

**Sending Servers to the Sky:  
Can Bit Torrent Piracy be Perpetuated by the Use of Unmanned  
Drones?**

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## INTRODUCTION

*“With the development of GPS controlled drones, far-reaching cheap radio equipment and tiny new computers... we're going to experiment with sending out some small drones that will float some kilometers up in the air. This way our machines will have to be shut down with aeroplanes in order to shut down the system. A real act of war.”<sup>1</sup>*

### – The Pirate Bay

On March 18<sup>th</sup> 2012 “the galaxy’s most resilient Bit Torrent site,”<sup>2</sup> The Pirate Bay declared war on copyright laws around the world. It threatened to take its Bit Torrent piracy programs to the sky in order to avoid jurisdiction.

Bit Torrent is a system by which Internet users can connect to one another’s computers to share files.<sup>3</sup> Users visit a website, such as the aforementioned The Pirate Bay, and can then access torrent files from the website’s network of users.<sup>4</sup> One user must create a Torrent file of the content he or she wishes to share.<sup>5</sup> That file then serves as a guide for other users on a given network to access and download the content.<sup>6</sup> Each time a file is downloaded from the user, a copy is made which increases access for the next user seeking to download the same content. A user can then download a number of fragments of each file from a number of different users until the download is completed, making the process rather quick.<sup>7</sup> The more users in a given network, the more access a user has to fragments of a desired file, and the faster that user is able

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<sup>1</sup> MrSpock, *THE PIRATE BAY, TPB Loss*, (Mar. 18, 2012), <http://thepiratebay.se/blog/210> (last visited Oct. 27, 2013).

<sup>2</sup> *THE PIRATE BAY*, <http://thepiratebay.se> (last visited Oct. 27, 2013).

<sup>3</sup> Grace Espinosa, *Internet Piracy: Is Protecting Intellectual Property Worth Government Censorship?*, 18 *Tex. Wesleyan L. Rev.* 309, 313-14 (2011).

<sup>4</sup> *Id.*

<sup>5</sup> Luke M. Rona, *Off with the Head? How Eliminating Search and Index Functionality Reduces Secondary Liability in Peer-to-Peer File-Sharing Cases*, 7 *Wash. J.L. Tech. & Arts* 27, 34 (2011).

<sup>6</sup> *Id.*

<sup>7</sup> Espinosa, *supra* note 3.

to download that particular file.<sup>8</sup> Due to the quick nature of the downloading process, as well as the user driven content stream, Bit Torrent has become the most popular type of peer-to-peer downloading system for copyright protected files.<sup>9 10</sup>

Although Bit Torrent systems have legitimate purposes,<sup>11</sup> they are most commonly used to share, or “pirate,” copyright protected content illegally.<sup>12</sup> Files such as movies, music, books and computer software can all be easily shared between users via Bit Torrent.<sup>13</sup> Due to the way in which files are spread, the most popular content is the easiest to access on each Bit Torrent network, as more and more users will provide access to the fragments of those files.<sup>14</sup> This system complicates who should bear responsibility for each infringement: the users of the peer-to-peer system who actually share the files, or the network’s creators who lead each user to the content?<sup>15</sup> On the one side, holding users responsible would be complicated as there are millions of Bit Torrent users, all of which uploading only fragments of the copyright protected material.<sup>16</sup> On the other, the websites responsible for creating this network don’t actually share any of the files from their servers; they simply facilitate the peer-to-peer file sharing by showing which users are sharing fragments of which files.<sup>17</sup>

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<sup>8</sup> *Id.* at 313.

<sup>9</sup> John Malcolm, *Film Piracy and the Pirate Bay Cases* Indiana University School of Law-Bloomington, April 13, 2010, 12 Engage: J. Federalist Soc’y Prac. Groups 25 (2011).

<sup>10</sup> Espinosa, *supra* note 3, at 313.

<sup>11</sup> Sandra Leigh King, *While You Were Sleeping*, 11 SMU Sci. & Tech. L. Rev. 291, 304 (2008)

<sup>12</sup> Matthew Helton, *Secondary Liability for Copyright Infringement: Bittorrent As A Vehicle for Establishing A New Copyright Definition for Staple Articles of Commerce*, 40 Colum. J.L. & Soc. Probs. 1, 22 (2006).

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> Rona, *supra* note 5.

<sup>16</sup> Rona, *supra* note 5.

<sup>17</sup> *Id.*

The Pirate Bay, a Bit Torrent website known for unapologetically providing access to the world's most popular collection of pirated files, exists centrally within these copyright controversies. The group responsible for The Pirate Bay has become a figurehead of the online piracy movement, often embracing challenges to the legal validity of Bit Torrent systems for sharing pirated material.<sup>18</sup> As such, the group continues to create innovative ways to make its system work within an antiquated legal framework that has yet to catch up to technologies such as Bit Torrent.

