The Rise of Patent Trolls

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Patents are a valuable form of intellectual property in the United States designed to reward and promote innovation. However, the US patent system is failing to serve the new fast-moving software-based economy well. The non-practicing entity and the high price of patent litigation have led to the rise of entities known as patent trolls, who threaten and file frivolous lawsuits primarily in order to collect out of court settlement payments. They have transformed patents from a catalyst for innovation into a liability that destroys small and medium-sized businesses and is a costly and continual threat to large companies as well. However, one company, Newegg, with lead counsel Lee Cheng, has adopted a strategy to effectively fight the patent trolls. Although their successes do not fix the underlying problems with patent law, they can serve as a model for other companies to follow.

Patents: An Overview

Patents are a form of intellectual property pertaining to inventions. A patent is an exclusive right granted by the State for an invention that is new, involves an inventive step and is capable of industrial application. This right allows the holder of the patent to exclude others from producing or importing the patented invention. Patents are enforceable by civil lawsuits seeking compensation for infringement or an injunction against the infringer from producing or importing a given product.[1]

However, a couple of aspects of US patent law have led to an environment that is conducive to frivolous patent infringement lawsuits. The lack of a working provision, the high cost of patent infringement litigation and the award of back damages all contribute to this litigious environment. Additionally, the patent system is not designed for the new software based economy and may not be well suited to it. Among other common complaints are that both the duration and number of patents granted may be excessive, which also increase the number of suits brought to court.

US Patent System - Weaknesses

Unlike many other countries the United States does not include a “working provision” in its patent law. A working provision is a requirement that a patent be exploited in order to be enforced. In a country with a working provision, if you aren’t manufacturing or doing research based on your patent you cannot file a patent infringement lawsuit against anyone else and your patent may even be revoked. In recent years the lack of a working provision has led to the proliferation of entities whose sole task is to acquire and enforce patents e.g. patent holding company (PHC), patent assertion entity (PAE), and non-practicing entity (NPE). In fact, attorneys will often simply purchase patents and set up LLCs specifically to profit by filing suits.

[1] https://en.wikipedia.org/wiki/Patent

Another aspect of US patent law that increases the number of cases filed is that there is no obligation to defend a patent immediately, damages can be collected for up to 6 years in the past. Often a patent holder will wait to file suit, causing the infringer to become more invested.
Additionally, since the duration of a patent is 20 years often times a patent holder will acquire a patent long after a software or technology or product cycle has completed and then file suit.

However, most importantly, in the USA parties traditionally bear their own expense of litigation regardless of who wins, the exception being when a lawsuit is determined by the judge to be frivolous. It is difficult to meet the requirements of frivolity and fees are not often granted.

Therefore many litigants assume that these legal expenses will be unrecoverable. Legal fees for defending a patent infringement lawsuit are approximately $1M pretrial and $2.5M for a complete defense. Furthermore, jury trials are unpredictable. Often juries are not well-informed about matters related to software and technology and their conclusions cannot be easily predicted.

This has led to an economic model that is highly favorable to patent holders threatening infringement suits. A patent holder will threaten suit against a swath of defendants but offer to settle for a fraction of the costs of litigation often collecting tens of thousands or millions per defendant. As suggested by Wikipedia: “because the costs and risks are high, defendants may settle even non-meritorious suits they consider frivolous.”[2] These types of patent holders have come to be known as patent trolls.

What is a Patent Troll?

Patent troll is a loosely defined term but it is often applied to entities whose sole task is to acquire and enforce patents e.g. patent holding company (PHC), patent assertion entity (PAE), and non-practicing entity (NPE). When a company is no longer profitable it may restructure itself as an entity that solely enforces its IP and transform into a patent troll. Relying on the cost advantage of settlement and unpredictable nature of jury-trials, patent trolls often receive settlement payments by threatening to “enforce” overly-broad patents against non-infringers.

Many companies simply have simply resigned themselves to the fact that a certain percentage of their revenues will be consumed by patent infringement litigation and settlement. However, as the number of these cases grew, many of these became less and less meritorious. One company, Newegg, and their head counsel, Lee Cheng, decided to fight back and they have made a name for themselves with their unique and effective policy toward patent trolls. That policy is.. never settle. In fact, they have taken an even more aggressive stance often pursuing the invalidation of troll patents and legal fees even after a case has been dropped against them. Newegg even openly sells t-shirts that read “Troll Hunters”, “Don’t settle, settling feeds trolls” and “We see you trollin’ we hatin’”. Three of the most important cases in Newegg’s patent infringement litigation history are MacroSolve v. Newegg et al., Sovereign v. Newegg et al., and Minero v. Rosewill et al. We can see that Newegg has over time effectively established a reputation for itself that has had a profound effect on the behavior of patent trolls towards them.

