

THE USE AND ABUSE OF PATENTS IN THE SMARTPHONE WARS: A NEED FOR CHANGE

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ABSTRACT

The U.S. Patent System was originally developed to help protect an inventor's novel idea and the market share that idea might generate in an industry, thereby also promoting technological progress. The current patent system, however, is "marked by limitless subject matter [and] lenient public grant" leading to the abuse of patents by the mobile device manufacturing industry. This issue has been underscored by the recent phenomenon known as the "Smartphone Patent War" made up of a number of high-profile cases, such as *Apple, Inc. v. Samsung*. Against this backdrop, it is important to re-examine the U.S. patent system with respect to smartphone patents, and consider workable alternatives to fighting the smartphone war rather than the current focus on patent litigation, which is costly and inefficient.

INTRODUCTION

The first smartphone was introduced in 1992.¹ Its name was Simon, it had a touch screen, and for \$899, its owner could enjoy 30 to 60 minutes of battery life to make calls, fax, e-mail, compute, and even play a game called Scramble.² Simon flopped in the market not too long after its debut.³ A decade would pass before smartphone production really took off,⁴ and two decades before consumer ownership reflected the same enthusiasm. As of 2012, however, the United States smartphone industry can finally boast that smartphone usage outrivals that of its less-intelligent "feature"

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1. Ira Sager, *Before iPhone and Android Came Simon, the First Smartphone*, BLOOMBERG BUSINESSWEEK (Jun. 29, 2012), <http://www.businessweek.com/articles/2012-06-29/before-iphone-and-android-came-simon-the-first-smartphone>. (describing the introduction of the first smartphone).
 2. *Id.* (describing Simon's features).
 3. *Id.* ("By the time the phone hit theaters that summer, the phone was off the market after its brief, six-month run before consumers.").
 4. *See generally* Brad McCarty, *The History of the Smartphone*, THE NEXT WEB (Dec. 6, 2011, 6:05 PM), <http://thenextweb.com/mobile/2011/12/06/the-history-of-the-smartphone/> (providing a chronological history of the development of smartphones since Simon).

phone counterparts.⁵ Smartphone manufacturers are commemorating this accomplishment with flare—by waging war.

The “Smartphone Patent War,” as it is known, is a patent litigation war. The United States patent system was designed to promote innovation by protecting the original ideas of those who worked hard to conceive them. But in a market attractive as the smartphone market (both in terms of market players and the amount of media attention), onlookers are concerned that the protections afforded under the patent system have evolved into weapons to block competitors, risking the innovation that patent protection seeks to promote. Against this backdrop, the time is ripe to re-examine the U.S. patent system with respect to smartphone patents, and consider workable alternatives to fighting a litigation war.

Part I of this Note gives the relevant background on the U.S. Patent System, including the constitutional basis and intent. Part II examines the use of patents specific to the Smartphone Patent Wars. Part III presents the current landscape of the war and explores the different avenues for change, reviewing and organizing the different proposals that legal experts have made in an effort to remedy the smartphone over-patenting problem. Finally, Part IV proposes a new framework for addressing the problem of smartphone patent litigation, and briefly discusses the remaining issues that would remain unresolved.

I. BACKGROUND ON THE U.S. PATENT SYSTEM

A. *The Original Intent of Patent Laws*

United States patent law was established pursuant to the United States Constitution in order to “promote the progress of science and the useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.”⁶ This language establishes two competing forces. Whereas most laws in the United States are designed to prevent monopolies, patents are “the very rare example where the government . . . give[s] [someone] a monopoly.”⁷ In the case of patents, the government is willing to grant this temporary monopolistic privilege as an “incentive to inventors to risk the often enormous costs in terms of time, research, and development.”⁸

5. David Goldman, *Half of U.S. Cell Phones Are Now Smartphones*, CNN MONEY (May 16, 2012, 12:48 PM), <http://money.cnn.com/2012/05/16/technology/smartphones/index.html> (arguing that smartphones “eclipse ‘feature’ counterparts”).

6. U.S. CONST. art. I, § 8, cl. 8.

7. David Kestenbaum & Jacob Goldstein, *How to Fix the Patent Mess*, NPR PLANET MONEY (Oct. 23, 2012, 3:53 PM), *available at* <http://www.npr.org/blogs/money/2012/10/23/163480928/episode-412-how-to-fix-the-patent-mess>.

8. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974).

Stated differently, a patent is a trade-off between an inventor and the State. When a patent is granted to an inventor, he or she holds the right “to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States for a limited time.” In exchange, however, he or she must “public[ly] disclos[e] of the invention when the patent is granted.”⁹

B. Limitations on Patent Protection

Because patent protection grants such monopoly power, U.S. patent law is fraught with limitations on that power. These limits take several different forms, including restrictions on the general scope of patentable material, requirements that must be met in order to file specific patents, and finite time periods for which granted patents are effective. Consider, for instance, the requirements for a utility patent, or a “patent for innovation,” which is by far the most common type of patent that the United States Trademark and Patent Office (“USPTO”) issues.¹⁰ A utility patent is granted “for the invention of a new and useful process, machine, manufacture, or composition of matter, or a new and useful improvement thereof . . . for a period of twenty years.”¹¹ Section 101 of the U.S. Patent Act sets forth the general requirements for a utility patent,¹² and has been understood to include four factors. In order for an invention to be patentable, it must be: (1) statutorily authorized (meaning it falls into one of the five categories stated in the definition), (2) novel (different from previous inventions), (3) useful, and (4) non-obvious (to someone who understands the technical field of the invention).¹³

A second type of patent, a “design patent,” is one that protects the appearance of an article and is governed by Section 171 of the U.S. Patent Act.¹⁴ Design patents are granted for a period of fourteen years¹⁵ for “new,

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9. *What Is a Patent?*, U.S. PATENT AND TRADEMARK OFFICE, <http://www.uspto.gov/inventors/patents.jsp> (last visited Mar. 23, 2014) (“A patent is a property right granted by the Government of the United States of America to an inventor ‘to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States’ for a limited time in exchange for public disclosure of the invention when the patent is granted.”).
 10. *See generally Types of Patents*, U.S. PATENT AND TRADEMARK OFFICE, <http://www.uspto.gov/web/offices/ac/ido/oeip/taf/patdesc.htm> (noting that more than 90% of patents issued in recent years are utility patents).
 11. U.S. PATENT AND TRADEMARK OFFICE, *supra* note 9.
 12. 35 U.S.C. § 101 (2012).
 13. Daniel A. Tysver, *Patent Requirements*, BITLAW, <http://www.bitlaw.com/patent/requirements.html> (last visited Mar. 23, 2014) (outlining the eligibility requirements patentability); *Qualifying for a Patent FAQ*, NOLO, <http://www.nolo.com/legal-encyclopedia/qualifying-patent-faq-29120.html> (last visited Mar. 23, 2014).
 14. U.S. PATENT AND TRADEMARK OFFICE, *supra* note 10 (“Design Patent – Issued for a new, original, and ornamental design . . .”).

