

Pokémon Go Away: Augmented Reality Games Pose Issues with Trespass and Nuisance

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I. INTRODUCTION

“It’s a Vaporeon!”¹ several dozen people cried in unison as they sprinted through New York City’s Central Park.² With those words, hundreds stampeded in the direction of the Pokémon’s virtual appearance in the mobile game, many walking through oncoming traffic with their phones held aloft.³ Several drivers stopped their cars in the middle of the street, flinging open their doors and giving chase while the keys remained in the ignition.⁴ Scenes like this were common across the United States in the late summer of 2016 following Pokémon Go’s global debut. Pokémon Go, Niantic’s newest augmented reality (AR) smartphone application,⁵ became a point of common fascination among people of all ages both for its nostalgic appeal and its novel AR function.⁶ Although the Pokémon Go fanaticism has subsided, AR is not going anywhere; the next AR fad may involve wizards, zombies, or other nostalgic characters, but Pokémon Go has exposed the unforeseen property rights issues that AR technology creates.

1. A Vaporeon is a type of Pokémon. *Vaporeon*, POKÉMON GO DATABASE, <http://www.pokemongodb.net/2016/05/vaporeon.html> [https://perma.cc/FG2Q-YE6J].

2. Dennis450D, *Pokémon Go – Vaporeon Stampede Central Park, NYC*, YOUTUBE (July 15, 2016), <https://www.youtube.com/watch?v=MLdWbwQJW10>; R. Darren Price, *Rare Pokémon Sparks Stampede in Central Park*, NBC N.Y. (July 18, 2016, 1:40 PM), <http://www.nbcnewyork.com/news/local/Pokemon-Go-Players-Stampede-New-York-Central-Park-387303572.html> [https://perma.cc/D9FA-HBN6].

3. Dennis450D, *supra* note 2.

4. *Id.*

5. *Finding and Catching Wild Pokémon*, POKÉMON GO, <https://support.pokemongo.nianticlabs.com/hc/en-us/articles/221957648-Finding-and-Catching-wild-Pok%C3%A9mon> [https://perma.cc/Y45X-LCFW]; *Pokémon GO*, POKÉMON CO., <http://www.pokemon.com/us/pokemon-video-games/pokemon-go/> [https://perma.cc/NHJ6-A35M]. “Pokémon” is a combination of the words “pocket” and “monsters.” Larry Allen, *Pokémon Universe: The Many Worlds of Japanese “Pocket Monsters” in Global Pop Culture*, OHIO ST. U. LIBR. NEWS & INFO. (Aug. 23, 2016), <https://library.osu.edu/blogs/osulstaff/2016/08/23/pokemon-universe-the-many-worlds-of-japanese-pocket-monsters-in-global-pop-culture/> [https://perma.cc/5VYS-J6SJ].

6. *Viral Photo Shows Pokemon Go Bringing Police, Young People Together*, CBS BOS. (July 11, 2016, 12:47 PM), <http://boston.cbslocal.com/2016/07/11/pokemon-go-police-fall-river-app-game/> [https://perma.cc/RPF2-52A3]; *see also* Associated Press, *A Wild Pikachu Appears: Pokémon Statue Built in New Orleans Park*, GUARDIAN (Aug. 3, 2016, 8:41 AM), <https://www.theguardian.com/us-news/2016/aug/03/pokemon-go-statue-new-orleans-park-pikachu> [https://perma.cc/2CMX-LZ9P].

A host of unforeseen problems arose in the days following Pokémon Go's release. During the summer of 2016, stories of people walking off cliffs, stepping in front of cars, and crossing international borders while playing Pokémon Go were a permanent fixture on the evening news.⁷ Similarly, the Auschwitz-Birkenau State Museum in Warsaw, Poland, and the Holocaust Museum and Arlington National Cemetery in Washington, D.C., all had to plead with Pokémon Go players to hunt for Pokémon elsewhere and respect their memorials.⁸

Monuments and museums are not the only locations that continue to experience problems with waves of unexpected visitors.⁹ Private homeowners

7. David Caplan, *2 Teens Inadvertently Walk Across US-Canada Border While Playing Pokemon Go*, ABC NEWS (July 23, 2016, 1:38 AM), <http://abcnews.go.com/US/teens-inadvertently-walk-us-canada-border-playing-pokemon/story?id=40818363> [https://perma.cc/M3PR-BD5V]; Jaspreet Kaur, *Two Men Fall Down Cliff While Playing 'Pokemon Go'*, NBC SAN DIEGO (July 14, 2016, 6:01 PM), <http://www.nbcsandiego.com/news/local/Two-Men-Fall-Down-Cliff-While-Playing-Pokemon-Go-386743551.html> [https://perma.cc/GE44-6AT5]; *Pokemon Go: Man Jumps into Traffic Playing Smartphone Game*, BBC (July 21, 2016), <http://www.bbc.com/news/uk-northern-ireland-36854134> [https://perma.cc/W4Q4-CBEB]; Brenda Waters, *Tarentum Teen Hit by Car While Playing Pokémon Go*, CBS PITTSBURGH (July 13, 2016, 3:03 PM), <http://pittsburgh.cbslocal.com/2016/07/13/tarentum-teen-hit-by-car-while-playing-pokemon-go/> [https://perma.cc/6F8D-3RKH].

8. Allana Akhtar, *Holocaust Museum, Auschwitz Want Pokémon Go Hunts Out*, USA TODAY (July 13, 2016, 8:34 AM), <http://www.usatoday.com/story/tech/news/2016/07/12/holocaust-museum-auschwitz-want-pokmon-go-hunts-stop-pokmon/86991810/> [https://perma.cc/Y7VU-J59E]; Associated Press, *Auschwitz Museum Says No to "Pokemon Go,"* CBS NEWS (July 13, 2016, 11:11 AM), <http://www.cbsnews.com/news/auschwitz-museum-no-pokemon-go/> [https://perma.cc/DF2S-U8MM]. Because the presence of a PokéStop in the Holocaust Museum was met with national outrage, Niantic removed the Holocaust Museum from its database of PokéStops and Pokémon Gyms. Derrik J. Lang, *Pokémon Go Removes Holocaust Museum To Be 'Respectful' of Reality*, L.A. TIMES (July 29, 2016, 1:00 PM), <http://www.latimes.com/nation/ct-pokemon-go-removing-locations-ap-bsi-20160729-story.html> [https://perma.cc/6UZW-LJAB]; see also Hey Idiots, *Arlington National Cemetery Wants You To Stop Playing Pokémon Go on the Tombs of Fallen Veterans*, ENTREPRENEUR (July 15, 2016), <https://www.entrepreneur.com/article/279165> [https://perma.cc/84ES-LKAA].

9. The public's appetite for Pokémon Go has waned since its July 2016 release, though the addition of new features has reinvigorated interest. See Luke Kawa & Lily Katz, *These Charts Show that Pokemon Go Is Already in Decline*, BLOOMBERG (Aug. 22, 2016, 10:19 AM), <https://www.bloomberg.com/news/articles/2016-08-22/these-charts-show-that-pokemon-go-is-already-in-decline> [https://perma.cc/RSH6-EMZ2]; Dave Smith, *'Pokémon Go' Is Dying – and Niantic Is Doing Little To Stop the Bleeding*, BUS. INSIDER (Oct. 24, 2016, 12:56 PM), <http://www.businessinsider.com/pokemon-go-niantic-labs-ruining-the-game-2016-10> [https://perma.cc/KMX3-73FP]. But see Brian Barrett, *Pokémon Go Is Doing Just Fine, with or Without You*, WIRED (Sept. 18, 2016, 6:19 AM), <https://www.wired.com/2016/09/pokemon-go-just-fine-without/> [https://perma.cc/DV7Y-S2N4] ("That free

and businesses across the United States find Pokémon Go players on their doorsteps at all times of day.¹⁰ Previously quiet neighborhoods are subject to influxes of after-hours visitors who have no qualms about sneaking across strangers' yards as they skulk around hunting for Pokémon.¹¹ In July 2016, a New Jersey man filed a class action complaint against Niantic, the creator of Pokémon Go, and Nintendo, the owner of the Pokémon Company, in the United States District Court for the Northern District of California.¹² The plaintiff alleged that Niantic designated the global-positioning system (GPS) coordinates of private properties as virtually-enhanced locations within the world of Pokémon Go without the real-world owners' consent.¹³ A Michigan man also filed a similar class action in the Northern District of California.¹⁴

Niantic's coders accidentally catalyzed this rash of trespassing when they adapted previously-used algorithms for Pokémon Go.¹⁵ Based on information collected from users playing Niantic's first AR mobile game, Pokémon Go's adapted algorithms automatically designate properties as PokéStops and Pokémon Gyms—real-world locations with enhanced virtual properties in the world of Pokémon Go.¹⁶ Some of that foundational information

fall over the last month, where [Pokémon Go] lost nearly 20 million players? Daily revenue dipped just two percent in that same time, according to Apptopia.”)

10. See Robinson Meyer, *The Curious Mystery of the Map in Pokémon Go*, ATLANTIC (July 11, 2016), <http://www.theatlantic.com/technology/archive/2016/07/where-did-pokemon-go-get-its-map/490799/> [<https://perma.cc/HH33-PWYX>].

11. See Complaint at 4–5, *Dodich v. Niantic, Inc.*, No. 3:16-cv-04556 (N.D. Cal. Aug. 10, 2016) [hereinafter *Dodich Complaint*]; see also *PD: Woman Climbed PBS Fence To ‘Catch Pokemon,’* WCPO CINCINNATI (July 25, 2016, 5:09 PM), <http://www.wcpo.com/news/crime/pokemon-go-player-charged-with-trespassing-at-paul-brown-stadium> [<https://perma.cc/Q7AK-L869>]; Grace Sylvester, *Pokemon Go, and Go, and Never Sleep*, CORONADO TIMES (Aug. 6, 2016), <http://coronadotimes.com/news/2016/08/06/pokemon-go-go-never-sleep/> [<https://perma.cc/5XXP-723S>].

12. See Complaint at 1, *Marder v. Niantic, Inc.*, No. 3:16-cv-04300 (N.D. Cal. July 29, 2016) [hereinafter *Marder Complaint*].

13. See *id.* at 1–4.

14. See *Dodich Complaint*, *supra* note 11, at 1–5. The law firm representing the New Jersey plaintiff also represents the Michigan plaintiff.

15. Ariel Bogle, *The Story Behind ‘Pokémon Go’s’ Impressive Mapping*, MASHABLE (July 10, 2016), <http://mashable.com/2016/07/10/john-hanke-pokemon-go/#KYZFS4Ctbmqi> [<https://perma.cc/X7NP-6E2F>].

16. See *id.*; Lily Hay Newman, *What is Pokémon Go, and Why Is Everyone Playing It?*, SLATE (July 12, 2016, 2:57 PM), http://www.slate.com/articles/technology/future_tense/2016/07/a_comprehensive_guide_to_pokemon_go.html [<https://perma.cc/59HB-BYFP>] (“Many of these *Ingress* [Niantic’s first AR game] portals have become gyms and PokéStops in *Pokémon Go*, and this explains why some landmarks are included when they probably shouldn’t be, like the 9/11 Memorial in New York.”); see also Meyer, *supra* note 10 (noting that, although Niantic appears to have transfigured *Ingress*’s portals into PokéStops and Pokémon Gyms, Niantic may have obtained some of the information for Pokémon Go’s underlying map from Google or the U.S. Census Bureau’s TIGER map).

is now stale, meaning that the algorithms may not recognize that certain older premises no longer are publicly-accessible, such as homes that are former churches.¹⁷ Consequently, when the game's algorithm selects homes and businesses as PokéStops or Pokémon Gyms, unknown and unwelcome visitors flood those locations in their quest for Pokémon. Because PokéStops and Pokémon Gyms are locations critical to game play, any locations that are PokéStops and Pokémon Gyms will continue to experience high foot traffic.¹⁸

Further, in July 2016, Pokémon Go players temporarily could request that Niantic designate new locations as PokéStops or Pokémon Gyms without the property owners' consent.¹⁹ During this period, Pokémon Go players

More specifically, PokéStops are locations within the game where players go to collect items necessary for playing the game, like Pokéballs. Alyson Shontell, *The Easiest Way To Find and Catch Your First Pokémon in 'Pokémon GO,'* BUS. INSIDER (July 12, 2016, 11:25 AM), <http://www.businessinsider.com/what-a-pokestop-is-and-how-to-find-pokemon-in-pokemon-go-2016-7> [https://perma.cc/3SCH-4LPN]. To take advantage of a PokéStop, players have to be within the PokéStop's immediate vicinity, which will cause the PokéStop to activate and permit players to receive items. *Id.* Pokémon Gyms are locations within the game where Pokémon trainers—those playing the game—can go to “battle.” Samuel Gibbs, *What's a Pokémon Go Gym and How Do I Master Them?*, GUARDIAN (July 25, 2016, 2:00 AM), <https://www.theguardian.com/technology/2016/jul/25/pokemon-go-what-is-a-gym-how-to-win-battles> [https://perma.cc/Q8ZH-B6CP]. Battling means that players pit their Pokémon against each other in one-on-one virtual contests of skill and strength. *Id.*

17. Meyer, *supra* note 10. For example, the Westboro Baptist Church now struggles with the celebrity of having a Pokémon Gym on its premises that is “owned” by a Pokémon Go trainer with a Pokémon named “LovelsLove.” Steph Solis, *Westboro Baptist Church Recruits Jigglypuff Against LGBT Community on Pokémon Go*, USA TODAY (July 11, 2016, 11:21 AM), <http://www.usatoday.com/story/tech/2016/07/10/westboro-baptist-church-recruits-jigglypuff-pokemon-against-lgbt-community-pokemon-go/86928150/> [https://perma.cc/33MY-6JCJ].

18. *See infra* Part II(C).

19. Nathaniel Mott, *'Pokemon Go' Now Lets You Request Your House as a Gym or Pokestop*, INVERSE (July 14, 2016), <https://www.inverse.com/article/18292-pokemon-go-now-lets-you-request-your-house-as-a-gym-or-pokestop> [https://perma.cc/7ZQR-SUPV] (“The ability to request new PokéStops and gyms is probably intended to make it easier to play *Pokémon Go* in rural areas where landmarks aren't as plentiful as they are in big cities.”); Daniel Perez, *How To Request a Pokestop and Gym in Pokemon Go*, SHACKNEWS (July 14, 2016, 9:21 AM), <http://www.shacknews.com/article/95855/how-to-request-a-pokestop-and-gym-in-pokemon-go> [https://perma.cc/294C-CBY6]. As of late July 2016, Niantic now refuses to accept requests for new PokéStops and Pokémon Gyms. Stephanie Dube Dwilson, *Can You Request a New Gym or Pokestop in 'Pokémon GO'?*, HEAVY (Aug. 7, 2016, 1:36 AM), <http://heavy.com/games/2016/08/how-to-request-add-new-gym-pokestop-in-pokemon-go-pokemongo-stop-submission-form-requirements/> [https://perma.cc/9RHX-E4SF]; *How Do I Create a New Pokéstop or Gym*, POKÉMON GO, <https://support.pokemongo.nianticlabs.com/hc/en-us/articles/225375247> [https://perma.cc/G6UK-QZF9].

flooded Niantic with requests for new PokéStops—on their properties and on others’ private properties.²⁰ The availability of this feature created cause for concern because any location, including the Pentagon or the White House, could have been transformed into PokéStops or Pokémon Gyms.²¹ As property owners soon realized, moreover, Niantic currently has no legal obligation to remove a property’s designation as a PokéStop or Pokémon

Undeterred, some Pokémon Go players are trying to find alternative ways of submitting requests for new PokéStops. Dennis Scimeca, *‘Pokémon Go’ Hack: Request New PokéStops with This ‘Ingress’ Trick for Better Results*, MIC (Nov. 14, 2016), <https://mic.com/articles/159374/pokemon-go-hack-request-new-pokestops-with-this-ingress-trick-for-better-results#.qr48kPVaU> [<https://perma.cc/RV9P-R8G4>].

20. Some Pokémon Go players requested that their businesses be turned into PokéStops; others sought to have other individuals’ businesses designated as PokéStops. See, e.g., Walter Chen, *How Pokémon Go Is Driving Insane Amounts of Sales at Small, Local Businesses*, INC. (July 11, 2016), <http://www.inc.com/walter-chen/pok-mon-go-is-driving-insane-amounts-of-sales-at-small-local-businesses-here-s-h.html> [<https://perma.cc/DB55-UEKA>]; Samit Sarkar, *No, We Cannot Turn Your Local Walmart into a Pokémon Go Pokéstop*, POLYGON (July 15, 2016, 7:15 PM), <http://www.polygon.com/2016/7/15/12201886/pokemon-go-pokestop-locations-businesses-emails> [<https://perma.cc/QM6F-JEUR>].

21. The technology underlying Pokémon Go’s map is borrowed from Niantic’s earlier game Ingress, which is why many of the enhanced locations in Ingress now are PokéStops or Pokémon Gyms in Pokémon Go. Meyer, *supra* note 10. Those enhanced locations typically are landmarks or important buildings. *Id.* Both the White House and the Pentagon are significant, well-known buildings that Niantic could have designated as PokéStops or Pokémon Gyms by the algorithm it uses to determine which locations to virtually enhance within the game. See *id.* Further, shortly after Pokémon Go’s release, Niantic allowed individuals to submit requests for new PokéStops and Pokémon Gyms through a write-in system. Mott, *supra* note 19. There were no restrictions on the types of locations that people could request as PokéStops, and Niantic was not transparent about its screening process or methodology in selecting new locations to designate as PokéStops. See *id.* Thus, anyone in the world could have requested Niantic to virtually enhance any building within the game. See *id.* Moreover, officials at the Pentagon and the White House would not have had the opportunity to object in advance if someone had requested Niantic to transform those buildings into PokéStops or Pokémon Gyms because Niantic did not notify property owners in advance of virtually enhancing locations. See, e.g., Tom O’Connor & Sophia Rosenbaum, *Pokémon Go Players Are Angering Visitors at Sacred Landmarks*, N.Y. POST (July 12, 2016, 2:14 PM), <http://nypost.com/2016/07/12/pokemon-go-players-are-angering-visitors-at-sacred-landmarks/> [<https://perma.cc/X5MX-RUTK>]. Officials at the Pentagon and the White House would have been left with the same remedies as someone living in a quiet neighborhood, hundreds of miles away. See, e.g., Andrew Griffin, *Pokémon Go Turns Man’s Home into a ‘Gym’, Causing Chaos*, INDEP. (July 10, 2016, 4:30 PM), <http://www.independent.co.uk/life-style/gadgets-and-tech/gaming/pokemon-go-man-s-house-accidentally-turned-into-a-gym-causing-huge-problems-a7129756.html> [<https://perma.cc/8TL7-P8UH>]. For example, had officials at Arlington National Cemetery known that Niantic would fill Arlington with PokéStops, they certainly would have objected in advance. See Sara Ashley O’Brien, *Pokemon Go Players Unwelcome at Arlington, Holocaust Museum*, CNN (July 13, 2016, 11:34 AM), <http://money.cnn.com/2016/07/12/technology/pokemon-go-holocaust-arlington/> [<https://perma.cc/Y45X-VLGV>].

Gym.²² In response to public backlash, Niantic implemented a write-in system through which disgruntled property owners can request that Niantic purge their properties from its database.²³ Given the high volume of requests, however, problematic PokéStops and Pokémon Gyms may exist for days or weeks after the submission.²⁴ Essentially, this means that private property owners who do not wish to be overwhelmed by Pokémon Go players can call the police and attempt to press charges or wait for interest to wane.²⁵

22. See Ryan Nakashima & Mae Anderson, *Property Owners: Get off My Lawn, Pokemon!*, ASSOCIATED PRESS (July 14, 2016), <http://www.bigstory.ap.org/article/907bac533d66441c9cb48b78f0a3b7fb/irked-owners-trying-pry-pokemon-go-clutch-property> [https://perma.cc/JS8W-99CW] (“Ryan Calo, a University of Washington law professor, said . . . there’s no legal right to compel the game’s creators to remove a location from its lines of code.”); Mikah Sargent, *How To Request Removal of a Gym or PokéStop in Pokémon Go*, IMORE (July 11, 2016, 4:55 PM), <http://www.imore.com/help-pokemon-go-made-my-house-gym-or-pokestop> [https://perma.cc/KYY5-JDXB]; see also Alex Heath, *A New Bill Called ‘Pidgley’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> [https://perma.cc/P57Y-TZPG] (“If passed, [Pidgley’s Law] would fine Pokémon Go creator Niantic Labs for not removing virtual stops in the game at the request of a property owner.”).

