gaitán, *Pokémon Go in Portland*, TRAVEL PORTLAND, <https://www.travelportland.com/itinerary/pokemon-go-portland> (last updated July 19, 2016).

79. Powell’s City of Books, *Powell’s City of Books*, POWELL’S BOOKS <http://www.powells.com/locations/powells-city-of-books> (last visited July 5, 2017) (indicating item number 26, Powell’s City of Books, as a point of interest).

80. For the sake of the example, this Note will use the standards set out by the Ninth Circuit Court of Appeals, where Niantic is headquartered and have already been sued. Complaint, *supra* note 1 at 4.

cause confusion, or to cause mistake, or to deceive; or

(b) reproduce, counterfeit, copy, or colorably imitate a registered mark and apply such reproduction, counterfeit, copy, or colorable imitation to labels, signs, prints, packages, wrappers, receptacles or advertisements intended to be used in commerce upon or in connection with the sale, offering for sale, distribution, or advertising of goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive,

shall be liable in a civil action by the registrant for the remedies hereinafter provided.⁸¹

To have a successful trademark infringement claim, Powell's would have to prove: "(1) that it has a protectible ownership interest in the mark; and (2) that the defendant's use of the mark is likely to cause consumer confusion, thereby infringing upon [Powell's] right to the mark."⁸²

If Powell's has federally registered its brand, which it uses to operate in the business of selling books, the first part is clearly met. The second prong, however, is more complex. Consumer confusion is addressed by the eight-factor *Sleekcraft* test that examines:

1. strength of the mark; 2. proximity of the goods; 3. similarity of the marks; 4. evidence of actual confusion; 5. marketing channels used; 6. type of goods and the degree of care likely to be exercised by the purchaser; 7. defendant's intent in selecting the mark; and 8. likelihood of expansion of the product lines.⁸³

But these eight factors are not exhaustive, equally weighted, or even all necessary in every analysis.⁸⁴ The Ninth Circuit additionally notes, "[w]e must be acutely aware of excessive rigidity when applying the law in the Internet context; *emerging technologies require a flexible approach*."⁸⁵

While applying a trademark-infringement analysis to Pokémon Go certainly deviates from a traditional inquiry, AR location-based gaming fits squarely with the Ninth Circuit's "emerging technology" flexibility concept. In a recent case, where video game developers used real-world trademarks, the Ninth Circuit found their uses acceptable as long as they did not create any consumer confusion.⁸⁶ Citing a balance between trademark claims and

81. 15 U.S.C. § 1114(1) (2012).

82. Dep't of Parks & Recreation v. Bazaar Del Mundo, Inc., 448 F.3d 1118, 1124 (9th Cir. 2006).

83. AMF Inc. v. Sleekcraft Boats, 599 F.2d 341, 348-49 (9th Cir. 1979), *abrogated on other grounds* by Mattel, Inc. v. Walking Mountain Prods., 353 F.3d 792, 810 (9th Cir. 2003).

84. Brookfield Commc'ns, Inc. v. W. Coast Entm't Corp., 174 F.3d 1036, 1054 (9th Cir. 1999).

85. *Id.* (emphasis added).

86. See generally E.S.S. Entm't 2000, Inc. v. Rock Star Videos, Inc., 547 F.3d 1095 (9th Cir. 2008) (holding that the use of "Pig Pen" in a video game was protected by the First Amendment

the First Amendment, some courts require a narrow construction of the Lanham Act and apply it “to artistic works only where the public interest in avoiding consumer confusion outweighs the public interest in free expression.”⁸⁷

In the hypothetical, consumer confusion could exist because the actual use of Powell’s name and image in Pokémon Go could be interpreted as false sponsorship, but the Ninth Circuit might hesitate in ruling against Niantic if it establishes that these particular PokéStops and Gyms merit speech protection under a fair use defense.⁸⁸ A successful fair use defense would allow Niantic to use these symbols without legal ramifications. Niantic is not attempting to pose as Powell’s Books, but it is merely using Powell’s City of Books as a landmark in the game, enticing its players to visit the PokéStop. However, in light of the sponsorship agreements Niantic made with Sprint and Starbucks,⁸⁹ the likelihood of Powell’s having success under the Lanham Act should increase because Powell’s location and mark is being used in an identical manner, yet it is not getting compensated for something determined to have market value.⁹⁰

Although a trademark infringement claim may or may not be successful in getting Pokémon Go game elements removed from a privately-held business property, such a claim would be very limited in scope and would create a massive strain on a business’s budgets.⁹¹ In Portland and elsewhere, only a small fraction of game elements directly involve private for-profit businesses.⁹² Claims analogous to the individual plaintiffs’ in the *In re Pokémon Go Litigation* would have no avenues for remedies here under the Lanham Act since their property claims involve people’s homes, carrying no trademarked names or images.

even though a fair use defense did not apply because it was not so related to “Play Pen Gentlemen’s Club”).

87. *Rogers v. Grimaldi*, 875 F.2d 994, 999 (2d Cir. 1989).

88. As the University of Washington Tech Policy Lab points out, the fair use doctrine is inherently backward looking. The doctrine creates uncertainty for policy makers, as well as AR developers when making decisions on the use and functions of their applications. TECH POLICY LAB, *supra* note 25, at 6.

89. See *supra* note 56 and accompanying text.

90. *AMF Inc. v. Sleekcraft Boats*, 599 F.2d 341, 348–49 (9th Cir. 1979) (laying out the foundational Sleekcraft test and identifying marketing channels as one factor to consider).

91. Peter Stamatis & Steven Shonder, *To Sue or Not to Sue for Trademark Infringement*, INSIDE COUNSEL (Sept. 22, 2016), <http://www.insidecounsel.com/2016/09/22/to-sue-or-not-to-sue-for-trademark-infringement>.

92. Gaitán, *supra* note 78; see also *Safety FAQs*, NIANTIC, <https://support.pokemongo.nianticlabs.com/hc/en-us/articles/226389207-Safety-FAQs> (last visited July 5, 2017) (“PokéStops and Gyms should be located at publicly-accessible locations, such as historical sites, public works of art . . .”).

C. PROPERTY CLAIMS ASSERTED THROUGH COMMON LAW

Property law concerns are the most pervasive legal issue related to AR. While some property owners chose to profit from the Pokémon Go boom, others did not see the game's benefits.⁹³ Soon after Pokémon Go's release, four lawsuits were filed against Niantic and the game's other contributing companies in the United States.⁹⁴ While one lawsuit focused on privacy issues,⁹⁵ the other three have been consolidated into the *In re Pokémon Go Nuisance Litigation* to address property claims.⁹⁶

At the time this Note was written, the *In re Pokémon Go Litigation* was in its early stages, but there are some indications of Niantic's position in its motion to dismiss.⁹⁷ As described in the Introduction,⁹⁸ the complaint alleges Niantic placed PokéStops and Gyms on or near private property without consent and subsequently ignored plaintiffs' requests to remove their property from the game.⁹⁹ Niantic contends that: Pokémon Go's Terms of Service protect it from the acts of players; virtual game elements are not physical and cannot be considered under trespass; and the causal chain is too thin for a successful unjust enrichment claim.¹⁰⁰ This Section will briefly touch on the three claims that the plaintiffs have brought: nuisance, trespass, and unjust enrichment.