[2] https://en.wikipedia.org/wiki/Patent_troll

Soverain Software: Online Shopping Cart Patent

Divine Corporation started out as Divine InterVentures in 1999. They acquired a Boston based ecommerce startup called Open Market[3] and its product TRANSACT for $59 million in 2001. Open Market was an innovative company with many important inventions to their name and technologies still used in internet servers. Divine tried to change their business model during the dot-com bubble but eventually had to file for Chapter 11 bankruptcy in 2003[4]. In the auction to sell its assets, Open Market's ecommerce assets including TRANSACT and patents from Divine were acquired by Soverain Software.

Less than a year later, Soverain sued Amazon and Gap with multiple lawsuits covering multiple patent infringements. Soverain's statement[5] states the patents-in-suit covered ecommerce; a web based sales portal, an interactive virtual shopping cart, web-based payment technology and a URL based system for session identification. The highlights of the case are 2 patents that Soverain uses, numbers 5,715,314 and 5,909,492 and occasionally, 7,272,639. Gap settled with Soverain for an undisclosed amount and Amazon settled later, for $40 million.

In 2010, Soverain sued dozens of online ecommerce companies like Nordstrom's, Macy's, Home Depot, RadioShack, Kohl's trying to assert the same above mentioned patents. Normally, companies settle as litigation costs are higher, but one of the accused, Newegg decided to fight the case[6]. As it is with a typical East Texas Trial, the jury was picked on Monday and the had a decision by Friday. The jury decided that Newegg owed Soverain $2.5 million, a fraction of the claim of $34 million that Soverain made, and much larger than the $500,000 that Newegg's experts said should be the amount in case and the judge awarded an on-going royalty to Soverain on the third patent.

Newegg appealed to this decision, and won. Prior art was produced from a CompuServe's 1984 magazine ad of an electronic mall experience. Newegg's lawyer, led by Ed Reines claimed that this ad hit each and every appeal claim in Soverain's patents. Soverain claimed that 'product identifiers', 'database of products' was missing and that this was in an era where the internet wasn't born. The obviousness was brought out since "doing it on the internet" wasn't novel enough and all claims in the shopping cart patent were rendered obvious.

Victoria's Secret and Avon were just ruled to hand over $18 million to Soverain for the same patents, plus royalty. This ruling turned out to be a huge blow to Soverain. Due to the invalidation of the patents, Newegg and all the other pending and completed court battles were decided.

Soverain's defeat was important because it was a threat to online retail as a whole. Soverain was not only asking for damages on past sales and infringement of the patent but an on-going royalty of 1% for every sale made online. Soverain was targeting retailers large and small and raking in millions of dollars and not selling a single piece of software or software licence in the true sense. Additionally, Soverain truly qualifies as a patent troll because their website was set up simply for the purposes of supporting litigation and the company never made a sale.[7]

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[3] https://en.wikipedia.org/wiki/Open_Market

[4] https://en.wikipedia.org/wiki/Divine_(corporation)

[5] http://www.infoworld.com/article/2671089/techology-business/amazon-resolves-patent-lawsuits-to-tune-of--40m.html

[6] http://arstechnica.com/tech-policy/2013/01/how-newegg-crushed-the-shopping-cart-patent-and-saved-online-retail/1/

[7] http://endsoftpatents.org/2014/04/soverain-software/

Instead of caving in to a troll's demand, Newegg fought them and eventually got a ruling where nobody now needs to pay them any royalty or damages. This is a deviation from the norm where companies prefer just paying the money as it's cheaper, but this has only promotes such troll behaviour. The approach taken by Newegg is high risk but definitely better for the community in general, if the patents are truly not innovative but used for extracting money. Soverain eventually filed for bankruptcy in December 2015.

MacroSolve: Online Questionnaires

MacroSolve, much like Soverain, was not originally a patent troll, but over the course of time it evolved from a practicing entity into a non-practicing entity – one that was clearly abusing the patent system as its primary means to turn a profit.

