



**Committee on the Judiciary
Subcommittee on Courts, Intellectual Property, and the Internet**

**Hearing
The Impact of Bad Patents on American Businesses**

**Testimony of Julie P. Samuels
President of the Board, Engine
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Chairman Issa, Ranking Member Nadler, thank you for holding this hearing and inviting me to testify about the impact of bad patents on American businesses. We are greatly encouraged by all the Judiciary Committee and this subcommittee have done to address very real problems with the patent system.

I am the President of the Board of Engine, a technology policy, research, and advocacy organization that bridges the gap between policymakers and startups. To accomplish this, Engine works with government and a community of hundreds of high-technology, growth-oriented startups across the nation to support the development of technology entrepreneurship. Engine creates an environment where technological innovation and entrepreneurship thrive by providing knowledge about the startup economy and helping to construct smarter public policy. To that end, Engine conducts research, organizes events, and spearheads campaigns to educate elected officials, the entrepreneur community, and the general public on issues vital to fostering technological innovation.

As has been much discussed, often before this very subcommittee, patent litigation abuse is a real problem, and one that disproportionately targets the startups and small businesses that make up Engine's community. Patent litigation abuse and patent trolling¹ stem primarily from those armed with low-quality patents. The resulting problem is an acute and growing menace that adversely impacts the operations and viability of companies that can least afford these threats. Since startups and small businesses are key drivers of innovation and job growth, troll threats against them are particularly stifling to American economic growth and prosperity.

¹ As a preliminary matter, I use the colloquial term "patent troll" or "troll" throughout this testimony for ease of description, but titles and terminology are immaterial. Indeed, when armed with a bad patent, any individual or entity can act like a troll.

Indeed, it has been estimated that patent trolls cost the U.S. economy at least \$29 billion per year.²

Background

The patent system is enshrined in Article I Section 8 of the Constitution, which simply says: “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” Courts, Congress, the Patent Office (the “PTO”), and practitioners alike have been trying to unpack those 27 words for generations. To understand the meaning, and the resulting patent system, you must start with the first clause: “to promote the progress of science and the useful arts.” What, then, promotes that progress?

That progress—“innovation” in modern parlance—inevitably requires a balancing act. As the Government Accountability Office put it in its 2016 report (“GAO Report”), the “patent system gives rise to complex trade-offs involving innovation and competition.”³ Those trade-offs exist between two groups of stakeholders: patent holders and the public domain. In exchange for a 20-year monopoly, a patent holder must dedicate to the public an explanation of her invention and how to practice it. This bargain should allow the public to benefit from the innovation *and*, as with traditional real property rights, understand the boundaries of what belongs to the patent holder and what does not.

Unfortunately, that bargain has stopped functioning properly. Low-quality patents, particularly in the high-tech and software space, make it nearly impossible for small businesses and startups to productively engage with the patent system. First, patents are often described in unreasonably vague terms, making their application and scope difficult to understand. Indeed, nearly half of patent examiners (patent professionals!) encounter terms in an application’s specification that are not well defined.⁴ And all too often, those terms end up in granted patents. If an examiner cannot understand a term, it is ludicrous to think that a small business could without racking up exorbitant legal fees.

Second, the volume of software patents is prohibitively daunting and weakens the system. It has been estimated that at least 40,000 software patents are granted in any year. When one considers the scope of the system, and the fact that software and high-tech patents do not have easily searchable indices or consistent definitions, it is easy to understand why a small company cannot clear the path of potential patent suits and therefore might not even try.⁵

² Bessen, James and Michael Meurer. “The Direct Costs from NPE Disputes.” 28 June 2012. *Cornell Law Review*, Vol. 99, 2014, forthcoming. Boston Univ. School of Law, Law and Economics Research Paper No. 12-34: p. 2. https://www.bu.edu/law/faculty/scholarship/workingpapers/documents/BessenJ_MeurerM062512rev062812.pdf.

³ General Accounting Office, “Patent Office Should Define Quality, Reassess Incentives, and Improve Clarity.” 30 June 2016. GAO-16-490. <https://www.gao.gov/products/GAO-16-490>.

⁴ *Id.* at 33.

⁵ Christina Mulligan and Timothy B. Lee, “Scaling the Patent System,” *NYU Annual Survey of American Law*, March 6, 2012. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2016968.

The good news is that Congress, by the America Invents Act, and the Courts, through decisions like *Alice v. CLS Bank*, have started to right the ship. But with more than 2.5 million active patents,⁶ there remains much work to be done.

The Impact on Startups and Small Businesses

Startups and small businesses develop breakthrough technologies that fuel innovation and drive economic growth and job creation. In fact, research shows that new firms are responsible for all net new job growth in the United States.⁷ Consequently, the crushing impact of low-quality patents on startups reverberates throughout the ecosystem, impeding innovation and hurting the U.S. economy at large.

Research also shows that startups and small businesses bear the brunt of troll abuse⁸ and the impact of troll threats on startups is disproportionately severe: 82 percent of troll activity targets small and medium-sized businesses, and 55 percent of troll suits are filed against companies with revenues of less than \$10 million.⁹ Generally lacking the resources to decipher vague and often bogus lawsuits, those startups and small businesses are vulnerable to extortion. The time and money required to fight back against a troll could put the viability of their entire business in jeopardy.