original and ornamental design.”¹⁶ Unlike utility patents, design patents need not be “useful.”¹⁷ However, both utility patents and design patents must also adhere to 35 USC §112, which sets forth the requirements for the “specification” of the invention. The specification requirements mean that in theory, a person cannot merely patent a general idea or concept, such as streaming movies over the Internet, but must restrict his or her patent to the specific way in which that idea is executed, such as how he or she intends to stream those movies.¹⁸

C. *The Current Climate*

Despite existing restrictions on patents, the rate and scope of patent grants in the United States has grown at an incredible rate since the inception of the country’s patent process. Whereas it took the United States “over a hundred years to get to the first million patents,” recent statistics indicate that the USPTO is “granting a million patents every four years.”¹⁹ These numbers raise an important question—are people today that much more innovative than they were several hundred years ago, or does the trend of growing patents reflect a more liberal grant of patents in the current system?

Critics of the modern patent system suggest that most patent applications filed today are no more than “enhancements or rip offs on previous work,” including applications that the USPTO eventually approves.²⁰ Even current patent owners will admit that by today’s standards, having more than a hundred patents to one’s name is not a particularly notable achievement.²¹ This has led some to conclude that it is “less and less the case that more patents mean more innovation,”²² and even that “the economic impact of innovations today may pale in comparison with those of the past.”²³ Furthermore, the fact the UPSTO is

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15. *Id.* (“Please note that the fourteen year term of a design patent is subject to change in the near future.”).
 16. 35 U.S.C. § 171 (2012).
 17. Dennis Crouch & Jason Rantanen, *Why Design Patents Need Not Satisfy 25 U.S.C. § 101?*, PATENTLY-O, (Nov. 27, 2007), <http://www.patentlyo.com/patent/2007/11/why-design-pate.html> (noting that the design “need not be useful”).
 18. Kestenbaum & Goldstein, *supra* note 7.
 19. *Id.*
 20. Holly Finn, *A Patently Obvious Problem*, WALL ST. J., Apr. 22-23, 2012, at C12.
 21. *Id.*
 22. Matthew Yglesias, *America’s Patent Crisis*, SLATE MAGAZINE (July 5, 2012, 4:49 PM), http://www.slate.com/articles/business/small_business/2012/07/patents_innovation_and_the_america_invents_act_how_a_new_law_encouraging_more_efficient_patent_processing_could_stifle_american_innovation.html.
 23. *Has the Ideas Machine Broken Down?*, THE ECONOMIST, Jan. 12, 2013, at 21.

currently understaffed, which leads to a less-than-sufficient, perfunctory examination of most patent applications, is believed to exacerbate the issue.²⁴

These concerns are perhaps most prominently highlighted in the recent “Smartphone Patent War,” embodied by the slew of recent lawsuits filed by many major mobile device manufacturers, including Apple, Google, Samsung, Microsoft, Nokia, Motorola, HTC, and others, as they battle for supremacy in the smartphone market.²⁵ The competition itself is no surprise given how valuable the market is right now,²⁶ but rather the form of that competition that draws criticism. Rather than arming themselves with teams of engineers or otherwise investing resources into developing new technological ideas,²⁷ smartphone manufacturers are arming themselves with patents. In 2011, the amount that Apple and Google spent on patent lawsuits and “unusually big-dollar patent purchases” exceeded the amount spent on research and development of new products.²⁸ Amidst the growing litigation and ensuing media attention that smartphone companies have garnered,²⁹ there is an increasing concern that the practice of “wanton patent-granting” may create a problem where patents not only fail to promote innovation, but in fact hinder it, eventually making it

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24. Richard A. Posner, *Why There Are Too Many Patents in America*, THE ATLANTIC (July 12, 2012, 10:20 AM), <http://www.theatlantic.com/business/archive/2012/07/why-there-are-too-many-patents-in-america/259725/> (explaining that there is currently a three-year delay between the filing of a patent application and a decision on whether the patent is granted).
 25. See Sascha Segan, *Infographic: Smartphone Patent Wars Explained*, PC MAGAZINE (Jan. 19, 2012, 2:46 PM), <http://www.pcmag.com/article2/0,2817,2399098,00.asp> (“There’s a war on, and it could hit your smartphone. A slew of lawsuits are rocking the smartphone industry. . .”).
 26. See Sara Forden, *FTC Staff Said to Formally Recommend Google Patent Suit*, BLOOMBERG (Nov. 2, 2012, 12:01 AM), <http://www.bloomberg.com/news/2012-11-01/ftc-staff-said-to-formally-recommend-google-patent-suit.html> (estimating that global revenue in the smartphone market reached \$219 billion in 2011); *Smartphones Account for Half of All Mobile Phones, Dominate New Phone Purchases in US*, NIELSEN WIRE BLOG (Mar. 29, 2012), http://blog.nielsen.com/nielsenwire/online_mobile/smartphones-account-for-half-of-all-mobile-phones-dominate-new-phone-purchases-in-the-us/ (identifying the smartphone over feature phone choice as a growing trend).
 27. Segan, *supra* note 25 (“There’s a war on, and it could hit your smartphone. A slew of lawsuits are rocking the smartphone industry as nearly every major manufacturer fights to get cash from the others for using its patents, to block its opponents’ products from being imported into the U.S., or just to bleed out their energy paying for lawyers rather than engineers.”).
 28. See Charles Duhigg & Steve Lohr, *The Patent, Used as a Sword*, N.Y. TIMES, Oct. 8, 2012, at A1. (“Last year, for the first time, spending by Apple and Google on patent lawsuits and unusually big dollar patent purchases exceeded spending on research and development of new products, according to public filings.”).
 29. See, e.g. *infra* Part II(B).