Originally founded in 1997 in Tulsa, Oklahoma, MacroSolve did business for 5 years before filing for a patent in the year 2002.[8] David Payne, the original founder of the company, would then leave the company the following year. The patent would finally be issued in the year 2010, U.S. Patent No. 7,822,816, often referred to by its last 3 digits, 816. This patent was for system and method for data management, but it is more commonly referred to as the "questionnaire" patent, because the core of the patent was collecting data in a questionnaire format and transmitting the information online. This was a ridiculously broad patent, because MacroSolve constructed almost any website action where the company gathered information from their user, even just to do a search, as being a "questionnaire".

Up until this point in its life, MacroSolve was a normal practicing business, but everything changed after this patent was enacted. They began to sue a huge number of companies such as "Facebook Inc., Wal-Mart Stores Inc., AT&T Inc., Citigroup Inc., Dell Inc., Groupon, Living Social, Salesforce.com, Hotels.com, Priceline.com, Travelocity.com, Hertz Corp., American Airlines, Avis Rent A Car System, Continental Airlines, Southwest Airlines, United Airlines" and many more.[9]

This was the first major indicator that MacroSolve would become a patent troll. During this time, MacroSolve also focused on small companies: "There's a lot of outrage at Lodsys's scheme to demand patent royalties from little app developers who can't defend themselves, but there should be at least as much indigation -- if not more -- over what MacroSolve is doing. Unlike Lodsys, which firstly sent out letters offering a license, MacroSolve appears to employ a sue-first-ask-questions-later tactic at least against some and possibly all of its targets."[10]

Due to the bad press from suing small businesses, MacroSolve attempted to assert its legitimacy by partnering with the Trump Corporation to work on their mobile apps. Donald Trump Jr himself gave a speech November 29, 2011 at the NYC Small Cap Conference where he announced the partnership.[11] However, by 2012, the next year, MacroSolve's true intentions would be made clear: "The same year [2012], MacroSolve sold off its app-making capabilities and went from dozens of employees to just three — Jim McGill, chairman; Clint Parr, CEO; and Kendall Carpenter, CFO — as it focused on patent suits."

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[8] http://seekingalpha.com/article/1974281-macrosolve-an-ignored-but-potentially-high-yield-patent-play

[9] http://m.tulsaworld.com/business/technology/bits-and-bytes-the-rise-and-fall-of-tulsa-based/article_daa88f06-bdf7-5a22-b8d1-5b5e8f24fa60.html?mode=jqm

[10] http://www.fosspatents.com/2011/05/worse-than-lodsys-macrosolves-sues.html

[11] http://www.cpreports.com/?p=1563

[12] Jim McGill was quoted by Law360 June 18, 2012 saying "I'm comfortable we could probably identify 700 to 1000 infringing parties. Right now we're just taking our time and working our way through the names."[13] MacroSolve had completed its transformation from a practicing entity to a non-practicing entity.

Its evolution complete, the new MacroSolve was not an honorable company in anyway. Indeed, the new MacroSolve would often go after the little guy. “For instance, from January through October of 2013, MacroSolve generated approximately $1.3M in revenue from licensing the '816 patent to approximately 23 companies. This suggests low lump sum settlements in the range of approximately $50,000.” During the four years after 2010, MacroSolve was able to "extort over $4M from over 60 defendants." By January 2014, things were looking good for MacroSolve. The Eastern District of Texas had made a “Markman Order,” or a ruling about the claim construction about the MacroSolve patent, and found largely in their favor.[14]

MacroSolve proceeded undeterred in its rampage until spring of that year. In April, Ars Technica reported that “MacroSolve has dismissed all remaining cases, and it has admitted that it can't proceed to go forward with a trial that was scheduled to take place this June in East Texas.” Today, MacroSolve’s website is no longer available for viewing.[15] This was due to the work of one man – Lee Cheng of Newegg.