Unfortunately, these trends do not show many signs of changing. Approximately two-thirds of unique troll targets in 2016 were companies with revenues below \$100 million.¹⁰ And despite the fact that patent litigation was down in 2016, the decline was mostly attributed to the largest defendants. This suggests that trolls are shifting focus away from seasoned defendants, and toward more vulnerable targets.¹¹

The mere threat of patent litigation impacts the operations of a small business. A very high percentage of startups that received a demand letter from a patent troll reported “significant operational impact” in the form of deferred hiring, change in strategy, cost-cutting, reductions in personnel, decreased valuation or total shut-down.¹²

⁶ Dennis Crouch, “The Number of U.S. Patents in Force,” PatentlyO, 23 Oct. 2014. <https://patentlyo.com/patent/2014/10/number-patents-force.html>

⁷ Hathaway, Ian, “Tech Starts: High-Technology Business Formation and Job Creation in the United States,” Kauffman Foundation Research Series: Firm Formation and Economic Growth, August 2013. http://www.kauffman.org/~media/kauffman_org/research_reports_and_covers/2013/08/bdstechstartsreport.pdf.

⁸ Savitz, Eric, “Are Patent Trolls Now Zeroed In On Start-Ups?” Forbes, Jan. 17, 2013. <http://www.forbes.com/sites/ciocentral/2013/01/17/are-patent-trolls-now-zeroed-in-on-start-ups/>.

⁹ Chien, Colleen V., “Patent Assertion Entities,” Presentation to the Dec. 10, 2012 DOJ/FTC Hearing on PAEs, Dec. 10, 2012. <http://ssrn.com/abstract=2187314>.

¹⁰ “RPX Data Update: Patent Litigation Volatility Persists As Strategies Shift,” RPX Blog, Jan. 3, 2017. <http://www.rpxcorp.com/2017/01/03/rpx-data-update-patent-litigation-volatility-persists-as-strategies-shift/>.

¹¹ *Id.*

¹² Chien, Colleen, “Startups and Patent Trolls,” *Stanford Technology Law Review*, forthcoming. Santa Clara University Legal Studies Research Paper No. 09-12: p.2. Sept. 28, 2012. <http://ssrn.com/abstract=2146251>.

It can easily cost a startup \$50,000 just to hire a patent lawyer to evaluate demand letter claims. Litigation costs range between \$1 million and \$6 million, and can mean life or death for a fledgling business.¹³ So startups often capitulate, and layoff an employee or hire one less programmer, in order to pay off the troll. For example, Ditto, a virtual eyewear company, had to lay off four of its 15 employees in response to a troll demand. Although the infringement claim was dismissed, the suit resulted in a reduction in Ditto's valuation of \$4 million.¹⁴

It's not just small startups, but more mature ones as well. Take Foursquare, an eight-year-old company. Over the last 2.5 years, it has had to spend \$3 million in legal fees and settlements facing patent troll suits and resulting litigation abuse. This is money that would likely otherwise be spent on hiring. While I understand that \$3 million might not sound like much in Congressional terms, for Foursquare and other similarly situated companies, \$3 million could have paid for five or six engineers over this same period of time they faced patent litigation battles.

Additionally, patent troll suits have chilling effects on the investment community. In a survey of 200 venture capitalists, 100 percent indicated that the presence of just a patent demand letter would be a major deterrent in deciding whether to invest.¹⁵ It is estimated that VC investment in startups would have been \$8 billion higher but for troll threats in the period of 2009-14.¹⁶

Trolls like to paint themselves as the champions of the small guys, as legitimate entities who help independent inventors monetize their patents by enforcing them on the inventor's behalf. In fact, trolls increasingly *target* small entities, and statistics show that very little of a patent troll's revenue is transferred to actual inventors.¹⁷ Patent trolling activities are associated with half a trillion dollars of lost wealth for their victims—largely startups and small businesses—from 1990 to 2010 alone.¹⁸

And while numbers and statistics can feel abstract, the impact that low quality patents, and the resulting patent trolls, have on real startups and entrepreneurs is extremely personal. Just look at the case TMSoft, creator of a popular white noise app, which was targeted by now notorious troll Lodsys. Lodsys was a particularly destructive troll, targeting app developers for implementing simple click-to-upgrade functionality, a basic technology that both Apple and

¹³ Lee, Ben. "Twitter: It's time for patent trolls to bear the cost of frivolous lawsuits," GigaOm, Oct. 8, 2012. <https://gigaom.com/2012/10/08/twitter-time-for-trolls-to-pay-full-price-for-patent-mischief/>.

¹⁴ Mullin, Joe, "New Study Suggests Patent Trolls Really Are Killing Startups," Ars Technica, June 11, 2011. <http://arstechnica.com/tech-policy/2014/06/new-study-suggests-patent-trolls-really-are-killing-startups/>.

¹⁵ Feldman, Robin, "Patent Demands & Startup Companies: The View from the Venture Capital Community," Oct. 28, 2013. UC Hastings Research Paper No. 75: p. 11. <http://ssrn.com/abstract=2346338>.

¹⁶ Tucker, Catherine, "Patent Trolls and Technology Diffusion," Massachusetts Institute of Technology, Management Science, Working Paper, 201, March 23, 2014. <http://ssrn.com/abstract=2136955>.

¹⁷ Bessen, James, and Michael Meurer, "Patent Trolls in Public," Patently-O, March 19, 2013. <http://patentlyo.com/2013/03/patent-trolls-in-public.html>.