“practically impossible to build anything without violating a patent of some kind.”³⁰

II. PATENT USE IN THE SMARTPHONE INDUSTRY

A. *The Emergence of the War and General Strategies*

The main patent weaponry the smartphone industry employs is known as “defensive patenting,” which may be something of a misnomer. “Defensive patenting” works by blocking competition falling within a patent’s scope—not because it is necessary to prevent copy-cattng, but because the patent-holder wants to ensure he is not infringing when he brings his own product to market.³¹ This offers an advantage to smartphone manufacturing companies with valuable patent portfolios; if the company has enough relevant patents, it is able to monopolize its market.³² As a result, many smartphone manufacturers strategically buy other companies for their patents. Take, for example, Google’s August 2011 purchase of Motorola Mobility, Inc., which included the acquisition of some 17,000 patents belonging to Motorola.³³ Google’s own press release about the merger openly admitted that “Motorola’s patent profile will help protect the Android ecosystem.”³⁴ When “defensive patenting” is used in this manner, it effectively becomes an offensive strategy.

While some say that the number of patents a smartphone manufacturer owns is not as important as the substance of those patents,³⁵ it is worth noting that a quarter million patents might touch a single smartphone.³⁶

30. Steven Levy, *The Patent Problem*, WIRED, Nov. 13, 2012, at 209.

31. See Posner, *supra* note 26 (“Defensive patenting means getting a patent not because you need it to prevent copycats from making inroads into your market, but because you want to make sure that you’re not accused of infringing when you bring your own product to market. The cost of patenting and the cost of resolving disputes that may arise when competitors have patents are a social waste.”).

32. See *id.* (“A patent blocks competition within the patent’s scope and so if a firm has enough patents it may be able to monopolize its market.”).

33. See Victoria Slind-Flor, *Google, Nokia, Easyjet, Yahoo!, UMG: Intellectual Property*, BLOOMBERG (Oct. 4, 2011, 7:01 AM), <http://www.bloomberg.com/news/2011-10-04/google-nokia-easyjet-yahoo-umg-intellectual-property.html> (“Google Chairman Eric Schmidt said the \$12.5 billion acquisition of Motorola Mobility Holdings Inc. may spur competition among phone makers using its Android software, and the company won’t play favorites with its partners.”).

34. See *Facts About Google’s Acquisition of Motorola*, GOOGLE, <http://www.google.com/press/motorola/> (detailing Google’s acquisition of Motorola).

35. See Laura Marin, Charlie Wolf & Dan Medina, *Patent Wars: War Zone Economics*, NEEDHAM INSIGHTS (Apr. 18, 2012), <http://www.researchfindr.com/patent-wars-war-zone-economics-0>.

36. Steve Lohr, *Apple-Samsung Patent Shifts to Trial*, N.Y. TIMES, July 28, 2012, <http://www.nytimes.com/2012/07/30/technology/apple-samsung-trial-highlights->

When coupled with the fact that patent infringement claimants need not prove the defendant knew he was infringing,³⁷ the patent-numbers game arguably becomes a fairly attractive option.

B. *Specific Patent Weaponry Mechanisms*

The ways in which patents are used vary on a case by case basis, but the collection of high-profile *Apple, Inc. v. Samsung Electronics Co., Ltd.* cases offers an interesting case study.³⁸ This particular dispute between Apple and Samsung began in April 2011, when Apple filed a design patent infringement claim against Samsung, alleging that Samsung had violated Apple's Design Patent No. D618677 ('677 Patent),³⁹ which protects the general shape and appearance of its popular iPhone.⁴⁰ In particular, one of Apple's claims was against the Samsung's Galaxy S 4G and Infuse 4G phones—which arguably appear similar in their rounded edges and screen position⁴¹—and so Apple sought a preliminary injunction to prohibit sales of those Samsung devices.⁴² Samsung responded to Apple's actions by

patent-wars.html?pagewanted=all (“In smartphones, some analysts say, the sheer number of patents and the speed of innovation in product development undermine the power of patents. Because a smartphone combines many communications and computing technologies, as many as 250,000 patents may touch the device, according to estimates by RPX, a patent licensing company.”).

37. Posner, *supra* note 26 (“Judges have difficulty understanding modern technology and jurors have even greater difficulty, yet patent plaintiffs tend to request trial by jury because they believe that jurors tend to favor patentees, believing that they must be worthy inventors defending the fruits of their invention against copycats even though, unlike the rule in copyright law, a patentee need not, in order to prevail in an infringement suit, show that the defendant knew he was infringing.”).
38. *Apple, Inc. v. Samsung Electronics Co., Ltd.*, 678 F.3d 1314 (Fed. Cir. 2012); *Apple, Inc. v. Samsung Electronics Co., Ltd.*, No. 11-CV-01846-LHK, 2011 WL 7036077 (N.D. Cal. Dec. 2, 2011); *Apple Inc. v. Samsung Electronics Co., Ltd.*, No. 11-CV-01846-LHK, 2012 WL 4490558 (N.D. Cal. Oct. 1, 2012); *Apple Inc. v. Samsung Electronics Co., Ltd.*, No. 11-CV-01846-LHK, 2012 WL 4097751 (N.D. Cal. Sept. 17, 2012); *Apple, Inc. v. Samsung Electronics Co., Ltd.*, No. 11-CV-01846-LHK, 2012 WL 2527044 (N.D. Cal. July 2, 2012);
39. *Apple, Inc. v. Samsung Electronics Co., Ltd.*, No. 11-CV-01846-LHK, 2011 WL 7036077 (N.D. Cal. Dec. 2, 2011).
40. U.S. Patent No. D618677 (filed Nov. 18, 2008), *available at* <http://www.google.com/patents/USD618677>.
41. *See, e.g., SAMSUNG GALAXY S 4G*, http://www.samsung.com/us/system/consumer/product/sg/ht/95/sght959habtmb/t959_400x400_large1_cf.jpg (last visited Mar. 23, 2014); *see also SAMSUNG INFUSE 4G*, http://www.samsung.com/us/system/consumer/product/sg/hi/99/sghi997zkaatt/infuse4G_marquee_bullet1.jpg (last visited Mar. 23, 2014). The images of the Samsung Galaxy S 4G and Samsung Infuse 4G phones illustrate Samsung phones' similar physical appearance to the popular Apple iPhone.
42. U.S. Patent No. D618677 (filed Nov. 18, 2008), *available at* <http://www.google.com/patents/USD618677>.