Plaintiff Marder alleges that players lingered around his property and at least five users knocked on his door asking to gain access to his backyard in hopes of catching Pokémon placed there.¹⁰¹ As a result of the nearby Pokémon Go game components, players allegedly trampled through Plaintiffs Dodichs' property, which was adjacent to a public park.¹⁰² Players parked on

93. Brian D. Wassom, *Pokémon Go and the Crisis on an Infinitely Augmented Earth*, AUGMENTED LEGALITY (July 10, 2016), <http://www.wassom.com/6316.html>.

94. Samuel Gibbs, *Pokémon Go Maker Taken to Court Over Players on Beach*, GUARDIAN (Sept. 29, 2016, 9:23 AM), <https://www.theguardian.com/technology/2016/sep/29/niantic-labs-dutch-pokemon-go> (noting Hague authorities are suing Niantic for failing to remove certain game elements after requests were made to the company).

95. Kat Sieniuc, *Pokemon Go Gamer Sues App Developer Over Privacy Policy*, LAW360 (July 27, 2016, 8:47 PM), <https://www.law360.com/articles/822259/pokemon-go-gamer-sues-app-developer-over-privacy-policy>. The concerns raised in this suit echo the privacy concerns expressed by Senator Franken. See *supra* note 69 and accompanying text.

96. Originally Dodich et al. v. Niantic, Inc. et al.; Marder v. Niantic, Inc. et al.; and The Villas of Positano Condo. Assoc. v. Niantic, Inc. et al., these three suits were consolidated into *In re Pokémon Go Nuisance Litig.* on Sept. 15, 2016 in the United States District Court of Northern California. Related Case Order, *In re Pokémon Go Nuisance Litig.*, No. 3:16-cv-04300 (N.D. Cal. Nov. 25, 2016).

97. Defendant Niantic, Inc.'s Motion to Dismiss Plaintiffs' Consolidated Class Action Complaint, *In re Pokémon Go Nuisance Litig.*, No. 3:16-cv-04300 (N.D. Cal. Nov. 25, 2016) [hereinafter Motion to Dismiss].

98. See *infra* Part I.

99. See generally Complaint, *supra* note 1.

100. Motion to Dismiss, *supra* note 97, at 1–2.

101. Complaint, *supra* note 1, at 12.

102. *Id.* at 14.

their private road and the Dodichs faced verbal threats when they attempted to ask the alleged trespassers to leave their property.¹⁰³ Plaintiff Villas of Positano Condominium Association alleges continued trespass throughout the day and night, eventually causing the Association to hire off-duty police officers to address the crowds that invaded the private property and left behind their trash and human waste.¹⁰⁴

The plaintiffs ground their complaints in the common law causes of action of nuisance, trespass, and unjust enrichment. They allege that Niantic could foresee players disrupting property owners' ability to use and enjoy their property and that the company is profiting from the harm property owners suffered.¹⁰⁵ But this assertion is by no means universally accepted.¹⁰⁶

1. Conflict of Laws

Before addressing the substance of the plaintiffs' claims, Niantic, in its motion to dismiss, argued for the suit to be governed under New Jersey, Michigan, and Florida jurisdictions for the respective plaintiffs.¹⁰⁷ Niantic presented a conflict-of-laws argument, noting that there are more substantial real property interests in the plaintiffs' home states than Niantic's California interest in its San Francisco headquarters.¹⁰⁸ While Niantic's position is compelling, this subpart will consider the application of California law as well as the law of the plaintiffs' home states to fully analyze how claims such as these might unfold across the United States.

2. Nuisance and Trespass

Because this AR technology is so new to the mainstream of everyday personal technology, there is understandably a lack of case law on the subject. As such, the complaints against the companies behind Pokémon Go rely on common-law claims.¹⁰⁹ The plaintiffs argue that Niantic's intentional placement of Gyms and PokéStops created a foreseeable nuisance of trespassers, and that, as a result of these placements, Niantic is unjustly enriched by the game's profits.¹¹⁰

103. *Id.* at 15.

104. *Id.* at 13.

105. *Id.* at 3.

106. Emphasizing the need for someone or something to be actually physically present, attorney Brian Wassom stated: "A lot of people are convinced that because they own their property, they ought to be able to control the virtual space . . . I think they're going to come to the answer which I have come to, which is: no, you can't." Lin Taylor & Sally Hayden, *Get Off My Lawn! Pokémon Go Tests Global Property Laws*, REUTERS (Sept. 22, 2016, 9:08 AM), <http://www.reuters.com/article/us-landrights-pokemongo-idUSKCN11S1GY>.

107. Motion to Dismiss, *supra* note 97, at 5–6.

108. *Id.*

109. Complaint, *supra* note 1, at 25–28.

110. *Id.*

The Restatement (Second) of Torts defines a trespasser as “a person who enters or remains upon land in the possession of another without a privilege to do so created by the possessor’s consent or otherwise.”¹¹¹ It also defines a private nuisance as “a nontrespassory invasion of another’s interest in the private use and enjoyment of land.”¹¹² Further:

One is subject to liability for a private nuisance if, but only if, his conduct is a legal cause of an invasion of another’s interest in the private use and enjoyment of land, and the invasion is either

- (a) intentional and unreasonable, or
- (b) unintentional and otherwise actionable under the rules controlling liability for negligent or reckless conduct, or for abnormally dangerous conditions or activities.¹¹³

“Attractive nuisance” is another claim that would render the property owner liable. This species of nuisance holds property owners accountable for any physical harm to trespassing children caused by an enticing condition on the land, regardless of whether the property owner or another person placed the attraction there.¹¹⁴

For the Pokémon Go plaintiffs, the nuisance claim seems to hold the most weight. California, where the *In re Pokémon Go Litigation* is filed, is a common law nuisance state, meaning that “to proceed on a private nuisance theory the plaintiff must prove an injury specifically referable to the use and enjoyment of his or her land.”¹¹⁵ In other words, “[s]o long as the interference is substantial and unreasonable, and such [interference] would be offensive or inconvenient to the normal person, virtually any disturbance of the enjoyment of the property may amount to a nuisance.”¹¹⁶

The California courts have explained that “[a]n interference need not *directly* damage the land or prevent its use to constitute a nuisance; private plaintiffs have successfully maintained nuisance actions against airports for interferences caused by noise, smoke and vibrations from flights over their homes and against a sewage treatment plant for interference caused by noxious odors.”¹¹⁷

Because this type of nuisance claim does not require a game element to be on the property, but rather just close enough to cause a foreseeable disturbance, claims like the Dodichs’ would potentially have more success.

111. RESTATEMENT (SECOND) OF TORTS § 329 (AM. LAW INST. 1965).

112. *Id.* § 821D.

113. *Id.* § 822.

114. *Id.* § 339.

115. *Monks v. City of Rancho Palos Verdes*, 84 Cal. Rptr. 3d 75, 104 (Cal. Ct. App. 2008) (quoting *Koll-Irvine Ctr. Prop. Owners Ass’n v. County of Orange*, 29 Cal. Rptr. 2d 664, 667 (Cal. Ct. App. 1994)).

116. *Id.* (quoting *Prosser & Keeton*, Torts § 87, at 620 (5th ed. 1984)).

117. *Id.* (emphasis added) (citations omitted).