¹⁸ Bessen, James, Jennifer Ford, and Michael Meurer, "The Private and Social Costs of the Patent Trolls," Boston Univ. School of Law, Law and Economics Research Paper No. 11-45, p. 17, Sept. 19, 2011. <http://ssrn.com/abstract=1930272>.

Google provide to their app sellers. TMSoft founder Todd Moore was forced to defend his company, knowing that litigation could cost millions of dollars he didn't have. But he still rejected Lodsys' offer of a \$3,500 settlement that would be routed to an overseas bank account. Fortunately, Lodsys decided to drop the case before it went to trial. But Moore's attorney estimates the case required legal work that was valued at \$190,000—even though it never even made it to a courtroom.

Trolls like these thrive on low-quality patents. Take, for instance, two of the most notorious. You might remember MPHJ, the infamous “scanner troll.” MPHJ claimed to own the technology behind scanning a document to email, and proceeded to send letters to approximately 16,465 small businesses nationwide, claiming that those businesses infringed on MPHJ's patents and demanding a licensing fee of thousands of dollars from each.¹⁹ State attorneys general from states such as New York, Vermont, and Minnesota went after MPHJ, as did the FTC, for behavior that likely violated consumer protection statutes, but it wasn't until earlier this year until this troll was finally put out of business when the Federal Circuit upheld a Patent Trial and Appeal Board (“PTAB”) ruling invalidating the patent claims at the heart of MPHJ's arguments.²⁰ Of note, MPHJ's patent was challenged by Ricohs, Xerox, and Lexmark—companies who arguably know a bit about scanning technology. Clearly more than MPHJ did.

Another particularly egregious patent troll claimed to own the basic technology behind podcasting and sued podcasters large and small for infringement. Specifically, Personal Audio claimed that it invented the process of updating a website regularly with new, related content creating a series or episodes—basically podcasting—in 1996. The Electronic Frontier Foundation challenged that patent at the PTO and showed that, in fact, that companies like CNN had been putting shows online since as early as 1993.²¹

Trolls like MPHJ and Personal Audio thrive on low-quality patents, of which there is unfortunately no shortage. The PTO has issued patents on filming a yoga class,²² using a computer to count calories,²³ changing TV channels,²⁴ showing ads on the internet before a user can view copyrighted content,²⁵ and, famously, exercising a cat using a laser pointer.²⁶

¹⁹ Julie Samuels, “MPHJ Exposed: The Real Dirt on the Notorious Scanner Troll,” EFF Blog, Jan. 14, 2014, <https://www.eff.org/deeplinks/2014/01/mphj-exposed-the-real-dirt-notorious-scanner-troll>.

²⁰ See, e.g., *MPHJ Tech. Investments v. Ricoh Americas Corp.*, Case No. 2016-1243 (Fed. Cir. Feb. 13, 2017).

²¹ Karen Gullo, “EFF's Podcasting Patent Win Highlights a Disturbing Trend,” EFF Blog, April 17, 2015, <https://www.eff.org/deeplinks/2015/04/effs-podcasting-patent-win-highlights-disturbing-trend>.

²² Vera Ranieri, “October's Very Bad, No Good, Totally Stupid Patent of the Month: Filming A Yoga Class,” EFF Blog, Oct. 30, 2014, <https://www.eff.org/deeplinks/2014/10/octobers-very-bad-no-good-totally-stupid-patent-month-filming-yoga-class>.

²³ Daniel Nazer, “Stupid Patent of the Month: Using A Computer To Count Calories,” EFF Blog, June 30, 2017, <https://www.eff.org/deeplinks/2017/06/stupid-patent-month-using-computer-count-calories>.

²⁴ Daniel Nazer, “Stupid Patent of the Month: Changing the Channel,” EFF Blog, Oct. 31, 2016, <https://www.eff.org/deeplinks/2016/10/stupid-patent-month-changing-channel>.

²⁵ See, e.g., *Ultramercial, Inc. v. Hulu, LLC, No. 10-1544 (Fed. Cir. Nov. 14, 2014)*.

²⁶ U.S. Patent No. 5,443,036.

Engine has heard from numerous startups sharing their stories over the years. However, most victims are either too afraid of more litigation or under nondisclosure agreements and cannot make public the terms of their settlements. See Appendix 1 for more examples of patent trolls suing startups.

Recent Progress in the Fight to Eliminate Bad Patents: Section 101

In 2014, the Supreme Court ruled in favor of decreasing ambiguity and vagueness in software patents. In *Alice v. CLS Bank*, the Court held that 35 U.S.C. § 101 meant that implementing otherwise abstract ideas on a general purpose computer would not render those ideas patentable. Since then, *Alice* and its progeny have provided small businesses and startups with a new tool to push back on spurious claims of infringement. Indeed, multiple companies in our network have reported that counsel now often recommends that they fight back against trolls as Section 101 provides a viable defense to get out of a lawsuit early, before costs become unbearable.