bringing patent infringement countersuits in U.S. Federal Court against Apple relating to wireless network technology.⁴³ Continued strike and counter strike escalated the initial dispute into a patent battle in just four months—by August 2011, there were 19 ongoing lawsuits between the 2 companies in 12 courts across 9 countries on 4 continents.⁴⁴ This presents a dangerous precedent of excessive and arbitrary litigation that is costly, inefficient, and fought over something that many consumers believe should have never been patented in the first place.⁴⁵

Sadly, the collection of *Apple v. Samsung* cases illustrates only one small facet of the war. Smartphone patent wars are by no means restricted to design patent infringements, and also widely incorporate utility patents as well, such as those revolving around Apple's "slide-to-unlock" feature.⁴⁶ Furthermore, in addition to these types of "general" infringement claims, the smartphone industry has a special kind of patent weaponry at its disposal, known as the "Standards-Essential Patent" ("SEP").⁴⁷ In order for certain functions on a person's smartphone, such as Wi-Fi, to work universally, every manufacturer must adhere to the same standard.⁴⁸ These standards are decided on by a committee, and ultimately involve many different patents which are owned by different companies.⁴⁹ Since this provides a strong incentive for a company to be the standards patent-

43. Chloe Albanesius, *Every Place Samsung and Apple Are Suing Each Other*, PC MAGAZINE (Sep. 14, 2011, 12:59 PM), <http://www.pcmag.com/article2/0,2817,2392920,00.asp>.

44. *Id.*

45. Richard Finger, *Patent Lawsuits: The Good, the Bad, and the Frivolous*, FORBES MAGAZINE (Nov. 26, 2012, 12:20 PM), <http://www.forbes.com/sites/richardfinger/2012/11/26/patent-lawsuits-the-good-the-bad-and-the-frivolous/>. The initial lawsuit resulted in a jury award of \$1 billion for Samsung after three days of deliberation. See Nick Wingfield, *Jury Awards \$1 Billion to Apple in Samsung Patent Case* (Aug. 24, 2012), http://www.nytimes.com/2012/08/25/technology/jury-reaches-decision-in-apple-samsung-patent-trial.html?_r=0. See also John C. Dvorak, *Why Apple Actually Lost to Samsung*, PC MAGAZINE (Aug. 28, 2012), <http://www.pcmag.com/article2/0,2817,2409010,00.asp> ("People in general reacted with astonishment that anyone could get a patent for a curve or straight line or flat surface. This sent two messages through the brains of consumers: First, this is an idiotic patent and Apple is grasping for straws. Second, the company is spending too much time on minutiae rather than functionality.").

46. Mikey Campbell, *Continuation of Apple's 'Slide-to-Unlock' Patent Covers 'Open-to-App' Functionality*, APPLE INSIDER (Oct. 9, 2012, 6:00 AM), <http://appleinsider.com/articles/12/10/09/continuation-of-apples-slide-to-unlock-patent-covers-open-to-app-functionality>.

47. Charles Arthur, *Apple, Samsung, Google and the Smartphone Patent Wars – Everything You Need to Know*, (Oct. 22, 2012, 3:45 AM), <http://www.guardian.co.uk/technology/2012/oct/22/smartphone-patent-wars-explained> (defining SEPs as "patents that are essential to a standard.").

48. *Id.*

49. *Id.*

holder, the following agreement is enforced: If a patent is “standards-essential,” then the patent-holder must agree to license that patent to other companies who want to implement that standard on a “reasonable and non-discriminatory” (“RAND”) basis.⁵⁰ What constitutes a “reasonable” licensing price and what “non-discriminatory” actually means are in dispute, and contention over SEP practices constitute a significant amount of the ongoing patent war litigation.⁵¹

C. *Defenses Against Infringement Claims*

Having reviewed different ways in which a patent infringement claim can be brought against a smartphone manufacturer, it is important to examine how they can be defended against. In the event of a patent infringement claim by Company A, there are three general ways for Company B to defend itself:

(1) B can invalidate A’s patent by either arguing there is prior art or that it fails the §101 four-factor test and should never have been granted in the first place;

(2) B can show that A’s patent does not apply to the technology at issue in the lawsuit because B does something different; or

(3) B can show that it has already paid for A’s patent through an existing licensing agreement (AKA patent exhaustion), or that the amount of payment being demanded by A is unreasonable.⁵²

To illustrate these defenses, consider Apple’s “slide-to-unlock” patent. Since Apple’s slide-to-unlock patent only involves dragging an object across a linear path,⁵³ Company B can cleverly evade an infringement lawsuit by avoiding the mechanism used in Apple’s patent and instead having an object which can be dragged in a non-linear path to a target location.⁵⁴ This is, in fact, the basis of the Android unlock system.⁵⁵

The above illustration is for general patent infringement cases. Where the dispute involves an SEP, only the last defense is effective.⁵⁶ Furthermore, a RAND-encumbered patentee company cannot bully a

50. This is also referred to as “FRAND” in Europe, where an ‘F’ is appended for “fair.” Anne Layne Farrar, A. J. Padilla, & Richard Schmalensee, *Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of FRAND Commitments*, 74 ANTITRUST L. J. 671, 671 (2007).

51. Arthur, *supra* note 58.

52. *Id.*

53. U.S. Patent No. 8046721 (filed Jun. 2, 2009) (issued Oct. 25, 2011), *available at* <http://www.google.com/patents/US8046721>.

54. Arthur, *supra* note 47.

55. *See, e.g.,* WE LIVE SECURITY: ANDROID UNLOCK SCREEN, http://www.welivesecurity.com/wp-content/media_files/AndroidUnlockScreen.png (illustrating the 9-dot passcode system used by modern Android phones).

56. Arthur, *supra* note 47.

competitor by refusing to license SEPs and instead seeking an injunction against that competitor's allegedly patent-violating devices.⁵⁷

III. REVIEW OF ISSUES AND POTENTIAL REMEDIES

A. *Re-Examining the Path of the War*

The Smartphone Patent War, popularized by media attention given to high-profile cases, has attracted the attention of legal professionals, including academics, commentators, judges, and practitioners. It is difficult not to take notice, given the staggering amount of litigation flooding the courts. In less than seven years, the top ten smartphone manufacturer litigators have amassed over 1,100 smartphone patent lawsuits as either plaintiff or defendant, including 142 such lawsuits involving Apple alone.⁵⁸ Major smartphone manufacturing companies continue to focus their resources on litigation to fight the smartphone war despite proving to be both costly and a quick way to make enemies.⁵⁹ Meanwhile, start-up companies are greatly disadvantaged in entering the market because they must worry about spending their money on a legal team.⁶⁰ Some observers go as far as to claim that if the smartphone war is allowed to continue on its current course, it will only end in mutually assured destruction.⁶¹ Even if that is not the case, patent use in the smartphone industry has proven to be offensive rather than defensive, abusive rather than incentivizing, and contravenes the very intent of the patent system. Clearly, the time is ripe to re-examine the war, and ask what could and what should be done to ensure the continued innovation that the patent system was designed to promote.