This is perhaps the earliest case that brought Lee Cheng to fame and notoriety, because Lee did not take on MacroSolve alone – “Cheng encouraged the remaining defendants to band together into a joint defense group, keep their expenses low, and stop paying.” In this way, he made a name for himself among all the other companies that MacroSolve was in the process of suing. Additionally, Geico Insurance, filed to get the patent re-examined, and March 7th, 2014, all the claims of the patent were rejected. MacroSolve’s business was all but through. In his discussion of the dropped case, Lee describes his feeling that: “In a sense, we are disappointed because we were robbed of an opportunity to prove in court that MacroSolve was and is nothing more than a serial, shameless abuser of patent rights, with a poor-quality patent that has not even survived its first reexamination...MacroSolve folded like a cheap suit, and dismissed its lawsuits against all defendants.”[16]

Lee makes his strategy clear - he will take the fight to them. Earlier this month on May 10th, 2016, Lee petitioned the Supreme Court to hear regarding the attorney fees for the MacroSolve case, actively insisting that just because MacroSolve dropped the case, that doesn’t mean that the fees shouldn’t be awarded.[17] The case now awaits the Supreme Court to hear the case or chose to abstain from hearing it.

Minero Digital LLC: USB Hubs

In 2015, Minero Digital LLC named Rosewill in a patent infringement claim related to USB hub technology.[18] When Minero realized that Rosewill was owned by Newegg, they dropped the case. But

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[12] http://m.tulsaworld.com/business/technology/bits-and-bytes-the-rise-and-fall-of-tulsa-based/article_daa88f06-bdf7-5a22-b8d1-5b5e8f24fa60.html?mode=jqm

[13] http://www.law360.com/articles/351216/macrosolve-targets-jpmorgan-linkedin-over-mobile-app-ip

[14] http://www.marketwired.com/press-release/macrosolve-issues-letter-to-shareholders-otcqb-mcve-1872502.htm

[15] http://www.macrosolve.com/

[16] http://blog.newegg.com/patent-trolls-fold-cheap-suit-faced-trial/

[17] http://www.therecorder.com/id=1202757342012/Newegg-Slams-EDTX-in-Supreme-Court-Petition?slreturn=20160501083039

[18] http://cdn.arstechnica.net/wp-content/uploads/2015/09/Minero.Complaint.pdf

typical of Newegg's policy on patent trolling they initiated a countersuit and request for jury trial to exonerate Newegg's business partners named in the original lawsuit and obtain legal fees and damages.

Minero Digital is a Texas based limited liability company owned and founded by Daniel Perez an intellectual property attorney with a history of patent infringement suits.[19] Minero purchased the multi-port bus hub Patent 5,675,811 from Intellectual Ventures in 2015. However, Minero is a non-practicing entity; they do not manufacture or conduct research related to the patent they hold. In fact the company doesn't even have a website or phone number. Later in 2015 Minero sued Rosewill among 26 defendants for infringement of the '811 patent.

It wasn't until Newegg responded to this claim on behalf of Rosewill, that Minero realized that Rosewill was a private label wholly owned by Newegg. The response was typical of Newegg's style, it offered no monetary compensation but instead offered to make a nominal donation to charity in response. The next day minero dismissed their case against Rosewill without prejudice.[20] Other defendants Targus and SIIG were dismissed with prejudice, indicating that they settled with Minero out of court.