A 2016 study of infringement actions found that 76 percent of defendants' motions to dismiss under *Alice* were granted when filed in the initial stages of litigation.²⁷ However, given the scope of existing patents, *supra* at 3, *Alice* has proven to be a limited tool thus far as only about four percent of all patents asserted since 2014 have appeared in an *Alice* decision.²⁸

The four-percent figure is low as the vast majority of cases result in a settlement. However, the impact of *Alice* has been felt where it was most needed—in the software space. As of May 2017, 465 patents have been invalidated in whole or part under *Alice*.²⁹ Of those, 333—more than 70 percent—were invalidated because they were abstract ideas implemented on a generic computer. Of note, only 17—approximately three percent—were invalidated for representing a law of nature or natural phenomenon.³⁰

Alice has been lifesaving for startups founders like Ken Cooper who created a mobile scavenger hunt app for the iPhone and iPad. In January 2017, a patent troll called Locality Leep, LLC sued Ken's company, Coopercode, alleging that the game infringed on a patent for "Treasure Hunt Game Utilizing GPS Equipped Wireless Communications Device." U.S. Patent No. 6,320,495. The patent claimed to own the combination of widely used GPS technology and the age-old pastime of treasure hunts.

²⁷ Susan Decker, "When a Tech Patent Is Neither," BloombergBusinessWeek, August 17, 2016.

<https://www.bloomberg.com/news/articles/2016-08-17/why-hundreds-of-software-patents-are-being-thrown-out> (reporting a "66 percent success rate" when motions are filed in later stages of litigation, and also reporting that "[c]ourts have invalidated more than 370 software patents" under *Alice*).

²⁸ "RPX Data Update: Patent Litigation Volatility Persists As Strategies Shift," RPX Blog, Jan. 3, 2017.

<http://www.rpxcorp.com/2017/01/03/rpx-data-update-patent-litigation-volatility-persists-as-strategies-shift/>.

²⁹ Figures found at <https://www.fenwick.com/pages/post-alice.aspx> (last updated May 11, 2017).

³⁰ Of note, 309 of the 465 invalidated patents were invalidated by the PTAB as part of the Covered Business Method Program ("CBM"). Because CBM only applies to patents in the financial industry, we know that these 309 patents all relate to financial services. CBM is the only PTAB procedure that allows for reviews in that tribunal based on Section 101.

Ken is the named inventor on six patents from his past experience at Microsoft and suspected the patent was frivolous. He was sued in the Eastern District of Texas and knew that his prospects in the patent-friendly and expensive jurisdiction were slim. Ken's attorney wrote to Locality Leap explaining that its patent claims were invalid under *Alice*. Facing a defendant willing to fight back, Locality Leap withdrew the lawsuit immediately.³¹

The Electronic Frontier Foundation has featured several startups who were successful in defending themselves from trolls using the *Alice* decision. (See Appendix 2 for a summary of these cases.) In fact, it's even been argued that *Alice* and subsequent court decisions have finally created much needed certainty over the validity of business method patents - specifically, which ones would survive legal scrutiny. That certainty has allowed some startups—those who hold high-quality business method patents—alternative ways to secure capital.³²

As discussed above, the patent system should grant clear rights narrowly, giving an applicant no more and no less than she can show is truly novel. Over the past few years, *Alice* has slowly started making inroads on some of the lower-quality patents that run afoul of this goal.³³ Given the scope of the problem, and how many patents (particularly in the software space) exist on the books, this work must be allowed to continue to protect both patent owners and—just as importantly—innovators working in the public domain.

Recent Progress in the Fight to Eliminate Bad Patents: *Inter Partes* Review

In 2011, the America Invents Act (“AIA”) became law after nearly a decade of Congressional hearings, bipartisan and bicameral negotiations, and countless industry meetings. One year later, the Patent Office—through the PTAB—began hearing *inter partes* reviews (“IPRs”). Since then, IPR has provided an invaluable tool for small businesses and startups looking for a more efficient way to defend themselves against spurious patent infringement threats. Even more, it has helped insert balance into a patent system that desperately needed it. I will note that that, ironically, one of the most important legislative reforms to the patent system is one that was made before the startup community was organized in a manner to engage directly with Congress. For that reason, I think it is imperative that the Committee understand the importance of the AIA—and particularly the IPR process—to the startup and small business community today.

³¹ “The Patent Troll and the Scavenger Hunt,” EFF Blog. <https://www.eff.org/alice/patent-troll-and-scavenger-hunt>.

³² Robert Laverty, “Alice-Backed Securitization: Start-Ups’ New Alternative to Venture Capital,” 16 J. Marshall Rev. Intell. Prop. L. 246 (2017). <http://repository.jmls.edu/ripl/vol16/iss2/4/>.

³³ Indeed, the software industry has done incredibly well since *Alice* was decided, outperforming the rest of the market. See, e.g., Comments of the Electronic Frontier Foundation Regarding Request for Comments Regarding Subject Matter Eligibility, USPTO Docket No. PTO-P-2016-0041, Jan. 18, 2017. https://www.uspto.gov/sites/default/files/documents/Comments_EFF_jan172017.pdf (

The benefits of IPR extend beyond those who challenge a patent's validity;³⁴ they squarely include patent holders who are advantaged by a well-functioning system that produces high-quality patents. As this subcommittee is well aware, Congress enacted the post-issuance reviews proceedings, including IPR, in the AIA to “provide a meaningful opportunity to improve patent quality and restore confidence in the presumption of validity that comes with issued patents in court.”³⁵ As such, the IPR process is intended to protect all stakeholders, including the patent holder, the public domain, and the patent system by way of the USPTO.³⁶

To really understand the success of the IPR process, one must also understand its limitations. First, the IPR process includes meaningful and effective incentives to ensure only the weakest patents are targeted. Second, IPRs are not cheap. While they can be significantly less expensive than litigation, they still cost well into the six figures, a number that is prohibitive for many small businesses and startups. Additionally, single-petition IPR strategies are not always sufficient, and the cost of multi-petition challenges can easily reach into the millions.³⁷

Finally, the IPR system requires petitioners to set forth their entire case at the outset of the proceeding, thereby creating a high barrier to entry. It also applies a strong estoppel provision by which petitioners are barred from raising any issue in court later that they could have raised before the PTAB. In other words, a petitioner is highly unlikely to put forward any argument she is unlikely to succeed on. And if a patent survives an IPR proceeding, it becomes even stronger, often called a “gold-plated” patent, which the petitioner then has to face in litigation.