23. Associated Press, *‘Pokemon Go’ Creators Are Working on a Way to Let Real-World Locations Opt Out as Pokestops*, L.A. TIMES (July 29, 2016, 7:40 AM), <http://www.latimes.com/business/la-fi-pokemon-go-locations-20160729-snap-story.html> [https://perma.cc/UZ25-YY9G]. Individuals can request that Niantic remove the PokéStop or Gym because they are dangerous or because they are on personal property. See Michael Mitchell, *‘Pokemon GO’: How To Request To Add or Remove Pokestops and Gyms*, NOWLOADING (July 25, 2016, 7:04 AM), <https://nowloading.co/posts/4000106> [https://perma.cc/9J8H-UZF5] (“If you visit the company’s official page, you can now submit requests specifically regarding PokeStops and Gyms.”). In addition to heeding requests to remove some PokéStops, Niantic also has begun to remove other locations that have not been reported, outraging loyal fans. See Paul Tassi, *Pokémon GO’s Latest Plagues: Disappearing PokeStops and Hacker Gym Leaders*, FORBES (Aug. 6, 2015, 1:53 PM) [hereinafter Tassi, *Pokémon GO’s Latest Plagues*], <http://www.forbes.com/sites/insertcoin/2016/08/06/pokemon-gos-latest-plagues-disappearing-pokestops-and-hacker-gym-leaders/#237030c6373f> [https://perma.cc/P5VN-A83Q].

24. See, e.g., Heather Stauffer, *Denver Woman Petitions To Remove ‘Pokemon Go’ Gym from Her Property*, LANCASTERONLINE (Sept. 13, 2016), http://lancasteronline.com/news/local/denver-woman-petitions-to-remove-pokemon-go-gym-from-her/article_baee9eda-7935-11e6-b6f1-5706c7ae4d1f.html [https://perma.cc/MR4J-CCWN].

25. Pokémon Go offers the most prominent example of an AR mobile game that has declined in popularity following global hype. David Z. Morris, *Pokémon Go Is Stalling out, Probably Because There’s Not Much Game There*, FORTUNE (Aug. 27, 2016), <http://fortune.com/2016/08/27/pokemon-go-is-stalling-out/> [https://perma.cc/W4L5-UGRL]. Nevertheless, Pokémon Go marks the advent of a new era in mobile gaming: in the wake of Pokémon Go’s success, more entrepreneurs and startups are developing mobile AR games, which suggests that AR mobile game fads will ebb and flow in quick succession over the coming years. See *infra* Part II(D).

The issues private property owners experience with adventuresome Pokémon Go players seem unlikely to disappear. Pokémon Go's unprecedented success spurred companies to expedite the development of AR games to take advantage of the current interest in AR: many companies released new games throughout 2017.²⁶ Although Pokémon Go will not reign supreme forever, its popularity confirms that AR applications will represent a driving force within the mobile gaming industry in the immediate future.²⁷ Considering that a new smartphone specially adapted to run AR games now is available for purchase, AR mobile gaming fads likely will ebb and flow with increasing frequency.²⁸ Fans of other popular games and franchises

26. See Lucas Matney, *This \$18 Smartphone Gadget Turns Your World into an Augmented Reality First-Person Shooter*, TECHCRUNCH (Feb. 23, 2016), <https://techcrunch.com/2016/02/23/this-18-smartphone-gadget-turns-your-world-into-an-augmented-reality-first-person-shooter/> [https://perma.cc/XU72-LXGE]; 25 *Best Augmented Reality Games 2017 for Android and iOS*, THINKMOBILES (Dec. 23, 2016) [hereinafter 25 *Best Augmented Reality Games*], <https://thinkmobiles.com/blog/best-augmented-reality-games/> [https://perma.cc/LBD9-NQ2K]; see also *The World's First Tango-Enabled Smartphone*, LENOVO, <http://www3.lenovo.com/us/en/smart-devices/-lenovo-smartphones/phab-series/Lenovo-Phab-2-Pro/p/WMD00000220> [https://perma.cc/VFV5-KYYJ] ("The Lenovo Phab 2 Pro is the first smartphone to include Tango, a new technology from Google that enables augmented reality (AR) gaming and utilities.").

27. See *infra* Part II(D); see also Gavin Greene, *Mobile, Augmented Reality Games Set To Become Dominant Market Forces by 2018*, VENTUREBEAT (May 5, 2015, 6:56 PM), <http://venturebeat.com/2015/05/05/mobile-augmented-reality-games-set-to-become-dominant-market-forces-by-2018/> [https://perma.cc/PC4Q-RVLG]. For example, Indiegogo, which functions much like Kickstarter, is a platform for entrepreneurs to showcase their ideas and raise money to implement them. See *Indiegogo Is a Launchpad for Entrepreneurial Ideas*, INDIEGOGO, <https://www.indiegogo.com/how-it-works> [https://perma.cc/2GHZ-C3NN]. Many AR gaming companies are presenting their ideas for AR mobile gaming applications on this site and raising money to fund the creation of those games. Popular games include Maguss and Night Terrors. See *Maguss: The Mobile Multiplayer Spell Casting Game*, INDIEGOGO, https://www.indiegogo.com/projects/maguss-the-mobile-multiplayer-spell-casting-game-magic# [https://perma.cc/7VP9-TMJ5]; *Night Terrors - Augmented Reality Survival Horror*, INDIEGOGO, https://www.indiegogo.com/projects/night-terrors-augmented-reality-survival-horror# [https://perma.cc/TBV3-ZFZD]. AR games are also featured on Kickstarter. See, e.g., *Atlas Empires - Build an Empire in Another Reality (Tower)*, KICKSTARTER, <https://www.kickstarter.com/projects/705338855/tower-build-improve-and-defend-a-tower-in-another?ref=category> [https://perma.cc/Z5N5-SJ86].

28. See *The World's First Tango-Enabled Smartphone*, *supra* note 26; see also *infra* Part II(D). Early reviews of Lenovo's Phab 2 Pro indicate that Lenovo will need to make adjustments to the smartphone to make for a more streamlined user experience. Lauren Goode, *Google Tango on Lenovo's Phab 2 Pro: A Work in Progress*, VERGE (Dec. 29, 2016, 9:00 AM), <http://www.theverge.com/2016/12/29/14102316/google-tango-on-lenovo-phab-2-pro-ar-smartphone-review> [https://perma.cc/KCA5-QJRB]; Chris Velazco, *Lenovo Phab 2 Pro Review: Stumbling out of the Gate*, ENGADGET (Nov. 23, 2016), <https://www.engadget.com/2016/11/23/lenovo-phab-2-pro-review/> [https://perma.cc/9JCV-VKFG] ("[T]here are 35 Tango apps available in the Google Play Store, and broadly speaking, they fall into one of two categories: tools and games."). As Lenovo works out the kinks of the Phab 2 Pro and other mobile phone manufacturers consider implementing this technology

now call for the creation of new AR mobile games featuring their favorite characters and worlds.²⁹ Disney already has experimented with a Star Wars AR mobile application that permits guests at the Walt Disney World Resort to partake in a “Star Wars Rebels Interactive Adventure.”³⁰ Further, although geolocation AR mobile games,³¹ such as Pokémon Go, are the most likely to precipitate problems with trespass and nuisance, other AR mobile applications could generate those same issues. The virtual space that corresponds to actual geographic coordinates of owned, real property is the new Wild West: nobody has a property interest in that virtual space because no such property interest currently exists.³² Consequently, for example, businesses seeking to advertise could post advertisements for their stores or products in that virtual space, and those advertisements would be visible only to individuals both using the business’s mobile application and standing in front of the real world property.³³ The result could be the same as with an AR mobile game: flocks of people congregating outside of, or attempting to access, privately-owned property. Thus, with the surge in development of new AR applications, the problems currently associated with AR games, like Pokémon Go, will increase rather than decrease as the technology becomes more prevalent and sophisticated. To combat the

in the next generations of popular smartphones, the number and varieties of AR mobile games and useful applications likely will proliferate. *See Apple Is Betting on Augmented Reality*, BUS. INSIDER (Nov. 8, 2016, 10:15 AM), <http://www.businessinsider.com/apple-is-betting-on-augmented-reality-2016-11> [https://perma.cc/5QGD-5KGW].

29. Ashley Esqueda, *5 AR Games We’re Dying To See After the Success of Pokemon Go*, CNET (July 16, 2016, 6:01 AM), <https://www.cnet.com/news/5-ar-games-were-dying-to-see-after-the-success-of-pokemon-go/> [https://perma.cc/W8GM-XVP2]; *see also infra* text accompanying note 42.

30. Jean Volante, *New Star Wars Rebels Interactive Adventure from Disney Floral & Gifts*, DISNEY PARKS: BLOG (May 18, 2016), <https://disneyparks.disney.go.com/blog/2016/05/new-star-wars-rebels-interactive-adventure-from-disney-floral-gifts/> [https://perma.cc/9EW8-UNN5]; Jean Volante, *The Rebellion Needs You!*, DISNEY PARKS: BLOG (Aug. 2, 2016), <https://disneyparks.disney.go.com/blog/2016/08/the-rebellion-needs-you/> [https://perma.cc/7CCV-4RE8]. Additionally, Lucasfilm and Magic Leap, a prominent startup in the AR world, have partnered to explore storytelling options for Star Wars using AR technology. Todd Spangler, *Lucasfilm Developing ‘Star Wars’ Augmented-Reality Content Under Pact with Magic Leap*, VARIETY (June 16, 2016, 8:27 AM), <http://variety.com/2016/digital/news/star-wars-lucasfilm-augmented-reality-magic-leap-1201796871/> [https://perma.cc/GWY3-Y4VS].

31. Geolocation AR mobile games are games that have an underlying map feature. *See 25 Best Augmented Reality Games*, *supra* note 26.

32. Neither state nor federal law recognizes an individual’s property interest in the virtual space that corresponds to actual geographic coordinates, and by extension, real world property. *See Nakashima & Anderson*, *supra* note 22.

33. *See infra* Part IV(A).

difficulties private property owners are experiencing with Pokémon Go players, this Comment proposes that the doctrine of prescriptive easements should be expanded to encompass a virtual prescriptive easement.³⁴ Such an expansion necessarily would require the law to recognize a property interest in the virtual “space” that coincides with a real property location. Virtual space, as used in this Comment, refers to the computer-generated environments that comprise virtual worlds; this virtual space only can be viewed with the aid of an application on a device that has Internet access.³⁵ Virtual space also may coexist with real world locations so that what is in the virtual world only may be seen when someone is in the corresponding real world location.³⁶ If legislatures were to codify the virtual prescriptive easement, then someone who owns a parcel of real property also would have a property interest in the virtual space that exists within that parcel. Consequently, AR game creators, such as Niantic, and companies using AR to advertise could continue placing virtual game elements or advertisements on real-world locations—taking virtual prescriptive easements over properties—and private property owners would have a legal property interest to defend if they so chose. Property owners would not have an obligation to act. They could refrain from acting and permit the virtual game element or advertisement to remain, or they could obtain an injunction to have the game element or advertisement removed. If the property owner failed to object to the presence of the game element or advertisement within the prescribed statutory period, then the virtual prescriptive easement would stand.

To illustrate the necessity of a permanent remedy—a virtual prescriptive easement—this Comment begins by exploring the origins of AR games in Part II and providing an overview of the mechanics of the most popular AR mobile game, Pokémon Go, as well as the types of AR games and technology currently in development. Part III then considers different causes of action that individuals might bring against creators of AR mobile games under the doctrines of trespass and nuisance, respectively. After weighing the merits and pitfalls of each claim in Part III, this Comment submits that a virtual prescriptive easement is the most feasible permanent solution for balancing the competing interests of private property owners and AR developers in Part IV.

34. See *infra* Part IV.

35. *Virtual Environment*, DICTIONARY.COM, <http://www.dictionary.com/browse/virtual-environment> [https://perma.cc/QGW2-KWBP]; see, e.g., *Finding and Catching Wild Pokémon*, *supra* note 5.

36. See, e.g., *Finding and Catching Wild Pokémon*, *supra* note 5.

II. BACKGROUND

A. What Is an AR Game?

AR permits individuals to interact with their local surroundings in a new manner by “supplement[ing] the real world with virtual (computer-generated) objects that appear to coexist in the same space as the real world.”³⁷ Commonly, researchers characterize AR as existing on a continuum of mixed reality that ranges from the “real environment” at one pole to the “virtual environment” at the opposite pole.³⁸ The defining characteristic of AR is that its basis is in the real world.³⁹ For this reason, researchers posit AR as existing somewhere between the “real environment” pole and the middle of the continuum.⁴⁰ This is because AR technology simply modifies an item or location within the local surroundings using virtual data.⁴¹

A variety of companies are developing different types of AR technology—all of which integrate virtual images with the local environment to varying degrees.⁴² The type of AR concerned in this Comment is known as the

37. D.W.F. van Krevelen & R. Poelman, *A Survey of Augmented Reality Technologies, Applications and Limitations*, INT’L J. VIRTUAL REALITY, 2010, at 1, 1; see also *Why HoloLens*, MICROSOFT, <https://www.microsoft.com/microsoft-hololens/en-us/why-hololens> [<https://perma.cc/L2ND-RW8B>] (describing Microsoft’s new HoloLens, which uses mixed reality to create a “blended environment” so that users can “visualize and work with [their] digital content as part of [their] real world.”).

38. Paul Milgram et al., *Augmented Reality: A Class of Displays on the Reality-Virtuality Continuum*, 2351 SPIE 282, 283 (1994).

39. See *id.*

40. See *id.*

41. Joshua A.T. Fairfield, *Mixed Reality: How the Laws of Virtual Worlds Govern Everyday Life*, 27 BERKELEY TECH. L.J. 55, 74 (2012).

42. See D.W.F. van Krevelen & R. Poelman, *supra* note 37, at 1–3. AR has a range of uses beyond gaming, and many smartphone applications that employ AR have been popular for several years, including Star Chart, Google Sky Map, Wikitude, Yelp Monocle, and CheckIn+. Rip Empson, *CheckIn+ Brings Augmented Reality to Your Facebook and Foursquare Check-Ins*, TECHCRUNCH (July 11, 2011), <https://techcrunch.com/2011/07/11/checkin-brings-augmented-reality-to-your-facebook-and-foursquare-check-ins/> [<https://perma.cc/3F3L-MQR9>] (“CheckIn+ uses augmented reality technology to overlay a user’s current surroundings with places from select geolocation applications, allowing users to see each notable destination relative to its position in the real world, all as a live video image on their iPhone or iPad.”); Ben Parr, *Easter Egg: Yelp Is the iPhone’s First Augmented Reality App*, MASHABLE (Aug. 27, 2009), <http://mashable.com/2009/08/27/yelp-augmented-reality/#O4ySFYhzhOqx> [<https://perma.cc/5XFK-QYCF>]; *Sky Map*, GOOGLE PLAY, <https://play.google.com/store/apps/details?id=com.google.android.stardroid&hl=en> [<https://perma.cc/39E2-M6MV>] (“Sky Map is a hand-held planetarium for your Android device. Use it to identify stars, planets, nebulae and more.”); *Star Chart*, GOOGLE PLAY, <https://play.google.com/store/apps/details?id=com>.

“hand-held video see-through display,”⁴³ which is easiest to mass-produce because it utilizes components that are found in smartphones, such as a camera.⁴⁴ For example, an AR application on a smartphone might use the smartphone’s camera to scan a box of Pokémon cereal sitting on the kitchen table and cause Pikachu to move when viewed through the application.⁴⁵

AR mobile games operate by superimposing virtual images and sounds onto the real world within the context of the mobile game.⁴⁶ Specifically, AR mobile games access the smartphone’s GPS to track the players’ movements in the real world while the players’ avatars mirror those movements within the context of the game.⁴⁷ Thus, as a player’s surroundings change in the real world, the virtual surroundings within the game will change as well.⁴⁸ For example, if someone sits at home playing the game and then travels to the grocery store, the internal landscape of the game will shift to reflect the individual’s new, real-world surroundings.⁴⁹

Unlike commercial AR smartphone applications whose primary function is to provide information, AR mobile games add another layer to the user experience. To continue playing the AR mobile game, users need to visit locations in the real world and accomplish an objective at that same location in the virtual world of the game. The social component of many

escapistgames.starchart&hl=en [https://perma.cc/T4DA-B9GB] (“Using state of the art GPS technology . . . Star Chart calculates—in real time—the current location of every star and planet visible from Earth and shows you precisely where they are; even in broad daylight!”); *The Wikitude App*, WIKITUDE, <http://www.wikitude.com/app/> [https://perma.cc/Q38B-ADZ3] (“Wikitude 8 empowers businesses to directly create their own augmented reality campaigns, within a matter of minutes.”). Post-Pokémon Go, fans also are calling for Harry Potter to receive the Niantic treatment with an AR application, unsurprisingly, titled “Harry Potter Go.” See *‘Harry Potter Go’ Release Date, News & Update: Niantic Signs Million Dollar Contract, Acquires Rights for ‘Harry Potter?’ Game Released by 2017?*, GAMENGUIDE (Sept. 12, 2016, 7:33 AM), <http://www.gamenguide.com/articles/45253/20160912/harry-potter-go-release-date-news-update-niantic-signs-million-dollar-contract-acquires-rights-for-harry-potter-game-released-by-2017.htm> [https://perma.cc/JF3X-UFJY].

43. Van Krevelen & Poelman, *supra* note 37, at 5.

44. See *id.*; *Augmented Reality – What Is It?*, VIRTUAL REALITY SOC., <http://www.vrs.org.uk/augmented-reality/> [https://perma.cc/5DMK-33RW]. Pikachu is a Pokémon. *Pikachu*, POKÉMON GO DATABASE, <http://www.pokemongodb.net/p/pikachu.html> [https://perma.cc/CU8B-27DN].

45. See Fairfield, *supra* note 41, at 74.

46. See Andreas Kotsios, Comment, *Privacy in an Augmented Reality*, 23 INT’L J.L. & INFO. TECH. 157, 160 (2015).

47. An avatar is “a graphical image that represents a person.” *Avatar*, DICTIONARY.COM, <http://www.dictionary.com/browse/avatar?s=t> [https://perma.cc/45UW-W2LA].

48. See Nathan Reiff, *How Pokemon Go Uses Augmented Reality (NTDOY)*, INVESTOPEDIA (July 30, 2016, 12:22 PM), <http://www.investopedia.com/articles/investing/073016/how-pokemon-go-uses-augmented-reality-ntdoy.asp> [https://perma.cc/DSM2-9ZUV].

49. *How Do I Move My Avatar?*, POKÉMON GO, <https://support.pokemongo.nianticlabs.com/hc/en-us/articles/221957628-How-do-I-move-my-avatar-> [https://perma.cc/EA2Z-NKU3].

AR mobile games requires live users to team up or battle within the virtual world.⁵⁰ Over the last decade, tech startups have introduced AR mobile games with varying degrees of success, including games such as Spectrek, Assassin, and “Zombies, Run!”⁵¹ Unsurprisingly, though, Niantic was the first to develop a mobile AR game whose success hinged upon user interaction.⁵²

50. See, e.g., *Batting at Gyms*, POKÉMON GO, <https://support.pokemongo.nianticlabs.com/hc/en-us/articles/222049347-Gyms-and-Battle> [<https://perma.cc/PV9L-TWKX>].

51. *Gamers*, LYTESHOT, <http://www.lyteshot.com/gamers/> [<https://perma.cc/EXH4-TK7P>]; *Experience the Evolution of Gaming*, LYTESHOT, <http://www.lyteshot.com> [<https://perma.cc/P7NF-M9QW>]; *SpecTrek*, GOOGLE PLAY, <https://play.google.com/store/apps/details?id=com.spectrekking.full&hl=en> [<https://perma.cc/T2NM-67E4>]; *Zombies, Run!*, ZOMBIES RUN GAME, <https://zombiesrungame.com> [<https://perma.cc/3BWC-SYZD>]. At the turn of the twenty-first century, Wayne Piekarski, Bernard Gunther, and Bruce Thomas developed the wearable outdoor AR game, ARQuake, which represented one of the first forays into the world of AR gaming. Wayne Piekarski et al., *Integrating Virtual & Augmented Realities in an Outdoor Application*, in PROCEEDINGS OF THE 2ND IEEE AND ACM INTERNATIONAL WORKSHOP ON AUGMENTED REALITY '99, at 45, 45 (1999); Paul Sawers, *Augmented Reality: The Past, Present and Future*, NEXT WEB (July 3, 2011), <https://thenextweb.com/insider/2011/07/03/augmented-reality-the-past-present-and-future/> (“By the turn of the millennium, we were starting to see the first steps towards the type of augmented reality platforms we’re now becoming accustomed to – [*sic*] ARQuake is an augmented reality version of the Quake game developed by id Software. The AR game was created in the Wearable Computer Lab at the University of South Australia.”); *Augmented Reality History*, AUGMENTED REALITY GAMES, <http://www.augmented-reality-games.com/history.php> [<https://perma.cc/5FVQ-RDJM>] (“In 2000, Bruce Thomas from Wearable Computer Lab demonstrated the very first outdoor mobile augmented reality video game [ARQuake].”); van Krevelen & Poelman, *supra* note 37, at 13 (“Extending on a platform for military simulation [] based on the ARToolKit, Piekarski and Thomas [] created ‘ARQuake’ where mobile users fight virtual enemies in a real environment.”). For further information on the history of AR, see Jennifer Shore, *Where Did Augmented Reality Come from?*, MASHABLE (Sept. 24, 2012), http://mashable.com/2012/09/24/augmented-reality/#LLu7EoHf_sqX [<https://perma.cc/AW5X-XFZB>]; Ana Javornik, *The Mainstreaming of Augmented Reality: A Brief History*, HARV. BUS. REV. (Oct. 4, 2016), <https://hbr.org/2016/10/the-mainstreaming-of-augmented-reality-a-brief-history> [<https://perma.cc/K7Y5-P4ET>]. In ARQuake, players walk around outside with computers strapped to their backs and head-mounted visual displays that permit the players to see virtual enemies. See Piekarski, *supra*, at 45. Less than a decade later in 2008, the Wikitude AR Travel Guide for the G1 Android phone debuted. Paul Sawers, *Augmented Reality: The Past, Present and Future*, NEXT WEB (July 3, 2011), <http://thenextweb.com/insider/2011/07/03/augmented-reality-the-past-present-and-future/#gref> [<https://perma.cc/25F4-WAPE>]. The Wikitude AR Travel Guide is a smartphone application that locates the user via the smartphone’s GPS and then uses the phone’s camera to recognize landmarks and display information from each location’s Wikipedia page. See *id*. Wikitude is one of the applications that catalyzed the AR smartphone application revolution. See *id*.