Niantic placed game elements in public areas near the Dodichs' property. The company knew, or at least hoped, the game would be successful enough for players to visit these designated locations. By encouraging users to frequent certain areas, Niantic created a substantial and unreasonable interference with private property owners' enjoyment of their lands. As long as the plaintiffs prove an injury specific to this, like damage to landscape or another quantifiable harm, the claim could be successful.¹¹⁸

Still, California courts place a heavy emphasis on the interference being substantial and unreasonable. A complaint that more individuals than usual are using a public park near a neighborhood may not overcome the substantial and unreasonable bar because parks are inherently meant for the public to use. On the other hand, the fact that plaintiffs hired an off-duty police officer to patrol the Villas of Positano during the night may be enough to conquer that hurdle.

Niantic unsurprisingly emphasizes the Pokémon Go Terms of Service and user guidelines that players must agree to in order to play the game. Because of this, the company contends that it is not liable to the plaintiffs for the actions of the Pokémon Go players and, therefore, the trespass claim, also referred to as the "induced trespass theory," is without merit.¹¹⁹ Niantic also contends that the Terms of Service protections keep the company from being the "legal cause" of the nuisance under the Restatement Second of Torts section 822.¹²⁰

Additionally, it asserts that even though it placed game elements on private property, it was for the benefit of the property owners to enjoy, not to induce unwanted visitors.¹²¹ Further, Niantic contends that the placement of game elements on or near plaintiffs' properties does not violate traditional notions of trespass since the game elements lacks any sort of physical entry onto the property.¹²² Michigan and New Jersey, the states of plaintiffs Dodich and Marder respectively, require a physical intrusion, and Florida, along the same vein, requires "unauthorized entry."¹²³

If the court finds Niantic responsible for "substantially certain" trespass by its Pokémon Go users, even after considering the extensive terms of service agreements, then the plaintiffs will certainly fare better in the litigation. However, if the agreements limited the company's liability enough, a nuisance or trespass claim would probably fail. Additionally, the common law does not

118. Plaintiff Marder is probably out of luck with this claim since all he alleges is that a handful of individuals knocked on his door.

119. Motion to Dismiss, *supra* note 97, at 8–10.

120. *Id.* at 14; *see supra* note 113 and accompanying text.

121. Motion to Dismiss, *supra* note 97, at 9.

122. *Id.* at 6–8.

123. *Id.* at 7 (quoting *Pearson v. Ford Motor Co.*, 694 So. 2d 61, 69 (Fla. Dist. Ct. App. 1997)).

recognize a “virtual right” in real property ownership.¹²⁴ So even though these game elements are on private property like the Villas of Positano, no remedy would exist for such a nonexistent harm.

3. Unjust Enrichment

Plainly stated, “[a] person who is unjustly enriched at the expense of another is subject to liability in restitution.”¹²⁵ While unjust enrichment is often found in contract law, a property owner can potentially pursue a claim of unjust enrichment based upon trespass, conversion, or comparable wrongs.¹²⁶ The Restatement Third of Restitution and Unjust Enrichment reads: “A person who obtains a benefit by an act of trespass or conversion, by comparable interference with other protected interests in tangible property, or in consequence of such an act by another, is liable in restitution to the victim of the wrong.”¹²⁷

Similar to a trademark infringement claim, unjust enrichment would necessitate PokéStops or Gyms to be located on a plaintiff’s actual property, not just adjacent public lands.¹²⁸ This would only allow relief for a limited number of property owners. While Niantic knowingly placed these game elements on private property and made money on the game while doing so, Niantic has not physically placed anything on the real property. Additionally, Niantic does not *directly* profit from users visiting Gyms and PokéStops, but rather collects revenue through in-application (“in-app”) purchases.¹²⁹ While game users collect beneficial items from PokéStops and gain experience points (“XP”) by visiting these stops along with Gyms, they do not purchase anything through these elements.¹³⁰ A user can buy additional helpful items with PokéCoins in the Shop area of the game, which is accessible regardless of location.¹³¹ PokéCoins are either earned through game play or available as an in-app purchase where a user would pay real money to receive an amount

124. See generally Jane B. Baron, *Rescuing the Bundle-of-Rights Metaphor in Property Law*, 82 U. CIN. L. REV. 57 (2013) (exploring the history of what is included in the “bundle of rights” and possibilities for expanding to fit modern, novel forms of property).

125. RESTATEMENT (THIRD) OF RESTITUTION & UNJUST ENRICHMENT § 1 (AM. LAW INST. 2011).

126. *Id.* § 40.

127. *Id.* Because AR location-based gaming has not yet been litigated to a verdict, “Interference with Intellectual Property and Similar Rights,” *id.* § 42, might also play a role if a property owner attempts to assert that their real property “bundle of sticks” includes some intellectual property component transferable to the AR technology world.

128. *Id.* § 40.

129. *In-App Purchases*, POKÉMON GO, <http://www.pokemongo.com/en-us/iap> (last visited July 5, 2017).

130. *Gather Items at PokéStops and Gyms*, Niantic: POKÉMON GO, <https://support.pokemongo.nianticlabs.com/hc/en-us/articles/221957688-Gather-items-at-PokéStops-and-Gyms> (last visited July 5, 2017).

131. *Using PokéCoins to Make Purchases in the Shop*, Niantic: POKÉMON GO, <https://support.pokemongo.nianticlabs.com/hc/en-us/articles/221957868-PokéCoins-and-making-In-App-Purchases> (last visited July 5, 2017).

of game currency.¹³² So, while Niantic undoubtedly does make more money the more people play, the courts must deal with causation: are these PokéStops and Gyms closely associated enough to have unjustly enriched Niantic? Niantic contends that these PokéStops and Gyms did not provide it with a direct benefit for which it needs to compensate the plaintiffs.¹³³ As the law stands, this is challenging for plaintiffs.

However, courts could conceivably expand the common law to include a virtual property right that mirrors a real property air right. Dating back to Italy in the 1300s, the maxim of “*cujus est solum, ejus est usque ad coelum et ad inferos*,” means “the rights of the surface owner extend upward to the heavens (*ad coelum*) and downward to the center of the earth (*ad inferos*),”¹³⁴ providing the origins of modern air rights.¹³⁵ The “*ad coelum* doctrine” entered the common law through Blackstone’s commentaries, and by the early 20th century, American courts began applying the doctrine.¹³⁶ With the advent of aviation, Congress curtailed the unlimited doctrine to leave the average real property owner with 500 feet of airspace rights above the ground of his or her land.¹³⁷

In *United States v. Causby*, the Supreme Court acknowledged the rights of landowners to the non-navigable airspace immediately above their lands.¹³⁸ The Court found “[t]he landowner owns at least as much of the space above the ground as he can occupy or use in connection with the land. The fact that he does not occupy it in a physical sense—by the erection of buildings and the like—is not material.”¹³⁹ Like airspace, virtual space is “invisible and intangible.”¹⁴⁰ And also like airspace, virtual space real property rights will cause scholars and courts much frustration.¹⁴¹ In the same way the advent of aviation secured previously useless airspace rights, the advent of AR, location-based technologies could provide real property owners with a right they always had but never knew.¹⁴² Courts will, in time, wrestle with the question. While Congress or another actor might act sooner than the judiciary to provide real property virtual rights, the common-law foundation through airspace rights could be the cornerstone of developing this new stick in the bundle of real

132. *Id.*

133. Motion to Dismiss, *supra* note 97, at 15–18.

134. John G. Sprankling, *Owning the Center of the Earth*, 55 UCLA L. REV. 979, 980–81 (2008).

135. Troy A. Rule, *Airspace and the Takings Clause*, 90 WASH. U. L. REV. 421, 427 (2012).

136. *Id.*

137. *Id.* at 427–28.