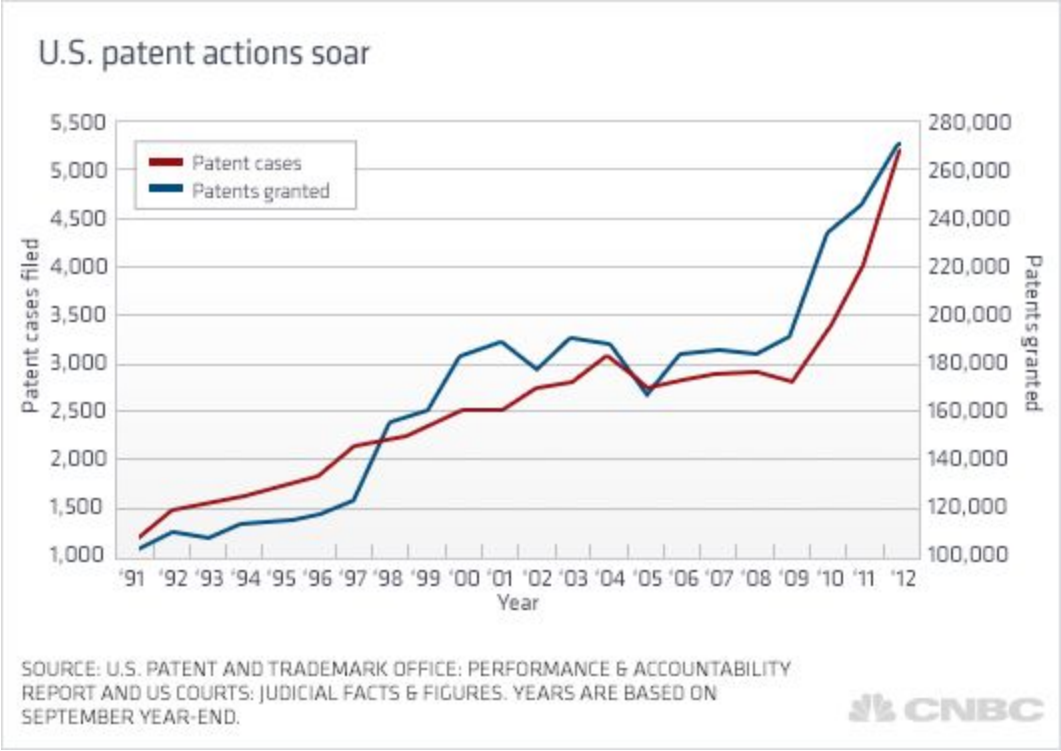
However, Cheng wasn't satisfied and stated "They started it. We're going to finish it".[21] Rosewill proceeded to file a lawsuit in against Minero Digital in January of 2016.[22] Their complaint sought not only relief for themselves but for their business partners Amazon, Walmart and Office Depot, who had not been released from Minero's case. The Rosewill complaint uses strong language stating, "Minero digital's claims for patent infringement made against Rosewill and other entities whose principal residence is in this District are baseless and are purposely intended to harass and inflict harm on these entities. Minero Digital's actions have caused, and will cause, harm in this District by requiring residents of this District to needlessly spend resources to defend against or settle Minero Digital's meritless claims." The complaint seeks a trial by jury, for an injunction against Minero from threatening or initiating infringement litigation against Rosewill and all customers, dealers and suppliers, a declaration of non-infringement, as well as legal fees and any other "relief the court deems worthy".[23] In April of 2016 the judge signed an Order on Stipulation that a judgment of non-infringement be entered in favor of Rosewill and against Minero, and that the case would be released with prejudice.

The Current Patent Landscape: Are These Times Troll Breeding Grounds?

Having heard about these 3 cases affecting Newegg, all of which have happened after the year 2010, one might wonder why these recent cases are making headlines. Why is patent trolling a modern phenomenon, one that did not arise over 300 years ago the US Patent System was first put into place. The hard data backs this up. In 2014 CNBC reported on data from the USPTO, data that showed that there are more patent lawsuits are happening now than ever - over 5000 in 2012[24]. According to a separate report by Lex Machina, there were over 6000 of these suits in 2013.[25] What is the cause of this new

[19] http://legalnewsline.com/stories/510641448-texas-non-practicing-entity-files-lawsuit-against-amazon-best-buy-others-over-usb-hub-patent
[20] http://arstechnica.com/tech-policy/2016/01/patent-troll-realizes-it-sued-newegg-drops-lawsuit-the-next-day
[21] http://www.law360.com/articles/751564/rosewill-sues-company-after-ducking-infringement-claim
[22] https://www.docdroid.net/Y3J6mCv/rosewill-v-minero-dj-complaint.pdf.html)
[23] http://arstechnica.com/tech-policy/2016/01/newegg-sues-patent-troll-that-dropped-its-case/
[24] http://www.cnbc.com/2014/03/31/patent-trolls-target-us-businesses.html
[25] http://pages.lexmachina.com/rs/lexmachina/images/LexMachina-2013%20Patent%20Litigation%20Year%20in%20Review.pdf

phenomenon? We think that the cause lies with the advent of the internet, and the new forms of business that have sprung up from it.



Patent trolls target US businesses, consumers ultimately foot the bill - CNBC

Put yourself back in the year 2000. You are a small business owner, and you were just awarded a patent. You suspect that there may exist a company that is infringing on your patent. If you are able to identifying that suspect company, which is already difficult enough, then you might need to acquire their products to inspect them more closely and find out if they infringe. For example, imagine that you own a small-medium sized company on the East Coast that has a patent for a process to tweak motorcycle engines for better performance. You have less than 10 locations in New York and Pennsylvania where you perform this process. Now, imagine that the West Coast, another new fledgling company conducted a patent search and came across your patent (which may have actually been better kept a trade secret, if you weren't planning on enforcing it). They begin violating your patents and performing their own motorcycle modifications at a single shop in California. Before the internet, it would be quite difficult to find out that this competitor even exists. Then, after you verify the business exists, you would need to send somebody with expert knowledge of your process all the way over to the West Coast to check to verify that they did indeed infringe the patent. Finally, after that has been verified, now you need to contact them about licensing or file a claim against them in court. And because your business is small, and the opposing business infringing upon your patent is small, it might not even be worth the effort to take them to court.