Despite these limitations, the structure of the IPR system, as mandated by Congress and implemented by the PTO, has served the patent system well. Critics claim they are “patent death squads,” but the data prove otherwise. For starters, as of December 2016, only 5591 of the more than 2.5 million active patents have even been challenged³⁸—that is approximately .002 percent. Significantly more patents are litigated—only about 15.2 percent of litigated patents are challenged at PTAB.³⁹

Critically, the majority of patents challenged in an IPR proceeding are in the high-tech space, where most of the bad patents issued originally. Of the 5591 filed IPRs, 55 percent of those are electrical/computer and another 29 percent are mechanical or business method. On the other hand, only seven of the total IPRs filed were in the bio/pharma field.⁴⁰

³⁴ The IPR process remains prohibitively expensive for many startups and small businesses.

³⁵ H.R. Rep. No. 112-98, pt.1, at 48 (2011).

³⁶ See, e.g., *Knowles Elec. v. Matal* (Fed. Cir. 2017).

³⁷ “IPRs: Balancing Effectiveness vs. Cost,” RPX Blog, June 16, 2016.

<https://www.rpxcorp.com/2016/06/17/iprs-balancing-effectiveness-vs-cost>.

³⁸ Patent Trial and Appeal Board Statistics, Dec. 31, 2016.

https://www.uspto.gov/sites/default/files/documents/aia_statistics_december2016.pdf.

³⁹ Vishnubhakat, Saurabh and Rai, Arti K. and Kesan, Jay P., Strategic Decision Making in Dual PTAB and District Court Proceedings (July 22, 2016). Berkeley Technology Law Journal, Vol. 31, 2016; Duke Law School Public Law & Legal Theory Series No. 2016-14; Texas A&M University School of Law Legal Studies Research Paper No. 16-34. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2731002.

⁴⁰ *Id.*

Perhaps not surprisingly, trolls, were the respondent in approximately 65 percent of all PTAB petitions challenging high tech patents in 2016 alone.⁴¹ Additionally, PTAB proceedings that were brought against trolls were more likely to be instituted in the IPR process and to result in the patent being invalidated. Additionally, statistics from the PTAB have shown that patents owned by trolls are more likely to be found invalid under review than those of patents owned by operating companies. To quote from *IAM*:

Indeed, the numbers obtained suggest that PTAB proceedings against NPEs are both more likely to be instituted and, once instituted, are more likely to result in a final written decision in which all claims are cancelled. For example, while the PTAB only decides to institute 68.5% of those petitions that are filed against the patents of operating companies, that number rises to 72.9% for petitions filed against the patents of NPEs. Furthermore, while only 71.8% of PTAB proceedings instituted against patents owned by operating companies result in all instituted claims being cancelled, that number is 74.7% for proceedings instituted against patents owned by NPEs. Furthermore, because the final written decision numbers only account for those proceedings that were instituted and reached final written decision, these differences are actually understated. Indeed, the claim cancellation rate is cumulative of the proceeding institution rate. This cumulative effect suggests that petitioners seeking PTAB review of patents owned by NPEs are more likely to be successful than those seeking review of patents owned by operating companies.⁴²

Practitioners have by and large been pleased thus far with the IPR process.⁴³ In fact, nearly half of patent owners see a benefit in having IPR proceedings available.⁴⁴ And it's no wonder: 80 percent of petitioners and 57 percent of patent owners alike agreed that an IPR proceeding speeds up resolution of a district court case.⁴⁵ Moving cases through the federal court system more efficiently is a significant benefit of IPR, one that accrues to our justice system across the board. Also of note, PTAB has a good track record on IPRs—78 percent of appealed cases have been affirmed.⁴⁶

⁴¹ "2016 Annual Patent Dispute Report," Unified Patents, Jan. 1, 2017.

<https://www.unifiedpatents.com/news/2016/12/28/2016-annual-patent-dispute-report?rq=annual%20report> at fig. 13.

⁴² Joff Wild, "The figures indicate that the PTAB really is the patent death squad for NPEs," June 9, 2016.

<http://www.iam-media.com/blog/detail.aspx?q=173a99d0-5374-416c-91ab-1b9dce4dc87c>.

⁴³ See, generally, "Patent Owners, Petitioners Not Far Apart on PTAB Value," Bloomberg Law and AIPLA, Nov.-Dec. 2016. <http://src.bna.com/IUN>.

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ William J. Genks, "I Lost at the USPTO, What Are My Chances on Appeal?" *Landslide* Vol. 9 No. 3, Jan.-Feb. 2017.

https://www.americanbar.org/publications/landslide/2016-17/january-february/i_lost_the_uspto_what_are_my_chances_appeal.html (sub. req'd).

These statistics clearly show a successful procedure, but so do the actual stories. Because of successful IPRs, patent trolls like MPHJ, which claimed to own the technology behind scanning documents to email, and Personal Audio, which claimed to own the technology behind podcasting, *supra* at 5-6, have been forced to stop suing innocent victims who use everyday technologies in their businesses.