138. *United States v. Causby*, 328 U.S. 256, 264 (1946).

139. *Id.* (citation omitted).

140. Rule, *supra* note 135, at 425.

141. *Id.*

142. Jeff Villalobos, *The Oddish Intersection of Property Rights and Augmented Reality*, VELA WOOD (July 18, 2016), <http://velawoodlaw.com/the-oddish-intersection-of-property-rights-and-augmented-reality-blog1>.

property rights. If courts expand the common law, the plaintiffs here would have a more concrete avenue towards measurable relief.

The California courts' tendency is to no longer allow unjust enrichment as an independent cause of action, but rather to use the principle as a method of restitution.¹⁴³ New Jersey, the state of Plaintiff Marder, also adheres to this concept.¹⁴⁴ So with weak trespass and nuisance claims, Marder is probably without remedy. This means that some other claim would be necessary to move the unjust enrichment theory forward, which may not always be possible. This can be seen with the Pokémon Company as a named party alongside Niantic in this litigation. Having a relatively passive role in Pokémon Go, by essentially just providing the characters, the Pokémon Company is separate from the location-based technology at issue. So, while the Pokémon Company nets a percentage of the profits—so it is indeed enriched—the company does not fit with the trespass allegations in the complaint because it is merely lending the Pokémon franchise name and characters. With so few routes for property owners harmed by location-based technologies, new legislation or common law recognition of “virtual” real property rights must occur.

IV. FITTING A RECTANGULAR CELLPHONE INTO A CIRCULAR HOLE: HOW TO MOVE FORWARD

AR location-based gaming is a prime example of a new technology that legislatures will eventually be forced to address. Already with proposed regulations, Milwaukee County and the State of Illinois appear to be ahead of others as the Pokémon Go fad turns to an industry trend. Nevertheless, additional governments will invariably attempt to remedy property rights violations soon, maybe with the release of the next “Pokémon Go” type of game. In the meantime, there are limited avenues for property owners harmed by these games. The limitation is exacerbated by inadequate remedies that do not address the root of the real property conflicts associated with location-based gaming. Our judicial system lacks case law that adequately addresses this type of technology and our statutes are also deficient when considering location-based gaming.

This Part provides suggestions for remedying private property rights violations by location-based technologies. First, this Part examines the negatives of localized remedies through the examples of Milwaukee County's proposed ordinance and Illinois's proposed statute. Then, this Part emphasizes the need for federal regulatory action via a Do-Not-Locate Registry to protect people who do not meet the narrow trademark remedy or

143. Adam J. Glazer, *Where Pokémon Go Goes, Inevitable Courtroom Fights Appear to Lurk*, SCHOENBERG FINKEL NEWMAN & ROSENBERG, LLC (Aug. 25, 2016), <https://www.sfnr.com/news/2017/2/13/where-pokmon-go-goes-inevitable-courtroom-fights-appear-to-lurk?rq=pokemon%20go>.

144. Motion to Dismiss, *supra* note 97, at 15–16.

cannot dispense the time and money for litigation. Finally, this Part advocates for implementation through “responsive regulation” by the federal government and industry participants to best preserve individual property rights while being cognizant of rapid technological advancements.

A. *THE NECESSITY FOR REGULATION*

One might argue that regulating AR location-based gaming at the local, state, or federal level is unnecessary. Currently, no clear-cut federal administrative agency directly oversees the broader video game industry, let alone location-based gaming. While this lack of oversight has caused some outcry by parents and others desiring some federal censorship of violent games, their complaints have been without success.¹⁴⁵ This government inaction seemingly extends from the censorship context to AR games as well.

While Niantic purports to have procedures in place to respond to property owner complaints, the company has not consistently followed through.¹⁴⁶ Their failure to respond to such complaints has triggered the Pokémon Go litigation. Niantic’s current procedures appear to only provide remedies when a significant amount of public outcry accompanies complaints, leaving the typical property owner without remedy. If Niantic and other similar companies enforced their internal policies for policing property concerns, there would be little need to suggest legislative action. However, because Niantic ignored its own game element removal procedures, the law must now act to protect individual property rights. This section touches on the problems with local and state regulation, namely the Milwaukee County Ordinance and Illinois’s proposed legislation regarding location-based technology, before proposing a federal Do-Not-Locate Registry.

1. The Milwaukee County Proposed Ordinance

With what seemed to be directly out of a Parks & Recreation episode, a local Milwaukee public meeting set the stage for a heated Pokémon Go debate.¹⁴⁷ Milwaukee’s Lake Park, said to be one of the Midwest’s top Pokémon Go playing areas, became overrun by Pokémon Go users in the summer of 2016.¹⁴⁸ According to county officials and local law enforcement,

145. Eric Lichtblau, *Makers of Violent Video Games Marshal Support to Fend Off Regulation*, N.Y. TIMES: POLITICS (Jan. 11, 2013), <http://www.nytimes.com/2013/01/12/us/politics/makers-of-violent-video-games-marshall-support-to-fend-off-regulation.html>.

146. See *supra* Part II.B.

147. Matt Wild, *Lake Park’s Pokemon Go Meeting was Boring, Livid, and Gloriously Absurd*, MILWAUKEE RECORD (Sept. 8, 2016), <http://milwaukee-record.com/city-life/lake-parks-pokemon-go-meeting-was-boring-occasionally-livid-gloriously-absurd> (containing sound recordings of some impassioned speeches from the meeting attendees).

148. Don Behm, *No Common Ground on Pokemon Go*, MILWAUKEE J. SENTINEL (Sept. 13, 2016, 9:44 PM), <http://www.jsonline.com/story/news/local/milwaukee/2016/09/13/no-common-ground-pokemon-go/90322362>.

the game caused an onslaught of problems concerning parking, trash, landscaping, and shortage of restrooms.¹⁴⁹ Following this forum, a county supervisor proposed Ordinance 16-637, which would require “[v]irtual and location-based augmented reality games” to apply for a permit to operate in the Milwaukee County parks.¹⁵⁰ Milwaukee County passed this ordinance at the beginning of February 2017.¹⁵¹

Milwaukee County’s action is the wrong direction for attempting to rein in AR location-based gaming. Requiring an international company to apply for local-level permits would present an unreasonable burden and hinder technological advancements by diverting substantial resources to regulatory compliance. Beyond the First Amendment concerns,¹⁵² expecting a game developer, or any other augmented or virtual reality programmer, to undergo this permit process is unworkable and unreasonable. Niantic, a 75-employee startup, is currently interacting with numerous governments around the world.¹⁵³ Believing that similar companies should be subjected to such local restrictions would all but kill the industry before it truly gets off the ground. While one county supervisor deems this analogous to requiring permits for weddings and beer gardens in the park,¹⁵⁴ location-based gaming technology is simply in a different category through its scale and complexity. This industry should be regulated uniformly rather than through a permit system which is generally used by individuals or small entities for local event reservations.