52. See *infra* Part II(B).

B. AR Games in Recent History

Niantic's first AR smartphone mobile game and Pokémon Go's predecessor, Ingress, marked the foray into the world of international, multi-player AR mobile games.⁵³ In 2012, when Niantic Labs was Google's pet experiment,⁵⁴ Niantic released Ingress, a smartphone application that layers a gaming feature over Google Maps.⁵⁵ To begin playing Ingress, users must vow allegiance to one of two factions, the Enlightened or the Resistance, depending on which faction's philosophy most appeals to the user.⁵⁶ Once the user logs into the game, the application flags "portals"—typically, landmarks—throughout the local area.⁵⁷ The object of the game is to secure as many portals for one's faction as possible, which requires physically visiting the site in-person.⁵⁸ Because the game accesses the phone's GPS, the game will not recognize that a person is near a portal unless that individual is within the immediate vicinity.⁵⁹ Individuals around the globe

53. LyteShot also has multi-player AR mobile games, but it strongly recommends the use of other equipment, making it cost-prohibitive to some. See *FAQ*, LYTESHOT, <http://www.lyteshot.com/faq/> [<https://perma.cc/W56Q-JTUH>]. Niantic's Ingress predates LyteShot's games, however. See Christopher Null, *Mobile Gaming Gets Real*, CA TECHS. (Jan. 30, 2015), <https://www.ca.com/us/rewrite/articles/mobility/mobile-gaming-gets-real.html> [<https://perma.cc/WHV8-CK85>].

54. See Mark Bergen, *Why Did Google Get Rid of the Company Behind Pokémon Go?*, RECODE (July 12, 2016, 8:01 AM), <http://www.recode.net/2016/7/12/12153722/google-niantic-pokemon-go-spin-out> [<https://perma.cc/Y8YW-2CXH>]. In 2010, Google permitted one of its executives behind Google Maps and Google Earth to establish Niantic as an "autonomous business unit"—an early Google experiment . . . in running projects at arm's length from the mothership." *Id.* Niantic's mission was to tinker with the types of technology that could be layered over Google Maps and Google Earth. *Id.* After a trial period, these pet projects either would re-join Google or "spin out" as independent companies. *Id.* Owing in large part to the success of its AR game Ingress, Niantic spun out from Google to pursue the development of other games toward the end of 2015. *Id.*; Matt Weinberger, *The CEO Behind 'Pokémon Go' Explains Why It's Become Such a Phenomenon*, BUS. INSIDER (July 11, 2016, 1:38 PM), <http://www.businessinsider.com/pokemon-go-niantic-john-hanke-interview-2016-7> [<https://perma.cc/HSR8-ACKJ>].

55. See Tom Hatfield, *Ingress: The Game that Reveals Google's Secret War to Control London*, GUARDIAN (June 4, 2014, 6:30 AM), <https://www.theguardian.com/technology/2014/jun/04/ingress-the-game-that-reveals-googles-secret-war-to-control-london> [<https://perma.cc/ZFH7-S8YW>].

56. *Faction Choice*, INGRESS, <https://support.ingress.com/hc/en-us/articles/207441277-Faction-choice> [<https://perma.cc/XY3N-XLF7>].

57. Hatfield, *supra* note 55.

58. See Ant Pruitt, *How To Play Ingress*, NEWDOMAIN (Jan. 16, 2013), <http://anewdomain.net/2013/01/16/ant-pruitt-ingress-how-to-play-ingress-review-anewdomain-analysis-portals-physique/> [<https://perma.cc/5HAX-R8JL>].

59. See *Ingress Agent Guide*, INGRESS, https://p5.zdassets.com/hc/theme_assets/764160/200122727/RES_QuickGuideKit__1_.pdf [<https://perma.cc/4NDF-VX2K>].

downloaded Ingress over 8,000,000 times, and Niantic estimates that approximately 7,000,000 people worldwide have actively played the game.⁶⁰

Yet, Ingress falls short in several respects. Specifically, Ingress's backstory is convoluted and may be more appropriate in the context of an actual video game. The game itself is even more complicated to play, as evidenced by the myriad support pages on the game's main website.⁶¹ Further, playing the game may require extensive travel to link portals together for one's faction, which is one of the chief ways players advance.⁶² Understandably, the necessity of travel might make the game cost-prohibitive to some. Thus, although Ingress boasts a significant following worldwide, it has not entered the popular lexicon. Niantic applied the successes and failures of Ingress to its subsequent project: Pokémon Go.⁶³

C. What Is Pokémon Go, and How Does It Work?

Like Ingress, Pokémon Go is a location-based, mass multi-player AR mobile game available for download to any smartphone device at no cost.⁶⁴ Unlike

60. Louise Beltzung, *The King of Augmented Reality Street Fighting*, MOTHERBOARD (Jan. 8, 2015, 7:00 AM), https://motherboard.vice.com/en_ca/read/the-king-of-augmented-street-fighting-the-worlds-best-ingress-player [<https://perma.cc/6XJA-RNYG>]; Sam Rutherford, *Meet Endgame: Proving Ground - Google's AR Mobile Game*, TOM'S GUIDE (Mar. 16, 2015, 3:02 PM), <http://www.tomsguide.com/us/endgame-proving-grounds-beta,news-20650.html> [<https://perma.cc/4ATC-QD47>].

61. See *Ingress Help Center*, INGRESS, <https://support.ingress.com/hc/en-us> [<https://perma.cc/4DQB-H7BQ>].

62. See *Create Links & Control Fields*, INGRESS, <https://support.ingress.com/hc/en-us/articles/206737888-Create-Links-Control-Fields> [<https://perma.cc/T57P-AE9S>].

63. The concept of Pokémon Go derived from Google's 2014 April Fools' Day prank. Travis M. Andrews, *Pokémon Go: The April Fools' Joke that Became a Global Obsession*, WASH. POST (July 13, 2016), <https://www.washingtonpost.com/news/morning-mix/wp/2016/07/13/pokemon-go-the-april-fools-joke-that-became-a-global-obsession/> [<https://perma.cc/39PV-8JSW>]. Google designed a type of "I Spy" game using Google Maps, where Pokémon materialized on the map as stationary characters. *Id.* Catching the Pokémon simply required clicking on the Pokémon. *Id.* In addition to the game component, Google also produced a video depicting people venturing all over the world to catch Pokémon in real life. *Id.* Whereas most players identified with the game's nostalgic appeal, the executives at Niantic recognized the game's potential. Niantic and Nintendo joined forces and began developing what would become Pokémon Go. Using the data collected by those playing Niantic's Ingress, the Pokémon Go map was born. See Bogle, *supra* note 15; Jacob Shamsian, *The Story of Pokemon Go's Creation Explains Some of the Games Odd Quirks*, BUS. INSIDER AUSTL. (July 11, 2016, 3:06 AM), <https://www.businessinsider.com.au/why-are-pokemon-go-locations-random-2016-7> [<https://perma.cc/3R48-AW4T>].

64. See *Get up, Get out, and Explore!*, POKÉMON GO, <http://www.pokemongo.com/en-us/explore/> [<https://perma.cc/CH3X-BCMK>]. Although Pokémon Go is available

Ingress, Pokémon Go quickly became an international phenomenon with over 100 million downloads globally.⁶⁵ Pokémon Go plays on the nostalgia of people who grew up watching the Pokémon television show⁶⁶ in the late 1990s and early 2000s.⁶⁷ Those who download the app can now realize their childhood dreams of becoming Pokémon trainers and, eventually, Pokémon Masters.⁶⁸

Pokémon Go uses the technology of a map application, such as Google Maps or Waze, as the game's foundation and then overlays a video game

at no cost, Niantic profits from the game when people make in-app purchases of PokéCoins, the game's currency. Using PokéCoins, players can purchase additional supplies, such as Pokéballs. See Trey Williams, *How Pokémon Go Makes Money*, MARKETWATCH (July 12, 2016, 7:54 AM), <http://www.marketwatch.com/story/how-pokemon-go-makes-money-2016-07-11> [https://perma.cc/JDP8-WWWY]. As of August 2016, Pokémon Go had generated \$200,000,000 in net revenue. See Arjun Kharpal, *'Pokémon Go' Earns \$200 Million in First Month, Beating 'Candy Crush,'* CNBC (Aug. 8, 2016, 4:45 AM), <http://www.cnbc.com/2016/08/08/pokemon-go-earns-200-million-in-first-month-beating-candy-crush.html> [https://perma.cc/D9PB-57KE]. Businesses also are paying into Pokémon Go to purchase "lures," which "attract" a higher-than-usual number of Pokémon to the immediate vicinity for thirty minutes. Jason Evangelho, *How 'Pokémon GO' Can Lure More Customers to Your Local Business*, FORBES (July 9, 2016, 2:44 PM), <http://www.forbes.com/sites/jasonevangelho/2016/07/09/how-pokemon-go-can-lure-more-customers-to-your-local-business/#2579f71f7fe4> [https://perma.cc/R54B-G6TB]. For businesses, the result can be a brief influx of customers who have come to take advantage of the lure. See Alex Hern, *Pokémon Go: Who Owns the Virtual Space Around Your Home?*, GUARDIAN (July 13, 2016, 9:46 AM), <https://www.theguardian.com/technology/2016/jul/13/pokemon-virtual-space-home> [https://perma.cc/D6FG-T7UW]; Howard Yu, *What Pokémon Go's Success Means for the Future of Augmented Reality*, FORTUNE (July 23, 2016), <http://fortune.com/2016/07/23/pokemon-go-augmented-reality/> [https://perma.cc/TB4R-5DS7]. In-app purchases aside, Niantic also has "announced sponsorship opportunities of Pokegyms, with McDonald's slated to roll out the first one." Yehong Zhu, *How Niantic Is Profiting off Tracking Where You Go While Playing 'Pokémon GO,'* FORBES (July 29, 2016, 3:10 PM), <http://www.forbes.com/sites/yehongzhu/2016/07/29/how-niantic-is-profiting-off-tracking-where-you-go-while-playing-pokemon-go/#5ef07a6efedf> [https://perma.cc/EW5X-GBS3]. Beyond that, some speculate that Niantic may sell the data gained from its geolocation tracking of players to marketing companies who would pay a king's ransom for the information. See *id.*

65. Michael Crider, *Pokémon Go Passes 100 Million Play Store Downloads in Just a Month*, ANDROID POLICE (Aug. 8, 2016), <http://www.androidpolice.com/2016/08/08/pokmon-go-passes-100-million-play-store-downloads-just-month/> [https://perma.cc/QT57-69LC].

66. Pokémon is a mash-up of the words "pocket" and "monsters." Dave Thier, *What is 'Pokémon GO,' and Why Is Everybody Talking About It?*, FORBES (July 11, 2016, 11:44 AM), <http://www.forbes.com/sites/davidthier/2016/07/11/facebook-twitter-social-what-is-pokemon-go-and-why-is-everybody-talking-about-it/#6116de0821c7> [https://perma.cc/29GQ-HL2K].

67. See *Pokémon TV*, POKÉMON, <http://www.pokemon.com/us/pokemon-episodes/> [https://perma.cc/G2TL-8A6V]; Rene Ritchie, *Pokémon Go: The Ultimate Guide*, iMORE (July 17, 2017, 6:00 AM) [hereinafter Ritchie, *The Ultimate Guide*], <http://www.imore.com/pokemon-go/world> [https://perma.cc/BJ72-FGU5].

68. See Ritchie, *The Ultimate Guide*, *supra* note 67.

component.⁶⁹ The result is a virtual map of an individual's immediate surroundings that is populated with the game's attributes, such as Pokémon Gyms, PokéStops, and, of course, Pokémon.⁷⁰ Pokémon Gyms and PokéStops are real-world properties whose locations have been virtually enhanced within the world of the game.⁷¹ Oftentimes, Pokémon Gyms and PokéStops are local landmarks, such as monuments, courthouses, libraries, hotels, and restaurants.⁷² The algorithm Niantic developed to designate locations as PokéStops and Pokémon Gyms does not recognize whether property is public or private.⁷³ Older properties, such as former churches that are now occupied by private homeowners, also have been designated as PokéStops and Pokémon Gyms.⁷⁴ Some businesses and nonprofits welcome the players and view their virtual enhancement as an opportunity to gain business or teach about their mission.⁷⁵ Nevertheless, other business owners dislike the constant stream of visitors whose sole interest is the location's virtual enhancement.⁷⁶ At the same time, some property owners are clamoring to

69. Eric Chemi, *Google Maps vs Waze vs Apple Maps - Who Wins?*, CNBC (June 30, 2016, 11:15 AM), <http://www.cnn.com/2016/06/30/testing-google-maps-vs-waze-vs-apple-maps-for-the-fourth-of-july-weekend.html> [https://perma.cc/SP9B-XHWN].

70. See Ritchie, *The Ultimate Guide*, *supra* note 67. At present, well over 100 different species of Pokémon are available for "capture" in the game, but Niantic has indicated that additional Pokémon will be added in future updates. See Sean Gibson, *Pokémon Go: Full List of Pokemon Available To Catch, Including Region-Exclusives and Details on Articuno, Zapdos and Moltres*, TELEGRAPH (Sept. 6, 2016, 10:44 AM), <http://www.telegraph.co.uk/gaming/what-to-play/pokemon-go-full-list-of-original-151-pokemon-available-to-catch/> [https://perma.cc/X32H-M79F]; Alex Heath, *Everything You Need To Know About the 7 Newest Pokémon in 'Pokémon Go.'* BUS. INSIDER (Dec. 18, 2016, 10:00 AM), <http://www.businessinsider.com/pokemon-go-7-new-baby-pokemon-2016-12> [https://perma.cc/W8SL-WCT3].

71. See Ritchie, *The Ultimate Guide*, *supra* note 67.

72. See *id.*

73. See Bogle, *supra* note 15; Meyer, *supra* note 10.

74. See Griffin, *supra* note 21; see, e.g., Helena Horton, *Clever Little Girl Sets Up 'Pokestop Shop' After Realising Her House is a Pokestop in Pokemon Go*, TELEGRAPH (July 21, 2016, 2:02 PM), <http://www.telegraph.co.uk/news/2016/07/21/clever-little-girl-sets-up-pokestop-shop-after-realising-her-hou/> [https://perma.cc/4Z5A-2L7P].

75. Jennifer Brinker, *Churches Among Those Swept Up in Pokemon Go Craze*, CATHOLIC NEWS SERV. (July 19, 2016, 9:46 AM), <http://www.catholicnews.com/services/englishnews/2016/churches-among-those-swept-up-in-pokemon-go-craze.cfm> [https://perma.cc/SB8G-VSDM].

76. Adrian Marcano, *'Pokemon GO' Is Disrupting Business and Bosses Are Not Having It*, INVERSE (July 8, 2016), <https://www.inverse.com/article/18052-pokemon-go-signs-pop-up-at-businesses> [https://perma.cc/6FUU-86MF].

have their properties removed from Niantic's database, and other players are pleading with Niantic to add more locations.⁷⁷

Responding to the requests of those living in areas without PokéStops or Pokémon Gyms, Niantic briefly implemented a write-in system that allowed individuals to request that Niantic add new locations within the game.⁷⁸ The purpose of the write-in system was to increase the number of PokéStops and Pokémon Gyms in places with a low population density, particularly rural areas.⁷⁹ Players inundated Niantic with requests, prompting Niantic to terminate the write-in system in late July 2016.⁸⁰ Unsurprisingly, the drawback to Niantic's granting of a request, and thus getting a PokéStop or Pokémon Gym, is that only Niantic can purge the location from its list of virtually-enhanced locations.⁸¹ More importantly, Niantic is not obligated to honor any write-in requests to remove a location from its database.⁸²

Nevertheless, Pokémon Go holds a loyal following of players who are committed to becoming Pokémon Masters. The ultimate object of the game is to collect as many Pokémon as possible and register them to the Pokédex, an index for Pokémon.⁸³ Pokémon can "spawn," or virtually materialize in the game, in any location around the world.⁸⁴ Yet, more Pokémon tend to spawn when several people are playing Pokémon Go nearby and when two or more PokéStops are in the immediate vicinity.⁸⁵ This combination results in what some call "hotspots"—real-world locations where a large number of Pokémon tend to spawn at all hours of the day.⁸⁶ Consequently, in these locations, such as the median on Coronado Island in San Diego or Navy

77. Dwilson, *supra* note 19; *How Do I Create a New Pokéstop or Gym*, *supra* note 19; Mott, *supra* note 19; Daniel Perez, *How To Request a PokeStop and Gym in Pokemon Go*, SHACKNEWS (July 14, 2016, 9:21 AM), <http://www.shacknews.com/article/95855/how-to-request-a-pokestop-and-gym-in-pokemon-go> [<https://perma.cc/28V4-R6KJ>].

78. Mott, *supra* note 19.

79. *See id.*

80. *See* Dwilson, *supra* note 19.

81. *See Reporting PokéStop or Gym Issues*, POKÉMON GO, <https://support.pokemongo.nianticlabs.com/hc/en-us/articles/221968408-Reporting-PokéStop-or-Gym-Issues> [<https://perma.cc/CB4X-4FCS>].

82. *See* Dodich Complaint, *supra* note 11, at 1–5.

83. Ritchie, *The Ultimate Guide*, *supra* note 67.

84. *See* Rene Ritchie, *Where To Find Rare Pokémon in Pokémon Go*, iMORE (Apr. 23, 2017, 7:00 AM) [hereinafter Ritchie, *Where To Find Rare Pokémon*], <http://www.imore.com/where-to-find-different-types-of-pokemon-in-pokemon-go> [<https://perma.cc/RD6N-PYJJ>].

85. *See id.*

86. *See* Jacqueline Mejia, *MAP: Pokemon Go Hot Spots Around Southern California*, NBC L.A. (July 21, 2016, 6:04 AM), <http://www.nbclosangeles.com/news/local/Pokemon-Go-Hot-Spots-387688141.html> [<https://perma.cc/5ACU-K4Y2>]; Ritchie, *Where To Find Rare Pokémon*, *supra* note 84; Paul Tassi, 'Pokémon Go' Just Changed an Enormous Number of Spawning Nests Worldwide, FORBES (July 29, 2016, 4:35 PM), <http://www.forbes.com/sites/insertcoin/2016/07/29/pokemon-go-just-changed-an-enormous-number-of-spawning-nests-worldwide/#36dfae7111fa> [<https://perma.cc/YE7E-89VE>].

Pier in Chicago, crowds of people commonly congregate to play Pokémon Go.⁸⁷ When a Pokémon materializes, players have only a few minutes to capture the Pokémon,⁸⁸ which also contributes to stampedes of Pokémon Go players in these locations.

To locate Pokémon, and thereby progress in the game, players must walk.⁸⁹ As players walk while playing the game, the virtual landscapes depicted on their smartphones shift to reflect their new, real-world surroundings.⁹⁰ When a Pokémon materializes, players also have the option of switching into AR mode.⁹¹ The AR function of the game accesses the phone's camera and superimposes the Pokémon that just appeared in the virtual game onto the player's immediate real-world surroundings.⁹² For example, if someone were playing Pokémon Go during a board meeting, switching on AR mode would cause the Pokémon to materialize on the conference table and begin to hop or dance.⁹³ The AR function also permits the player to take a photo of the Pokémon that has materialized in the real world.⁹⁴ In addition to capturing the Pokémon's image, those photos also could include sensitive information, such as the confidential documents that the Pokémon is perched atop. Likely for this reason, the Pentagon banned employees from playing Pokémon Go on government-issued smartphones.⁹⁵

Aside from locating Pokémon, players have several other incentives to walk: the game only equips players with a limited number of Pokéballs, the virtual mechanism for capturing Pokémon.⁹⁶ If a player runs out of Pokéballs, the player must visit a PokéStop to "pick up" additional Pokéballs.⁹⁷

87. See *Pokémon Go at the Pier*, NAVY PIER: BLOG (July 14, 2016), <https://navypier.com/blog/pokemongo/> [https://perma.cc/BE9M-UPWB]; Sylvester, *supra* note 11.