Now, bring yourself back to the year 2010. You are MacroSolve, and after 8 years of waiting for approval you are finally awarded patent a patent, number 618, a patent which is extremely broad, that suddenly any internet company is now a potential source of income. In 2010, the search for potential infringers (victims) takes 0.75 seconds on Google. Instead of needing to travel across the country to verify

that the competition is infringing on your patent, you simply simply have to go online and view their web pages to see if they were infringing upon your patents. The game has changed.

Furthermore, not only are the number of cases rising, but the number of patents issued is rising as well. With more patents out in the wild, there will be more weapons with which companies can use, either offensively or defensively, in this new wild west of patent litigation. Are we on our way to a patent arms race? Will small companies inevitably perish as the increasing number of patent troll bandits groups go out of their way to extort them before they can even get a firm footing?

In the year 2013, it seems that the answer is currently no. According to the Lex Machina report, most of the 6000 cases come from only a few companies. In fact, the top 10 plaintiffs are all NPEs with hundreds of cases filed.

Figure 19: Plaintiffs Filing Most New Cases†

Rank	Plaintiff	Cases
1	Melvino Technologies/ArrivalStar	137
2	Wyncomm	131
3	Thermolife International	117
4	Eclipse IP	67
5	Innovative Wireless Solutions	63
6	UbiComm	61
7	Long Corner Security	53
8	Princeton Digital Image	49
9	e.Digital	47
10	Data Carriers	47

All top 10 plaintiffs are patent monetization entities (PMEs).

2013 Patent Litigation Year in Review - Lex Machina

For Newegg and Lee Cheng, this is great news. If they are able to go after these few targets swiftly and harshly, with the aid of the US Judicial System on their side, they can send a strong message to potential future trolls that this is not a sustainable business market for them and they should get out.

Identifying Trolls

On one hand, clear trolls who take advantage of the high litigation costs involved should be dealt with, the problem remains about how to identify a troll. For example, a startup that did a lot of research and acquired patent, but didn't do so well in the market could stop its operating business but try to recover the costs of research by exercising the patents. In this case, it would be a NPE, but is it morally wrong to do this? Even if the company is making money, not just recovering costs of research, would it be wrong to do so?

Although Soverain acquired Open Market and exercised their patents, let's assume it was Open Market the startup that created and went out of business. It is more difficult to categorise Open Market as

a troll since they led the research much before others and many would feel that they truly lost out of market share when others copied this technology and deserve to win damages.

Now assuming our original case here, was it wrong for Soverain to acquire a company and then sue other companies for using one of their patents? One benchmark that comes up in this case is whether the company was acquired for the purpose of trying to sell the product and use patents to rightfully prevent others from getting the market or just use it to extort money. The flip side to this is that others cannot use a patent just because the original company didn't do a good job selling what the patent covers.

One could put an upper benchmark about how much money can be asked as damages for an NPE. This is again very difficult to ascertain. How does one establish an upper limit? How does one calculate the 'value' of a patent? What about deals that are undisclosed in value? Is it okay for a practising entity to not have an upper limit? What if a company that plans to market the product genuinely uses this money to promote and sell their version of it. This would be a legitimate use of the patent system. One idea is to limit the damages to justify the cost of obtaining the patent. A legitimate innovator could claim research and time costs, while a troll who just acquired patents for the sole purpose of suing others would be limited to quite an extent by the price paid to obtain the patent. For example Soverain paid $4.5 million for Divine's patents and received $40 million just from one of the companies they sued, Amazon within a year of the purchase.

It is because of these reasons, large companies keep looking for patents to buy so that they can protect themselves when sued by a troll. Smaller companies cannot afford such privilege. This exposes smaller firms all the more. Companies spend a considerable time and effort just acquiring firms for patents, something we feel should rather be invested in innovation and research. Just to give it a perspective, Google is largely believed to acquire Motorola for its telecommunication patents so that it can fend off attacks on their Android mobile operating system from companies like Ericsson and Apple. Google paid $12.5 billion dollars[26] to acquire Motorola, retained most of their patents, and sold it to Lenovo for $2.91 billion[27] within 2 years from the purchase. Note the vast difference in the prices.