149. Wild, *supra* note 147.

150. Milwaukee County, Wis., Ordinance 16-637 (Feb. 2, 2017); *see also County Legislative Information Center*, MILWAUKEE COUNTY, <https://milwaukeecounty.legistar.com/LegislationDetail.aspx?ID=2892659&GUID=D4C3AB55-A711-4C7F-B138-1CB237A6325E> (last visited July 5, 2017) (containing the history and drafts of the ordinance). For a related video containing some of the debate among county supervisors attempting to grapple with Pokémon Go, *see Milwaukee County Board of Supervisors on 2016-12-15*, MILWAUKEE COUNTY, http://milwaukeecounty.granicus.com/MediaPlayer.php?view_id=2&clip_id=1252&meta_id=290274 (last visited July 5, 2017), beginning at 1:58:30, ending at 2:15:00.

151. Don Behm, *Milwaukee County Requires Parks Permit for Pokémon*, MILWAUKEE J. SENTINEL (Feb. 3, 2017, 11:40 AM), <http://www.jsonline.com/story/news/local/milwaukee/2017/02/03/milwaukee-county-requires-parks-permit-pokemon/97444996>; *County Legislative Information Center*, *supra* note 150.

152. Brian D. Wassom, *Milwaukee, Pokemon Go, and the First Amendment*, AUGMENTED LEGALITY (Dec. 7, 2016), <http://www.wassom.com/milwaukee-pokemon-go-first-amendment.html> (taking the position that video games are free speech and accordingly can only be subject to limited restrictions); *see also generally* Brown v. Entm’t Merchs. Ass’n, 564 U.S. 786 (2011) (holding that First Amendment protections apply to video games).

153. *Exploring Augmented Reality: Hearing Before the Comm. on Commerce, Sci., & Transp.*, 114th Cong. 1 (2016) (testimony of John Hanke, CEO, Niantic), https://www.commerce.senate.gov/public/_cache/files/6b89a4c2-f81a-45e9-g2b4-fa7ef0a64926/oBoDEABSEo1FFoB7o1oBAF791BB7A3C3.john-hanke-testimony.pdf.

154. Wild, *supra* note 147.

2. Illinois Proposed Legislation: The Location-Based Video Game Protection Act

Instead of attempting to address AR location-based gaming within the existing structure of laws, one Illinois state legislator recognized the need for additional regulation.¹⁵⁵ Following an outcry from environmentalists and a lack of response from Niantic to remove PokéStops from the Loyola Dunes, a protected state park containing endangered wildlife, Illinois State Representative Kelly Cassidy introduced the Location-based Video Game Protection Act, or “Pidgey’s Law,” named after a common bird Pokémon.¹⁵⁶

The bill would require the “developer of a location-based video game” to eliminate game elements within four business days of receiving a request and reason for removal from a property owner.¹⁵⁷ Locations which could request such a removal must be “ecologically sensitive,” “historically significant,” “locat[ed] on private property,” or “otherwise deemed as dangerous by the real property owner.”¹⁵⁸ The bill gives property owners the right to enforce the four-day time limitation with “a civil fine of up to \$100 for each day of violation.”¹⁵⁹ At the time this Note was written, this bill has been referred back to the Rules Committee.¹⁶⁰

This proposed Location-based Video Game Protection Act imitates a widespread “Take Down Notice” practice. This process is also found in the Online Copyright Infringement Liability Limitation Act (“OCILLA”), which is better known as the safe harbor portion of the Digital Millennium Copyright Act (“DMCA”).¹⁶¹ Through this safe harbor provision, websites such as YouTube avoid liability until they have been put on notice of user-submitted unauthorized content on their forums. To an extent, this safe harbor protects Niantic from suit until the company has been alerted to a potential issue.

However, there are some policy differences between limiting YouTube’s liability and limiting Niantic’s. Because a website like YouTube is a service provider and allows millions of individuals to use YouTube’s platforms to distribute materials, it would be absurd to hold them liable for the copyright

155. Janssen, *supra* note 59.

156. Alex Heath, *A New Bill Called ‘Pidgey’s Law’ Aims to Force the Removal of Pokéstops in Pokémon Go*, BUS. INSIDER (Aug. 25, 2016, 12:11 PM), <http://www.businessinsider.com/pidgeys-law-bill-aims-to-force-removal-of-pokestops-in-pokemon-go-2016-8>.

157. H.B. 2459, 100th Gen. Assemb., Reg. Sess. § 10(a) (Ill. 2017).

158. *Id.*

159. *Id.* § 20(a)–(b).

160. *Bill Status of HB2459*, ILL. GEN. ASSEMBLY, <http://www.ilga.gov/legislation/BillStatus.asp?DocNum=2459&GAID=14&DocTypeID=HB&LegID=103467&SessionID=91&GA=100&SpecSess=0> (last visited July 5, 2017).

161. The Digital Millennium Copyright Act amended and created various provisions in section 17 of the United States Code. The Online Copyright Infringement Liability Limitation Act is codified at 17 U.S.C. § 512 (2012).

infringement of any random user who uploaded a Prince music video.¹⁶² Instead, the legislatures intended OCILLA to create a system for those who would otherwise file an infringement suit to submit a take down notice to the site so that the site may, within a reasonable time, remove the infringing content.¹⁶³

This process differs from Niantic using mapping technologies to place game elements in the AR locations on its own accord. However, even the plaintiffs in the class action understood the need to allow the company to remove the elements through their posted procedures. Perhaps the largest downfall of the Illinois legislation is the short time window that it would give Niantic and other similar companies to remove the location—merely four days to recode the game and remove the property from its system. Multiply this removal dilemma onto a global scale, and one might become sympathetic to Niantic’s snail-paced response to such complaints.

While the takedown procedure creates a forum for the companies to hear and hopefully address property owners’ complaints, this is a very reactive approach. As stated above, AR technology is set to become the norm. This would mean that with each new app released, property owners and companies would necessarily repeat the process over and over. Relying on games’ removal procedures or “Take Down Notices” would generate circular procedures for property owners with every new game release. It would also be impracticable for game creators, who are continually updating maps, to comply with a staggering number of takedown requests. Such a system is inefficient and unsustainable.

B. THE NEED FOR FEDERAL ACTION

While the federal government primarily regulates intellectual property rights,¹⁶⁴ real property regulation is traditionally reserved for the states. With Illinois proposing legislation to address location-based gaming, it seems at least one state believes this area remains in its jurisdiction. This real property regulation can remain within a state’s power, but the ensuing jurisdictional discrepancies will ultimately act as a deterring force on the location-based industry’s advancement. On top of state jurisdictional concerns, local governments, like Milwaukee County, are considering taking action. These beliefs could turn into a nightmare for the location-based gaming industry. If the projected growth of this industry is accurate,¹⁶⁵ other jurisdictions will most likely pass similar legislation on behalf of property-owning constituents. Once a handful of states and municipalities are regulating in their unique

162. Lee A. Hollaar, *Legal Protection of Digital Information: Copyright of Digital Information*, DIGITAL LAW ONLINE, <http://digital-law-online.info/lpdi1.0/treatise33.html> (last visited July 5, 2017).