88. See Ritchie, *Where To Find Rare Pokémon*, *supra* note 84.

89. Ritchie, *The Ultimate Guide*, *supra* note 67.

90. Bogle, *supra* note 15.

91. See Ritchie, *Where To Find Rare Pokémon*, *supra* note 84.

92. *Id.*

93. Alina Bradford, *How To Turn On AR Mode After You've Turned It Off in Pokémon Go*, CNET (July 12, 2016, 9:25 AM), <https://www.cnet.com/how-to/how-to-turn-on-ar-mode-after-youve-turned-it-off/> [https://perma.cc/865P-PWNN].

94. See Thomas Biery, *How To Take a Screenshot in Pokémon Go*, POLYGON (July 7, 2016, 5:30 PM), <http://www.polygon.com/2016/7/7/12120168/screenshot-pokemon-go-iphone-android> [https://perma.cc/B7EP-93KE].

95. Associated Press, *Pokemon Go a No Go on Pentagon-Issued Phones*, ABC 7 NEWS CHI. (Aug. 12, 2016), <http://abc7chicago.com/news/pokemon-go-a-no-go-on-pentagon-issued-phones/1467667/> [https://perma.cc/WU8V-8DFS].

96. See Ritchie, *Where To Find Rare Pokémon*, *supra* note 84.

97. See *id.*

Alternatively, players can purchase more Pokéballs through the in-app shop to continue playing.⁹⁸ Further, in order to capture “rare” Pokémon, players must advance to new levels, as the advancement triggers the “release” of new Pokémon that players have not previously encountered.⁹⁹

Once they have collected a certain number of Pokémon, players can elect to “evolve” the Pokémon to a more advanced form of the Pokémon’s species.¹⁰⁰ With those advanced Pokémon, players visit Pokémon Gyms, virtual arenas, in order to “battle” other Pokémon trainers, either for “control” of the gym or for “training” purposes.¹⁰¹ As in Ingress, each Pokémon Go player must join a team to be eligible to join a Pokémon Gym; Gym membership permits the players to advance in the game.¹⁰² Pokémon Go presents three options: Red Team (Valor), Blue Team (Mystic), and Yellow Team (Instinct).¹⁰³ Each team espouses a different view of the nature of Pokémon and the appropriate way of studying them.¹⁰⁴ Players join a team and then attempt to claim gyms for their team so that the gym will grow in renown and stature among the network of Pokémon Go players.¹⁰⁵

Niantic also announced a new item available for purchase known as “Pokémon Go Plus.”¹⁰⁶ The device syncs with a smartphone over Bluetooth and enables players to continue playing the game without having to look at their smartphone screens.¹⁰⁷ When a player approaches a PokéStop or a hidden Pokémon, the device lights up and vibrates to alert the player, who then presses the button on the device to collect the Pokéballs and other items from the PokéStop or to catch the Pokémon.¹⁰⁸ A player’s conduct may raise issues of trespass and nuisance when the player continues to walk into private properties, like apartment complexes or small stores, to take advantage of

98. See Justin Andress, *It’s Possible To Lose at ‘Pokémon Go’ Permanently, if You’re Broke*, INVERSE (July 15, 2016), <https://www.inverse.com/article/18324-running-out-of-pokeballs-in-pokemon-go> [https://perma.cc/4TCJ-RV9P].

99. See Dave Thier, *How To Find Rare Pokémon in ‘Pokémon Go,’* FORBES (July 12, 2016, 3:51 PM), <http://www.forbes.com/sites/davidthier/2016/07/12/how-to-find-rare-pokemon-in-pokemon-go/#3f68fdb74cbb> [https://perma.cc/NR5A-9YJC].

100. See Ritchie, *Where To Find Rare Pokémon*, *supra* note 84.

101. *Id.*

102. *Id.*

103. See Sean Gibson, *Pokémon Go Teams: Mystic, Instinct and Valor – Which Team Is Best and Who Should I Join?*, TELEGRAPH (Sept. 6, 2016, 10:45 AM), <http://www.telegraph.co.uk/gaming/what-to-play/pokemon-go-teams-mystic-instinct-and-valor—which-team-is-best/> [https://perma.cc/8GVZ-NXQW].

104. See *id.*

105. See Ritchie, *Where To Find Rare Pokémon*, *supra* note 84.

106. *Pokémon Go Plus Coming September 16!*, POKÉMON (Sept. 8, 2016), <http://www.pokemon.com/us/pokemon-news/pokemon-go-plus-coming-september-16/> [https://perma.cc/EWN7-CJNH].

107. See *id.*

108. See *id.*

known PokéStops or to see if Pokémon are present. Thus, although this new device may somewhat reduce the number of people who are injured by walking in front of cars while playing the game, the device is unlikely to mitigate ongoing problems with trespass and nuisance.

D. What Types of AR Developments Are Expected in the Immediate Future with Respect to Smartphones?

After the staggering success of Pokémon Go, more entrepreneurs are entering the AR market.¹⁰⁹ Over the next several years, not only will there be an upswing in the number of mobile games incorporating AR technology, but AR also will become more prevalent in other aspects of everyday life.¹¹⁰ For instance, several groups have developed educational applications to supplement classroom learning; Lockheed Martin created an AR headset that pilots will wear as part of a new training program segment; and IKEA has released an application that allows users to view the way furniture would look in their homes before they purchase it.¹¹¹ With a burgeoning market for AR applications, manufacturers eventually may modify smartphones to better support this technology.

To that end, two major advancements in AR are Google Tango and Lenovo's Phab2Pro.¹¹² Essentially, Tango is a platform that uses advanced sensors to

109. See Simon Parkin, *After the Success of Pokémon Go!, What Is the Future for Augmented Reality?*, GUARDIAN (Oct. 23, 2016, 3:30 AM), <https://www.theguardian.com/technology/2016/oct/23/augmented-reality-development-future-smartphone> [<https://perma.cc/7RLT-W3GF>]; Adario Strange, *Apple's Tim Cook Says Augmented Reality, Not VR, Is the Future*, MASHABLE (Oct. 3, 2016), <http://mashable.com/2016/10/03/tim-cook-augmented-reality/#ueLsMWdRhqqw> [<https://perma.cc/XPW9-D3K2>].

110. See Matt Vella, *The Pokémon Fad Shows the Unnerving Future of Augmented Reality*, TIME (July 13, 2016), <http://time.com/4405053/pokemon-augmented-reality/> [<https://perma.cc/HJW7-T82K>].

111. *Id.* Press Release, Lockheed Martin, Visualizing the Future (2014), <http://www.lockheedmartin.com/us/news/features/2014/141124-mst-visualizing-the-future.html> [<https://perma.cc/5E8Y-B4LX>]; Monica Burns, *6 Exciting AR Apps for Student Learning*, EDUTOPIA (Mar. 23, 2016), <https://www.edutopia.org/blog/ar-apps-for-student-learning-monica-burns> [<https://perma.cc/XY25-NWJX>]; *3 Retail Giants Who Used Augmented Reality To Sell*, AUGMENT (Mar. 22, 2016), <http://www.augment.com/blog/3-consumer-giants-who-used-augmented-reality-for-retail/> [<https://perma.cc/XQ2G-FQAE>]; see also Apps, TANGO, <http://get.google.com/tango/apps/> [<https://perma.cc/763Z-DBKS>] (explaining that Tango is an AR application that allows users virtually to move around furniture, measures objects, or even “see dinosaurs roam around [their] kitchen[s].”)

112. See Rahil Bhagat, *Here's What You Need To Know About Google's Project Tango*, FORBES (June 20, 2016, 7:54 AM), <http://www.forbes.com/sites/rahilbhagat/2016/06/20/just->

make the smartphone self-aware of its spatial location with respect to other locations, even if the smartphone is hurtling along a freeway at seventy miles per hour.¹¹³ Phab2Pro is the smartphone specially designed to support the Tango platform.¹¹⁴

Combined, these two technologies create a more seamless AR experience for users who are playing AR mobile games that require them to move, such as Ingress and Pokémon Go. Because of these advancements, those at the vanguard of AR anticipate that companies will develop further international, multi-player mobile games, like Father.IO.¹¹⁵ Father.IO, described as the “world’s first real-life, massive multiplayer, first person shooter” game is a global game of laser tag that enables players to “shoot” one another with virtual laser guns.¹¹⁶ The game notifies players when “enemies” are nearby, enabling players to locate and confront one another.¹¹⁷ Of course, such a setup also encourages players to trespass in the real-world as they “hunt” the enemy or take evasive action to avoid being “shot.”¹¹⁸

At this point, it is not hard to forecast the technological landscape’s impending changes. Top executives, including Apple’s Tim Cook, herald AR as the wave of the future and predict that it will become so deeply ingrained in modern society that “we will wonder . . . how we lived without it.”¹¹⁹ With these advances on the horizon, now is the time to develop proactive solutions to the problems AR technology will cause. Pokémon Go previews issues with trespass and nuisance. As more AR games debut, stories of trespassing and loitering will continue to populate the evening news. As the map technology becomes more sophisticated, those games with a

what-is-google- project-tango/#2e6064125480 [https://perma.cc/DT2V-6GYA]; *The World’s First Tango-Enabled Smartphone*, *supra* note 26.

113. See Bhagat, *supra* note 112; see also *San Jose Airport and Google Team Up To Explore Potential of Augmented Reality Technology*, FUTURE TRAVEL EXPERIENCE (Aug. 2016), <http://www.futuretravelexperience.com/2016/08/san-jose-airport-and-google-team-up-to-trial-augmented-reality-technology/> [https://perma.cc/USY5-A68G] (describing Google’s partnership with the San Jose Airport to create a custom AR application for the airport).

114. See Bhagat, *supra* note 112.

115. See, e.g., Julia Alexander, *AR Competitive Multiplayer Game The Machines Coming to iPhone*, POLYGON (Sept. 12, 2017, 2:27 PM), <https://www.polygon.com/2017/9/12/16296692/iphone-8-ar-machines-game> [https://perma.cc/VS5C-344Y].

116. See Francesco Ferrazzino, *Father.io: Massive Multiplayer Laser Tag*, INDIEGOGO, <https://www.indiegogo.com/projects/father-io-massive-multiplayer-laser-tag-app#/> [https://perma.cc/F3MY-LNAC]; Matney, *supra* note 26.

117. Matney, *supra* note 26.

118. John Hanke, CEO and cofounder of Niantic Labs, has “discussed licensing the core technology behind Pokémon Go to other brands looking to make their own AR games.” Hern, *supra* note 64. If Niantic Labs were to license its technology to others, there is a strong likelihood that the problems inherent with Pokémon Go would be repeated and multiplied, as the core of the Pokémon Go technology is the map function and the AR.

119. Strange, *supra* note 109.

geolocation feature likely will include more detailed maps that facilitate trespassing, perhaps by showing the precise locations of entrances and exits. Conceivably, such applications might have in-app warnings that a police car is nearby, giving trespassers enough time to evacuate the area before they are caught.¹²⁰ These possibilities underscore the need for a permanent method of handling AR-induced trespass and nuisance issues before AR becomes as ubiquitous as predicted.

III. GOTTA CATCH A CAUSE OF ACTION¹²¹

In the search for such a solution, Part III evaluates, and ultimately rejects, various trespass and nuisance claims that a plaintiff affected by AR mobile games might bring in a civil suit. This Comment first considers the difficulties associated with suing individual players and then evaluates alternative theories of liability for holding the creators of AR games responsible for the conduct of those playing their games.

A. *Trespass to Land*

1. *Criminal Trespass*

Trespass is as ancient as the notion of property itself. Although the punishment for trespass has changed over the centuries and bifurcated into criminal and civil penalties, the substance of the doctrine remains essentially the same. This Comment deals primarily with civil trespass. Nevertheless, a brief overview of criminal trespass is necessary to form a complete picture of the remedies available to property owners who experience problems with individuals trespassing while playing AR games.

Because most states have similar criminal trespass statutes that impose comparable penalties, the Model Penal Code adequately represents the doctrine. The Model Penal Code differentiates between two types of trespassers: the normal trespasser and the defiant trespasser.¹²² The normal trespasser

120. The smartphone application Waze already alerts users when a police car is within the immediate vicinity. Ruben Navarrette, *Enough with the Speed Traps*, CNN (Feb. 8, 2015, 5:52 PM), <http://www.cnn.com/2015/02/08/opinion/navarrette-waze-speed-traps/> [<https://perma.cc/Y2CG-MLV2>].

121. *Pokemon Theme Lyrics*, LYRICSMODE, http://www.lyricsmode.com/lyrics/p/pokemon/pokemon_theme.html [<https://perma.cc/US7A-LA7C>]. “Gotta catch ‘em all” is the famous chorus from the Pokémon theme song. *Id.*

122. MODEL PENAL CODE § 221.2 (AM. LAW INST. 2015).

“commits an offense if, knowing that he is not licensed or privileged to do so, he enters or surreptitiously remains in any building or occupied structure, or separately secured or occupied portion thereof.”¹²³ The nature of the property also may affect the severity of the penalty. For example, if an unauthorized individual enters an elementary school while the school is in session, that person has committed criminal trespass.¹²⁴

By contrast, the defiant trespasser:

commits an offense if, knowing that he is not licensed or privileged to do so, he enters or remains in any place as to which notice against trespass is given by: (a) actual communication to the actor; or (b) posting in a manner prescribed by law or reasonably likely to come to the attention of intruders; or (c) fencing or other enclosures manifestly designed to exclude intruders.¹²⁵

If an authorized party orders the individual off the property and the individual does not comply, police may charge that individual with a petty misdemeanor.¹²⁶ In all other circumstances, such a trespass would be a mere violation.¹²⁷ For example, if a mall patron enters a storage area marked “Do Not Enter: Employees Only,” the mall patron is a defiant trespasser who may be charged with a violation of the criminal trespass statute.¹²⁸

Individuals playing an AR game who knowingly trespass while playing the game can be, and have been, charged with both types of criminal

123. *Id.* § 221.2(1); *see, e.g., Chicago Ridge Crime: Man Charged with Trespassing at Yellow Freight*, CHI. TRIB. (Apr. 1, 2009), http://articles.chicagotribune.com/2009-04-01/news/0903300791_1_trespassing-police-block [<https://perma.cc/8MAT-P8WD>]; *Woman Arrested for Trespassing at Convenience Store*, ACTION 4 VALLEY CENT. (Nov. 15, 2013), <http://valleycentral.com/news/local/woman-arrested-for-trespassing-at-convenience-store> [<https://perma.cc/NY7U-3EQN>]. Further, if the trespass occurs during daylight hours, the trespasser will be charged with a petty misdemeanor; if at night, the charge is upgraded to a misdemeanor. MODEL PENAL CODE § 221.2(1).

124. MODEL PENAL CODE § 221.2(1); *e.g., Man Charged with Trespassing on School Property*, CHI. SUN TIMES (May 12, 2016, 10:24 PM), <http://chicago.suntimes.com/news/man-charged-with-trespassing-on-school-property/> [<https://perma.cc/TW9X-SH79>].

125. MODEL PENAL CODE § 221.2(2).

126. *Id.*; *e.g., State v. Martin*, 398 A.2d 1197, 1197 (Conn. Super. Ct. 1978); *see also* Maeve McDermott, *Shailene Woodley Released from North Dakota Jail After Protest*, USA TODAY (Oct. 11, 2016, 6:56 PM), <http://www.usatoday.com/story/life/people/2016/10/10/shailene-woodley-arrested-criminal-trespassing-during-protest/91865182/> [<https://perma.cc/5YUM-DTGV>] (describing actress Shailene Woodley’s arrest for criminal trespass after she entered a construction site for the Dakota Access Pipeline to protest the pipeline’s construction).

127. MODEL PENAL CODE § 221.2(2).

128. *E.g., 20-Year-Old Independence Man Charged with Possession of Heroin*, NJ.COM (Feb. 13, 2013, 8:47 AM), http://www.nj.com/warrenreporter/index.ssf/2013/02/20-year-old-independence-man_c.html [<https://perma.cc/KHT4-56GL>] (reporting that two men entered a mall storage room for a drug deal and were charged with criminal trespass and other drug violations); *see id.*

trespass.¹²⁹ Since Niantic launched Pokémon Go in the United States, police around the country have warned players that “playing Pokémon Go” is not a viable defense to criminal trespass.¹³⁰ Facially, criminal trespass statutes appear relatively menacing, and the threat of an arrest may be potent enough to deter some players from trespassing.¹³¹

Of course, people must be caught trespassing for the police to charge them with criminal trespass. Individuals playing Pokémon Go frequently hunt Pokémon in large groups and scatter if uniformed officers approach.¹³² In Tampa, Florida, police caught 150 people trespassing at Ballast Point Park while playing Pokémon Go.¹³³ Instead of trying to arrest every player for criminal trespass, police let the mob of players off with a warning.¹³⁴ Officers only charged one man with criminal trespass because he refused to comply with their directions.¹³⁵ Even if police catch individuals trespassing while playing an AR mobile game, police are hesitant to arrest them and

129. See Spencer Kent, *Trespass as You Pokémon Go! and You'll End Up in the Pokey*, *Police Warn*, NJ.COM (July 14, 2016, 9:50 AM), http://www.nj.com/middlesex/index.ssf/2016/07/pokemon_app_has_police_warning_gamers_of_potential.html [https://perma.cc/NEY7-KZ5P]; Jon Victor & Alexandra Mester, *Pair of Pokemon Go Players Arrested at Toledo Zoo*, BLADE (July 14, 2016, 9:44 PM), <http://www.toledoblade.com/Police-Fire/2016/07/14/Pair-of-Pokemon-Go-players-arrested-at-Toledo-Zoo.html> [https://perma.cc/DDX7-3KYF].

130. Brett Molina, *Police, Agencies Issue 'Pokémon Go' Warnings*, USA TODAY (July 13, 2016, 12:59 PM), <http://www.usatoday.com/story/tech/gaming/2016/07/12/watch-where-you-pokemon-go-police-warn/86987972/> [https://perma.cc/3BB8-YH9T]; Kristi Palma, *Police: Stop Trespassing While Playing Pokémon Go*, BOSTON.COM (July 12, 2016), <https://www.boston.com/news/local-news/2016/07/12/police-stop-trespassing-play-pokemon-go> [https://perma.cc/3GBV-6E9D].

131. See, e.g., Palma, *supra* note 130. Police departments around the country issued a spate of warnings following Pokémon Go's release, which may have deterred some players from trespassing, though the deterrent effect cannot be quantified. It is worth noting that a crime also can be a tort in some states. See, e.g., IND. CODE ANN. § 34-24-3-1 (West, Westlaw through 2017 1st Reg. Legis. Sess.).

132. See, e.g., Joseph Stepansky, *Pokémon Go Players Trespass in Staten Island's Moravian Cemetery*, N.Y. DAILY NEWS (July 15, 2016, 6:08 PM), <http://www.nydailynews.com/new-york/pokemon-players-trespass-staten-island-moravian-cemetery-article-1.2713415> [https://perma.cc/MGQ8-XCYC] (“Staten Island’s 176-year-old Moravian Cemetery had two break-ins in the last week—both from Pokémon Go players searching the tombstones for Pokéstops. . . . A security guard went after the group of about six, but the intruders escaped.”).

133. *Man Arrested After 150 Trespass at Tampa Park to Play Pokémon Go*, BAY NEWS 9 (July 22, 2016, 6:50 AM), http://www.baynews9.com/content/news/baynews9/news/article.html/content/news/articles/bn9/2016/7/22/one_arrested_after_1.html [https://perma.cc/55VV-EL3B].

134. *Id.*

135. *Id.*

often issue warnings as an alternative.¹³⁶ Playing a mobile game is such an innocuous activity that pressing charges may seem a grossly disproportionate response. Thus, unless the group is small and the individuals either are caught in the act or distinctly captured on video camera, the threat of criminal trespass charges appears remote.