Conclusion

A strong innovation economy is core to our nation's economic success. Small businesses and startups have always driven that growth and we must depend on them to continue to play that role. Unfortunately, for many years, those businesses have been shut out of an imbalanced and outrageously expensive patent system that has resulted in the issuance of countless bad patents. The good news is that in recent years, because of the Supreme Court's ruling in *Alice v. CLS Bank* and the America Invents Act, the tide has started to turn. The bad news is that there is much work left to be done. We thank the subcommittee for this opportunity to be heard on an issue so important to American businesses and innovation and we look forward to continued engagement on the same.

Appendix 1: A Sampling of Patent Troll Cases⁴⁷

Jump Rope, Chicago, IL

An Air Force veteran and former Combat Pilot, Braxton started Jump Rope using his own money and funds raised from friends and family. Jump Rope is a Chicago-based smartphone application where users can pay a (dynamic) price to skip the line and gain immediate entrance to nightclubs, bars, museums, and sporting events. The platform provides a time-saving, transparent and hassle-free service to its customers.

Less than one month after launching Jump Rope, a patent troll called Smart Options approached Braxton, claiming that Jump Rope infringed its patent. Braxton's lawyers advised him to settle, but he instead decided to fund the litigation personally—spending more than \$250,000. Braxton won the first suit, and the court awarded him fees after a finding that the Smart Options failed to perform even minimal due diligence before suing. Nevertheless, Smart Options came back, threatening additional suits with even more patents. The situation took a surprising turn when Erich Spangenberg, often called a patent troll himself, agreed to step in to fund Jump Rope's defense in exchange for equity in the business. In the end, Braxton was forced to give up sizeable equity in his business in order to fight what proved to be specious claims.

Life360, San Francisco, CA

Another California company, Life360, also found itself in the crosshairs of a patent troll. Life360's app keeps over 55 million families safe and connected through messaging and location sharing capabilities. The company had on several occasions chosen to settle with patent trolls. But after growing their network to millions of families and raising \$50 million in capital early, the company was hit with a troll suit that it decided to fight head on. The troll in question was Florida-based Advanced Ground Information Systems, or AGIS. AGIS claimed that its patent covered any tech that marks the location of a person on a map and makes calls to that person's phone.

Life360 took the case to a jury trial where it won a verdict of non-infringement on all counts. Yet in spite of a jury finding the troll's claims meritless, Life360 still had to spend over \$1.5 million to defend itself, with no reasonable recourse to recover that money. That's \$1.5 million that could have paid salaries for additional jobs, instead spent defending against a baseless lawsuit.

Ordr.in, Brooklyn, NY

David Bloom never thought about patent trolls as a threat to business when he left his "regular job" to finally start his own company. A husband and father of two, David founded an innovative software startup called Ordr.in that would revolutionize the way restaurant industry clients use data to streamline their business. The company quickly won awards and captured funding from

⁴⁷ See *a/so* "Startups Need Comprehensive Patent Reform Now." <http://static1.squarespace.com/static/571681753c44d835a440c8b5/57323e0ad9fd5607a3d9f66b/57323e14d9fd5607a3d9faec/1462910484459/Startup-Patent-Troll-Stories1.d.pdf>.

many sources, including Google Ventures. Awarded a place among Business Insider's "Silicon Alley 100," David's company was on an upward trajectory and continued to grow.

That's when Ordr.in was targeted by a patent troll, which claimed to own patents covering any use of menu generation technology. Other startups, as well as industry giants like Apple, Pizza Hut, and Marriott were sued as well. David responded with a detailed explanation of how the patents obviously and demonstrably didn't relate to his business, but the troll refused to back off. Faced with either an unjust settlement or a potentially ruinous trial, David crossed his fingers and chose to go to court.

It cost David nearly \$100,000 in legal fees just to get the troll to describe specifically how it claimed Ordr.in infringed its patent. This is information any legitimate plaintiff would have detailed in its original filings, but withholding it is a common tactic trolls employ to run up the cost of legal defense. The case was eventually stayed pending review of the troll's patents by the US Patent and Trademark Office. But the damage was already done.

The lawsuit scared off clients, wasted resources and cash, and stunted hiring efforts when the company most needed to grow. David was forced to shutter Ordr.in. A company that once employed 20 people, supported the growth of other businesses, and contributed to the economy became yet another victim of the growing troll problem. "Patent law is so distorted that the courts have become the weapon of choice for patent extortionists," said Bloom.

Aerialink, Bettendorf, IA

Chris Currie, CEO of Aerialink, Inc. never considered the threat of patent trolls. When he founded the company in 2002, he was focused on providing mobile communications services to businesses, enabling better connectivity and collaboration. The Aerialink Service powers small startups and large enterprise clients such as telecom carriers, mobile phone manufacturers, the United States military, and online service providers.

The Iowa-based company was sued by troll Messaging Gateway Solutions LLC (MGS) in June 2014 over two bad patents. MGS claimed their technology covered translating an Internet HTTP request into a short message; in other words, typing a short message on a web page in a web browser bar and submitting that request to send the message.

Chris didn't need a patent attorney to tell him that trying to fight MGS and taking them to trial would cost him at least \$200,000. The financial and operational cost would have posed a significant problem for his company, so he settled for a significant amount of money. And his business took a hit: resources from both finance and leadership teams were diverted to deal with the complex details of the suit, instead of focusing on company growth, employee hiring and product development.