163. *Id.*

164. *Intellectual Property Rights*, LAWS.COM, <http://intellectual-property.laws.com/intellectual-property-rights> (last visited July 5, 2017).

165. Takahashi, *supra* note 23.

ways, the industry companies will be bogged down with the inconsistencies between the state laws. To both protect property owners and allow companies to flourish, federal legislation is the best option. Federal legislation should draw from the Do Not Call Registry, current considerations for a private “Mixed Reality System,” and the overarching concept of responsive regulation in order to best balance all interests involved.

1. Do-Not-Locate Registry

A Do-Not-Locate Registry is an efficient alternative to fighting lengthy courtroom battles.¹⁶⁶ This registry is most analogous to the Federal Trade Commission’s (“FTC”) National Do Not Call Registry.¹⁶⁷ Ratified in 2003, the Do Not Call Registry includes more than 221 million telephone numbers to curtail privacy concerns and avoid potential telemarketing abuse.¹⁶⁸ Simply put, through registering their phone numbers with the government, individuals make a one-time decision to not be contacted by call centers.¹⁶⁹ The FTC enforces individuals’ decisions by compelling telemarketing companies to regularly scrub their contact lists against the government’s Do-Not-Call list.¹⁷⁰ The FTC has authority to adopt standards for a Do-Not-Locate list, like it already does with the Do-Not-Call list, either through its current powers in Section 5 of the FTC Act, or through independent power allocated to it by future legislation.¹⁷¹

The FTC’s creation of a national registry of locations, which would specify that certain coordinates could not be components of location-based apps, would have benefits that would substantially outweigh any concerns. Instead of a property owner needing to be aware of every single game which might disrupt her property rights and then reactively requesting to remove her property once the game launched, a national Do-Not-Locate registry would create a “one and done” reporting solution for property owners. Streamlining this process would also facilitate designing future location-based games and allow them to initially code game components accordingly.

166. Glazer, *supra* note 143.

167. 15 U.S.C. §§ 6151–55 (2012).

168. Lesley Fair, *10 Years of National Do Not Call: Looking Back and Looking Ahead*, FTC (June 27, 2013 10:00 AM), <https://www.ftc.gov/news-events/blogs/business-blog/2013/06/10-years-national-do-not-call-looking-back-looking-ahead>.

169. Joshua A.T. Fairfield, “*Do-Not-Track*” as Contract, 14 VAND. J. ENT. & TECH. L. 545, 587 (2012).

170. *Id.* at 587–88.

171. Joshua A.T. Fairfield, *Do-Not-Track as Default*, 11 NW. J. TECH & INTELL. PROP. 575, 595 & n.116 (2013) (“15 U.S.C. § 45(a)(1) (2006) (“Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful.”)). The power of the FTC to initiate an enforcement action against acts which it has reason to believe violate 15 U.S.C. § 45(a)(1) is called its section 5 authority because it comes from section 5(a) of the FTC Act. See A Brief Overview of the Federal Trade Commission’s Investigative and Law Enforcement Authority, FTC, <http://www.ftc.gov/ogc/brfovrw.shtml> (last updated July 2008).

But the National Do-Not-Call Registry is certainly not flawless, and it would not be *identical* to the Do-Not-Locate list. The FTC received upwards of 3 million telemarketing complaints in 2015 from individuals on the Do Not Call list. That number will most likely rise above 5 million for 2016.¹⁷² This ineffectiveness can be pinned on the rise of overseas telemarketing companies dialing into the U.S. using spoofing technology to avoid regulation.¹⁷³

And while some telecom companies provide services to combat robocalls for their customers, it is often not without a price or multistep procedures.¹⁷⁴ But if the FTC were to implement the Do-Not-Locate Registry through responsive regulation, discussed below, it would be able to maintain current procedures to address advancing technological concerns. The Do-Not-Call Registry has become obsolete partly due to its inability to address the spoofing technology because of the rigidity of the Do-Not-Call-Registry's organic statute. To avoid a similar demise, the Do-Not-Locate Registry could collaborate with the location-based technology industry.

Using the Do-Not-Call model to help combat overreach is not new. For instance, "Do-Not-Track" is the concept that consumers using the Internet should have the choice to not have their online activity tracked.¹⁷⁵ This privacy concept also has its foundations in the Do Not Call list.¹⁷⁶ But unlike the Do Not Call list, the FTC does not enforce Do-Not-Track. As a result, consumers' Do-Not-Track concerns go largely ignored by the majority of advertisers.¹⁷⁷ IP addresses often change and would subsequently be difficult to maintain in an effectively-functioning Do-Not-Track list.¹⁷⁸ A Do-Not-Locate list of geographic coordinates are more like Do Not Call phone numbers—fixed and limited. For a Do-Not-Locate list, the concrete nature of real property avoids many of the roadblocks facing the Do-Not-Track debate. A Do-Not-Locate Registry does not have to wrestle with the same technological problems as Internet consumer tracking, and if implemented correctly, can also overcome the setbacks the Do-Not-Call Registry has faced. As a result, a Do-Not-Locate Registry would best advance the interests of real property owners while accounting for the industry needs as well.

172. Helaine Olen, *Congratulations! You Lost.*, SLATE (May 24, 2016, 12:30 PM), http://www.slate.com/articles/business/the_bills/2016/05/robocalls_have_triumphed_over_the_do_not_call_list_whose_fault_is_it.html.

173. *Id.*

174. *Id.* Rep. Jackie Speier of California introduced legislation updating the current Do Not Call statutory scheme, requiring telecom companies' cooperation with combatting robocalls at no cost to customers. *Id.* This measure was abandoned at the close of the legislative session. *H.R. 4932 (114th): ROBOCOP Act, GOVTRACK*, <https://www.govtrack.us/congress/bills/114/hr4932> (last visited July 5, 2017).

175. Fairfield, *supra* note 171, at 580.

176. *Id.* at 581.

177. *Id.*

178. *Id.* at 582.

2. Creating a Do-Not-Locate Registry

i. Congressional Support

On November 16, 2016, the Senate Committee on Commerce, Science, and Transportation conducted a hearing entitled “Exploring Augmented Reality.”¹⁷⁹ While the hearing focused on cybersecurity, job creation, safety improvements, and consumers, the overall sentiment from the legislators and the witnesses was anti-regulation.¹⁸⁰ South Dakota Senator John Thune, Chairman of the committee, opened by stating, “In previous hearings this Committee has held on new and emerging technologies, . . . I [have] stressed how important it is for government to avoid jumping in too soon with a heavy-handed regulatory approach. AR is no different. . . . [I]t is essential that policymakers not unnecessarily stifle innovation.”¹⁸¹ Leaders in the AR industry share the same concerns.¹⁸² However, University of Washington Professor of Law Ryan Calo testified that if there were to be regulation on AR, it should take a dynamic form, like responsive regulation.¹⁸³ This Note’s proposal of a federal Do-Not-Locate list is in line with views expressed at the “Exploring Augmented Reality” Hearing. It would not hamper the development of AR technologies, but only mandate that the industry respect real property owners’ rights. Constructing a basic system while involving the industry in its creation, as laid out below, mirrors the Committee’s desire to balance individual and technological interests.

ii. Constructing the Do-Not-Locate Registry

Although a Do-Not-Locate Registry would have unique concerns to address compared to the above-mentioned databases, some scholars have begun to create a blueprint. In a recent paper outlining a creation of such a registry, Internet technology innovator and author Mark D. Pesce noted that a Mixed Reality System (“MRS”) facilitates “registration and discovery services binding the real world of geospatial coordinates to the virtual world of

179. See generally *Exploring Augmented Reality*, U.S. SENATE COMM. ON COM., SCI., & TRANSP. (Nov. 16, 2016), <http://www.commerce.senate.gov/public/index.cfm/hearings?ID=gC42F271-98FE-4146-ADD9-8909E5C2020D> (containing Senator and witness written statements as well as a video recording of the full hearing).