Also, how easy or difficult is it to ascertain whether a company is practicing or not. How does one define practising? A company could employ hundreds of developers, but some also do with 5 engineers, like most modern software startups. A troll could 'employ' a few engineers just to shake off the NPE status. Given the multimillion damage claims, a few low paying jobs would definitely work out in their favour.

It is important to note that currently, none of these practices are illegal. A company is still a legitimate company if it is nothing but a patent holding company and can very well be in the business of suing others and making money. It is still widely acceptable if the patents are truly innovative and legitimate that a licence be obtained from them.

[26] http://money.cnn.com/2012/05/22/technology/google-motorola/
[27] http://www.theverge.com/2014/1/29/5358620/lenovo-reportedly-buying-motorola-mobility-from-google

Dealing with Trolls: Suggestions for Companies

According to Lee Cheng himself, "The most effective way to eliminate trolling is to decrease the returns by increasing cost and risk for trolls and their investors. The trolling industry grew astronomically because **investors** and advantage takers believe that it represents an easy, riskless way to make money."[28] This statement is made clear when considering the Seeking Alpha analysis of the MacroSolve stock back in 2011. "We do not typically report on penny stocks, but within the sector of patent plays, the hidden gems often start out at very low prices...MacroSolve Inc. (OTCQB:MCVE) may not yet be a gem, but there are some recent developments that make the stock worth a second look."[29] There is a broader culture here where **investors** are supportive of these types of companies despite their moral and ethical problems.

In the case, Minero v. Rosewill, Minero dropped the case against Rosewill within days after Rosewill's lawyers contacted Minero. This was mainly because Rosewill is owned in whole by Newegg, which has an anti-troll policy. This shows how far reputation can go in preventing trolls.

Unfortunately for small companies, it is not possible for them to earn an anti-troll reputation, and thus they cannot use their reputation as a defense against trolls. As mentioned above, when MacroSolve first obtained its patent in 2010 it targeted small companies exclusively because it knew that those companies would have no ability to fight back in court. These small companies cannot use the same tactics to deal with patent trolls that large companies such as Google or Apple can use.

One other recommendation shown by Newegg that small companies **can** participate in is the formation of defensive alliances. In such an alliance, all companies in the alliance could help to pay legal costs if any other company in the alliance is wrongfully sued. In Newegg's case against MacroSolve, Newegg allied with at least 30 other companies being targeted by MacroSolve, they worked together with Geico, however, my suggestion is that business have longer term strategic partnerships. This is most important for new small startups in a market because they will not have the fund to litigate otherwise.

Thankfully, Newegg isn't at it alone. Two other major industry players showed evidence in 2011 that they would be willing to work together in the common interest of stopping a patent troll, GeoTag.[30] This collaboration occurred as a result of actions in the year 2010, with FOSS writer Eingestellt von Florian Mueller um identifying "397 different entities that were sued by GeoTag, Inc." 3 years later, in 2014, they win the lawsuit, confirming that they along with the other 300+ companies were not infringing GeoTag. The judge did not invalidate the patent entirely in this case, but GeoTag absolutely lost the day.[31] This shows that there is room for cooperation even amongst fierce rivals Microsoft and Google - and the 397 other companies benefited. Rather than individual companies exercising "stand your ground" defenses, and without waiting for Congress to pass new patent reform laws, this spirit of cooperation and teamwork is the greatest defense companies can do to stop patent trolls, once and for all!

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[28] https://www.reddit.com/r/IAmA/comments/268rpb/hi_i_am_lee_cheng_chief_troll_hunter_of_newegg
[29] http://seekingalpha.com/article/1974281-macrosolve-an-ignored-but-potentially-high-yield-patent-play
[30] http://www.fosspatents.com/2011/03/microsoft-and-google-jointly-sue-geotag.html
[31] http://pacedm.com/2014/04/google-microsoft-win-patent-lawsuit-related-to-geotagging/

Dealing with Trolls: Suggestions for the USA

In addition to what companies can do to defend themselves against patent trolls, there are steps that can be taken at the governmental level to deal with trolls.