He felt robbed, especially since he remained convinced that if had he seen the case through to the end, the patent would have been invalidated. He wished the United States patent system

provided greater certainty that the loser would have to pay the winner's fees. If that were the case, he would have been more likely to see the case through.

X-Plane Columbia, SC

Austin Meyer never thought he'd be the target of a patent troll. Austin is a fan of all things flying and that's why he created X-Plane, which has become the standard in flight simulation. X-Plane is both fun and popular, with tens of thousands of customers on desktops, and hundreds of thousands of customers on mobile devices. The application offers customers the means to learn the basics of flying and improve on their flight safety skills, and provides hours of recreational enjoyment as well.

In 2012, patent troll Uniloc sued Austin, claiming that he (and eight other app developers) infringed on its patent by implementing the basic copy-protection system provided by Google for nearly all Android apps. But Uniloc didn't sue Google. It chose to go after small entrepreneurs that would be more likely to settle.

Uniloc's suit against Meyer made 113 different infringement claims based on a single patent. After years of fighting, Austin has so far been able to invalidate one of those claims. But it has cost him hundreds of thousands of dollars in legal fees and hundreds of hours in lost time. And now Uniloc has threatened to pursue a case against him based on two additional claims of the same patent. At this rate, Austin could be trapped in litigation indefinitely. And the suit has prevented him from offering his latest app on Android, leaving him unable to reach an entire market of smartphone users. "I am being sued for producing: So my smartest option is to not produce goods or services," said Meyer.

TMSoft, Arlington, VA

Todd Moore never dreamed the biggest danger to his business would come from a patent troll. Several years ago, he started tinkering with app ideas after work and on weekends, before taking the plunge and founding his own company. Soon after, he launched White Noise, an app that helps both adults and infants sleep. It was a fast success, becoming a number one download on iTunes and receiving praise from the Today Show, the Washington Post, CNET, and many others. In fact, the application was so successful that Todd was able to quit his day job and fully commit himself to growing his company.

Todd also hosts a technology podcast called Tech 411. It had been featured by Apple and became the number one tech news show on iTunes. During one episode, he discussed a patent troll by the name of Lodsyst that was going after independent app developers. Soon after the show was published, Todd was sent a demand letter from Lodsyst, claiming his White Noise app infringed on Lodsyst's patents by having a hyperlink that opened the iTunes App Store. TMSoft was being sued for employing basic Internet technology.

Lodsyst proceeded to file a lawsuit and Todd was forced to defend himself, his company, and his app. He was all too aware that litigation could be costly, but he still declined Lodsyst's offer of a

quick \$3,500 settlement to be sent to an offshore account. Lodsyst ultimately dismissed the case and never even took it to trial. Yet Todd's attorney estimated the legal work he did was valued at \$190,000 before even setting foot in a courtroom. "I risked my capital to build a business and invent great apps. [We need reforms] that will support legitimate patents, legitimate licensing and legitimate enforcement," Moore said.

FindTheBest, Santa Barbara, CA

As a serial entrepreneur in the tech community, Kevin O'Connor had seen patent trolls threaten business after business. But, when a patent troll came after Kevin's company, FindTheBest, he knew he couldn't settle.

Kevin is a firm believer in transparency, it's part of the reason why he started FindTheBest, a product that helps consumers make decisions using data that is both unbiased and contextualized. FindTheBest covers myriad areas from real estate to colleges, campaign fundraising to healthcare plans, and even dog breeds. Each relies on structured data to inform consumers in their research process.

When Kevin got a demand letter from Lumen View Technology, it was clear that not only did FindTheBest not infringe on the patent in question, but the patent shouldn't have even issued in the first place. It was a patent on "decision-making," a practice that has been in common use since the beginning of time. After months of back and forth trying to reason with the plaintiff's lawyer and the inventor, Kevin pledged \$1 Million of his own money to challenge the troll in court.

FindTheBest has been largely successful in its ongoing fight. In November 2013—after spending six months and roughly \$200,000 in legal fees and hundreds of work hours by employees focused on the case—the judge invalidated Lumen View's patent. In May 2014, the judge ruled, in a rare application of fee-shifting rules in an "exceptional case," that Lumen View should have to pay FindTheBest's expenses.

Smart Ride, San Francisco, CA

Aaron Bannert knows well the risk it takes to turn an app into a successful business. But when he had a run-in with patent troll ArrivalStar, it became clear there were additional risks for businesses in the software industry.

Aaron is the founder of Smart Ride, a smartphone app that provides real-time travel information for public transit riders throughout North America. The application provides a public benefit, making transit more efficient and riders' lives easier. SmartRide quickly met with success: 20 percent growth rate month to month and a positive cash flow.

The day Aaron received a demand letter from ArrivalStar, he couldn't believe it. The patent in question claimed to broadly cover tracking device technology that provides a user with updates; however, the design was for an analogue phone from the 90s, light years away

from the technology used in a smartphone. Aaron was convinced of his app's non-infringement; moreover, the claims should have been irrelevant because the app's source of real-time data (NextBus) was already a licensor of ArrivalStar's patents.

But that didn't matter to ArrivalStar's negotiators. ArrivalStar was targeting any and all companies that use tracking information, whether or not they actually infringed. Aaron was served in San Francisco for a lawsuit in Florida, a state which he had never even visited. Attorneys estimated that even an initial response to the patent complaint would be \$50,000 to \$100,000, even though it only cost ArrivalStar a few hundred to file the complaint. And Aaron was told it would cost \$1-2 million to defend the case to the end.