Until now, The Pirate Bay has necessarily operated from stationary servers at different on-ground locations around the world. Now, however, the group's latest innovation threatens to launch its servers into the skies using Low Orbit Service Stations, so as to avoid any particular jurisdiction and, more likely, further complicate the issues surrounding Internet piracy.<sup>19</sup> If such a system were to come to fruition, an already controversial debate about the reaches of international copyright law would take on new complexities. This note seeks to analyze some of the general international copyright issues, such as territoriality in copyright law, as well as issues specific to The Pirate Bay's latest threat, such as international and domestic airspace regulation. Ultimately this note will conclude by offering a model clause for an international treaty, seeking to address the complexities with international copyright in hopes that the solution to this worldwide piracy problem can stop short of any "real act of war."<sup>20</sup>

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<sup>18</sup> Malcolm, *supra* note 9.

<sup>19</sup> Wired, *The Pirate Bay Plans Low Orbit Server Drones to Escape Legal Jurisdiction*, March 19, 2012, <http://www.wired.co.uk/news/archive/2012-03/19/pirate-bay-drones> (last accessed January 23, 2013).

<sup>20</sup> The Pirate Bay, *supra* note 1.

## TERRITORIALITY & COPYRIGHT LAW

If all internet-connected nations would agree on unified copyright laws, how would piracy ever escape jurisdiction? Although the answer is it couldn't, unifying copyright law has never been a simple task.<sup>21</sup> A fundamental question of copyright law remains which territory's law to apply to copyright infringement.<sup>22</sup> This question is further complicated when works can be released in a number of different countries simultaneously, and downloaded from users all over the globe simultaneously via the Internet. If choice of law were tailored to where the work was downloaded from, courts would be forced to apply numerous foreign laws to any case of online infringement.<sup>23</sup>

All copyright is territorially based,<sup>24</sup> in large part because each nation differs in the values it places on intellectual property rights.<sup>25</sup> Efforts to unify copyright laws among nations, such as the Berne Convention, and the World Trade Organization Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPs"), have helped to provide minimum standards of intellectual property rights among their signatory nations.<sup>26</sup> More recently the WCT treaty has attempted to address the problem that as technology changes so do the ways in which infringement takes place.<sup>27</sup> Although each of these treaties has been important to international

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<sup>21</sup> Edward Lee, *The New Canon: Using or Misusing Foreign Law to Decide Domestic Intellectual Property Claims*, 46 Harv. Int'l L.J. 1, 8-9 (2005).

<sup>22</sup> Jane C. Ginsburg, *The Cyberian Captivity of Copyright: Territoriality and Authors' Rights in A Networked World*, 20 Santa Clara Computer & High Tech. L.J. 185, 186 (2003).

<sup>23</sup> *Id.*

<sup>24</sup> Ginsburg, *supra* note 22.

<sup>25</sup> Lee, *supra* note 21.

<sup>26</sup> *Id.*

<sup>27</sup> Stephen Bright, *The Current State of Bittorrent in International Law: Why Copyright Law Is Ineffective and What Needs to Change*, 17 New Eng. J. Int'l & Comp. L. 265, 285 (2011).

intellectual property rights, each has stopped short of effective unification of laws, to the continuous detriment of copyright holders around the world.

### **BERNE CONVENTION**

The Berne Convention for the Protection of Literary and Artistic Works is said to be “the oldest and most elaborate international arrangement governing the protection of copyright.”<sup>28</sup> 131 countries have ratified the treaty, which was originally created in 1886, and has been adhered to by the United States since becoming a signatory nation in 1989.<sup>29</sup> The purpose of the Berne Convention was to allow all signatory nations to maintain separate bodies of copyright law while still maintaining a minimum standard of copyright protection.<sup>30</sup> Locally, implementing the Berne Convention was said to be essential for preventing piracy of American works, such as movies, music and art overseas, and was referred to as a “clear and unmistakable signal to foreign pirates that we will insist upon fair trade in copyrights based upon the [Berne Convention’s] minimum guarantees.”<sup>31</sup>

While the Berne Convention has been important to the prevention of certain types of international piracy, it provides myriad examples of why the unification of intellectual property laws has yet to truly come to fruition. One such example is the absence of public interest in the text of the Berne Convention. In the United States a number of competing public interests typically serve as justifications for the implementation of copyright laws, such as fostering

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<sup>28</sup> Leonard D. Duboff, *Creativity and Copyright*, Or. St. B. Bull., January 1989, at 4.

<sup>29</sup> *Id.*

<sup>30</sup> Katherine S. Deters, *Retroactivity and Reliance Rights Under Article 18 of the Berne Copyright Convention*, 24 Vand. J. Transnat'l L. 971, 972 (1991).

<sup>31</sup> Duboff, *supra* note 28

societal progress and providing access to information.<sup>32</sup> But public interests differ across nations as each have their own challenges and values to address. Many public interests are served by the Berne Convention's contemplation of the educational importance of copyright.<sup>33</sup> Ultimately, however, the failure to define public interest in the text of the Berne Convention represents one example of the inability of differing nations to agree on what purpose copyright laws should serve; a clear impediment to the unification of intellectual property laws.