2. Civil Trespass

The threat of a successful civil suit, however, may prove to be a more powerful deterrent than criminal charges. Civil trespass is a strict liability tort that does not require a showing of physical damage to the property.¹³⁷ What has been damaged, or impinged upon, in civil trespass is the property owner's right to exclusivity.¹³⁸ Consequently, a successful plaintiff only need show that the defendant intentionally entered the plaintiff's land, remained on the plaintiff's land, or failed to remove something from the plaintiff's land that the defendant had a duty to remove.¹³⁹

In one of the most famous civil trespass cases, *Jacque v. Steenberg Homes*, Steenberg Homes sought the Jacques' permission to transport a mobile home across the Jacques' fields.¹⁴⁰ Because it was mid-winter, most of the nearby roads were inaccessible.¹⁴¹ The Jacques refused on several occasions, even when Steenberg offered them compensation.¹⁴² Undeterred, Steenberg Homes hauled the mobile home across the Jacques' fields without authorization.¹⁴³ Even though the Jacques had not sustained physical damage to their fields, the trial court awarded the Jacques \$1 in nominal damages

136. See, e.g., Dan DeBaun, *St. Cloud Police See Reports of Trespassing Due to Pokémon GO App*, AM 1240 WJON (July 14, 2016, 10:43 AM), <http://wjon.com/st-cloud-police-see-reports-of-trespassing-due-to-pokemon-go-app/> [https://perma.cc/CJN4-TSRY]; Liz Evans Scolforo, *Police: Pokémon Go Players Found Trespassing in Parks, Yards*, YORKDISPATCH (July 14, 2016, 3:43 PM), <http://www.yorkdispatch.com/story/news/2016/07/13/police-pokemon-go-players-trespassing/87035696/> [https://perma.cc/Z33B-3JMS]; Dillon Thomas, *UAPD Warns About Trespassing at Razorback Stadium for "Pokémon Go" Characters*, 5 NEWS (Aug. 2, 2016, 9:13 AM), <http://5newsonline.com/2016/08/01/uapd-warns-about-trespassing-at-razorback-stadium-for-pokemon-go-characters/> [https://perma.cc/K7YS-2SSC].

137. JOHN G. SPRANKLING & RAYMOND R. COLETTA, *PROPERTY: A CONTEMPORARY APPROACH* 50 (3d ed. 2015) (quoting RESTATEMENT (SECOND) OF TORTS § 158 (AM. LAW INST. 1965)).

138. See *id.*; see e.g., *Babb v. Lee Cty. Landfill SC, LLC*, 747 S.E.2d 468, 472–74 (S.C. 2013).

139. RESTATEMENT (SECOND) OF TORTS § 158.

140. *Jacque v. Steenberg Homes, Inc.*, 563 N.W.2d 154, 157 (Wis. 1997).

141. *Id.* It is worth noting that the mobile home Steenberg Homes intended to deliver was a summer home that the owners would not have been able to use for several months. *Id.* Consequently, the delivery was not necessarily urgent. See *id.*

142. *Id.*

143. *Id.*

and \$100,000 in punitive damages.¹⁴⁴ The appellate court reversed, and the Wisconsin Supreme Court reversed the appellate court, reinstating the trial court's damages award.¹⁴⁵ The Wisconsin Supreme Court reasoned that substantial punitive damages were necessary to serve the civil trespass statute's object of deterrence.¹⁴⁶ To hold otherwise would invite companies with sufficient disposable capital to continue trespassing, knowing that their punishment would be negligible.¹⁴⁷

Similarly, courts may hold defendants liable for all foreseeable and unforeseeable damages flowing from their civil trespass.¹⁴⁸ For example, in *Baker v. Shymkiv*, defendants dug a ten-foot long trench across the Bakers' property, prompting Mr. Baker to confront the Shymkivs.¹⁴⁹ Mrs. Baker entered her home to call the police, and when she returned, she found her husband facedown and unresponsive in a puddle of muddy water.¹⁵⁰ Mr. Baker died several hours later.¹⁵¹ At trial, the jury awarded Mrs. Baker compensatory and punitive damages for the Shymkivs' trespass and the wrongful death of her husband.¹⁵² The Ohio Supreme Court affirmed, holding

144. *Id.* at 158.

145. *Id.* at 158, 166. Compare *Martin v. Glass*, 84 So. 3d 131, 134–35 (Ala. Civ. App. 2011) (holding that the trial court had authority to award punitive damages on top of nominal damages, despite the absence of compensatory damages), with *Butler v. Ratner*, 662 N.Y.S.2d 696, 698 (New Rochelle City Ct. 1997) (holding that court could award \$1 in nominal damages only and no punitive damages because the defendant's conduct did not evidence actual malice), and *Belluomo v. KAKE TV & Radio, Inc.*, 596 P.2d 832, 845 (Kan. Ct. App. 1979) (holding that the plaintiff only was entitled to punitive damages if the jury found that he was also entitled to compensatory damages), and *Jacque*, 563 N.W.2d at 166 (holding that the court could impose punitive damages, despite a finding of nominal, but not compensatory, damages).

146. *Jacque*, 563 N.W.2d at 165–66; cf. *Frank v. Mayberry*, 985 P.2d 773, 777–78 (Okla. 1999) (adjusting punitive damages award from \$250,300 to \$50,000 for loggers' entry upon section line road that the county had not opened for public use); *Huffman & Wright Logging Co. v. Wade*, 857 P.2d 101, 112–13 (Or. 1993) (affirming award of \$25,000 in punitive damages against protesters who chained themselves to defendant's logging equipment and delayed defendant's operations for approximately one day).

147. *Jacque*, 563 N.W.2d at 165–66.

148. *Baker v. Shymkiv*, 451 N.E.2d 811, 814 (Ohio 1983); cf. *Bell v. Sediment Removers, Inc.*, 479 So. 2d 1078, 1081 (La. Ct. App. 1985) (“In a trespass action it is [in]cumbent upon plaintiff to show damages based on the result or the consequences of an injury flowing from the act of trespass.” (citing *Grandeson v. Int'l Harvester Credit Corp.*, 66 So. 2d 317, 319 (La. 1953))).

149. *Baker*, 451 N.E.2d at 812.

150. *Id.*

151. *Id.*

152. *Id.* at 813.

that, as intentional trespassers, the Shymkivs were liable for both foreseeable and unforeseeable damages that occurred as a result of their initial trespass.¹⁵³

For property owners whose lands have been invaded by those playing AR games, this means that they can hold trespassers civilly liable for: (1) the act of trespass itself, no matter how brief; and (2) any damages flowing from the trespass.¹⁵⁴ As an example, if someone playing Pokémon Go wanders into a restaurant to capture a Pokémon and collides with a waitress bearing a large tray of dishes, the player will be liable: to the restaurant, for trespass and for the expense of any broken dishes and any lost meals; and to the waitress, for any injury resulting from the collision.¹⁵⁵ The same is true of a Pokémon Go player who enters someone's front yard while playing the game and tramples the homeowner's prize peonies.¹⁵⁶

Again, as with criminal trespass, the chief difficulty lies in positively identifying the trespasser, proving that the trespasser entered the property, and linking the trespasser to the alleged damages.¹⁵⁷ Further, lawsuits are costly and timely, and even if a plaintiff obtains a judgment, the average defendant may not have the funds to pay the damages. Filing a civil suit against every individual who trespasses while playing AR games is likely to prove an impractical remedy in the final analysis. Consequently, it is unsurprising that the cases currently pending in relation to Pokémon Go do not name individual trespassers as defendants.¹⁵⁸ Rather, in those suits, the plaintiffs are suing those with deeper pockets—the creators of AR games—on alternative theories of liability.¹⁵⁹

153. *Id.* at 814.

154. *See* *Jacque v. Steenberg Homes, Inc.*, 563 N.W.2d 154, 165–66 (Wis. 1997); *see also Baker*, 451 N.E.2d at 814 (“Thus, one who trespasses upon the land of another incurs the risk of becoming liable for any bodily harm which is cause [*sic*] to the possessor of the land or to members of his household by any conduct of the trespasser during the continuance of his trespass, no matter how otherwise innocent such conduct may be.” (quoting RESTATEMENT (SECOND) OF TORTS § 162 cmt. f)).

155. *See Baker*, 451 N.E.2d at 814; *see also Bell v. Sediment Removers, Inc.*, 479 So. 2d 1078, 1081–82 (La. Ct. App. 1985) (reversing damages award for trespass of sludge onto owner's property because owner failed to prove that sludge had damaged his land).

156. *See Jacque*, 563 N.W.2d at 165–66; *see also Baker*, 451 N.E.2d at 814 (“[D]amages caused by an intentional trespasser need not be foreseeable to be compensable.”).

157. *See supra* Part III(A)(1).

158. *See* Complaint at 1, *Villas of Positano Condo. Ass'n Inc. v. Niantic Inc.*, No. 3:16-cv-05091 (N.D. Cal. Sept. 2, 2016) [hereinafter *Villas of Positano Complaint*]; *Dodich Complaint*, *supra* note 11, at 1; *Marder Complaint*, *supra* note 12, at 1.

159. *See Villas of Positano Complaint*, *supra* note 158, at 1; *Dodich Complaint*, *supra* note 11, at 1; *Marder Complaint*, *supra* note 12, at 1.

B. Intangible Invasion & Airspace Rights

Creators of AR games currently have the right to designate any real world location as a virtually-enhanced location within the context of the AR game without obtaining the real world property owners' consent.¹⁶⁰ Game makers also can "place" virtual game components, or cause virtual game components to populate, at real-world locations without the property owners' consent.¹⁶¹ A plaintiff is unlikely to prevail against AR game creators in a classic trespass to land suit because the virtual property enhancements and virtual components lack any physical substance, are only visible with the aid of a smart phone application, and do not physically touch or occupy the land.

1. Intangible Invasion

One theory proffered for consideration is that of intangible invasion.¹⁶² Intangible invasion refers to the trespass of invisible particles, such as chemicals, on an individual's land.¹⁶³ What distinguishes intangible invasion from ordinary trespass is that plaintiffs suing for intangible invasion must prove that the trespass caused substantial damage to the plaintiffs' property.¹⁶⁴ For instance, in *Martin v. Reynolds Metal Co.*, the Oregon Supreme Court held that the passage of airborne gases and particulates from an aluminum manufacturer's plant over the plaintiffs' land constituted an intangible invasion for which Reynolds Metal Company was liable.¹⁶⁵ However, in a more recent case, a court held that the transmission of light signals through fiber optic cables installed on a property adjacent to plaintiff's property was not actionable as intangible invasion because the light signals had not damaged the plaintiff's property.¹⁶⁶ Causes of action for intangible invasion are particularly challenging to maintain because it is difficult to prove that

160. Lee Dryden, *Pokémon Go Presents Virtual Fun, Real Legal Issues*, MICH. LAW. WKLY. (Aug. 12, 2016), <https://advance.lexis.com/> [<https://perma.cc/V26C-B2MA>] (follow "Legal News" hyperlink under Explore Content; then enter "Pokémon Go Presents Virtual Fun, Real Legal Issues" in the search bar; then follow hyperlink for named article).

161. *Id.*

162. See John Delaney & Aaron Rubin, *Augmenting Reality: A Pokémon Go Business and Legal Primer*, LINKEDIN (July 31, 2016), <https://www.linkedin.com/pulse/augmenting-reality-pokémon-go-business-legal-primer-aaron-rubin> [<https://perma.cc/9N7N-RHQP>].

163. See 75 AM. JUR. 2D *Trespass* § 27, Westlaw (database updated Aug. 2017).

164. See *id.*

165. See *Martin v. Reynolds Metals Co.*, 342 P.2d 790, 797–98 (Or. 1959).

166. *In re WorldCom, Inc.*, 320 B.R. 772, 784 (Bankr. S.D.N.Y. 2005).

the passage of particles over an individual's property caused substantial damage to the property, especially without evidence of damage.

Ultimately, the doctrine of intangible invasion proves unhelpful to this analysis.¹⁶⁷ Although, for example, a PokéStop or Pokémon certainly would be considered "invisible," given that they cannot be observed without the Pokémon Go application, and a plaintiff would be hard-pressed to prove substantial damages.¹⁶⁸ The virtual entities themselves cannot *touch* and, therefore, cannot harm property.¹⁶⁹ Without damages-in-fact, a cause of action for intangible invasion will not lie.¹⁷⁰

2. *Airspace Rights*

Similarly, other commentators propose holding the creators of AR games liable under the doctrine of trespass to airspace.¹⁷¹ Essentially, the argument for liability would be that the creators of AR games commit a trespass to airspace by placing virtual objects in the virtual space within private property without the owner's permission.¹⁷² This theory also fails. Before the Wright brothers became the first in flight, vertical property lines were deemed to extend upward from the earthly boundaries into the heavens and downward from those boundaries to the earth's core.¹⁷³ Now, an individual's airspace rights typically extend a few hundred feet upward, or as far upward as a person reasonably may build.¹⁷⁴ The same elements for trespass to land apply with respect to trespass to airspace with one important exception: trespass to airspace is not a strict liability tort.¹⁷⁵ The Restatement (Second) of Torts proposes that, "[f]light by aircraft in the air space above the land of another is a trespass if, but only if, (a) it enters into the immediate reaches of the air space next to the land, and (b) it interferes substantially with the other's use and enjoyment of his land."¹⁷⁶

167. Some courts recognize intangible invasion as a separate trespass action while others hold that intangible invasion is properly characterized as a nuisance. *See, e.g., In re WorldCom, Inc.*, 546 F.3d 211, 214–15 (2d Cir. 2008) (citing *In re WorldCom, Inc.*, 320 B.R. at 776–77).

168. *See In re WorldCom, Inc.*, 320 B.R. at 782 ("[T]here must be an interference with plaintiff's exclusive possessory interest; that is, through the defendant's intentional conduct, and with reasonable foreseeability, some substance has entered upon the land itself, affecting its nature and character, and causing substantial actual damage to the *res*." (quoting *Borland v. Sanders Lead Co.*, 369 So. 2d 523, 530 (Ala. 1979))).

169. *See id.* at 782–83.

170. *See id.*

171. *See Hern, supra* note 64.

172. *See id.*

173. SPRANKLING & COLETTA, *supra* note 137, at 135.

174. 8A AM. JUR. 2D *Aviation* § 2, Westlaw (database updated Aug. 2017).

175. RESTATEMENT (SECOND) OF TORTS § 158 cmts. h–i (AM. LAW INST. 1965).

176. RESTATEMENT (SECOND) OF TORTS § 159(2) (AM. LAW INST. 1965).

Other scholars suggest that, to prevail on a cause of action for trespass to airspace, the plaintiff must satisfy one of four conditions: (1) the land sustained actual damage; (2) the property value was diminished; (3) the trespass interfered with the owner's occupation or livelihood; or (4) the trespass substantially interfered with the owner's use and enjoyment of the land.¹⁷⁷ A textbook example of trespass to airspace is an aircraft that flies so far below navigable airspace that the noise of the aircraft shatters a window of the home beneath it.

The problems of applying airspace rights to virtual space are immediately apparent: as with the doctrine of intangible invasion, the chief issue lies in proving that virtual entities that only can be viewed with a smartphone application have damaged the land or interfered with the owner's use of the land. Consequently, as one author observed in the context of mediated reality advertising, so, too, in the context of AR games: "it is unlikely that a plaintiff will be able to show that the apparent projection of a virtual image into [the plaintiff's] airspace resulted in damage since no physical contact with the plaintiff's land occurs."¹⁷⁸ For example, although the presence of a PokéStop or Pokémon Gym on someone's property can attract trespassers who damage the land, the trespassers are a secondary effect. The PokéStops do not, by themselves, stir up leaves or create a cloud of dust the way that a low-flying aircraft or a drone might. What is occurring with Pokémon Go is more akin to a scenario where an aircraft passes over a home, attracting neighborhood children who throw rocks at the plane, miss, and shatter one of the home's windows. There, the children throwing rocks at the aircraft are a secondary effect of the aircraft's presence; the aircraft did not bring a storm of rock-throwing children with it. Likewise, PokéStops attract people who may trespass upon the property and cause damage, but the PokéStop itself is not the source of damage. No component of the game ever touches the land or disturbs the land in a way that would amount to a trespass, let alone damage to the land. Thus, the presence of virtually-enhanced entities in the virtual space within the property do not directly cause actual damage to the land.

177. Woodrow Barfield, *Commercial Speech, Intellectual Property Rights, and Advertising Using Virtual Images Inserted in TV, Film, and the Real World*, 13 UCLA ENT. L. REV. 153, 172 (2006) (citing Colin Cahoon, *Low Altitude Airspace: A Property Rights No-Man's Land*, 56 J. AIR L. & COM. 157, 197 (1990)).

178. *Id.* (discussing mediated reality advertising where virtual advertisements are projected onto real property when viewed using a smartphone application or headset).

Likewise, the virtual enhancement of a property within the context of a game or the placement of virtual objects upon the property appears unlikely to result in a diminished property value. To begin, with respect to Niantic's games, people can request that virtual enhancements to their property be removed.¹⁷⁹ Those requests usually are granted within a few weeks—at worst, within a few months.¹⁸⁰ Virtual enhancements to private property, then, likely are so short-lived that they would be unlikely to impair the property's value. Ironically, the presence of virtual enhancements on the property may increase the property's value, depending on the buyer.¹⁸¹

Nevertheless, a plaintiff may be able to propose arguments with respect to interference with the owner's livelihood or use and enjoyment of the land. For example, a plaintiff could argue that the secondary effects of the application—the increased foot traffic and all of the noise and litter associated with crowds—interfere with the owner's business or use and enjoyment of the land. This argument would be particularly apt for businesses whose properties have been virtually enhanced within the context of Pokémon Go and which now have larger numbers of non-paying customers crowding their shops or restaurants. Similarly, homeowners with PokéStops and Pokémon Gyms

179. *Reporting PokéStop or Gym Issues*, *supra* note 81.

180. See Jason Gallagher, *Pokemon GO Dev Will Remove Pokestops If Enough Requests Are Made*, GAME RANT (2016), <https://gamerant.com/pokemon-go-remove-pokestop/> [<https://perma.cc/M55X-M598>] (“The fact that Niantic appears to be taking down Pokestops relatively quickly after receiving a request seems to indicate they understand the importance of keeping the game fun and nuisance-free.”); *e.g.*, Stauffer, *supra* note 24 (recounting story of woman's month-long battle with Niantic to get Pokémon gym removed from her property).

181. Some Pokémon Go enthusiasts may be willing to pay a bit more for a home or an apartment that has a PokéStop or Pokémon Gym on it so that they can play at all hours of the day from the comfort of their own bedrooms. See, *e.g.*, *7 Ways To Use Pokémon Go in Your Apartment Communities*, INFOTYCOON (July 20, 2016), <http://blog.infotycoon.com/7-ways-use-pokemon-go-apartment-communities> [<https://perma.cc/4357-H4QZ>] (explaining that in July 2016, apartment complexes all over the United States advertised that they were Pokémon Go stops and even waived new resident application fees for Pokémon Go players). For example, in the hopes of attracting Pokémon Go players who will lounge in the coffee shops for a few hours and catch Pokémon, Starbucks and Niantic have signed a deal stipulating that Niantic will turn thousands of Starbucks shops across the country into PokéStops and Pokémon Gyms. Paul Tassi, *‘Pokémon GO’ Might Be About To Use a Massive Starbucks Promotion To Launch Gen 2*, FORBES (Dec. 6, 2016, 9:00 AM), <http://www.forbes.com/sites/insertcoin/2016/12/06/pokemon-go-might-be-about-to-use-a-massive-starbucks-promotion-to-launch-gen-2/#b19a32864825> [<https://perma.cc/V78C-G4UQ>]. Further, Starbucks will offer a special Pokémon GO Frappuccino at those locations to entice Pokémon Go players to visit the stores. Andrew Liptak, *Thousands of Starbucks Just Became Pokémon Go Gyms*, THE VERGE (Dec. 8, 2016, 10:33 AM), <http://www.theverge.com/2016/12/8/13882896/starbucks-pokemon-go-frappuccino-promotion-gyms-pokestops> [<https://perma.cc/VR32-GGZ5>]; *id.* Niantic has reached a similar agreement with Sprint Wireless. Brendan Morrow, *‘Pokemon Go’ New PokeStop & Gym Locations: Where To Find Them*, HEAVY (Dec. 7, 2016, 1:38 PM), <http://heavy.com/games/2016/12/pokemon-go-new-poke-stops-pokestops-gyms-location-locations-sprint-list-where-to-find/> [<https://perma.cc/38BG-DQEW>].

on their properties may find crowds outside of their homes at all hours of the day, disrupting the homeowners' sleep and sometimes blocking access to their homes.¹⁸² Nonetheless, claims based on secondary effects would require an expansion of the doctrine of trespass to airspace, which presently only recognizes liability for damage that is a direct result of the trespass to airspace.¹⁸³ Not only that, but the doctrine of trespass to airspace also would have to expand to embrace the virtual space within a property. Because this would involve the recognition of a new property right—a right to the virtual space within one's real property—courts likely would refuse to recognize this new interest *sua sponte*, and instead may defer to the legislature. Thus, the doctrine of trespass to airspace could be expanded in this manner, but it likely would require legislative action.¹⁸⁴

C. The Doctrine of Co-Trespass

Still others hypothesize that a common law co-trespass theory is the most viable option for holding AR mobile game creators liable for players' trespass.¹⁸⁵ The doctrine of co-trespass provides that a person who intentionally causes a third person to enter another's land can be held jointly and severally liable with the person who actually trespassed.¹⁸⁶ For example, in *Martin v. Brown*, Brown, her son, and her daughter-in-law allegedly planned to

182. See Dodich Complaint, *supra* note 11, at 4–5.

183. The doctrine of trespass to airspace typically mandates liability for damage to the property or interference with the use and enjoyment of the property that is a direct effect of the trespass. For example, in one case, the court held that a pilot who accidentally sprayed poison on the crops of neighboring farmers, thereby damaging the crops, had committed an actionable trespass to airspace, despite the fact that the pilot had been flying in navigable airspace. See *Schronk v. Gilliam*, 380 S.W.2d 743, 745 (Tex. Civ. App. 1964). There, the pilot's trespass to the farmers' airspace in a plane spewing poison was the direct cause of the interference with the farmers' use of their land. *Id.*

184. See *infra* Part IV.

185. Joseph Rothberg, 'Pokémon GO' Field Guide: What You Need To Know About Civil Trespass Laws, FORBES (July 21, 2016, 10:00 AM), <http://www.forbes.com/sites/legalentertainment/2016/07/21/a-field-guide-to-civil-trespass-in-the-age-of-pokemon-go/#3bfa577f6aaf> [https://perma.cc/478P-CWYZ].