Consider the patents themselves. The USPTO does their best to make sure that patents which are too broad or non-innovative are not enacted, but some inevitably will be. As mentioned before, the rise of the trolls was made possible because there are now many more patents issued, and thus the odds of bad patents being approved increases. Trolls are known to use broad and often undeserving patents to settle with companies. A patent validity can be cheaply verified at the Patent and Trademarks Office, which is the route normally taken, but such cases are usually not rejected. Soverain's case, the patent was invalidated by the court, not the PTO. We could have a more uniformity regarding the rules, intuitions and the reasons of the validity of a patent. If patent validity can be settled by the PTO, it would be cheaper to dispute non-meritorious patents thus dissuading trolls.

Better yet, a patent validity check could be made free or inexpensive. This would make checks very frequent, and the government could bear the extra costs for resources required. It would help the community in general though. For repeatedly having to check the same patent, restrictions like a patent could be verified only once every 2 years, unless prior art is discovered could be put in place.

There are two main elements to reforming Patent law: reforming patent litigation and reforming the patent awarding process. The Innovation Act[32] which passed the House of Representatives in 2013 but stalled in the Senate has shown steps that can be taken to reform the patent litigation process, namely: increase the specificity of patent infringement claims, and make it easier for judges to award legal fees to defendants if no infringement is determined. The Innovation Act does little to affect the abuse of demand letters by patent enforcers but other bills have passed that give the FTC jurisdiction to stop false and misleading demand letters.[33]

The patent process can also be amended to make it more relevant and effective for software. The software economy and the pace of software innovation moves extremely quickly and many of the premises of old patent law are no longer applicable.[34] [35] In particular the duration of a software patent should be reduced and the allowance of functional language and broad structural language should be curbed. As Professor Mark Lemley explains, allowing this kind of language in software patents is like allowing someone who developed a cholesterol-reducing drug to claim "atoms configured in a way that reduces human cholesterol."[36] Although "computer," "circuit" or "processor" "for performing" or "configured to perform" a given function"[37] was considered sufficient for structural language 10 or 15 years, it is now overly broad, simply because the industry has evolved so much over the past few decades.

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[32] https://en.wikipedia.org/wiki/Innovation_Act

[33] Julie Samuels, The Latest on Patent Reform: Targeting Demand Letters, Finally, Deeplinks (Nov. 19, 2013), available at https://www.eff.org/deeplinks/2013/11/latest-patent-reform; Daniel Nazer, The TROL Act is Not Enough To Stop Patent Trolls, Deeplinks (July 11, 2014), https://www.eff.org/deeplinks/2014/07/when-it-comes-stoppingpatent-trolls-trol-act-not-enough.

[34] Defend Innovation: How to Fix Our Broken Patent System by Adi Kamdar, Daniel Nazer, Vera Ranieri https://www.eff.org/document/defend-innovation-how-fix-our-broken-patent-system

[35] http://www.economist.com/news/leaders/21660522-ideas-fuel-economy-todays-patent-systems-are-rotten-way-rewarding-them-time-fix

[36] Mark A. Lemley, Software Patents and the Return of Functional Claiming, 2013 Wis. L. Rev. at 956. Professor Lemley's article includes a number of other examples of functional claiming. See id. at 922. via https://www.eff.org/files/2015/02/10/eff-defend-innovation.pdf Citation 42

[37] "3 Functional Claiming Questions To Address Post-Williamson", Justin C. Colannino , Andrew (A.J.) Tibbetts,http://www.wolfgreenfield.com/publications/articles/2015/3-functional-claiming-questions-to-address-post-williamson-colannino-tibbetts-law360

We contend that the language used to describe algorithms now will be considered overly broad in 10 or 15 years, and thus it would be wise to shorten the duration of software patents. Additionally, by allowing functional language to cover software patents, innovation is often reduced since it is in the interests of innovation and the software community that products be implemented in various languages and algorithms should be limited. Therefore, we believe that the use of functional language should be restricted in software patents, that structural language should be required to be more specific and include a code implementation in addition to the algorithms description and that the duration of a software patent should be reduced to 10 years to increase innovation and reduce the burdens on small and midsized businesses from trolls.

Conclusion

Although some are immorally targeting smaller firms from patents that are just too widely and misusing the system, most companies asking for royalties and damages aren't wrong. It is however the trolls that are on the rise and impacting the whole ecosystem negatively.

Currently, there are no provisions to help companies fight trolls, and they have to either cave in their demands or spend on litigation hoping for a favourable result. We hope that some of our suggestion are valid and help improve patent laws so that innovators are rewarded while preventing trolling organisations from misusing the law to their own benefits.

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