### TRIPs

Similar to the Berne Convention, the Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPs") seeks to provide certain minimum standards for IP protection for the over 140 countries in the World Trade Organization.<sup>34</sup> This agreement extends the protections provided by Berne by encouraging enforcement procedures that are not only reactive to incidents of infringement but also preventative and deterrent.<sup>35</sup> The TRIPs agreement has been lauded as embracing "an understanding that new forms of technology need to be protected, and that similar advancements are being made in the ways in which infringement can occur."<sup>36</sup>

TRIPs represents a global acknowledgement of the need for increased intellectual property protections amid ever-changing technology. However, the agreement further illustrates spaces where countries are unable to agree, thus making international intellectual property protections ineffective. TRIPs allows WTO members to take preventative and deterrent measures

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<sup>32</sup> Edward L. Carter, *Harmonization of Copyright Law in Response to Technological Change: Lessons from Europe About Fair Use and Free Expression*, 30 U. La Verne L. Rev. 312, 317 (2009).

<sup>33</sup> Carter, *supra* note 32.

<sup>34</sup> Lee, *supra* note 21.

<sup>35</sup> Bright, *supra* note 27, at 283.

<sup>36</sup> *Id.*

to protect intellectual property rights.<sup>37</sup> Despite this, the agreement creates no duty to do so.<sup>38</sup> This leaves countries like the United States, which plays a relatively active role in intellectual property protection,<sup>39</sup> and countries like Spain and Sweden with more lenient protections<sup>40</sup>, at odds with each other in terms of enforcement. As a result, precedents set in one nation have no bearing on the enforcement of protections in another. This allows a network such as The Pirate Bay to operate freely from a nation with more relaxed intellectual property laws, despite the fact that its conduct implicates intellectual property rights globally.<sup>41</sup> With unified regulation of intellectual property violations across the globe, networks like The Pirate Bay would have no safe haven.

## WTC

In further response to the ever-changing technological landscape across, the World Intellectual Property Organization Copyright Treaty (“WCT”) of 1996 was introduced.<sup>42</sup> The WTC’s provisions operate to “protect the integrity of electronic rights management” and “prevent the facilitation of copyright infringement through the circumvention of technological anti-copying devices.”<sup>43</sup> As forms of digital media have advanced, producers have developed ways to encrypt files with anti-copying protections known as DRM or digital rights

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<sup>37</sup> Scott Burger, *Eradication of A Secondary Infringer's Safe Havens: The Need for A Multilateral Treaty Addressing Secondary Liability in Copyright Law*, 1 Mich. St. J. Int'l L. 143, 151 (2009).

<sup>38</sup> *Id.*

<sup>39</sup> Tara Touloumis, *Buccaneers and Bucks from the Internet: Pirate Bay and the Entertainment Industry*, 19 Seton Hall J. Sports & Ent. L. 253, 262 (2009)

<sup>40</sup> Burger, *supra* note 37.

<sup>41</sup> Touloumis, *supra* note 39.

<sup>42</sup> Ryan J. Shernaman, *The Digital Millennium Copyright Act: The Protector of Anti-Competitive Business Models*, 80 UMKC L. Rev. 545, 550 (2011).

<sup>43</sup> Neil W. Netanel, *The Next Round: The Impact of the Wipo Copyright Treaty on Trips Dispute Settlement*, 37 Va. J. Int'l L. 441, 442 (1997)



management.<sup>44</sup> Though DRMs serve the purpose of limiting opportunities for piracy, some of the encryptions can limit file functionality, which could theoretically have the undesirable result of limiting the ways people can communicate via the Internet.<sup>45</sup> Because of this, encryptions can only be so complex, and though they prevent the average person from creating copies of copyrighted files, savvy pirates have still managed to circumvent these encryptions. Additionally, DRMs have been criticized as encouraging a switch in focus from production of copyrighted works to protection of copyrighted works.<sup>46</sup> Both of these concerns were addressed by the treaty, which acknowledges the need for narrow tailoring of laws in order to prevent DRMs potential limitations.<sup>47</sup>

As with the Berne Convention and the TRIPs agreement, the WCT stops short of creating an effective unified system of intellectual property law. In fact, the WCT is recognized as giving countries “considerable latitude” in allowing DRM use for protecting copyright owners’ exclusive rights.<sup>48</sup> This means that DRMs in some countries can be weaker or stronger depending on the country. By continuing to allow weaker DRM protections, encryptions can continue to be circumvented, and the bigger problem, mass infringements via Bit Torrent, will persist.<sup>49</sup> Though the WCT provides some greater protections for copyright holders, a unified system of intellectual property law is still necessary before piracy can be effectively addressed.

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<sup>44</sup> Shernaman, *supra* note 42.

<sup>45</sup> Netanel, *supra* note 43.

<sup>46</sup> Michael Boardman, *Digital Copyright Protection and Graduated Response: A Global Perspective*, 33 Loy. L.A. Int'l & Comp. L. Rev. 223, 245 (2011).

<sup>47</sup> Boardman, *supra* note 46.

<sup>48</sup> *Id.*

<sup>49</sup> Burger, *supra* note 37.