B. *The Problems with Smartphone Patent Litigation: Review of the Issues*

Given the complex set of issues associated with over-litigation in the Smartphone Patent Wars, it is important to step back and dissect the different components of the war. First, there are the patents themselves.

57. *Id.*

58. *Fighters in a Patent War*, N.Y. TIMES (Oct. 7, 2012), <http://www.nytimes.com/interactive/2012/10/08/business/Fighters-in-a-Patent-War.html>.

59. *See supra* Part III(A).

60. *Will \$Billions in Patent Lawsuits Kill Smartphone and Tablet Innovation?*, ADVISORY COMMITTEE TO THE CONGRESSIONAL INTERNET CAUCUS, (Oct. 16, 2012) [hereinafter *Netcaucus Podcast*], available at <http://www.netcaucus.org/audio/2012/20121016mobilepatents.mp3>.

61. *See, e.g.*, Steven J. Vaughn-Nichols, *Mutually Assured Destruction: Google/Motorola vs. Apple*, ZDNET (Aug. 20, 2012, 12:28 PM), <http://www.zdnet.com/mutually-assured-destruction-googlemotorola-vs-apple-7000002887/> (discussing the dangers of losing a patent lawsuit to a rival and arguing that big technology companies stay out of patent wars against each other because of the zero-sum implications).

Recall that a single mobile device draws upon hundreds of thousands of patents issued to many different parties, which greatly increase the chances of patent infringement disputes. Second, these parties may be smartphone manufacturers who use the patents, or they may not be practicing entities at all. The third component involves the types of infringement claims that these parties bring, which, for the purposes of this Note, can be divided into three categories: design patent claims, SEP claims, and utility patent claims. And finally, there is the court system which resolves infringement disputes. Each of the four components mentioned above contributes a possible avenue of change, discussed in greater detail below.

C. *Review of Possible Remedies*

1. Patents

As an initial matter, the root of the problem goes back to the patents that are involved in a smartphone. Since there is no easy way to reduce the number of patents that make up a mobile device, the other option would be to examine their issuance by the USPTO. As previously mentioned, the number of patents issued today far outweighs the pace and scope of patents granted previously in our nation's history,⁶² and the concern is that this is happening despite the absence of any evidence that Americans are actually becoming any more innovative.⁶³ Instead, patents are being granted too liberally: for descriptions of inventions that are overly broad, such as an idea rather than a specific method (in contravention of 35 US § 112), and for items that are obvious (in contravention of 35 US § 101).⁶⁴ Included in the intersection of this might be what one might call "frivolous patents," such as the page-turn patent⁶⁵ that Apple now owns. The page-turn patent embodies the animation of a page in a physical book being turned,⁶⁶ which is all too familiar to anyone who has watched Disney cartoons that begin with the opening of a storybook—all of which predate the filing of Apple's patent.⁶⁷

62. See *supra* Part I(C) (outlining the current state of patent issuance and patent scope rates).

63. Kestenbaum & Goldstein, *supra* note 7 (discussing recent inconsistent decisions in the smartphone industry).

64. See *id.*

65. Although the page-turn is more specific to tablets than smartphones, it provides a good example of a patent that crosses over and is both too broad and too obvious. See U.S. Patent No. D670,713 (filed Dec. 19, 2011), (issued Nov. 13, 2012) (This is a patent for "[d]isplay screen or portion thereof with animated graphical user interface.").

66. Nick Bilton, *Apple Now Owns the Page Turn*, (Nov. 16, 2012, 2:23 PM), THE N.Y. TIMES BITS BLOG, <http://bits.blogs.nytimes.com/2012/11/16/apple-now-owns-the-page-turn/> (criticizing the patent system for granting Apple a patent that essentially mimics turning a book page on an electronic device such as an iPad).

67. The original Disney film; *Robin Hood* (1973), provides one such example. See *The Adventures of Winnie the Pooh* (1977).

The reason for the over-issuance of patents may be because not only is the USPTO understaffed, it is particularly understaffed in the type of people who understand the technology that makes up smartphone patents.⁶⁸ Furthermore, research suggests that the USPTO issues patents in industries where more fees are expected to be generated, which provides misaligned incentives.⁶⁹ One way to rectify the over-issuance of patents would be to hire more experts at the USPTO to examine smartphone patent filings and look for and deny patents that are overly broad and obvious to someone who is familiar with smartphone technology. These experts would be paid according to a different incentives scheme than other USPTO patent granters so that they could provide a counterbalance to the misaligned-incentives problem. Although it might be costly to implement, the benefit would be that it would require no changes to current patent legislation since it only affects its implementation.

A second way to limit the number of patents would be to implement structural changes to the types of patents that are granted, making the requirements for getting particular types of patents stricter. One example of this is to adopt the European patenting standard for patents involving software that requires software patents to have a technical effect to be patentable.⁷⁰ An example of a product with such a patentable technical effect a computer program which can cause a computer to do something like “display items on screen, store a particular pattern in a memory, activate a peripheral device, or at the very least, cause certain electrical currents to run over particular connections.”⁷¹ The key effect of the difference here is that business methods are ordinarily patentable in the United States, while this is not usually the case with the European standard.⁷²

Finally, in addition to reducing the number of patents, new legislation could limit the time period for which those patents are valid. This is a reasonable suggestion for the smartphone industry for several reasons. First, it is an industry where many patent ideas quickly become outdated

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68. See *Netcaucus Podcast*, *supra* note 60 (discussing whether recent patent litigation is necessary and whether companies can innovate around intellectual property disputes).
69. *Id.* (restating the claims and views of Marvin Ammori, panelist and principal of Ammori Group Steering Committee, Engine Advocacy).
70. See Arthur, *supra* note 47 (discussing the smartphone patent wars between Apple and Google).
71. *Software Patents Under the European Patent Convention*, IUS MENTIS (Oct. 1, 2005), <http://www.iusmentis.com/patents/software/epc/>.
72. See *Nice Try, Amazon: ‘One-Click’ Payment Too Obvious to Patent*, THE REGISTER, (July 7, 2011, 9:00 GMT), http://www.theregister.co.uk/2011/07/07/european_patent_office_says_amazon_oneclick_payment_too_obvious_to_patent/ (explaining that “methods of business cannot be patented unless they solve a technical rather than administrative problem.”).

within a year or two anyway.⁷³ Second, the industry does not have the same characteristics as one that requires multi-year patent protection, such as the pharmaceutical industry, in which it is costly to research and develop a drug and where the effective patent term is shortened by drug testing conducted before sale of the drug⁷⁴.