186. RESTATEMENT (FIRST) OF TORTS § 158 cmt. i (AM. LAW INST. 1934). Co-trespass is sometimes referred to as "joint trespass." See, e.g., *Oxford v. Williams Cos., Inc.*, 137 F. Supp. 2d 756, 760 (E.D. Tex. 2001); *Gray Farms LLC v. Duane L. Sherman Trust*, Nos. 14-3067, 14-3338, 2017 WL 1096784, at *6 (Mich. Ct. App. Mar. 21, 2017). For instance, if Ash orders Brock to enter Team Rocket's land to clear some brush, Team Rocket may hold both Ash and Brock jointly liable for trespassing upon their land. See *Parker v. Kangerga*, 482 S.W.2d 43, 47 (Tex. Civ. App. 1972) (joint liability); *Wiggins v. City of Burton*, 805 N.W.2d 517, 534 (Mich. Ct. App. 2011) (joint and several liability).

remove trees and a wall from Martin's adjacent property to enlarge the lot that the Browns co-owned as joint tenants.¹⁸⁷ Although Brown never physically entered Martin's property, the court inferred that she was sufficiently involved in the scheme.¹⁸⁸ Consequently, the court held Brown jointly and severally liable as a co-trespasser.¹⁸⁹ Similarly, in *Axtell v. Kurey*, Axtell and Kurey owned adjacent parcels of wooded land.¹⁹⁰ Kurey hired a logger to cut trees on his property, but most of the trees that Kurey directed the logger to mark actually were on Axtell's property.¹⁹¹ The court held Kurey liable for co-trespass with the logger because Kurey had shown the logger precisely which trees to hew.¹⁹²

Under this same logic, creators of AR games potentially could be held liable as co-trespassers for having enticed players to trespass by virtually enhancing privately-owned properties within the context of the game. Precedent suggests that entities may be held liable as persons under the doctrine of co-trespass.¹⁹³ Thus, the primary issue is whether the causal chain is too attenuated—whether the creators of AR games can be held liable as co-trespassers whenever someone trespasses while playing Pokémon Go.¹⁹⁴ In essence, the AR game creator's argument would be thus: If a jeweler places diamond necklaces on the counter of his shop in plain view overnight, is it the jeweler's fault if the necklaces are stolen? Obviously, the jeweler will not be held culpable for the actions of a thief. Likewise, the creators of AR games arguably should not be held culpable for players' trespass

187. *Martin v. Brown*, 650 A.2d 937, 939 (Me. 1994).

188. *See id.*; *cf. Parker*, 482 S.W.2d at 48–51 (holding that the pulpwood dealer was a joint trespasser with the hauler whom the dealer had paid for pulpwood that the hauler obtained from land he did not own).

189. *Martin*, 650 A.2d at 939–40.

190. *Axtell v. Kurey*, 634 N.Y.S.2d 847, 848 (App. Div. 1995).

191. *Id.*

192. *Id.*

193. *See Dawson v. Altamaha Land Co.*, 113 S.E.2d 129, 130 (Ga. 1960). In *Dawson*, Altamaha Land Company sued Savannah River Lumber Company for trespassing on Altamaha's land to cut timber. *Id.* The court held that Dawson, an associate of the defendant company, could be joined as a defendant co-trespasser with his principal, Savannah River Lumber Company. *Id.* at 132.

194. *See, e.g., Rosenberg v. Harwood*, No. 100916536, 2011 WL 3153314 (D. Utah May 27, 2011). In *Rosenberg*, a plaintiff sued Google, claiming that Google Maps negligently provided her with walking directions that caused her to cross a busy rural highway, where she was struck by a car and seriously injured. *Id.* The court held that Google did not owe the plaintiff a duty of care, and consequently, dismissed the plaintiff's claim for negligence. *Id.* Although Rosenberg and the current situation with AR game creators bear some similarities—namely, a remote entity providing digital information to the end user—the two are readily distinguishable. Whereas Google merely provided an interactive map of the area, the creators of AR games cause new virtual entities to populate on those maps. In contrast, people using Google Maps will not find anything different on the screen of their smart phones than what they will see in reality.

when the game creators merely supplied the temptation. However, this argument is misleading in its simplicity.

The creators of AR games do more than tempt those playing the game by placing “gems” in their line of sight. Using the same fact pattern, what actually is occurring with AR games is that the jeweler is not placing the diamond necklaces in his *own* store. Rather, the jeweler is placing the diamond necklaces on property owned by *other* people—often without their knowledge or permission—and then announcing to the world that the diamond necklaces are located on those private properties.¹⁹⁵ As a result of AR game creators’ actions, other peoples’ properties are now virtual treasure troves within the context of the game, and creators know that these locations are likely to attract high numbers of game players.

With Niantic’s games, Ingress and Pokémon Go, the creators did build in a “safety mechanism” to prevent trespass. When playing those games, the virtually-enhanced locations are supposed to “activate” when the player is near the real-world location, making it unnecessary for players to trespass.¹⁹⁶ Despite this feature, trespassing incidents are on the rise, particularly with respect to Pokémon Go.¹⁹⁷ Many players do not realize that they do not need to be at the location for the location’s PokéStop to activate and still attempt to get as close to the PokéStop as possible. Further, Niantic has the power to continue adding more virtually-enhanced locations that cannot be accessed without physically entering the premises, such as museum exhibits and theme parks. In fact, following Pokémon Go’s debut, Niantic continued to accept requests for the creation of problematic PokéStops despite the widespread negative attention that some inappropriate PokéStops had garnered.¹⁹⁸

195. A similar problem exists with those participating in Geocaching, a global treasure hunt where individuals leave small “treasure troves” for other players to find. *Join the World’s Largest Treasure Hunt*, GEOCACHING, <https://www.geocaching.com/play> [<https://perma.cc/85B9-TXUH>].

196. See *Gather Items at PokéStops and Gyms*, POKÉMON GO, <https://support.pokemongo.nianticlabs.com/hc/en-us/articles/221957688-Gather-Poké-Balls-Potions-Eggs> [<https://perma.cc/5R83-TN7T>].

197. See *Hallowell Landlord Tells Pokemon Go Players to Go Away*, WGME (Aug. 24, 2016), <http://wgme.com/news/local/hallowell-landlord-tells-pokemon-go-players-to-go-away> [<https://perma.cc/DD7H-BVAL>].

198. See, e.g., Dwilson, *supra* note 19; Suzanne Perez Tobias, *Back to School with Pokemon Go*, WICHITA EAGLE (Aug. 4, 2016, 5:31 PM), <http://www.kansas.com/news/local/education/article93808572.html> [<https://perma.cc/9G24-HS6G>].

Niantic is aware that players might trespass while playing Pokémon Go and endeavors to mitigate this problem by displaying a warning when players open the game: “Do not trespass while playing Pokémon GO.”¹⁹⁹ Nevertheless, this message is one of several messages that the game might display when the application is first opened. “Do not trespass while playing Pokémon GO” is rotated with two other messages, including: “Do not enter dangerous areas while playing Pokémon GO” and “Do not play Pokémon GO while driving.”²⁰⁰

Such a response is barely an acknowledgment of the problems private property owners face. Moreover, Niantic currently is responsible for self-policing its virtually-enhanced locations.²⁰¹ This means that, if Niantic feels that a location should remain active despite petitions for the location’s removal, then that location will remain active and will continue to draw crowds of trespassers. Here, although a stronger case can be made for holding creators of AR games liable under the doctrine of co-trespass, prominent hurdles still exist.

1. Proximity

Most cases applying the doctrine of co-trespass involve persons who are within the immediate vicinity of the location that they are ordering others to enter.²⁰² Applying the doctrine to an entity located thousands of miles from the place where the trespass occurred would require stretching the theory of co-trespass to novel lengths.²⁰³ In such circumstances, courts may refuse to preempt the legislature by forging a new path.²⁰⁴

199. The game Pokémon Go is available to download on Google Play. *Pokémon GO*, GOOGLE PLAY, <https://play.google.com/store/apps/details?id=com.nianticlabs.pokemongo&hl=en> [<https://perma.cc/67U8-JLPM>].

200. *See id.*

201. *See Mitchell, supra* note 23; Nakashima & Anderson, *supra* note 22. Legal scholars argue that Niantic is not legally obligated to remove PokéStops and Pokémon Gyms. *See Nakashima & Anderson, supra* note 22. Thus, when Niantic receives a report of a problematic or dangerous PokéStop or Pokémon Gym, Niantic performs its own investigation and then decides whether it needs to remove the virtual enhancements. *See Mitchell, supra* note 23. Granted, given the high volume of requests, some have hypothesized that Niantic accedes to virtually all requests at this point. Tassi, *Pokémon GO’s Latest Plagues, supra* note 23 (“Niantic does not have the ability to sift through these [requests] one by one, and even if [it] did, understanding the exact context of some of these locations and why they should or [should not] be removed is close to impossible.”).

202. *See, e.g., Martin v. Brown*, 650 A.2d 937, 939–40 (Me. 1994).

203. *See id.* Historically, those states that do recognize the doctrine of co-trespass hold defendants liable when the defendants are on premises, directing others to trespass, or else relaying the order from a nearby location. *See, e.g., Axtell v. Kurey*, 634 N.Y.S.2d 847, 848 (App. Div. 1995); *Parker v. Kangerga*, 482 S.W.2d 43, 49–50 (Tex. Civ. App. 1972).

204. Indeed, some courts have advocated such abstention. *See Robert D. Lang, Pok’mon Go Raises a Variety of Liability Issues*, LAW J. NEWSLS. (Sept. 2, 2016), <http://www.law>

2. Identification of the Trespasser

Furthermore, the same problems that exist with traditional trespass also exist with the doctrine of co-trespass: trespassers must be positively identified before AR game creators can be held liable for causing them to trespass. As discussed previously, identifying trespassers is challenging for private landowners and law enforcement, which is why plaintiffs have sued Niantic and Nintendo rather than individual trespassers.²⁰⁵

3. Public Policy Considerations

Finally, in considering public policy, it might be undesirable to hold creators of AR games jointly and severally liable with those who trespass while playing their games. The threat of runaway liability could serve as a deterrent to any entrepreneurs who are considering entering the AR game marketplace and may stymie growth in that industry. Further, companies like Niantic that already have released AR games could be forced out of business because the heart of geolocation-based games, like Pokémon Go and Ingress, is the map feature. Forcing Niantic to remove PokéStops and Pokémon Gyms on pain of widespread litigation would eviscerate the game. Thus, although a co-trespass theory may progress further in court than other theories of trespass, it is unlikely to succeed because it would require expanding the doctrine of co-trespass, and there is legitimate cause for concern that such an expansion might result in runaway liability for AR game creators.

D. Nuisance: Virtual Enhancement of Localities within AR Mobile Games Creates a Public Nuisance

As an alternative to trespass, a nuisance theory might gain some traction in this context, but ultimately will fail.²⁰⁶ A nuisance claim against the creators of AR games likely would stem from the effect of virtually enhancing properties and placing virtual entities on properties within the context of the game: the virtual enhancements and virtual entities draw large crowds.

journalnewsletters.com/sites/lawjournalnewsletters/2016/09/01/pokmon-go-raises-a-variety-of-liability-issues/ [https://perma.cc/DZ39-TNSX].

205. See *supra* Part III(A)(1)–(2); see also Villas of Positano Complaint, *supra* note 158, at 1; Dodich Complaint, *supra* note 11, at 1; Marder Complaint, *supra* note 12, at 1.

206. Michael E. Chapnick, *For Many Condo Communities, Pokémon Go Quickly Becoming Pokémon No*, MIAMI DAILY BUS. REV., Aug. 17, 2016, at A8, LEXIS; Dryden, *supra* note 160.

Not only are these crowds typically noisy, but they also are unaware of their surroundings, inadvertently creating traffic jams in streets and on public sidewalks, blocking access to buildings, and producing large amounts of litter.²⁰⁷ Like the doctrine of trespass, the doctrine of nuisance bifurcates into two discrete categories—public and private nuisances. This Comment’s analysis will begin by addressing the former.

The label of “public nuisance” applies to an “invasion of public rights, which is to say, rights common to all members of the public.”²⁰⁸ Public nuisances normally result in criminal charges,²⁰⁹ but individuals may recover damages if they demonstrate a unique harm that is distinct from the harm that the general public suffers.²¹⁰ The Restatement (Second) of Torts suggests that the following types of situations may give rise to a public nuisance: conduct that significantly interferes with the public health, safety, peace, comfort, or convenience; conduct that is prohibited; or conduct that is ongoing or that has produced a permanent consequence that the actor has reason to believe will have a deleterious effect on the public.²¹¹ For example, in *Hoover v. Durkee*, residents of a rural community sought to permanently enjoin the defendant operators of an automobile racecar track because of the noise the racecars produced.²¹² The trial court held that the racetrack’s cumulative effect, both on the properties immediately surrounding the racetrack and on those several miles away, amounted to a public nuisance.²¹³ For these reasons, the appellate court affirmed the trial court’s issuance of a permanent injunction against the racetrack’s operations.²¹⁴ Similarly, in *Kempton v. City of Los Angeles*, homeowners sued the city of Los Angeles in an effort to force the city to remove a fence that the homeowners’ neighbors had erected on city property.²¹⁵ The appellate court held that the fence’s alleged interference with access to the street from the driveway was actionable as a public nuisance.²¹⁶ By contrast, courts have been less willing to extend the doctrine of public nuisance to activities in which defendants are several degrees removed from the conduct at issue.²¹⁷ For instance, in *People ex rel. Spitzer v. Sturm, Ruger & Co.*, a New York court refused to consider the

207. See, e.g., Villas of Positano Complaint, *supra* note 158, at 4–5.

208. RESTATEMENT (SECOND) OF TORTS ch. 40, introductory note, at 84 (AM. LAW INST. 1979).

209. *Id.*

210. *Id.* § 821C(1).

211. *Id.* § 821B(2)(a)–(c).

212. *Hoover v. Durkee*, 622 N.Y.S.2d 348, 348 (App. Div. 1995).

213. *Id.* at 349–50.

214. *Id.* at 351.

215. *Kempton v. City of Los Angeles*, 81 Cal. Rptr. 3d 852, 853–54 (Ct. App. 2008).

216. *Id.* at 856.

217. See, e.g., *People ex rel. Spitzer v. Sturm, Ruger & Co.*, 761 N.Y.S.2d 192, 201–03 (App. Div. 2003).

state's argument that the defendant's production of guns constituted a public nuisance.²¹⁸

With respect to AR mobile games, Coronado Island, California presents an isolated case study. On Coronado Island, tourists and locals alike flock to the median on Orange Street, the island's main thoroughfare, to capture Pokémon.²¹⁹ For a time, Pokémon Go players crowded on the median in peace.²²⁰ Yet, due to the rise in jaywalking, littering, and public urination on the median, the Coronado Police Department began issuing citations to clear the median.²²¹

The commotion on Coronado is most aptly characterized as a public nuisance.²²² Owing to the ongoing presence of virtual Pokémon on the Orange Street median, large crowds routinely gather on the median and attempt to remain there for extended periods of time.²²³ The presence of these crowds interferes with public safety, convenience, and peace. Incidents of jaywalking have spiked, endangering both pedestrians and drivers; crowds obstruct the sidewalks and streets as they attempt to access the median; and those playing the game frequently stay late into the night and produce excessive noise.²²⁴ If the homeowners in *Kempton*, who complained of a fence

218. *Id.* at 204. In *Spitzer*, the state sued defendant corporations, who make handguns, alleging that the corporations created a nuisance by their manufacturing, marketing, and distributing process. *Id.* at 194. The court held that the corporations' alleged conduct failed to support a claim for public nuisance. *Id.* at 201. *But see* City of Gary *ex rel.* King v. Smith & Wesson Corp., 801 N.E.2d 1222, 1222 (Ind. 2003) (holding that the city could bring public nuisance claims against handgun manufacturers, wholesalers, and retailers due to distributors' and manufacturers' knowledge of and failure to mitigate dealers' engagement in illegal sales).

219. See Salvador Rivera, *Coronado Cracking Down on 'Pokemon Go' Players*, FOX 5 SAN DIEGO (Aug. 18, 2016, 10:53 PM), <http://fox5sandiego.com/2016/08/18/pokemon-go-has-become-a-nuisance-in-coronado/> [https://perma.cc/343R-UDE8].

220. See Vincent Farnsworth, *Pokémon Goes to Coronado and Stays There*, SAN DIEGO READER (Aug. 29, 2016, 11:24 AM), <http://www.sandiegoreader.com/news/2016/aug/25/stringers-pokemon-goes-coronado-and-stays-there/#> [https://perma.cc/GQD4-42TE].

221. See Rivera, *supra* note 219. However, the police apparently enforce the rules selectively. Local players say that police refuse to permit anyone to set up tents on the median, but that police will not actively chase anyone off the median until 11 PM.

222. See RESTATEMENT (SECOND) OF TORTS § 821B (AM. LAW INST. 1979).

223. Sylvester, *supra* note 11; Brandi Williams, *'Pokemon Go' Craze Taking over Coronado, Creating Traffic Issues*, KUSI NEWS (Aug. 31, 2016, 9:18 PM), <http://www.kusi.com/story/32846145/pokemon-go-craze-taking-over-coronado-creating-traffic-issues> [https://perma.cc/NF2T-YV27].

224. Chris Jennewein, *Coronado Police Issue Friendly Pokémon Go Warning*, TIMES SAN DIEGO (July 14, 2016), <http://timesofsandiego.com/crime/2016/07/14/coronado-police-issue-friendly-pokemon-go-warning/> [https://perma.cc/4VS9-LTEV]; Laura McVicker, *Pokemon*

partially blocking a driveway, successfully stated a cause of action for public nuisance, the crowds on the Orange Street median certainly qualify as a public nuisance.²²⁵

The chief issue is whether an AR purveyor, such as Niantic, could be held liable for creating the nuisance. Arguably, the causal chain is more direct than that presented in *Spitzer*, where the state unsuccessfully argued that the manufacturing and distribution of guns created a public nuisance. In contrast, Niantic has created the condition for the hotspot on the Orange Street median, which has produced the public nuisance. Niantic's algorithms in Pokémon Go are causing Pokémon to spawn on the median, and the application is then flagging the Pokémon's appearance for players. This would be akin to the gun manufacturer in *Spitzer* selling the guns to gang members and then notifying those gang members precisely where rival gang members are located. Considering that Pokémon Go is designed to be communal, Niantic appears to have little plausible deniability that it did not expect that crowds of people would attempt to access the Orange Street median.

Proving that the conditions for a public nuisance exist is the easy part. Far more difficult is the task of convincing a court to enlarge the doctrine of public nuisance to hold entities that are remote instigators liable for the creation of those public nuisances.²²⁶ Although the majority of courts have addressed cases involving public nuisances that arose locally within the state where the suit was brought, at least one court has addressed the issue of a public nuisance caused by a remote, non-resident actor.²²⁷ In *City of Gary ex rel. King v. Smith & Wesson Corp.*, the Indiana Supreme Court held that the city could bring suit for public nuisance against a defendant Massachusetts gun manufacturer for its knowing failure to curb illegal sales of guns in Gary, Indiana.²²⁸ The court recognized that the test for public nuisance should be whether a public nuisance occurred, rather

Players Pose Traffic Hazards in Coronado, NBC 7 SAN DIEGO (Aug. 23, 2016, 1:03 PM), <http://www.nbcsandiego.com/news/local/Pokemon-Posing-Traffic-Hazards-in-Coronado-391069171.html> [<https://perma.cc/FV6Q-NMT4>].