## PROPOSED SOLUTIONS

As noted above, Bit Torrent systems make it difficult to place blame on any one party when infringement occurs because of the sheer number of users, and the form in which files are shared. One popular solution has been simply to change the culture surrounding online piracy.<sup>50</sup> The Recording Industry Association of America attempted to do this through litigation and pro-copyright publicity.<sup>51</sup> By pursuing claims against users, the RIAA hoped to create a deterrent effect, educating all users, and in many cases their parents who own the computer being used for piracy, what potential liability exists for acts of online piracy.<sup>52</sup> Some scholars believe this attempt at deterrence is a lost cause, however, as the anti-copyright sentiment runs deep in the users of peer-to-peer file sharing's mentality.<sup>53</sup> Where the RIAA hit its biggest snag in pursuing these claims was with discovering the identity of each user in order to bring the claims. Internet Service Providers such as AT&T and Verizon were unwilling to disclose information about their users, so the RIAA largely abandoned this effort starting in 2008.<sup>54</sup> But even if this were a locally successful solution, it also ignores the over-arching problem of jurisdiction. Even if each user in the United States were deterred from file sharing, millions of users would still exist in other countries, where litigation may not be diligently pursued.

Another local solution to the peer-to-peer file-sharing problem is for the RIAA to come to an agreement with Internet Service Providers about enforcing copyright via a graduated response system. Users who are known to be infringing would be given warnings about their conduct, and

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<sup>50</sup> Sandra Leigh King, *While You Were Sleeping*, 11 SMU Sci. & Tech. L. Rev. 291, 334 (2008).

<sup>51</sup> Genan Zilkha, *The RIAA's Troubling Solution to File-Sharing*, 20 Fordham Intell. Prop. Media & Ent. L.J. 667, 685 (2010).

<sup>52</sup> Ben Depoorter & Sven Vanneste, *Norms and Enforcement: The Case Against Copyright Litigation*, 84 Or. L. Rev. 1127, 1128 (2005).

<sup>53</sup> *Id.*

<sup>54</sup> Zilkha, *supra* note 51 at 88.

eventually dropped from their provider if the infringing conduct persists. Though these responses may have a deterrent effect on users, many issues arise with enforcement. One such issue is cost. Internet Service Providers would be required to incur the cost of investigating claims in order to issue each response.<sup>55</sup> Additionally, each time a user is banned from their provider, that user is no longer a paying customer. A similar system in the United Kingdom was estimated to cost providers around 500 million pounds (80 Million U.S. dollars) over ten years.<sup>56</sup> More worrisome to such a system, however, has to be the international community's unenthusiastic response.<sup>57</sup> The European Parliament voted 633-13 against implementation of an international agreement that would require signatory nations to adopt such a system.<sup>58</sup> That agreement has now been modified to remove any such requirement.<sup>59</sup> Similar to the attempt at litigating claims against users directly, if this graduated response system of copyright enforcement does not catch on internationally, millions of users can continue to engage in online piracy around the world.

Such a system has recently been introduced in the United States. Since the RIAA has for the moment stopped pursuing claims against those who download copyrighted files in the United States, copyright holders have begun to work with Internet service providers in order to implement a graduated response type system. The details of the system are somewhat vague as the system is so new, but it is rumored to be a system in which a user gets six separate warnings. The first few simply let the user know that they may be penalized if they continue to engage in online piracy. The next step is to then block internet access until the user signs-in, acknowledging receipt of the messages. From there the system is rumored to then reduce the

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<sup>55</sup> Peter K. Yu, *The Graduated Response*, 62 Fla. L. Rev. 1373, 1391 (2010).

<sup>56</sup> Yu, *supra* note 55.

<sup>57</sup> 2011 B.C. Intell. Prop. & Tech. F. 1.

<sup>58</sup> *Id.*

<sup>59</sup> John M. Owen, *Graduated Response Systems and the Market for Copyrighted Works*, 27 Berkeley Tech. L.J. 559, 585 (2012).

user's internet speed if the piracy continues. There are no details as to what the penalty for reaching all six warning messages will be, but many speculate it would lead to a ban from using internet through the user's current internet service provider.

Perhaps the most practical solution to online piracy has been to punish the network organizations, such as The Pirate Bay, directly under a theory of secondary liability. As mentioned above, pursuing claims against those who facilitate online piracy through establishing Bit Torrent networks is difficult because the networks themselves store no copyrighted content.<sup>60</sup> As such, the networks don't engage in direct copyright infringement.<sup>61</sup> Some courts, including in the United States, however, have begun to accept secondary liability as a means of holding parties liable for copyright infringement.<sup>62</sup> Essentially, secondary liability permits a finding of vicarious copyright infringement where a Bit Torrent network system is marketed for illegitimate purposes and income is derived.<sup>63</sup> In The Pirate Bay's case, the organization has a reputation for taunting those who pursue claims against it.<sup>64</sup> When Apple sent The Pirate Bay cease and desist letters ordering it to remove torrent files of Apple's programs, The Pirate Bay posted the letter and requested Apple send more, as the letters were "entertaining."<sup>65</sup> This kind of act would likely lend substance to a claim that the network is used for illegitimate purposes. Additionally, through the sale of banner ads on its website and contributions from users, The Pirate Bay

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<sup>60</sup> Rona, *supra* note 5 at 33.

<sup>61</sup> *Id.*

<sup>62</sup> Burger, *supra* note 37.