180. *Id.*

181. *Exploring Augmented Reality: Hearing Before the Comm. on Commerce, Sci., & Transp.*, 114th Cong. (2016) (statement of Sen. John Thune, Chairman, S. Comm. on Commerce, Sci., & Transp.).

182. *Id.* (testimony of Brian Blau, Research Vice President of Gartner) (“[F]or AR technology to flourish, innovation needs to be supported and accelerated without undue restrictions.”); *id.* (testimony of Brian Mullins, CEO of DAQRI) (“The use case with consumers will be materially different than the use case in the industrial environment and regulations to support that need to be tailored instead of painted with a broad brush.”).

183. TECH POLICY LAB, *supra* note 25 (“AR technology is advancing rapidly. Today’s systems should be flexible and capable of updating in the face of technical and cultural change. Law and policy itself, to stay relevant, should not assume a fixed instantiation of AR for all time.”).

Universal Resource Identifiers (“URIs”).”¹⁸⁴ While his work thus far is with establishing a private system, he offers six main policy considerations for such a registry, which would be equally important for one that is government monitored:

- a) A distributed, global system of MRS mappings would likely be implemented through a distributed ledger technology (DLT).
- b) This distributed ledger operates as the equivalent of a land title registry, in which ownership over a particular MRS mapping can be confirmed by consensus.
- c) As such, this distributed ledger must be easy to share and difficult to modify.
- d) As real property is at the core of the MRS mappings, any modifications in the distributed ledger must be accompanied by proofs appropriate to the modifications requested.
- e) These proofs will have both legal and data requirements, and may vary based on the perceived significance of the request.
- f) Proofs will have to be presented with the vast majority of requests, and further presented to every entity maintaining of the distributed ledger so that consensus can be reached about making a change in that ledger.¹⁸⁵

These broader points should provide a technical foundation for a legislative discussion on the creation of such a system as well as some key considerations for FTC’s handling of this type of data.¹⁸⁶ Using Pesce’s six points as a foundation, the regulators and the regulated can move forward on this foundation, facilitating and adapting for the concerns of interested parties along the way.

*iii. Implementing and Maintaining a Successful Do-Not-Locate Registry:
Responsive Regulation*

The University of Washington Tech Policy Lab provides two recommendations when considering legislative action for AR technologies that are essential for a Do-Not-Locate Registry.¹⁸⁷ The first is building dynamic systems. Because this technology is moving at such a rapid pace, systems regulating it should have inherent flexibility for updating with the

184. Mark D. Pesce, Mixed Reality Service (MRS) 1 (Sept. 2016) (unpublished manuscript), https://mixedrealitysystem.org/spec/MRS_Draft_2_September_2016.pdf.

185. *Id.* at 9.

186. In this paper, Pesce also considers encryption and other security concerns with such a system as well as particulars on editing and categorizing information in an MRS. *See generally id.*

187. TECH POLICY LAB, *supra* note 25, at 8.

progression of these cultural and technical changes.¹⁸⁸ This dynamic nature would mean the ability to promulgate and amend regulations with relative quickness at a more agency level as opposed to passing legislation through Congress. The second recommendation is collaboration between the regulators and the regulated.¹⁸⁹ Also known as “responsive regulation,”¹⁹⁰ an open relationship between the two allows sharing the regulators’ policy values alongside the designers’ technical considerations.¹⁹¹ The experts who assess similar fields agree with the Tech Policy Lab’s AR considerations.

To achieve flexibility and collaboration, William McGeeveran, a data and privacy law professor, advocates for “responsive regulation” as an effective approach to balance the benefits of technological advancements with protecting personal privacy rights.¹⁹² While this Note examines individual rights in a property rather than privacy context, property rights can fit the “responsive regulation” concept. McGeeveran’s analysis provides one possible approach to location-based AR technology regulation. Noting that “[a]ll enforcement is imperfect: the rules will always be violated by some,”¹⁹³ McGeeveran suggests flexible levels of government mandates for the proposed regulation; under a “model of responsive regulation . . . [t]he government can rely heavily on this strategy of advice, exhortation, and industry cooperation, turning to penalties only when these methods fail.”¹⁹⁴

This approach for the emerging location-based gaming industry, and AR generally, would encourage industry best practices. By collectively approaching an issue, companies will implement the most suitable resolution. This type of regulation will help resolve specific disputes with companies,

188. *Id.*

189. *Id.* (suggesting that policymakers “[c]oordinate with designers”).

190. IAN AYRES & JOHN BRAITHWAITE, *RESPONSIVE REGULATION: TRANSCENDING THE DEREGULATION DEBATE* 4 (1992) (A responsive regulation is one that is “responsive to industry structure in that different structures will be conducive to different degrees and forms of regulation. Government should also be attuned to the differing motivations of regulated actors.”).

191. *Id.*

192. *See generally* William McGeeveran, *Friending the Privacy Regulators*, 58 *ARIZ. L. REV.* 959 (2016) (applying the concept of responsive regulation to privacy law). This Note’s analogy to privacy could spark resistance from scholars. With such a steep history in the development of American laws and values, privacy clearly has a special place in our jurisprudence. As technological advancement has created concerns regarding personal data held by the government as well as by companies, a push for continued state action here, as McGeeveran argues, makes sense. Placing this argument in the context of property rights involving new technology is understandably a different realm. However, this Note supports this type of responsive regulation. This approach could very much advance individual and corporate objectives simultaneously when weighing future policy considerations. While privacy has long been intimately connected with the advancement of technology, real property is now beginning to grapple with such technologies. Borrowing the concept of responsive regulation from privacy to build the initial scaffolding of the same in real property facilitates the desired balancing of individual and corporate interests.

193. *Id.* at 965.

194. *Id.* at 983.

allowing a forum to resolve disputes before heightening a conflict to formal adjudication. Responsive regulation works best to address rapid technological changes.¹⁹⁵ A long proclaimed criticism of law is its sluggish response to change.¹⁹⁶ Responsive regulation alleviates this concern by opening a dialogue between the government and the regulated industry and by allowing law to stay current with the digital world.¹⁹⁷ Swapping the term privacy for property, McGeveran's argument applies to the location-based gaming world. "Rather than giving up on the possibility of controlling the inexorable evolution of technology, responsive regulation allows agencies to respond to those changes and ameliorate [property] impacts without throttling productive innovation."¹⁹⁸

This method would address property owners' grievances in the Pokémon Go litigation without having to navigate a lengthy legal process. It would eventually become the norm for addressing property owners' concerns. Illinois's proposed legislation, which would require companies to eliminate game elements within two days of receiving a removal request, has already faced backlash that could be calmed with a more responsive approach. Attorney Jacob Huebert noted, "I don't believe that the state has done any research on the technological feasibility of this [statute], on the reasonability of expecting a company to make changes in the way it operates within two days of receiving a request."¹⁹⁹ In the location-based AR context under a responsive regulation approach, the FTC and the industry would negotiate mutually agreeable objectives. The policy considerations outlined in this section are a start, but further direction will come from those with a seat at the negotiation table.