2. Plaintiffs

The plaintiff bringing a patent infringement claim related to smartphone technology or design can be anyone who holds that patent. If restrictions are placed on patent lawsuits so that only parties who actually *use* the patents within a specified period of time can bring a lawsuit, or else they lose the patent,⁷⁵ then the number of infringement suits would be greatly reduced. This would also eliminate many instances of patent trolling, as previously defined,⁷⁶ since these parties do not produce in the industry. This suggestion is in fact justified by the original intent of the constitutional provision, which seeks to protect innovators, which non-practicing parties cannot claim to be. Furthermore, because patent ownership is transferrable via mergers and acquisitions, enforcing a use-it-or-lose-it policy on patents would also ensure that manufacturers buying other companies for their patent portfolios are actually doing so for innovative business reasons, and not just amass patent weapons.

3. Claims

Google, in defending Motorola against Apple, recently made an interesting argument around SEP claims. Google, who has been accused of abusing its SEPs, argues that just as there are standards-essential patents, there should also be commercially essential patents—patents that “cover features that are so popular as to have become ubiquitous” and should be considered *de facto* standards.⁷⁷ Google further argues that withholding these commercially essential patents—which can be interpreted to include both design and utility patents—is just as harmful to consumers and the competitive marketplace as withholding SEPs.⁷⁸ Naturally, Apple took

73. See *Netcaucus Podcast*, *supra* note 60 (discussing whether Congressional legislation is necessary to address increasing pace of mobile device innovation and competition).

74. See Posner, *supra* note 24 (discussing general problems created by the structure and administration of patent laws and the need for revision by public officials).

75. See *id.*

76. See *supra* Part III(A) (discussing the use of patents in the patent war between smartphone manufacturers).

77. John Paczkowski, *Google Says Some Apple Inventions Are So Great They Ought to Be Shared*, ALL THINGS DIGITAL (July 20, 2012, 3:05 PM), <http://allthingsd.com/20120720/google-claims-popularity-has-made-some-apple-patents-de-facto-essentials/> (suggesting that “proprietary non-standardized technologies that become ubiquitous due to their popularity with consumers should be considered *de facto* standards”).

78. *Id.*

great exception to Google's proposal in its response. Apple points out that standardizing technologies allows for interoperability, while non-standardized technologies create competition and drive innovation. In other words, from Apple's perspective, there is "a big difference between technology that became so popular because it was adopted as an industry standard and technology that became popular because consumers fell in love with it."⁷⁹ If those two intellectual property distinctions are blurred, then that removes a key incentive for innovators to innovate.

While arguments made by Google and Apple obviously provide skewed perspectives that are driven by each company's own ulterior motives, they do draw out the important distinctions between the three different types of patent claims. The fact the three types of patent infringement claims in the smartphone industry—those involving design patents, utility patents, and SEPs—are distinguished at the USPTO level gives reason to believe their infringement claims should also be dealt with differently. One way to make this distinction is to analyze these infringement claims in terms of whether the patents can be "innovated around," meaning whether smartphone manufacturers could easily design ways to get around the patent so as to avoid infringement.⁸⁰ Starting at one end of this spectrum, the easiest patents to innovate around are design patents, which manufacturers have proven to be able to avoid⁸¹ with a relatively small time investment.⁸² On the other extreme, SEPs, being essential to standards, are very difficult to innovate around, if it is even at all possible.⁸³ And in the middle, there are the utility patents.⁸⁴ Thinking in terms of this tri-categorical system allows for a framework at the USPTO patent-granting level in terms of deciding whether to issue a patent and for how long, as well as at the court level for different standards of review of each type of infringement claim.

4. Courts

Since the courts are responsible for reviewing smartphone patent infringement claims, their job is really to interpret and apply patent laws. Obviously then, the more case law defines and confines viable patent ideas and the specific implications for the smartphone industry, the better the chances that the amount of smartphone patent litigation will diminish. In this respect, courts have taken some steps toward enforcing certain patent

79. *Id.*

80. *See Netcaucus Podcast, supra* note 60 (discussing whether recent patent litigation is necessary and whether companies can innovate around intellectual property disputes).

81. *See supra* Part III(B) (discussing litigation between Apple and Samsung regarding design infringement by Samsung of Apple iPhone's general shape and appearance).

82. *Netcaucus Podcast, supra* note 71.

83. *Id.* (discussing the three different types of patent claims).

84. *Id.*

requirements that should help narrow the number of patents grant. For instance, a recent Supreme Court case discussed the obviousness requirement with respect to gas pedals and sensors, holding that the combination of two independently novel ideas is obvious, and therefore did not constitute appropriate patentable subject matter.⁸⁵ While this has had some impact on software patents in the smartphone industry,⁸⁶ it does not retroactively affect the multitude of patents that are already in existence.⁸⁷

Other court-level changes include limiting the remedies that courts could make available to injured parties. For example, legal experts also urge that during the decision-making process, courts should consider patents in perspective; one infringement or alleged infringement should not be grounds for an injunction against sales of the device as a whole. Furthermore, judges themselves are advocating for more educational programs to educate judges deciding patent cases on smartphone technologies,⁸⁸ which would give them a greater knowledge base to draw on when making a ruling.

5. Do Nothing

After having explored the possible remedies within each of the four component parts of the patent wars, the discussion turns to the existence of a fifth option: do nothing. Those who believe that the smartphone war does not require Congressional action advocate this “self-regulation” or “wait-and-see” approach. The legal experts who support this approach generally believe that the current smartphone patent war is not an original revolution, and thus nothing to be concerned about. They further believe that, with time, private solutions will arise on their own.