<sup>63</sup> *Id.*

<sup>64</sup> Ankur R. Patel, *Bittorrent Beware: Legitimizing Bittorrent Against Secondary Copyright Liability*, 10 *Appalachian J.L.* 117, 140 (2011).

<sup>65</sup> *Id.*

claimed to be making \$3 million per year.<sup>66</sup> It seems that, by this definition, networks like The Pirate Bay would not be able to escape secondary liability if it existed in every jurisdiction.

Secondary liability isn't new, however as of now it is inconstantly applied across nations, and not applied at all in some.<sup>67</sup> In the United States, secondary liability exists, though its statutory basis is debated.<sup>68</sup> In the seminal United States secondary liability case, the court took a stance against online piracy by saying such businesses "can't take a 'see no evil, hear no evil, speak no evil' approach to the use of its product".<sup>69</sup> This has had the effect of removing illegal torrent sites from United States soil, although many users in the United States still access illegal torrents.<sup>70</sup> Similarly, in the U.K., secondary liability exists where the individual had knowledge of the copyright.<sup>71</sup> There, as here, if The Pirate Bay continued to operate, the cease and desist letters it so defiantly posts to its website would serve as proof of knowledge that its actions infringed copyright. In Sweden and Spain, The Pirate Bay can continue to operate today due to the lack of substantive laws pertaining to secondary liability.<sup>72</sup>

Due to the inconsistent, and in some cases absent application of secondary liability, online piracy can continue to thrive in all countries because of the housing of pirates in some countries. Many posit that an international treaty could ensure Bit Torrent communities are no longer safeguarded by their jurisdictions to the detriment of all internet-connected nations.<sup>73</sup> By

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<sup>66</sup> John Malcolm, *Film Piracy and the Pirate Bay Cases*, April 13, 2010, 12 Engage: J. Federalist Soc'y Prac. Groups 25, 26 (2011).

<sup>67</sup> Burger, *supra* note 37, at 148-49.

<sup>68</sup> Burger, *supra* note 37, at 151.

<sup>69</sup> Asher Meir, *Grokster File-Sharing and Glue-Sniffing*, JERUSALEM POST, July 3, 2005, at 17.

<sup>70</sup> Burger, *supra* note 37, at 152.

<sup>71</sup> Lynda J. Oswald, *International Issues in Secondary Liability for Intellectual Property Rights Infringement*, 45 Am. Bus. L.J. 247, 267 (2008).

<sup>72</sup> Burger, *supra* note 37, at 152.

<sup>73</sup> Oswald, *supra* note at 280, Bright, *supra* note 27, at 289.

providing in such a treaty mandatory adoption of secondary liability, illegitimate Bit Torrent networks can be eradicated worldwide as they have been here in the United States and elsewhere.

## DRONES

Aircrafts are typically thought of as requiring a pilot. Until recently, our concept of unmanned aircrafts was likely limited to remote control toy helicopters. Now, unmanned aircrafts come in all shapes and sizes, and can be used for all purposes.<sup>74</sup> Called “unmanned aircrafts” by the Federal Aviation Administration<sup>75</sup> but better known as “drones”, these machines have been hard to define and regulate.<sup>76</sup> This is due in large part to the varying nature of their size (from the size of an insect to the size of a football field)<sup>77</sup> and capability (from recreational use to military use).<sup>78</sup> Despite this, their popularity has grown as their potential uses continue to excite, and in some cases unnerve an anxious public.<sup>79</sup> Domestically, the government is in the midst of modernizing the Federal Aviation Administration to account for the relative certainty that such aircrafts will populate American airspace for any number of uses.<sup>80</sup>

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<sup>74</sup> Benjamin Kapnik, *Unmanned but Accelerating: Navigating the Regulatory and Privacy Challenges of Introducing Unmanned Aircraft into the National Airspace System*, 77 J. Air L. & Com. 439, 443 (2012).

<sup>75</sup> *Id.* at 442.

<sup>76</sup> *Id.* at 443.

<sup>77</sup> NPR, *Popularity of Drones Takes Off For Many Countries*, July 11, 2011, <http://www.npr.org/2011/07/11/137710942/popularity-of-drones-takes-off-for-many-countries> (last accessed January 28, 2013).

<sup>78</sup> Kapnik, *supra* note 74 at 443.

<sup>79</sup> NPR, *supra* note 77.

<sup>80</sup> FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, § 331, 126 Stat. 11.

While some imagine a world where a “Tacocopter” will deliver your take-out dinner without the need for a pilot,<sup>81</sup> others contemplate less innocent ways drone capabilities could be exploited. The Pirate Bay has threatened to use drones to act as Low Orbit Server Stations housing the servers it uses to facilitate Bit Torrent piracy.<sup>82</sup> Similar to how their systems work today, these Low Orbit Server Stations would not house any actual copyrighted content, rather, act as a hub directing users around the world to where copyrighted works could be downloaded by other users via Bit Torrent files.<sup>83</sup> This radical idea, The Pirate Bay suggests, would allow it to avoid any particular jurisdiction, and negate the need to continuously move its servers to new locations as countries become less hospitable to its conduct.