225. See RESTATEMENT (SECOND) OF TORTS § 821B (AM. LAW INST. 1979).

226. When courts impose liability for the creation of a public nuisance, the actor that created the nuisance usually is within the immediate vicinity of the public that is affected by the condition. See, e.g., *Kempton v. City of Los Angeles*, 81 Cal. Rptr. 3d 852, 853–54 (Ct. App. 2008); *People ex rel. Gallo v. Acuna*, 929 P.2d 596, 602 (Cal. 1997) (upholding an injunction barring nonresident gang members from engaging in specific activities in the neighborhood, including congregating in public with fellow gang members); *Hoover v. Durkee*, 622 N.Y.S.2d 348, 348 (App. Div. 1995).

227. *City of Gary ex rel. King v. Smith & Wesson Corp.*, 801 N.E.2d 1222, 1227 (Ind. 2003). *Smith & Wesson Corp.* is incorporated in Nevada and headquartered in Massachusetts. *Smith & Wesson Holding Corp.*, Current Report (Form 8-K) (Mar. 16, 2015).

228. *City of Gary*, 801 N.E.2d at 1227.

than whether the actor causing the public nuisance owned land in that state.²²⁹ Although the Indiana decision seems at odds with the approach taken by the majority of states, the Indiana approach nonetheless offers a model that is apt for the problems of remote AR purveyors.²³⁰ AR game creators, like Niantic, are engaged in activities outside the jurisdictions in which most of their effects are felt.²³¹ Niantic's algorithms cause virtually-enhanced locations to populate across the country, though nothing physically crosses a state's borders.²³² Under the Indiana approach, the fact that California-based Niantic causes a PokéStop to spawn in Indiana that then creates a public nuisance presumably would not bar an Indiana plaintiff from suing Niantic in Indiana.²³³ The nuisance occurred in Indiana even though Niantic was a remote actor that did not own land in Indiana.²³⁴ All of this being said, holding the creator of an AR game liable for the creation of a public nuisance in some remote part of the country would represent an unprecedented extension of the doctrine of public nuisance—one that most courts currently would be reluctant to make.

E. Private Nuisance

Similarly, the other primary nuisance doctrine—private nuisance—poses some of the same issues. A private nuisance is strictly tortious and is defined

229. *Id.* at 1232. The court noted:

We are not persuaded that a public nuisance necessarily involves either an unlawful activity or the use of land. Defendants cite no Indiana case that establishes this requirement, but point out that all Indiana cases to date have fallen into one of these two categories. We think that is due to the happenstance of how the particular public nuisance actions arose and not to any principle of law.

Id.

230. *See, e.g.,* *People ex rel. Spitzer v. Sturm, Ruger & Co.*, 761 N.Y.S.2d 192, 195 (App. Div. 2003).

231. Niantic is headquartered in San Francisco, California. Niantic, Inc., No. 15-676722, Statement of Information (Form F) (Cal. Sec'y of State Aug. 14, 2015); *Company Overview of Niantic, Inc.*, BLOOMBERG, <http://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=314238636> [https://perma.cc/Y8GN-CDEK]. Niantic's algorithm has caused PokéStops and Pokémon Gyms to populate all over the globe. Alina Bradford, *Here Are All the Countries Where Pokémon Go Is Available*, CNET (Jan. 24, 2017, 10:13 AM), <https://www.cnet.com/how-to/pokemon-go-where-its-available-now-and-coming-soon/> [https://perma.cc/765G-UFSJ].

232. Benny Evangelista, *SF Company Niantic Behind 'Pokémon Go' Sensation*, S.F. CHRON. (July 11, 2016, 4:47 PM), <http://www.sfchronicle.com/business/article/San-Francisco-company-Niantic-behind-Pokemon-8353024.php> [https://perma.cc/CTU3-QQLS].

233. *See City of Gary*, 801 N.E.2d at 1234; Evangelista, *supra* note 232.

234. *See City of Gary*, 801 N.E.2d at 1234.

as “a nontrespassory invasion of another’s interest in the private use and enjoyment of land.”²³⁵ Recovery of damages is restricted to those individuals with property rights with respect to “the use and enjoyment of the land affected, including (a) possessors of the land, (b) owners of easements and profits in the land, and (c) owners of nonpossessory estates in the land that are detrimentally affected by interferences with its use and enjoyment.”²³⁶ For a plaintiff to succeed on a claim for private nuisance, the plaintiff must allege an injury in fact; fear of future injury is insufficient.²³⁷ For instance, in *Zimmerman v. Carmack*, plaintiff homeowners sued their neighbors, alleging that their neighbors’ habit of leaving a stereo outside of their house with the speakers blaring and permitting their garbage to accumulate and overflow onto plaintiffs’ property amounted to a private nuisance.²³⁸ The court held that plaintiffs sufficiently pleaded a cause of action for private nuisance, citing the noise produced by the stereo and the offensive odor from the garbage as injuries in fact.²³⁹

Further, conduct typically must be ongoing to rise to the status of a private nuisance. In *Schneider National Carriers, Inc. v. Bates*, local residents sued an industrial plant operator for damages that the plant’s emissions caused.²⁴⁰ The court found that plaintiffs had sufficiently alleged a permanent nuisance for purposes of the statute of limitations.²⁴¹ However, the court in *Anderson v. Elliott* found that the intermittent presence of a television crew filming near plaintiffs’ property did not substantially interfere with the use and enjoyment of plaintiffs’ property and, thus, did not constitute a private nuisance.²⁴²

Finally, authority figures with the power to prevent the creation of a private nuisance may be liable if they fail to act.²⁴³ In *Birke v. Oakwood Worldwide*, a resident sued her apartment complex manager for private nuisance in the form of secondhand tobacco smoke that residents adjacent to the common area routinely inhaled.²⁴⁴ The court held that the plaintiff

235. RESTATEMENT (SECOND) OF TORTS § 821D (AM. LAW INST. 1979).

236. *Id.* § 821E.

237. See *Koll-Irvine Ctr. Prop. Owners Ass’n v. County of Orange*, 29 Cal. Rptr. 2d 664, 667–68 (Ct. App. 1994). In *Koll-Irvine Center*, an industrial park property owners association sued a county and a corporation for creating a private nuisance through the construction of airport fuel tanks 100 feet from the industrial park. *Id.* at 666. The court held that the plaintiffs could not maintain a cause of action for private nuisance because the plaintiffs were complaining solely about their fear of future injury. *Id.* at 667–68.

238. *Zimmerman v. Carmack*, 739 N.Y.S.2d 430, 432 (App. Div. 2002).

239. See *id.*

240. *Schneider Nat’l Carriers, Inc. v. Bates*, 147 S.W.3d 264, 268–69 (Tex. 2004).

241. *Id.* at 290.

242. *Anderson v. Elliott*, 807 N.Y.S.2d 101, 102 (App. Div. 2005).

243. *Birke v. Oakwood Worldwide*, 87 Cal. Rptr. 3d 602, 612 (Ct. App. 2009).

244. *Id.*

had stated a cause of action for private nuisance against the apartment complex's management for permitting residents to smoke in the common area.²⁴⁵

When individuals playing AR games enter private apartment complexes or gather outside of homes or properties, the conduct of those playing the game likely rises to the status of a private nuisance.²⁴⁶ People playing AR games frequently wander onto private property or congregate outside of a location that has been virtually enhanced within the world of the game.²⁴⁷ This barrage of visitors disrupts home life and interferes with business, especially because these visitors frequently arrive after-hours.²⁴⁸ For example, in the Dodichs' complaint, the couple alleges that Pokémon Go has turned their neighborhood into a "nightmare."²⁴⁹ People playing the game habitually wander into the couples' cul-de-sac, blocking driveways and walking across lawns as they attempt to capture Pokémon.²⁵⁰

Another particularly well-known example involves a Massachusetts man who discovered that his home—a former church constructed in the nineteenth century—had been designated as a Pokémon Gym.²⁵¹ Following Pokémon Go's release, the Massachusetts home experienced an influx of unexpected visitors, particularly after dark.²⁵² The homeowner tweeted, "[f]or the record,

245. *Id.*

246. *See* RESTATEMENT (SECOND) OF TORTS § 821D (AM. LAW INST. 1979).

247. *See, e.g.*, Associated Press, 'Pokemon Go' Players Trespassing, Risking Arrest, CBS DFW (July 13, 2016, 3:02 PM), <http://dfw.cbslocal.com/2016/07/13/pokemon-go-players-trespassing-risking-arrest/> [<https://perma.cc/R7AE-46CK>].

248. *See, e.g.*, Adam Snider, "Be Mindful of the City Ordinances," *Pokemon Go Players Cited for Late Night Hunts*, KFOR (July 13, 2016, 10:21 PM), <http://kfor.com/2016/07/13/be-mindful-of-the-city-ordinances-pokemon-go-players-cited-for-late-night-hunts/> [<https://perma.cc/RD39-4VAM>].

249. *See* Dodich Complaint, *supra* note 11, at 4.

250. *See id.* at 4–5; *see also* Eder Campuzano, *Residential 'Pokemon Go' Landmarks That Prove a Nuisance Can Now Be Removed*, OR. LIVE (July 29, 2016, 7:26 PM), http://www.oregonlive.com/trending/2016/07/get_nuisance_pokestops_removed_pokemon_go.html [<https://perma.cc/FL96-R6MS>]; Nina Godlewski, 'Pokémon GO' Players Are Invading Their Neighbors' Yards in the Pursuit to 'Catch Them All,' BUS. INSIDER (July 7, 2016, 3:26 PM), <http://www.businessinsider.com/pokemon-go-fans-trespassing-while-playing-game-2016-7> [<https://perma.cc/G2MG-LAYH>].

251. Madeline Bills, *This Church-Turned-House Is Also Unwillingly a Pokémon Gym*, BOS. MAG. (July 11, 2016, 4:50 PM), <http://www.bostonmagazine.com/property/blog/2016/07/11/church-house-pokemon-go-gym/> [<https://perma.cc/L3JF-Z5NW>]; Stephanie McNeal, *People Are Flocking to This Guy's House Because It's a Gym on Pokémon Go*, BUZZFEED (July 10, 2016, 2:41 PM), https://www.buzzfeed.com/stephaniemcneal/pokemon-go-house?utm_term=.yxDjZxKK8b#.np0yMQ7762 [<https://perma.cc/NRF9-39LE>].

252. *See* McNeal, *supra* note 251.

I've counted [fifteen] people stopping by and lingering [on] their phones so far. I think at least three car visits as well."²⁵³ High foot traffic outside the home is the predominant side effect of this Pokémon Gym, but other property owners struggle with more egregious consequences. A Florida condominium sued Niantic for designating a PokéStop inside its complex.²⁵⁴ In its complaint, the complex describes a surge of after-hours visitors who leave trash on the premises and relieve themselves in the bushes.²⁵⁵ To keep non-resident players out of the complex, the complex hired off-duty police officers to patrol the complex between 11 pm and 4 am.²⁵⁶

Although the condominium had legitimate grievances when it filed its complaint, the frequency and volume of Pokémon Go players visiting privately-owned locations has slowed since the game's release.²⁵⁷ For a private nuisance action to lie, the problematic conduct usually must persist for more than a few weeks.²⁵⁸ Consequently, characterizing Pokémon Go players' activities as an "ongoing" or "permanent" issue may be a stretch.

Setting the continuity issue aside, the chief issue is holding an AR purveyor, like Niantic, liable for creating a private nuisance. The position of private property owners, whose properties have been virtually enhanced within Pokémon Go, is strengthened by Niantic's response to complaints—or rather, Niantic's lack of response. Although Niantic urges individuals to report problematic and unwanted locations online, many property owners claim that Niantic repeatedly ignores private property owners' requests to

253. *Id.*

254. *See* Villas of Positano Complaint, *supra* note 158, at 4–5; *see also* Emily Field, *Pokémon Go Has Made Life Hell at Calif. Condo, Suit Says*, LAW 360 (Sept. 2, 2016, 7:48 PM), <http://www.law360.com/articles/836285/pokemon-go-has-made-life-hell-at-calif-condo-suit-says> [<https://perma.cc/C7M7-67W3>] (Condominium is in Hollywood, Florida, not Hollywood, California).

255. *See* Villas of Positano Complaint, *supra* note 158, at 4.

256. *See id.* at 5.

257. However, if Pokémon Go's updates successfully reignite the Pokémon Go mania, then plaintiffs would have a stronger case that the issues deriving from players' activities have been ongoing. In November 2016, Pokémon Go released an update that enables players to accrue substantial additional experience points each day, which allows players to advance in the game more rapidly. Alex Perry, *Pokémon Go Is Giving Players One of the Features They've Been Asking for*, BUS. INSIDER (Nov. 2, 2016, 4:17 PM), <http://www.businessinsider.com/pokemon-go-adding-daily-bonuses-2016-11> [<https://perma.cc/JZV8-E4AJ>]. To maintain its presence in the press, Niantic continues to float out teasers of updates to come, which also serves to hold players' interest in the game. Paul Tassi, *'Pokémon GO' Will Add 100 New Gen 2 Pokémon, but When?*, FORBES (Nov. 10, 2016, 9:58 AM), <http://www.forbes.com/sites/insertcoin/2016/11/10/pokemon-go-will-add-100-new-gen-2-pokemon-but-when/#4762d9be3a3b> [<https://perma.cc/7EWZ-CUJ6>].

258. *See* Anderson v. Elliott, 807 N.Y.S.2d 101, 102–03 (App. Div. 2005); Schneider Nat'l Carriers, Inc. v. Bates, 147 S.W.3d 264, 290–91 (Tex. 2004).

purge their properties from the list of PokéStops and Pokémon Gyms.²⁵⁹ This alleged inaction prompted both the Dodich and Villas of Positano Condominium Association suits. Niantic is the only entity with the power to remove PokéStops and Pokémon Gyms from a location. Admittedly, Niantic's efforts to remove inappropriate locations eliminated some of the more egregious PokéStops and mitigated issues with other dangerous locations,²⁶⁰ but some Pokémon-Go-induced private nuisances remain unabated. Applying the logic of *Birke*, Niantic arguably permitted private nuisances to develop and, in some instances, allegedly still refuses to take action to alleviate the problems, *i.e.*, removing the PokéStop or Pokémon Gym. Ryan Calo, a professor at the University of Washington School of Law, asserted: "When you put a Pokémon gym in someone's house, you have to know that that person's going to be bothered, harassed [I]t's readily foreseeable that people would be a nuisance."²⁶¹

Yet again, the same problems that exist with holding creators of AR games liable for public nuisances also exist with respect to private nuisances.²⁶² Those who create private nuisances typically live within the immediate vicinity because they have created a condition that interferes with the use and enjoyment of others' lands.²⁶³ By contrast, creators of AR games may live hundreds or thousands of miles away from the nuisance. Although courts that have applied the doctrine of private nuisance have done so in the context of an actor in close proximity to the harm caused,²⁶⁴ such proximity does not appear to be a requisite element of the claim.²⁶⁵ For this reason, the Indiana Supreme Court's reasoning in *City of Gary*—namely, that the actor causing a nuisance need not be physically located near the nuisance—seemingly also could apply to a private nuisance.²⁶⁶ The doctrine of private

259. See Adi Robertson, *What Can You Do When Pokémon Go Decides Your House Is a Gym?*, VERGE (July 12, 2016, 4:46 PM), <http://www.theverge.com/2016/7/12/12159422/pokemon-go-turned-house-into-gym-augmented-reality-privacy> [<https://perma.cc/538G-Z2WK>] ("[A]n older version of the support page said to only report locations that pose an immediate physical danger.").

260. Tassi, *Pokémon GO's Latest Plagues*, *supra* note 23.

261. See Robertson, *supra* note 259.

262. See *supra* Part III(D).

263. See, e.g., *Zimmerman v. Carmack*, 739 N.Y.S.2d 430, 431 (App. Div. 2002); RESTATEMENT (SECOND) OF TORTS § 821D (AM. LAW INST. 1979).

264. See, e.g., *Schneider Nat'l Carriers, Inc. v. Bates*, 147 S.W.3d 264, 268–69 (Tex. 2004); *Zimmerman*, 739 N.Y.S.2d at 431.

265. RESTATEMENT (SECOND) OF TORTS § 821D (AM. LAW INST. 1979).

266. *City of Gary ex rel. King v. Smith & Wesson Corp.*, 801 N.E.2d 1222, 1232–34 (Ind. 2003).

nuisance, thus, appears capable of embracing the activities of those playing Pokémon Go,²⁶⁷ and the adoption of the Indiana model would provide a mechanism for holding creators of AR games liable for private nuisances that the applications cause.²⁶⁸

Nevertheless, holding AR game purveyors, like Niantic, liable for players' activities could be viewed as rendering the doctrine of private nuisance too elastic. Were that to happen, large tech companies conceivably could be sued for the consequences of users' misuse of their product on a record scale. As the world becomes more dependent on technology, exposing developers of that technology to liability for players or users who abuse or misuse the product is not necessarily desirable. Such a shift would place an onerous burden upon tech companies to micromanage those who receive their products for fear of liability, and would deemphasize the responsibility of the individual end users or end players.

F. Attractive Nuisance

Finally, some propose that Pokémon Go and other AR games may constitute an attractive nuisance, given that a significant percentage of those using the Pokémon Go application are children under the age of ten.²⁶⁹ If virtual Pokémon, PokéStops, or Pokémon Gyms were classified as attractive nuisances, then the presence of these virtual entities in the world of Pokémon Go could result in the real property owners of the corresponding real property locations being held liable for any injury children sustain chasing Pokémon on their premises. Whether this is a possibility turns on the construction of the doctrine of attractive nuisance—namely, the definition of “artificial condition.”

The Restatement (First) of Torts indicates that anyone who possesses land is “subject to liability for bodily harm to young children trespassing thereon caused by a structure or other artificial condition which he maintains upon the land”²⁷⁰ For liability to obtain, four conditions must be satisfied: (1) the possessor knows or should know that children are likely to trespass where the condition is maintained; (2) the possessor knows or should know, and realizes or should realize, the condition involves an unreasonable risk of death or serious bodily harm to children; (3) the children do not discover

267. See RESTATEMENT (SECOND) OF TORTS § 821E (AM. LAW INST. 1979).

268. See *City of Gary*, 801 N.E.2d at 1232–34.

269. See Alex Ackerman, *Pokémon Go & Attractive Nuisance*, GERBERS L. (July 18, 2016), <http://www.gerberslaw.com/pokemon-go-the-law/> [<https://perma.cc/D9U4-KAE6>]; *Keeping Pokémon Go Cyber Fun from Causing Real-World Liability*, MCNEES L. (Aug. 2, 2016), <http://www.mcneeslaw.com/keeping-pokemon-go-cyber-fun-causing-real-world-liability/> [<https://perma.cc/RGD5-X6LR>].

270. RESTATEMENT (FIRST) OF TORTS § 339 (AM. LAW INST. 1934).

the condition or realize the risk involved in intermeddling in the condition, or in coming within the area made dangerous by the condition, because the children are young and inexperienced; and (4) the utility the possessor derives from the artificial condition is slight as compared to the risk it poses to young children.²⁷¹ Artificial conditions often take the form of recreational structures, such as swimming pools, trampolines, tree houses, and old tire swings.²⁷² The presence of the condition does not have to precipitate the children's entrance onto the property.²⁷³

In *King v. Lennen*, the plaintiffs' eighteen-month-old son drowned in the defendants' artificial swimming pool when he entered the defendants' property at the defendants' invitation, even though the defendants were absent from the premises.²⁷⁴ Located thirty feet from the street, the defendants' pool was three-and-a-half feet deep at the shallow end, nine feet deep at the deep end, and was filled with murky water.²⁷⁵ Children frequently entered the premises to play in and around the pool with the defendants' animals, which were permitted to roam freely.²⁷⁶ The court held that the defendants' pool constituted an attractive nuisance because it posed an unreasonable risk of harm to children—a harm that children could not appreciate.²⁷⁷ Of course, the doctrine of attractive nuisance also applies to businesses. In *Texas Utilities Electric Co. v. Timmons*, the court held that a ninety-foot electric transmission tower was not an attractive nuisance to a fourteen-year-old boy because someone of that age ought to have known the risks posed by climbing such a tower after consuming alcohol.²⁷⁸

The virtual Pokémon, PokéStops, and Pokémon Gyms of Pokémon Go do not appear to meet the definition of an artificial condition and, therefore, are unlikely to be considered attractive nuisances. Although virtual entities certainly are artificial, they are neither structures nor artificial conditions that are physically attached to the land, as a swimming pool is. For instance, in *Martinelli v. Peters*, a Pennsylvania court held that a riding lawnmower

271. *Id.*

272. *See King v. Lennen*, 348 P.2d 98, 100–01 (Cal. 1959) (swimming pool); *Morningstar v. Maynard*, 798 N.E.2d 920, 923 (Ind. Ct. App. 2003) (trampoline); *Kessler v. Mortenson*, 16 P.3d 1225, 1230 (Utah 2000) (residential construction site).