In the 1850s, America experienced its first “patent thicket,” a phrase referring to the situation where “too many patents covering individual elements of a commercial product are owned by different entities.”⁸⁹ The

85. *KSR Intern. Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”).

86. *See, e.g. Stone Strong, LLC v. Del Zotto Products of Florida, Inc.*, 455 Fed. Appx. 964, 969 (Fed. Cir. 2011) (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.”)

87. Kestenbaum & Goldstein, *supra* note 7 (stating that there are over one million software patents).

88. Posner, *supra* note 24 (arguing that because it is difficult for judges to understand modern technology, there is a need to “provide special training for federal judges who volunteer to preside over patent litigation”).

89. Adam Mossoff, *America’s First Patent Thicket: Sewing Machine War of the 1850s*, IP WATCHDOG (May 3, 2012, 1:07 PM), <http://www.ipwatchdog.com/2012/05/03/americas-first-patent-thicket-sewing->

intellectual property issues in a patent thicket are the same as with the anticommons problem with real property, where excessive fragmentation of ownership rights “increases transactions costs, accentuates hold-out problems, and precipitates costly litigation, which prevents commercial development of the affected property.”⁹⁰ In this case, the affected property was the development of the sewing machine, and newspapers referred to it at the time as the “Sewing Machine War.”⁹¹ Eventually, the use of a patent pool and cross-licensing agreements ended the war and allowed manufacturers to produce the sewing machine.⁹²

Proponents of the idea that the smartphone industry will self-regulate base their assertions on observations from the Sewing Machine War. They believe that the concerns regarding the Smartphone Patent War today mirror those that were once related to the Sewing Machine War, such as a lack of expertise in the field.⁹³ Drawing further comparisons, there was even a non-practicing entity in the sewing machine war, who owned a patent instrumental to the modern sewing machine and used it to “litigate[] himself into fortune and fame.”⁹⁴ Moreover, they hold that patent wars occur with “every single major leap forward,”⁹⁵ and the smartphone patent wars are just another example of this, requiring no governmental action. In fact, changing the patent system now might even be a bad move, because the “worst thing” that can happen is to “signal to [smartphone manufacturers and patent trolls] that the rules are going to change . . . about who has rights,”⁹⁶ because it just provides an incentive to hold out longer. Thus, advocates of self-regulation believe that the best thing to do with the smartphone patent war is simply to wait it out.

IV. PROPOSAL FOR CHANGE

A. *Discrediting the ‘Do Nothing’ Approach*

The ‘Do Nothing’ approach may be a feasible solution for other patent disputes, but not for the smartphone patent war. This is the case because of

machine-war-of-the-1850s/id=24521/ (discussing the first patent pool in American history).

90. *Id.* (explaining that the patent thicket concept is based on the theory of the anticommons in real property, “which arises when there is excessive fragmentation of ownership interests in a single parcel of land.”).
91. *Netcaucus Podcast, supra* note 60.
92. *Id.* (discussing how the use of the patent pool allowed patent owners to escape commercial blockage).
93. *Id.* (comparing the Smartphone Patent War and the Sewing Machine War).
94. Adam Mossoff, *The Rise and Fall of the First American Patent Thicket: The Sewing Machine War of the 1850s*, 53 ARIZONA L. REV. 165, 182 (2011) (describing the role Elias Howe Jr. played in the sewing machine war).
95. *Netcaucus, Podcast, supra* note 71.
96. *Id.*

three important distinctions. First and foremost, the smartphone patent war litigation is not really a patent thicket in the same sense the sewing machine war was. With the sewing machine war, the idea was to combine different patents to manufacture, for the first time, an instrument that would be the sewing machine. With smartphones, however, the device has already been invented and manufactured. While this difference may seem nuanced, it has some important implications. For instance, with the sewing machine, the costs of patent litigation greatly outweighed the benefits of creating a new invention. More importantly, the sewing machine patent holders were all entering a new market by agreeing to cooperate, and would be placed on a more or less even playing field. In the smartphone patent wars, the patent rights-holders are trying to block competitors out of a market they are already in. Smartphone patent war litigators, therefore, do not have the same incentives to cooperate and come up with a private solution, such as cross-licensing. Furthermore, the patent wars greatly disadvantage new entrants to the market, such as start-up companies.

Secondly, the argument that it would be bad to signal to smartphone patent litigators that their rights are going to change is moot. The reality is that courts are already headed down that path. In fact, given that the litigators are competitors in the market, what one party perceives as its “rights” are going to change no matter what a court decides.

Finally, even if it is true that there have been symptoms of a patent war with every major industrial or technological leap forward, there has never been a patent war of this magnitude, where some experts fear the only outcome may be mutually assured destruction. That possibility warrants some sort of active efforts to change the situation, rather than just sitting back waiting and hoping for the industry to sort itself out.

B. The Proposal

Finding the right way to deal with the over-patenting problem requires a balance between a clean-cut simple solution that lacks specificity in its application, and one that is more nuanced but effective. This proposal thus combines clear-cut, universally applicable rules with respect to who can bring a patent lawsuit with more nuanced rules for what sorts of patents should be issued by the USPTO and by whom. Finally, it gives suggestions on the proceedings at the court-level.

1. Rule for Patentees: The Use it Or Lose It Policy

The first part of the proposal is a simple clear-cut rule: implement a use-it-or-lose-it policy with respect to mobile device technology. Holders of mobile device technology—which would include technology for tablets or other devices that might be easily developed and transformed for a smartphone platform—should have a certain amount of time in which they must implement their patent into a product sold on the market. After that time period, if the patent holder does not use that technology in a marketed product, then he, she or it loses the rights to it. A procedure that would allow the patentee to apply for a time extension in certain cases, such as in the case of a developmental delay, where the patentee clearly still intends to use the patent but needs more time to implement it into the final product,

would complement this solution.⁹⁷ This rule would help eliminate much of the patent troll litigation from the smartphone wars who are clearly gaming the system⁹⁸ in clear violation of the constitutional intent of the patent system, rather than “promot[ing] . . . the useful arts.”⁹⁹ It would also help control the practice of manufacturers buying out other manufacturers to acquire their patent portfolios.

Unlike some other industries such as pharmaceuticals,¹⁰⁰ the mobile device industry is particularly well-adapted for a use-it-or-lose-it rule.