Though certainly an innovative use of drone technology, such a system has many practical and legal obstacles that would likely prevent its success. First, Newton’s Law of Gravity suggests that what goes up must come down, and as the technology stands today, this remains true for unmanned aircrafts as they require routine maintenance.<sup>84</sup> Second, the system as The Pirate Bay contemplates it would still require an on-land location to transmit signals and direct the aircraft via GPS.<sup>85</sup> Presumably this on-land location would subject the drone operators to the laws of that particular jurisdiction. The remainder of this paper will focus, however, on the

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<sup>81</sup> Huffington Post, *Tacocopter Aims to Deliver Tacos Using Unmanned Drone Helicopters*, August 20, 2012, [http://www.huffingtonpost.com/2012/03/23/tacocopter-startup-delivers-tacos-by-unmanned-drone-helicopter\\_n\\_1375842.html](http://www.huffingtonpost.com/2012/03/23/tacocopter-startup-delivers-tacos-by-unmanned-drone-helicopter_n_1375842.html) (last accessed January 28, 2013).

<sup>82</sup> MrSpock, *supra* note 1.

<sup>83</sup> US News, *The Pirate Bay to Fly ‘Server Drones’ to Avoid Law Enforcement*, March 19, 2012, <http://www.usnews.com/news/articles/2012/03/19/the-pirate-bay-to-fly-server-drones-to-avoid-law-enforcement> (last accessed January 28, 2013).

<sup>84</sup> Cristina Costantini, *U.S. Border Patrol Increases Use of Unmanned Drones for Surveillance*, HUFFINGTON POST, [http://www.huffingtonpost.com/2012/05/01/us-border-patrol-increase\\_n\\_1467196.html](http://www.huffingtonpost.com/2012/05/01/us-border-patrol-increase_n_1467196.html) (last updated May 01, 2012).

<sup>85</sup> MrSpock, *supra* note 1.

legal impracticality of The Pirate Bay's idea. Both domestically, and internationally, airspace is regulated very heavily. As drone technology continues to grow, so too will the bodies of law regulating airspace both locally, and abroad. It is highly unlikely The Pirate Bay will be able to find a place that welcomes drone technology for such blatant and unapologetic illegal activity.

### DOMESTIC USE

Generally, individual interest in airspace is limited.<sup>86</sup> When an aircraft is flying relatively low, below 500 feet, the nuisance and trespass law of the jurisdiction over which it flies typically governs its use.<sup>87</sup> If the use and enjoyment of the land has been interfered with due to the aircraft flying through the airspace, a cause of action may exist as a property right has essentially been taken.<sup>88</sup> Flights above this 500-foot mark are generally thought to be in a safe zone of airspace from causing detriment to property owners.<sup>89</sup> If an aircraft does exceed this 500 foot level, it can become a danger to other aircrafts and therefore federal aviation regulation governs whether the aircraft is a legitimate use of the airspace, or a threat to safety.<sup>90</sup>

Drones, however, are subject to special rules as these aircrafts are, by definition, unmanned.<sup>91</sup> Since drones are able to fly above or below 500 feet constantly, the Federal Aviation Administration requires the aircrafts to be registered to ensure each drone is fit for safe

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<sup>86</sup> Major Walter S. King, *The Fifth Amendment Takings Implications of Air Force Aircraft Overflights and the Air Installation Compatible Use Zone Programs*, 43 A.F. L. Rev. 197, 200 (1997)

<sup>87</sup> Paul Stephen Dempsey, *Local Airport Regulation: The Constitutional Tension Between Police Power, Preemption & Takings*, 11 Penn St. Env'tl. L. Rev. 1, 8 (2002).

<sup>88</sup> Colin Cahoon, *Low Altitude Airspace: A Property Rights No-Man's Land*, 56 J. Air L. & Com. 157, 191 (1990).

<sup>89</sup> King, *supra* note 86.

<sup>90</sup> Timothy M. Ravich, *The Integration of Unmanned Aerial Vehicles into the National Airspace*, 85 N.D. L. Rev. 597, 612 (2009).

<sup>91</sup> *Id.*



performance.<sup>92</sup> Additionally, no drone may be registered for operation without having at least one person who is responsible for it, both while it is in the air and on the ground.<sup>93</sup> The drone must also be in constant contact with air traffic control so as to further avoid collision.<sup>94</sup> As for what the drone is allowed to do, the Federal Aviation Administration requires all applications for drone registration state what the intended use of the drone will be, as well as the time period during which the flight will take place.<sup>95</sup>

In the United States, drone technology is poised to become extremely popular. This has had the effect, however, of stoking the concerns of many Americans as to how drones will be ultimately used.<sup>96</sup> As such, federal aviation regulation has, to this point, been very strict on who can operate drones and for what use.<sup>97</sup> Some less worrisome proposed uses have been for farmers to monitor and water their crops, and for local police to investigate felonies.<sup>98</sup> But even these uses have many individuals pushing for a bill that would at most prevent these uses, and at least highly regulate them.<sup>99</sup>

All of this seems to suggest that, in the United States at least, sending a drone into orbit for the purpose of facilitating copyright infringement is a highly improbable proposition. First,

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<sup>92</sup> *Id.*

<sup>93</sup> *Id.*

<sup>94</sup> *Id.*

<sup>95</sup> Ravich, *supra* note 90, at 614.