Returning to the Do-Not-Call Registry analogy in the responsive regulation context, a Do-Not-Locate Registry created under this concept would not fall by the wayside within ten years. The National Do-Not-Call Registry was rendered all but useless as technology advanced.²⁰⁰ However, by using responsive regulation, this Do-Not-Locate Registry could evolve with time rather than become obsolete, as long as the FTC and industry keep channels of communication open. As the AR industry moves from smartphones to smartglasses, or any other divergent path with new concerns

195. *Id.* at 987.

196. See Vivek Wadhwa, *Law and Ethics Can't Keep Pace with Technology*, MIT TECH. REV. (Apr. 15, 2014), <https://www.technologyreview.com/s/526401/laws-and-ethics-cant-keep-pace-with-technology> ("These regulatory gaps exist because laws have not kept up with advances in technology.").

197. McGeveran, *supra* note 192, at 987.

198. *Id.*

199. *Pidgey's Law' Raises Questions of Feasibility in Regulating Pokémon Go*, ILL. NEWS NETWORK (Sept. 6, 2016), http://ilnews.org/news/statewide/pidgey-s-law-raises-questions-of-feasibility-in-regulating-pok/article_4f35a8b5-a1fd-5739-b211-51476299690C.html.

200. Olen, *supra* note 172.

around property, privacy and safety, the regulators and the regulated can tweak the Do-Not-Locate Registry accordingly.

McGeveran admits that “[r]esponsive regulation is a general model, not a precise blueprint,”²⁰¹ so a more precise vision of regulating the industry is essentially impossible to speculate on without input from the government and AR location-based gaming companies. While concerns, such as general regulatory laxity, flow from responsive regulation,²⁰² the benefits of collaborating and more swiftly implementing procedures outweigh such apprehensions. Ultimately, a federal Do-Not-Locate Registry, achieved through a responsive regulatory model, would be the most effective method for addressing the conflict between location-based technologies and individual property rights.

V. CONCLUSION

This Note presents the specific need for regulating AR location-based technology. With the arrival of Pokémon Go, the industry will undoubtedly expand and continue to collide with individuals’ property rights. While the *In re Pokémon Go Litigation* class action currently navigates the federal courts, the plaintiffs’ reliance on traditional common-law concepts to bring claims based on advanced technology is potentially fruitless. Although a trademark infringement claim could have some degree of success, there is a present need for regulators to address AR location-based technology.

Prior to the rise of location-based gaming, video game developers created virtual worlds that were self-contained. The Minecraft, World of Warcraft, and Second Life game spaces exist on a screen, fully accessible at a fixed location through the gaming console. These virtual universes have limited real estate and thus create value and a self-contained set of procedures on how property was controlled within a game. The advent of Pokémon Go and the further development of location-based gaming blur the previously clear distinction between the virtual universe and the physical world. While Niantic’s Pokémon Go universe is technically limited to the finite amount of land mapped on the gaming platform, it is not contained in the same manner as the previously mentioned games. Gathering materials to build a house in Minecraft can be done exclusively from a living room chair; collecting Pokémon or items in Pokémon Go cannot.²⁰³

201. McGeveran, *supra* note 192, at 985.

202. *Id.* at 987.

203. Pokémon Go is extremely limited compared to standard Massively Multiplayer Online Games (“MMOG”) because users only indirectly interact at gyms. Players do not have an in-game forum to communicate with one another or trade items. Nor can they see other players’ avatars in the game at all. Because of this, Pokémon Go does not deal with the common issues or even lawsuits that can plague MMOG and courts, such as theft of digital property. For a comprehensive understanding of virtual property within contemporary legal thought, see generally Joshua A.T. Fairfield, *Virtual Property*, 85 B.U. L. REV. 1047 (2005) (examining the emergence of virtual

Joshua A.T. Fairfield, professor of digital property law at Washington and Lee University, notes the novel problem that Pokémon Go brought to the foreground: “Virtual worlds cannot be regulated independently from realspace [as opposed to cyberspace] when virtual objects and places increasingly are a part of realspace itself.”²⁰⁴ In 2012, Fairfield predicted that “real-world property . . . law will continue to govern where [AR] users can go and what they can do in the real world.”²⁰⁵ Flowing from this assertion, real property common law must evolve to address AR real property concerns. Beyond the scope of a statutory solution to the conflict between real property and location-based AR, but necessary as our technologies progress, is the development of legal theory and recognition of a “virtual right” in real property.

In *United States v. Causby*, the Supreme Court acknowledged the rights of landowners to the non-navigable airspace immediately above their lands.²⁰⁶ The Court found “[t]he landowner owns at least as much of the space above the ground as he can occupy or use in connection with the land. The fact that he does not occupy it in a physical sense—by the erection of buildings and the like—is not material.”²⁰⁷ Like airspace, virtual space is invisible and intangible.²⁰⁸ And also like airspace, virtual space real property rights will cause scholars and courts much frustration.²⁰⁹ In the same way the advent of aviation secured previously useless airspace rights, the advent of AR location-based technologies could provide real property owners with a right they always had but never knew.²¹⁰ Courts will, in time, wrestle with the question. While Congress or another entity might act sooner than the judiciary to provide real property virtual rights, the common law foundation through airspace rights could be the cornerstone of developing this new stick in the bundle. This concept of a new real property right, a “virtual right,” deserves further research.

property and how to address it); and F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CAL. L. REV. 1 (2004) (analyzing property interests that exist in virtual worlds against legal property theories), as foundational works. More recent developments in virtual property are found in Eng, *supra* note 65 (discussing contractual aspects of the virtual worlds, including arbitration clauses in video game Terms of Service and EULAs). For a resistance to the above, see generally Michael A. Carrier & Greg Lastowka, *Against Cyberproperty*, 22 BERKELEY TECH. L.J. 1485 (2007) (arguing for statutory alternatives for virtual spaces instead of apply property law theories); and Christopher J. Cifrino, *Virtual Property, Virtual Rights: Why Contract Law, Not Property Law, Must Be the Governing Paradigm in the Law of Virtual Worlds*, 55 B.C. L. REV. 235 (2014) (arguing that a contract theory-based approach is better fit to adequately address the concerns of virtual property).

204. Fairfield, *supra* note 25, at 83.

205. *Id.* at 85.

206. *United States v. Causby*, 328 U.S. 256, 264 (1946).

207. *Id.* (citation omitted).

208. Rule, *supra* note 135, at 425.

209. *Id.*

210. Villalobos, *supra* note 142.

Our society will continue to invest in and integrate AR technologies into our daily lives, some of which will undoubtedly be location-based.²¹¹ Creating a federal Do-Not-Locate list is only one component of a potential scheme of regulations in this growing field. As a result, we must decide how, and to what extent, we will proactively move our law forward to address this technology as it collides with our understanding of how our nation functions.

211. See *supra* Part II.A.