2. Changes to the Patents and USPTO

Since the USPTO is understaffed, and since there are so many problems implementing patenting laws that are already in existence about patentable subject matter, it makes sense to hire some additional help. The USPTO recognized this same problem and sought to solve it, in part, by making efforts to hire some 1,000 additional patent examiners for 2012.¹⁰¹ But instead of these new employee hires, the USPTO should really appropriate that hiring budget toward the hiring of more independent contractors.¹⁰² This approach to hiring would offer several advantages. First, it is possible that independent contractors may help counteract any misaligned incentives trend,¹⁰³ since they would be paid to examine a narrower scope of patents in which they have particularized knowledge. More importantly, however, independent contractors would be experts who understand the smartphone and mobile device industries and could make

97. Although not a perfect practice, this would also hopefully serve as some protection to the inventor who genuinely wants to protect his idea but has not yet come up with the resources to do so, so that such inventors are not inadvertent casualties of a rule designed to target patent trolls.

98. See *supra* Part III(A) (discussing the patent trolls that take advantage of the patent system to exact tolls on other companies).

99. U.S. CONST. art. I, § 8, cl. 8.

100. See Posner, *supra* note 24 (describing the pharmaceutical industry as the “poster child” for the patent system, and arguing that “few industries resemble pharmaceuticals” because they are instead characterized by low cost of invention or a competitive advantage just by being first in a market, and stating these industries would “get along fine without patent protection.”).

101. David J. Kappos, *USPTO FY 2012 Budget Request*, U.S. PATENT AND TRADEMARK OFFICE, (Mar. 12, 2011), available at http://www.uspto.gov/news/speeches/2011/kappos_house_2012budget.jsp (presenting the USPTO budget for 2012).

102. The idea to hire independent contractors is not entirely novel, as the USPTO pays independent contractors to examine certain international patents. See e.g., Press Release, U.S. Patent and Trademark Office, *USPTO Contracts International Patent Application Searches to Commercial Firms*, <http://www.uspto.gov/news/pr/2005/05-48.jsp> (announcing contracts the USPTO awarded to foreign companies in a Patent Cooperation Treaty search pilot program).

103. See *supra* Part IV(C)(1) (discussing research results that indicate the USPTO issues patents in industries that can generate more fees).

judgments on novelty and obviousness and the general frivolousness of a patent from the perspective of someone who is familiar with the technologies of the industry. This should help reduce the number of patents being issued in accordance with the legislative intent, which will greatly help the amount of smartphone patent litigation down the line.

In addition to new hires at the USPTO, it would further be helpful to implement some changes to the patents themselves. For this, the categorization of the three types of patents is useful. Since design patents are easy to innovate around, they should receive few changes, if any. The data is probably insufficient at the moment since the smartphone market is still relatively young, but if and when data allows, it might be worth investigating the actual term of the average design patent in the smartphone industry—how long it is used in practice—to see if fourteen years is excessive.¹⁰⁴ For now, however, it is sufficient to leave design patents alone because the possibility to innovate around them allows avoiding infringement.

On the other hand, SEPs are necessary for implementation of certain smartphone capabilities and their use is thus sometimes unavoidable, and so they would require more changes. To this end, the experts at the USPTO who are responsible for issuing smartphone-related patents (or even a different set of experts) should conduct research into what “RAND” should mean. Furthermore, current practices do not require a patentee to notify the USPTO when his patent becomes an SEP patent, but they should so that a RAND licensing price or agreement may be associated with that patent.¹⁰⁵

3. Changes at the Court Level

Just as the USPTO could benefit from experts, so too could the court system. Judges are rarely patent experts, particularly where technological patents are concerned, and neither are the average citizens who sit on the juries of infringement lawsuits. If judges are better educated on patents and the technology behind them, they are able to make better judgments about whether a lawsuit is frivolous, has no merit, and should be dismissed. If a case does go to a jury trial, an understanding of patent technologies would also help a judge properly instruct the jury. In this respect, judges who deal with patent litigation should receive at least a cursory training of the issues involved. If this is successful, it is worth considering implementing a patent-infringement-specific court system so that there are patent judges who are equipped to deal with specific patent issues. However, small changes should precede big structural overhauls, and thus this proposal does not explore this suggestion any further.

104. *See supra* Part II(B) (stating that the life of a design patent is fourteen years).

105. *Netcaucus Podcast, supra* note 60 (discussing the deficiencies in current practices related to Standard Essential Patents).

While the above framework addresses many of the issues plaguing the smartphone patent war, it is nonetheless important to point out some of the unavoidable shortcomings. For one, any new legislation would not only be hard to pass, it would take time to pass. Furthermore, even after the legislation did pass, there would then be an issue of whether the law would apply retroactively to include existing patents. In the meantime, patent issuance would continue to build up for obvious or frivolous or overly broad patents, and there would be no way to counteract that. Secondly, the passage of the America Invents Act, changing the United States from a first-to-invent to a first-to-file system,¹⁰⁶ makes it difficult to predict the impact on smartphone patents. Finally, even if U.S. laws change or case law establishes specific rules regarding smartphone patent litigation, it would have no impact on smartphone lawsuits happening in other countries. In a time when interdependency between countries and international trade is so prevalent, it is difficult to imagine the impact of national laws on a global phenomenon.

CONCLUSION

The Smartphone Patent War and the problem of over-patenting and over-litigation is a symptom of the faltering state of the United States Patent System. The United States Patent and Trademark Office is severely understaffed. The number of patents the United States Patent and Trademark Office issues is at an all-time high while innovation is not. Rather than protecting innovators and promoting technological advances, the main role patents play in the smartphone industry is to fend off competitors and keep out new entrants to the market, such as small start-up companies that cannot afford to compete in litigation. It is clearly time for a change.

The proposal above allows for a foreseeable end to the war that balances simplicity of execution with effectiveness. By instituting a handful of changes at the USPTO level, the plaintiff level, and the court level, the large number of smartphone patent infringement cases would greatly diminish. And hopefully, the possibility of only ending the war through mutually assured destruction will materialize.

106. *Leahy-Smith America Invents Act Implementation*, U.S. PATENT AND TRADEMARK OFFICE, http://www.uspto.gov/aia_implementation/index.jsp (last visited Mar. 23, 2014) (providing information regarding the implementation of the America Invents Act). *See also* Press Release, U.S. Patent and Trademark Office, *Historic Patent Reform implemented by U.S. Patent and Trademark Office* (Sept. 17, 2012), <http://www.uspto.gov/news/pr/2012/12-59.jsp> (announcing that most provisions of the America Invents Act went into effect).