ArrivalStar was effectively leveraging the strength of the US court system to extort a settlement from Aaron, with no apparent intention of going to court. He knew he couldn't afford to win the lawsuit. So he negotiated with the troll for a settlement.

Dealing with the troll cost Aaron three months of full-time work on Smart Ride, at a point in the company's life when it was crucial to get a product out in order to compete. Though he worked double time to catch up, the resulting delays allowed other apps a leg up in the market and proved devastating to Aaron's small startup.

iDrumTech, Orlando, FL

Eric Rosebrock is a United States Air Force Combat Veteran of nine years. He served in conflicts such as Operation Iraqi Freedom in support of 9/11 post-operations, and flew support missions for Afghanistan and several other European based operations. After his military service in 2003, he started his own tech company—The Web Freaks, Inc.—offering server web hosting to companies around the world.

Eric is a twice published author for John Wiley & Sons publishing (formerly Sybex Publishing) in the Internet Technology field. In addition to his work, Eric is also a drummer and a musician. Following his passion for music and software, he developed a Drum Tuning app in 2013 for musicians to help dial in their drum frequencies and maintain a consistent sound. His app, called "iDrumTech" was a hit and became a top app on the Google Play store for Android, and was one of the top five apps on iTunes for the Music Category.

Shortly after publishing his app, he was sued for Patent Infringement over the "method" of accomplishing a mathematical result and detecting a frequency from a drum, much like a guitar tuner does for a guitar. The resulting litigation forced Eric to cease and desist, remove all references of his app and his work from the app stores, social media, and the web, and abandon his 80,000+ users who were using his app. Since then, Eric remains apprehensive about transforming his ideas into software that can benefit the population due to fears of being sued again over any of the vast array of method patents issued by the US Patent and Trademark Office.

Appendix 2: Patent Troll Cases Featured in EFF’s “Saved by Alice” Series⁴⁸

Capstone Photography, Middlefield, CT

Capstone is a photography business with a network of contractors serving athletic events around the country. In 2013, Capstone was sued by Peter Wolf, who claimed to have patented generic computer features to tag racing bibs via the Internet. Capstone’s founder was sued in his personal capacity and not only feared losing his business with three employees but his house and his life savings.

Six months after Capstone was sued, the Supreme Court decided *Alice v. CLS Bank*. Capstone’s lawyers filed a motion for judgment that the troll’s claims should be dismissed under the new standard. The district court ruled for Capstone, but the victory came at the expense of months of litigation and laying off some employees.

Bytephoto.com Apopka, FL

Ruth Taylor started Bytephoto.com, a photography website that allows users to submit photos and runs weekly competitions. Four years after Bytephoto began running competitions a company called Garfum.com Corporation patented the “Method of Sharing Multi-Media Content Among Users in a Global Computer Network.” U.S. Patent No. 8,209,618. Garfum sued Bytephoto, with an opening settlement demand of \$50,000 and since Ruth had never incorporated, she was personally liable for the amount that far exceeded her annual revenue. EFF represented Ruth pro bono and filed a motion asking the court to hold the patent invalid under *Alice v. CLS Bank*. A few days before the first hearing on that motion, Garfum voluntarily abandoned its suit.

Ruth’s case is a perfect example of why *Alice* improves the patent system. The idea of applying voting to online social networks did not deserve patent protection. Indeed, even Ruth’s own website predated Garfum’s application. Yet a settlement or litigation expenses could quickly have led to the site being shut down. Fortunately, thanks to *Alice*, Ruth was able to defeat Garfum’s claim and continue running her site and her business.

Coopercode Seattle, WA

Ken Cooper started a mobile scavenger hunt app for the iPhone and iPad called Kilkaklu and after Apple featured the app in its “New and Notable” section, the business started to make a small profit. In January 2017, a patent troll called Locality Leep, LLC sued Coopercode alleging that the game infringed on a patent they had for “Treasure Hunt Game Utilizing GPS Equipped Wireless Communications Device,” U.S. Patent No. 6,320,495, which basically combined widely used GPS technology with the age-old pastime of treasure hunts.

Ken is the named inventor on six patents from his time at Microsoft and knew Locality Leep’s patent was frivolous. He was sued in the Eastern District of Texas and knew that his prospects

⁴⁸ Available at: <https://www.eff.org/alice>.

in the patent-friendly and expensive jurisdiction were slim. Thanks to *Alice v. CLS Bank*, Ken's attorney wrote to Locality Leap explaining that its patent claims were invalid. Facing a defendant willing to fight back, Locality Leap folded immediately.

Nutritionix Washington, DC

Nutritionix is a startup that offers a nutrition calculator and database to restaurants so that they can offer their guests more accurate nutrition information. They were sued for infringement by DietGoal, a troll who had patented using picture menus on a computer. DietGoal sued over 70 companies for supposedly infringing their invention, including Dunkin' Donuts and Sweetgreen. Nutritionix's lawsuit halted its ability to grow as restaurants, and it decided not to offer a nutrition calculator and risk the threat of litigation.

Days after the *Alice v. CLS Bank* was decided, a district court judge in New York threw out DietGoal's patent. The court ruled that the patent did not add anything that transformed the abstract idea into a patent-eligible invention. Nutritionix was able to hire eight more employees with the litigation behind it, thanks to *Alice*.