<sup>96</sup> Ben Wolfgang, *Bill Would Clip Wings of Private Drone Use*, THE WASHINGTON TIMES, July 20, 2012, <http://www.washingtontimes.com/news/2012/jul/20/congress-steps-efforts-regulate-drones/>.

<sup>97</sup> Wolfgang, *supra* note 96.

<sup>98</sup> Spencer Ackerman, *Drone Boosters Say Farmers, Not Cops, are the Biggest U.S. Robot Market*, WIRED.UK.COM (Feb. 5, 2013, 3:05 PM), <http://www.wired.com/dangerroom/2013/02/drone-farm/>.

<sup>99</sup> Emily Ramshaw, *Bill Would Ban Drone Surveillance of Private Property*, THE MONITOR (February 5, 2013), [http://www.themonitor.com/news/local/article\\_6fabaaf4-6f1a-11e2-966c-0019bb30f31a.html](http://www.themonitor.com/news/local/article_6fabaaf4-6f1a-11e2-966c-0019bb30f31a.html).

such a drone would never be granted registration, as it could not provide a legitimate purpose for its use. Second, each drone requires a person on the ground to be accountable for it. Even if the drone's true use was hidden during registration, there would have to be someone willing to be held accountable for it when its true purpose for flying became known. Lastly, a drone flying in the United States can never be hidden in otherwise empty airspace, as it must necessarily be in constant contact with Air Traffic Control. Theoretically with the laws the way they are in the United States, an individual could fly a drone around in his or her backyard without fear of detection or the need for registration. For the purposes of facilitating Internet piracy, however, the drone would have to be constantly transmitting signals online, eventually revealing its location the same way on-ground servers have in the past. If, domestically, we are concerned with allowing farmers to water their crops via drones, it is unlikely such a system as the one threatened by The Pirate Bay could ever occupy American airspace.

### **INTERNATIONAL USE**

As is commonly the case with technology, the United States is a bit behind the times when it comes to adopting drone technology for private uses. In the U.K. for example, over 130 organizations have permission to fly drones for private use.<sup>100</sup> These organizations include everything from The National Grid, who uses them to inspect power lines, to Video Golf Marketing, who uses drones to make videos for golf courses, and even MBDA, a missile manufacturer for the Ministry of Defense.<sup>101</sup> In Australia, the process for obtaining an

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<sup>100</sup> Nick Hopkins, *Revealed: Who Can Fly Drones in UK Airspace*, THEGUARDIAN (25 January 2013), <http://www.theguardian.com/world/2013/jan/25/who-can-fly-drones-uk-airspace>.

<sup>101</sup> *Id.*

“operator certificate”, a requisite for flying a drone, requires even less.<sup>102</sup> If the drone is to be used for flight under 400 feet, the drone simply needs to provide a flight plan such that it is apparent the drone will not collide with any structures or power lines.<sup>103</sup> One such drone flies so close to the ground, it hovers above an individual as he or she runs, tracking pace and keeping track of the runner’s movements.<sup>104</sup> Much like where the United States anticipates drones may be used domestically, Japan has already has implemented drone use for spraying and monitoring farmlands.<sup>105</sup>

But even these communities have been similarly unwelcome to the idea of drones as the American people. In the UK, new regulations have been proposed in order to raise the “very low bar” set on the protections of privacy in the wake of private drone use.<sup>106</sup> There, as in the United States, use of drones requires application with the Civil Aviation Authority, and is subject to certain requirements such as height limits and distance limits from the operator.<sup>107</sup> In Australia, although the requirements for an operator certificate are much looser than in the United States, operators are still required to provide a purpose for the aircraft use that is submitted for approval.<sup>108</sup> This undoubtedly provides a buffer for inappropriate conduct for which a drone might be engaged. Japan, unlike the aforementioned nations, has a more heavily regulated drone use policy. The only use of drones authorized by the government is for

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<sup>102</sup> Mark Edward Peterson, *The UAV and the Current and Future Regulatory Construct for Integration into the National Airspace System*, 71 J. AIR L. & COM. 521, 584 (1964).

<sup>103</sup> *Id.*

<sup>104</sup> Tom Metcalfe, *Private Drone Aircraft: Your Eyes in the Sky*, KIDELA (Oct. 30, 2012), <http://www.kidela.com/technology/private-drone-aircraft-your-eyes-in-the-sky>.

<sup>105</sup> Peterson, *supra* note 102.

<sup>106</sup> The Guardian, *supra* note 100.

<sup>107</sup> Hopkins, *supra* note 100.

<sup>108</sup> Peterson, *supra* note 102.

spraying crops, and for ensuring environmental compliance in farming.<sup>109</sup> Although the government allows drone research to be done on its own soil,<sup>110</sup> the only use of drones authorized is for farming, occurring only in uncontrolled airspace.<sup>111</sup> In international airspace, it is equally unlikely favorable laws could be introduced or existing laws exploited by The Pirate Bay in order to facilitate internet piracy.