273. *See* RESTATEMENT (FIRST) OF TORTS § 339 cmt. a (AM. LAW INST. 1934).

274. *King*, 348 P.2d at 99.

275. *Id.*

276. *Id.*

277. *See id.* at 100–01.

278. *Tex. Utils. Elec. Co. v. Timmons*, 947 S.W.2d 191, 194 (Tex. 1997) (quoting *Cloud v. Houston Lighting & Power Co.*, 199 S.W.2d 260, 262 (Tex. Civ. App. 1947)).

did not qualify as an attractive nuisance because a lawnmower is neither a structure nor an artificial condition.²⁷⁹ By analogy, a virtual Pokémon or PokéStop that does not even have the physical presence of a lawnmower would not meet the definition of an artificial condition. Further, the attractive nuisance doctrine requires that the artificial condition be the source of harm.²⁸⁰ Pokémon are virtual entities and, therefore, cannot cause physical harm.²⁸¹

Aside from Pokémon Go's apparent inability to satisfy the doctrinal criteria for an attractive nuisance, imposing liability probably would do more harm than good. Property owners often have no control over whether a virtual Pokémon or PokéStop is within their properties. Holding property owners liable for the presence of virtual entities on their property potentially would expose nearly every person in the world to liability and would encourage unchecked litigation. Moreover, it would be absurd to require every property owner to perform a daily check to make sure that no virtual monsters have crept into their front yards. In short, attractive nuisance does not appear to be a viable theory, from both practical and public policy perspectives.

IV. PROPOSAL

A. *Virtual Prescriptive Easement*

Given AR game creators' behavior, their actions are best described as taking "virtual prescriptive easements." The Restatement (First) of Property: Servitudes indicates that a prescriptive easement is "created by such use of land, for the period of prescription, as would be privileged if an easement existed, provided the use is (a) adverse, and (b) for the period of prescription, continuous and uninterrupted."²⁸² In simpler terms, a prescriptive easement

279. *Martinelli v. Peters*, 198 A.2d 530, 531 (Pa. 1964) (quoting *Bartleson v. Glen Alden Coal Co.*, 64 A.2d 846, 852 (Pa. 1949); RESTATEMENT (FIRST) OF TORTS § 339 (AM. LAW INST. 1934)).

280. See RESTATEMENT (FIRST) OF TORTS § 339 (AM. LAW INST. 1934).

281. Rather than the virtual Pokémon characters, what actually causes harm to children is inattention: just as adults walk around with their eyes glued to their smartphones, children playing this game are unlikely to pay attention to their surroundings. See Christopher Dawson, *A Parent's Guide to Pokémon Go*, CNN (July 29, 2016, 4:34 PM), <http://www.cnn.com/2016/07/21/health/pokemon-go-advice-for-parents/> [<https://perma.cc/V3TT-9EFX>]. Landowners should not be held liable for the child's carelessness in wandering onto a stranger's premises in search of Pokémon. That being said, if children were to enter someone's yard to play on a rotting recreational structure, and they began playing Pokémon Go while on that structure, then the children likely would have a cause of action for attractive nuisance if they were injured. This is because the rotting, old play structure—and not the Pokémon—initially attracted them onto the property. See *King v. Lennen*, 348 P.2d 98, 100–01 (Cal. 1959).

282. RESTATEMENT (FIRST) OF PROP.: SERVITUDES § 457 (AM. LAW INST. 1944). The Restatement (Second) of Property deals exclusively with landlord and tenant issues and

arises when an individual openly and adversely makes limited use of another's land continuously throughout the statutory period.²⁸³ Prescriptive easements most commonly occur when Neighbor B routinely cuts across part of Neighbor A's land, and Neighbor A both knows about Neighbor B's shortcut and fails to object.²⁸⁴ If Neighbor B continues to use this shortcut across Neighbor A's land for a sufficient period of time, the court will hold that Neighbor B has acquired a limited right of use of Neighbor A's land, or a prescriptive easement.²⁸⁵

A virtual prescriptive easement, then, would be an easement across a landowner's real-world property within the virtual world. The virtual location in a virtual world that corresponds with a physical location in the real world is both potential advertising space and a prime site for a virtually-enhanced game feature. In theory, businesses could cover every inch of someone's property with virtual advertisements and instruct viewers to perform any number of activities. Likewise, creators of AR games, such as Pokémon Go, can designate any location in the world as a virtually-

does not discuss prescriptive easements. The Restatement (Third) of Property: Servitudes defines a prescriptive easement as being created "by a prescriptive use of land, as that term is defined in § 2.16, if the prescriptive use is: (1) open or notorious, and (2) continued without effective interruption for the prescriptive period." RESTATEMENT (THIRD) OF PROP.: SERVITUDES § 2.17 (AM. LAW INST. 2000). Further, a prescriptive use is "a use that is adverse to the owner of the land or the interest in land against which the servitude is claimed." *Id.* § 2.16(1). The Restatement (Third) of Property: Servitudes later elaborates:

Except as limited by the terms of the servitude determined under § 4.1, the holder of an easement . . . as defined in § 1.2 is entitled to use the servient estate in a manner that is reasonably necessary for the convenient enjoyment of the servitude. The manner, frequency, and intensity of the use may change over time to take advantage of developments in technology and to accommodate normal development of the dominant estate or enterprise benefited by the servitude. Unless authorized by the terms of the servitude, the holder is not entitled to cause unreasonable damage to the servient estate or interfere unreasonably with its enjoyment.

Id. § 4.10. This means that, with respect to private prescriptive easements gained through adverse possession and subsequent judicial ratification, the boundaries recognized in the court's order define the scope of the easement. However, as the land changes and technology advances, modifications can be made to the land covered by the easement so that the easement can continue serving its purpose. For instance, if the easement encompasses a sidewalk and the concrete slabs break, the holder of the easement can repair the sidewalk. *See id.* § 4.10 cmt. e.

283. SPRANKLING & COLETTA, *supra* note 137, at 691.

284. *See* 28A C.J.S. *Easements* § 23 (2008).

285. *See id.*

enhanced location and require players to complete certain missions or tasks to advance in the game.²⁸⁶

However, before an AR game creator can appropriate a property interest, a property interest must exist. At present, landowners do not have any recognized property interest in what is posted in the virtual space within their real-world properties.²⁸⁷ The first step, then, in protecting landowners is to recognize that owners have rights in that virtual space. Given that AR applications access a smartphone's camera to project a virtual image onto the real-world location, plaintiffs could argue that they have a property interest in the "image" of the real property. Much like a right of publicity that gives famous individuals "assignable and descendible right[s] in the commercial value of their names, likenesses, and other identifying characteristics," a property right in the virtual space within a physical property would give the landowner a right in the commercial value of the virtual space.²⁸⁸ Admittedly, recognizing such a commercial right could create issues for other companies that routinely display images of private properties without permission, such as Google. Google's Maps and Earth applications permit users to view a location from the street-level by displaying real-time photos of public and private properties. What distinguishes Google Maps from AR advertising applications is that the former does not appropriate the images of private properties for advertising purposes. Separating those companies that merely show images of private properties for public benefit, such as Google Maps, from those that virtually augment private properties with advertisements or gaming components for their own commercial benefit, such as Niantic, would produce a bright line test.

B. Long-term Solutions

For a more permanent solution, state legislatures will need to take action.²⁸⁹ Guided by principles of the Restatements (First) and (Third) of Property, state legislatures could enact a statute creating a virtual prescriptive easement, thereby recognizing that owners of real property have an ownership interest

286. See *supra* Part II(B)–(C).

287. See Dryden, *supra* note 160.

288. Michael Madow, *Private Ownership of Public Image: Popular Culture and Publicity Rights*, 81 CAL. L. REV. 127, 127 (1993).

289. An Illinois State Representative has introduced a bill that would fine Niantic for failing to remove a PokéStop upon the owner's request. See Heath, *supra* note 22. In its current form, the act appears unlikely to pass because its proposed timeframe for removing PokéStops and Pokémon Gyms—two business days—seems unreasonable. See *id.* Compared to the games they have produced, the creators of AR games are tiny operations. It would be infeasible for Niantic to remove all problematic stops within two business days, as it may take two business days for the game makers even to become aware that a location is problematic. See Pidgey's Law, HB 6601, 99th Gen. Assemb. (Ill. 2015–2016).

in the virtual space within their real property.²⁹⁰ Such a statute would describe the conditions under which the creator of an AR game or application may take an easement over the virtual space that exists within the landowner's physical property.²⁹¹ The effect of such a statute would be thus: AR game

290. See RESTATEMENT (THIRD) OF PROP.: SERVITUDES §§ 2.16–.17 (AM. LAW INST. 2000); RESTATEMENT (FIRST) OF PROP.: SERVITUDES § 457 (AM. LAW INST. 1944). Because the Restatement (Second) of Property does not address prescriptive easements, I rely upon the definitions of a prescriptive easement found in the Restatements (First) and (Third) of Property, which include all of the classic elements of a prescriptive easement.

291. At this point, some may be wondering whether a public prescriptive easement would provide a better model of acquisition than the traditional model of acquiring a private prescriptive easement through adverse possession. Public prescriptive easements are similar to private prescriptive easements in the sense that the easement is taken over private land. 2 AM. JUR. PROOF OF FACTS 3D 197 § 2 (1988). As its name implies, the critical difference is that public easements are taken by the public, meaning that anyone would be at liberty to traverse the land delineated by the public easement for the purpose of getting from point A to point B. See *id.* A common location of a public easement is the beach. RESTATEMENT (THIRD) OF PROP.: SERVITUDES § 2.18 cmts. f–g (AM. LAW INST. 2000). Public prescriptive easements prevent those homeowners living in homes abutting the beach from banning the public from using the beach. See *id.* Plaintiffs seeking to prove the existence of a public prescriptive easement must establish the same elements as those plaintiffs seeking to prove the existence of a private prescriptive easement. See *id.* § 2.18 cmt. f. Notably, plaintiffs must present “evidence of continuous use sufficient to constitute a benefit to the community as a whole.” 2 AM. JUR. PROOF OF FACTS 3D 197 § 4 (1988). To avoid the inconvenience of waiting out the period of prescription, governmental actors also can make dedications, contracts, and conveyances that create servitudes for the public benefit. RESTATEMENT (THIRD) OF PROP.: SERVITUDES § 2.18 cmt. b (AM. LAW INST. 2000). These methods typically are governed by statutes and have the effect of setting aside land for limited public use. See *id.* Another common method by which governmental actors acquire land is through the process of condemnation. 29A C.J.S. *Eminent Domain* § 256 (2007). “Condemnation is the procedure by which the sovereign exercises its right to take property of a private owner for public use, without consent, but upon the payment of just compensation, creating a new title in the process.” *Id.* Courts have held that governmental actors have the power to acquire property for public use. See *County of Hawai’i v. C & J Coupe Family Ltd.*, 242 P.3d 1136, 1152 (Haw. 2010); *Russell v. Trs. of Purdue Univ.*, 168 N.E. 529, 533–35 (Ind. 1929); *Johnson v. City of Baltimore*, 148 A. 209, 212 (Md. 1930). A sovereign’s power to condemn property derives from statutes. See 29A C.J.S. *Eminent Domain* § 256 (2007). Condemnation, public prescriptive easements and dedications of land for public benefit, though similar to private prescriptive easements, do not provide an appropriate framework for virtual prescriptive easements. Whereas the public obtains public easements and condemnations and dedications of land for public benefit, which are intended to benefit everyone, a single game creator, like Niantic, would obtain and benefit from a virtual prescriptive easement. It would seem unwise to set the precedent that the public has the right to make use of the virtual space over all private property, as it would invite the creation of more virtual structures, like PokéStops, over private properties rather than deterring them. Further, the method of acquisition is fundamentally different between that of private prescriptive easements and those of dedications of land

creators, like Niantic, can continue placing virtual enhancements on privately-owned property. Assuming that AR game creators still afford private property owners the opportunity to submit formal complaints about the presence of virtual enhancements on their properties, private property owners and AR game creators will have a costless way of resolving the issue. Recent experiences with Pokémon Go, however, have illustrated that AR game creators do not always accede to those requests.²⁹² In the event that a private property owner's request is ignored, before the end of the period of prescription, those owners who do not wish to have virtually-enhanced properties will have a right to obtain an injunction against the AR game creator to force the removal of the virtual enhancements.²⁹³ If the private property owner does not object to the virtual enhancement, then the owner need not take action.

As with any prescriptive easement, the AR game creator will need to sue for a declaration to prove the existence of a virtual prescriptive easement at the end of the period of prescription. If those property owners do not mind the presence of the virtual enhancements, they need not answer the AR game creator's complaint, in which case the game creator will obtain a declaration by default. Undeniably, this process would be cumbersome and expensive for AR game creators because they potentially would be required to bring hundreds of thousands—possibly millions—of suits to prove that they have taken virtual prescriptive easements over private properties. Yet, the necessity of litigating would have a deterrent effect that would incentivize AR game creators to investigate which properties are being virtually enhanced and, perhaps, to seek permission from the property owners before making those virtual enhancements. Further, virtual prescriptive easements would require less action on the part of private property owners who would

for public benefit and condemnation. The former requires that the plaintiff acquire use of the land through a form of limited adverse possession, whereas the latter are created by statute. In other words, the former is earned; the latter are bestowed. Whether people have PokéStops on their properties are decisions best left with the property owners. A state government's blanket grant of permission to use the virtual space over the homes of private property owners—even for a limited purpose—would wrest some control over the management of property from the owners. Despite the presence of criminal and civil statutes and doctrines, Pokémon Go has illustrated how weak those remedies actually can be and underscores the importance of recognizing a separate property interest in the virtual space over one's property. By modeling a virtual prescriptive easement after a private prescriptive easement, the issue remains private as between the homeowner and the game creator.

292. See Mikah Sargent, *How to Request Removal of a Gym or PokéStop in Pokémon Go*, iMORE (July 11, 2016, 4:55 PM), <http://www.imore.com/help-pokemon-go-made-my-house-gym-or-pokestop> [<https://perma.cc/VWH3-SQZP>].

293. The fact that private property owners would have a recognized property interest in the virtual space within their property would entitle them to sue for an injunction against the AR game creator without first submitting a complaint to the AR game creator. That being said, if people can save money, they usually will pursue less costly options first.

only need to consider remedies if they objected to the virtual enhancements.²⁹⁴ Placing the onus on private property owners to protect their virtual property interests also accords with the principles underlying real property ownership: the owner, not the government, bears the responsibility of ensuring that third parties do not attempt to seize the owner's property interests.²⁹⁵

Given that California is a trendsetter on many fronts, it would be unsurprising if California were the first state to recognize a property interest in the virtual space within one's real property. In California, a land user may establish a prescriptive easement over another's land by continuously, openly, and adversely using the other person's land for five years.²⁹⁶ Similarly, California should adopt a virtual prescriptive easement statute that looks like the following:

A virtual easement is created by such use and maintenance of the virtual space that exists within land, for the period of prescription, as would be privileged if an easement existed, provided the use is:

- (a) adverse, and
- (b) for the period of prescription, continuous and uninterrupted.²⁹⁷

Two years is an appropriate period of prescription and should provide sufficient time to put owners on notice that a third-party actor has appropriated the virtual space within their property.²⁹⁸ One foreseeable issue is whether a court's declaration that an AR game creator has taken a virtual prescriptive

294. Even if a "Do Not Virtually Enhance My Property" list, much like a "Do Not Call" list, were created, private property owners still may have to take legal action if the AR game creator were to virtually enhance properties on the "Do Not Virtually Enhance My Property" list.

295. Owners who wish to prevent a third party from obtaining a prescriptive easement over real property must either consent to the third party's use of the land or obtain an injunction against the third party to prevent continued use. Violation of an injunction subjects the third party to penalties for contempt of court, which may include incarceration or a heavy fine. DOUGLAS LAYCOCK, *MODERN AMERICAN REMEDIES: CASES AND MATERIALS* 3 (concise 4th ed. 2012).

296. *Warsaw v. Chi. Metallic Ceilings, Inc.*, 676 P.2d 584, 586–87 (Cal. 1984) (citing *MacDonald Props., Inc. v. Bel-Air Country Club*, 140 Cal. Rptr. 367, 373 (Ct. App. 1977)); *Felgenhauer v. Soni*, 17 Cal. Rptr. 3d 135, 138–39 (Ct. App. 2004).

297. I used the Restatement (First) of Property: Servitudes § 457 as a model for my proposed statute. *See* RESTATEMENT (FIRST) OF PROP.: SERVITUDES § 457 (AM. LAW INST. 1944).

298. Those whose private properties have been virtually enhanced within Pokémon Go, for instance, usually learn of the enhancement within a matter of days. Two years should be more than sufficient to put the owner on notice that the private property has been virtually enhanced.

easement over a private property would prevent all other AR game creators from taking a virtual prescriptive easement over the same property. With real property and airspace, only so many objects can occupy the space at one time, meaning that there is physical space for a limited number of easements over one parcel of land or one patch of sky.

By contrast, virtual space is infinite. Pokémon Go only shows that which is within the context of the game. Other AR applications, ostensibly, would display the content specific to those applications. The fact that one AR game creator has acquired a virtual prescriptive easement would not necessarily preclude other AR game creators or application creators from taking virtual prescriptive easements over the same property. Were the property owner to object to the virtual enhancement and obtain an injunction, the owner's conduct may have a deterrent effect that would discourage other parties from attempting to virtually enhance the same property.²⁹⁹ For example, a private homeowner might be willing to have a PokéStop on premises but object to an adult bookstore posting virtual advertisements within the property.

Alternatively, landowners may enter a contract with third parties who have virtually-enhanced the land. This approach would permit landowners to realize the commercial value of the virtual space within their real property, trading consent to a virtual easement for remuneration or other commercial benefits.

More rigorous reforms might involve a statute mandating that the creators of AR applications (1) honor requests from individuals to remove any virtual enhancements to their private property, and (2) refrain from designating certain types of properties as virtually-enhanced locations, such as cemeteries and police stations.

299. As is evidenced by ride-sharing applications such as Uber and Lyft, the law is slow to respond to advances in technology. It seems likely that years will pass before any legislation is enacted to address the property use problems posed by AR applications and technologies. Consequently, courts may have to fashion temporary solutions to these problems. With respect to Niantic, a private property owner's best solution, at present, may be to petition a court to issue an injunction premised on a theory of private nuisance. Such an injunction likely would ask that Niantic honor the private property owner's request to have the property removed from the list of PokéStops and Pokémon Gyms and purge the property of Pokémon within a reasonable time period. Private property owners who are adversely affected by other AR gaming applications could seek comparable injunctions.

Perhaps the most expedient solution would be the creation of a "Do Not Virtually Enhance My Private Property" list, much like a "Do Not Call" list. Permitting private property owners to opt-in on a state-wide basis could generate a list of prohibited locations that would constrain the creators of AR games—essentially creating a negative of the land available and subject to augmentation within the games. Granted, such a solution is not without its drawbacks. *See supra* text accompanying note 294.

V. CONCLUSION

AR applications designed for a mobile platform are simpler and cheaper to manufacture than their AR goggle and headset counterparts. Consequently, after the 2016 summer of Pokémon Go, AR gaming and advertising applications likely will debut with increasing frequency. Although AR promises enormous potential benefits in fields such as medicine and education, these technological strides come at a cost that the law is ill-prepared to mitigate.³⁰⁰ Niantic's games highlight the fact that ancient legal doctrines, like trespass, are not sufficiently malleable to respond to the fusion of the real world and the virtual world. To curb instances of trespassing and the creation of nuisances, state legislatures may need to delineate the outer boundaries of acceptable conduct for the creators of AR technology. To that end, a virtual prescriptive easement may be the most manageable solution. Yet, this also would require the government to recognize a new property right: the right to the virtual space within real world private property. Without such recognition, private property owners only have reactive solutions—obtaining injunctions and calling the police to chase off AR game players and app users. Currently, private property owners remain powerless to prevent third parties from virtually appropriating the space within their land for use as a PokéStop or Pokémon Gym. Thus, Pokémon Go might go away, but the underlying problems AR creates are here to stay.

300. See *Augmented Reality in Healthcare Will Be Revolutionary*, MED. FUTURIST, <http://medicalfuturist.com/augmented-reality-in-healthcare-will-be-revolutionary/> [<https://perma.cc/YP6B-VPCP>]; Mike Lee, *32 Augmented Reality Apps for the Classroom from Edshelf*, TEACHTHOUGHT (Aug. 18, 2016), <http://www.teachthought.com/the-future-of-learning/technology/32-augmented-reality-apps-for-the-classroom-from-edshelf/> [<https://perma.cc/X383-D6LM>].