## CONCLUSION

There is no doubt that the use of unmanned drones for legitimate purposes is expanding worldwide. Technology is such that the utility of drone technology is seemingly limitless. Ultimately, no matter where it were to fly, The Pirate Bay's contemplated drone system would still be subject to the laws governing the airspace it occupies. Unless The Pirate Bay were to advocate successfully for favorable airspace laws, or find a way to exploit existing laws, it is extremely unlikely their servers could be sent to the sky to avoid jurisdiction. The issue then remains one of international intellectual property regulation. Whether hidden in a secret mountain cave,<sup>112</sup> or flying over the Prime Minister's office in Stockholm, Bit Torrent networks will continue to prosper if they can benefit from forum-shopping that frees them from any secondary liability for their acts of internet piracy. A treaty must be introduced or amended in order to include a clause that provides secondary liability for those networks and organizations that perpetuate internet piracy.

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<sup>109</sup> Peterson, *supra* note 102.

<sup>110</sup> Silicon Angle, *Japanese Firm Develops World's First Private Security Drone*, December 28, 2012, <http://siliconangle.com/blog/2012/12/28/japanese-firm-develops-worlds-first-private-security-drone/> (last accessed February 6, 2013).

<sup>111</sup> Peterson, *supra* note 102.

<sup>112</sup> Ernesto, *The Pirate Bay Ship New Servers to Mountain Complex*, TORRENT FREAK (May 16, 2011), <http://torrentfreak.com/the-pirate-bay-ships-new-servers-to-mountain-complex-110516/> (last visited Oct. 30, 2013).

## MODEL CLAUSE FOR AN INTERNATIONAL TREATY

This model clause for an international treaty is meant to incorporate and address issues with secondary liability as noted in United States case law, the Act For Trust in the Digital Economy of France and case law derived therefrom,<sup>113</sup> and is largely based on Article 14 of the European E-Commerce Directive 2000/31 of the European Parliament.<sup>114</sup> Without a similar clause adopted by Internet connected nations, piracy advocates like The Pirate Bay will continue to operate from jurisdictions, whether on the ground or in the sky, without fear of liability.

1. Where an information network service is provided that consists of the storage of information provided by a recipient of the service, Signatory Nations shall ensure that the service provider is not liable for the information stored at the request of a recipient of the service, on condition that:

(a) the provider does not have actual knowledge of illegal activity or information and, as regards claims for damages, is not aware of facts or circumstances from which the illegal activity or information is apparent;<sup>115</sup> or

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<sup>113</sup> See Amelie Blocman, *France: Liability on the Part of Video Sharing Sites*, IRIS MERLIN (October 8, 2007), <http://merlin.obs.coe.int/iris/2007/8/article17.en.html> (last visited Oct.30, 2013).

<sup>114</sup> Article 14 of European E-Commerce Directive 2000/31.EC (July 17, 2003), available at <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0031:en:HTML> (last visited Oct. 30, 2013).

<sup>115</sup> This additional subsection is meant to incorporate inducement liability where the provider consciously avoids obtaining knowledge or awareness of the infringing activity. See *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 125 S. Ct. 2764, 162 L. Ed. 2d 781 (2005). Such direct language about the type of provider the clause is aimed at may also prevent the potential threat secondary liability poses to innovative mediums. See Kevin M. Lemley, *The Innovative Medium Defense: A Doctrine to Promote the Multiple Goals of Copyright in the Wake of Advancing Digital Technologies*, 110 Penn St. L. Rev. 111, 141 (2005). Additionally, this subsection may nullify a defense under subsection (1)(c) where a takedown or other such notice by the copyright holder is not practicable. See Seagull Haiyan Song, *How Should China Respond*

(b) the provider, through nuance or direct advertisement, does not encourage illegal activity or information, regardless of actual knowledge or awareness; or

(c) the provider, upon obtaining such knowledge or awareness, acts expeditiously to remove or to disable access to the information.

2. Paragraph 1 shall not apply when the recipient of the service is acting under the authority or the control of the provider.

3. This Article shall not preclude any right to relief from the recipient of the service for infringement.<sup>116</sup>

4. This Article shall not affect the possibility for a court or administrative authority, in accordance with Signatory Nations' legal systems, of requiring the service provider to terminate or prevent an infringement, nor does it affect the possibility, for Signatory Nations, of establishing procedures governing the removal or disabling of access to information.

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*to Online Piracy of Live Sports Telecasts? A Comparative Study of Chinese Copyright Legislation to U.S. and European Legislation*, 2010 Den. U. Sports & Ent. L.J. 3, 20 (2010) discussing the impracticability of takedown notices for live broadcast infringements.

<sup>116</sup> This additional subsection is meant to address a noted downfall of secondary liability, that the “real offender”, the recipient of the service, is often cleared of liability. See Florence Chafiol-Chaumont, *MySpace and Dailymotion: simple storing providers held liable*, LEXOLOGY (Nov. 1, 2007), <http://www.lexology.com/library/detail.aspx?g=d1581b4f-d357-429e-81a4-c4f4d0ee2350> (last accessed Oct. 30, 2013).